AUTHOR: EMELE, C.D.

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EXAMINING HEALTH INFORMATION SOURCE-SELECTION, ACCESS, AND USE BY MEN IN RURAL AREAS OF SOUTH-EAST NIGERIA: MAPPING CULTURALLY APPROPRIATE HEALTH INFORMATION PROVISION.

CHIKEZIE DANIEL EMELE
B.Sc. (Ibadan, Nigeria) M.Sc. (Aberdeen, UK)

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requirement of the
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Abstract

The provision of accessible and usable health information is vital for making informed health decisions and embracing active and preventative health behaviours (such as reporting of symptoms, early screening and seeking medical help). Previous research in this area has focused on health-related information seeking behaviour and use of information by citizens of developed countries and within urban geographical locations. The common thread from existing research within the context of developing countries, particularly in Africa, is the need for health information to be provided in a way that considers the diverse cultural perspectives and characteristics of rural communities; regarding both the content and the design of health information services. Considering the cultural aspects is important. However, there is little or no work that has considered the provision of health information that is culturally and locally appropriate.

This research aims to investigate the health information behaviour of men in rural Nigeria and explore the local sociocultural aspects that relate to the provision of prostate cancer information. The research extends the theoretical framework of Johnson's Comprehensive Information Seeking model to include health-related information design heuristics that address aspects of cultural appropriateness within rural contexts and particularly within the setting of developing countries.

A qualitative approach was adopted as it was considered appropriate for this research. The research utilised 35 semi-structured interviews and 5 focus group discussions with men (aged 35 or over) residing in rural areas of Nigeria. Participants shared their experiences with health-related information seeking and use, the barriers they encounter and the role that culture and rurality play in that process. Findings show that within rural Nigeria, culture and religion play a vital role in shaping the health information behaviour of men. There is a lack of knowledge about important health issues that affect men, such as prostate cancer. The study documents that internal, interpersonal sources and oral-based communication methods are preferred in rural communities.

Based on the findings, a revised model of health information behaviour that extends the existing scholarly perspectives to include cultural context and information use component in rural communities in Nigeria was presented.

Keywords: Information behaviour, health information, information use, cultural appropriateness, accessibility and usability, prostate cancer, rural men, South-East, Nigeria.

Declaration

I declare that this thesis:

“Examining Health Information Source Selection, Access and Use by Men in Rural Areas of South-East Nigeria: Mapping Culturally Appropriate Health Information Provision,"

To the best of my knowledge is my work, and where any material could be construed as the work of others, it is fully cited and referenced with appropriate acknowledgements given.

Chikezie Daniel Emele
January 2018.

Dedication

This work is dedicated to the creator of all things and giver of all wisdom, God. Oh Lord, Your mercies have kept me even in the darkest moments. To You be all the glory, honour and praise. Amen!

And to my lovely wife, and adorable daughter, Chimzurum Roseline Testimony, who has been peaceful in her mother's womb during the compilation of this work. Testimony, you have been a tremendous source of joy, hope and encouragement, and I love you all loads!

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I acknowledge the good hand of the Lord that has been upon me all through this journey, for the wisdom, strength and health to accomplish this lifetime task successfully.

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Unto God who can do exceeding abundantly, above all I could ever ask, think or imagine be all the glory, adoration and praise for this honour, Amen!

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Glossary of Terms

ASK	Anomalous State of Knowledge
AYCF	Arewa Youth Consultative Forum
BCA	Broadcasting Corporations of Abia State
CIT	Critical Incidence Technique
CMIS	Comprehensive Model of Information Seeking
EU	European Union
EUCLP	European Union Classification, Labelling and Packaging
HI	Health Information
HIB	Health Information Behaviour
IARC	International Agency for Research on Cancer
ISP	Information Search process
LGA	Local Government Areas
MCA	Men’s Christian Association
NCC	Nigerian Communication Commission
NHS	National Health Service
NMA	Nigerian Medical Association
NPC	National Population Commission
NYSC	National Youth Service Corps
OECD	Organisation for Economic Co-operation and Development

OPV	Oral Polio Vaccine
PC	Prostate Cancer
PCHI	Prostate Cancer Health Information
PHC	Primary HealthCare
PSA	Prostate-Specific Antigen
SAIF	Scottish Accessible Information Forum
STD	Sexually Transmitted Disease
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHO	World Health Organisation

CHAPTER ONE

Introduction

1.1 Background of Study

This research examines the health information behaviour (access, seeking, source-selection and use) of male residents in rural Nigeria and explores their knowledge of, and attitudes to prostate cancer health information, exploring information accessibility and cultural appropriateness; by focusing on the role of cultural and contextual factors in shaping men's health information behaviour in rural communities in Nigeria. Prostate cancer is the most common kind of cancer illness among men of African descent (WHO 2014) with great physical, social, emotional, psychological, and financial impact on the sufferer and his relatives. Prostate cancer is the second highest cause of mortality among men globally and men of African origin who have the greatest risk (WHO 2014). Prostate cancer, in comparison with other types of cancer across both genders, is the fourth most common type of cancer and the second most common cancer in men worldwide (IARC 2012). "men diagnosed with prostate cancer in 2012 were estimated 1.1 million worldwide, accounting for 15% of the cancers diagnosed in men, with almost 30% of these cases (353,000) occurring in less developed regions" (IARC 2012) such as Africa.

Reports from scholars show that African countries such as Nigeria (Afogu et al. 2017; Atulomah et al. 2010), Uganda (Nakandi et al. 2013), and Ghana (Hsing et al. 2014) have a record of high prostate cancer prevalence and incidence. Following the latest National Population Census in Nigeria, the South-East region of the country (comprising Abia, Anambra, Enugu, Ebonyi and Imo) has a combined population of 16,431,555, of which 8,184,951 are male (NPC, 2006). This reveals that more than half of all the people in the South-East region are men, yet minimal attention has been given to their health information behaviour, especially investigating the role of cultural and other contextual features (individual background characteristics and personal factors) concerning men's access to health information and user experiences in rural South-East Nigeria.

It has been reported that of every 52 cases of prostate cancer in sub-Saharan Africa, 37 cases result in death (IARC 2012). Ikuerowo et al. (2013) argued that the prevalence among Nigerian men in rural communities is on the increase. Recent studies show a higher incidence than previously reported in many hospital-based studies. For example, Ebughe et al. (2016) reported that 249 men out of 279 prostate-related cases occurred among participants of 55 years and above, in a community-based screening exercise, using serum prostate-specific antigen and digital rectal examination, at the time of their diagnosis. Similarly, Afogu et al. (2017) revealed that 81 out of 103 men in Abakaliki, South-East Nigeria, stood on the borderline of being at risk of prostate-related disease with a PSA level of 4ng/ml; 5 men had a PSA level of 4.1-10ng/ml while 17 men had a PSA greater than 10ng/ml. The men showed higher tendencies of having prostate-related issues (Afogu et al. 2017). Sadly, research has shown that symptom-free Nigerians do not present for screening nor do they realise that they might be at risk until symptoms become severe and their condition becomes advanced (Ukoli et al. 2003; Oranusi et al. 2012; Afogu et al. 2017). The delayed presentation is linked to fears regarding the possibility of a positive diagnosis after screening and the stigmatisation that may result. Another deterrent might be the side-effects of surgery (Ukoli et al. 2003). Also, a good number of the population do not have accessible or usable health information about the disease, especially those residing in rural areas who are deprived due to low literacy levels, remoteness, cultural orientation, and poverty. Nakandi et al. (2013) confirmed that the participants in their study confused prostate cancer symptoms with gonorrhoea, and other related misconceptions about the causes of prostate cancer, due to poor knowledge of prostate cancer. Oranusi et al. (2012) called for a more rural or community-based study that is targeting rural areas.

Despite the above, there are only a few studies (outside the medical field) that have examined the knowledge and attitudes of men in developing countries regarding prostate cancer (Nakandi et al. 2013; Ozoemena et al. 2015). Most research is of an epidemiological nature (Agalliu et al. 2015) with a focus on identifying risk factors, prevalence and incidence rates (Adeloye et al. 2016; Afogu et al. 2017), patients' characteristics (Ikuerowo et al. 2013), and specific genetic and ethnic factors related to prevalence (Kheirandish and Chinegwundoh 2011).

Also, most of the medical studies addressed prostate cancer management and diagnostic issues among patients who are in urban areas or have visited urban hospitals (Oranusi et al. 2012; Agbugui et al. 2013; Ogundele and Ikuerowo 2015), and among African-American men (Forrester-Anderson 2005; Taitt 2015).

Similarly, there is limited research into the provision of accessible and culturally appropriate health information for underdeveloped and developing countries (Prilutski 2010), and specifically within rural African communities, e.g., Nigeria. Any information, whether health-related or not, is accessible if it is provided in such a way that the user can comprehend, interact with, and use to meet specific needs (Jones 2003). Accessible health information is vital for making informed health decisions and encouraging preventative health behaviours - which include reporting symptoms, early screening and seeking medical help (Nelson et al. 2004). Several studies have examined the efficacy, trustworthiness and user satisfaction of using various health information sources (Redmond et al. 2010; Simou 2015; Ruppel 2016) such as online (Hesse et al. 2005), print media (Finnie et al. 2010; Clayman et al. 2010), message boards (Harrison and Jones 2006) and mobile phones (Odigie et al. 2012; Aryee 2014; Déglise, Suggs and Odermatt 2012) and their role in increasing access to health information.

Some notable efforts in examining the role of accessible information in enhancing health-related behaviours focussed on an underserved and vulnerable audience such as the elderly, citizens with low socioeconomic status and marginalized (or minority) ethnic groups and were conducted in urban areas (Enwald et al. 2017; Amidu, Harrison and Olphert 2016; Ejike and Ezeanyika 2009). There are health inequalities and differences in the utilisation of healthcare services between rural and urban areas (Oladipo 2014; Okeke and Okeibunor 2010; Onwujekwe 2005). On average, rural residents have access to fewer medical resources, are poorer and less educated (Onwujekwe and Uzochukwu 2005; Kinfu et al. 2009). In addition, many rural residents face barriers regarding access to affordable health services, high transportation costs and lack of accessible health information (Sokey and Adisah-Atta 2017). These restrictions impact all rural residents but may be more challenging for those who are ill, deprived, and neglected (Oladipo 2014). Rural communities also face many environmental challenges such as the dumping of hazardous materials which puts the residents at risk (Modebelu and Duvie 2015).

Ignoring cultural and socioeconomic factors in communities can yield massive health outcome disparities (Onwujekwe and Uzochukwu 2005). Health disparities among individuals tend to influence the difference in health beliefs and attitudes such as belief in cancer fatalism and distrust of health information sources (Morris et al. 2013). Therefore, there is an increasing number of health-related organisations, agencies, and foundations both governmental and non-governmental, taking an interest in the social determinants of health particularly in rural areas. However, these interventions often target general health and neglect the health of men. For example, on February 19th, 2017, the 'Channels Television' - a national media station in Nigeria, reported that a group of medical doctors ('doctors without borders') visited one of the South-Eastern states Anambra, to partner with the government in improving the health standards of people living in the rural communities of the state in areas of sanitation, water supply and primary healthcare delivery (Channels tv 2017). Although initiatives that focus on making medical care available to rural areas, especially the hard-to-reach communities, are welcome, often, these types of interventions do not focus on the provision of health information for preventive care around such health issues like prostate cancer; and lack of health information would have a significant impact on men's health. Therefore, more systematic intervention must boost access to health information; and increase awareness of prostate cancer among men in rural areas. Thus, there is a need for improvement in the provision of health treatment and information to achieve a healthy informed society.

Providing health information in an accessible way to rural communities in developing countries is challenging (Uzuegbu 2016; Uzezi 2015) because of cultural, economic, infrastructural, and educational differences (Mtega 2013; Kamba 2009; Prilutski 2010). For example, Beaudoin (2007) highlighted that health information provision in rural African communities lacks integral components. In other words, health information packaged and presented to rural users is difficult to understand and act upon. As a result, health problems that could have otherwise been prevented or better managed, remain prevalent (Anasi

2012). Across many rural communities in Nigeria, healthcare delivery systems are weak, infrastructure is poor, and illiteracy is widespread (Onyeneho et al. 2016; Onah and Govender 2014; Kadobera et al. 2012). Traditionally, the lack of an effective intercultural communication strategy between health providers and the rural population has been a significant barrier to the delivery of health information (Conteh, Stevens and Wiseman 2007; Ulrey and Amason 2001).

Culture plays an important role in information accessibility. Culture is learned, shared, and transmitted inter-generationally; and influences thinking, decision-making, and action in certain ways (Napier et al. 2014). Therefore, the cultural accessibility of information takes on the same meaning as cultural sensitivity which focuses on how to adapt information to the cultural orientation of the target audience (Dutta 2007; Ulrey and Amason 2001). A similar term that has been used by behavioural scientists is cultural appropriateness (Kreuter et al. 2003; Thompson et al. 2008). Health information that is culturally appropriate to its intended audience is more efficient than that which is not. Triandis (1994, p. 170) for example, confirmed that "culture is characterised by a combination of social, behavioural patterns" which are relevant to acquire a deeper understanding of the cultural values and limitations of people when studying their behaviours within a cultural context.

Many scholars have investigated the alignment of health information services and systems to suit the intended audience's culture (Ibeneme et al. 2017; Kreuter and McClure 2004; Kreuter and Haughton 2006). Prilutski (2010) suggests that the closer the health programme is to the lifestyle of the target people (culture), the more efficient the programme is in achieving the desired result. Today, health providers provide health information to a population that might be contextually different or who are faced with cultural and access barriers that differ from theirs. In general, culture and individual characteristics set the context for the acquisition and use of health information (Singleton and Krause 2009; Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010; Mooko 2005). Therefore, recognition of these differences is vital to serving the wider population. As discussed above, scholarly literature on information provision to rural populations has focused minimally on how culture and other influencing factors can be integrated into the design of health information to develop targeted health information services that address accessibility barriers to health information among rural communities. This current study aims to bridge the gap in the research and scholarly literature.

Culturally appropriate health information design guidelines are a necessary tool for facilitating health information services for rural populations to help improve their health behaviour. The influence of culture is evident in peoples' health beliefs, priorities and actions (Yong, Stvilia and Mon 2012) and their sense of individual or communal responsibility towards particular health practices (Newson et al. 2013; Oleribe and Alasia 2006; Patel, Phillips-Caesar and Boutin-Foster 2012). These actions may include perceptions of disease, treatment preferences, preferred sources of information, dietary practices, an understanding of illness. Although there is widespread agreement among researchers regarding the effectiveness of communication programmes and materials that are 'culturally appropriate' for the intended populations, there is a paucity of research that focuses on how best to achieve this cultural appropriateness (Thompson et al. 2008; Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010).

Equipping rural citizens with health information which they can access and use in a culturally sensitive way is the first step to empowering them to overcome common health challenges (Abdulraheem, Olapipo and Amodu 2012; Sokey and Adisha-Atta 2017; Kirigia and Barry 2008). More so, communicating health information to rural citizens in a manner they can understand, and use could further influence their health behaviours positively (Jemal et al. 2012). The more that health communication is aligned with the culture, expectations, lifestyle, and socioeconomic variables of the target group, the more effective it is in promoting positive health-related behaviour (Prilutski 2010 p. 53). Wolf and Bond (2002) revealed that AIDS-protective behaviours among Ghanaian adults improved during health programmes as the programme components (e.g. messages, channels, sources, or peer educators) and the population they served increased in similarities (in age, ethnicity, educational level). Similarly, Rimer and Kreuter (2006) noted that the likelihood of having a positive attitudinal change is higher when the characteristics of the target group and the information provider are related. For example, Prilutski (2010) in the context of Ghana, found that a desired positive health behaviour of Ghanaians was achieved through the utilisation of health programmes tailored to ethnic groups in Ghana rather than the government's adoption of modern technologies. Similarly, in Nigeria, studies that focused on the Northern region concurred in the fact that campaign messages achieved their desired goals only when the cultural orientation of the North was integrated. This was evident, for example, in the campaign messages for Polio vaccine (Ghinai et al. 2013; Amidu, Harrison and Olphert 2016). Although these studies were urban-focused, they emphasised the impact of culture in the Nigerian context. Taking culture into consideration is particularly important in this regard because preventive health behaviour may be altered by specific cultural and religious beliefs and practices (Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010; Mooko 2005).

In this context, religious beliefs mean beliefs held as a Christian. Dominant cultural misconceptions tend to influence health information behaviour among men in rural areas in many ways. There are misconceptions about health that are not limited only to prostate cancer. There is a growing spectrum of cultural misconceptions in rural communities in most African nations. For example, Okeke, Okafor and Uzochukwu (2006) discuss the prevalent belief that heat from the scorching sun causes malaria. Other dominant views include the connection of evil spirits with diseases that are hereditary. Also, many believe that traditional healers can treat terminal diseases with herbal remedies (Iroegbu 2011; Obinna 2012). This explains why most rural sufferers may hesitate to approach a health clinic because they have more trust in the efficacy of traditional herbal remedies. Similarly, a health issue such as epilepsy is considered an inherited or age-related disorder, an infectious ailment, a psychiatric illness, or a spiritual attack (Ezeala-Adikaibe et al. 2014). Some practices observed during a seizure are based on cultural beliefs (e.g. the insertion of an object into the mouth of the sufferer, prayer or the application of olive oil and distancing oneself from the sufferer). Other cultural misconceptions in rural areas include the use of locally made concoctions from plant and animal products for treating eye problems such as vision loss, ocular itching, glaucoma, and eye discharge (Eze, Chuka-Okosa and Uche 2009) and Sickle Cell Anaemia (Ugwu 2016). These practices are founded on the testimonies and experiences of previous users, local customs and the belief in the efficacy and potency of the locally made substances prescribed by traditional “witch-doctors” in rural areas.

These issues echo the need for culturally appropriate health information materials to encourage behavioural change among rural communities in Africa. Repackaging health information (such as prostate cancer) in ways that are culturally appropriate and accessible is crucial as failure to do so can have direct effects (e.g. complications) on human life as patients resort to self-care (Oluka et al. 2014; Atulomah and Atulomah 2012). Accessible, culturally appropriate, and usable health information is vital for rural dwellers in Africa (Anasi 2012). Adequate information provision can empower African citizens especially those in the countryside to overcome fear, superstition and strong cultural practices and beliefs concerning unfamiliar health challenges (Atulomah and Atulomah 2012; Anasi 2012) like prostate cancer. Access to understandable and usable health information about prostate cancer will reduce anxiety, mystical beliefs and promote positive health behaviours among men in rural South-East Nigeria who do not have the same amount of medical health services and resources as their counterparts in urban areas. Etebu (2009) reveals that access to and usage of health-related information are necessary for improving rural people’s livelihood and therefore, enables them to participate more efficiently in socioeconomic development and nation building.

Although sub-Saharan Africa is home to about 11% of the world’s population and bears more than 24% of the global disease burden (Global Health Workforce Alliance 2012), it is home to just 3% of the global health workforce and spends less than 1% of the world’s financial resources on health. Among the 57 countries (36 of which are in sub-Saharan Africa) identified by WHO in 2006 to have a critical shortage of health workforce, Nigeria has seen a further reduction in the health workforce (WHO 2012) [1]. It was estimated that sub-Saharan Africa needs 1.5 million more health workers to provide essential health services and training for its population (WHO 2012). Consequently, this shortage of health professionals also signifies the low provision of health information to rural areas. With this small

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[1] http://www.who.int/workforcealliance/knowledge/resources/ghwa_annualreport2012_en_web.pdf

presence of health professionals in rural areas, additional efforts should be directed towards making health information more accessible and usable for rural dwellers with little or no dependence on third parties (or intermediaries) to fully utilise the required information.

In many underdeveloped and developing countries, there are no standardised guidelines to inform the provision, packaging, and communication of health information, whereas in developed countries legislation is formulated specifically to inform several agencies on information packaging (or provision). For example, the European Regulation (EUCLP 2015) [2] on classification, labelling and packaging of substances and mixtures, offers accurate information to EU member states on how information should be presented. Similarly, in the UK, the *Accessible Information Standard* tells "organisations how they should ensure that patients and service users and their caregivers access and understand the information provided." This includes ensuring that people receive information in diverse formats if required (NHS 2015) [3]. Such information accessibility standards are non-existent in most African countries; instead, a template following Western methods of information provision and packaging are introduced, ignoring the cultural differences between the two continents.

This is the status quo because there is little or no attention given to the field of information sciences to explore how the information behaviour of men in developing countries can be translated into a conceptualised model to improve the provision of health information in rural areas and thus empower them with adequate information to facilitate positive and healthy behaviour. This lack is fundamentally linked to the existence of fewer research studies focusing on health information for men (Harrison 2011), and contextual differences (Courtright 2007) in the provision of information in non-Western countries (Gaston 2014). Previous research has focused solely on identifying general information needs among information users (Anunobi, Ogbonna and Osuchukwu 2014; Dutta 2009). Most of the studies have focused on selected professions in rural areas such as farmers (Obidike 2011; Elly and Epafra Silayo 2013), fishermen (Ikoja-Odongo and Ocholla

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[2] https://ec.europa.eu/growth/sectors/chemicals/classification-labelling_en

[3] https://www.england.nhs.uk/wp-content/uploads/2015/07/access-info-upd-july-15.pdf

2003; Ogboma 2010; Njoku 2004) and health workers (Pakenham-Walsh and Bukachi 2009; Abdulraheem et al. 2012). Consequently, more studies are required to investigate how appropriate the health information provided to the rural audience is in meeting their information needs, and not just from the viewpoint of the information providers but also considering the perspectives of the information users themselves (Maepa 2000). Such studies are of importance in sub-Saharan Africa where, as evidenced earlier, there is a pronounced shortage of health workers (WHO 2012).

1.2 Motivation for the study

The motivation for this research is therefore to understand the health information behaviour (comprising the seeking behaviour and information use) of men within the rural setting of South-East Nigeria, and to examine their cultural perceptions of health and health information, how those perceptions influence seeking behaviour, and to explore how a culturally appropriate health information provision strategy could be developed to facilitate access to and usage of health information in rural communities. In order to achieve this, the study explores the interrelationships between culture and information behaviour through a case study that illustrates how rural men experience information about their health issues. The research also offers recommendations for communicating health information that is culturally appropriate for people in rural areas of South-East Nigeria.

Providing accessible Prostate Cancer Health Information (PCHI) to Africans in rural areas can only be achieved by building a clear understanding of contextual and cultural issues that relate to health information behaviour and current approaches to the provision of health information. These include an understanding of how men in rural areas seek and use information, the type of information sources they utilise and why, the barriers they face in accessing health information, how information is disseminated to and among them, the language of communication used, and the role that culture plays in their information behaviour and information experience. With this knowledge, health information providers can understand how best to repackage and present prostate cancer information to respond to the information needs of the people in line with their culture and information behaviour patterns. It is also expected that this knowledge will enable health information providers to meet the health information needs of rural consumers and improve information accessibility and usability within the wider context of rural Africa.

1.3 Research aims

This research aims to explore the health information behaviour (HIB) of rural men in South-East Nigeria about accessing and utilising prostate cancer information. The study specifically explores whether the existing provision of health information is culturally appropriate and examines how different socio-cultural factors may influence the access and use of prostate cancer information by rural men. Based on this, the study develops a set of recommendations around effective information provision strategies that are culturally appropriate to improving prostate cancer information dissemination to rural men.

1.4 Research conceptual framework

As the aim of this research is to understand not only the health information behaviour of rural men but also the interrelationship with cultural and contextual factors, the Comprehensive Model of Information Seeking (CMIS) developed by Johnson and Meischke (1993) (Figure 1) served as the conceptual framework in this present study. The CMIS framework addresses some themes that were relevant to the context of this research study, mapping antecedents, information carrier factors and information seeking action. It is particularly useful in understanding the intervening factors regarding source-selection (DeLorme, Huh and Reid 2011) during health information seeking behaviour. The CMIS model addresses demographic characteristics (e.g. age, socioeconomic variables such as education and income) and the direct experiences of the information seeker which are linked to what is known about the situation, the information sources within their context and the social impact that is felt within any social network (Case et al. 2005).

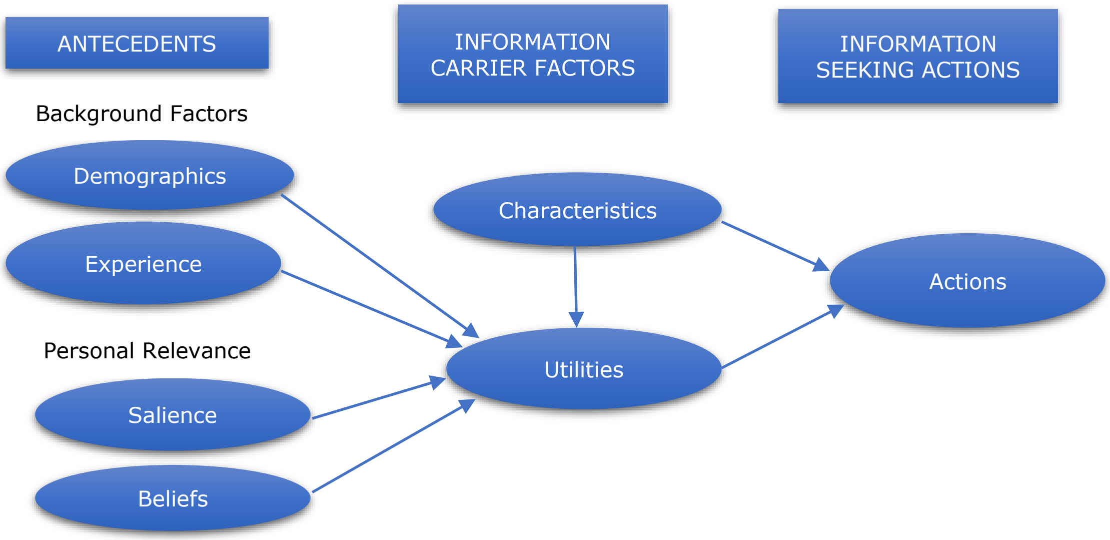


Figure 1- Comprehensive Model of Information Seeking

(Johnson and Meischke 1993)

The model also addresses the perceived information 'salience' and health 'beliefs' of the information seeker (Johnson 1997). Perceived information salience (or usefulness) is the key motivator in seeking information when the needed information is recognised not only as relevant to the situation but also as applicable (Johnson 1997). Similarly, the belief (or health belief) held about the situation tends to constrain the motivation of the information seeker, the level of engagement, or perceived self-efficacy, or the depth of information seeking (Case et al. 2005). Additional elements are also addressed including the utility of information sources and the information source characteristics preferred by the information seeker (Johnson 1997). For example, people prefer content disseminated through sources that they are familiar with (e.g. interpersonal), or with appropriate characteristics (e.g. language) (Case et al. 2005). A detailed discussion of the conceptual framework is provided in section 2.8.2.1.

1.5 Research objectives

Using Johnson and Meischke's (1993) model as a conceptual framework, the aim of the research study was achieved through the following six objectives:

1. To provide an understanding of the broad challenges men encounter when accessing prostate cancer information in rural South-East Nigeria.
2. To identify health information sources available to rural men and the barriers they face utilising these sources.
3. To critically understand the health information behaviour of rural men, and how information flows within rural communities.
4. To examine the levels of knowledge and awareness that rural men have about prostate cancer, and to explore their different perceptions and beliefs.
5. To understand whether and how culture influences the information behaviour of men in rural South-East Nigeria.
6. To offer recommendations for a culturally aware approach for the provision and repackaging of prostate cancer information, and conceptually mapping the cultural dimension onto the existing constructs of the CMIS model.

1.6 Originality and significance of the study

This research delivers a primary thrust to gaining a deeper insight into the previously unclear issues regarding men's health information behaviour, experiences, cultural perceptions about health and health information source-selection, access and use in South-East Nigeria. Gaining such understanding is critical and has the potential to impact the design and provision of health information that is culturally appropriate and capable of enhancing their health information experience. This research is the foremost work that focuses on investigating the influence of culture, demographics and information sources on men's health information experiences and behaviour in the context of rural Nigeria. The literature review shows that the influence of culture on health information behaviour of men in rural Nigeria has not been previously researched about prostate cancer. Consequently, knowledge of the health information behaviour of men in rural South-East Nigeria remains, at best, anecdotal. Sadly, the prevalence of prostatic risk in Nigeria continues to be high even among those living in rural communities and is comparable to the figures of African Americans (Ukoli et al. 2003).

Previous studies on prostate cancer in South-East Nigeria have, however, been conducted focusing only on men already affected by prostate cancer. For example, Sapira, Eke and Nwofor (2015); Afogu et al. (2017); Ozoemena et al. (2015); Ugwumba et al. (2017); Ejike and Eze (2015) have all given reports about the awareness level, incidence rate, screening behaviour, prostate diagnosis and management, and clinical and pathological characteristics of the disease, attitudinal factors (Abamara et al. 2017), and the influence of awareness campaigns (Eze 2016) in South-East Nigeria. Unfortunately, there is no research until now that has investigated the accessibility of health information with regard to the cultural, demographic and information carrier factors of the audience, and the influence on their health information behaviour (i.e. information-seeking behaviour and information use) including, source-selection and use of health information sources among men in rural communities in South-East Nigeria.

In addition, this study was exploratory as there were little or no previous knowledge concerning the phenomenon (Saunders et al. 2011). Tools employed include in-depth interviewing, participant observation, and focus groups in rural communities, and these helped to gain a deeper insight into the phenomenon (Creswell 2013). Results of the research of this nature are crucial in developing strategies which could be exploited to alleviate bottlenecks and fill knowledge gaps regarding the subject under study. Findings from such efforts could be beneficial in related fields and may impact future studies.

1.7 Roadmap of Thesis Structure

This thesis is organised by the primary information behaviour components (both general and health) of establishing information needs, searching for information, and using information, and related cultural factors in rural areas.

- Chapter two provides a further review of the information behaviour concepts together with the framework guiding the processes, including the cultural perspective.
- Chapter three presents the research settings and reports some observations

on the culture of south-east Nigeria.

- Chapter four introduces the research design, methods and methodology adopted for this study.
- Chapter five presents the data, analysis of the data and the research findings on the information behaviour and related cultural factors.
- Chapter six presents a discussion of the analysed results of research.
- Chapter seven concludes showing the revised model outlining the relevant underlying information behaviour variables, and the recommendations, research limitations and related future work. It also describes the appropriate cultural heuristics to adopt when targeting rural men during provision of health information.

The roadmap is conceptualised to indicate how the chapters interconnect across this thesis. In each frame, a brief overview is provided of what is discussed in that chapter. The conceptual diagram of the thesis structure is in Figure 2.

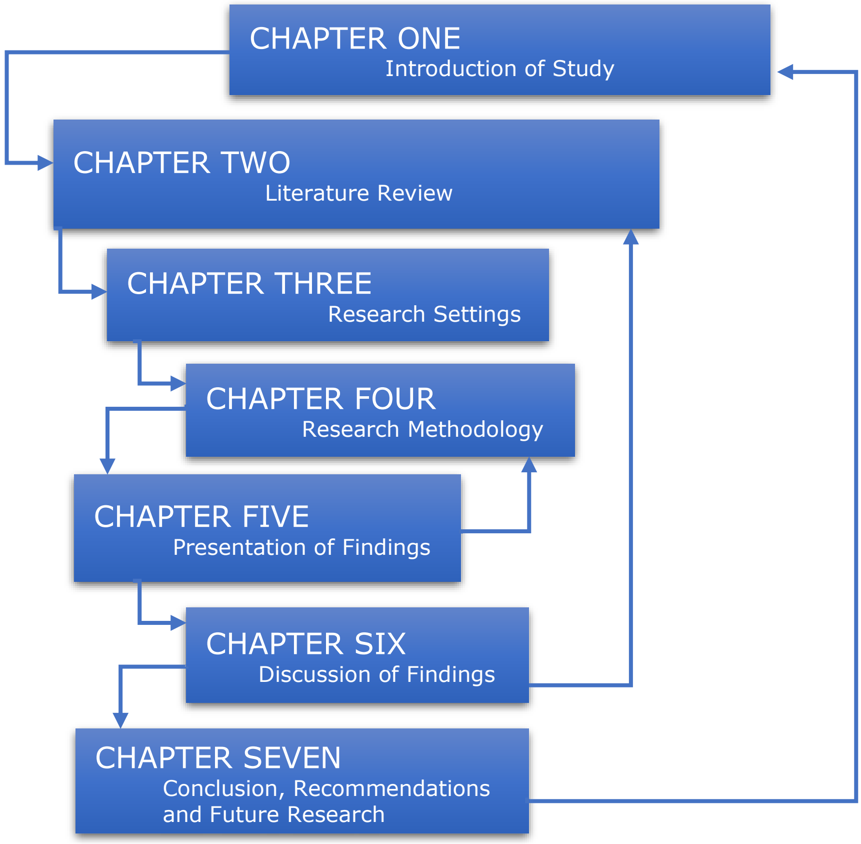


Figure 2 - Roadmap of Thesis Chapters

CHAPTER TWO

Literature Review

2.1 Introduction

As an exploratory study, the researcher sought to understand the health information behaviour of rural men, the information accessibility and cultural appropriateness issues they encounter as well as, the role of cultural and contextual factors in shaping rural men's health information behaviour regarding prostate cancer information in rural communities in South-East Nigeria. Given that African countries such as Nigeria (Afogu et al. 2017; Atulomah et al. 2010), Uganda (Nakandi et al. 2013), and Ghana (Hsing et al. 2014) have a record of high prostate cancer prevalence and incidence, and that the gap around the provision of accessible and culturally appropriate health information within rural African communities as noted in chapter one, this chapter aims to present a detailed overview of existing research within these areas and connect the research literature to the present study.

The chapter is subdivided into two sections. The first section focuses on the general concepts of information behaviour, information accessibility, and health information behaviour in Africa, particularly in Nigeria; the methods currently used to provide health information to rural residents, the interrelationship between men in rural South-East of Nigeria and prostate cancer information. The section also reviews models of both information behaviour and health information behaviour. Meanwhile, the second section identifies the cultural appropriateness and contextual factors which may hinder or promote access to and use of health information within the rural context, the interrelationship between these factors and rural men's health information behaviour. It also presents the value of the present study which aims to bridge the research gap in these areas and recommend strategies for providing health information that is culturally appropriate through culturally aware approaches.

The chapter is structured thematically as a funnel, beginning with broader key concepts before narrowing down to more specific ones relating to the focus of the present study. At the end of this chapter, the researcher presents what is known about this topic, the extent of work done by other scholars, and the gaps that exist in the literature regarding the health information behaviour of rural men, rural men's experience, knowledge and attitudes towards prostate cancer information, contextual and cultural appropriateness issues with health information, and current provision strategies used within rural areas in south-east Nigeria. Finally, the literature review corroborates the justification for the present study and serves as a benchmark to compare the findings with previous studies (Creswell 2013). The researcher extensively searched various databases and platforms such as MEDLINE, Taylor and Francis and Google Scholar to identify matching literature under these themes: information needs, information behaviour, information seeking behaviour and information use within a rural context, perceptions of prostate cancer, the aspect of the cultural appropriateness of information, both within Nigeria and Africa at large.

2.2 Searching the Literature

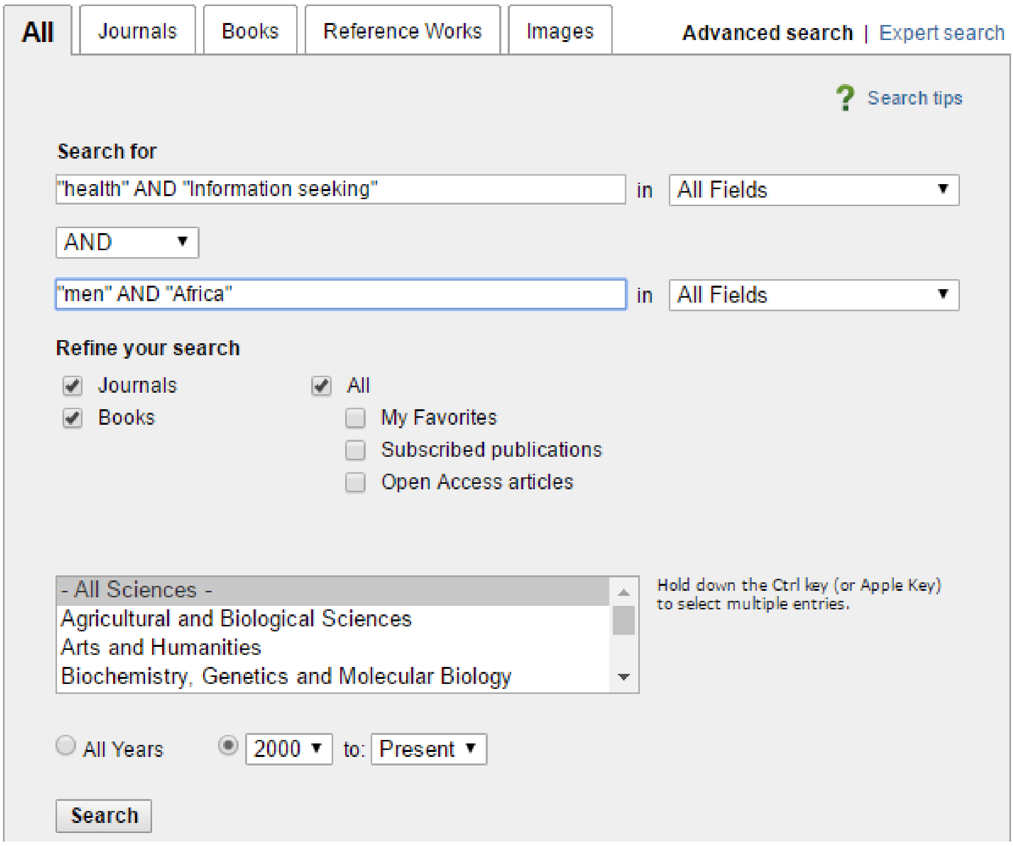
Having set out the objectives of the present study (see Section 1.5), the researcher moved on to collate the work of experts within and outside the field of information science, to acknowledge and engage with key scholarly literature in order to demonstrate a comprehensive understanding of extant theories and issues relevant to the aims and objectives of the present study. Before engaging in the literature search process, the researcher set out the following:

1. Criteria for relevant literature (e.g. year of publication, content type)
2. Literature sources (e.g. online repository, physical library)
3. List of keywords for the search

The literature review search process covers studies focusing on rural residents' information behaviour (e.g. information needs, information seeking and information use), and the concepts of information accessibility, the cultural appropriateness of information and the interrelationship among these concepts in a holistic manner. Meanwhile, the inclusion of relevant literature was decided based on the following criteria:

1. Literature published from 2000 onwards.
2. Literature is written in English.
3. Literature covering the scope, or relevant to the scope of the present study.
4. Literature originates from peer-reviewed repositories.
5. Books and Conference papers on the subject area in the present study.
6. The literature on models and frameworks related to the present study.

After these elements were determined, the researcher-initiated the literature search process. During this, the principal source selection criteria included articles published in English from 2000 in order to capture the research trend in the past decade. The researcher implemented the double quotation marks (" ") on the keywords, the AND operator, and a combination of additional keywords to generate more related and relevant materials. A screenshot is provided to demonstrate the literature search process with some keywords in Figure 3.



Search for

"health" AND "Information seeking" in All Fields

AND

"men" AND "Africa" in All Fields

Refine your search

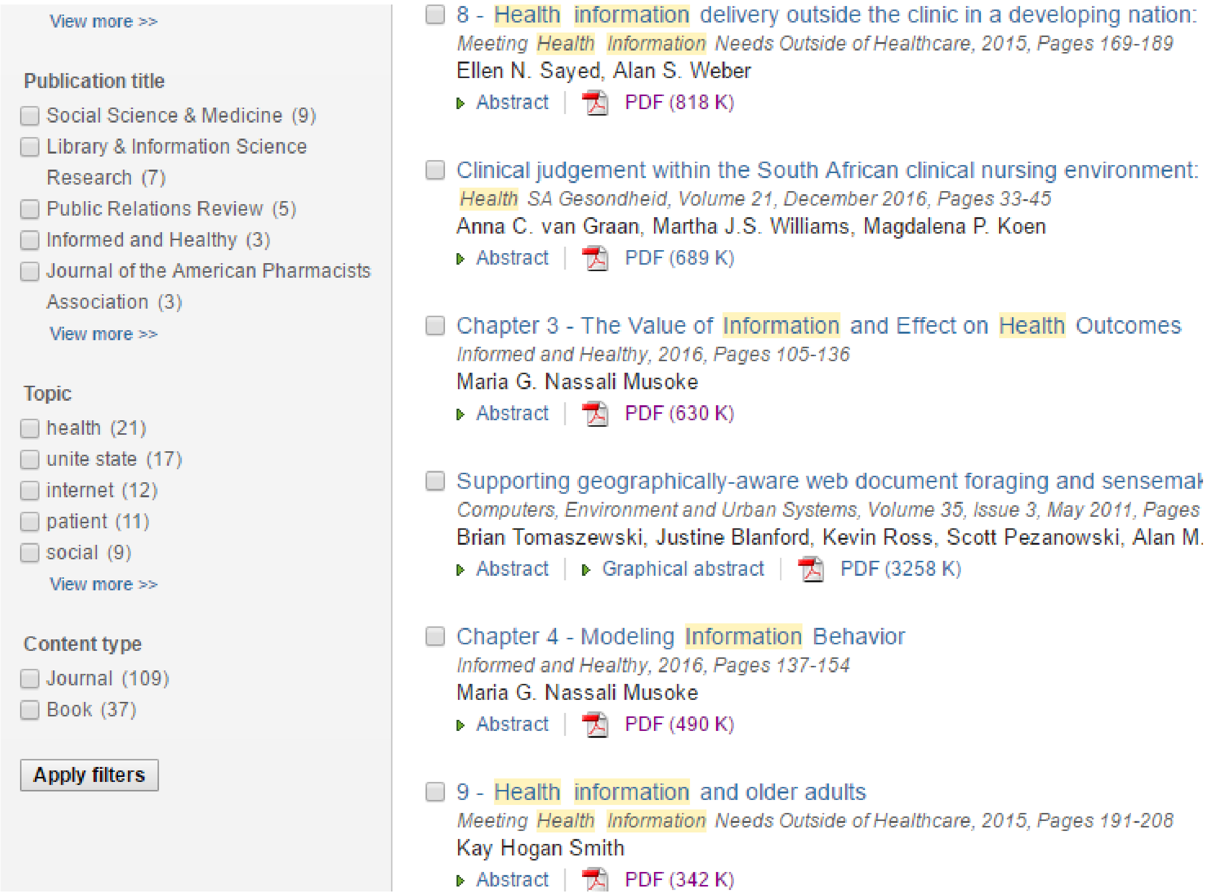
☑ Journals
☑ Books

☑ All
☐ My Favorites
☐ Subscribed publications
☐ Open Access articles

○ All Years ● 2000 to: Present

Figure 3-Literature Search with keywords

By implementing these keywords (“health” AND “information seeking”) and (“men” AND “Africa”), 144 materials were generated as shown in Figure 4.


View more >>

Publication title

☐ Social Science & Medicine (9)
☐ Library & Information Science Research (7)
☐ Public Relations Review (5)
☐ Informed and Healthy (3)
☐ Journal of the American Pharmacists Association (3)
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Topic

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☐ internet (12)
☐ patient (11)
☐ social (9)
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Content type

☐ Journal (109)
☐ Book (37)

Apply filters

☐ 8 - Health information delivery outside the clinic in a developing nation:
Meeting Health Information Needs Outside of Healthcare, 2015, Pages 169-189
Ellen N. Sayed, Alan S. Weber
▸ Abstract | PDF (818 K)

☐ Clinical judgement within the South African clinical nursing environment:
Health SA Gesondheid, Volume 21, December 2016, Pages 33-45
Anna C. van Graan, Martha J.S. Williams, Magdalena P. Koen
▸ Abstract | PDF (689 K)

☐ Chapter 3 - The Value of Information and Effect on Health Outcomes
Informed and Healthy, 2016, Pages 105-136
Maria G. Nassali Musoke
▸ Abstract | PDF (630 K)

☐ Supporting geographically-aware web document foraging and sensemak
Computers, Environment and Urban Systems, Volume 35, Issue 3, May 2011, Pages
Brian Tomaszewski, Justine Blanford, Kevin Ross, Scott Pezanowski, Alan M.
▸ Abstract | ▸ Graphical abstract | PDF (3258 K)

☐ Chapter 4 - Modeling Information Behavior
Informed and Healthy, 2016, Pages 137-154
Maria G. Nassali Musoke
▸ Abstract | PDF (490 K)

☐ 9 - Health information and older adults
Meeting Health Information Needs Outside of Healthcare, 2015, Pages 191-208
Kay Hogan Smith
▸ Abstract | PDF (342 K)

Figure 4 - Literature Search Process with Advanced Search Features

The researcher also implemented other keywords to address the other main concepts of the study. Some of the keywords implemented include, "Health information seeking" AND "Rural Dwellers"; "Cultural Factors" and "Health"; "Information Needs" AND "Information Seeking" AND "Africa"; "Prostate Cancer" AND "Rural Men" AND "Information Seeking"; “Information behaviour” AND “accessibility and cultural issues” AND “Africa”.

A full description of the literature search process is conceptualised and presented in Figure 5.

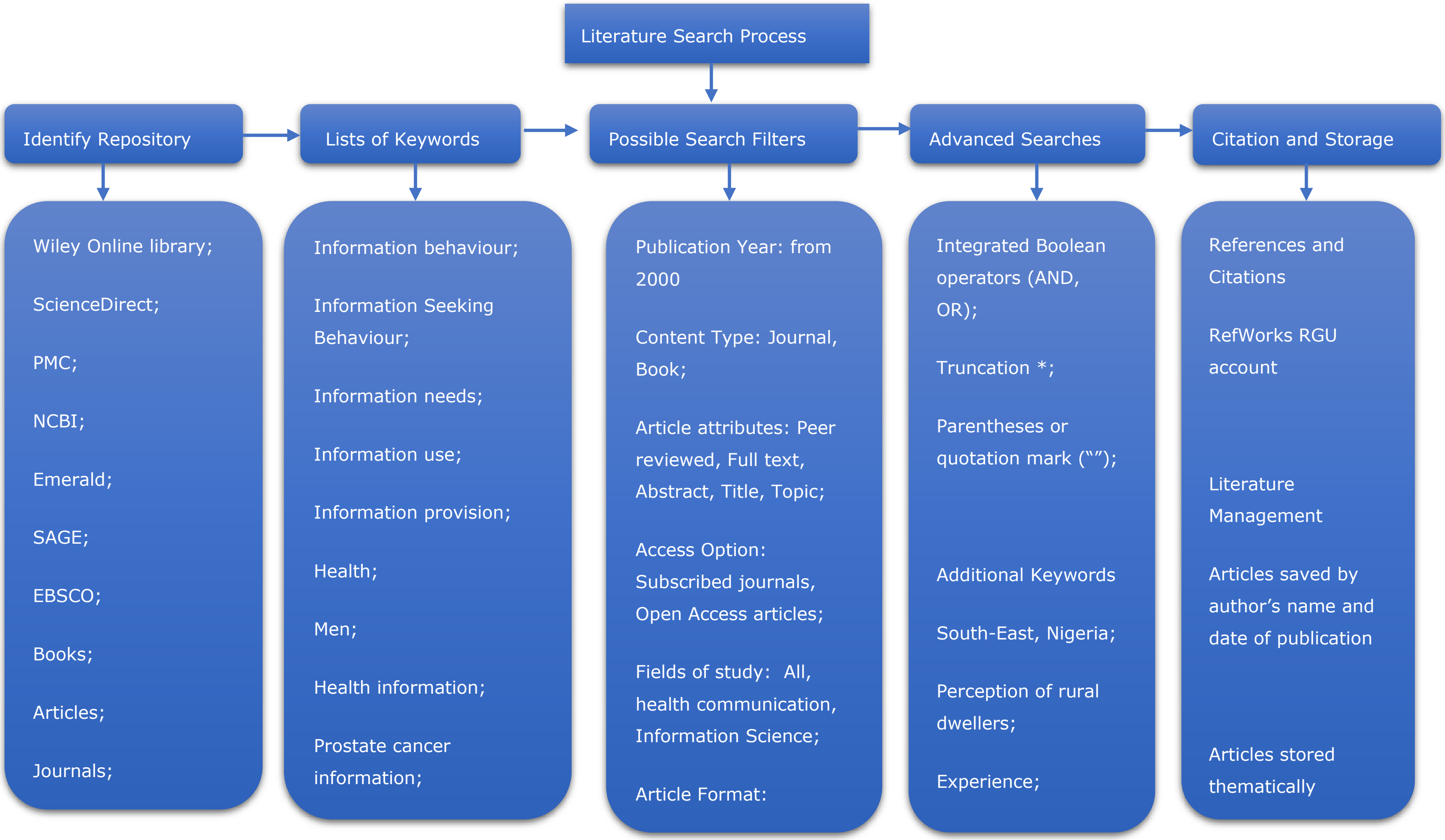


Figure 5 - The Literature Search Process

The literature search process in Figure 5 generated studies that investigated the concept of information behaviour among rural dwellers in the Nigerian context (Islam and Ahmed 2012; Okwu, Yahaya and Obinne 2011; Anunobi, Ogbonna and Osuchukwu 2014). Similarly, studies that examined factors which influence health information seeking (Anyaoku and Nwosu 2016; Anker, Reinhart and Feeley 2011; Manafo and Wong 2012) and health information use (Yates et al. 2012), cultural implications (Ojua, Ishor and Ndom 2013) and information on prostate cancer (Atulomah et al. 2010; Abamara et al. 2017) were explored by the researcher. However, due to the paucity of scholarly literature in these subject areas in the Nigerian context, related studies from other developing countries within Africa were included to gain meaningful insight into the scope of the study and to observe the gaps in the literature. For example, the work of Mtega and Ronald (2013) exposed the state of rural information services in Ghana. Meanwhile, Kamba (2009) highlighted the challenges faced by rural communities in Tanzania regarding access to information. It was important to locate studies on rural dwellers' information experience in other African countries to corroborate the experiences of rural dwellers in Nigeria. These studies provided the opportunity for the researcher to gain preliminary insight into existing research.

Citation and references from these generated articles were managed through the researcher's RefWorks account which enabled the researcher to systematically keep track of the bibliographic references throughout the literature review process and to perform in-text citations and maintain up-to-date reference lists from the beginning of the study to the end. Given that the present study aims to understand the health information behaviour of rural men, and the cultural appropriateness and information accessibility issues associated with health information, the researcher concentrated specifically on those studies that investigated these concepts in developing countries. This helped to develop a comprehensive understanding of the extent of the study, and the existing gaps in the literature within the context of Africa and Nigeria especially. The reviewed literature assisted the researcher in answering the research questions.

In order to ensure relevant and current coverage of the literature, the researcher subscribed to the weekly Google Scholar's alert for regular notification regarding new issues on health communication, information accessibility and health information. The researcher further facilitated the gathering of relevant sources through networking and presentation at conferences in the University of Glasgow; Strathclyde University, Robert Gordon University, and Aberdeen University (Information Science Doctoral Colloquium 2014, 2015, 2016, 2017). Also, an abstract was submitted to the 5th Global Congress on Prostate Cancer, Lisbon 2017.

The themes from the search are presented in Table 1.

Literature Themes	Themes and Sub-themes discussed in this chapter.	Rationale for the themes	Literature Sources for the themes
Research Context	Developing Countries; Africa; Rural South-East of Nigeria; Prostate Cancer Information; Rural men;	To keep the literature search within the scope and ensure relevant literature was utilised.	Ukoli et al. 2003; Obertova et al. 2012; Abamara et al. 2017; Ozoemena et al. 2015; Afogu et al. 2017; Enaworu and Khutan 2016
General Information Behaviour	Information Needs; Information Use; Information Seeking; Information Sources; Information Accessibility; Information Provision; Information Avoidance; Information Usefulness; Information Design;	To understand the general information behaviour of men in rural south-east of Nigeria and all the relevant attributes of information regarding the research context.	Momodu 2002; Dutta 2009; Islam and Ahmed 2012; Kamba 2009; Mtega 2012; Judith 2016; Ikoja-Odongo and Mostert 2006; Etebu 2009; Anunobi, Ogbonna and Osuchukwu 2014
Health Information Behaviour	Health Information Use; Health Information Seeking; Health Information Sources; Health Information Perception; Health Information Preference; Prostate Cancer; Health Information communication	To gain an in-depth knowledge of the experiences, perceptions, and information seeking behaviour of men in rural south-east of Nigeria and how best to provide health information to this research population.	Okeke and Okeibunor 2010; Edewor et al. 2016; Rutten et al. 2005; Chaudhuri et al. 2013; Enwald et al. 2017; Sokey and Adisah-Atta 2017; Anyaoku and Nwosu 2016; Johnson 2014; Anasi 2012; Atulomah and Atulomah 2012;
Cultural Factors	Religion; Language; Belief; Perception; Myths; Trust; Personal Factors; Salience; Demography; Experience;	To identify rural men's cultural orientation and factors which shape their information seeking behaviour.	Ojua, Ishor and Ndom 2013; Woods et al. 2004; Napier et al. 2014; Dutta 2007; Hyder and Morrow 2006; Oleribe and Alasia 2006; Kreuter and McClure 2004; Kreuter et al. 2003
Conceptual Frameworks / Models	General Information Seeking Behaviour Models;	To have general knowledge of information seeking behaviours.	Wilson (1997, 2006); Dervin (1992, 2003); Zipf (1949); Kuhlthau (1991); Choo (1998)
	Health Information Seeking Behaviour Models;	To develop in-depth knowledge of rural men's health information seeking behaviour. A baseline used for analysis and interpretation of research data.	Johnson (1997) model

Table 1-Discussed Literature Review Themes, Rationale and Sources

The researcher created a literature review map with the themes identified from previous studies of other scholars as shown in Figure 6.

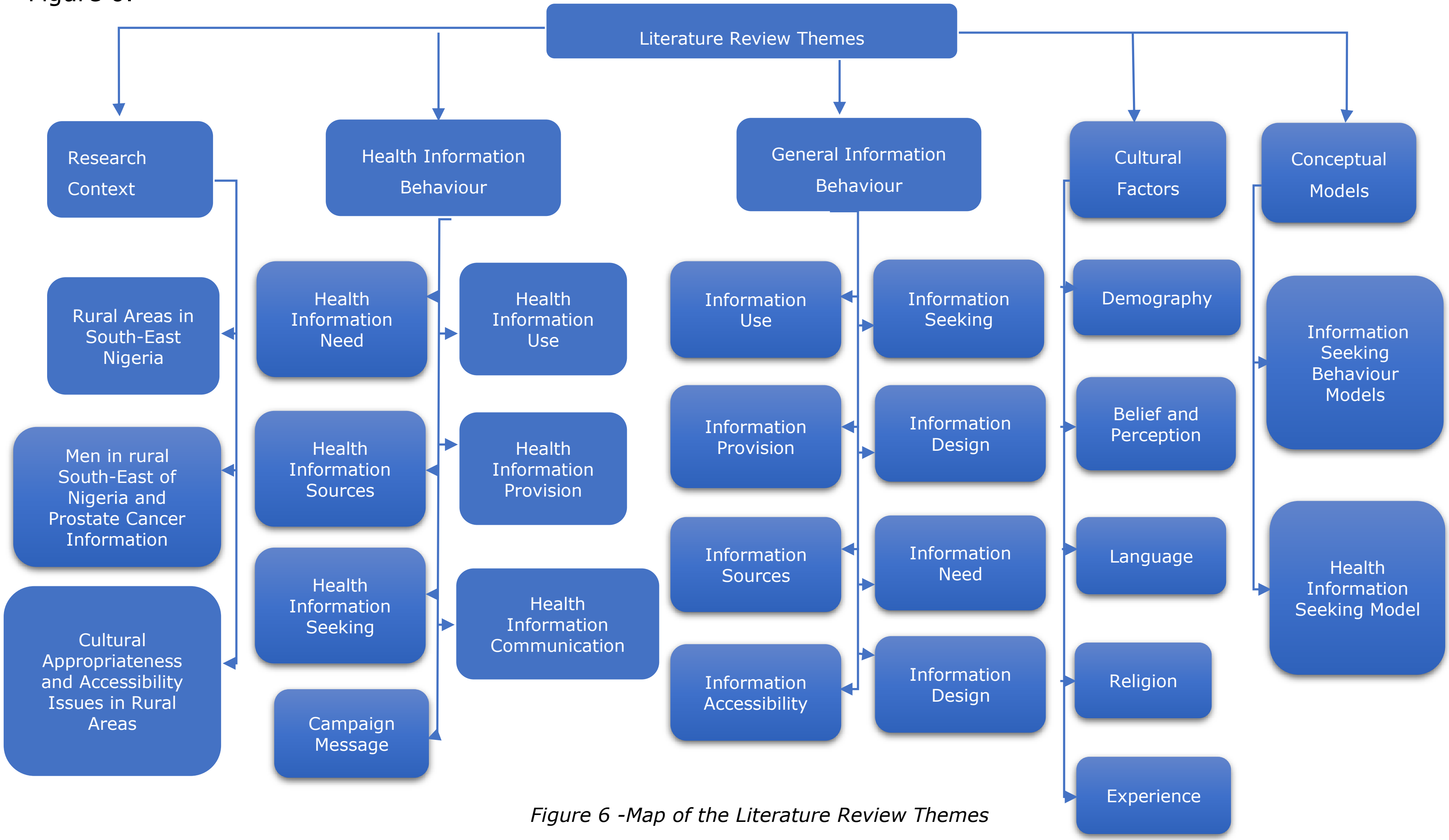


Figure 6 -Map of the Literature Review Themes

However, additional themes are also discussed due to the progressive nature of the literature review process, to capture concepts appropriate to broaden knowledge and present a quality cohesive argument within the context of the present study. Each of the themes is now discussed in detail in a subsequent section drawing on the literature sources shown in Table 1.

2.3 Prostate Cancer in Rural Nigeria

Research into prostate cancer is not new in Nigeria, prostate cancer had long been considered as an unusual health issue among West African men, specifically Nigerian men (Nkposong and Lawani 1973). However a recent hospital-based report in Nigeria show that the incidence of prostate cancer is on the increase (Afogu et al. 2017; Sapira, Eke and Nwofor 2015). Sapira, Eke, and Nwofor (2015) said in their survey study with 86 Igbo men who visited Nnamdi Azikiwe Teaching Hospital Nnewi, 57 of them presented with the disease. Similarly, Afogu et al. (2017) reported an increase in prostate cancer incidence among the 103 clients who at the National Obstetric Fistula Centre, Abakaliki, Nigeria, 81 of them had a PSA level of 4ng/ml, 5 had a PSA level of 4.1-10ng/ml, while 17 had a PSA level greater than 10ng/ml. The mean PSA level was 4.75 -8.2 ng/ml. Furthermore, Ukoli et al. (2003) had reported that among the participants invited from rural communities in south-east Nigeria, one-third had symptoms increasing from 4 in men below 50 years, to 6 in men from 80 years.

Despite this revelation, research attention given to the knowledge, beliefs, and perception of men in Nigeria, and their awareness of prostate cancer screening is poor (Egbera 2015; Atulomah et al. 2010). A study by Olapade-Olaopa et al. (2014) and Egbera (2015) suggested that many ordinary Nigerian men are unaware of the disease (its symptoms). Research has continued to focus on educated groups such as public servants (Oranusi et al. 2012; Bock-Oruma Iboh and Prince 2014) and male university students (Egbera 2015) in urban areas. According to Oranusi et al. (2012), there is a need, which Olapade-Olaopa et al. (2014) call an ‘urgent’ need, for more rural or community-based studies that have a full representation of the uneducated population in rural areas. Similarly, Nakandi et al. (2013) confirmed that there is poor knowledge about prostate cancer among rural people as they confuse prostate cancer with gonorrhoea and held other related misconceptions about the causes of prostate cancer (Bock-

Oruma Iboh and Prince 2014; Ajape, Babata and Abiola 2010). This view is also reported by Atulomah et al. (2010) and Ukoli et al. (2003). This situation has been partly attributed to cultural and religious beliefs (Woods et al. 2004) and lack of access to healthcare services (Sokey and Adisah-Atta 2017) such as health information hence, resulting in unhealthy behaviour such as late diagnosis of the prostate problem among rural men (Ukoli et al. 2003).

Several other studies have focused on prostate cancer awareness, perception, knowledge, beliefs, and screening behaviour in the Nigerian context (Abamara et al. 2017; Atulomah et al. 2010; Egbera 2015; Oliver et al. 2011; Bock-Oruma Iboh and Prince 2014). All these previous studies have examined awareness levels, knowledge, beliefs and perceptions of prostate cancer and attitudes of affected men towards screening tests. In all these studies, the common conclusions reported a low level of awareness, unhealthy beliefs, and negative perceptions of prostate cancer (Ajape, Babata and Abiola 2010). Furthermore, these studies have recommended the need to increase awareness programmes, campaigns, or health information to educate men in their various contexts. However, none of these studies has looked at how health information can be repackaged to actualise the anticipated improved awareness level and correct wrong perceptions and beliefs about prostate cancer. This current research aims at bridging this gap in the literature, by proposing a culturally appropriate health information provision strategy to improve access to health information by men in a rural context.

To achieve this goal, the researcher approached the study from a user's perspective, by exploring information users' (e.g. rural men) characteristics and information behaviour to understand the role of culture in order to inform information providers of the best culturally appropriate strategy to adopt when creating and disseminating health information about prostate cancer for a rural audience.

2.4 The Place of Context within Information Behaviour Study

The concept of context has a great variety of representations and approaches to its description. Context, however, constitutes a frame of reference when examining people’s information behaviour (Courtright 2007). Therefore, recognising ‘context’ when investigating information behaviour, that is, how humans seek information, use the information to make a decision, and form opinions about their situation becomes fundamental because human information behaviour occurs within a given context (Gaston 2014; Gaston, Dorner and Johnstone 2013) and not in a vacuum (Case 2012). Spink and Cole (2001) suggested that the everyday information seeking behaviour of a people can be better understood when explored from the cultural and social perspectives of these people. Considering these perspectives would help to provide a foundation for the design of a more applicable model (of information behaviour) that holds across different situations (Gaston 2017).

Human information behaviour encompasses how people interact with information in different contexts (Pettigrew, Fidel and Bruce 2001, p. 44). This perspective does not only reflect how individuals interact with information but also how the information flows in that given context. Context when considered within information science, may include attributes such as individuals' culture and environment with boundaries, constraints, and privileges (Sonnenwald 1999), where information needs to be met occur. Furthermore, knowledge of context helps to develop an understanding of the relationship between factors and human information behaviour (Savolainen 2005). Therefore, an individual’s everyday information behaviour varies depending on the context of interest (Case 2012). Every person interacts with information in many ways either during information seeking, usage or dissemination. Context is essential in this research because the aim is to capture the context of the phenomenon in its entirety (Johnson 2003).

Information is meaningful and constitutes knowledge when structured within a given context (Bates 2010). This is because, in society, information could represent shared interpretation which binds people together. Context provides the environment by which information users adapt the information and use it for either personal or social purposes, or both (Amidu, Harrison and Olphert 2016). There is a need to recognise the context people apply to interpreting the information they receive (Johnstone, Tate and Bonner 2004). Bates (2010) suggests that information behaviour can be better understood within a social context and when integrated within the cultural practices and values of the people. In this study, the researcher focuses not only on health information and rural men but also the context of their information behaviour (Johnson 2003). Knowledge of the rural context helped to develop a deeper understanding of how rural men seek and utilise health information in rural south-east Nigeria.

There are several perceptions of what culture is throughout the literature (Hyder and Morrow 2006). Culture in this study is the collection of knowledge, belief, customs shared by people as part of being a member of the society (Spencer-Oatey 2000). In this view, culture is the totality of the way of life of people (Ojua, Ishor and Ndom 2013). This way of life includes how people attempt to meet the necessities of life (Nwaru 2015; Bailey, Erwin and Belin 2000). Onwuejeogwu (1975) defined the Igbo culture area as "a geographic delimitation of people with the same dominant and significant traits, complexes and patterns" (p. 1). Culture has been posited to influence every aspect of human behaviour in diverse ways (Nwaru 2015; Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010; Mooko 2005). However, to examine the effect of culture, the researcher needed to understand how it affects the individual's psychological processes (or personality), and how these processes, in turn, affect their behaviour. Based on this view, the interconnectivity between culture, the individual and behaviour is shown in Figure 7.

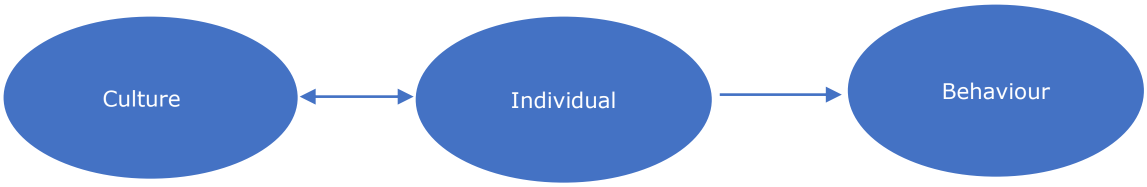


Figure 7 -Interconnection between Culture, Individual and Behaviour

Figure 7 demonstrates that, culture, is shaped by individuals, and shapes an individual (e.g. attitudes, values, and beliefs); which results in the differences in personality and how these personalities behave. In other words, culture is conceptualised as a concept which perpetuates itself (i.e., it is both conditioning, and conditioned through interactions, practices and context) (Singelis and Brown 1995). This means that culture is not static (Napier et al. 2014) because people change. In some cases, culture is constructed through behaviour and the cognition of its members. As people change their settings (e.g. community, religion) or environment (e.g. location) or acquire new education and experiences, or as their circumstances (e.g. economy) change, then their cultural perception tends to change or become modified (Garro 2001). One of the most common factors to cultural change is lived experience (Hyder and Morrow 2006). Lived experiences are the experiences that people have as they live their lives every day.

It is evident that people from different cultures are different in how they perceive, comprehend, and interpret the world around them (Scrimshaw 2012). (Nisbett and Miyamoto 2005). Culture in this capacity provides the construct that informs an individual's psychological makeup (i.e. beliefs), which, in turn, affects the individual's behaviour (Bailey, Erwin and Belin 2000). On the other hand, culture is also contextually constructed (i.e. human-modified) as part of an individual's environment based on an individual's actions and belief (Gaston, Dorner and Johnstone 2013).

Every culture has its customs, beliefs and practices which may influence both the physical construction of its members (e.g. ethnic groups) and their cognitive structures (e.g. perception) (Obinna 2012; Nisbett and Miyamoto 2005). Also, can have a significant influence on their health status and approach to seeking health services (Lee and Kim 2015). Knowledge of these cultural factors in rural communities can help to identify the cultural practices that are deleterious to health and enable the provision of relevant health information that is accessible and usable by them (Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010). Nichter (2008) suggested that health is defined, labelled, evaluated and acted upon in the context of culture. Different cultures view health through the various cultural lens (or perspectives) which determines the way they approach prevention and treatment of the disease (Ibeneme et al. 2017; Bailey, Erwin and Belin 2000). This means that health information providers need to think like the target audience or have a comprehensive understanding of how the target audience think to be able to make a positive impact in improving the people's health (Hyder and Morrow 2006). This suggests that the degree of success achieved through health information provision strategy depend on how culturally appropriate both the strategy and the information disseminated are, to the target audience.

Kreuter et al. (2003) suggested that to understand the cultural context of health; the researcher can either examine the context of the culture in health either as an insider or an outsider. The insider perspective reveals the culture from within, attaching the meaning that people attach to things from their cultural perspective (Hyder and Morrow 2006).

Although scholars have suggested that health-related studies must consider cultural beliefs and behaviours to achieve research goal (Obinna 2012; Kreuter et al. 2003; Scrimshaw 2012), culture is not the only underlying factor that brings about differences in behaviour. Therefore, in this study, culture, as well as other personal factors such as demographics, experience and perception, were explored.

There are other underlying variables which affect behaviour in addition to culture, which are nonetheless also influenced by culture. Many studies that examine the cultural impact on human information behaviour often use culture as an all in one variable to explain all noticeable behavioural differences within ethnic groups (Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010; Mooko 2005). Nisbett and Norenzayan (2002) posit that culture is mutually interdependent with an individual's perception and experiences regarding the determination of behaviour. Meanwhile, Hong et al. (2000) argued that the perception held by the perceiver is associated to the extent to which the perceiver is exposed to the specific cultural belief which informed his perception. This means that men in rural south-east of Nigeria develop their perception by their exposure to cultural constructs which in turn, inform their behaviour. Therefore, it is important to explore the extent to which the information user is culturally exposed (or cultural knowledge) to provide guidance on how they construct their meaning (Hong et al. 2000).

For example, Nisbett (2010) highlighted this impact by demonstrating the differences that exist in the cognitive construction between Asian and Western populations. Nisbett (2010), individuals exposed to a Western culture build on the ideology of autonomy or individuality, whereas those exposed to Asian culture have an ideology opposed to individuality. Among Asian populations, Nisbett (2010) suggested that there is a cultural preconception that *"the peg that stands out is pounded down"*, meaning that most East Asians, are less concerned about achieving personal goals (or success) than embracing collectivism which prioritises achieving social harmony over personal goals for self-glorification. This example shows the distinctive style of perception and reasoning which demonstrates the different norms for cognitive processes based on cultural ideologies.

In Nigeria, there are many cultural practices based on its multi-cultural nature (Ojua, Ishor and Ndom 2013; Nwaru 2015). Many studies have examined these cultural practices to demonstrate how they influence health status in Nigeria. For example, Ghinai et al. (2013) report that polio incidence moved from 202 to 1143 between 2002 and 2004 because polio vaccines were rejected due to cultural and religious beliefs that polio was caused by 'female spirits'. Therefore, the oral polio vaccine (OPV) was ineffective in curing such disease, and that OPV was a Western way of causing infertility among Islamic girls. Furthermore, a study by Oleribe and Alasia (2006) on the effect of Nupe cultural practices on the health of the people reported findings demonstrating that some cultural practices (e.g. body scarification) are averse to health while others (e.g. community-based assistance) are positive. Each of these scholars, as a recommendation, called for the integration of positive cultural practices for a healthy society.

Despite the vast amount of study into the relationship between culture and health in other parts of Nigeria, there is still a gap within south-east Nigeria (Obinna 2012) about cultural practices which influence men’s information behaviour in rural communities, which this study aims to bridge. In this attempt, the researcher goes beyond the tradition of highlighting cultural differences, to demonstrate its effect on behaviour regarding health information in rural communities in south-east Nigeria.

Figure 8 highlights the context in rural south-east Nigeria in the current study.

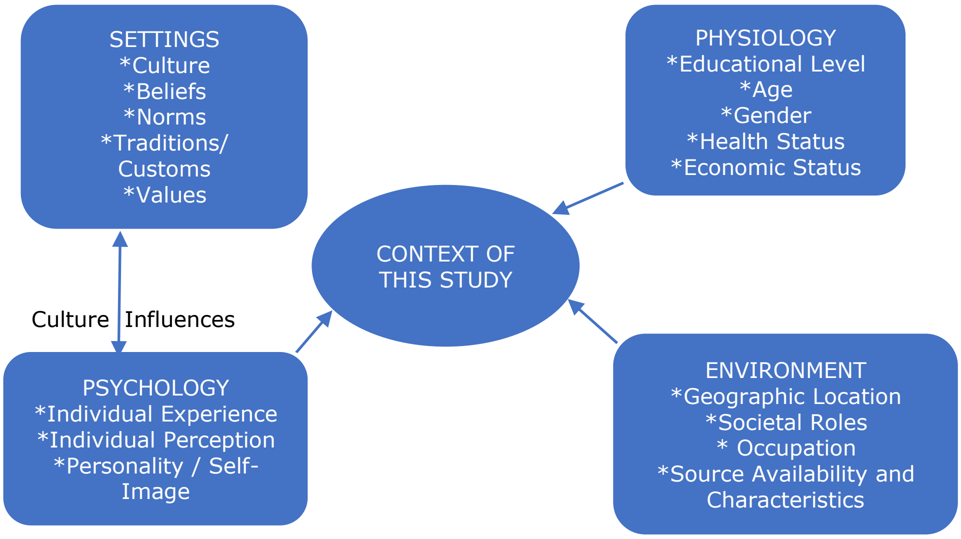


Figure 8 - Contextual Factors Around Human Information Behaviour

The researcher believes that knowledge of the relationship between the cultural, psychological, physiological and environmental dimensions is required to elicit why and how cultural practices influence men’s information behaviour as conceptualised in Figure 8. Although it is theoretically and empirically important to distinguish culture from other factors, to identify the elements of culture that account for individual behaviour, this attempt is to unravel the complexity and not deny it. This view assumes that an individual’s similarities or distinction can be emphasised through their social practices, shared beliefs, traditions and cultural institutions.

Moreover, health information providers and other information services tend to ignore the fact that people from different cultures tend to perceive, understand and reason differently, by not considering the cultural characteristics of their target audience. This situation is the case with the presentation of health information in rural communities using strategies which often do not reflect the cultural orientation of the targeted audience. Mtega and Ronald (2013) posit that the demographic characteristics of rural information users influence their information behaviour. Therefore, it is important to understand how these characteristics as well as the contextual factors, influence rural men’s health information behaviour. Knowledge of these factors will help to gain a better understanding of the health information behaviour of the people and identify a more appropriate approach to adopt when designing and providing information services (Hepworth 2007) for men in rural communities.

2.5 The Concept of Health Information

Health information provides the citizens with the education of how to deal with their health risks and treatment (Anasi 2012), and to become better equipped to make health decisions (Anker, Reinhart and Feeley 2011; Enwald et al. 2017). Health information plays an essential role in people’s ability to cope with diverse health challenges (Anyaoku and Nwosu 2016). Therefore, seeking health information is the most frequent “problem-centred” coping method (Lee and Kim 2015; Lalazaryan and Zare-Farashbandi 2014). In general, individuals who seek health information usually focus on the treatment of severe health situations and the ongoing impact of such life-threatening illness (Mayer et al. 2007; Longo et al. 2009). Seeking health information is a way in which some patients regain a sense of control over their health circumstances (Chaudhuri et al. 2013; Johnson 2014). Seeking adequate health information has been shown to have several positive effects including improved coping skills, pain reduction, speedier recovery, increased participation in decision making, greater satisfaction with health treatment (Lee and Kim 2015; Manafo and Wong 2012) and improved management of emotional fallout associated with health issues (Jean 2012).

People may interact with health information in a wide variety of ways when attempting to cope with a health situation (Anasi 2012). These interactions may range from active information seeking to passive reliance on information supplied, and even to purposeful avoidance of any potentially relevant information (Narayan, Case and Edwards 2011; Lee and Kim 2015; Jean 2012). Mils and Davidson (2002) argued that having appropriate information at the right time is a key factor in enabling individuals to cope throughout their health journey, instead of avoiding health information. On the contrary, an individual may decide to cope by avoiding health information to decrease uncertainties and remain optimistic allowing them to limit the extent of fear about the outcome of the health issue (Jean 2012; Wong et al. 2000; Narayan, Case and Edwards 2011). For example, Wong et al. (2000) found that about 19% to 26% of their study participants, men with prostate cancer, preferred health information on the best outcome while 11% to 13% wanted the worst outcome. Information avoidance and the resultant lack of adequate health information about one’s health has shown to have several negative outcomes, including the inability to participate fully in treatment-related decision-making and the dissatisfaction around the treatment choices that have been made (Narayan, Case and Edwards 2011; Jean 2012).

These different ways of dealing with health information (i.e., active seeking, passive acceptance, or purposeful avoidance) have significant implications for the extent and usefulness of the information individuals have available to draw from to make health-related decisions (Narayan, Case and Edwards 2011; Lee and Kim 2015). Hence, inadequate health information can have negative effects such as, an increase in the level of uncertainty (Sweeny et al. 2010; Case et al. 2005), lack of ability to control anxiety and retain some hope (Ulrey and Amason 2001), unhealthy perceptions due to ambiguous or contradictory information (Sweeny et al. 2010) which will hinder the decision-making process of the individual.

Research has focused on understanding the extent to which health information is integrated into the decision-making system of the consumer, and health experts about their health situation (Lee and Kim 2015). Studies based on this perspective aim at contributing to the development of a better information system (Lambert and Loiselle 2007; Hepworth 2007) in achieving behavioural change (Lee and Kim 2015; Freimuth, Stein and Kean 1989). Freimuth (1990) suggests that some consumers are unaware of some decisional options such as practising preventive behaviour, early detection and treatment options due to lack or inappropriately communicated health information which in many cases, leads to poor decision-making as the criteria are unknown to them. This group of people are usually less exposed, uninformed, and are dominated by their beliefs with minimal chances to change their behaviours (Lee and Kim 2015). In order words, health information (or messages) in most cases widen the knowledge gap when it is communicated ineffectively (or inappropriately) (Freimuth 1990).

Health information has also been instrumental in influencing behaviour change although it is understood that health information alone cannot guarantee adoption of healthy behaviours. However, it is believed that access to adequate health-related information has the potential to encourage positive health-related behaviour (Longo et al. 2010). Accessing health-related information tends to influence the knowledge, belief and attitude of the individual about health-related situations. Woods et al. (2004) suggest that an individual approaches health information in relation to the underlying beliefs of that individual. In other words, people form a mental picture as a function of their perception based on their health experiences and the information they receive from different sources (Lee and Kim 2015).

2.6 Understanding the Health Information Behaviour of Men

Information behaviour has often been noted as an 'umbrella concept' comprising other information activities (Savolainen 2007). It characterises how people generally "deal with information" (Savolainen 2007, p. 109) or "interact with information" (Bates 2010, p. 2381) such as in the generation, communication, and use of information and retrieval (Case 2012). Similarly, Wilson (2000) posited that it is "the totality of human behaviour in relation to sources and channels of information…and information use” (Wilson 2000, p. 49). Wilson (2000), however, provided a wider perspective by relating the concept to information sources and use from the point of recognising the information need to the point where the need is satisfied.

In these definitions, information behaviour is a central concept among human beings (Savolainen 2007; Pettigrew, Fidel and Bruce 2001; Wilson 2000), and scholars seek to develop a thorough understanding of people’s information behaviour in diverse contexts. In different contexts, researchers have attempted to understand people’s information behaviour by investigating people’s information needs, information seeking patterns, selection of preferred sources and the use of information obtained (Johnson 1997; Davies and Harrison 2007; Case 2012). Studies focusing on information behaviour seek to understand the human relationship to information how people seek and utilise information (Bates 2010). These studies are developed to have a better understanding of the information user and how the information is used in a variety of contexts. Understanding the users’ information behaviour helps to identify the features and components necessary to improve the information experience of the information user (Bawden 2006; Wilson 2006). Therefore, the outcome of the knowledge gained via information behaviour research about a given information user group can lead to the development of a set of guidelines and recommendations about ‘what’ and ‘how’ information can be communicated to these users (Lee and Kim 2015; Hepworth 2007; Huvila et al. 2016).

In relation to health, health information behaviour thus encompasses people’s health-related information activities in which they engage (or not) to obtain and make use of information related to health (Enwald et al. 2017). In order to understand the health information behaviour of the user group, how the individuals interact with health information is of importance, because different people may tend to have different information behavioural patterns (Gaston, Dorner and Johnstone 2013). For example, people with the same health condition but with different educational levels may address their information needs or react to information differently, adopting various patterns of information behaviour (information practices) to obtain or use the information they require (Lee and Kim 2015; McKenzie 2003; Savolainen 2008).

Knowledge of the people's health information behaviour will aid in the design of health services (Huvila et al. 2016). Therefore, the various subsets of health information behaviour are considered in the context of the present study.

2.6.1 **Health Information Seeking Behaviour**

Seeking information about health is widely documented with a focus on understanding why, where, and what type of health information individuals obtain, and how the health information they obtain is used (Lambert and Loiselle 2007). Wilson has defined information seeking behaviour as a subset of information behaviour, and more specifically, as those practices engaged in by a person when a need for information is recognised (Wilson 1999, p. 249). Information seeking is a fundamental information behaviour exhibited by humans to meet human information needs (Agarwal 2009). Daily, individuals engage in finding information for various reasons (Momodu 2002; Etebu 2009) because there is the recognition of unmet needs (Case 2012; Wilson 1999). This view means that information seeking behaviour does include the consultation of various information sources (Momodu 2002; Wilson 2000) to acquire needed information as discussed in the previous section. To acquire information, the seeker initiates several activities in a conscious effort to acquire information in response to a gap in knowledge (Case 2012) which informs the information seeking behaviour of the seeker (Smith and Hepworth 2012). Furthermore, information seeking involves the cognitive process (e.g. brainstorming) that takes place in the mind of the information seeker on how to accomplish a task (Ikoja-Odongo and Mostert 2006; Hayden 2001). This cognitive process involves the identification of information needs, checking the accuracy and relevance of the information sought, and deciding when obtained information meets the needs (Kuhlthau 1991).

The information seeking process is also linked to the desire to reduce uncertainty (Wilson et al. 2002). Kuhlthau (1993) defines uncertainty as a mental state associated with signs of anxiety and lack of confidence when a need is recognised which usually occurs at the initiation and exploration stages when details of the need are considered during the information seeking. Kuhlthau (1993) suggests that the presence of uncertainty is mainly associated with the information seeker's experiences.

However, other scholars argue that the presence of uncertainty is not the only factor that motivates people to seek information (Freimuth, Stein and Kean 1989) it is the perceived value of the required information to meet their needs. This view is described by Johnson (1997) as 'Salience' of information. Dervin (1976) emphasised that the value (or salience) an individual perceives of information is vital to initiate the information seeking process. This perceived value is made within the context of the information user. Attfield, Blandford and Dowell (2003) suggest that "information seeking does occur within a given context and not in a vacuum".

Therefore, many scholars have engaged in user-centred approaches to understanding how information users go about seeking information from various sources and in different contexts as well as the various factors that motivate them including the environments where this behaviour occurs (Lee and Kim 2015; Bawden 2006; Wilson 2006). The adoption of a user-centred approach in understanding the information seeking behaviour of individuals or user groups or providers of information helps to inform the design of tailored information services (Hepworth 2007; Smith and Hepworth 2012; Kreuter and Wray 2003). Also, user-centred studies have some information seeking behaviour models which are discussed in detail in section 2.8.

In view of the context of health, which is of interest to this research, health information seeking involves the search for information about diseases, preventive methods, and other health-related activities (Lalazaryan and Zare-Farashbandi 2014). Health information seeking places emphasis on health information needs, the use of preferred health information sources and information seeking patterns, as well as the use of health information. People do adopt different methods when seeking information about their health based on their situations, motivations and beliefs (Momodu 2002; Lee and Kim 2015). Studies of individuals' health information behaviour indicate that actively seeking health information is associated with healthy behaviour (Momodu 2002; Ek and Heinström 2011). Furthermore, seeking health information about a health issue is a positive attitude to good health (Enwald et al. 2017) because individuals who do, are better informed about the situation. There are several reasons why individuals might be interested in seeking health information as well as avoiding health information (Ek and Heinström 2011; Smith and Hepworth 2012). These include resolving individuals' health problems or a lack of awareness.

The purpose of seeking health information is to improve one's health, to be informed and to make informed health decisions (Smith and Hepworth 2012; Etebu 2009; Momodu 2002; Lambert and Loiselle 2007). Many aspects of health research have been captured by scholars in developed and developing countries. For example, in the UK, a study by Harrison (2011) on the use of health information for men in the andropause stage shows that men are less likely than women to seek health information and more likely to avoid seeking information. Another study on the challenges confronting seeking health information in Ghana by Sokey and Adisah-Atta (2017) reveals that (88.9%) of their respondents had difficulties seeking (or accessing) health information due to language barriers while (91.8%) were due to lack of (or unreliable) an information infrastructure.

These studies demonstrate the vast extent to which scholars have sought to understand the concept of health information in different contexts. Today, there is increasing positive evidence demonstrating the relationship between an individual's health literacy and their health information seeking behaviour (Morris et al. 2013; Ellis et al. 2012). Morris et al. (2013) argue that health information seeking behaviour varies with an individual's degree of health literacy. For example, individuals with low health literacy show a higher tendency to avoid health information on diseases they show no symptoms than their counterparts (Morris et al. 2013). Similarly, people with basic literacy skills are more likely to seek health information from a variety of sources than those without who tend to rely more on interpersonal sources for their health information (Popoola 2000; Ellis et al. 2012; Okeke and Okeibunor 2010). Likewise, Sokey and Adisah-Atta (2017) revealed that the educated people or those in urban areas tend to be more active seekers of health information than their counterparts in rural areas or those with limited education. Ek and Heinstrom (2011) observed that people who actively seek health-related information, are more likely to practise healthy behaviours unlike those who do not engage in active health-related information seeking. It is evident that the obtained health information tends to influence the knowledge, beliefs and attitudes of the individual about their health-related situation (Lalazaryan and Zare-Farashbandi 2014).

In rural areas in developing countries, information seeking behaviour centres on daily life health concerns and is linked to the health wellbeing of citizens or even, in some cases to their survival (Momodu 2002; Dutta 2009). Previous studies of the information seeking behaviour of rural dwellers confirm that rural people do engage in information seeking practices (Emmanuel 2012; Momodu 2002; Rutten et al. 2005) although the participants in these studies adopted both active and passive seeking behaviour. In other words, rural people engage to a degree in either organised steps when seeking health information or even, by incidental exposure, to information (Ruppel 2016). Unfortunately, in Nigeria, there is a paucity of research focusing on the information-seeking behaviours of men in rural areas. As a result, any information sources or services available in rural communities, lack a strong appeal for this population.

This study, therefore, investigates the various information seeking strategies that men in rural areas in south-east Nigeria undertake to obtain health information. This understanding will provide health information designers and providers with the fundamental knowledge needed to provide and disseminate health information in a manner that reflects rural peoples' information behaviour and promote access and utilisation of health information for improved health outcomes.

2.6.2 **Health Information Needs**

Earlier studies of information needs tend to be more general in categorising the information needs of men within rural communities. Various scholars have differently defined information need. However, for this study, it refers to the recognition of the need to know, which exists when individual senses a knowledge gap and wishes to resolve it. Okwu, Yahaya and Obinne (2011) suggested that information need is the desire to locate and obtain information to satisfy a conscious or unconscious need expressed by an individual or group. Furthermore, Okwu, Yahaya and Obinne (2011, p. 409) reported information need as an abstract image of dissonance created because of a subjective reaction between required and acquired knowledge, while, Dervin (1998) described information need as a response to a gap in a person's knowledge base. Case (2012) similarly posited that information need is the acknowledgement of the poor state of one's knowledge to fulfil his/her objectives. This view highlights the existence of knowledge deficit owing to an unmet goal. According to Belkin (2005), this dissatisfaction was regarded as “anomalous state of knowledge (ASK)” (p. 44). All the above concepts expressed the feeling of a “gap” in the subconscious mind of the information user and the desire to bridge the knowledge gap by accessing relevant information.

In addition, information needs vary among individuals, communities and professions (Mtega 2012; Etebu 2009) because they are not created in isolation from the individual’s context. Nicholas (2003) believes that information need exists when an individual is faced with a problem or task within a specific context. Many times, as an individual senses knowledge deficit, a cognitive motivator is often created, which Kuhlthau (1991) referred to as ‘uncertainty’, which may lead to information seeking to resolve the knowledge gap. In this view, information need becomes the expression of the deficit of concrete information when solving a certain problem and the recognition of the existence of uncertainty in decision making that is linked to the problem or task.

In order to accurately capture the concept of information needs, several models and theories have been developed by information science scholars which conceptualise information need as a gap to be filled by the information user (Omiunu 2014).

Researchers (e.g., Afogu et al. 2017 and Ukoli et al. 2003) have shown that there is a high percentage of health information needs in rural areas in Africa, and especially in Nigeria, as discussed above. These studies show that a significant number of rural dwellers need health information to enable them to engage in health-related tasks such as disease prevention, taking medication and symptom recognition. The chances of one's health situation changing, not to mention prevalent illnesses, places a demand for adequate provision of information about health. For example, a study by Abdulraheem (2007), confirmed the increase in health issues experienced by elderly citizens in Nigeria and noted that more than two-thirds (about 68.8%) of this population had never visited health facilities. A similar study by Morris et al. (2011) reported that about 67.6% of men had never visited any health facility in the year before their study. Some of the reasons given included, the absence of illness by 44%, use of home remedies 28.7% and the high cost of medical services (21.9%). The report further suggested that 50% of the participants were not readily seeking health information or care even when ill.

Thus, this study considers it necessary to understand rural men's health information needs, and how they go about seeking health information to satisfy their needs considering their cultural and contextual characteristics.

2.6.3 Health Information Sources

An information source can be defined as any object that provides or carries information (Chatterjee 2017, p. 9). Johnson, Andrews and Allard (2001) categorised information sources into interpersonal and media sources. Based on their categorisation, health workers, family and friends, make up the interpersonal sources while broadcast media, print media and the internet refer to mass media. Interpersonal sources are characterised by face-to-face transmission of information and are most preferred when two-way communication is essential meanwhile, media-related sources are preferred when a wider coverage area is required within a specified time.

Then again, Chatterjee (2017) sub-divided information sources into three broad categories which include, 'human information sources', 'institutional information sources' and 'documented information sources'. Human information sources are persons or a group of experts who provide or engage in the supply of valuable information within their field, for example, health workers, family and friends. Meanwhile, institutional sources, alternatively, include either public or private organisations. In Nigeria, both the federal and state Ministry of Health are examples of institutional sources. However, other institutions such as libraries, broadcasting corporations serve as information intermediaries because they collect, organise and disseminate information from the institutional sources to the public (Saleh and Lasisi 2011 Etebu 2009; Essien 2014; Anasi 2012). Documented sources are the products of human and institutional sources. For example, books, pamphlets, leaflets and journals. The latter categories of information sources are particularly important in communicating health information to people because they can be stored for future reference (Finnie et al. 2010). For example, in rural Nigeria, the use of print materials can be useful considering that there are no health workers available in many of the rural communities.

Several studies have been conducted to uncover sources of information within developing countries such as Apata and Ogunrewo (2010) and Essien (2014) who reported that village chiefs and town criers were the primary channel of disseminating information among rural communities. However, little is known about their role in disseminating health information. Similarly, Essien (2014) and Omogor (2013) corroborated the Apata and Ogunrewo (2010) findings of traditional media as a vehicle for transmitting and acquiring information among rural people in Africa. Furthermore, some other information sources were utilised which include the media (e.g. radio set), family and friends, and called for research to identify acceptable and most appropriate information source to engage specific rural people (Omogor 2013). Other sources documented by scholars include the Internet (Ruppel 2016) and mobile phones (Zurovac, Talisuna and Snow 2012; Odigie et al. 2012). It is widely acknowledged that the choice of information sources is influenced by the socioeconomic and demographic characteristics of the user (Uzezi 2015; Sokey and Adisah-Atta 2017; Smith 2011).

In relation to the use of mass media, adequate utilisation has the potential to influence positive attitudinal changes (Lee and Kim 2015; Ramsey et al. 2009; Wakefield, Loken and Hornik 2010) when targeted at a specific audience. For example, research by Oliver et al. (2011) reveals that participants with a low level of knowledge and awareness of prostate cancer (because of poor health education), when exposed to information about prostate cancer, most of the respondents were willing to be screened.

However, media exposure is more effective in raising awareness among the knowledgeable and educated citizens who show better comprehension (Morrow et al. 2012). Meanwhile, among rural citizens, media exposure is often passive or incidental which means that even when people are exposed to it, they may not necessarily take any action because of low comprehension. In addition, in rural areas, media exposure may be less powerful to influence behavioural change when other dominant factors such as religious and cultural beliefs of the people are overlooked (i.e., when it is not culturally appropriate) hence, constitute major barriers in reaching rural communities (Uzezi 2015; Omgor 2013).

In recent years, researchers have explored mobile phones as a potential information source relating to a variety of health issues such as improving cancer care (Schoenberger, Phillips and Mohiuddin 2015; Odigie et al. 2012) by sending patients reminders about upcoming appointments and treatment adherence

(Zurovac, Talisuna and Snow 2012; Déglise, Suggs and Odermatt 2012; Mbuagbaw et al. 2013). Most recently, Africa has become the second largest mobile-connected continent where mobile phones are often the only technology available, especially in rural areas (Zurovac, Talisuna and Snow 2012; Déglise, Suggs and Odermatt 2012; Jidenma 2014). Nigeria, is one of the largest mobile phone markets in developing countries, with the adoption of the rapid smartphone (Jidenma 2014). This technological explosion is changing people's lives especially the youth. However, there are limited research studies on the use of mobile phones to improve health information communication in rural communities in Nigeria (Schoenberger, Phillips and Mohiuddin 2015; Déglise, Suggs and Odermatt 2012; Zurovac, Talisuna and Snow 2012), especially cancer information (Odigie et al. 2012).

However, the use of mobile phone to provide health services has a tremendous potential to strengthen health services in rural communities (Zurovac, Talisuna and Snow 2012). This is because there are about 222,440,207 mobile GSM lines subscribers in Nigeria according to the Nigerian Communication Commission (NCC) July 2016. This statistic shows that integrating mobile phones in a range of promising health applications to promoting early cancer screening, and delivering behavioural change messages (Schoenberger, Phillips and Mohiuddin 2015; Cole-Lewis and Kershaw 2010; Déglise, Suggs and Odermatt 2012; Zurovac, Talisuna and Snow 2012), can support improving awareness and reinforce healthy behaviours among men. These advantages are because mobile phones have wide availability, cost-effectiveness and portability which can be harnessed in health information provision in rural Nigeria.

In Europe and America, the internet has become the most utilised source of health information, and the most trusted source of health information in addition to medical experts (Simou 2015; Lee and Kim 2015). On the contrary, in Africa, especially in rural Nigeria, access to the internet is synonymous with non-existence (Oyelaran-Oyeyinka and Adeya 2004). This situation is particularly due to the lack of infrastructure, such as broadband or Wi-Fi connectivity, which means that rural communities are unable to access online health information. Not all people in Africa use the Internet, and those who do even in the urban areas, do not necessarily use it as a source of health information (Edejer 2000). According to Edejer (2000), the current digital divide in Africa is more dramatic in the health sector than in any other because information and communication technologies have not been harnessed systematically to improve healthcare in developing countries. Taylor (1991) suggest that people still turn to people for information they need.

Studies have shown that the provision of health information via different sources often plays a significant role in the health decision making process of individuals (Lee and Kim 2015; Ramsey et al. 2009). A study by Naanyu et al. (2013) documented that Kenyan people who utilise more than one source of information (e.g. public media and health care providers) were better informed, more likely to possess accurate and quality information than those who only relied on one information source like those in rural communities.

Within the context of south-east Nigeria and rural areas, which is of interest to this study, there is a significant lack of access to different sources of health information. Therefore, this study is particularly important to understand how to provide health information to this population.

2.6.4 **The Use of Health Information by Men**

The terms 'information seeking behaviour' and 'information sources' were discussed in the previous sections because it was important to know what motivates individuals to seek information, and where they obtain the information. This knowledge is vital to help understanding how they make use of the information they obtain and how it influences their different everyday life situations. Information use is a concept which cuts across cognitive science, communication studies and information sciences (Savolainen 2009). Like every other concept in human information behaviour, information use faces the lack of a unified definition and contextual meaning (Taylor 1991; Savolainen 2009). For example, Dervin (2006) refers to the term as an information "gap-bridging" concept. Meanwhile, Loo (2009) suggests that the process of acting upon gathered information is to satisfy one's existing information needs. Wilson (2000) suggests that information use "consists of the physical and mental actions involved in incorporating the information found in the person's existing knowledge base" (Wilson 2000, p. 50). According to Wilson, underlining text for its importance is a physical act, and comparing new information with existing knowledge is a mental act (Wilson 2000).

The lack of a unified definition of 'information use' has been linked to the ambiguous use of the concept 'information' (Savolainen 2009; Taylor 1991). The concept information assumes different meanings about diverse phenomena such as learning, mental representation and problem-solving (Savolainen 2009). Because of this ongoing multiplicity of meanings, many other higher-order concepts such as, 'information use', and 'information behaviour' have been coined (Case 2012, p. 47).

Information use is usually the expected final stage of human information behaviour where the obtained information is applied (Gaston, Dorner and Johnstone 2013) and is associated with positive or negative consequences for the individual that can be particularly important with regard to health issues. However, this concept has received minimal research attention (Savolainen 2009) because many of the information science studies have concentrated on a subset of human information behaviour, that is, information seeking without considering the use aspect (Johnstone, Tate and Bonner 2004). Meanwhile, scholars in cognitive science have adopted a more explicit stance on this concept. For example, Brookes (1980, p. 13) developed a mathematical equation ($K[S] + \Delta I = K[S+\Delta S]$) to conceptualise information use. The equation $K[S] + \Delta I = K[S+\Delta S]$, suggested that knowledge structure $K[S]$ is modified to $K[S+\Delta S]$ when information ΔI is applied, where ΔS represents the effect of the modification. This transformation of knowledge structure ($K[S+\Delta S]$) through the introduction of new information ($+\Delta I$) into the existing knowledge structure ($K[S]$) concisely conceptualises information use (Gaston 2014). In other words, when the obtained information is processed or applied, it leads to the attainment of a new mental state.

In Nigeria, even though studies have confirmed the existence of information sources in rural areas, and that rural people do engage in information seeking, there is a paucity of a study investigating the extent to which the gathered information is utilised among rural people (Sokey 2016; Omogor 2013). Several researchers have identified a shortfall in the utilisation of information obtained from information sources (Johnstone, Tate and Bonner 2004). This gap reflects the limitations created because of not considering the information use environment (Taylor 1991) including what the information users require - content structure, and in what form to present the information - presentation strategy, to allow people to construct meaning appropriate to their context from the information sources available to them. Therefore, the present study examines how rural communities (with a focus on rural men) use the information they obtain from different sources and the factors which shape how they utilise that information, to offer recommendations for improving the use of health information by that population.

2.6.5 **Health Information Provision and Communication**

Health information provision makes health information available and helps people make informed health decisions and improve their health outcomes (Lalazaryan and Zare-Farashbandi 2014; Prilutski 2010). However, to achieve this goal, making health information available to people is not all there is to health information provision but also involves communicating; using effective communication strategies (Nwosu 2013; Prilutski 2010; Etebu 2009). Provision and communication of health information to people is the bedrock for improving one's health outcome. Information is power, and when provided, acquired and used can help to increase awareness and influence behaviour about health issues in the society.

The provision and communication of health information have been founded on its potential to influence the process of health behaviour change (Prilutski 2010). Behaviour change is a process rather than a single event (Fatusi and Jimoh 2006) which has been recognised as critical to early diagnosis to control life-threatening diseases. Health information provision and communication is a major challenge to rural people because information is usually provided and communicated in formats which in most cases hinder its effective utilisation since many of the people cannot read nor understand non-native language very well (Prilutski 2010; Abdulraheem 2007; Etebu 2009). Against this background, researchers have focused on identifying appropriate health communication (Prilutski 2010) or provision strategies such as the use of message boards where they exist (Harrison and Jones 2006), to educate people about health issues, positive health behaviours and to discourage relapse in the behaviour change process. The underlying assumption is that improving people's knowledge about a disease would lead to the adoption of healthy behaviours, improved self-efficacy and an internal locus of control about their health situation (Harrison 2011; Chukwuorji et al. 2017).

Health literacy includes empowerment and the degree to which people can access, understand and use basic health information and services effectively to make appropriate health decisions (Martzoukou and Sayyad Abdi 2017). Similarly, Schardt (2011) posited that being capable of recognising health information need, identify and use sources to obtain information perceived to be of good quality and relevant to resolving a specific health situation demonstrate excellent health literacy. Health literacy is a complex and multifaceted phenomenon that includes listening skills (Morris et al. 2013) and goes beyond the wide range of skills to seek out health information. Individual's reading and numeracy skills, as well as comprehension of spoken information, have been widely used to measure health literacy (Morris et al. 2013). Meanwhile, health literacy skills also include the ability to analyse and process extract, understand and ensure the quality of the information, and its use to manage one’s health (Zarcadoolas, Pleasant and Greer 2005). Furthermore, Morris et al. (2013) suggested that listening is another important aspect of health literacy as most health information from interpersonal, and most mediated sources are transmitted orally. Having these abilities is necessary because health information is delivered through various channels in a range of formats which may not be the most appropriate means of communication to the target audience (Finnie et al. 2010; Thompson et al. 2008). According to Morris et al. (2013), adults with lower health literacy are less likely to seek, use or participate in preventive services such as cancer screening.

Thus, assessing people’s health literacy ought to encompass their environment (i.e., context and culture) (Morris et al. 2013), non-functional skills and health knowledge (Eriksson-Backa et al. 2012). Similarly, Yates et al. (2012) suggested that health information literacy is a “core ingredient that can support individuals to take responsibility for managing and improving their health” (p. 460). Within rural communities in south-east Nigeria, there is a considerable lack of health literacy yet the investigation into the everyday community life health-related experiences is limited. Based on this knowledge, provision of health information in an appropriate format and language is essential to persuade those at risk to protect themselves (Clayman et al. 2010; Fatusi and Jimoh 2006) especially rural men.

2.6.6 **Health Information Accessibility and Usability by Men**

The concept of information accessibility is highly contested, and with different definitions, due to the multidisciplinary nature of the subject and the wide range of perspectives, it attracts beyond the field of information science. These concepts are more pronounced within online information services (Berland et al. 2001) and system design (Paul et al. 2014). UNESCO (2016) suggest that information accessibility "encompasses the many issues surrounding availability, comprehensibility and affordability of information". Meanwhile, Okwu, Yahaya and Obinne (2011, p. 409) posited that information accessibility is the ability of a person or group to get the information they require on a subject within a given period in a manner that they understand. Furthermore, Okwu, Yahaya and Obinne (2011) argue that information accessibility can be enhanced when the repackaged information is affordable. According to the Scottish Accessible Information Forum (SAIF), accessible information is part of an inclusive communication strategy by giving information in a way that is comprehensible, suitable and appropriate to as many people as possible.

However, many scholarly reports on information accessibility focus on the physical availability of the information sources (Anasi 2012; Jones 2003). This perspective is contrary to the concept used in this study. Information accessibility connotes the information users' ability to interact with information content and sources (Berland et al. 2001), meaning that, the emphasis is on adopting a user-centred approach (Paul et al. 2014). With this approach, the "accessibility" of the information disseminated can be enhanced to promote user experience and unhindered access to the information within rural communities irrespective of the systems used to convey the information.

Access to comprehensible information is essential in rural areas, to provide answers to people facing many of life's challenges (Kamba 2009; Anasi 2012). Accessible information about health helps to improve the quality of life especially for rural residents in developing countries.

Sokey and Adisah-Atta (2017) highlighted the various factors which may lead to poor access to information and information services in rural communities. These include social, economic, environmental and cultural factors (Sokey and Adisah-Atta 2017). Lack of information services that are culturally appropriate also contributes to the difficulty in obtaining accessible information in rural areas (Uzuegbu 2016). In addition, the urban-focused nature of many of the information services neglects rural communities where most of the population live (Mtega 2012; Anasi 2012). This challenge alienates rural people from accessing adequate and relevant information due to their low literacy level (Omogor 2013). This limited access to information has resulted in the growing inequalities in the utilisation of information and information services within developing countries (Oladipo 2014). The fact that men in rural south-east of Nigeria live in areas with poor basic infrastructure such as roads, electricity and health facilities, limits their access to information (Okwu, Yahaya and Obinne 2011). Most of men in rural south-east Nigeria are illiterate (Atulomah et al. 2010). This may mean that the men cannot make effective use of electronic or print media to resolve their health needs when the formats are not aligned with their socioeconomic, cultural and educational level.

Therefore, it is particularly imperative to provide understandable, usable and accessible information about men's health to encourage them to embrace positive, healthy behaviours and make informed health decisions. Lack of accessible health information in rural communities has resulted in unhealthy practices such as late presentation to cancer screening, and fear (Morris et al. 2011), in addition to the dominance of harmful beliefs (Ojua, Ishor and Ndom 2013).

As a result, various intervention programmes are often unsuccessful especially in rural areas (Abdulraheem 2007) without an appropriate strategy to enhance information accessibility in rural areas; thus, making the task of transforming available information into usable knowledge almost impossible among uneducated people (Okwu, Yahaya and Obinne 2011).

Information usability is a term coined to replace the term 'user-friendly' which had attracted various subjective perspectives over the decades (Bevan 2009). Like accessibility, usability is currently faced with the challenge of contextualization based on the different approaches adopted by scholars leading to the lack of an accepted or unified definition of the term. For example, some scholars believe that usability can be achieved just by providing a specific style of interface (Paul et al.

2014). Nevertheless, usability as a contextual concept depends on the user, the task to be performed and the environment where the task is performed (Jones 2003). Given that the ease of use and appropriateness of information sources varies depending on the background, knowledge and experiences of the user (Hilbert and Redmiles 2000), the researcher paid attention to information carrier factors, such as the format or style of presentation, language of communication, perceived relevance and usefulness, and time of access. Knowledge of these helped the researcher in recommending the design guide and information provision strategy to enhance rural men information experience and to reduce dependence on a third party to meet their individual information needs.

2.7 Barriers to Access and Use of Health Information Sources

Several factors can affect access to health information sources as well as the content of the health information. These barriers may include lack of accessible health information, inadequate health information provision, poor communication skills and sociocultural factors (Uskul 2010) as well as low health literacy (Popoola 2000; Yates et al. 2012). Eriksson-Backa (2008) highlighted that choice of health information sources by elderly Finnish adults was limited owing to the inaccessibility of a wide range of information sources available to them.

Lack of accessible health information services constitutes a significant barrier to accessing health information (Anasi 2012; Uzuegbu 2016). The lack of accessible health information in rural communities has created uncertainties such as feelings of neglect and fear (Nwagwu and Oshiname 2009). Therefore, it is important to equip rural people with accessible health information to inform their health-related decision-making process and help them recognise how to resolve their health information needs (Ansari 2008; Anasi 2012) because rural people who cannot communicate well in English may have problems in accessing the health information they require.

Similarly, lack of adequate provision and ineffective communication of health information can have a negative impact on the health outcome of those affected (Anasi 2012). Musoke (2001) revealed that access to and use of health information sources was low in rural Uganda because the people lack adequate resources and skills to reduce barrier. Musoke (2001) concluded that inadequate provision and communication of health information impacts negatively on the health outcome of rural dwellers. Inadequate health information provision has been attributed to many factors such as the lack of rural health facilities and poor infrastructure (e.g. no electricity) (Uzuegbu 2016). There are also language-based factors such as insufficient language skills of providers (Phul, Bath, and Jackson 2003), user's inability to use and understand non-native languages (Annune 2012) associated with poor information provision and communication to rural citizens (Sokey and Adisah-Atta 2017). This indicates that dissemination of health information to rural communities may not often be effective because the rural people rely on indigenous knowledge to interpret health-related issues (Annune, Ezeani and Okafor 2011). Therefore, with poor availability of rural-focused information sources, it is indeed difficult for rural citizens to gather their needed information adequately.

Another identified common barrier that affects rural dwellers includes socio-cultural factors such as culture, social norms and beliefs (Sokey and Adisah-Atta 2017; Musoke et al. 2014). The study by Sokey and Adisah-Atta (2017) revealed that cultural beliefs influenced the choice of the information source. This suggests the importance of considering the cultural context of the target audience when providing any health services. Conversely, demographic characteristics, trust and cost to access information (e.g. time and money) and the user's experience also inhibit access to health information sources (Mtega 2012; Marrie et al. 2013; Musoke et al. 2014).

Furthermore, limited health literacy has been reported to constrain rural dweller's access to and use of health information sources (Mtega 2012; Marrie et al. 2013) and services (Musoke et al. 2014). According to Musoke et al. (2014), the degree of utilisation of health services among Uganda people in the Wakiso district considerably depended on their "educational levels, knowledge about the facilities and the health care system itself" (p. 1046). Musoke et al. (2014) found that many of their participants (84%) did not know whether community health workers existed in their community, while 22% did not know the services they offered. Morris et al. (2013) revealed that health literacy may be associated with health beliefs and attitudes. Morris et al. (2013) reported that individuals with low health literacy were more likely to avoid or delay visiting the doctor and often showed poor health outcomes. Atulomah et al. (2010) posited that individuals with low health literacy found it most difficult to obtain health information and reported a higher rate of illness and poor knowledge of their health condition. In Nigeria, lack of health literacy has been identified as one major barrier to access health information by rural citizens (Popoola 2000; Onotai 2013; Olojede, Adekunle and Samuel 2013), and so it is imperative that health literacy is considered when designing health information (Anasi 2012; Popoola 2000). It is, therefore, appropriate to provide health information in a more accessible format in the suitable languages to help improve health literacy. In support of this view, studies have shown that difficulties in understanding health information may lead to unhealthy behaviours (Lee and kim 2015) because of hindered effective information access and use (Enwald et al. 2017). This present study supports Enwald's suggestion.

2.8 Models of Information and Health Information Behaviour

Information behaviour models present a simplified version of reality to explain how information actions take place (Case 2012) and help identify the variables that determine that behaviour and their relationships (Creswell 2012). Put differently; a model is a conceptual framework which graphically describes the main elements and their relationship (Ansari 2008) which are usually conceptualised in flowcharts (Case 2012). Therefore, the aim of every information behaviour model developed is to understand how humans interact with information to make sense of their world.

2.8.1 **General Information Behaviour Models**

In this study, different models were examined to identify their suitability to gain a deep understanding of the phenomenon under study and to explain the relationship between the components considered in this research. These models were health information seeking models to explore the core concepts of this research which had a specific focus on health, and therefore examine specifically health information sources, health information seeking behaviour, health information use and other contextual factors. However, the researcher also reviewed some of the more general information behaviour models to deepen understanding of human information behaviour as no single model or theory alone can completely explain the complexity and totality of human information seeking behaviour. The models reviewed are presented in the following sections.

2.8.1.1 Wilson's Information Behaviour Models

Wilson's first model of information behaviour in 1981 highlights the processes (phases) involved during the satisfaction of an information need, as perceived by the information user, up to when the information is being used.

Wilson posits that an information user could either succeed or fail when extracting needed information from information sources which may result in either being satisfied or dissatisfied. Being satisfied may involve using the information obtained or initiating new seeking actions if the information has not completely resolved the need (Wilson 2006). However, Wilson's model has continuously evolved since the 1981 proposition (Wilson 2006). For example, by integrating Folkman's stress-coping theory to shed light on users' decisions to seek information (Wilson 2006) and Bandura's (1977) risk-reward theory to explain how an information user evaluates which information source to consult, Wilson (1999) model was developed in 2006 as shown in Figure 9.

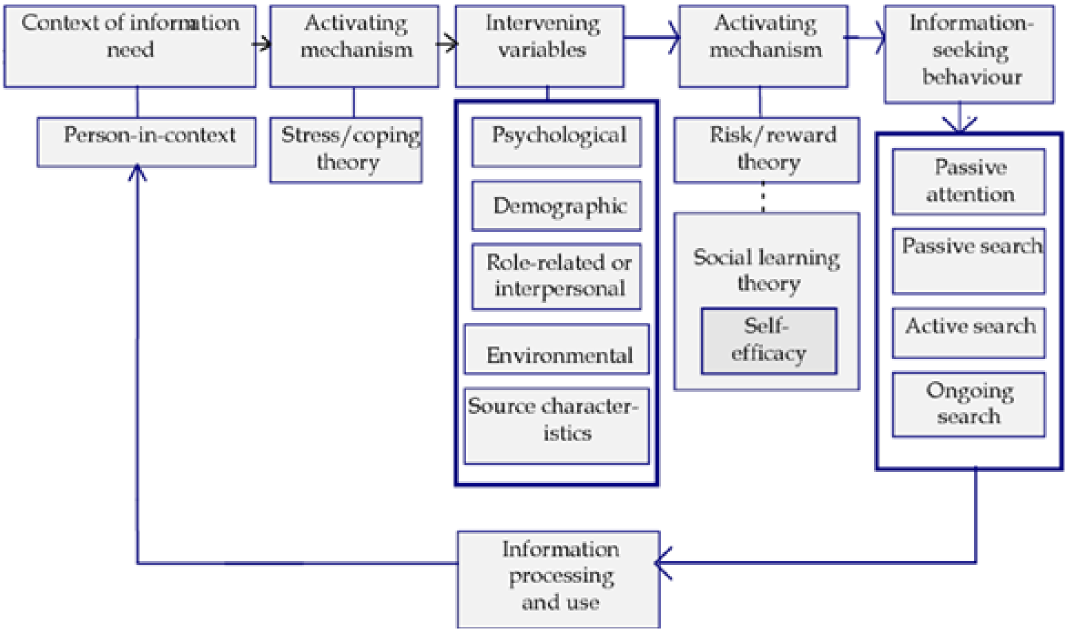


Figure 9- Wilson's Model of Information Behaviour

The model conceptualises the cycle of information seeking activities from the phase of "information need" to the phase of "information use" (Niedzwiedzka

2003). The model has been regarded as the “global model… of the information behaviour field” (Wilson 2000, p. 53) because the model depicts the person-in-context who develops an information need. The person-in-context then proceeds (or is impeded) to engage in some form of information seeking behaviour and information use, and loops back to the information need. In other words, looping back to information need can be because of a state of dissatisfaction or satisfaction with the obtained information.

Wilson suggested that between the need realisation point and the point of information seeking, there exists a phase involving intervening variables and the activating mechanisms which shape the human information behaviour (Wilson 2006). According to (Wilson 2006), human information seeking behaviour could be shaped by (1) the amount of stress a situation induces, (2) the individual’s risk perception, and (3) the intervening variables such as the characteristics of the information source.

Wilson noted that people seek information from their preferred information sources and channels and that this behaviour may either occur as a passive search (or passive attention) which lacks intentional seeking (e.g. listening to radio programmes) or active search, whereby individuals actively seek information or engage in ongoing search. Wilson also revealed that individuals’ perception of their self-efficacy, may influence their information behaviour actions (e.g. the effort or amount of time they put in). Although information processing and use are essential to satisfying information needs, Wilson noted that there is little research focus on information use (Wilson 2006).

The review of Wilson’s model provides the researcher with a guide to understand the various factors that may lead to information seeking failure or success when information users attempt to obtain information from different information sources within the context of this study. In other words, the model allowed the researcher to understand the intervening variables (i.e., barriers) and activating mechanisms, which can help to explain the people’s choice of sources, and their information seeking behaviour as highlighted in Wilson’s (1999) model. Many of these factors are incorporated and reflected in people’s preferences regarding the type of information source to consult, the number of information sources to consult and how to engage with these information sources. The factors also contribute to the people’s judgement on whether to engage in seeking information about their health. Another vital model was reviewed to understand how people make sense of their social world.

2.8.1.2 Dervin’s Sense-making Approach

In other to explain the concept of the cognitive gap experienced by individuals when attempting to understand or make sense of their world, the sense-making approach was postulated in the early 1980s (Dervin 1983) Figure 10. Dervin proposes that individuals, through a series of personal constructs, create the meaning of their world (Dervin 1983). In other words, people give meaning to information based on their knowledge and experience. The theoretical assumption depicts human communicating behaviour and perception of cognitive gaps, and how they bridge them while making sense of their world (Case 2012; Dervin 1999; Ingwersen and Jarvelin 2005).

“Sense making” approach recognises the need for information to make sense of the situation as experienced or shows a knowledge gap that needs to be filled with more information (Case 2012). The individual, in his or her time and place (or context), when faced with a problem feels the compulsion to be constantly informed to make sense of the situation or to make an informed choice. According to Dervin, the knowledge gap demonstrates the need for something the information user calls “information” (Dervin 1983, p. 156). Case (2012), on the other hand, highlighted the importance of communication to facilitate the act of bridging the gap or receiving the information desired (p. 85). Hence, to bridge the knowledge gap, individuals adopt different information seeking strategies which vary from one person to another, depending on their knowledge, experience and the context of the situation (Wilson 2006). Naumer, Fisher and Dervin (2008) incorporate how people make sense of the information they obtained to inform design (or the development of information systems). These authors are among the many who shift the focus of information system design from the system to the individuals who interact with the system (Tidline 2005).

Dervin described sense-making as a set of theoretical propositions about the nature of (1) the information, (2) the human use of information and (3) communication, suggesting that these perspectives need to be conceptualised as behaviours (Dervin 1999). Dervin believes that to understand people’s construction of their world, the human use of information and information sources (systems), including the various steps of communication, need to be conceptualised (Dervin 1992). As such, scholars can discover the criteria, strategies or attitudes users employ and draw a meaningful relationship between these forms of behaviour (that is, information and communication) (Tidline 2005). According to Harris and Dewdney (1994) sense-making stems from the perspective that people have personal senses, experiences, bias, contexts and situations. These characteristics constrain their view of the world (Loo 2009). Therefore, a metaphor of ‘moving forward on a path from one point to another’ (Harris and Dewdney 1994) or ‘through the time-space context’ (Savolainen 2006) is central to the sense-making approach.

In the sense-making approach, Dervin conceptualises the idea of an individual “bridging gaps and moving on” (Dervin 1999, 2005; Pettigrew, Fidel and Bruce 2001; Ingwersen and Jarvelin 2005). Gaps encapsulated in the sense-making approach are cognitive concepts which illustrate the situation where a person is unable to make sense of their experiences (Choo, Detlor and Turnbull 2000). Thus, individuals seek information to make new sense and use the information in their time-space resulting in an outcome or the completion of a task or bridging (satisfying) the gap.

Meanwhile, this cognitive deficit could either be ‘affective,’ which concerns the fulfilment of emotional needs based on uncertainty, frustration or stress, or ‘situational,’ which has to do with problem-solving in demanding situations. Gaps are barriers to satisfying information needs (Savolainen 2006). However, the nature of the gap is determined by the subjective nature of the situation (Harris and Dewdney 1994). For example, gaps may include lack of information about certain health issues such as prostate cancer to make health decisions or poor understanding of health information about the disease. Gaps exist when people are not able to interact with the needed information, or there are constraints in accessing the right information (Savolainen 2006).

Dervin's approach explains the phenomenon where individual moves from being in need (gap) to satisfying the need (the outcome), known as gap-bridging (Savolainen 2006).

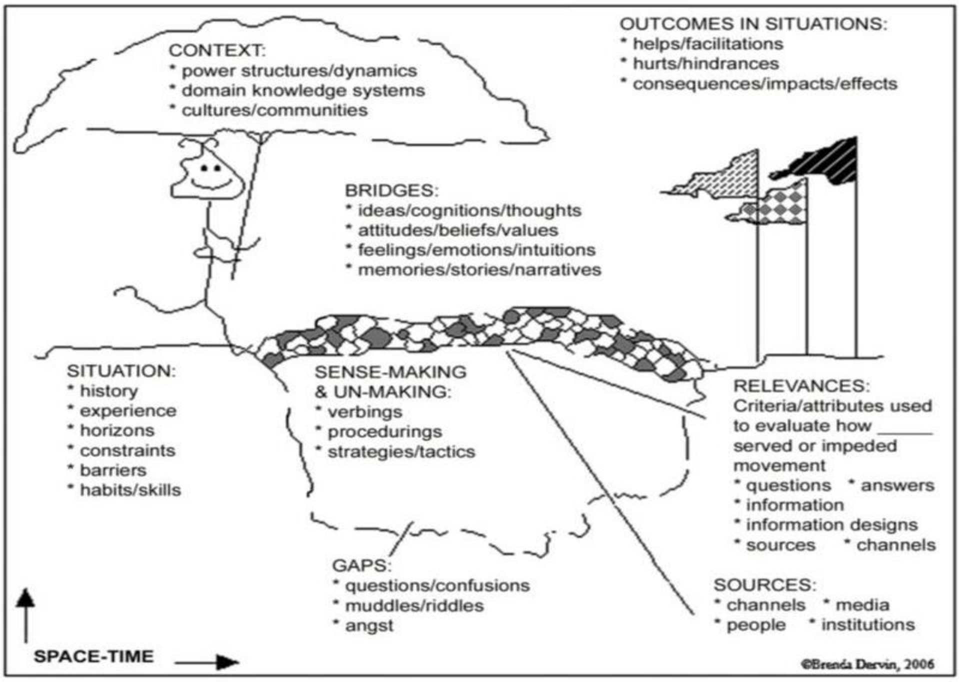


Figure 10- Dervin's Sense-Making

(Dervin 2008)

According to Savolainen (2006) this process of gap-bridging forms an "informational bridge" which is developed by "identifying, finding, and combining various elements such as ideas, beliefs and narratives". However, there exist barriers and forces that drive gap-bridging such as, economics, culture, time, and motivation (Savolainen 2006).

Within the context of this study, the review of Dervin's model provided the researcher with the opportunity to understand the effort that people put into making sense of many aspects of their lives (including health), through information seeking and use of the information they obtain from different information sources. In other words, Dervin's model allowed the researcher to emphasise the importance of sense-making as a motivating factor to information use and helped explain people's preference for different information sources.

2.8.1.3 Zipf's Principle of Least Effort and Cost-Benefit

Zipf's (1949) principle explains that human behaviour is one that tends to naturally adopt methods or actions that require the least energy or resistance. This trend is inherent and pronounced in every phase of human information behaviour which is not always helpful when dealing with health issues. For example, adopting the least effort approach during information seeking can result in the use of convenient but inefficient methods, or access to less complex but poor-quality sources for needed information. Psychologically, adopting the least effort approach could lead to setting a low priority on the value of information which can mean accepting poor quality information (Case 2012).

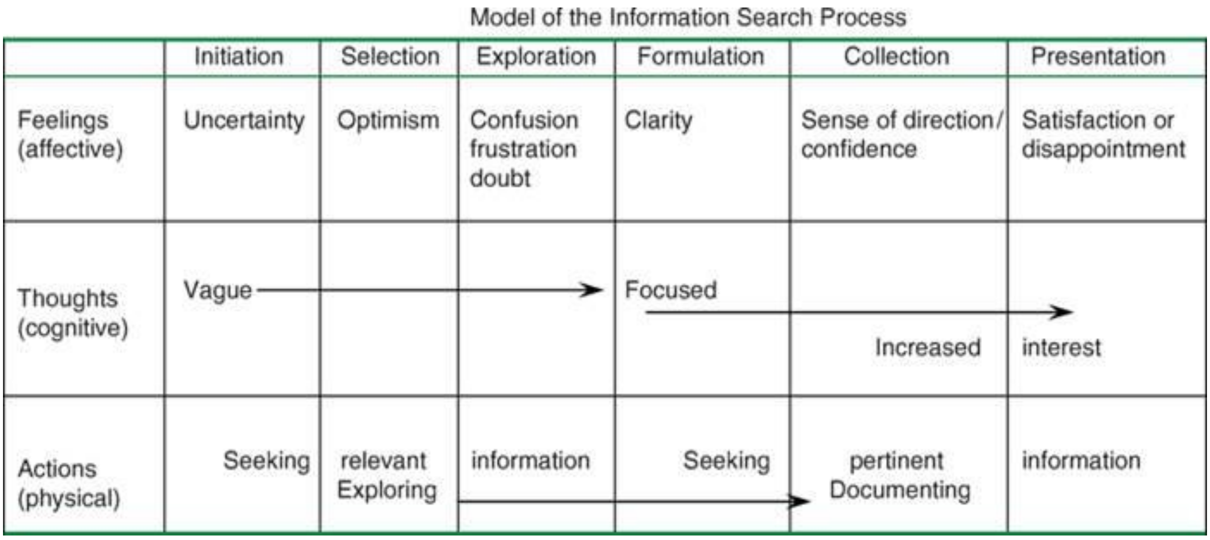
Zipf explained that an individual who seeks to solve an immediate problem would consider not only the problem but also the probable future problem that might be encountered or created. As a result, try to minimise the total work (over time) in solving both the immediate and the perceived future problem (Zipf 2016). In this statement, Zipf's (1949) theory can be linked to Dervin's sense-making approach in that an individual will seek information to bridge this knowledge gap by expending the least effort or resources, throughout his/her journey of making sense of his/her world. The principle of "least effort" has been dominant in human information seeking behaviour (Bates 2010).

Zipf's theory however recognised that an individual's previous experience and knowledge remains an important attribute to consider when investigating information behaviour. This is because some new insights may threaten our values, which in turn may influence our behaviour, and result in passive information behaviour (Kim and Omizo 2003). Zipf's theory of least effort has been applicable and relevant in research studies of information seeking behaviour irrespective of the context, time and place (Amidu, Harrison and Olphert 2016).

Investing minimal effort in finding health information by focusing more on the ease of access and then ease of use than the quality of the information sought is a phenomenon that has been examined in different contexts of human life. However, there is limited understanding of this concept within the context of health and particularly within rural areas of developing countries. Rural people may be more attuned to least effort practices when seeking health information, especially as they have lower socioeconomic and literacy levels and therefore health information providers need to identify the channels that are considered easy to access (and culturally appropriate) for people living in rural areas.

2.8.1.4 *Kuhlthau's (1991) Information Search Process (ISP)*

The model of Information Search Process (ISP) by Kuhlthau (see Figure 11), is a six-stage model that captures users' affective (feelings), cognitive (thoughts), and physical (actions) experience at each stage of information seeking process (Kuhlthau 2010). Savolainen (2009) described Kuhlthau's (2004) model as one that "…places information use in the context of information seeking which contributes to learning" (p. 197). The model conceptualises information seeking behaviour as a process that occurs in each order (stages or phases). The stages, as suggested by Kuhlthau, include initiation, selection, exploration, formulation, collection and presentation (Kuhlthau 2004).



Model of the Information Search Process

	Initiation	Selection	Exploration	Formulation	Collection	Presentation
Feelings (affective)	Uncertainty	Optimism	Confusion frustration doubt	Clarity	Sense of direction/ confidence	Satisfaction or disappointment
Thoughts (cognitive)	Vague			Focused	Increased	interest
Actions (physical)	Seeking	relevant Exploring	information	Seeking	pertinent Documenting	information

Figure 11- Kuhlthau's Information Search Process Model

[Source: (Kuhlthau 2010), https://vickipalmer.wordpress.com/knowledge/information-seeking/, (accessed May 2015)]

These stages were framed based on the assumption that both affective and cognitive experience increases and decreases in the process of information seeking (Kuhlthau 2010). As an example, at the initiation phase, the user's affective experience is characterised by a feeling of uncertainty about a given problem area, and this results in a cognitive experience of a gap which motivates the selection of sources or information. At that initiation stage, the user's aim is to recognise the general search area for the topic (exploration). This is followed by a focused search on a more particular area (formulation) with the aim of gathering relevant information about the specific problem (collection). The next stage is to document the information collected through the search (presentation). Satisfaction or dissatisfaction with information may lead to positive or negative affective reactions respectively, while the cognitive experiences are also dependent on the information gathered during the information search process (Davies et al. 2008). This is illustrated in the transformation of the information seeker's affective states between uncertainty and satisfaction (Kuhlthau 2010; Davies 2013).

However, there are limitations identified with Kuhlthau's (2005) model. One such is the sequential order of action because it is evident that actual information behaviour is not always sequential (Godbold 2006). Another limitation is that the model overlooked the existence of an individual's information needs and the context in which they occur (Robson and Robinson 2013). Kuhlthau's model was very useful as it exposes the researcher to the information user's holistic experience in the process of information seeking. The model informed the research approach by exposing the researcher to the notion that, uncertainty both affective and cognitive, can either increase or decrease during the process of information seeking. With this knowledge, the researcher could identify how these factors played a role in the health information seeking process among the research population.

2.8.1.5 Choo's (1998) General Model of Information Use

Choo's (1998) general model of information use (Figure 12) explains the process of how humans seek and use information. According to Choo (1999), an individual's information behaviour involves the individual repeatedly engaging in several activities in three distinct stages. The first stage involves the act of identifying information needs. At this stage, the individual recognises that there is a gap in knowledge as well as an inability to understand the prevailing situation. Once the individual develops a clear understanding of these gaps, the individual then moves on to select and interact with sources of information the individual perceives he/she requires (i.e., the information seeking stage). This second stage involves the translation of information need as questions to be answered through the information search process. In the same manner, once the individual extracts the information he/she perceived as needed, the individual selects the information to process (i.e., act upon or apply) to meet the information needs (as the information use stage).

The use of the information selected could be to answer or resolve a question, to inform his/her decision-making process, to make sense of the situation or to validate what is already known about the situation. The entire process may lead to a change in the individual's knowledge state. However, if the individual recognises a new gap on completion of the three stages discussed, then "more cycles of Needs-Seeking-Use continues until no (or an acceptable level of) gap is perceived by the individual" (Detlor 2003, p. 117).

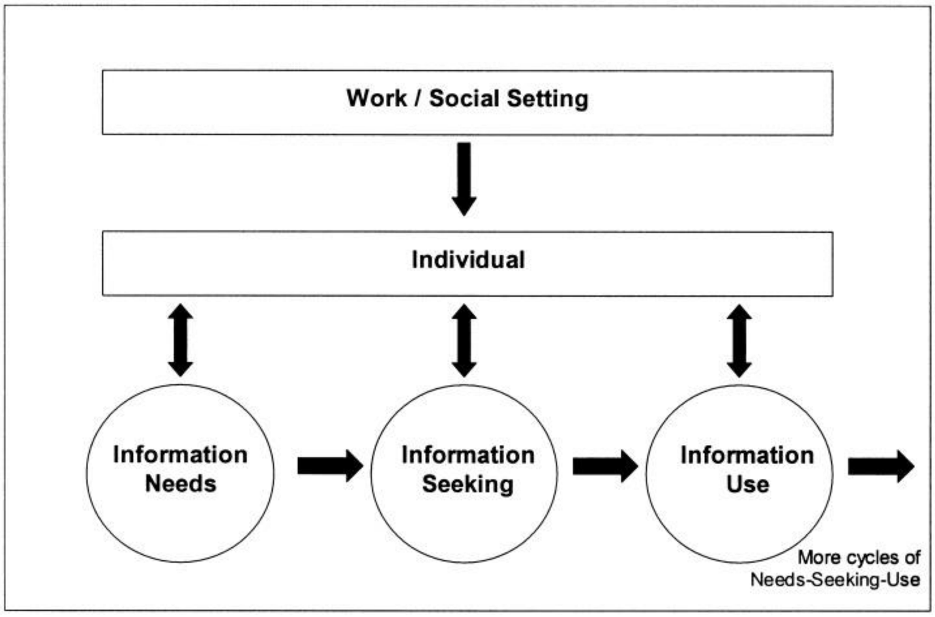


Figure 12 - A General Model of Information Use

(adapted from Choo 1998, p. 61 as cited in Detlor (2003, p. 116)).

The possibility of undergoing these iterative cycles are influenced by two critical factors which include, 1). The individual's cognitive structures (e.g., perception) and emotional disposition (e.g., frustration), and 2) the work/social setting (or context) in which the information 'needs-seeking-use' cycle occurs (Detlor 2003). The first factor shapes and constructs how the individual perceives problem situations or goes about looking for information and reacts to information presented to him/her (Kuhlthau 1991, 1993; Dervin 1992). The second factor serves as "a larger context that influences how individuals go about needing, seeking and using information" (Detlor 2003, p. 117). Meanwhile, during information needs, some important features of the social setting, may influence the attitude of the people to the situation, such as culture or the individual's experience.

Similarly, during information seeking, some characteristics of the social setting can either inhibit or enable certain patterns of information-seeking behaviour. For example, the people’s culture and direct experience can affect their perceived importance and the reliability of the information or the amount of time given to information and the choice of the information source to facilitate information seeking. Likewise, during information use, social norms such as beliefs about health, may influence how the individual uses the information as well as a perception of what constitutes a reliable means of resolving the problem. Reviewing this model enabled the researcher to understand the processes of information use and the factors which play a role in shaping how the individual undergoes this process.

2.8.2 **Health Information Behaviour Models**

Health information seeking models are used for "predicting the activities and behavioural patterns of people during the process of seeking health-related information. Often such models depict people’s experiences by using a combination of their thoughts, emotions and activities" (Lalazaryan and Zare-Farashbandi 2014). The researcher reviewed three models of health information behaviour. The models include the Model of Patient Information Seeking (Czaja, Manfredi and Price 2003) which identified the determinants and consequences of patient information seeking; the Expanded Model of Health Information Seeking Behaviour (Longo 2005), and the Comprehensive Model of Information Seeking behaviour (CMIS) (Johnson and Meischke 1993).

The models by Czaja, Manfredi and Price (2003) and Longo (2005) follow a similar approach as they conceptualise the processes of information seeking and the associated outcomes in patient’s medical care. Although these models looked at the personal (or contextual) factors that may influence information seeking behaviour, they focused on health outcomes based on the information seeking behaviour of patients. The focus on patient health outcome and the findings of this study made them inappropriate to serve as the conceptual framework because this research had a wider focus on the information behaviour of people who may not necessarily have prostate cancer. Based on the current research aim and focus, the Comprehensive Model of Information Seeking (CMIS) developed by Johnson (1997) served as the conceptual framework because the model describes personal factors (e.g., experience) affecting information seeking and considers how source characteristics may influence information seeking behaviour. The CMIS model is discussed in the following section.

2.8.2.1 Comprehensive Model of Information Seeking (CMIS)

The Johnson and Meischke (1993) model was developed to conceptualise information seeking behaviour in the context of cancer patients and other users seeking information about cancer (Johnson 1997). The CMIS model was developed to bridge the gap of inaccessibility of health communications, based on the assumption that, information user, receives health-related communications through various media and other "information carriers," but these communications may not be utilised to meet the receivers' information needs (Robson and Robinson 2013). This gap, according to Johnson, was created as information science scholars and theories have focused on providers' perspectives, primarily associated with persuasion techniques while ignoring the nature and motives of the information receiver (Johnson 1997). Johnson thus, attempted to bridge this gap by focusing not only on the information provider's characteristics, but also on the information user's perspective (Robson and Robinson 2013).

This move by Johnson positioned his CMIS model as one of the important models in explaining information behaviour (Wilson 1999; Johnson 1997). Although the model was developed specifically for studying the cancer-related information seeking behaviour of patients, it has ever since generally remained applicable across other disciplines and contexts (Lalazaryan and Zare-Farashbandi 2014). For example, in studying the health information behaviour of women (Azubuike and Okwuokei 2013; Nwagwu and Ajama 2011; Tsehay 2014), elderly adults in Chinese Singaporean contexts (Chang, Basnyat and Teo 2014), Appalachian people (Vanderpool and Huang 2012); Americans (DeLorme, Huh and Reid 2011), Korean Americans (Oh et al. 2012) and Hispanic adults (Kim and Zhang 2015). It has also been used to investigate factors associated with the use of cancer communication systems (Han et al. 2010; Rains 2007), cancer prevention beliefs (Hovick and Bigsby 2016), and sources of health information in rural southern

Malawi (Gombachika et al. 2013), among others. Lee and Kim (2015) found that the CMIS model provided a valid framework in the context of vaccine information seeking among mothers in Korea.

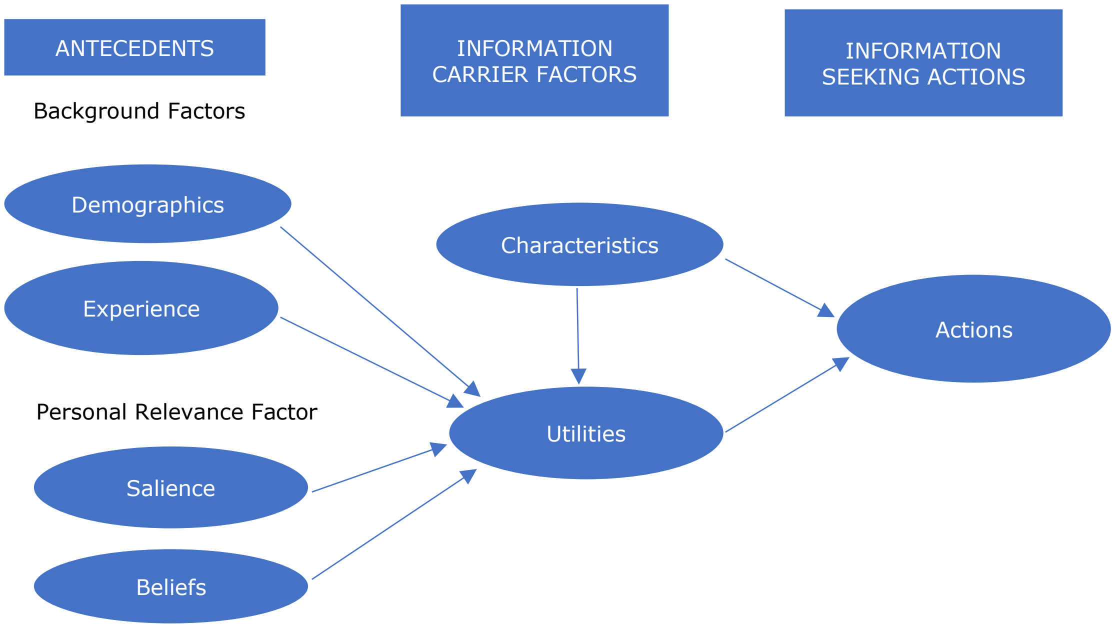


Figure 13 - Comprehensive Model of Information Seeking (CMIS)

(Johnson 1997, P. 34)

The CMIS model originates as a combination of three models which include the Health Belief Model (HBM) (Rosenstock 1974), the Uses and Gratifications theory (Katz, Blumler and Gurevitch 1973) and the model of Media Exposure and Appraisal (Johnson 1984). CMIS model is one of the commonly adopted models for the studies of health information-seeking behaviours (Case 2012). The CMIS model consists of seven essential components grouped into three broad categories: antecedents, information carrier factors and information-seeking actions. The antecedent factors capture the underlying necessities, thus determining the motivation to seek information. The information carrier's factors guide the mode in which the information user seeks information from selected sources. The information seeking actions, describe the various information searching activities engaged by the information user (Johnson et al. 1995; Johnson 1997).

The CMIS model focuses on the information user's perception and use of health information sources (DeLorme, Huh and Reid 2011). The information user-related factors (i.e., antecedent factors) influence the individual’s perception about an information source based on the source-related factors (i.e., information carrier factors) which determine the information-seeking behaviour of the individual (Johnson and Meischke 1993; Johnson 2014). In other words, a person’s information seeking actions are directly driven by the characteristics and utility of the information source, which in turn are influenced by the person’s background and personal relevance factors. According to DeLorme, Huh and Reid (2011), an "individual's health-related factors inform motivation which is shaped by perceived source utility factors" (p. 769). This means that the antecedent factors explain why people become information seekers while the information-seeking actions underpin the development of an individual's information field (Johnson et al. 2006).

Background factors such as demographics (e.g., age, gender, ethnicity, education and socioeconomic status), as well as direct experience of information sources (not only the disease), influence people’s choice of health information channels. According to CMIS, the degree of individual's direct experience with the disease, "either through symptoms or in one's network,” also influences ones' information seeking behaviour (Johnson and Meischke 1993, p. 347). The effect of direct experience is supported in the initial tests of CMIS that focused on cancer-related information seeking (Johnson and Meischke 1993; Johnson 1997). Also, direct experience can help to predict differential patterns in information needs and seeking behaviour in severe illness (Fox and Purcell 2010) and self-medication of minor ailments (Gray, Cantrill and Noyce 2002; Almasdy and Sharrif 2011).

Meanwhile, personal relevance factors such as salience - the significance or applicability of the health information - and beliefs such as cultural perception of a person’s level of self-efficacy and the potency of treatment options, influence the motivation to seek health information (Johnson 1997; Lalazaryan and Zare-Farashbandi 2014). Salience is the perceived relevance and applicability of the information to the problem one faces. Information that is perceived to be salient would be used to solve problems or to resolve ambiguity (Johnson and Meischke 1993; Johnson 1997; Case 2012). Thus, salience is a very important factor that reflects one's underlying motivation in making source-selection decisions as it entails the personal relevance of the problem (Johnson and

Meischke 1993; Case 2012). However, other seeker or source related factors and variables in an individual's environment are also documented to affect the force of salience (Johnson and Meischke 1993; Case 2012). For instance, information from interpersonal sources within the location of the seeker (i.e., personal networks) are more likely to be actively pursued than from passive media sources like radio and TV. Thus, lead to a higher level of personal importance attached to that information, although messages delivered by passive media sources might also provide relevance for anticipated future scenarios (Dutta-Bergman 2004; Eysenbach 2008; Gray, Cantrill and Noyce 2002). Wilson (1999) argued that the concept of salience is unclear as an antecedent factor because the salience of information (that is, its significance and applicability) can only be determined after the information is found. Meanwhile, Johnson (1997) claimed that if an individual anticipates receiving information that can be applied to bridge the knowledge gap, such an expectation tends to motivate the individual to consult the information source to obtain information. Johnson drew his idea from Dervin’s sense-making framework (Dervin and Foreman-Wernet 2012) which suggests that salient information provides (or acts as) the bridge to cross the gap in knowledge (Naumer, Fisher and Dervin 2008; Dervin 1983).

Beliefs refer to the extent to which an individual perceives that he or she can control and shape future events or perceives that there are effective methods of control. It is an important motivational factor because first, it constitutes a domain-specific, task-specific self-efficacy dimension that is critical for understanding the barriers to action. The idea is also substantiated in other theories of health and risk information seeking behaviour. For example, the theory of Planned Behaviour (as perceived behavioural control; Ajzen 1991, 2011), Risk Information Seeking and Processing Model (as perceived information gathering capacity; Griffin, Dunwoody and Neuwirth 1999; Griffin, Dunwoody and Yang 2013), Extended Parallel Process Model (Witte 1994), Theory of Motivated Information Management (Afifi and Weiner 2004), and Planned Risk Information Seeking Model (as perceived seeking control; Kahlor 2010). If the belief is that one is not capable of improving or controlling his or her health condition, and/or is not able to effect a change by using a specific information source, such belief has been found to impede health information seeking and source selection by affecting perceived current knowledge, perceived knowledge gap or information insufficiency, attitudes towards information seeking, and behavioural intention (Johnson and Meischke 1993; Johnson 1997; Kahlor 2010; Hovick, Kahlor and Liang 2014).

As opposed to the situation-specific self-efficacy, the social cognitive concept of locus of control is also implicitly incorporated into the Health Belief Model precursor of CMIS (Rosenstock, Strecher and Becker 1988). In the view of Bandura's social cognitive theory, the locus of control is related to the outcome expectation rather than the efficacy expectation. It is classified along a spectrum of internality to externality, according to Bandura (1977) and Rotter (1966). As for health information seeking, the internality reflects one's opinion that his or her informational and behavioural involvement can influence the health outcome, while externality implies the opposite. Health locus of control has been studied as correlates of self-care, medication compliance, health information seeking experiences and perceptions. In all these instances, the internal orientation has typically been found to have a direct and significant impact (Chukwuorji et al. 2017; Pudrovska 2015; Atulomah and Atulomah 2012; Omeje and Nebo 2011). For example, Chukwuorji et al. (2017) in their study suggested that control of beliefs can be an important factor in health behaviour but varies between genders. A view supported by Pudrovska (2015) is that men have lower internality of control and less positive health behaviours. An individuals’ (e.g. men) knowledge of their locus of control may help to improve their participation in healthy behaviours (Chukwuorji et al. 2017). Therefore, finding information that can fill the cognitive gap remains the main driving force behind every information seeking action (Case 2012; Fisher, Erdelez and McKechnie 2005; Dervin 2006). The researcher of the present study believes that taking the combination of the components within the user-related factors into consideration would enable a deeper understanding of the barriers rural men have when seeking health-related information and the consequent source engagement action.

The second set of factors in Johnson’s (1997) model, which has been labelled “Information carrier factor”, refers to a person’s information channel selection and usage (Tsehay 2014). Some factors such as availability and accessibility (source-related), and income and educational level (user-related factors) affect source selection (Zhang 2014; Case et al. 2004). The evaluations of the information sources factors against certain evaluative criteria are directly linked to the exposure of information sources and shape the exact form of information seeking actions (Johnson and Meischke 1993; Case et al. 2004). The information carrier factor includes the information source’s characteristics and its utility which determine the nature of information seeking. The information carrier factor of “characteristics” incorporates the perceived trustworthiness, perceived accuracy of a channel, and the communication potential which comprise the perceived comprehensibility, presentation style and attractiveness of the information channel. Meanwhile, the information carrier factor of “utility” pertains to the perceived usefulness of the information channel (Johnson 1997; Johnson, Andrews and Allard 2001). In addition, examining source utility indicates whether the information contained within the source is important, useful, and relevant to the users' needs and information search goals and reflects the expectations regarding search results and satisfaction. The CMIS predicts a positive relationship between the user perceptions of carrier characteristics and the perceptions of utility as well as the subsequent action of source exposure. "The higher the evaluations of the characteristics, the greater will be an individual's exposure and perceptions of the utility of a medium" (Johnson and Meischke 1993, p. 349). The perception of source utility is presumed to be related to a person's intention and readiness for information seeking and is expected to relate positively to information-seeking action (Ruppel 2016; Xin 2016).

A silent factor within the CMIS is the decision criteria or evaluative criteria that information seeker’s employ when deciding which source to consult during the information seeking process. Studies on source selection have focused particularly on one source, the internet (Cline and Haynes 2001), and scholars have adopted survey method to examine evaluative criteria of information user's source-selection (Smith 2011). The evaluative criteria that one adopts when making health information seeking and source selection decisions are also a topic of interest (Zhang 2014). The choice of health information sources varies across demographics (Smith 2011). According to Smith (2011), participants younger than 30 were more reluctant to use health professionals and more likely to consult family or friend than older adults.

Studies of source-selection have focused particularly on one source, the internet

(Cline and Haynes 2001), and surveys have been used to examine the evaluative criteria of the information user’s choice of the source over others (Smith 2011). The evaluative criteria that one adopts when making health information seeking and source selection decisions are also a topic of interest (Zhang 2014). Within the health domain, source selection is particularly crucial as the first step of information seeking. Owing to the varying quality and completeness of information content across different sources, source-selection determines whether information seeking actions succeed or otherwise (Zhang 2014). The evaluative criteria during the decision-making process of information carrier factors are based on the cost-benefit analysis to map out which source is to be consulted when engaging in information seeking (Zipf 2016). The cost-benefit paradigm that has its antecedents in the study of economics is widely considered by information science researchers when exploring source selection (Xu, Tan and Yang 2006; Zhang 2014). It proposes that information seekers interpret, compare and evaluate information carrier factors against certain criteria and select the information source by the perceived benefits and perceived costs embedded in the criteria of using certain information source.

The proliferation of health information sources and the significant impact the choice of the source may have on individual's health behaviour underlines the need to understand the factors that influence choice and the criteria adopted by health information users during source selection (Zhang 2014). Knowledge of these factors is essential to informing health information or literacy education design and improving the presentation of health information services (Zhang 2014). Previous researchers have developed two distinct reasonings: one states that benefit related to obtaining quality and useful information is a more important consideration, and the other advocates the least-effort principle which maintains that minimising the cost, which is usually associated with accessibility, is the dominant rule (Xu, Tan and Yang 2006).

Regarding health information seeking behaviour, the least-effort principle seems to be supported by many research studies (Xin 2016). Johnson and Meischke (1991) in their study on women's source preference and selection related to information on breast cancer indicates that doctors are the most preferred source due to their high level of information credibility and authority while the media are the most used. Zhang’s (2012) study on college students' source selection found that doctors are the preferred source of high credibility but are consulted at a later stage in the information seeking process due to the problem of unavailability. The least-effort principle appears to be a good explanation, but these research findings also have implications and should be examined within a certain information-seeking context. The present study aims to use qualitative methods to identify the evaluative criteria rural men use across different interpersonal and impersonal sources along the whole process of information seeking and consider how these criteria are tied to and weighted in the cost and benefits calculations that determine the information seeking actions.

The last factor in Johnson’s (1997) model has been labelled the “Information-seeking actions”, and incorporates the different styles of information seeking, such as active information seeking involving the act of choosing a specific information source to consult, and information avoidance (Narayan, Case and Edwards 2011), both being motivated by the antecedent and information carrier factors. Johnson adapts the use and gratification approach (Baran and Davis 2011) to illustrate how information users of mass media decide what channels to consult based on the media content's gratifying power regarding the information user’s interests. This echoes the fact that certain information channels are preferred to others by different information users. The information seeking actions involve conscious choices of sources that are characterised by method (the sources selected), scope (number of sources), and depth (the degree to which the source is examined) and imply cognitive and affective changes in the information seeking process. He also asserts that different information sources serve different functions as the cognitive and affective states of the information seekers change in the process (Johnson and Morgeson 2005; Johnson and Meischke 1993; Case 2012; Case et al. 2005).

In this sense, although CMIS seeks to explain the usage of particular sources, it seems to agree with the sense-making approach that views information seeking as a gap bridging process that begins with the perception of a gap and goes on as a dynamic movement in time-space as an individual's knowledge and feelings change (Dervin 1992). The antecedent factors (user/health-related factors) begin to apply at the beginning of the process, and continually shape the information seeking action as it proceeds. The information seeking actions and search results, in turn, reshape the non-demographic antecedents of experience, salience and beliefs. Johnson et al. (2006) put forward two concepts of information seeking – fields and pathways. According to Johnson et al. (2006), fields are the contexts in which the information seeking takes place, while pathways represent people's navigation through these fields. Fields are made up of "resources, barriers, and carriers of information" while pathways consist of information seeking actions (Johnson et al. 2006, p. 571).

According to Johnson et al. (2006), people through information seeking can shape their information fields (environments) to maximise the factors propelling them to look for information and minimise the barriers impeding the process. It is, therefore, important that information providers understand how people accomplish this task to inform their information design process. In line with the sensemaking theory and the model of Information Search process (ISP), Johnson (2003) also agrees that information seeking behaviour should be understood as influenced by a variety of contingent factors in the context. The empirical tests of CMIS on cancer-related information seeking reveal that the relationship between antecedents and information carrier factors is more meaningful at the later stages of information seeking with sources that are perceived to be more authoritative (e.g. doctors). Individual differences, task differences, and different problematic situations are also found in other studies to affect the information seeking process by modifying user/health-related factors, source perceptions, and evaluative criteria in the cost-benefit analysis (Johnson and Meischke 1993; Case et al. 2005; Johnson 2003; Xu, Tan and Yang 2006; Zhang 2014).

One limitation of the CMIS model by Johnson is the assumption that information users are active and goal-directed information seekers, which is not always the case. Similarly, the CMIS model has been mostly applied to authoritative contexts (Johnson 2003). Following these limitations, Johnson called for further refinement and testing of the CMIS model in other health information contexts to better understand the nature of the relations between the model's components (Johnson 2003; Johnson et al. 1995). This research study fits into this goal as it sought to empirically examine in detail the linkage between the antecedent, information carrier factors and information seeking behaviours (or actions) of men in rural south-east Nigeria, to provide insights into their health information seeking behaviour as well as their health information source selection and usage within the context of this study. Achieving this goal helped to answer the research questions and offer recommendations to address the widely suggested lack of healthcare services (e.g. health information provision) in this population, which poses a threat to the health condition of these rural people.

2.8.2.2 The Place of Conceptual Framework in Research Study

In this research study, having a conceptual framework had usefulness as a tool for gaining a deeper understanding of the research problem and for increasing the trustworthiness of the study (Maxwell and Loomis 2003; Smyth 2004; Teddlie and Tashakkori 2009). Miles and Huberman (1994) explained that a conceptual framework helps to reveal the components of the phenomenon to be studied including the factors that influence that phenomenon and their relationships. This statement agrees with the view of Jabareen (2009) who posited that concepts should be categorised and encapsulated within a given conceptual framework for every research study. In addition, the conceptual framework helped in (a) identifying what will, and what will not be included in the study, (b) describing what relationships may be present based on the construct of the model, (c) providing the researcher with the opportunity to gather general constructs and meaning about the phenomenon (Mile and Huberman 1994). Similarly, the conceptual framework served as an anchor for the study and was referred to during the data analysis stage to enable appropriate interpretation of the data.

The scope of this study was confined to health information source selection of rural men in the process of health information seeking. It aims to explore how and why they evaluate and perceive information sources and make source selection decisions for different types of health-related problems, and the cultural factors which influence this process, and how they navigate multiple available information sources to fulfil information-seeking needs from a user-centred perspective. The researcher was interested in health information behaviour models that are user-centred and has followed a problem-solving approach. Using a user-centred, problem-solving model within information science enabled the researcher to focus on areas such as personal factors, context, and health information seeking actions, source-selection strategies, health information communication strategies, and the concept of health information use as major components of this study. The various conceptual models and research theories examined earlier provided the researcher with an opportunity to have a wider perspective and to identify a suitable framework that fits the objectives and the nature of the current study.

Johnson's (1997) *Comprehensive Model of Information Seeking* Behaviour (see Figure 13) was considered appropriate for this current study because it is a user-centred model and it has focused on problem-solving (i.e. source selection). The CMIS model is a viable theoretical framework for explaining user selection and the use of an information carrier for health information. The model postulates two major categories of factors that predict differential use of health information sources: user-related factors and source-related factors that involve user evaluations of the characteristics and utility of available sources. In addition, one of the strengths and the primary reason for considering this CMIS model was that it was developed to conceptualise the health-related information seeking of cancer patients and others seeking information on cancer.

Another strength is that the model recognises the role of context in information seeking which is also paramount in this current study. In addition, when selecting this model, it was observed that, except for Johnson's CMIS model, the other ones considered for this research incorporated a sequential progression of information behaviour from need identification to need resolution. Wilson (1999 p.267) for example, remarks that "Feedback loops must exist within all models since progression towards a goal is hardly ever unproblematic", highlighting the non-sequential nature of information seeking. Dervin states that her model "is not intended to suggest that all situation-facing is linear or purposive" (Dervin 1992 p.70) which also agrees with the views of Godbold (2006) and Lalazaryan and Zare-Farashbandi 2014) who assert that the order of information seeking is similarly not linear.

One aspect of Johnson's model is that there are no defined steps in the information seeking process, "the CMIS is oversimplified by design" (Johnson, 1997, p. 111). However, previous research has revealed that information seekers do not necessarily follow specified steps (Solomon 2002; Pettigrew, Fidel and Bruce 2001). Moreover, in the context of the current study, this was not perceived as an issue because the focus was not on identifying information seeking steps but information seeking patterns.

Therefore, the researcher found the CMIS model appropriate to provide the components that fit with conceptualising the information behaviour exhibited by men in rural south-east, Nigeria on health-related information. Furthermore, the CMIS model has been used in the African context to study health-related information behaviour. For example, Nwagwu and Ajama (2011) and Azubuike and Okwuokei (2013) used this model to explore women’s information behaviour in south-western Nigeria. Tsehay (2014) adopted the model to investigate access to maternal health information among rural Ethiopian women. Similarly, Gombachika et al. (2013) adopted the CMIS model to explore the sources of HIV information among rural residents in southern Malawi. The CMIS model has been empirically tested within both African (Nwagwu and Ajama 2011; Tsehay 2014; Gombachika et al. 2013) and non-African contexts (Johnson 1997; Xin 2016) and within health-related studies including health communication research (Han et al. 2010; Rains 2007). The model, however, has not yet been tested with men in rural Africa.

2.9 Summary of Chapter Two

Based on the review of the literature, the researcher noted that Information Science studies on information behaviour within an African context focus mostly on general human information behaviour. In addition, studies which have looked at men's health in Nigeria have involved core medical research around diagnosis, treatment and management concerning men already affected with prostate cancer (Ozoemena et al. 2015; Afogu et al. 2017; Ugwumba et al. 2017).

The literature review demonstrates that there is a lack of research focusing particularly on understanding the health information behaviour of rural men and the factors which shape their health information behaviour. At present, there is more research attention given to exploring the health information behaviour of women in the Nigerian context (Azubuike and Okwuokei 2013; Nwagwu and Ajama 2011) and other African countries (Bakar 2011; Ngwenya and Matingwina 2014).

The chapter reviewed information behaviour models, and the CMIS conceptual framework discussed in this chapter was found appropriate to guide the analysis of this current study by emphasising the antecedent factors, the information carrier factors and the information seeking behaviour of men in rural south-east of Nigeria.

However, the review of the literature suggests that health information providers can take advantage of the cultural practices in rural areas to encourage positive information behaviour among men through the provision of culturally appropriate health information in rural areas of south-east Nigeria.

CHAPTER THREE

Research Background

3.1 Overview of the Nigerian Setting

The research is focused on Nigeria, a country in West Africa, known as the most populous country in Africa (Ferlay et al. 2010; OECD[4] 2012). Gilbert (2005) using the 2006 Nigerian Population Commission estimation of 140 million people in Nigeria, puts Nigeria as the tenth populous country in the world (Chinenye and Ogbera 2013). However, the 2016 World Bank Population DataBank puts the Nigerian population at over 180 million, making it the eighth most populous country (World Bank Data Report 2017).

Within its vast area, Nigeria has over 250 to 400 different ethnic groups, all with their languages and cultural heritages (Chinenye and Ogbera 2013). Nigeria is rich in culture with its multiple ethnic groups, languages and traditions which promote diversity within the country (Chinenye and Ogbera 2013). Nigeria's multiple ethnic groups shape the culture. The four largest ethnic groups are the Igbos in the south-east, the Yorubas in the southwest, and the Hausa and Fulani in the north. These ethnic groups have a similar pattern of behaviour informed by the underlying principles of culture (Nwaru 2015). However, none of these cultures is superior to another, as each enjoys its richness, uniqueness and diversity. The Igbos are predominantly Christians while the Yorubas are equally likely to be either Christians or Muslims, and the Hausa and Fulani people are predominantly Muslims. Indigenous religious practices remain important to all ethnic groups. The country has about 527 languages with over 1150 dialects among the ethnic groups. Language is one of the most vital cultural identities in this multi-cultural nation because each ethnic group communicates in their native language such as Igbo (Nnamdi-Eruchalu 2012). Traditionally, Nigerians were predominantly subsistence farmers of sorghum, maize, millet, cassava, yams and plantains, however, due to a lack of investment in technology, infrastructure, roads and marketing, agriculture has failed to keep up with the growth in the population.

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[4] http://www.oecd.org/swac/publications/Nigeria_e-version_en_light.pdf

Across the ethnic groups, hunting is another traditional occupation and bushmeat is a delicacy often sold by the roadside on the motorways and in markets all over the country. In addition to other occupations are the traditional healers, who are specialists (i.e., traditional doctors) in treating health conditions with herbs and combines indigenous beliefs with knowledge, skill and cultural practices to administer health solutions to their clients (Obinna 2012; Iroegbu 2011).

Following the country's colonial past, the British introduced English as the official language to facilitate unity across the different ethnic groups present in Nigeria (both culturally and linguistically) during the colonisation era (Nnamdi-Eruchalu 2012; Taiwo 2009). Hence, the official language (i.e., English language) is used in schools, offices and national events (Taiwo 2009) and is widely spoken among urban citizens. But apart from the speakers of Standard English, a large portion of the population especially in rural areas, roughly a third of the country's population, speaks their native language or Nigerian Pidgin English depending on their education, which has a primarily English lexicon.

Nigeria is divided into six geopolitical zones based on the vast population, and the predominant cultural heritage (or ethnic groups). The geopolitical zones which include, South-East, South-South, South-West, North-Central, North-East and North-West (Eze, Okpala and Ogbodo 2014) are designed for smooth governance and the delivery of services such as the health service. South-East Nigeria is the focus of this research study. In the subsequent sections, the researcher provides more discussion of the geographical location, culture, resources and the challenges present in this research setting.

3.1.1 The context of South-East of Nigeria

This section begins by providing in detail the context of the communities in South-East Nigeria to provide the relevant information against which the research methodology can be considered. The contextual components used herein describing a community (see Figure 14) are to allow the reader to gain a comprehensive knowledge of the communities in South-East, Nigeria. This is home to the highest proportion of rural residents (Chinenye and Ogbera 2013), and these contextual dimensions describe a typical community: 1) cultural identity, 2) location and resources and 3) the persistent challenges facing the community.

Presenting these contextual dimensions is essential because developing any health-related information services is certainly more likely to succeed if health information providers are informed of the contextual dimensions of the audience and the interconnection between individuals.

These contextual dimensions are presented and discussed in the following section.

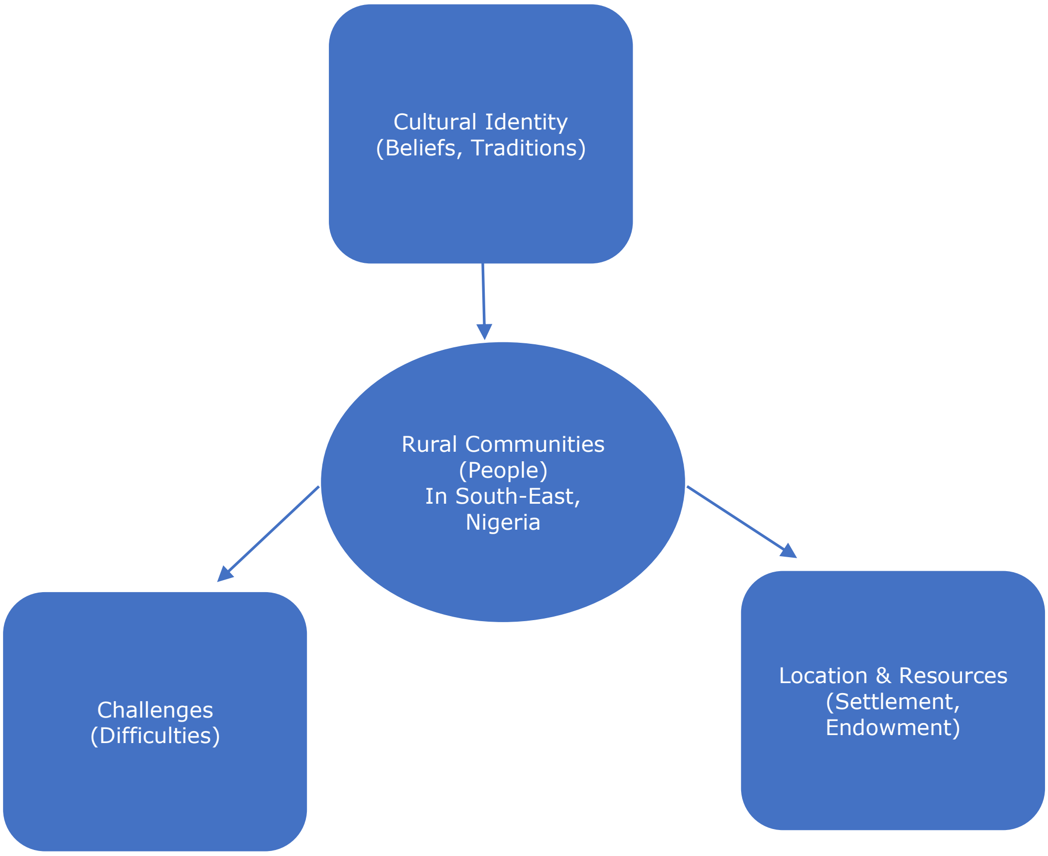
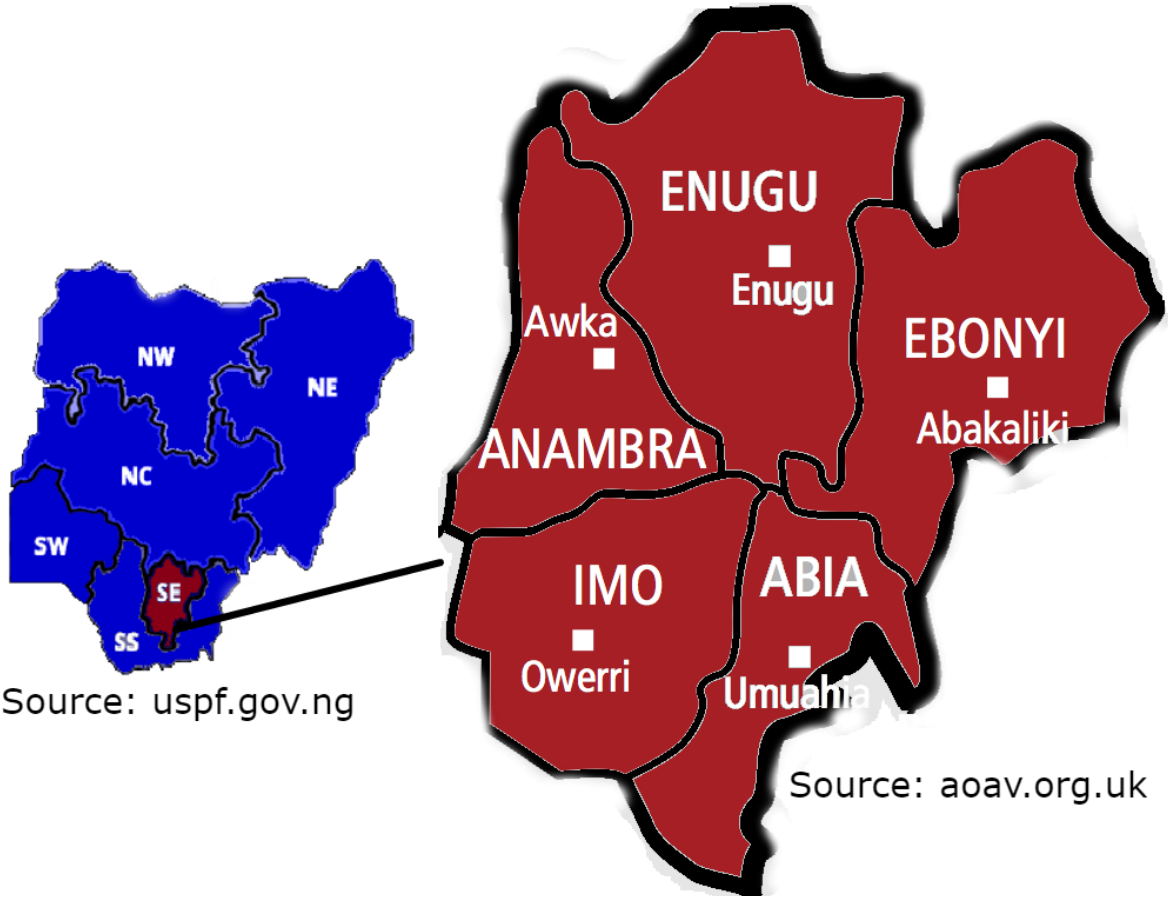


Figure 14-Contextual Dimension of South-East Communities

3.1.2 Location of South-East Nigeria

The South-East region of Nigeria shares common borders with Cameroon to the east and the Atlantic Ocean to the south. Farther east, along Nigeria's border with Cameroon, lie the eastern highlands, composed of several distinct ranges and plateaus, including the Mandara Mountains, the Shebeshi Mountains, the Alantika Mountains, and the Mambila Mountains. The Tropical evergreen rain forest belt in the South-East bears timber production and forest development, production of cassava; and plantation growing of fruit trees - citrus, oil palm, cocoa, rubber, among others.

Figure 15 shows the territorial boundary of the South-East region.



Source: uspf.gov.ng

Source: aoav.org.uk

Figure 15- Nigerian Map Showing South-East Region.

(Source accessed in November 2015)

South-East, Nigeria is blessed with abundant natural resources. The natural resources consist of low sedimentary plains that are essentially an extension of the southwestern coastal plains. The Atlantic coastline extends to the South-East with a series of sandbars, backed by lagoons of brackish water that support the growth of mangroves. Large parts of Africa's Bight of Benin and Bight of Biafra fall along the coast in the South-East. Because of the Guinea Current, which transports and deposits large amounts of sand, the coastline in the South-East is quite straight and has good natural harbours. In some areas, such as the Udi Hills in Enugu state, dipping rock strata have formed escarpments. Most of the states in the South-East region are constituent members of the oil-producing Niger Delta Region. Natural mineral resources are abundantly resident in all parts of the

South-East region in different quantities. Natural resources include bauxite, lead, zinc, ceramic, coal, crude oil and natural gas. The South-East region is not just an oil-producing region but also adds rich agricultural importance to the economy of Nigeria with crops like yam, maize, potatoes, rice, cashew, plantain, cassava, iroko, mahogany, obeche, bamboo, rubber tree and oil palm. A state like Ebonyi is called "the salt of the nation" for its huge salt deposit in the Okposi and Uburu Salt Lakes. Enugu State (translated ‘top of hill’) is recognised for its high deposit of coal.

Based on the location of the South-East, the occupation in this region includes subsistence farming, craftsmanship, and trading (Onwujekwe 2005). Nigerian food offers a rich blend of carbohydrates such as yam and cassava as well as fruits, vegetables and other vitamins which when combined in the right proportion, provides multiple micronutrients packaged in their most effective form to help improve the health and well-being of the people. However, there is no information provided to rural people on the significance of developing a healthy diet consisting of fruits and vegetables for the prevention of health-related diseases.

Therefore, the reasons for discussing this aspect in a study that deals with health information seeking and use in relation to prostate cancer include the importance that is placed on dietary advice about the dangers of an improper diet (e.g. consumption of red meat, fat and milk) and its connection to prostate cancer risk (Mandair et al. 2014). For example, consuming a diet consisting of vegetables, fruits, grains, and fish, combined with adequate calories has benefits in preventing and managing other diseases which most prostate cancer patients die of, especially cardiovascular disease (Ajape, Babata and Abiola 2010). Therefore, creating awareness via the provision of accurate information around appropriate nutrition is significant. Lovitt, Shelper and Avery (2014) found that over half the men diagnosed with prostate cancer in the UK reported making dietary changes, primarily to promote general or prostate health or to facilitate coping. Another study in the US, which included men with prostate cancer, also showed that access to health information from non-medical sources led to increased consumption of fruits and vegetables (Moldovan-Johnson et al. 2014).

Hence, emphasis on information provision for ensuring a balanced diet is required to encourage men in this geographical location to maintain a healthy lifestyle consisting of a balanced diet.

3.1.3 Cultural Identities of South-East Nigeria

South-East Nigeria is a region known for its rich cultural heritage. Culture as defined in the Cultural Policy of Nigeria (1998, p. 11) as cited in Nwaru (2015), is, "the totality of way of life evolved by a group of people in their attempt to meet the challenges of their environment which give it order and meaning. In addition, culture can mean the social, political, economic, aesthetical and religious norms and approaches of the organisation, that thus distinguish the people from their neighbours" (Nwaru 2015, p. 19). The culture of the Igbos includes how the people are governed (the administration), the beliefs, the customs and traditions; language and religion transferred by oral communication, socialisation and informal education through generations (Nwaru 2015). As part of the South-Eastern culture, men engage in carving and blacksmithing to produce locally made items (e.g. doors, wooden masks, boxes) for sale (Onwujekwe 2005). Farming is also a major cultural occupation (Onwujekwe 2005).

Many of the cultural events of the Igbos, follow the lunar calendar which serves as the traditional calendar used in Igboland. The days in the calendar are counted based on four market days (Eke, Orie, Afo and Nkwo) as a tradition in Igboland (Widjaja 2001). The Igbos are known for their many traditions (e.g. the new Yam festivals, cultural dance, naming ceremony, attire and social gatherings) celebrated with diverse performances. The lifestyle of people in this area is hugely influenced by the cultural orientation (that is, their cultural values and beliefs). The major factors of Igbo culture are discussed in the context of this study.

i. Administration or Governance

As in many other parts of sub-Saharan Africa, the institution of traditional leadership has always been central to the governance of rural communities in South-East Nigeria. Rural residents are under the governance of traditional rulers as the closest governing body. The institution and the role of the traditional rulers are recognised in the Nigerian constitution. The traditional rulers take various forms and shapes across Nigeria and comprise the chiefs, headmen and village heads, who are often referred to as the Igwe, Eze or Obi in Igboland. In South-East Nigeria, there are sub-groups called “Kingdoms” organised by clan, lineage, village affiliation and dialect (Oriji 2011). The legitimacy to govern is solely derived from the traditions and cultures of the community, and it remains an inherited rite by the relevant ruling clan, tribe or family in Igboland (Oriji 2011).

However, there is no politically centralised system of governance observed in the entire Igboland. Instead, all the various kingdoms that constitute Igboland crown their traditional ruler who oversees the affairs of his kingdom (Oriji 2011). For example, the Udumeze of Ohafia is the paramount ruler overseeing the activities of the other traditional rulers in all the rural communities in the Ohafia Kingdom. As a governing body, the traditional ruler exercises some powers and responsibilities. For example, the power to permit provision of various services including information and health services, allocate lands to individuals, provide credence to community-based services, and authorise access to the citizens. Speaking on the relevance of these traditional leaders in the communities, they are responsible for promoting and upholding the cultural values, traditions and heritage of their communities. As heads of the community, traditional leaders perform some functions linked to culture, customs and traditions such as providing the “spiritual” and cultural leadership to their respective communities (Nyonator et al. 2005). Similarly, they are the only agencies believed to have the power to convince both the members of their communities and "the ancestral spirits" to accept or adopt any new concepts or ideology (Dodo 2013).

In relation to this study, it is evident that the leadership style could have some direct and indirect impacts on the outcome of community-based health services (Nyonator et al. 2005; Awoonor-Williams et al. 2013). For example, the negative attitude and poor literacy level of a traditional ruler may influence how health services are perceived in that community which can undermine the success of the health services. Similarly, withholding permission to access citizens or even discouraging participation will impact on the outcome of the health services. Meanwhile, a traditional ruler encouraging active participation, open engagement with available and trusted health information sources, will serve as a crucial agent to convince members of that community to achieve behavioural change, stigma reduction and optimal support for people with prostate cancer.

Community-based health services or programmes anticipated to achieve its optimal success must be endorsed, promoted and directly supported by the traditional rulers in those rural communities. Ideally, with such a setting, the community members will have greater opportunity to develop deep knowledge and skills as well as transformative social change (Campbell and Scott 2011) and the understanding of how some of their cultural practices hinder their response, influences their perception and treatment of prostate cancer (Ajape, Babata and Abiola 2010). The opportunity to develop a sense of ownership of their health problems and promote awareness to support them in responding more effectively to the challenges of prevention and care will be achieved. Given the traditional rulers' supreme power to control every aspect of access to and life in rural communities, the achievements of any health service provider(s) would be almost impossible without their active support.

ii. Traditions and Festivals

There are many traditions observed in South-East Nigeria which include festivals, cultural performances, naming ceremonies, attire and social, or cultural gatherings. One of the major festivals is the New Yam Festival (Figure 16). New Yam Festival, is a prominent cultural tradition among the Igbos that marks the beginning of the harvest of yam ("Ike ji"). It also signifies a season to give thanks to the Supreme God (for those who are Christians) or the earth goddess (for traditional worshippers). The festival is usually celebrated between August and October, although this varies from one community to another. The new yam festival is marked with some colourful cultural performances such as dances and masquerades.

Figure 16- Men during New Yam Festival

(Source:http://www.thecoli.com/threads/nigerian-culture.254993/page-14, accessed November 2015)

The new yam festival is one of the most historic and highly celebrated traditions in Igboland that has remained a rallying point and unifying factor among the South-East communities. The new yam festival begins with the dedication of the new yam to the gods and ancestors by the traditional ruler, the high priest, the eldest man in the council or by an eminent title holder. The man who offers the yam to the gods and the ancestors eats the yam first after the ritual is completed because there is the belief that their position bestows on them the privilege to mediate between the communities and the gods of the land.

Although the style, time and methods of celebrating the new yam festival may differ from one community to the other, the essential components of the festival remain the same. In many parts of the Igboland, the conduct of the new yam festival has been extended to include a period of appraisal of agricultural advancement in the communities, of the problems facing the farmers and of discussion on how best to ameliorate the issue in the future. The New Yam festival is the most glamorous cultural festival that may last a week or more because it serves as one of the most prominent platforms for the enactment and actualisation of socio-cultural ideals which often attract people from far and wide. The Igbos cherish the new yam festival as a moment of reunion and a demonstration of oneness among members of the community.

In South-East Nigeria, many rural communities take advantage of the social gatherings during this new yam festivity to address communal issues, reconcile warring groups, and enact laws to punish those who perpetrate despicable behaviours as well as hand down sanctions to accused individuals. All these actions are geared towards fostering corporate coexistence. In the same way, this social gathering to celebrate the new yam festival presents a very great opportunity to provide and communicate health information to the vast number of spectators and actors participating in this annual cultural festival.

However, the uniqueness of the new yam festival has assumed a more elaborate dimension which many today see as an avenue to showcase their cultural values and potentials. That is why such events are celebrated with masquerade display, traditional wrestling, cultural dances and the coronation of chieftaincy titles. The display of masquerades is performed in each of the communities (Nwaru 2015; Widjaja 2001). There are two basic types of masquerades, the visible and the invisible. The visible masquerades are meant for the public to view while the invisible is for selected members of the community who belong to the society of the invisible masquerades. The visible ones are often more entertaining than the invisible masquerades which take place at night. The mask offers a visual appeal to the visible ones for their shapes and forms unlike the masks used by the invisible ones which are usually fierce looking to strike fear in the hearts of the non-members of the society. However, the masquerade is not only seen as a symbolic representation but also provides insight into the enforcement of the laws and customs in Igboland. Performing masquerade demonstrates a total expression of the artistic and cultural skills of the Igbos (Nwaru 2015). One of the examples of the renowned masquerades in Igboland is the Adamma and Ekpe Masquerades in Figure 17. The Adamma masquerade appears in a female costume and wriggles her body femininely. Meanwhile, the dancers are mainly males.

-Adamma Masquerade

In some parts of Igboland especially in Ohafia, a male equivalence of the Adamma masquerade is performed (the Ekpe).

Figure 17- Performing Masquerades in Igboland

Another important performance embedded in South-East Nigeria's cultural tradition is the cultural dance. Cultural dance in South-East Nigeria dates to several decades. The South-East enjoys a variety of cultural dances performed as a form of emotional expression, social interaction or spiritual act. Cultural dance in Igboland is a way of transmitting Igbo customs, norms and values (Nwaru 2015). Some cultural dances in the South-East tell peculiar stories depending on the type. For example, the Ohafia war dance ("Iri Agha") in Figure 18, is the story of the victory and prowess of Ohafia people. The cultural dance can be performed at any season not only during new yam festivals. As it is clear from the above, these cultural traditions (masquerades and cultural dances) predominantly put men together from different parts of the community and may offer a great deal of opportunity for sharing and communicating information (including health information) and reaching out to more isolated members of that community.

Figure 18-Iri agha (War Dance)

[Source: CNNiReport http://ireport.cnn.com/docs/DOC-1277802, Accessed October 22, 2015]

Another important tradition among the Igbos is the naming ceremony. Giving a name to a child is the sole responsibility of the father according to tradition, who chooses the names either by consulting the oracle (deity) through the high priest or makes his personal choice based on the relationship he has with his friends or wife's family members. The naming of a child is done eight days after the child is born in an elaborate manner inviting family and friends across the community. In Igboland, irrespective of what English name you are given, there should be a traditional name which is either your first name or middle name. The traditional name(s) usually reflects the family's request or prayer, or the circumstances surrounding the birth of the child. For example, an Igbo name like Chizara means God answered. The Igbo names usually signify either a belief in the Supreme God or deity. For example, a name like "Agwu" signifies a deity. A child can be named after some individual. Naming a child after someone brings about the concept of a "namesake" -someone named after another person. This namesake tradition is the belief that, a person behaves like the person they are named after. Similarly, every first son (boy) or first daughter (girl) in every Igbo family, is named after either the male or female parents of the man respectively. This tradition is currently observed especially in rural communities, although some indigenous people who have been exposed to Western culture tend to alter this practice or completely neglect it. Apart from the cultural dance and masquerade performances, celebrating the naming ceremony of a child is another long-held tradition by the Igbos. This tradition encourages the gathering of social groups by bringing together people from all parts of the community. Therefore, the benefit of this tradition in this study is that it provides an avenue to share and communicate health information during or after the naming ceremony.

Another tradition predominant in Igboland is the social group or gathering of age-mates known as 'age grade'. In most rural communities, when an individual is about 30 years of age, that individual, as well as his agemates, form a social group, primarily for community development purposes. These social groups are constructed to instil respect among citizens and to share information, ideas and contribute towards the development of the community. As a social group, it provides another vital opportunity to disseminate information (including health information) among the members of these groups.

Another remarkable tradition of the Igbos is their unique attire. Before colonialism, the Igbo attire consists of part clothing to conceal the private parts.   However, the elders were fully covered (Achebe 1958), while the children remained uncovered till their adolescence when ornaments such as beads around their waist in addition to traditional designs from locally made cosmetics (Uri or Uli) in the form of lines, patterns and shapes (Basden 1921). After colonialism, some Igbo culture was replaced with Western culture (Onwuejeogwu 1981) including their traditional way of clothing with the introduction of Western-style shirts, wraps and trousers. Since the colonial era, the Igbo traditional attire became an Isiagu (or Ishi agu) shirt - a fabric embroidered with a lion's head, and a wrap specially patterned (George) tied round the loins and fastened at the side. As shown in Figure 19, the fabric and wrap can be worn with either a traditional leopard hat (okpu agu) or striped hat (okpu ndi nze) depending on the occasion and community.

Igbo women wear an embroidered puffed sleeve blouse along with two wraps (made from Hollandis material), and a headscarf, as shown. However, what is embraced today as Igbo fabric or 'traditional' Igbo clothing originated outside Igboland. Most Igbos are not familiar or aware of the real traditional Igbo dress because the history is not taught in school.

Figure 19- The Igbo Attire

In relation to this study, it is very necessary that health information providers understand the dressing of this population in order to identify with them and be regarded as a friend of the people. This practice of showing solidarity and brotherhood is mainly adopted in politics where a candidate, vying for political position (e.g. president) campaigns in other parts of the country dressing like the people.

Similarly, dressing in traditional attire of other cultural group is adopted as a conflict resolution strategy to show acceptance and foster unity. For example, the Arewa Youth Consultative Forum (AYCF) had issued a three months ultimatum - anti-Igbo threat, on 6th of June 2017 requesting all Igbos in the 19 northern states to vacate their region before October 1, 2017, or face eviction from the region. Following the security concerns and the hatred the anti-Igbo threat generated, some Hausa men adorned themselves in Igbo traditional attire in what seems like an Igbo cultural festival in the North, to appear friendly to the Igbos (see Figure 20).

source: Nija.ng

Figure 20 - Hausa Men dressed in Igbo Attire

This practice of dressing in traditional attire of the Igbos can be adopted by health service providers during the provision of health services in rural communities in South-East Nigeria to attract attention, increase acceptability of health service providers, signal support and demonstrates solidarity.

iii. Language

The official indigenous language spoken in South-East Nigeria is Igbo, which includes various dialects; as a member of the Nigerian State, many Igbos also speak Nigerian Pidgin English -a mix of British English and Nigerian dialect, as well as British English (Ogbaa 1999). However, Igbo is one of the major languages spoken in Nigeria including Yoruba and Hausa, as well as other local dialects (over 250 dialects). Although there are various dialects in the South-East, there is one centrally recognised Igbo language, spoken, written and understood across Igboland.

The Igbos share one culture and one language (Ebuziem 2011). The Igbo language is a fundamental cultural identity (Ebuziem 2011) which fosters brotherhood and a sense of oneness among speakers. For example, if an Igbo man visits another city outside Igboland, and hears someone else speak Igbo, the visitor immediately approaches and recognises the speaker by exchanging pleasantry accordingly. The Igbos enjoy having a conversation in their indigenous language especially those in rural communities. Although some rural dwellers who could acquire formal education or have lived in other parts of the world tend to communicate in another language, they have learned, however, what happens when they are with their colleagues or on official duty, other than that, the local dialect is spoken.

During a conversation in Igboland, proverbs ("ilu lu") are the most prestigiously used lexicons (Ebuziem 2011). The use of proverbs indicates that the speaker is a son of the soil ("nwa afor"). The individual's ability to use many proverbs in different contexts to intersperse speech, indicates maturity, dexterity in rhetoric embellishment and proficiency in diplomacy within the Igbo culture (Ebuziem 2011). Therefore, proverbs are regarded as "the basket for euphemism and diplomacy" (Ebuziem 2011). According to the Nobel Laureate, Chinua Achebe, in his book: "Things Fall Apart", a proverb is the palm oil with which words are eaten (Achebe 1958). The Igbos, therefore traditionally regard proverbs as an art of conversation because proverbs are used to describe, in very few words, what could have otherwise required many words (Ebuziem 2011; Achebe 1958). Proverbs in certain expressions may also be used in a euphemistic manner (Fakuade et al. 2013; Oyeka 2016).

The Igbo language was constructed from Latin script, which was introduced by the British colonialists (Oraka 1983). There are about 24 million speakers of Igbo, who live mostly in Nigeria and are primarily of Igbo descent. However, Igbo was first published in a book titled “History of the Mission of the Evangelical Brothers” in 1777 (Oraka 1983). By 1789, Equiano published another similar book featuring 79 Igbo words with the title "Interesting Narrative of the Life of Olaudah Equiano" (Oraka 1983; Equiano 2001, 2008). Igbo, among the African languages, has an extremely limited number of adjectives in a closed class (Segerer 2008). There are just eight such adjectives which include: ukwu (big), nta (small); oji (dark), ọcha (light); ọhụrụ (new), ochie (old); ọma (good); ọjọọ (bad) as cited by Payne (1990), according to Collinge (2002) in "Language Universals and Language Types". Likewise, most of the naming system in Igboland is a combination of words and phrases (Emenanjo 1978). For example, "vegetable" comprises of two words “akwụkwọ” (leave) and “nri” (food), which means "leaves for eating". Also, the word "car" combines two words “ụgbọ” (vehicle) and “ala” (earth) expressing the mode of usage that is a vehicle used on land. Another example is the "train" which also comprises of two words “ụgbọ” (vehicle) “igwe” (metal), which means “vehicle used on metals”.

In Igboland, the context within which words are used is essential and forms the meaning of such words. Therefore, a single word in Igbo may encapsulate multiple meanings. For example, the word "akwụkwọ" as used in the context of food means "leaf or leaves" (as on a tree) but in the context of education also has the meaning of "paper" (akwụkwọ édémédé), "book" (akwụkwọ ọgụgụ), "school" (ụlọ akwụkwọ) and "education” (mmụta akwụkwọ). This is because printed paper can be first linked to an organic leaf, and then the paper to a book, the book to a school, and so on. Combined with other words, akwụkwọ can take on many forms; for example, akwụkwọ ego means "printed money" or "bank notes".

The Igbo language features vowel harmony constructed based on the retraction of the pharyngeal cavity (Nkamigbo 2014). These vowels which include, i, ɪ̙, e, a, u, ʊ̙, o, ɒ̙ or ɔ̙, also occupy different places in the vowel space as in Figure 21.

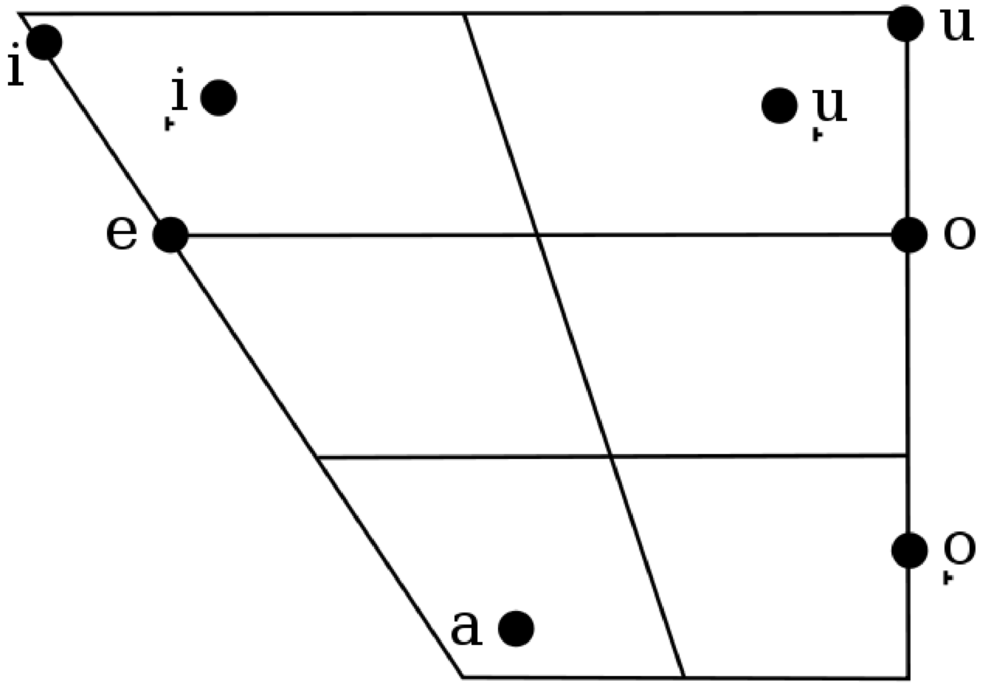


Figure 21-Oral Vowel Phonemes of Igbo Language

(Ikekeonwu et al. 1999)

Igbo is a tonal language with two distinctive tones, high and low (Onyenwe, Uchechukwu and Hepple 2014; Uguru 2015). These can either be used declaratively or interrogatively depending on the tone of the speaker (Uguru 2015). For example, moving from a high tone to a low tone may indicate interrogation (Onyenwe, Uchechukwu and Hepple 2014). The tone system of the Igbo language is a case of autosegmental phenomena which goes beyond the linear model of phonology laid out in the sound pattern of the English language (Uguru 2015). As a result, semantic ambiguity is formed, a situation where two Igbo words may have the same spelling but differ only in tone, which further ascribed a different meaning to the words (Ubah 2016). For example, ákwá means "cry", àkwà means "bed", àkwá means "egg", and ákwà means "cloth". These words are spelt exactly without indicating the tone (i.e. akwa) because the tone is not written in print (Onyenwe, Uchechukwu and Hepple 2014; Welmer 1974; Uguru 2015).

The primary characteristic of Igbo is its tonality (Oyeka 2016; Ebuziem 2011). Based on these characteristics, it is almost impossible just to translate non-Igbo text into Igbo as the context and tone need to be taken into consideration.

Ebuziem (2011) confirmed the importance and peculiarity of Igbo to the natives, both the living and the dead, as the local language is used in performing traditional rites.

In relation to this study, health information providers must be able to use and understand the native language used in rural South-East Nigeria. For optimal results in the provision of health information to men in rural communities, the use of native language is particularly essential to achieve the desired outcome. However, information providers should be able to not only understand Igbo but also be able to interpret its cultural underpinnings. As demonstrated above, Igbo has specific idioms which may carry different meanings depending on the context of usage. For these reasons, it is not only necessary to develop a familiarity with the language, but there is also significance in training people from the rural community to act as direct health information providers.

iv. Beliefs

As discussed above, South-East Nigeria is influenced significantly by some cultural beliefs which influence the daily life of people. There is a strong emphasis on the performance of cultural rituals and an emphasis on traditional beliefs which govern all different aspects of people's activities and the way they communicate and interact with each other. These are also dominant in the way in which people perceive and interpret health-related issues (Omonzejele 2008). For example, although Western medicine has already been introduced in Igboland, people's attitudes towards sickness and its treatment is still dependent on cultural beliefs. Most Igbos, especially those in rural areas, still believe firmly in traditional medicine for treatment and healing of sicknesses (Ezeabasili 1982). They have trust in local herbs, plant roots and other traditional items for treatment of health issues, based on cultural beliefs (Okonkwo 2012; White 2015). In addition, often, even those who live in the city return to the rural areas for treating severe diseases, which they believe Western medicine cannot cure as they require 'traditional' or 'spiritual' attention (White 2015).

One cultural understanding of health is that good health means that a person should not only be physically but also mentally, spiritually and emotionally stable (Omonzejele 2008). Another belief is that a person's health status is a direct reflection of their attitude towards their ancestors or deities (Iroegbu 2005). Therefore, practising traditional medicine encompasses the belief of mediating between the spiritual and physical wellbeing of the people (Holt 2011; Iroegbu 2011). A person's health is also dependent on his peaceful coexistence as a member of the community including his relations with their ancestors and other members of the community (White 2015). Emphasising the importance of the individuals' communal relationship, Mbiti (1990) states that, "only in terms of the other people does [an] individual becomes conscious of his being … When he suffers, he does not suffer alone but with the corporate group and whatever happens to [the] whole group happens to the individual" (pp. 108–109).

The Igbos in rural communities are either active traditional worshippers or Christians (Chinenye and Ogbera 2013; Sampson 2014). The traditional worshippers believe in deities (minor gods or spirits) (Chitando 2000, Magesa 2014). Traditional worshipers believe that the minor gods intercede for them in matters of health and socioeconomic well-being to the supreme God (Chinenye and Ogbera 2013; Sampson 2014). The Igbo believe in a personal god called 'chi' and a supreme God called 'chukwu or chineke' (Usongo 2008; Ebuziem 2011). Since the introduction of Christianity, one of the most largely celebrated ceremonies in Igboland is Christmas alongside other traditions because it signifies homecoming (Chinenye and Ogbera 2013). During the Christmas season, many Igbo families visit their villages, even if they are living in abroad. The ceremony comes with plenty of goodwill and is a time to catch up with other family members who are residing in the village. Christmas is celebrated as a sign of faith and a religious culture (Okoh 2012).

For those who still practice traditional religion, polygamy is also practised. As such, many Igbo men have more than one wife. A successful man marries as many wives as he can economically support. The polygamous family is made up of the man, and his wives, and the children. Beyond this unit is the extended family, which consist of all the sons of a family and their parents, wives, and unmarried daughters. Ideally, all the members of the extended family live in one large compound. It is believed that when a man suffers from an unknown sickness or health problem that relates to his genitals, it is as a result of him being unfaithful to his partners. This belief alongside the other religious beliefs that any extramarital affair constitutes a sin or disobedience, the supreme God can hinder men from seeking a healthcare solution openly to avoid social stigmatisation or rebellious attitude from their family members.

Since the introduction of Christianity to Igboland, the region is fundamentally religious (Okoh 2012). In the context of this study, the word religious refers to the Christian faith. Religion shapes the people's behaviour, social, cultural beliefs about health (Chinenye and Ogbera 2013; Sampson 2014). The Igbos have a belief that the supreme God has the power to cure all disease, and He is all-knowing. They believe that the supreme God can only be reached through the small gods (deity) for those traditional worshippers (Magesa 2014; Chinenye and Ogbera 2013). They see their god as being so powerful to exercise a strong influence on their health condition. Thus, they perform rituals to appease the gods for better fortune through the traditional oracle priests (Chinenye and Ogbera 2013; Chitando 2000). There is a perception that the Supreme is watching over them and their surroundings from a distance. The Igbos also believe in reincarnation ("ilo uwa"), a phenomenon where a person who died prematurely returns to the world again to complete his assignment (Magesa 2014). The Igbo see rebirth as a bridge connecting the living and the dead (Chukwu 2011). However, the Igbos express a friendly attitude towards their deities and spirits, not one of fear.

The above overview of cultural and religious beliefs in that area, explains why there are several beliefs about causes of diseases, and the first is the view that ill health is often caused by attacks from evil or bad spirits (White 2015). Some also believe that when the ancestors are not treated well, they could punish people with the disease (Magesa 2014). That is why as Abdulai (2009) explains the ancestors get angry when neglected or forgotten by their relatives, and as a result, they send them misfortunes as punishment (White 2015, p. 16). The angry ancestors are appeased through traditional rituals by offering sacrifices. This perception is informed by the belief that ancestors long for interaction with their relatives who are still alive thus they expect them to visit often. Igbos also believe that health conditions could be a result of a human-made spell or witchcraft (White 2015). Meanwhile, people with nefarious powers are thought to inflict their enemies or those being disrespectful to them, with sickness as a way of punishment (Obinna 2012). Likewise, certain illnesses which defy Western medicine, or are strange, inexplicable by tradition are attributed to unforeseen forces or spirits; some of the health conditions include infertility and a severe disease such as prostate cancer (Obinna 2012; Holt 2011; Thorpe 1991).

Ozoemena et al. (2015) revealed in his study that Igbo men demonstrated a high tendency of unwillingness to be treated for the asymptomatic prostate disease. Ozoemena et al. (2015) also pointed out that, though this unwilling behaviour can be attributed to many other reasons, however, it cannot be alienated from the cultural and religious orientation of the Igbos. It is true that knowledge about prostate diseases and treatment options is not sufficient for the reduction of prostate cancer morbidity and mortality in Nigeria (Ajape, Babata and Abiola 2010). However, it provides a starting point for behavioural change. The provision of health information that is culturally appropriate will go a long way to addressing and correcting these long-held beliefs embedded within the culture (Odedina et al. 2011). This justifies the need for religious and cultural considerations when developing or presenting health-related information to these target groups. It is also important to educate and empower the religious leaders to become a key source of information for worshippers who lack adequate information about health issues which concern them directly, such as prostate cancer.

3.1.4 Challenges and Issues in South-East Nigeria

Beyond the cultural issues discussed above, South-East Nigeria also faces a myriad of environmental, human resource and technological challenges which may be attributed to inadequate access to and ineffective utilisation of healthcare services. The environmental challenges such as soil degradation are usually associated with the heavy and abundant rainfall experienced between March and end of July annually. The soil has been degraded, and much of the native vegetation has disappeared thus resulting in deforestation. The negative impact of deforestation has, in turn, triggered soil erosion which is compounded by the heavy rainfall in South-East Nigeria leading to the destruction of roads. Consequently, the link roads have become impassable for vehicles and even motorcycles, causing limited access to rural communities.

Citizens leaving or entering rural communities spend hours on travel time and often pay high transportation costs to access health services. In addition, other factors hampering the implementation of sustainable healthcare delivery in rural areas include high user fees, continuous relocation of health workers to the city, absence of an integrated system for disease prevention, a shortage of health workers and essential medications and supplies (Emmanuel 2014). The persistent shortage of health workers reflects the human resource challenges experienced by healthcare units in rural areas. The prevalence of these challenges may have been associated with poor motivation and remuneration of health workers (Emmanuel 2014) which thereby affects the provision and access to health information in rural areas.

Technological challenges look at the lack of social amenities. In many of these communities, there is no diagnostic and urinalysis equipment (e.g. haematology analyser, reagent test kits) in the health centres to provide health services to the people. Similarly, the lack of basic social amenities (e.g. electricity) also have a negative impact on access to health information in rural areas as most of the conventional media sources (e.g. television) are electronic. The lack of social amenities makes life in rural communities challenging (Mtega 2012; Marrie et al. 2013) to attract any resident health worker. As a result, many healthcare workers prefer to relocate to the city where they can access social amenities which are unavailable in rural communities, which explains the lack of healthcare workers within the rural communities (Adeloye et al. 2017).

Considering the limited access to social amenities and health facilities in rural communities as result of these challenges, rural residents do not receive adequate health services hence, practise unhealthy behaviours and lack health information to inform their actions (Sokey and Adisah-Atta 2017).

This study is vital as it seeks to identify effective information provision strategies that can be adapted to provide health information in a manner that is not highly dependent on technology or health infrastructures as these are rarely available in rural communities.

3.1.5 Communication Path in Rural South-East Nigeria

Figure 22 demonstrates how information is disseminated (or flows) through the community, and its trajectory from external (or internal sources) either connected to key individual or group based sources. In rural communities of South-East Nigeria, information originates from the chiefs or traditional leaders (i.e., council) who also interact with (and share) the information among themselves and to the citizens through the village messenger (town-crier) (Essien 2014; Nwosu 2013). Thus, rural men find it natural to engage in this pattern of information exchange.

The flow pattern is top-down as shown in the data flow diagram in Figure 22.

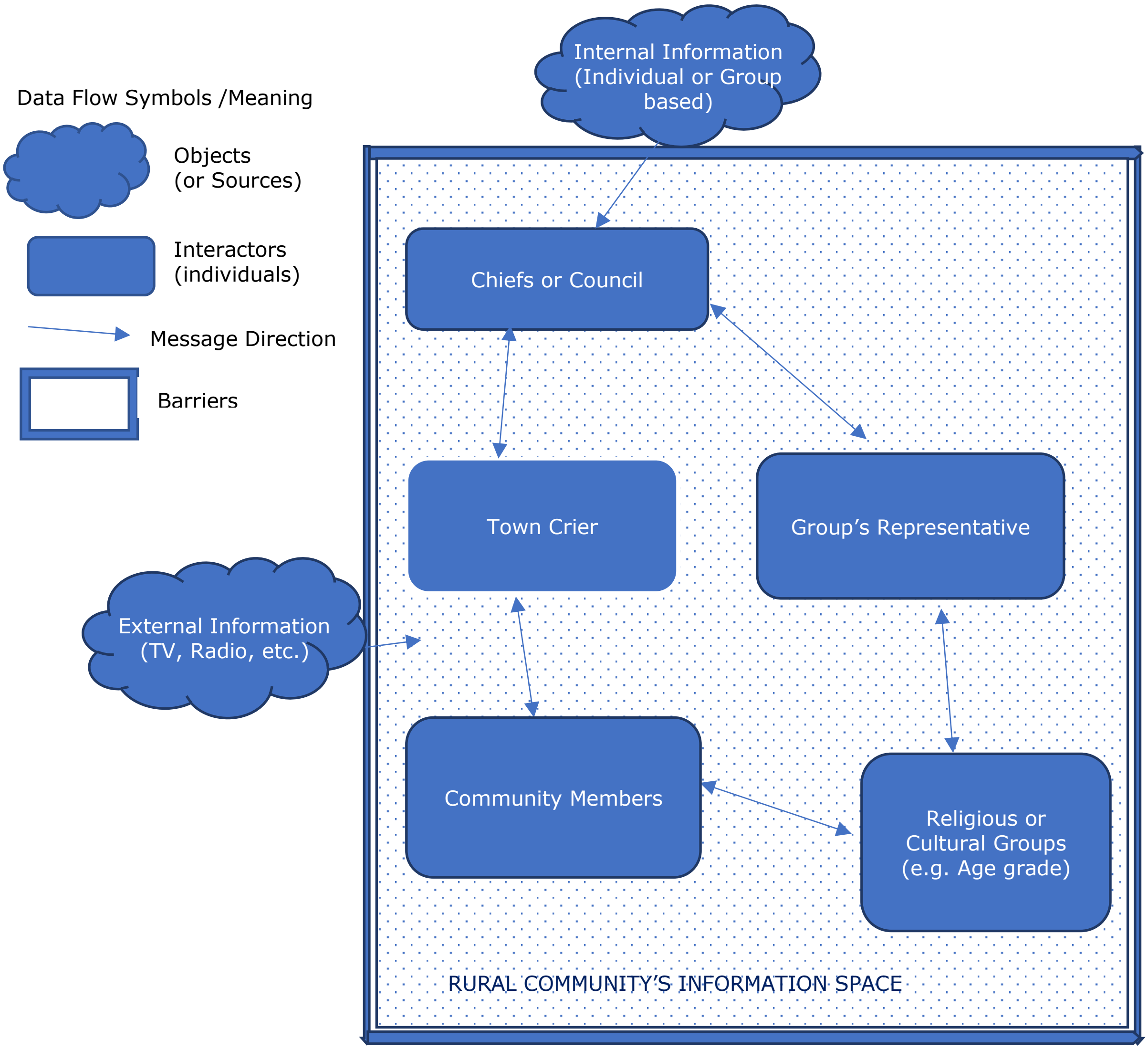


Figure 22-Information Flow Diagram in Rural SE Nigeria

This path is culturally rooted because it reinforces the supremacy of the traditional leaders as the embodiment of knowledge and governance within their local communities. This communication path is predominantly recognised and culturally established not only within rural communities in South-East Nigeria but also in most African communities at large (Essien 2014; Nwosu 2013).

Hence, any information coming from outside these communities must pass through these channels for it to be recognised, trusted, and considered relevant. One major reason rural dwellers accept information through this path is that the community leaders ensure that every information coming from outside the community is culturally appropriate for the rural people. They do so by providing the platform to accommodate all citizens in the community irrespective of their demographic or socioeconomic status (Nwosu 2013). For example, information in other languages is communicated to members of the community through their village interpreter(s). The information flow in rural South-East Nigeria is reduced into a two-level representation model in Figure 23 to enhance understanding.

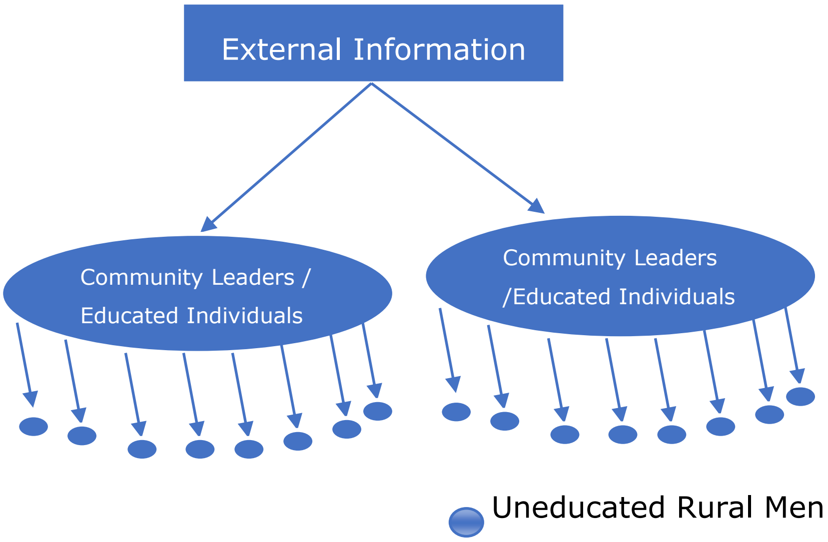


Figure 23- Two-Step Flow of Information in Rural Communities

The two-step model demonstrates that many of the rural residents do not directly interact with information from external sources but requires the help of others such as community leaders or the educated individuals among them. This reflects the idea of opinion leaders (Rogers 2003). That is, as community leaders are favourably disposed towards the information, they can also influence others to accept and access the information. According to Rogers (2003), people are more likely to be influenced by those who share similar characteristics like them than those who are different. In other words, people are more likely to acquaint with individuals who "belong to the same groups, live or work near each other, and share similar interests" and "share common meanings and a mutual subcultural language" (Rogers 2003, p. 19). Individuals with these shared similarities are key players as mediators to others within the same context.

Although traditional leaders are key players in the provision of culturally appropriate information to men in rural South-East Nigeria, they are not necessarily health literate. It is important to maintain a balance between respecting local cultural or religious customs and ensuring that key information dissemination players are positioned in a good place to be able to inform and educate rural people about important health issues that concern them accurately. Hence, this study offers recommendations on a culturally appropriate information provision strategy that will reduce possible barriers to health information provision in rural communities (e.g. language barriers, conflict with beliefs and traditions) to ensure that health information content will not be avoided, misinterpreted, contaminated or washed down but is delivered timely to the actual individuals who need it.

3.2 Healthcare Services in Nigeria

The Nigerian health care system is organised into primary, secondary and tertiary health care levels (Onilude 2017). Primary Healthcare (PHC) delivery (or level) is the sole responsibility of the Local Government Areas (LGAs); the provision of secondary care is attached to the State Governments, while the Federal Government is responsible for policy development and implementation. The establishment of PHC was to provide accessible healthcare services for all by the year 2000 and beyond. Unfortunately, this is yet to be achieved in Nigeria and seems to be unrealistic in the next decade (Abdulraheem, Olapipo and Amodu 2012). Primary healthcare which provides healthcare services through health centres is the base for the healthcare system in Nigeria as it directly services rural communities within LGAs. However, PHC is catering for less than 20% of the potential patients (Gupta, Gauri and Khemani 2004).

Moreover, the demography of Nigeria shows that of the total population of over 180 million in 2016, about 51.4% live in rural areas while about 48.6% live in urban areas (World Bank Data Report 2017). The Nigerian people are greatly underserved regarding healthcare delivery, especially the rural populations (Abdulraheem, Olapipo and Amodu 2012). Although various reforms have been put forward by the Nigerian government to address wide-ranging issues in the healthcare system, they are yet to be implemented at the state and LGAs levels (Onilude 2017). For example, the combined budgets allocation of the federal and state government on the public health sector is less than 5% of the 13.5 trillion naira in 2017[5]. This is despite the poor infrastructure in the sector and the government's declaration to discourage medical tourism. This poor funding of the health sector means that primary healthcare is least funded in every state (Onilude 2017) because the LGAs are the least organised level of government in Nigeria and depend on the state to finance its healthcare services.

The Nigerian Medical Association (NMA) estimates there are about 25 consultant oncologists, 7 radiotherapy machines to about 180 million Nigerians, and cancer patients can access specialist care only in 7 out of the 36 states – Lagos, Oyo, Kaduna, Edo, Ondo, Sokoto, and Abuja[6]. The ratio of hospital beds per 1,000 Nigerians is 5 (World Bank Data Report 2017). Despite lack of up-to-date data on the number and growth rate of hospitals in rural Nigeria, there has been a visible increase in the number of private health facilities in urban areas rather than government-owned facilities (Onah and Govender 2014). Despite the increase in private hospitals, the healthcare system in Nigeria remains weak and characterised by inadequate and decaying healthcare infrastructure. These state and private-owned health facilities are not within the reach of rural citizens as they are predominately in urban areas and provide expensive services which many rural people cannot afford and the cost of travel (Umezinwa 2016). This affordability and proximity constraints call for the need to have a functional primary healthcare system.

The primary health care system has been extensively hampered by poor allocation and utilisation of funds, and lack of health infrastructures thereby affecting its coverage and quality of care. For example, there are limited health care centres, gross dilapidation of available healthcare infrastructure, poorly trained staff and health workers. The failure of the primary healthcare system means that citizens, especially those in the rural communities, lack access to both health information from qualified health workers and healthcare centres and thus suffer health issues which should have been managed at the primary care level with adequate health information.

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[5] https://www.thisdaylive.com/index.php/2017/02/09/nigerias-grossly-inadequate-2017-health-budget/

[6] http://www.thisdaylive.com/index.php/2016/09/29/at-56-nigeria-still-lacks-functioning-radiotherapy-machines/

In South-East Nigeria, access to and use of healthcare services is limited (Onah and Govender 2014), and many rural residents do not have access to quality healthcare, and this has been attributed to many factors (Onyeneho et al. 2016). For example, unavailability of healthcare services and proximity to healthcare facilities, are barriers to accessing health services (Kadobera et al. 2012) and have long been attributed to poor utilisation of health services in rural Nigeria. As a result, many rural residents in south-east Nigeria do not have health care centres located in their communities and are not aware of the services they provide (Onyeneho et al. 2016). On the contrary, Musoke et al. (2014) found that most of the population (89%) in rural Uganda knew mobile clinic services, chemist shops (91%) and health centres (100%) existed in their local communities.

Healthcare centres in rural communities in South-East Nigeria are predominantly managed by nurses because there are no resident doctors. In addition, the breadth of services and facilities vary. This is due to years of neglect, inequitable distribution of resources, the absence of medication and poor funding in the primary healthcare system (Efe 2013) which has led to the absence of key health workers who do not have the necessary facilities and incentives to provide the needed healthcare services in rural areas. Subsequently, primary healthcare centres have only one visiting head nurse who oversees the management of the centres, visits the healthcare centres from the city during specific days, and schedules patients in need only of attending the service on those days. Consequently, primary healthcare services lack sufficient resources to provide quality of care and restrict access to healthcare as and when needed, increasing waiting time, and weakening the healthcare system through lack of coordination and quality of services. Consequently, there is a loss of confidence of the public in the primary healthcare system in rural Nigeria (Abdulraheem, Olapipo and Amodu 2012; Jaro and Ibrahim 2012). As a result of these inefficiencies around primary healthcare delivery, rural people may have a greater reliance on cultural beliefs and seem to be reverting to the traditional care providers when managing health issues because of problems of access and affordability (Emmanuel 2014; Abdulraheem, Olapipo and Amodu 2012; Jaro and Ibrahim 2012). Furthermore, cultural appropriateness of health services plays an important role in stimulating the acceptability and utilisation of health information (Onyeneho et al. 2016), especially among rural residents.

Many health-related cultural practices in Nigeria as discussed in previous chapters, oppose conventional medicine and inhibit access to healthcare delivery. Therefore, recognition of culture in the provision of healthcare services cannot be overstressed as there are cultural boundaries in attitudes, disease definition and diagnosis (Ibeneme et al. 2017). The specific characteristics of individuals and their cultural orientations are critical to understanding, classifying, and interpreting diseases and treatment options. Understanding the culture of the Igbos helps to outline reality about the practice and delivery of health services rather than some unexplained assumptions which have been advocated for non-Western societies through Western intervention programs. Healthcare-related activities cannot be performed or effective outside a cultural context (Ibeneme et al. 2017). The associated interpretation, experience or behaviour by individuals about health-related issues depends on social norms, cultural values and beliefs of the society in which they exist (Ibeneme et al. 2017). Simply put, two different cultures are most likely to have two different interpretations or meanings to the same health-related issue. For example, in the Western culture, obesity is viewed as a precursor to adverse health condition meanwhile, in African culture especially Nigeria, among the Igbos, Ibibios and Efiks, unmarried women are deliberately fattened in seclusion to ensure fertility before going into marriage. This exemplifies the variability across cultural boundaries and reflects the need to pay attention to target the specific audience’s culture when designing or providing any health-related intervention.

This study aims to offer recommendations for improving access to health information by proposing strategies which aim to reduce potential barriers in reaching out to rural communities with the health information they require to manage their health better. The provision of timely information aimed at combating possible health issues is an important function of the healthcare service. Inadequate healthcare centres and lack of health information in the public health sector can lead to health insecurity among citizens. Therefore, sufficient health information provision and effective health intervention aligned to the cultural beliefs and practices of the targeted audience may stimulate participation in healthcare services in Nigeria (Amidu, Harrison and Olphert 2016).

3.3 Summary of the Chapter Three

In the above sections, the researcher has discussed some of the findings from the observation method and described the various cultural aspects that typify a rural community and how they relate to the present study. This chapter has critically discussed the unique, and the second largest group of people living in Nigeria - the Igbos. The Igbos consist of five states and are known to be socially and culturally diverse with unique and rich cultural heritage. The Igbo culture includes the various customs, practices and traditions of the people. These customs and traditions are shaped by beliefs, social norms, and the use of language, traditional festivals and dances. The Igbos are known for their many traditions (e.g. the new Yam festivals, cultural dances, naming ceremony, attire and social gatherings) celebrated with diverse performances. The Igbos' attire influences how they interact with and influence each other.

The Igbos are known to be predominately Christians. The Igbos believe that the world is controlled by invisible forces (e.g. gods, spirits and ancestors) and visible forces (the leaders of the community) and their behaviour towards them is guided by cultural norms. It is evident that the Igbos believe in a supreme God who keeps watch over his creatures from a distance and often interferes in the affairs of human beings. The Igbos also believe in other minor gods as well as a variety of spirits, who can be kind, hospitable and protective or at other times, wicked, treacherous, unmerciful, and envious, depending on how an individual treats them. Following these cultural beliefs, the Igbos have developed certain cultural beliefs about the causes of health-related issues. The culture of the Igbos modifies their thought, speech and actions, so much that the Igbos are easily distinguished from other ethnic groups in Nigeria. The lifestyle of people in this area is hugely influenced by their cultural orientation (that is, their cultural values and beliefs).

CHAPTER FOUR

Research Methodology

4.1 Introduction

In chapter two, the literature review provided discussions of the knowledge gaps identified in extant research particularly about the lack of holistic understanding of rural men's health information behaviour and the need to approach it in an exploratory way which substantiates the relevance of this study. Thus, the research focused on developing a structure for better understanding, investigating and reflecting on men's information behaviour around health. This chapter provides details of the methods and procedures through which this study contributes to narrowing the gap in knowledge.

The rest of chapter four exposes the techniques and methods adopted by the researcher in conducting this study. The method and techniques adopted were to understand rural men's health information behaviour following the interrelationship between their factors (e.g., experiences, beliefs, salience and demographics), and sources factor (e.g., sources' characteristics and sources' utility) within their context (Johnson 1997). Other aims considered while choosing the methods applied include the desire to investigate the role of cultural factors (e.g., language and beliefs) in shaping rural men's health information behaviour.

The methodology, philosophy and techniques used in this present study is shown in Figure 24 (see page 116). The illustration shows the stages in the methodological choices and design to achieve the research objectives set out in chapter one.

4.2 The Research Paradigm (Philosophy)

A research process is a systematic investigation (Burns 1997) within a given context whereby data is collected, analysed and interpreted to "understand, describe, predict... a phenomenon or to empower individuals in such circumstances" (Mertens 2005, p.2). The nature of the research process is influenced by the research philosophy which provides the assumptions to demonstrate the relationships between the constructs of the phenomenon under investigation (Mertens 2005, p.2). Some scholars have used the term, 'research paradigm' to connote the philosophy guiding the research process (Guba and Lincoln 2000; Mertens 2005; Bogdan and Biklen 1998). Based on this notion, the researcher used these terms (research philosophy and research paradigm) interchangeably in this thesis.

Research philosophy has also been explored under these three dimensions namely, ontology, epistemology and methodology (Saunders et al. 2011). Trochim (2000) provides the differences between epistemology and ontology by suggesting that epistemology focuses on 'knowledge creation'. In other words, the epistemological position provides the eye with which to understand how reality can be known by applying appropriate tools in some procedure to extract needed knowledge from relevant sources to conclude on what the reality is. Meanwhile, ontology concentrates on the 'existence of reality'. According to Guba (1990), the ontological question is concerned with identifying what reality means. Therefore, it means that ontology encompasses reality while epistemology is the discovery of that reality. Easterby-Smith, Thorpe and Jackson (2012) suggest that, ontology captures the basic assumptions of the researcher about the nature of reality, - in this study, there is no single reality, it is believed to be multiple and socially constructed, while epistemology is concerned about the best ways of inquiring into the nature of reality, -in this study, by exploring men's experiences and social interactions.

Onwuegbuzie (2002) cited Crotty's (1998) epistemological continuum as a way of achieving epistemological balance. The continuum categorises the research paradigm into positivism, pragmatism and interpretivism. It is important to mention that these are the commonly discussed epistemological terminologies (Saunders et al. 2011; Creswell 2013; Pickard 2007) but they are not exhaustive categories; they present the key paradigms reviewed to identify the epistemology and ontology of this study. The various paradigms and their characteristics in order to identify a suitable philosophical framework for the study. The following section presents the discussion of these paradigms.

4.2.1 Positivist, Post-Positivist and Pragmatism

Positivism is the belief that there is a single reality which suggests that a phenomenon can be investigated without interference by the investigator (Creswell 2007). According to Gephart (1999), the positivists believe that reality is a single entity that can be known and measured quantitatively to yield scientific knowledge. According to Crotty (1998, p. 27), "positivism is objectivist through and through". This view, however, is mainly associated with natural or physical scientists, who argue that a phenomenon can be isolated as in the case of a controlled experiment during scientific procedures. The scientific method puts forward a deterministic theory in which causes probably determine effects or outcomes" (Creswell 2007, p.7). This view suggests that the social world can be understood through experimentation using some scientific methods to generate knowledge based on some scientific assumptions.

Irrespective of what assumption is being considered, positivist philosophy has become a widely-accepted tradition for undertaking empirical studies particularly in the field of physical and natural sciences (Saunders et al. 2011). Consequently, the positivist paradigm has been criticised for its lack of subjective approach (Guba and Lincoln 1994) and viewing human actors as being passive to their social world (Saunders et al. 2011). Positivism has been criticised for its portrayal of superiority and purism. These criticisms led to the build-up of another philosophical ideology to extend the positivist paradigm to accommodate these opinions as discussed in a subsequent section.

Post-positivism exists next to the positivist approach on the continuum as a sign of dissatisfaction and in response to the debate and to address the concerns raised about the positivist (Mertens 2005; Pickard 2007). Post-positivism recognises that claims about universal reality are unrealistic (Racher and Robinson 2003) and that it is impossible to prove the absolute truth (Saunders et al. 2011), but it calls for validation of the findings by those experiencing the reality in order to mitigate possible researcher bias (Teddlie and Tashakkori 2009). Creswell (2007) argues that the concept of individualism (i.e. study of individual behaviours) and the quantified way of measuring a phenomenon characterises the construct of post-positivism.

In this study, both positivist and post-positivist philosophies were considered inappropriate because the research was qualitative in nature and reality in this context would not be appropriately interpreted, explained or understood as numeric facts. The study required a subjective position to support the interpretation of rural men's experiences within their cultural context to fully understand the phenomenon of health information behaviour and the influence of cultural factors in their social world. However, understanding the main principles of positivist and post-positivist theory was helpful in making an informed methodological choice for this study. The researcher's view agrees with that of Wilson (2000) that the adoption of a positivist approach to study human behaviour is inappropriate because such an approach is limited in providing insight into understanding the phenomenon more subjectively with focus on understanding and interpreting the meaning of a reality (Ritchie et al. 2013; Green and Brown 2005). As a result, the positivist and post-positivist approaches were not deemed suitable for the nature of this study.

Pragmatism was built in-between the natural and social science perspectives, arguing in favour of a generic formulation of scientific inquiry which relies relatively on common sense thinking of everyday life (Creswell 2013). The position of pragmatism in the middle of the epistemological continuum, reflects its duality and its positions between subjectivity and objectivity (Morgan 2007). Pragmatism is not presented as being pure and distinct from the other paradigms, but it rather captures the intersubjectivity in conceptualising reality (Morgan 2007). A summary of the philosophies discussed in this chapter is in Table 2.

This paradigm, however, was considered inappropriate for this study because this study is not focused on cause and effect relationships. The study aims to gain an in-depth understanding of rural men's experiences and perceptions, in order to interpret their health information behaviour to inform health information design and provision in a way that reflects men's information behavioural patterns within rural communities in South-East Nigeria.

Summary of the above philosophical perspectives using the dimensions suggested by Salem (2015) and Crotty (1998).

Paradigm	Elements of the Paradigm	Ontology	Epistemology	Theoretical Perspective	Methodology	Methods
Positivism (Post-positivism)	*Determination *Reductionism *Empirical Observation and Measurement *Theory Verification	A single reality or truth	Reality can be measured The focus is on reliable and valid tools to obtain that reality	Either a Positivism or Post-positivism	Experimental Research. Survey Research	Quantitative methods Probability sampling, Measurement and Statistical analysis
Constructivism or Interpretivism	*In-depth understanding, Interpretation of meanings of multiple participants *Social and Historical Construction *Model creation or refinement	There is no single reality or truth. Reality is created on individual basis in a group	Reality is interpreted to understand the underlying meaning of events by the actors	Interpretivist Phenomenology *Symbolic interactionism *Hermeneutics *critical Inquiry	Ethnography, Grounded theory, Action research, Case study.	Qualitative Methods Non-Probability sampling, Ground theory Thematic analysis
Pragmatism	*Cause-effect link *Problem-Centred *Pluralistic *Real-World Practice-oriented	Reality is changing with new, unpredictable situations	The best method is one that solves problems. Change happens	Pragmatism	Mixed methods Action research	Combination of qualitative and quantitative methods

Table 2-Overview of Research Paradigm

4.2.2 Interpretive / Constructivist Paradigm

Interpretivism appears on the opposite side of positivism at the other end of the continuum (Onwuegbuzie 2002). Remenyi and Pather (2004) posited that the interpretive approach to research is referred to as interpretivism, qualitative research or phenomenological research. They also argued that interpretivism does not rely on numerical or statistical analysis of data or evidence (Gichuru 2017). Interpretivists acknowledge that their research problems exist in a social context and that the social world is accepted to be a human construction with many attributes that cannot be quantitatively observed and measured. Therefore, access to reality is only through social constructions such as language, experiences and shared meanings (Gichuru 2017). Interpretivism is closely linked to constructivism which assumes that every insight depends on contexts for development and strives to achieve a consensus of reality amongst the research subjects (Guba and Lincoln 1989). Interpretivism allows the researcher to form an understanding (by interpretation) of the meanings that the research subjects give to their social world (Pickard 2007; Saunders et al. 2011).

The interpretive approach presents a broader approach to investigate social phenomena (Pickard 2007), because "reality is socially constructed" (Mertens 2005 p.12). The view of the social construction of reality emphasises the fact that reality ought not to be studied in isolation from its natural environment and other interference. Cohen, Manion and Morrison (2013) posited that, when reality is studied in the context it occurs, then, the researcher is able to precisely understand and produce an adequate conceptualisation of "the world of human experience" (p.36). With this view, it means that the observed and the phenomenon are inseparable (Saunders et al. 2011) because the researcher relies mainly on the social actors to understand the phenomenon while recognising that the context of the study (e.g. actor's demographics, culture and experiences) may inform their interpretation about the phenomenon being studied (Creswell 2012).

The primary purpose of examining the subjective relationship between the phenomenon and the research subjects is based on the ability of humans to actively interpret and make sense of their social world and themselves, unlike the natural sciences (Hammersley 2013) which argue that humans are passive to their social world (Saunders et al. 2011). In this process of investigation, the interpretivists do not predefine dependent or independent variables, rather aim to identify, explain, describe and conceptualise the factors which shape social actions, or reality in the social context (Creswell 2013).

Interpretivism provides the opportunity to understand what the world means to the social actors being studied, -lived experiences (Creswell 2013). In order to capture the lived experience, İnterpretive scholars integrate the perspectives of phenomenology as an effective way of bringing to the fore the experiences and perceptions of individuals from their perspectives (Lester 1999). The phenomenological approach seeks to illuminate the specific and identify phenomena based on how they are perceived by the actors in a situation (Lester 1999). Phenomenology assumes that knowledge is grounded in lived experience or processes of immediate experience (Creswell 2013) and that these processes are better described than measured as numbers. In the human context, this point of view usually translates into gathering in-depth information from the perspective of the research subjects (Lester 1999; Seidman 2013). Gathering in-depth information is essential in a phenomenological approach because, it is believed that, social actors generate meaningful constructs of the social world in which they operate (Creswell 2012).

Therefore, the interpretive paradigm provides the researcher with this opportunity to draw upon the social experiences of rural men, rather than apply a series of scientific methods to understand the people and their way of life in the context of this study. As posited by Hammersley (2013), information scientists are concerned with how the social world takes its form, and how people’s experience constitutes their social actions, and how these experiences are formed through social interaction.

4.2.3 Justification for the underpinning research philosophy

The core epistemology of this investigation remains interpretivism. The interpretivist paradigm forms the orientation of this study because the researcher believes that this study required a subjective approach to adequately conduct an in-depth exploration of the health information behaviour of men in rural communities to enhance understanding of their experiences of the phenomena. The interpretive philosophy was preferred as it offers the researcher greater opportunity and flexibility to draw upon several interpretations of why and how the phenomenon under study happens or is experienced among men in the way they do in this context. The researcher believes that to answer the research questions, multiple data sources are required in order to obtain varied perspectives within the interpretivist philosophy. The research process was achieved by triangulation of multiple methods of data collection to gain deeper insight into the phenomenon, and the opportunity to corroborate information from these multiple methods (e.g. interviews, focus group and participant observation) as supported by the paradigm.

The following example illustrates the researcher's view of the choice of the interpretivist approach in the present study. In order to conceptualise rural men's experiences of health information behaviour, the researcher needed to understand and interpret rural men's experiences of the phenomenon and any influencing factors within their context. In doing this, the researcher needed to interact with men in rural South-East Nigeria in order to get a deeper understanding of the issues under investigation. Thus, the adoption of the interpretive paradigm, allowed the researcher to interact with those who were being studied, as a participant observer to explore and record their actions, as well as interpret meanings as they were expressed within the context of this study. This opportunity allowed the researcher to undertake non-preconceived measures in gathering, interpreting and understanding rural men's experiences in an exploratory manner since knowledge is produced through interaction and can be interpreted (Silverman 2005). Therefore, in order to succeed in this exploratory investigation, the researcher engaged with an open mind to enable a subjective examination of the circumstances around health information provision, access, source-selection and use by men in rural South-East Nigeria. The researcher's role facilitates and supports the position of Walsham (1995) that the purpose of the researcher in an interpretive paradigm is to produce an understanding of the context and the processes which influence that concept, and which the context also influences.

Another justification for choosing the interpretive paradigm was its broader consistency with the exploratory nature of the research, the type of data needed (i.e., qualitative data), the small sample size and the research aims (i.e., to develop an understanding of human behaviour). This choice was based on recommendations by research experts such as Saunders et al. (2011) and Creswell (2012) who posit that the interpretive paradigm supports an inductive approach, a small sample size, and an in-depth exploration of the phenomenon via qualitative data (Saunders et al. 2011; Creswell 2012).

In addition, interpretivism permits the adoption of a broad inductive technique for analysing the data with a view to construct and build a rounded understanding of how people interpret their social world within the context in which such events take place (Saunders et al. 2011) using the subject's account. This stems from the idea that the views and convictions that people possess regarding certain issues and their surroundings are affected by their interaction (Wilson et al. 2002). An inductive approach begins by observing specific cases to arrive at a general conclusion grounded in the data (Glaser and Strauss 1967). In an inductive approach, the researcher goes to the field with an open mind to the possibilities of the data and the perspectives of the subjects instead of attending the field with a set of theories and allowing the theory to influence the data (Strauss and Corbin 1994). Based on this, researchers who adopt the inductive approach are more likely to employ qualitative (or non-rigid) methods to collect data to establish the different views about a phenomenon under study (Easterby-Smith, Thorpe and Jackson 2008). This approach differs with the deductive approach in which the researcher attains the fields with quantitative (or rigid) methods which do not permit in-depth understanding or alternative explanations of what is going on outside the data collection instrument (Saunders et al. 2011). The inductive approach concentrates on the exploration of phenomena from different perspectives (Patton 2005).

Table 3 presents the summary of the characteristics of the interpretive paradigm that support the objectives of this study.

Categories of the study	Interpretive Characteristics Relevant for the study
Research aim	To understand and interpret rural men's health information behaviour and their perspective on the role influencing factors play on their health information behaviour (e.g. source-selection, access and use; and provision).
Ontology: Constructivist (the nature of reality)	There is no single reality due to varying rural men's experiences, including their awareness level, views, knowledge, interactions with, and interpretations of, the phenomenon What is experienced or believed (i.e., the reality) is socially constructed, and best explored by examining their interactions, and actions. Discover how men in rural South-East Nigeria make sense of their social worlds in the natural settings
Epistemology: Interpretivism (nature of knowledge and the relationship between the researcher and research subjects)	Men's behaviours (e.g. process of interpretation, experience and belief) are influenced by some factors which can be understood by examining their interaction with the social world Men in rural South-East Nigeria socially construct behaviour from experiences in real life or natural settings. The researcher and men in rural South-East Nigeria are interlocked in an interactive process involving talking, listening and observation during the investigation
Methodology (Procedure for knowing the realities)	Qualitative methods and reflective process. More informal conversational mode of data collection techniques supported The research product is a product of the values of the researcher.

Table 3- Characteristics of Interpretive Paradigm adopted in this study

4.3 Methodological Choice

The methodological components of this study, as described by Creswell (2013), are presented in Figure 24.

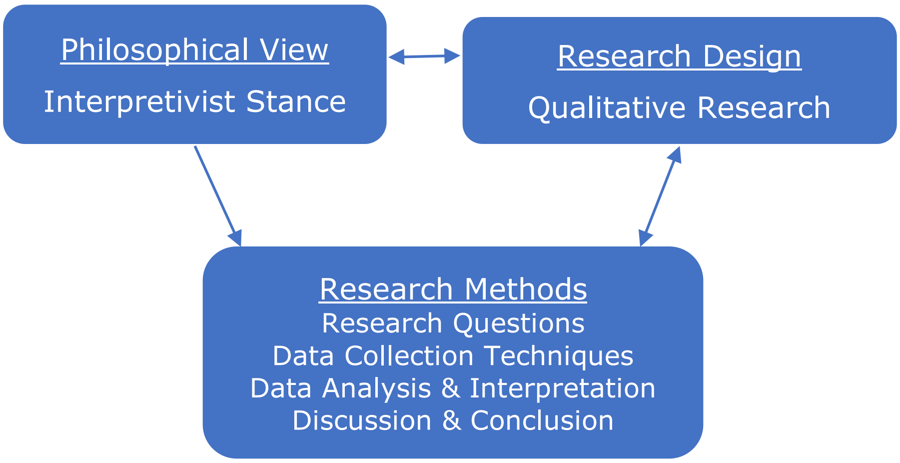


Figure 24- The Methodological Components of the study
(Creswell 2013)

The discussion on the reviewed research design approaches, including limitations (and strengths) and consistency with the underpinning philosophy is in Table 4.

Qualitative Research	Quantitative Research
The aim is to be exploratory or descriptive to explain the phenomenon and the interrelationships providing conclusion which reflects the units in every case	The goal is to describe the general and ignore the to classify and construct statistical models to explain what is observed
Adopts an inductive approach	Usually, takes a deductive approach
Aligns with the interpretive paradigm	Aligns with the positivist paradigm
The theory emerges as the study progresses	All aspects of the study are theory-driven
Data gathering can be done using unstructured interviews, observation and other narrative instruments	Researcher uses tools, such as questionnaires or equipment to collect numerical data
Examines data which are in the form of words or narratives, pictures or objects	Analyses data which are numbers or represented as numbers
Subjective – relies on participant's interpretation of the phenomenon	Objective – adopts precise measurement of the phenomenon
Qualitative data is more valuable, time-consuming, and less able to be generalised	Describes general characteristics of a population, test hypotheses, but may miss contextual detail
The researcher takes a subjective position in the study	The researcher remains objectively separated from the study
Provides a wealth of detailed data on small number of units which matches the conclusion about the population	Some individual unit of the population might not match the generalised behaviour or character of the population
The basis of generalisation is analytical	The basis of generalisation is statistical

Table 4 -Overview of Qualitative and Quantitative designs

4.3.1 The Research Design

Figure 25 presents the conceptual representation of the research design in this study. The research processes comprise various stages such as the identification of research rationale and defining the research scope which includes narrowing the broader view of the study from general health information to specific health information (i.e., prostate cancer) and the selection of suitable methods to examine the phenomenon under study. At the start of the study, the initial plan was to conduct interviews and focus groups only. However, on getting to the field, the researcher realised that in order to build a comprehensive understanding of the cultural factors and their influence on health information behaviour of men in rural communities, an additional method which provides ways to check for non-verbal expression of feelings, determines who interacts with whom, grasps how participants communicate with each other, and checks for how much time is spent on various activities, was required.

Participant observation were subsequently considered as this allows the researcher to check and observe events that informants may be unable or unwilling to share during the interviewing or focus group discussion. The methods were expanded to include participant observation technique to achieve the aim of the research which is to gain an in-depth understanding of the phenomenon.

The advantages of adopting this current research design were to redress the gap in health information research with a focus on promoting positive health behaviour among men in rural South-East Nigeria through the design and provision of culturally appropriate health information to meet rural men’s health information needs across all ages and contexts. According to Yin (1994, p.19), "every type of empirical research has an implicit, if not explicit, research design".

The additional method is represented in Figure 25 with an orange box indicating modification in red font.

The research design is represented in Figure 25.

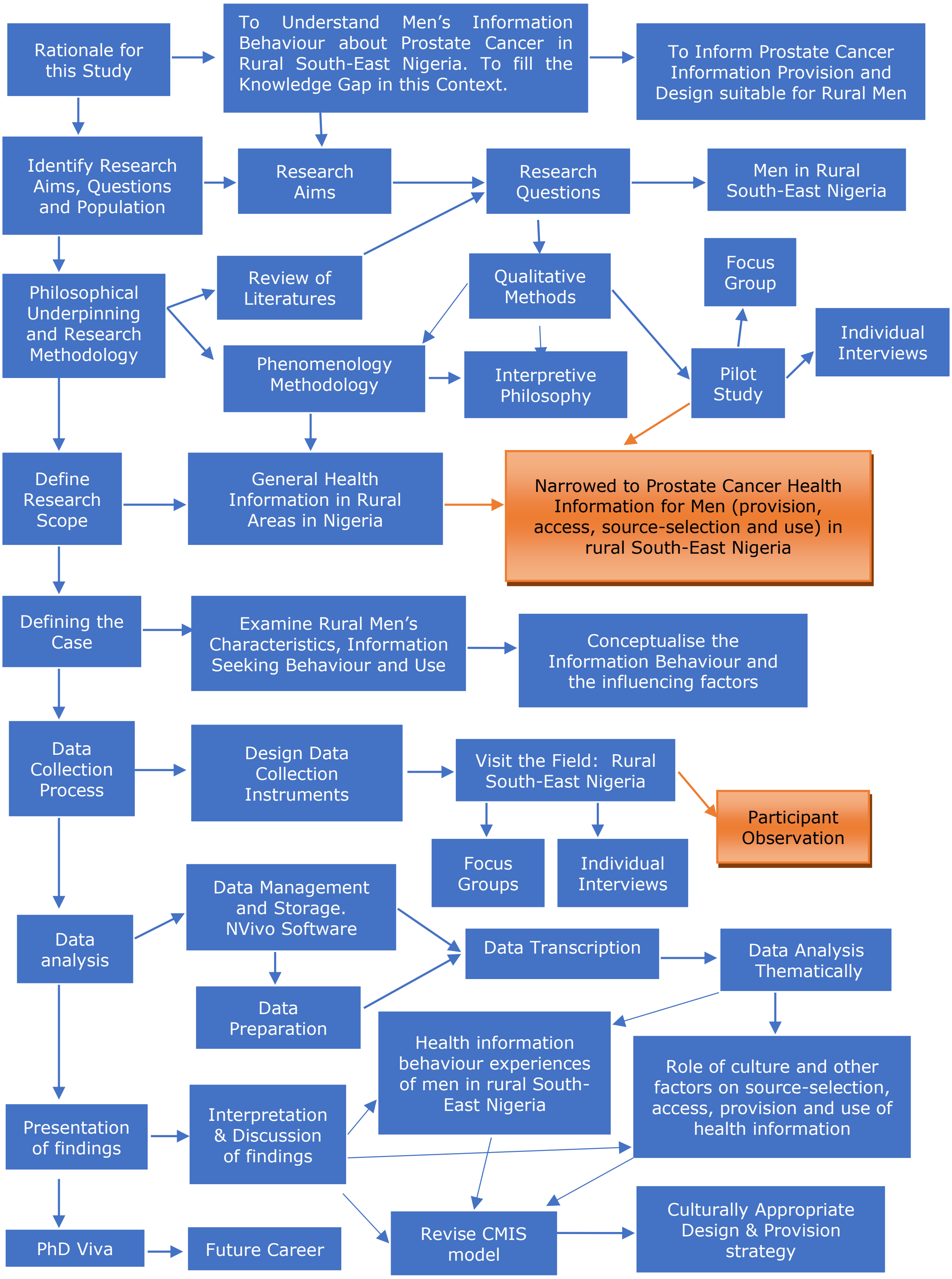


Figure 25-Interactive Interconnection of the Research Design Components

The research design fundamentally shapes the research (Denzin and Lincoln 2011; Stake 2010; Ritchie et al. 2013) from the conceptualisation stage (e.g. problem identification, writing research questions) through to the analysis stage (e.g. data collection, analysis, interpretation and report writing) (Creswell 2012; Silverman 2013; Merriam 2009). In other words, it provides the framework for the research process. Meaning that a well-formulated research design will indicate which research methods are appropriate for the study by considering the research aims (Silverman 2013; Merriam 2009). A research design, however, provides the process of turning research questions into a research project (Robson 2002) whereby research questions are used to shape the research method. Saunders et al. (2011) confirmed that the research design outlines how the researcher could go about answering the research questions.

4.3.1.1 Rationale for Adopting Qualitative Research Design

The qualitative research design is associated with interpretivist philosophy unlike quantitative research (Silverman 2013; Denzin and Lincoln 2011; Flick 2009; Saunders et al. 2011). In qualitative research, the researcher subjectively makes sense of a phenomenon to uncover socially constructed meaning about the phenomenon being studied (Saunders et al. 2011). This process aligns with the naturalistic school of thought because the research project usually occurs in its natural setting (or context) in a way to enhance trust, participation and in-depth understanding of the phenomenon. Qualitative research is "a type of investigation that emphasises the personal meaning of events to the people who experience them, using measurement at the descriptive level if any at all" (Reaves 1992, p.357). In another view, Bryman (2008) argued that qualitative research is mainly concerned with words rather than numbers. This view is supported by Yin (2003) that, researchers conducting qualitative research are primarily interested in categorising responses rather than numerical quantification.

The possibility of qualitative research to support exploration of the phenomenon is linked to its focus on understanding the experiences or opinions of the research subjects about the phenomenon under study (Saunders et al. 2011; Creswell 2012). As this study is exploratory, the researcher "seeks new insights; assesses events in a new dimension, understands what is happening and finds answers to questions" (Robson 2002 p.59). The exploratory nature of this study suggests that this research is a "valuable means of finding out" the nature of the problem in this context (Saunders et al. 2011, p.139). This discovery purpose was accomplished by using multiple data sources (e.g. interviews, focus groups and observation of the participants) in a natural environment (Silverman 2005; Saunders et al. 2011). In qualitative research, the data collection instruments are not structured unlike that used in quantitative research; rather the tools are developed in such a way that the questions and procedures, may alter or emerge during the research process (Saunders et al. 2011). Qualitative data supports or deepens understanding of the meaning of the phenomenon under study from interaction and discussion with the participants in their real-life settings (Creswell 2012).

In qualitative research, validation of qualitative data is necessary because the qualitative data is generated by engaging with the participants in a conversational manner, unlike the quantitative research which adopts structured methods. The processes employed in this research to validate the data is fully discussed in section 4.5. The conversational manner involves asking questions and following up on responses (Kvale 1996; Lincoln and Guba 1985). This approach influences the direction of the study, as it determines the extent of data gathered such that, when new data or insight is discovered, the course of the study may change (Adams and Schvaneveldt 1991). In qualitative research, the data analysis process is usually inductive because the researcher conducts the analysis to provide an opportunity for salient aspects of the phenomenon under study to emerge. Important ideas are identified and further explored during the data collection and data analysis phases. Holloway and Galvin (2016) suggest that there is an emerging picture which the researcher records and interprets during the data collection and analysis phases respectively. The emerging concepts form the basis for generating a new model or modifying the existing model. The ability to support emerging concepts underlines the degree of flexibility of qualitative research which makes the methods adaptable to change (Saunders et al. 2011). In many instances, the research methods are refined while the data collection is ongoing. This emergent functionality, however, lacks a standard and is peculiar to qualitative research (Glesne and Peshkin 1992). However, the researcher is both the collector and the analyser of the data (Silverman 2005; Saunders et al. 2011). In other words, the researcher interprets and attaches meaning to the data as the study progresses.

The results (or findings) in qualitative research are presented on a case by case basis as in a case study (Yin 2004). The researcher provides excerpts from the actual data collected from the participants on a case by case basis. This approach gives the reader sufficient information for understanding the research position. This case by case basis also provides the opportunity for in-depth understanding of the participant's view of the phenomenon. Qualitative research provides insights and uncovers the trends in the phenomenon of interest. The qualitative methods use narratives, images, events and words as data to provide knowledge about attitude and experiences of the research subjects in a coherent and meaningful pattern (Creswell 2012).

One major feature of qualitative research is that the sample size is typically small. Therefore, the participants are selected using a non-probability sampling technique which is purposive as the most conventional method in qualitative research (Trochim and Donnelly 2001; Creswell 2013; Bryman 2015; Walliman 2006; Baxter and Jack 2008; Tashakkori and Teddlie 2003; Flick 2015).

The researcher outlines the advantages and disadvantages of adopting qualitative research design in this study in Table 5.

Table 5 shows the advantages and disadvantages of qualitative research design.

Advantages of qualitative method	Disadvantages of qualitative method
Allows access to the participants in their social world Allows direct access to primary data (e.g. rural men) Allows assessing and understanding of reality in the eye of the participants. Provide an opportunity to uncover unanticipated area or outcome. Naturalistic in nature, unstructured and flexible to allow change throughout the research process	The techniques are time-consuming to employ (e.g. observation, interviewing and transcription) Requires training for conducting some techniques (e.g. focus group, interview) The risk could be protracted than in the quantitative research Finding is not generalizable with the small sample size Bias is likely as the researcher is not independent of the study

Table 5 - Advantages and Disadvantages of Qualitative Research

4.3.2 The Research Strategy

A research study can be conducted through single or combined strategies as deemed appropriate by the researcher because no research strategy is inherently superior to another nor mutually exclusive because strategies can be integrated simultaneously in the same research project (Saunders et al. 2011). Yin (2003) as cited in Saunders et al. (2011) posits that any research strategy could be adopted during exploratory, descriptive and explanatory study. For example, a survey strategy can be employed in a case study research, indicating that "no strategy is right or wrong" because their appropriateness depends on the research topic, objectives, aim, the question to be answered and the philosophy underpinning the project (Silverman 2005, P.112). The researcher's decision to choose a given method for carrying out the research is informed by Parker's (1994, p.8) view which posits that "there is no one correct qualitative research method".

Scholars have proposed many research strategies (Saunders et al. 2011) which the researcher examined to identify which one was consistent with the research aims and philosophy.

Table 6 presents the overview of the different research strategies reviewed.

Survey Strategy	Action Research	Grounded Theory	Ethnography
The survey strategy usually adopts deductive reasoning Usually employed to answer the question of "what", "who", "where", "how much or how many". More quantitative and the data is limited to stipulated questions in the survey tool Economical but time-consuming methods of collecting a large amount of data from a sizeable population Adopts standardised data collection techniques Possibility of including non-eligible participants as a result of adopting probability sampling in a manner that represents the whole population Researcher's inability to control the extent of transferability of the research instrument to non-eligible participants	Adopted to develop an outcome, and to inform existing theory in the subject area Action research as problem-centred research which focuses on experimental theories Change-oriented, and the key focus being the introduction of changes with positive values Provides the opportunity for researchers to interpret phenomenon differently Allows for the integration of researcher’s ethics during interpretation of the event Restricted to a single organisation which limits generalisation of findings Processes in the action research occurs in cycle, the researcher starts with planning, continues to execution in a new cycle	More appropriate for theory building Strategy employs inductive or a mix of deductive reasoning Literature is not consulted before data collection to avoid influence from the literature. Theoretical sampling technique is adopted in theory building Studies a phenomenon in its natural context and uses a holistic approach Uses multiple data sources for multiple interpretations and corroboration to provide credible data. The researcher collects, codes and analyses excerpts from the data to facilitate the emergence of theory. The final report reflects participant’s perspective. Uses purposeful sampling to select samples	More appropriate to understand the participant’s behaviour concerning a specific culture. Strategy employs inductive reasoning Focuses on just one aspect, i.e. culture rather than the whole context More than one data collection method adopted to provide multiple interpretations and enhance the accuracy and credibility of the research study Literature is consulted before data collection to identify conceptual theory Studies the phenomenon in its natural context and uses a holistic approach More emphasis on an aspect of culture and apply purpose sampling Uses descriptive style of presentation to report findings from the perspective of the participants

Table 6 – Reviewed Common Strategies in Research Study

Table 6 reviews the characteristics of the different research strategies, it was concluded that none of these approaches was appropriate for this study. For example, if survey were employed, it would have presented a significant limitation in understanding in-depth the social world (e.g. culture) and the health-related information experiences of the participants within context. In addition, the aim of the research was not to directly change practice through any specific activities as experimentation but to make recommendations for future change that could be implemented by health information providers; therefore, an action research design was not appropriate. Secondly, the intention was not for the research to be action research as it possessed no capacity for evaluation.

Given that the ethnographic approach helps in studying the participant's behaviour within their culture (Creswell 2013), Bernard (2013) suggest that it is a "good phenomenology" approach as it studies the cultural practices and values in communities (p.21). The strategy was not adopted in the present study because an ethnographic approach requires extensive, prolonged exposure and an immense level of bodily involvement by the researcher with the research subjects during data collection stage. Similarly, grounded theory technique, whose goal is to discover new theory from data was considered inappropriate for this research as the goal is not to discover new theories. Traditionally, grounded theorists often cull some premise in extant research and aim to build new understanding as a result. The grounded theory approach sees theory building as a way of explaining a phenomenon in social settings by subjecting primary data to rigorous coding (Bernard 2013). In view of the former, grounded theory was considered inappropriate for this study as the aim of the study was not to build new theories but to provide an understanding of rural men's health information experience through insight gained from their accounts. This research did not pitch the argument of independence from other work in the literature, which is the starting point for the grounded theory approach, rather it embraces the phenomenological method which focuses on providing a robust description of an individual's experiences regarding an issue in a social environment (Gray 2004). In Bernard's (2013) words, "a phenomenological study presents an attempt to: (a) perceive the prevailing situation in the eyes of the target audience; (b) compose compelling descriptions of the individual's experiences instead of explaining the causes" (p.21). This research followed the ideas put forward by Bernard (2013) and Gray

(2004).

In this research, the phenomenological case study approach was considered more appropriate because the strategy enables the investigation of the phenomenon in its naturalistic context and provides the opportunity to conduct an in-depth study to understand and discover the different ways in which, men in rural communities conceptualise health information provision, access and use, through an account of their personal experiences. In this approach, the researcher relied on how individuals understood and described their experiences in each case (Grant 2008). According to Wolff (2002), conducting case study inquiry sets out to understand "day-to-day experiences of a phenomenon by participants and how such experiences are organised" (p.97). The viewpoint supports exploratory (inductive) study and can be based on either a multiple or single case (Yin 2013). Case study research has been described as the most appropriate method when the how and why questions about an event are posed, as is the case in this current study (Stake 2010; Yin 2013).

Furthermore, case study research seeks to understand the operational links between phenomena and the research subjects rather than a mere counting of frequencies or incidences when studying groups, where it is almost impossible to obtain large samples (Yin 2013). Yin claimed that "if two or more cases are shown to support the same theory" (p.38), replication can be claimed.

Stake (2010) however, suggests that a case study research can be implemented as (1) intrinsic case study, (2) instrumental case study, (3) collective case study, and (4) comparative case study. According to Stake (2010), an intrinsic case study focuses on understanding the particulars of a given case whereas, an instrumental case study focuses on understanding the phenomena in a more general sense to provide insight into the research problem that can lead to refinement of theory, unlike the intrinsic case. Meanwhile, a collective case study is a collection of multiple cases, while comparative case study focuses on similar cases across varying variables. Furthermore, Yin (2003) highlighted four case study strategies based upon two dimensions (1) number of cases (e.g. single case or multiple cases), and (2) unit of analysis (e.g. holistic case or embedded case). According to Yin, a single case is appropriate to "represent a unique or extreme case or a critical case" (2003, p.146). Indicating that, a single case can be used where there is no existing knowledge, no other cases being available for replication. Therefore, a single case study lacks the basis for generalisation, especially in situations where the cases rarely occur (Zainal 2007; Maxwell 2012; Denzin and Lincoln 2011; Stake 2010).

According to Yin, a multiple case study involves more than one case in a study (Yin 2003). Adopting multiple case study provides a corrective measure to the limitation of a single case study by supporting generalisation (Yin 2003; Lazar, Feng and Hochheiser 2010). Multiple cases are used to evaluate and establish whether the findings from one case are applicable in another through a detailed examination of all the cases (Lazar, Feng and Hochheiser 2010). Lazar, Feng and Hochheiser (2010) view, however, confirms Yin's first dimension of case study research. Consequently, the second dimension of a case study focuses on the unit of analyses. The unit of analysis regards the entire case as a single unit thus providing a holistic perspective of a case study (Maxwell 2012; Denzin and Lincoln 2011; Stake 2010). Meanwhile, the embedded case study focuses on sub-units of the whole unit or case (Saunders et al. 2011).

Case study strategy is significant to this current study as the aim is to gain a rich understanding of the context. The strategy enabled the researcher to understand the influence of culture on rural men's information behaviour by relating to their individual experiences and perceptions during data collection within its naturalistic context (i.e. in rural areas). Case study also enabled the researcher to verify and validate the responses from men in rural South-East Nigeria by identifying and eliminating inconsistency in the data on a case by case basis to improve data reliability and quality (Lazar, Feng and Hochheiser 2010; Bryman and Bell 2015). The decision to employ phenomenological case study was to provide holistic insight by examining individual experience with health information provision access, source-selection and use in rural communities in South-East Nigeria to stimulate culturally appropriate strategies and practices in the design and provision of men's health information in rural communities.

The decision to conduct case study research was made after considering the strategies discussed in the above sections and those presented in Table 7.

Strategy	Strength	Limitation	Paradigm	Aim	Methods	Question	Analysis
Qualitative Case Study	Researcher may not be an active participant (in any direct observation) Allows for exploratory study	Rely on multiple sources of evidence so, costly to conduct Researcher has little control of the event	Interpretive Philosophy	Understand the role of cultural factors in men's health information behaviour in rural South-East, Nigeria	Focus Group Discussion In-depth Semi-Structured Interviews	Mixed questions for the interviews and focus group (Open-ended and Closed-ended)	Thematic Analysis

Table 7-Adopted Research Strategy -Case Study

(Author generated based on Yin 2004)

4.3.3 Research Questions

The research questions aimed to provide insight into the unknown areas of rural men's health information behaviour about prostate cancer. The questions were informed by examining relevant literature within the setting.

Table 8 shows the specific literature that informed the research questions.

Research Questions	Relevant Literature(s)	Gap in Research (or Knowledge)
1. What are the health information experiences of rural men, and their health information behaviours in relation to how they select, seek and use health information?	Enwald et al. 2017; Uzezi 2015; Atulomah and Atulomah 2012; Mtega 2012; Ojua, Ishor and Ndom 2013; Momodu 2002; Marrie et al. 2013	There is a paucity of research on the everyday health information experiences and information seeking behaviour of men in rural South-East of Nigeria despite the increase in prostate cancer cases.
2. How do rural men make source choice decisions in the process of health information seeking, (that is, what health information sources are available and what factors and criteria do they use to make source choices, and what are the barriers they encounter in accessing these sources in rural South-East Nigeria)?	Sokey 2016; Xin 2016; Uzuegbu 2016; Simou 2015; Uzezi 2015; Mtega 2012; DeLorme, Huh and Reid 2011; Marrie et al. 2013; Omogor 2013; Sokey and Adisah-Atta 2017; Marrie et al. 2013	There is lack of access to health-related information on prostate cancer in rural South-East Nigeria. Also, there is poor knowledge of preferred health-related information sources consulted and the actual barriers that hinder access to and use of information sources in rural communities.
3. How do cultural factors (e.g. language) influence the information landscape of rural men (i.e., source-selection, seeking behaviour and use of health information), and is the information in their hands culturally accessible and usable?	Amidu, Harrison and Olphert 2016; Enaworu and Khutan 2016; Sapira, Eke and Nwofor 2015; Yong, Stvilla and Mon 2012; Atulomah and Atulomah 2012; Daher 2012	The effect of cultural factors on men's everyday information seeking behaviour and the specific cultural features appropriate for repackaging and presenting prostate cancer information to men in rural South-East is unexplored.
4. What do rural men know about prostate cancer, what is the awareness level?	Abarama et al. 2017; Ozoemena et al. 2015; Olapade-Olaopa et al. 2014; Nakandi et al. 2013	Little is known about men's level of awareness of prostate cancer, and their associated beliefs remain unexamined.
5. How can culturally appropriate strategies be adopted when designing, repackaging and provision of health-related information to men in rural communities in South-East?	Huvila et al. 2016; Eze 2016; Finnie et al. 2010; Dutta 2007; Kreuter et al. 2003; Thompson et al. 2008	There is lack of a user-centred information provision strategy appropriate to provide prostate cancer information tailored to the cultural orientation and needs of men in rural Nigeria.

Table 8-Research Question and Influencing Literature

4.3.4 Data Collection Techniques

4.3.4.1 Piloting the Study

Piloting a study refers to a mini study conducted before the main study to pre-test the research instruments such as interviews schedule (Van Teijlingen and Hundley 2002). Conducting a pilot study is essential because it reveals potential practical problems, the likelihood of success or failure in the research process and the research instruments (Van Teijlingen and Hundley 2002). Likewise, pilot study is a crucial element in the research design to check the appropriateness of the researcher's decision ranging from philosophical to methodological choice for the study.

In this study, it was necessary to pre-test the data collection instruments for the following reasons:

- To examine the appropriateness, integrity and applicability of the interview schedules to achieve the research aims
- To gain experience of research techniques and acquire relevant skills such as time and people management
- To evaluate the scope of the research (i.e. narrow research focus).
- To ensure methodological rigour during the main study

Fifteen Nigerian men, who recently relocated to Aberdeen between six months and one year before the pilot study, were selected purposefully for the pilot. Eight of them were interviewed individually while the other seven took part in a focus group discussion. These participants had recent insight and experience of health information in Nigeria, though not in rural areas. They were selected because the focus of the pilot study was to pre-test the research instruments to uncover any potential practical problem and to give the researcher the opportunity to learn some of the techniques utilised in this study. The small sample size used in the pilot is consistent with other empirical studies in information behaviour (e.g. Mutshewa 2006; Kazmer et al. 2013; Fourie and Bitso 2012).

The researcher arranged meetings with the participants to recruit them for the pilot study, and to explain the reasons in order to gain their consent. The participants were made aware that the result of the pilot was not going to be included in the main study, as the purpose of the pilot study was to fulfil the reason described in section 4.3.4.1. However, the researcher made the participants aware that, their responses to interview questions will be audio-recorded and notes taking during the interview. Similarly, the researcher reported on the experiences during the pilot study.

An interview guide was developed which serve for the individual interviews and group discussion. The guide was developed with reference to the CMIS model and research questions. Critical incident technique according to Flanagan (1954) was adopted in administering the interview guide.

The individual interviews were conducted each week. The interviews were spaced to allow the researcher ample time to listen to the audio recordings, transcribe the interviews, reflect on the experience and practice initial coding for proficiency purposes. The individual interviews took place as follows:

- Interview 1- week 1 Saturday at 5:45 - 6:55;
- Interview 2- week 2 Sunday at 6:00 - 7:05;
- Interview 3- week 3 Saturday at 5:05 - 6:30;
- Interview 4- week 4 Saturday at 6:30 – 7:25;
- Interview 5- week 5 Saturday at 5:15 - 6:55;
- Interview 6- week 6 Sunday at 6:05 - 7:00;
- Interview 7- week 7 Saturday at 5:25 - 6:15;
- Interview 8- week 8 Saturday at 6:10 – 7:15.

The focus was conducted on Sunday at 3 pm. The time for the focus group was the weekend, as most of the participants were only available for the pilot on weekends and in the evenings.

The focus group and interview were recorded with 55 mins being the least time during the interviews. The researcher carried out the individual interviews in the participant’s home in a quiet place (e.g. garden or sitting room) free from interruption. Meanwhile, the focus group was conducted in a conference room located in the city centre in Aberdeen. The locations were chosen to suit the participants. The researcher took brief notes whenever the participants described incidents (e.g. ill-health) about health information behaviour or health information activity.

The interview participants had the freedom to elaborate, clarify and repeat their answers and provide a response to follow-up questions (probes) to ensure that their opinion was accurately captured. Each interview and focus group ended with the researcher thanking all participants for their cooperation and arranging for an individual feedback session.

Piloting the data collection instruments provided the opportunity for the researcher to connect with the participant's experiences and relate to conceptual concepts relevant to information behaviour (e.g. information use). However, the researcher had noted at the beginning of the piloting to bracket any foreknowledge or conception, to allow an open-minded conduct of the pilot study to allow accurate interpretation of the participant's perspectives.

The researcher learned that it is vital to introduce "small talk" before introducing the actual interview questions in order to put the participant at ease, and gradually develop trust with the participants to encourage openness as much as possible.

The notable experiences of the researcher included the followings:

- The positioning of the audio recorder influenced the quality of the recording produced. At the early stage of the piloting, the researcher kept the audio recorder on the table, this static position impacted on the quality of the sound as the interviewee in some instances moved away from the position thus, reducing the quality and clarity of that portion. This was noted, and the researcher resolved to change the position in the subsequent interviews which improved the quality and clarity of the sound.

- There were occasions were the researcher failed to follow up on responses to probing questions in order to uncover salient meaning and the meaning of the experience of the participant. For example, the researcher asked, "when you noticed the symptoms, what happened?" and the interviewee responded by talking about being worried. However, the researcher failed to follow up on probing what the worries were about, which would have provided insight into the factors linking the experience of the participants. Had the participants mentioned worry due to not knowing what to do, the researcher probably would have inquired if there was no information about that symptom. Lessons were learned from this to ensure that the researcher probes to gain an in-depth knowledge of the phenomenon

- The need to redefine and refine the research scope and focus. On completion of the pilot study, it became clear that investigating health information generally would remain almost an impossible task within the timeframe of the present study. This knowledge came as the researcher realised that different health issues are conceptualised differently in different communities across Africa and providing a universal meaning might be impossible. Secondly, the researcher understood that the time taken to cover data collection processes from the whole African continent with its divergent cultural orientations and languages would mean that the research would remain inconclusive. Therefore, with this knowledge, the researcher noted the need to refine the research focus to prostate cancer, and rural Nigeria, and more specifically South-East Nigeria because there is a paucity of literature on this context and health issues.

- The researcher often showed empathy as the participants narrated their experience. For example, when the researcher asked, "when you realised that the cultural belief had made him refuse to heed the advice given by doctors in the hospital you took him to, how did you feel?" and the participant said, "saddened and sense of grief". The researcher empathised because the researcher also had a similar experience. Although the researcher empathised with the participant based on similar experiences, it became clear that a more neutral stance should be adopted in the collection of data to allow for the phenomenon to be seen through the eyes of the participants rather than the researcher which is key to an interpretive study. Therefore, in the main study, the researcher learned to avoid emotional interference and sharing of personal experiences and guarded against subjectivity when reporting.

- At the end of this pilot study, the suggested changes were mostly concerned with the type of questions and the language used in the construction of the interview guide.
  For example, some questions were revised,

"How do you obtain health information?" became
"How do you receive health information in this community?"

- The researcher also noted that the participants found the interview protocol to be long and made up of complex sentences (having more than one question). The lesson learned was to break the questions down into simple sentences and focus on a specific issue for clarity and flow of conversation. For example,

  Interview question used during piloting
  "How is it like getting health information in your community and how do you decide which information source to select for information?"

  Amended interview question following feedback from participants
  "How is it like getting health information in your community?" and
  "How do you decide on which health information source to consult?"

  In the amended questions shown above, the researcher rephrased the complex questions into two simple questions focusing on specific issues. The first question captures the situation or experience of health information provision or access in that rural community while the second question focuses on uncovering determining factors to health information source-selection among men in those rural communities. Following the amendment to the interview protocol, the researcher was satisfied with the pre-test and outcome of the pilot study. The researcher believes that the interview protocol when adapted to the rural context (e.g. use of native language) will answer the research questions in the present study, therefore, was confident to embark on the fieldwork.

4.3.4.2 Negotiating Access to Participants

Before travelling to the field, the researcher established contact with key informants from each state in South-East Nigeria through social media (e.g. Facebook) who were indigenous to these states. These key informants suggested communities which suit the eligibility criteria for this study (which are described in more detail later in this chapter) and described how to get to those communities as well as a named person to contact. These named persons were residents in the state capitals but were indigenous of those rural communities. After collecting this information, the researcher then travelled to South-East Nigeria.

On arrival at each state capital, the researcher contacted the named person (e.g. by mobile phone), who then directed the researcher to the suggested rural communities in that state. In order to find knowledgeable and reliable key informants, the researcher visited the community and religious leaders for help in nominating someone to serve as gatekeeper. The gatekeepers were village representatives nominated by the community leader or religious leader to assist the researcher in identifying men in those communities. In this study, key informants were relevant to know about the culture of the communities of interest before sampling the population. The gatekeeper was informed about the aim of the study before the commencement of guiding the researcher to identify potential individuals within the community, and through the processes required to contact and engage the community members as well as, the cultural norms observed in those communities during the study. The gatekeeper suggested that announcement be made to access a larger number of potential participants. The research with the gatekeeper met community and religious leaders to register the announcement. Announcement was made in the community through the town crier and the church to encourage members of the community to volunteer for this study. The announcement optimised access to participants.

The process of selecting the eligible participants from the volunteers is presented in a subsequent section.

4.3.4.3 Selecting communities and participants for the study

The process of selecting the various communities and the participants to answer the research questions is presented in this section. This process is known as sampling (Tashakkori and Teddlie 2010). There are primarily two methods of selecting the sample from the wider communities (Bloor and Wood 2006, p.152) which are either the probability sampling or non-probability sampling (Trochim and Donnelly 2001; Creswell 2013; Bryman 2015). Following the research objective and nature of the present study, there was the need to adopt a sampling procedure to capture and represent the various perspectives and samples present in the population.

The choice of South-East Nigeria for this current study was purposive because there are very few studies focusing on men in rural South-East Nigeria unlike the women in rural areas in South-East Nigeria (e.g. Momodu 2002). There is a lack of the user-centred information provision approach in rural villages in the South-East of Nigeria thus, increasing their vulnerability by the lack of adequate health-related information due to their geographic isolation and many other risk factors which include low socioeconomic status, and high rate of health risk behaviours. This population lacks access to health-related information because rural residents are poorer and cannot afford the conventional sources of health information apart from the few health workers available to care for them in rural communities (Etebu 2009; Anasi 2012).

The eligibility criteria adopted were defined as:

1. Male aged between 35 years and above
2. Indigenous or residents of that community for about 10 years or above
3. Non-city residents or newly returned citizens in less than 10 years from the time of this study (to ensure that participants are mainly rural residents).

In order to select the communities from the research population and research participants, the researcher undertook two stages in employing the sampling methods adopted in this study. They are as follows:

The first stage - Involves the selection of rural communities. In order to ensure that the communities were represented, the researcher followed the national framework adopted by the Nigerian government to divide each state of the country into three senatorial zones (Eze, Okpala and Ogbodo 2014). In this framework, Abia, Anambra and Ebonyi, are subdivided into North, Central and South while Enugu and Imo are subdivided into North, East and West senatorial zones respectively. Based on this sub-division, the five South-Eastern states in Nigeria consist of fifteen (15) senatorial zones.

Each senatorial zone consists of a varying number of local councils which comprise various rural communities. For instance, in Abia and Enugu state, there are seventeen (17) local government councils each with a varying number of rural communities, while there are fourteen (14) local councils in Ebonyi state and twenty-one (21) local councils in Anambra state. There are twenty-seven (27) local councils in Imo state giving a total of ninety-six (96) local government councils in South-East Nigeria. From the three senatorial zones in a state, a rural community was selected purposefully in one of the zones (i.e., Abia Central, Anambra North, Ebonyi South, Enugu East and Imo West) for the focus group discussion while rural communities from the remaining two senatorial zones participated in the interview and participant observation.

As a result of the first stage, the researcher identified forty hard-to-reach rural communities based on their remoteness from the city (e.g. travel time not less than 2 hours from the headquarters), and lack of health information services or infrastructure. Travel time was the significant parameter because of the significance of time when dealing with health problems. Therefore, if the travel time for the rural residents to access regular health information services is high, invariably it is less likely they will engage in seeking health information from those service centres. Having identified the communities, the researcher then focused on selecting the participants. The participants were members of the communities where they have been selected for this study. These selected members from the population are known as the sample (Trochim and Donnelly 2001). Fink (2003) defined a sample as "a proportion or subset of a population...or a miniature version of the population of which the sample is a part – just like it, only smaller.' (p.1).

The second stage involved the selection of the research participants. In this stage, the researcher was interested in employing a sampling technique that would ensure that a greater number of the population were reached so that the data collected could be relevant to meet the objectives of this study (Bernard 2011). The researcher assessed the suitability of probability sampling as the kind of sampling where a relatively large number of units are randomly selected from a given population in such a way that the chances of inclusion are predictable (Tashakkori and Teddlie 2003). This sampling style, probability sampling, was considered more appropriate for quantitative research involving large sample sizes to improve generalisation of research findings (Tashakkori and Teddlie 2003; Flick 2015; Saunders et al. 2011; Silverman 2005). Following the large sample size factor associated with the probability sampling, the sampling technique was not adopted in this present study, as the sample size was small compared to that required in probability sampling.

Based on the small sample size factor, the non-probability sampling technique which is a kind of sampling done with a specific purpose in a manner that involves the selection of specific units based on their characteristics, (also known as purposive sampling or judgement sampling) (Tongco 2007; Tashakkori and Teddlie 2003) was adopted in this study. Considering the exploratory nature of this study, as being exploratory, a flexible sampling technique which assists the researcher in reaching the targeted population quickly was required. Therefore, the researcher combined both purposive sampling and snowball sampling (or referral) techniques (Tashakkori and Teddlie 2003; Flick 2015; Saunders et al. 2011; Silverman 2005) to increase the dynamics and robustness of the participants' selection as shown in Figure 26.

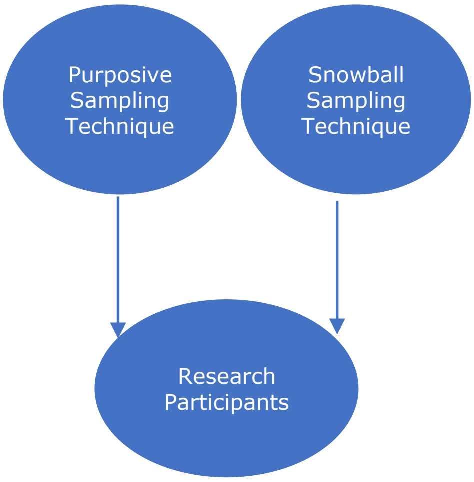


Figure 26 - Sampling Technique for Selecting the Research Participants

The use of purposive sampling and snowball sampling techniques aimed to provide the most effective way of selecting eligible participants including those that are hard-to-reach in these rural communities for this exploratory research. Integrating the snowball technique with purposive sampling is most frequently adopted in qualitative studies involving interviews and focus group discussion (Atkinson and Flint 2001). The combination enhanced the degree of trust to initiate contact with participants through referral by the friends or family members of the eligible participants. Likewise, the researcher was presented as an insider through the chain of referrals. The combination of purposive sampling with the snowball technique further helped to achieve maximum diversity in age, education and cultural orientation among the sample selected for this study.

The participants chosen by purposive sampling understand their culture and have experience of the phenomenon being studied. Another reason for considering purposive sampling was to effectively take advantage of its inherent bias to include participants who are conversant with the situation and the context because this study is qualitative and an unbiased sample, chosen perhaps randomly, would contradict the purposive tradition and exploratory goal of obtaining information from knowledgeable informants within a small sample size. Tongco (2007) argued that the biased nature of non-probability sampling methods contributes to its efficiency and promotes its robustness even when compared with their counterparts.

Selecting a purposive sample is fundamental to the quality of the data gathered if the reliability and competence of the informants are ensured. Purposive sampling is highly relevant as humans are the custodian of knowledge and information (Tongco 2007). Purposive sampling is best implemented using the key informant technique (Bernard 2011), which involves a member of the community as a guide (Tongco 2007). With purposive sampling, there is no theoretical motivation nor a set number of participants, rather who, and what amount, depends on what needs to be known and, the available participants who are willing to provide the information based on their knowledge or experience (Bernard 2011; Lewis and Sheppard 2006).

However, in order to ensure reliability and quality of the data, the snowball sampling technique was integrated based on its broad range of advantages when combined with a purposive sampling to support selection (Noy 2008). One of the advantages of employing snowball sampling is because it is not expensive rather, it is an efficient and effective technique to engage with the hard-to-reach eligible participants in the populations (Atkinson and Flint 2001). In the context of this study, snowball sampling was used to mitigate the possibility of potential participants shying away from the study if there was no familiar contact or referral. In addition, adopting the snowball technique helped to build trust with the participants as referrals were via members of their communities.

The inherent limitation of snowball sampling, - bias, was addressed when accessing participants by reaching out to every member of the community through announcement by community leaders and religious leaders to increase the number of links in the referral chain and allow access to eligible participants who were most likely to be isolated, and those who might require the greatest level of trust. Through this approach, the researcher was exposed to a number of samples, as selection bias was reduced, and the researcher did not depend on the personal choices of the gatekeepers only. In addition, the researcher made repeated visits to the rural communities with low response rates in order to obtain an adequate number of respondents. During these visits, the researcher with the help of the gatekeeper identified participants who had participated previously to avoid re-approaching the same participants. This approach allowed the researchers to engage with a good number of the overall population and in that way, gain a good representation of different opinions that helped to reduce any potential bias in the views represented (Creswell 2012).

The research stirred a lot of interest in the community, and many residents were willing to take part in the study. As a result, some selection criteria had to be established to recruit participants who were in a good position to engage with the issues of the research. These criteria helped to improve the quality and the validity of the data because participants had an understanding of the context and some useful experience to share which relates to the research questions of the study. The selection criteria for determining which participant was eligible were as following:

1. Men with long cultural experience, i.e., having lived and experienced the culture for at least 10years.
2. Men who are conversant with the context of the phenomenon being studied, i.e., men who have either personal or indirect experience with health issues peculiar to men, or a situation requiring health information.

In order to ensure that the chosen participants fulfilled these selection criteria, the researcher sought the advice of the community leaders and gatekeepers who were present during the selection process.

4.3.4.4 The Research Sample Size

In this study, the sample size was 35 with five (5) focus group discussions. By this number (1) thorough examination of the characteristics that address the research questions was made which enable the development of the relevant conceptual, theoretical categories of interest, (2) relationships between conceptual categories and associated factors were recognised and clarified as well as identifying variation in the processes (O'Reilly and Parker 2013), and (3) maximize the chance of considering all possible cases (Charmaz 2006; Morse 2000).

In this study, the sample size agrees with the recommendation that 25-30 participants are the minimum sample size required to reach saturation and redundancy in qualitative studies that use in-depth interviews (Dworkin 2012; Mason 2010; Morse 2000). Therefore, the knowledge of the adequate sample size to actualise this is crucial (Dworkin 2012). Some scholars argue that sufficient sample size can only be determined by the concept of saturation in qualitative research (Mason 2010). The sample size in the present study was reached when new data in the field was no longer revealing new insight (Charmaz 2006). The researcher at this point knew that was the saturation point since no new or relevant data was generated from the data collection process (Dworkin 2012). However, reaching the saturation point in this study depends on several factors, some of which were beyond the control of the researcher, and these include the characteristics of the population being studied; budget and timeline available for conducting the study.

In qualitative research, there is an ongoing debate on what sample size is enough. As a guide, a sample size of between 5 to 50 participants is recommended (Dworkin 2012). Meanwhile, the question of “how many” is enough, may not be appropriate instead, how rigour is the method should be the focus (Dworkin 2012; Baker and Edwards 2012; Charmaz 2006). This is because how rigorous the methods are, depends upon the researcher’s ability to develop relevant conceptual categories, fill those categories and explain the data (Dworkin 2012). Based on this assumption, the quality of data, the scope of the study, the nature of the topic, the amount of useful information obtained from each participant, the choice of qualitative methods and study design are important factors to consider rather than the number of participants (Dworkin 2012, p.1320). As this study was not focused on making a generalisation to a larger population, (Dworkin 2012), rather understanding the lived experience a given group of people (i.e., rural men), the sample size was adequate for holistic interpretation of the experiences while creating categories and analysing the interrelationship between the categories from the data (Charmaz 1990; Dworkin 2012).

4.3.4.5 Critical Incident Technique (CIT)

One method used to probe the narratives of rural men about their health information behaviour at interviews was the critical incidence technique (CIT). CIT provides a systemic approach that focuses on actual reports given by the subjects under investigation on their behaviour or experience (FitzGerald et al. 2008). CIT incorporates narrative procedures relevant to capture significant human activities for exploratory research to allow inferences to be drawn from human experience (Hughes 2012). CIT is used to elicit human behaviour and experience in such a way to identify how the gained knowledge can be useful in solving practical problems (Fitzgerald et al. 2008; Hughes, Williamson and Lloy 2007). CIT was used in this study following Patton's (2002) view that crucial episodes are sufficient to generate self-contained descriptions for analysis. CIT elicits aspects of behaviour (best or worst practice) as participants who recollect and narrate events in the way they occurred focus on the challenges faced in everyday life of the participants.

In this study, the participants were asked to narrate a situation where they needed health-related information in their everyday life in the community, and how they got the information. CIT was used to gather specific incidents experienced by men in rural areas on health-related information and to deduce their approach to seeking, accessing, using and selecting sources of health-related information.

One of the questions that follows this technique was:

'Describe a situation in the past few months where you needed health information and how you got the information and what you did with the information'.

As the participants describe their experiences, the researcher placed emphasis on cases that demonstrate the perception of the significance of health information, and the influence of cultural factors on the outcome (success or failure) in health information experiences. The benefit of adopting this technique is associated with its ability to give the researcher the opportunity to understand the respondent's perspective in its natural setting. CIT gives the respondent the freedom of expression as respondents can recall incidents and narrate them using their native languages to give a detailed account of their experiences with health-related information in the communities. Thus, allows them to determine through their story what incident is most important to them for the phenomenon under study (Gabbott and Hogg 1996). In this way, there was no preconception of what will be important hence, allowing the context of the study to be developed from the subject's perspective as an inductive approach (Gremler 2004) which is consistent with this current research philosophy.

4.3.4.6 Focus Group Discussions

The focus group discussion was conducted at the preliminary stage of the research which aimed to extract background information and the areas to explore further during the interview. The focus group helped to inform the researcher of the key aspects of the study, and later to corroborate findings from the other data collection methods -individual interviews and participants observation. The researcher was the moderator and ensured that the event was not "left to chance and circumstances" since a focus group is naturalistic (Bloor, Frankland and Robson 2001, p.57). The naturalistic nature of the research environment enabled the researcher to develop a detailed understanding of rural men's experiences, interactions and pattern of thinking (Lazar, Feng and Hochheiser 2010).

The researcher developed a guide (see Appendix C) which outlined themes to be explored and helped to manage and guide the group discussion effectively. The guide was divided into three: introduction, subject area and conclusion. The focus group question guide was validated by the researcher's supervisory team and another academic in the Information Management Department at Robert Gordon University who has expertise in conducting focus groups. The researcher pre-tested the focus group instrument in a pilot study with Nigerian men who have resided in Aberdeen, UK, for less than a year. The questions were consistent with Anderson (1998) guidelines, having no closed-ended questions, and presented in a sequence that encouraged natural flow. Krueger and Casey (2014) assert that group discussion provides useful data when there is a clear objective, comfortable settings, and respect for group members; all of which are present in this current study. Before data analysis, all the recordings were translated into English during transcription.

Access to participants was aided by the gatekeeper (or the village chiefs) as the gatekeepers were willing to introduce potential members from their communities (Fink 2003). Participant selection was done on the basis of the following selection criteria while employing non-probability techniques. The gatekeepers in some cases attended the focus group or acted as an intermediary with no active participation (Bloor, Frankland and Robson 2001). The potential participants were made aware of the research objectives before commencing the group discussion. The participants gave their consent as well as their availability (e.g. suitable location and time). The researcher made very clear the right of the participants to opt out at any stage, should they feel uncomfortable.

A balanced composition of participants was aimed to increase the variety of perspectives and avoid a situation where some individuals (e.g., older men) in the group dominate or withdraw from the discussion. The participants shared some common characteristics (e.g. male and rural residents) which facilitated interaction at optimum level. Dawson, Manderson and Tallo (1993) and Morgan (1996) affirm that a focus group is more active when participants belong to the same societal and cultural background. The heterogeneous free flow, open and sincere discussion among group members in the focus groups, provided varied perspectives in this context (Khan et al. 1991; Yin 2003).

In this study, heterogeneous composition (i.e., varying age, belief, education) was preferred to homogenous composition because it was impossible to bring together men of the same age with the same educational background and religious belief at the same time in these rural communities. The number of participants in each group was six to allow for a holistic, in-depth exploration of the phenomenon (Denscombe 2014; Patton 2005; Ritchie et al. 2013) and provide the synergy required (Dilshad and Latif 2013). Similarly, the constituent number of group members enhanced the implementation, coordination and interaction between group members and the moderator (Shinohara and Tenenberg 2007). On the contrary, having more group members, posed the risk of having factions among the group, difficulty in managing, and some group members may be lost in the crowd (i.e., lack of opportunity to express their views) (Dilshad and Latif 2013).

The participants gathered at some locations, such as community halls, meeting rooms and religious halls, unanimously agreed. The locations were familiar and accessible places, void of noise interference and intruders. While the assembly of participants and exchange of pleasantries was ongoing, the researcher thanked the people, and formally documented their consent as well as reiterated the purpose of the focus group, and briefed participants of their rights (i.e., confidentiality, anonymity, chances to opt out at any given time), and the opportunity to ask questions whenever they wanted. The researcher also informed the participants why they were selected; as residents of those communities with long and substantial cultural experience. The focus group discussion began in a transitional manner starting with small talk and with general questions that explored common areas of interest as an ice-breaker before gradually introducing the formal research procedure.

During the discussion, the researcher was interested in understanding the underlying challenges, experiences, attitudes and views of the participants, and remained non-judgemental to their opinions. The researcher allowed participants to talk freely while, at the same time, encouraging them to remain focused on the discussion area. As the process developed, the researcher introduced the questions one by one in a manner that fitted the flow of the discussion (Saunders et al. 2011). The researcher was open-minded and very patient as well as flexible in implementing the focus group question guide that was developed earlier (Morgan 1996; Dawson, Manderson and Tallo 1993). In addition, the questions were asked using the local language of the participants as recommended by Rice and Ezzy (1999) suggest that a focus group may be conducted in the local language of the subjects to remove language barriers.

As the group discussion progressed, the researcher ensured that notes were taken to keep track of emerging ideas and areas for deeper exploration, and the conversation recorded with an audio tape recorder (Anderson 1998). In addition, the researcher noted some non-verbal prompts such as gestures, body movement (e.g. shaking and nodding of head), making eye contact with group members to encourage discussion while reflecting on their responses (Denham and

Onwuegbuzie 2013; Onwuegbuzie and Byers 2014; Onwuegbuzie et al. 2009) to comprehend the meaning of their interactions and why statements were made.

At the end of the discussion process, a total of 5 focus groups were conducted, each comprising a minimum of six participants in each state during this study. The focus group interviews lasted from 90 mins to 120mins. The researcher generated a summary of the discussion which was not provided to the participants because the aim of the study was not to achieve consensus but to explore maximally the various perspectives held by members of the group (Anderson 1998). This approach promoted the quality of data obtained from this range of participants. Furthermore, the experience gained via conducting an earlier pilot study further enabled the researcher's ability to coordinate the group discussions effectively (Saunders et al. 2011; Bryman 2015) and enhance its depth and improve the specificity of the topic and quality of the discussion (Merton 2008).

Figure 27, presents the researcher welcoming the group members in one of the states.

Figure 27-Gathering of men for the focus group discussion alongside the community gatekeeper

4.3.4.7 Semi-Structured Interviews

Individual interviews are a commonly used research technique to gather valid and reliable data (Silverman 2013; Saunders et al. 2011; Denzin and Lincoln 2011; Flick 2009). The semi-structured interview was used because it is conversational (Denzin and Lincoln 2008; Seidman 2013; Saunders et al. 2011). The interviews were administered on a one-to-one (i.e., individual) basis (Denzin and Lincoln 2008; Seidman 2013; Saunders et al. 2011). Semi-structured interviews were a useful tool in this present study to build an in-depth knowledge of the phenomenon that might be difficult to examine using other methods such as survey (Bertrand and Hughes 2005).

The researcher conducted about four interviews in a day because participants were mostly accessed in the evenings. In the evenings after farm activities, participants were fond of gathering in small groups across the communities at different locations such as village squares, a neighbours' compounds, compound halls (a compound hall is a community centre) and in local bars. The gathering is for various purposes which include, relaxation, social interactions (e.g., playing board games), and deliberation about farming and general life experiences and challenges. In addition to the use of gatekeepers, religious and community leaders to access potential participants (see sections 4.3.4.2 and 4.3.4.3), these evening gatherings provided great opportunity to reach more participants who volunteered for the study. Participants who were unable to participate in a focus group were invited to take part in individual interviews. As a result, different individuals who may or may not have had experience with prostate cancer health information but could broadly engage in discussions around health information issues concerning men linked to their direct or indirect experiences in these communities were interviewed by the researcher.

A number of interview guidelines which highlighted some questions to ask during the interviews were developed by the researcher (see Appendix B). The interview guide was used as a pointer to facilitate, implement, and give the respondents the opportunity to contribute their opinion on the subject matter in a non-restrictive manner (Bryman and Bell 2007; 2015). The interview questions explored different areas of interest in this research, which include:

- General information behaviour and health information behaviour of men, including the motivation to seek prostate cancer-related information and the type of information sought in rural South-East Nigeria.
- Influence of Demographics, Experience, Salience, Belief (antecedent factors) on men's health information behaviour
- The role of cultural factors (e.g. Language and Beliefs) on health information behaviour, (e.g. access, use and sources selection)
- Barriers to health information seeking, and source selection.
- Availability of health information sources in rural South-East of Nigeria
- Health information provision.

The researcher's supervisory team at Robert Gordon University in the United Kingdom validated the interview guide. As explained earlier, the researcher pre-tested the guide in a pilot study to test the structure and the content and to see how it could be adapted to fit the rural context. However, the questions were administered randomly based on the dynamics of the discussion or the responses of the interviewees to fit in with the flow of the interview, and allow the researcher to be flexible and responsive to emergent ideas during the interview (Denzin and Lincoln 2011; Gorman and Clayton 2005; Silverman 2013; Saunders et al. 2011; Flick 2009). Individual interviews and focus groups were conducted in a predetermined sequence. In order words, the interviews were conducted after the focus groups. The themes and wording of the focus group discussion guide were re-introduced in the individual interviews to maintain the scope of the study.

A face-to-face interview approach was adopted when administering the interview questions. All participants in the study provided their consent verbally. The participants were informed of the opportunity to opt out of the interview should they feel uncomfortable. Likewise, the assurance of confidentiality and anonymity regarding their responses was provided by the researcher. During the interview, responses and narratives were tape-recorded with participants' permission and transcribed verbatim. The researcher followed up responses to provide clarity and steered the discussion within the context of the research (Green and Brown 2005). More insight into the research questions was gained from the data gathered from the interviews. Furthermore, interviews provided information on the context (e.g. demography, cultural orientation) and experiential information (e.g. experience, information behaviours). The interviews provided an in-depth investigation of highlighted key issues identified during the focus group discussions. The researcher conducted about 35 individual interviews across the selected communities in the 15 senatorial districts. Each interview took about 55 mins to 70mins.

At the end of the interview, the researcher asked the respondents if they would like to discuss any other issue related to this study area. Meetings were held in some cases with participants to give them a chance to review the transcription of the interviews and reflect whether the documentation was an accurate representation of their opinions in the transcript.

The semi-structured interview was considered suitable due to some factors which include, the nature of the research (as exploratory), and the literacy level of the population (men in rural areas). In general, rural residents in Africa are associated with limited literacy skills (Kuhajda et al. 2011; Marrie et al. 2013; Mtega 2012; Etebu 2009) as many of them lack functional skills (the ability to read and write in another non-native language) hence, the use of other non-conversational techniques was considered inappropriate. The use of interview allowed respondents to provide their experiences and thoughts personally (Denzin and Lincoln, 2008) in their native language (Rice and Ezzy 1999). The use of the respondent’s native language, Igbo, during the interview sections provided a common ground to share and contribute their views and experiences about their social world.

Meanwhile, there are some challenges associated with the use of the interviews. Gorman and Clayton (2005) posit that the use of interview is an expensive practice in qualitative research, especially the one-to-one approach. The lack of selectivity -sorting important points within a large quantity of historical data, can be almost impracticable and leads to selective reporting (Saunders et al. 2011). Likewise, when the nature of the interview is too personal (e.g. face-to-face) the aspect of anonymity is lost in most contexts and the impact can yield unreliable data in situations where sensitive data is required (Gorman and Clayton 2005; Saunders et al., 2011). However, in this study, these challenges were negligible especially the lack of anonymity, because the research questions were not requiring any sensitive data (e.g. health history).

Figure 28 Interview with a traditional medicine practitioner alongside the community gatekeeper

Figure 29 Interview with a man in one of the communities alongside the community gatekeeper

Figure 30-Interview with another senior man in the community alongside the community gatekeeper

The interview process generated remarkable data on the experiences, culture, circumstances and behaviour of men in rural South-East Nigeria during the study. The generated data through this process supports the premise that conversational inquiry helps to learn other people's experiences and to understand their experience in the context of their world (Gorman and Clayton 2005). This report contains the fieldwork material such as images, data collection instruments, NVivo screenshots of the transcriptions and field notes. Provision of these fieldwork materials is to enable other researchers to review the evidence directly and not be limited to the written reports.

4.3.4.8 Differences between Focus Groups and Individual Interviews

When comparing the transcripts from the focus groups and individual interviews, different levels of understanding of the phenomenon were noted. The focus group data reflected a general understanding of the range of health information behaviour patterns and contributed to developing an initial concept of the contextual factors influencing the phenomenon. Focus group findings helped to determine the most pertinent questions to be further explored during an individual interview. By concentrating only on the relevant aspects of a pattern, the interviewer optimised the time spent in the interviews. The data from individual interviews were found to be particularly important when fine-tuning the model because individual interviews supplied detailed descriptions of the information provision strategy, individuals’ health information behaviour and the cultural factors, and further enriched the initial concept of the phenomenon.

An individual account typically offered a particular perspective or narration of the antecedents that influenced a behaviour pattern. In order words, participants described how they proceeded through a set of circumstances that might have influenced their access to health information. Although during focus group discussions similar antecedents were mentioned, these were not necessarily described with the same level of detail. Somewhat, the interactions among group members exposed the contextual dimension of antecedents and provided a wider-angled lens to interpret individual-level data. For example, across methods, fear of stigmatisation was identified as an essential antecedent to seeking prostate cancer information. Also, the researcher noted that among individuals with similar demography, a similar approach to finding health information existed while different patterns were exhibited across individuals of different demographic characteristics (e.g. young adult and older adult). Thus, considering the demographics among participants served to elicit further how they influenced information behaviour patterns. The demographic features identified across the focus groups included: educational status, age and religion. Thus, the separate data sets were mutually informative.

Analysis of the focus group data led to the identification of a model for the phenomenon, which was substantiated by individual interview data. The analysis of individual data showed how participants were concerned about the effect of their health status on their relationships when identified as having prostate cancer and how that related to prostate cancer information-seeking. Focus group discussions did not emphasise the actual process of accessing prostate cancer information, instead gave broad contextual factors that might have been considered which either assisted or hindered access to health information (e.g. cultural beliefs around ill-health).

At the outset of the study, there was no knowledge of how cultural factors influence health information behaviour of men in rural South-East Nigeria neither the number of contextual factors that would emerge. The second or third focus group led to the formulation of a general opinion about the contextual factors and substantiated the claim that contextual factors influenced the health information behaviour of the population. In fact, this initial understanding demonstrated that among many contextual factors, culture and educational status were the most significant ones that emerged throughout the study.

Combining individual interviews and focus groups contributed to a rich understanding of the structure of the phenomenon. Structure in this context refers to the circumstances, context, challenges, or factors pertaining to accessibility and provision of prostate cancer information in rural South-East Nigeria. Although within both datasets, similar antecedents to the phenomenon under study were identified, the extent to which participants interpreted these factors differed.

Notably, specific characteristics (e.g. beliefs and experiences) were prominently identified from the individual interview data and not mentioned or elaborated upon by participants of the focus groups who were thought to share the same contextual circumstances. The focus group findings seemingly provided an incomplete picture of the effect of contextual factors when compared to what appeared to be the equivalent description obtained from individual interviews. Furthermore, the individual interview context allowed the researcher to investigate questions in the interview guide systematically. That is, each dimension of the concept that the researcher hoped to address was explored. Apparently, focus groups did not allow the systematic exploration of all questions included in the interview guide because group members spontaneously discussed dimensions of the concepts relevant in that group context and health information behaviour was addressed in general scope as group members were progressively constructing the meaning of the phenomenon.

As a result, a contextual factor might or might not have been discussed by all members of a group or might not even have been raised by a group. Therefore, it was not considered optimal to initially analyse group conversations separately instead when all focus group data were taken together and summarised, the researcher then obtained a complete picture of each aspect of the phenomenon discussed across groups. With this approach to analysis, optimal integration of individual interview and focus group data was achieved. That is, most areas of interest were corroborated across methods, and data convergence became appropriate through the side-by-side, non-hierarchical comparisons of the datasets. This systematic comparison of datasets revealed overlapping and rich complementary findings that contributed to a coherent understanding of rural men's health information behaviour.

4.3.4.9 Participants Observation Method

Participant observation comprised two constituents:

- Observing men in rural communities (e.g. Festivals and cultural gatherings, religious gatherings and resident among the communities).
- After these men's gatherings, interview a selection of men to aid debriefing and probe the quality of data gathered from the field.

While visiting the field to commence fieldwork, participant's observation method as a data collection technique became an option for the researcher. The employment of participant’s observation became eminent as the researcher discovered that the potential communities for this study were thousands of miles apart. Therefore, to ensure that adequate and quality data was collected within the specified timeframe, the researcher took accommodation in these rural communities (residing with some of the gatekeepers, and in other cases, on a rented apartment). This decision to reside in each community until the data collection process is complete rather than visiting the communities from the city, was considered as the researcher evaluated the travel risk, impact on the amount of data, cost and fatigue associated with inter-state shuttle due to travel time to access these communities, owing to the poor transportation system and lack of accessible roads plaguing the selected communities. The participant's observation method, however, was not originally considered at the outset of this current study until visiting the field.

During the fieldwork, between October 2014 to February 2015, many of the rural communities observe their cultural rites because these are festivity periods (December and January). Just like the new yam festival period (August-September), December - February also is marked with the colourful display of various cultural heritages (e.g. masquerades, cultural dances), cultural gatherings (e.g. age grade meetings, community development meetings, traditional courts) and religious activities (e.g. Igba Ofala, Christmas). At this period, there are public holidays to allow family members to celebrate the festivity with their extended families; many marriages are contracted including the traditional retirement ceremony (Igba Uche) during this same period. Therefore, the researcher believed that conducting the study during this period will provide ample opportunity for the researcher to observe men in rural communities and to gain a deeper understanding of the cultural underpinning to the experiences of these rural men. Another rationale for conducting the study in this period, is because that is the only period when many of these rural communities enjoy media production as some of the social amenities, such as electricity are accessed in communities where they exist. Thus, this period provides the opportunity to capture all cases within this context regarding sources and access to health information.

As the data collection process progressed, the researcher attended both the cultural and religious gatherings, as these gatherings were opportunities to observe the cultural activities and understand the role they play in shaping the health information behaviour of men in these communities. Some of the gatherings attended by the researcher included:

Traditional Court – is the gathering of community members with the ruling council of the community at a designated location to hear and settle issues brought before them. The offended comes to the court to make complaints, and the suspect is brought before the people to defend the allegations against him or her. They appear at the traditional court with some cultural items (e.g. hot drinks) to register their attendance.

Before this day, the accused is not informed of his/her offence to avoid manipulation of justice or disappearance of the suspect. In a case, where the accused absconded or refused to attend the court, then his family will be summoned. In this way, every individual in the community knows that when trouble comes, it is not only the offender that suffers but also his family. In some cases, the consequence of the allegation would involve payment of fine, sanctions or extradition of the family. This tradition is founded on the collectivist ideology where achieving a collective goal is prioritised over an individual goal. The collectivist tradition is a cultural system put in place in most rural communities in

South-East Nigeria to deter wrongdoing as relatives of the offender share in the consequences of their offence. This cultural practice of going to the traditional court is observed not only when a crime is committed but also in other issues such as health issues.

Within the cultural norms of the Igbos, some of the unacceptable behaviours that are considered 'crime' (i.e., contravention of traditions or laws) in rural communities include witchcraft, the practice of incest, adultery, stealing, abortion and disobedience to deities, and diabolical practices such as killing or maiming others. Following the consequences and implications of these despicable acts on those affected, anyone suspected to engage in these practices is brought before the traditional court. In addition to the above, the notion of crime may extend to practices related to causing ill-health to others through some supernatural means such as the use of charms and deadly substances. These are considered as matters for a referral to the traditional court.

Many times, when a family member suffers a health problem, it is a tradition to approach relatives for assistance. The reason for this dependence on relatives (immediate and extended) is that, within rural communities, problems are collectively shared and owned. Thus, it is the sole responsibility of every member of the family to find the solution. This further explains the reason why interpersonal sources are embraced within rural communities as sources of health information.

With a similar objective to understand the role that culture plays, the researcher attended another cultural gathering, an age grade meeting, with the aim of understanding the kind of information shared during these cultural meetings.

Age Grade Meetings - is a local meeting of people within a given age range specifically targeted at community social networking and community development projects. The researcher with the help of the gatekeeper approached the leader of one of the age grades seeking permission to attend their meeting which was scheduled during the data collection period. After contacting the leader of the age grade and explaining the purpose of seeking permission to attend their meeting, permission was granted, and the researcher attended. The researcher's attendance at the age grade meetings facilitated the observation of the cultural rites accorded to men (as women were also in attendance), the type of information discussed during such meetings and how this data could provide answers to the researcher's questions and achieve the research objectives. At these gatherings, impressions and observations were recorded using field notes which contained:

- Contextual description of the settings (e.g. age range, language used to conduct the meeting, gender, location, cultural activities prior, during and after the meeting)
- The People - Number of persons in attendance, demographic characteristics (literate, illiterate, poor or rich), interaction among the people, based on their contextual description (e.g. the rich were given preferential treatment, allowed many times to speak, dominated the discussion)
- The activities - the various activities conducted during the meeting (prayers were said traditionally, presentation of kola)
- Direct quotes or summaries of what the people said - during interaction or deliberation, the researcher noted some of the quotes relevant to this study.
- Researcher's comment - as the researcher noted the entire process of the meeting, meaning was associated to these activities by the researcher as the meeting progressed.

The researcher observed how decisions were made regarding available information, and how the information was communicated to members of the group paying attention to the role of culture in every aspect of the meeting. As a natural characteristic of these group meetings, they took place over several hours. This prolonged period of engagement was a mechanism advantageous to reducing researcher bias and improving the quality of data collected in this research (Yin 2013). Through prolonged engagement, the researcher could observe individuals, activities in the meeting, and decipher the role of culture in all these processes over time. However, it is worthy of note that the researcher's attendance at the age grade meetings was not the only contact with those rural men. The researcher had attended religious gatherings, marketplaces, used public toilets, sat in the village square, and fetched water from the stream while observing the participants as the researcher explored the communities.

As an additional step to minimise the researcher bias that is inherent in participant observation technique, the researcher interviewed male participants at the end of each meeting to verify certain comments and obtain meanings associated with the entire meeting process. The interviews presented opportunities to probe aspects that are unclear and allowed male members to highlight issues they considered crucial, giving a narration of their experience at the meeting. In this way, the correctness and quality of observations and field notes could be assessed using interviews as a member check. The researcher used purposeful sampling to select the leaders in these age grade meetings as participants for the debriefing interviews at the end of the meeting because:

- There is an established trust between the researcher and the leaders while the researcher sought permission to attend the meeting.
- They are experienced in group meetings (having attended three or more of such meetings as leaders)
- They understand their culture, which guides every aspect of the meeting coordination.
- They were willing to commit to debriefing interviews

In each of the meetings attended by the researcher, the group secretary presented a set of minutes which complemented and supplemented the researcher's field notes. This provided the researcher with rich data to understand how culture and other influencing factors can be harnessed to improve provision, access and use of health information about prostate cancer among men in rural communities in South-East Nigeria. The findings from participant observation method are discussed in detail in section 3.1 and form part of the contextualisation chapter.

4.3.4.10 Rationale for using Multiple Data Sources

The use of multiple data sources (i.e. interviews, focus group, and participant observation) was consistent with the underpinning philosophy and vital to achieving the research aim. The purpose of employing multiple methods of collecting data hinged on the provision of sufficient data store whereby data may be drawn from and analysed to provide answers to the questions in this study. Table 9, summarises the data sources as well as the significance of the data collected using a specific data collection method. The researcher prioritised primary data to secondary, to suit the exploratory nature of this study. In addition, the lack of scholarly material at the time of this study also necessitated the dependence on primary data sources. Primary data in this text refers to first-hand data collected and used specifically for this research. With the primary data, a holistic perspective on the phenomenon of interest was gained in this study, which includes the underlying cultural orientation of men and their context of information.

The adoption of multiple methods of data collection in this study was to support the triangulation (Newman 2014) of data from the various sources and to improve the trustworthiness of the data. Each approach and data source present merits and demerits as discussed in previous sections, however, when these data sources are combined the weaknesses inherent in a source is complemented by strengths in the other. Another rationale for combining multiple data sources, was to provide a means to gain different perspectives on the phenomenon through personal interpretation and direct experience from participant observation, interviews and focus group discussions. These perspectives offered an opportunity for the extensions of the model to achieve culturally appropriate health information (about prostate cancer) provision, access and use among men in rural communities in South-East Nigeria.

Table 9 shows an overview of the various data collection methods and sources.

Data Source	Type of Data	Utility of Data	Purpose of the Data
Focus Group Discussions	-Interaction data such as narratives from discussion among participants. -Group's perspectives about belief, experience and projections -Group's contextual Information (demography, cultural norms)	Provided general group's perspectives about the phenomenon by questioning one another, commenting on member's experiences. -Indicated areas or concepts to explore further -Guided the exploration of individual accounts to achieve data completeness and confirmation. -Aided the formulation of a general opinion pertaining to contextual factors and the phenomenon	-Assisted in unveiling aspects of men's health information behaviour less accessible, e.g. the influence of culture on information seeking behaviour across focus groups - Assisted in understanding convergence of experiences, interpretations and characteristics of the phenomenon across focus groups -Used to examine opinions and beliefs about men's health information behaviour and provided rich data on a range of perspectives about prostate cancer. -Supported triangulation - focus group data to corroborate individual interview and participant observation data.
Individual Interviews (Semi-structured)	- Individual's experiences, challenges, narratives and accounts of the subject area. - Contextual Information (demography, cultural norms)	Provided detailed accounts of individual's thoughts, attitudes, beliefs, and knowledge pertaining prostate cancer information Allowed for in-depth exploration of individual and contextual circumstances surrounding prostate cancer information seeking and use.	-Assisted in identifying individual's experiences and circumstances surrounding access to prostate cancer information -Individual data further enriched the conceptualisation of the reality around men's health information behaviour in rural South-East Nigeria -For data triangulation and verification of findings from other methods
Participants Observation	Textual data: - Researcher's Field Notes -Debriefings (clarify cultural meanings and interpretations)	Provided the cultural interpretations in the natural context of activities around information behaviour -Knowledge about the information flow in this context	-To collect in-depth data about rural men's information behaviours, contextual and influencing factors - To make sense of the meanings, and contexts associated with the phenomenon and to interpret data collected through other methods

Table 9-Summary of Data Collection Methods Employed

4.4 Data Analysis in the Present Study

The NVivo 10 data management tool was used in the analysis of the research data. In exploratory research, it is often the case that data collection, analysis as well as initial write-up are not demarcated because the research design could change during the study. The researcher began the analysis process by probing for patterns, regularities, related words, as well as phrases to the topic area to represent and support his interpretation (Braun and Clarke 2006). Considering the wealth of data from the field and the paucity of literature on rural men's health information behaviours (e.g. source selection, information seeking and information use), qualitative thematic analysis developed by Braun and Clarke (2006) was employed, and specifically the interpretive approach to provide insights and answers to the research questions in Chapter 3.

The interpretive approach emphasises the experiences of individuals in their specific contexts (Saunders et al. 2011). Using the interpretive approach allows the examination of this rarely studied subgroup with the widely adopted CMIS framework; provides the freedom to identify novel qualities regarding men's health information behaviours. The approach helped provide more qualitative insights into the unique challenges facing this population (Merriam 2002).

With this approach, the researcher transcribed the outputs from the data collection techniques, analysed the transcripts by identifying emerging categories and themes together with their relationships, presenting an analytic and linguistic interpretation supported by extracts from research participants' statements. This interpretivist stance supports an ontological assumption of multiple viewpoints of research subjects which constitute their reality of the phenomenon and subscribes to an epistemological assumption of subjectivism where the researcher interprets the participants' descriptions of their experiences (Saunders et al. 2011).

Figure 31 shows Braun and Clarke (2006) six stage method used in this research.

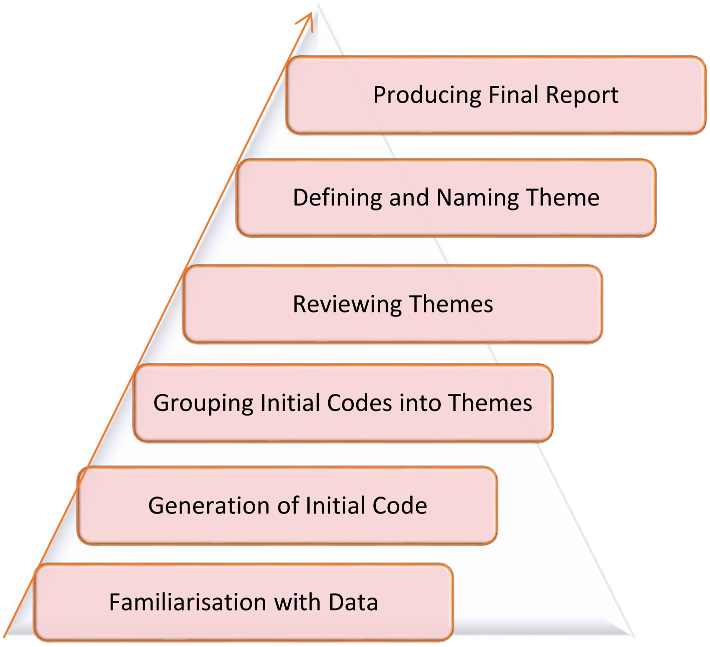


Figure 31 - Six Stage Thematic Analysis Method

In this present study, the researcher modified and adapted the Braun and Clarke (2006) six thematic stages as follows:

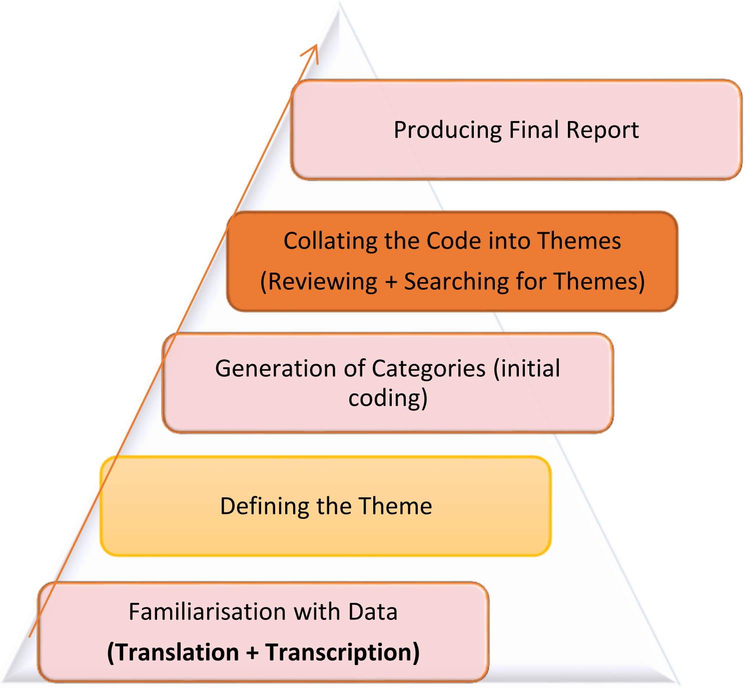


Figure 32- Six Stage Thematic Analysis Method adapted for this study

By adapting the thematic analysis developed by Braun and Clarke (2006) as shown in Figure 32, the researcher:

1. Rearranged the location of 'defining the themes'
2. Merged 'reviewing the themes' with 'grouping initial codes' to form a single stage 'Collating the Codes into Themes'.

These modifications were necessary to suit the context of this study. The stages also reflect the sequence followed during the data analysis process. Details of this process are provided in the next section. During the analysis, there were (1) a systematic review of transcripts, comparing responses across cases to document emerging themes; (2) theme categorisation and initial coding; (3) development of hierarchy of main categories and code structures; and (4) examination of how the units of analysis influence the phenomenon under study (Lazar, Feng and Hochheiser 2010; Maxwell 2012) across the cases (five states). The analysis process helped to provide an accurate representation of the participants' perspectives, and construction of reality, experience, and documentation of emerging themes, categories, patterns and relationships during the interpretation (Powell and Renner 2003; Lazar, Feng and Hochheiser 2010).

4.4.1.1 Thematic Analytical Processes

Stage One: Familiarisation with Data

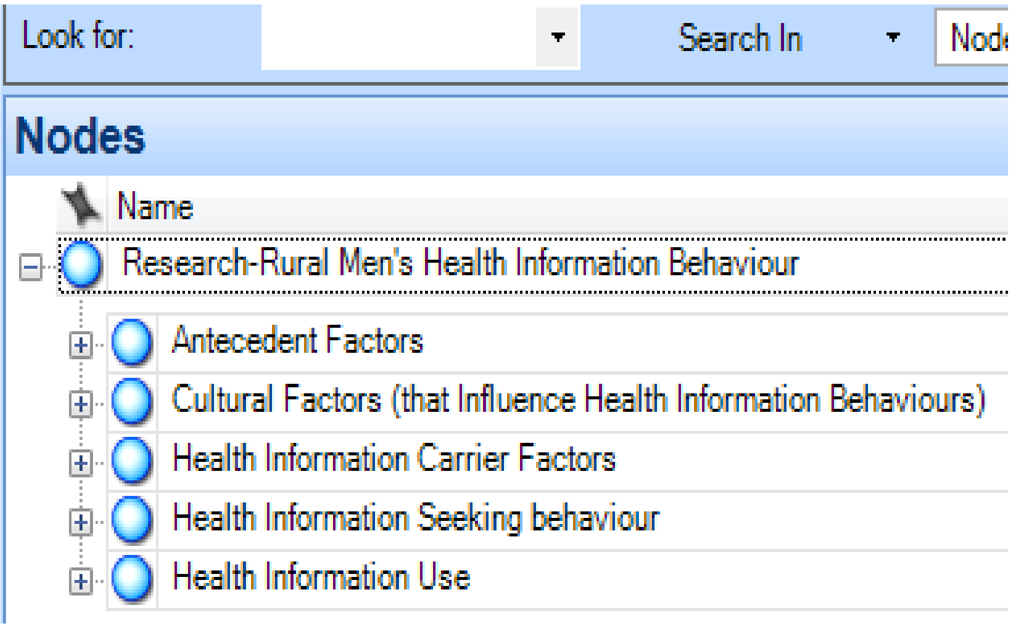
All recordings were translated into English while being transcribed. The data transcription process provided the opportunity for the researcher to re-engage with the data obtained during the fieldwork in order to become familiar with the contents. The transcription yielded a total of 35 interview transcripts and 5 focus group discussion transcripts which were uploaded into the NVivo 10 software, including a summary description of the sources and settings, for further analytical actions. On average, each interview took roughly 8 hours to transcribe, (as the translation was done simultaneously). The data gathered represents an account from the various perspectives of men within the rural communities.

Furthermore, the transcripts were printed off and repeatedly re-read to increase familiarity throughout the analysis process. This process of repeated re-reading of the transcript helped to ensure the consistency of the transcribed data with the audio files for the correctness of transcription where applicable. Similarly, the process helped to ensure that transcripts were linked to respective interviewees and thereafter allocated appropriate codes. The transcripts allowed the researcher to hear and conceptualise the participant's perspectives which helped to gain and develop a preliminary understanding and interpretation of the phenomenon as the initial coding progressed. There is no rigid separation between the data screening and familiarisation during the analysis processes as the entire process of analysis was iterative.

Stage Two: Defining the Themes

Braun and Clarke (2006) suggest that themes are the units of analysis in answering research questions in qualitative research. This perspective was adopted in this study. Literature (as provided by the conceptual model) and the research objectives guided the choice of themes. Adoption of the themes was meant to facilitate and maintain the study’s focus regarding achieving the set objectives. However, the researcher remained open to emerging themes which were not adequately conceptualised in the model.

Many exploratory types of research in the literature utilised the CMIS model for examining health information behaviour in other contexts (e.g., Nwagwu and Ajama 2011; Oh et al. 2012; DeLorme, Huh and Reid 2011; Han et al. 2010). Therefore, the researcher found the model useful for generating the themes used to address the research objectives. As a base to frame initial understanding, the conceptual model was adopted, and this was built upon as the analysis progressed. CMIS model's concepts provided the coding categories which were adopted to assist in data reduction to answer the research questions. This process grounded the CMIS components in the data to inductively characterise and operationalise the CMIS concepts. In this way, the CMIS components were defined and described as the themes. Given that the researcher possessed knowledge of the model on the topic which was the basis for developing the objectives of the study, “re-inventing the wheel” in search of new themes was not necessary. Based on this perspective, five themes were drawn from the model as labels for conducting the interpretive analysis: Antecedent Factors; Health Information Carrier Factors (Health Information Sources); Information Seeking Behaviour; Information Use and Cultural Factors (Figure 33).



Nodes

Name

Research-Rural Men's Health Information Behaviour

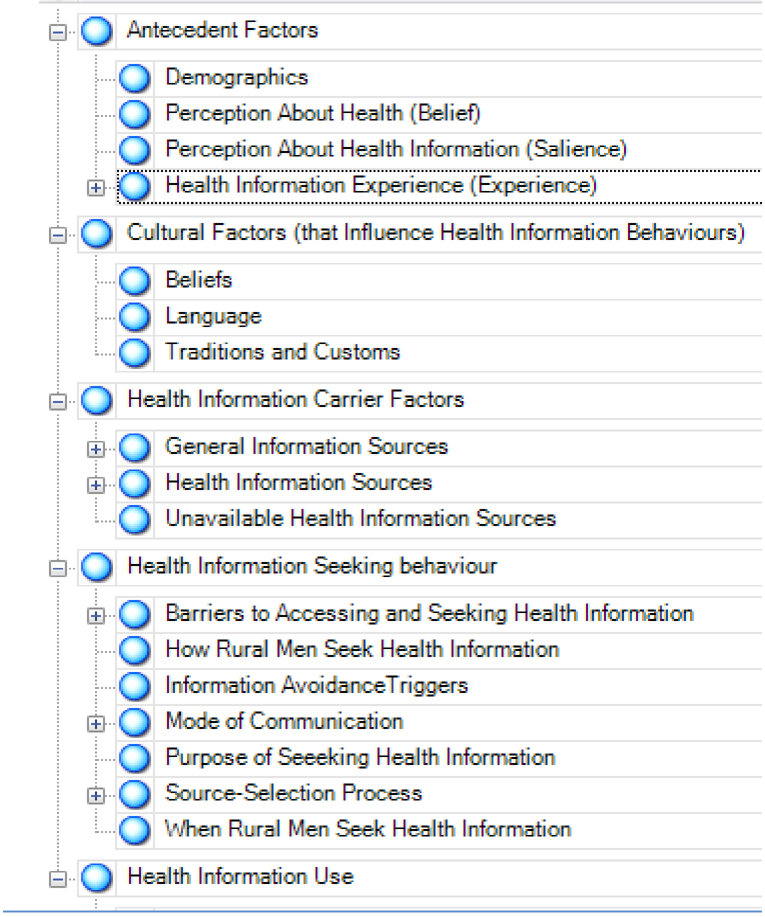
- Antecedent Factors
- Cultural Factors (that Influence Health Information Behaviours)
- Health Information Carrier Factors
- Health Information Seeking behaviour
- Health Information Use

Figure 33-List of Main Themes defined in this study

Stage Three: Generating Categories of the Themes

Having defined the themes, one transcript from each interview and focus group data was selected for intensive reading to capture concepts to be coded for deriving the sub-themes (or categories) of the themes listed in Figure 34. During the repeated reading of the transcript, any data instance which highlighted an idea, words or phrases were allocated a code once encountered. Portions of the actual words or phrases of the participants were added verbatim as quotes under the appropriate theme categories. Some phrases, words in an instance that fitted into more than one category and were assigned different codes. Insertion of these actual words under the most appropriate categories was done from as many interview responses as were considered related to the theme.

One fundamental perception of interpretive research is that there is no one certain way of interpreting the data. Therefore, as the researcher moved through the transcripts, initial codes were assigned to the data as applicable. During this process, the researcher was looking out for narratives about how and why things happened in the way they did or not, in rural men's interaction with health information. By so doing, the researcher was collecting multiple interpretations including, all the contradictions, rather than finding what was right or correct during the interpretation (Yin, 2003). Therefore, in the instance where a respondent mentioned something new (or different), yet relevant to the study, such responses were coded under the emerging themes and were taken into consideration during the interpretation and analysis of data.



- Antecedent Factors
  - Demographics
  - Perception About Health (Belief)
  - Perception About Health Information (Salience)
  - Health Information Experience (Experience)
- Cultural Factors (that Influence Health Information Behaviours)
  - Beliefs
  - Language
  - Traditions and Customs
- Health Information Carrier Factors
  - General Information Sources
  - Health Information Sources
  - Unavailable Health Information Sources
- Health Information Seeking behaviour
  - Barriers to Accessing and Seeking Health Information
  - How Rural Men Seek Health Information
  - Information AvoidanceTriggers
  - Mode of Communication
  - Purpose of Seeeking Health Information
  - Source-Selection Process
  - When Rural Men Seek Health Information
- Health Information Use

Figure 34 -List of categories developed during coding.

NVivo 10 software enabled the allocation of codes to portions of data. Coding data is part of analysing the data thematically (Braun and Clarke 2006). Codes, as defined by Miles and Huberman (1994, p.56), are "tags or labels for assigning units of meaning to the descriptive or inferential information compiled during the study." While extracting the various concepts, the data provided meaning for the categories, as the researcher interacted with the data sources in detail and examined the transcripts with an open mind to recognise emerging themes through constant revision and continuous reading.

The categories generated were further analysed to eliminate those not having sufficient data to support them or which were too diverse or more appropriate if merged with other categories. Duplicates and overlapping words were merged into one broad term or phrase as posited by Hughes and Hayhoe (2010). This process as posited by Merriam (2002) and cited by Ibenne (2016) involves "horizontalisation - the process of laying out all the data and treating the data as having equal weight; that is, all aspects of data have equal value at the initial data analysis stage. Data are then clustered into themes, and repetitious statements are removed [from individual themes] (p.94)". The themes were reviewed to ensure they represented an idea or contextual meaning hidden in the pattern (or mode of occurrence and relationship) within the data, to answer the research questions. Determining what constitutes a theme was therefore based on the research objectives. In this stage, the frequency at which an idea (code) occurred was not necessarily the focus as the study was exploratory, but its usefulness lay with its contextual meaning and the interrelationship with each data item and across the data set to promote discovery. Once the researcher realised that the CMIS model struggled to handle some facets of the phenomenon under study sufficiently, discovery became crucial. Therefore, additional coding categories were developed beyond the concepts of the CMIS model to capture emerging themes (or data) related to aspects of the phenomenon under study not adequately coded in the CMIS model (e.g. information use).

The researcher after compiling the codes looked over the instances of each code for cohesion and consistencies found across the instances to justify their suitability in that given category. The categories were reconstructed as the coding proceeded. Then the list of themes was used to code all the transcripts repeatedly. Different pieces of the transcripts were coded into different categories and subcategories according to their different themes.

Stage Four: Collating the Codes into Themes

The collation (or grouping) of categories into themes helped to organise the data to facilitate interpretation. After this stage, the researcher collated all instances and incited as figures in this document. The emerging themes were organised into meaningful categories to define and clarify the hierarchical relationships within and between these categories. The result of this process enabled the researcher to develop deeper insight into the nature and range of instances encapsulated by the code (for example, unique features and commonalities) and to adequately review the coded sections (e.g. removing a code) to precisely capture the concept.

Stage Five: Producing the Report

The interpretation of the result was made using the themes and sub-themes to construct the narratives, as reported in chapters 5 and 6. According to Braun and Clarke (2006) thematic analysis, "can be an essentialist or realist method, which reports experiences, meanings and the reality of participants, or it can be a constructionist method, which examines the ways in which events, realities, meanings, experiences and so on are the effects of a range of discourses operating within society…thematic analysis can be a method that works both to reflect reality and to unpick or unravel the surface of 'reality' (p. 81)". The analysis was inductive in approach (Thomas 2010). An inductive approach refers to a systematic procedure where detailed readings of raw data are used to derive ideas, themes, concepts or models from the interpretation of the raw data by the investigator (p.238). The researcher used the interview excerpts to discuss the themes during the writing up of the report to achieve internal consistency in the interpretation. The narrative captures the meaning the researcher deriving from each theme and the interpretation of the reality through the themes.

This process provided a rich knowledge which helped to revise the conceptual model to demonstrate the understanding of the interrelationship and influence of the various components extracted from the data. The researcher used the additional categories which emerged in the data analysis to capture an understanding of the areas that needed refinement in the CMIS model. For example, the influence of cultural factors on health information use, information seeking behaviour, and source-selection, were not represented conceptually in the original CMIS model but integrated into the revised model. Chapter 5 reveals the data analysis findings, and the revised conceptual model in Chapter 6 provides a basis for understanding this research work in the context in which it was conducted.

In order to ensure that the data analysis process resulted in the construction of a good narrative, a graphical representation of the themes is used throughout Chapter 5 to conceptualise the interpretation of results visually.

A number of procedures were employed in the data analysis which helped to facilitate the reliability and credibility of findings as well as the data underlying them. Such procedures include:

- Triangulation: Three data collection approaches and multiple data sources were employed in this regime. This chapter has presented the various data sources used in this study as well as different types of qualitative information gathered (e.g. personal interpretation, experiences). The use of triangulation and multiple data collection methods meant that evidence could be corroborated by the various sources which increase reliability and delivers a more rounded viewpoint regarding the phenomenon. Researcher bias was also minimised as triangulation provided a useful mechanism as themes were substantiated by linking codes across varied data sources.
- Documentation: The researcher set out to document methodological choices made during the study. This entailed adopting a systematic research approach interactively to guide the research as presented. The researcher ensured that all data management, collection and analysis were properly documented, highlighting data sources to facilitate a deeper understanding of the research process. The documentation of these processes incorporates transparency and accountability, which makes the study reproducible.
- Ground the findings in data: The iterative approach adopted in this study ensured that moving from data collection through analysis to synthesis enabled the movement across data, coding, findings, and vice versa. More importantly, using NVivo software to manage the data meant that transcripts were coded, and data integrated in a seamless fashion. In addition, as the findings were being developed, the researcher could connect findings to underlying data by having the field notes and coded transcripts to hand for reference.

4.5 Data Management Processes

The following section describes the researcher’s activities related to managing the data collected in this study. The researcher gave primacy to the data, working from the data inductively to determine the categories, patterns, and interpretations.

Data collected during the fieldwork was stored in the form of audio recordings, transcripts and written notes (e.g. researcher memos, field notes). The focus group discussion and the interviews were tape-recorded and then transcribed verbatim. Meanwhile, the audio recordings were transcribed through repeated listening to understand and make sense of the meaning contextually.

With regard to the field notes and research memos, the researcher summarised salient points from these documents. The researcher created a folder in NVivo for the field notes and meeting minutes.

Lastly, some published literature on the core components of this study were identified by the researcher. These include human information behaviour, culture, health information, prostate cancer, rural dwellers, South-East Nigeria and were sourced from journal articles, books and electronic formats. The researcher used RefWorks to conduct the conventional bibliographic control procedure (i.e., citation).

4.5.1 Data Quality

Construct validity, deals with concept operationalisation (i.e., defining a concept through a set of attributes or variable) in order to make the concept measurable through empirical observation. Construct validity can be caused by inadequate explication of constructs as well as mono-method bias. Moreover, Yin (2013) suggested that construct validity can be improved by using multiple data sources, conducting a member check on the case study report, and maintaining a chain of evidence. Based on these strategies, designing the case study to maintain the chain of evidence allows reviewers to trace from conclusions back to the initial research question, or from questions to the conclusions. Hence, having a member allow for correction, enhances the accuracy of the report and helps identify a range of competing perspectives.

In the case of internal validity, it is pronounced within the explanatory study, and not with the exploratory or descriptive study, to justify the causal relationship. However, internal validity can be increased using methodological and data source triangulation. In addition, pattern matching could enhance internal validity by involving qualitative but logical deduction in which an empirically based pattern will be logically compared to a predicted pattern (Yin 2013). Similarly, external validity is concerned with determining whether the findings are generalizable to other cases. Threats to external validity include, the interaction of the causal relationship with units as well as context-dependent mediation. It has been argued that neither case is sufficient to reject or disprove propositions, and that several cases are more appropriate to demonstrate the accuracy of a theory (Yin 2013). In other words, case studies are generalizable to theoretical propositions and not populations. With this view in mind, the researcher's goal was to expand and provide analytical generalisation of the conceptual model within the rural context in South-East Nigeria, and not to suggest statistical generalisations by enumerating frequencies (Yin 2013, p.10). Reliability of this study, suggests that same results can be obtained by repeating the data collection procedure. In other words, other researchers in principle, can follow the same procedures and arrive at the same findings. Details of the reliability procedures are provided in the following section.

Data quality issues include the reliability, validity and generalisability of the data (Saunders et al. 2011).

4.5.1.1 Trustworthiness

When conducting research, trustworthiness and quality remain primary concerns. The assumptions of interpretive inquiry propose some principles for enabling quality in such qualitative study. Such criteria were utilised in addressing the issue of trustworthiness in this research, according to Lincoln and Guba (1985) and Guba (1981).

4.5.1.2 Credibility

The researcher while upholding the truth value of the findings by using primary data and undertaking the study in its natural setting, accommodated the need to understand, in a holistic manner the complexity of the phenomenon under study. In this study, the researcher carried out a member check by returning to rural communities in October 2015 and April 2016 to discuss with various individuals involved in the study in those rural communities. The process allowed the researcher to highlight emerging understanding, interpretations given to data, as well as show initial results to participants. These informal conversations occurred primarily at meetings, religious gatherings and whenever an appropriate opportunity presented itself. The gatekeepers, being crucial participants in the research facilitated a member check that was more formal than the former. Likewise, the researcher's supervisory team reviewed the draft of the result as presented in Chapters 5 and 6, and the feedback that followed was instrumental in enhancing the quality of the research outcome and the revision of the CMIS model.

Several opportunities were utilised to share and present preliminary findings and conclusions at conferences (iDocQ 2014 in University of Glasgow, and iDocQ 2015, i3 Colloquium 2015 both in RGU) and article publication. The response to these attempts was positive and provided face validity (in the case of conferences) to the findings and conclusions by information science experts.

4.5.1.3 Transferability

The researcher addressed the applicability of the findings by conducting a case study research but acknowledged that the focus was not on statistical generalisation. The use of a small and unrepresented number of cases raises concern about the generalizability of qualitative research findings (Yin 2013). The reason lies in the fact that, the use of qualitative techniques is not enough to make statistical generalisations about the entire population where the sample was drawn because the sample is usually, small and unrepresentative of the cases especially in a single case design (Yin 2003). However, Bryman (1998) argues that within a case study, different variables, people and activities are examined, unlike the survey sample which is restricted to a locality. Saunders et al. (2011) added that a well-completed and rigorous case study is more likely to be useful in other contexts. This study uses some approaches to address the generalisability concern. One method relates to the adoption of a cross-sectional sampling style involving men with different demographic attributes, experiences and cultural orientations across the fifteen senatorial zones in South-East Nigeria to be examined.

However, adopting cross-sectional sampling across multiple cases might be one way to provide case heterogeneity (mixed characteristics) from the cases, and provide a good representation of the population across the setting. One advantage of having a diversity of opinions is the amount of information it provides. Another benefit is the enhanced robustness of the findings of participants’ perceptions, culture and direct experiences with the phenomenon. The non-probability sampling technique used in this study allowed for in-depth examination of the situation across the cases (i.e. their information behaviour, cultural orientation and experience with health information around prostate cancer). The interrelatedness of the study to the existing theoretical model (i.e. the Johnson's (1997) CMIS), demonstrates that the findings have a broader theoretical significance (Marshall and Rossman 1999). The applicability of the CMIS model was examined by the researcher in the context of this study to establish its appropriateness, and where it is not all-encompassing, the researcher suggested possible modifications allowing theoretical propositions to be advanced in a manner that can be tested in others similar contexts.

4.5.1.4 Dependability

The researcher ensured that the methods and methodological choices employed in the research design were accurately and appropriately documented. To produce quality, reliable and robust study, the researcher employed several processes. These processes include systematic research design; use of appropriate data collection techniques; theory-based data analysis (e.g. using thematic analysis about the CMIS framework); and communicating findings (e.g. publications, thesis) (Creswell 2007).

Therefore, to ensure and improve the reliability and validity of the data in this current study, a culturally acceptable native language was adopted for this research. The researcher demonstrated knowledge of the research topic and the context of the study. Before beginning the data collection process, eligible participants were briefed about the aim of the study, and their consent to participate in the study was sought as well as an explanation of the various data handling measures adopted to ensure data protection and confidentiality. For example, the participants were made aware that their responses were recorded and stored in secured devices accessible to only the researcher. Assurance of anonymity was given that whatever the participant said would not be linked directly to their identities.

The participants were assured that any confidential information of the participants was not the focus of this study as well as the anonymity assurance increased the level of confidence and trustworthiness of the researcher and reduced the possibility of response bias. The location for the data collection process was examined for its appropriateness against interference and comfortability as these factors could influence the quality of the data (Saunders et al. 2011). The safety, comfort and quietness of the location were crucial to the choice of the place to preserve the quality of the recordings. Additionally, the researcher appeared in acceptable but casual clothing that aligns with the style of dress of those in rural communities (Robson 2002). The use of open-ended questions also helped to reduce bias (Easterby-Smith, Thorpe and Jackson 2008).

4.5.1.5 Confirmity (or Neutrality)

The researcher ensured absolute neutrality by conducting the study without any preconceived idea to allow for findings that emanated solely from the data, and not from bias, motivation, interest or the perspective of the researcher.

4.5.1.6 Procedure Adopted to Ensure Data Quality:

High-quality data presents the bedrock for building a holistic knowledge of the subject area, and this remained one of the top priorities of the researcher. Therefore, the researcher considered several procedures to assist in collecting appropriate and high-quality data. The researcher applied systemic processes for the collection of data from high-quality sources. The following processes were put in place for managing the huge amount of data that was being gathered:

- **Prolonged engagement:** The researcher regularly attended cultural gatherings (e.g. meetings, festivals and court) as a non-active participant (i.e., participant observer) who simply observed how the events unfolded. Through regular attendance to these gathering, the level of familiarity between the researcher and the participants increased, thus reducing any possible effect on the process and giving the researcher the opportunity to collect and analyse data from these gatherings. By prolonged engagement, the researcher could develop an understanding of the essential modes or pattern of interaction.
- **Interview Recording and Transcription:** Using recording equipment to capture the interview sessions provided the researcher with the opportunity

to access the exact words and verbal expressions of the participants without limit. Furthermore, the recorded interview provided reliable data rather than depending solely on post-interview notes which may not capture some essential details. Recording the interview meant that the researcher could listen to the interview over and over whenever necessary throughout the research process especially during the data analysis process to keep a check on the appropriateness of the researcher's interpretation.

- **Use of Primary data source and Purposeful sampling:** The researcher used primary data (rural men) instead of secondary data. The data used in this study came directly from the men in rural South-East Nigeria in each of the selected rural communities. Adopting the participant's observation method further provided the researcher with the opportunity to experience and observe the interaction of this population with the phenomenon under study. Another procedure used to ensure high-quality data was collected involving the use of purposeful sampling to select primary data sources who are information-rich experts in the context of interest. These key subjects and sources helped in ensuring that the data gathered was fit for purpose.
- **Collection of detailed contextual information:** A primary concern was to develop a detailed description of the context in which the phenomenon occurred. Providing the contextual detail was particularly important because of the CMIS model that directed the researcher to look at the background factors (e.g. demography) as part of the context for understanding how these influencing factors inform the health information behaviour of rural men. The researcher collected these contextual details through the interviews, observations and focus group discussion.
- **Data management controls:** The researcher implemented data management procedures such as storing the data in a secured location (e.g. a personal computer with password), attaching the transcribed interviews with all the details in the NVivo software and maintaining a regular backup throughout the research process. This data management controls assisted in preserving the data and safeguarding the quality of the data collected by assuring rigour in the data collection, management and processing as well as, providing systematic access to the data.

4.5.2 Researcher's Experience

The researcher began this study with substantial experience of living in rural communities. The pre-existing knowledge and previous experience were useful in improving the study.

Specifically, the researcher's nationality enabled the researcher to communicate with the participants in their local language, thus bridging possible language barriers (e.g. dependent on interpreter) that might have been created. This attribute provided the basis for understanding and observing cultural aspects relevant to the phenomenon under study that might otherwise have gone unnoticed.

The researcher's previous contact with friends on social media had helped to meet many gatekeepers from the selected states and communities. Knowledge and keeping regular contact (through phone calls) with some of these gatekeepers assisted the researcher in identifying hard-to-reach communities and participants for this study. In addition, the participant's knowledge of these gatekeepers built their trust in the researcher and improved the researcher's credibility among the rural communities thus resulting in increased expressions of interest and access to participants, and willingness to participate in this study.

However, the researcher's previous experience also posed threats to this study. However, this challenge was mitigated by bracketing off previous experience during the research process (Tufford and Newman 2012). In qualitative research, the researcher should begin the study without any preconceived ideas. Preconceived ideas or assumptions can blind the researcher and act as a filter that inhibits them from seeing important and salient details in the phenomenon. The presence of preconceived ideas leads to researcher bias (Saunders et al. 2011) which threatens the credibility of the data and the overall trustworthiness of the research. Naturalistic (i.e. Interpretivist) research assumes that the researcher constructs findings inductively based on an in-depth interaction with the research subjects.

In this study, the researcher attempted to accommodate the stance of neutrality by bracketing off previous experience or pre-existing knowledge. Patton (1990, p.473) further suggests that other factors have the potential to distort the findings of a research study. These factors include:

4.5.2.1 Influence of the researcher on what is studied

In the case of the influence of the researcher on what is studied, the previous experience of the researcher assisted to minimise this effect. The researcher had lived in rural communities for over a decade and had observed how men in rural South-East Nigeria interact with health information. The researcher's prolonged engagement (e.g. residing in the community) reduced the possibility of the researcher having a direct effect, for example, on the actual modality of conducting the various cultural gatherings the researcher attended during the participant’s observation process. In the case of the individual interviews and focus group discussions, the effect of the researcher on what or how the respondent responded was less controllable since the interviewee responded to the research questions as a respondent in a research study (i.e. choosing the manner deemed appropriate by the respondent). Furthermore, the researcher employed accepted interviewing practices such as asking non-leading questions, using the interview guide and requesting the respondents to speak from personal experience to minimise the effects of the researcher.

4.5.2.2 Influence of what is studied on the researcher

Qualitative research assumes that the researcher will be affected by what is being studied. The iterative and interactive nature of the research design implied that the researcher continually traversed between the process and activities (e.g. data collection, analysis) learning and understanding more about the phenomenon. The researcher being the primary instrument for data collection and analysis, should change over the course of the research. In this study, the researcher identified gaps in the data or new leads to follow based on the data collected. The researcher's evolving knowledge over the course of the study enabled the researcher to purposefully select participants to collect needed information for this study. The engagement of the researcher in many of the cultural gatherings allowed the researcher to maintain sensitivity with a broader range of activities and behaviours of rural men. However, the researcher was unduly affected by these gatherings to the detriment of data collection and analysis.

4.5.2.3 Researcher's competence

The final factor listed by Patton (1990), researcher competence, was addressed in several ways. Firstly, the researcher designed a systematic research study that included specific procedures for data collection, data management and data analysis. Adhering to the rigour of the study, enhanced the quality of the research findings. Secondly, the researcher had knowledge of and experience with the data collection activities used in this research. Thirdly, the researcher's nationality and origin, and experience within this context provided the foundation for dealing with the complex phenomenon and that were essential for the interviews, participant observation and understanding the primary source of data (rural men). Finally, the researcher had attended NVivo software training, seminars on qualitative research and conducted pilot study before this study.

In addition to these, the researcher presented the issues encountered in the research process and the methodological challenges which include, the scope of the study, the complexity of the phenomenon, and the data available for analysis and interpretation.

4.5.3 Methodological Challenges and Issues

Initially, the elderly respondents with no formal education were reluctant to participate in the study than their counterparts. Also, they preferred to refer the researcher to their children or grandchildren in school, who they claimed were more educated. They believed since they do not have a formal education, they felt inexperienced. The sense of inadequacy was because, in rural areas, being knowledgeable is associated with having formal education, not realising the fact that, life experiences encapsulate knowledge which is useful in this study. However, for them to understand the information an intermediary (interpreter) would be required which sometimes constitutes a barrier to effective interaction with the information. Thus, to eliminate this obstacle, the study was conducted in their local language to encourage participation. Language is an important variable as it has an impact on rural people’s information behaviour.

The other challenge was in the style of interview adopted especially, about interviewing senior men. The most important requirement was politeness and respect. The culture of the Igbos recognises and respects seniority when meeting with others. This culture requires that during the meeting, individuals’ younger should bear in mind the need for politeness and respectful behaviour. The difficulty the issue of seniority posed was related to the kind of information that can be asked of those older than the researcher during the interview. However, this limitation was addressed by adopting the social generality technique which presented the question about other people in the community instead of direct questioning on some issues related to knowledge and practices around prostate cancer.

In addition, the information needed from the interviewees was about their knowledge and opinions of the phenomenon. This means that there was no opportunity to enlarge the dataset outside that which the participants provided. Therefore, the interviewer adopted the creative probing technique to elicit more information about the phenomenon. This was reflected in how the research questions were presented to ensure that the questions did not signal being rude nor make the interviewee uncomfortable. Furthermore, the interviewer needed to ensure as far as possible that the answers received were the real expressions or opinions of the participants (i.e. their intended answers). The interviews were conversational, a brief description of what symptoms of prostate cancer were to help encourage interviewees to be more enthusiastic about responding.

Furthermore, each interviewee had a different style in answering the research question which was not much of a challenge as the style did not impact on the data in any way. However, this constituted one major strength of adopting qualitative research, -freedom of expression and style of speech. The interviewer had to memorise the key aspects of the interview questions to keep the conversation and interaction flowing, while seldom considering the interview guide. Keeping the conversation flowing helped participants to elaborate better in the interview sessions and helped the interviewer maintain the focus of the discussion. During the study, however, some methodological challenges and issues arose. Several of these deserve special attention.

4.5.3.1 The scope of Study:

At the outset, the researcher was optimistic about adequately addressing the general health information in rural communities. As the researcher went deeper into data collection and analysis, the more complex this attempt appeared with regard to the prevalence of health issues, and the degree of risk, cultural perception, and focus on other activities making the narrowing of the scope to prostate cancer, more permeable. The review of relevant literature was an exercise which assisted in narrowing the scope and refining which health issue was relevant to document and what needed to be merely mentioned or entirely omitted.

For example, the proliferation of the Ebola virus epidemic was a no doubt at its peak. However, this health issue (i.e., Ebola) was not gender-specific although information about this health problem fell under the broader health information category. Attempting to determine what was in scope and out of scope for this study was an ongoing challenge. The researcher continued to refine the focus of the research keeping in mind the aim and objectives of the research to resolve this challenge. As a result, the researcher reconceptualised and focused on only men's health problem (i.e. prostate cancer). The research was successful to the extent it provides a coherent and holistic understanding of rural men's health information behaviour (source-selection, access, use) and mapping this knowledge to a culturally appropriate health information provision approach in rural communities.

4.6 Ethical and Risk Considerations

4.6.1 Identified ethical issues

Informed consent was obtained from the selected participants and the health information providers before conducting the interview. "Informed consent entails providing as much information as possible about the research, so the prospective participants can make an informed decision on their possible involvement" (Silverman 2010, p.94). All data obtained during this study remains confidential unless the participant grants permission for disclosure (Silverman 2010). The research subjects were protected against any form of harm or risk (Creswell 2013; Silverman 2010).

4.6.2 Identified Risks

The researcher travelled to Nigeria from Aberdeen, the UK between October 2014 and February 2015. While in Nigeria, alternative travelling options were explored to reach the population since the researcher understands the transport system in Nigeria as a citizen. Although the travel risk was low, the researcher hoped to develop the pilot study in the UK as an alternative should the risk increase. The difficulty in accessing participants was small because the researcher understands the procedures of engaging with rural communities. However, the availability of participants was a concern due to their occupation.

Therefore, a flexible approach which fitted into their everyday life was employed in conducting the interviews and focus groups in the evenings, and on market days or Sundays. The budgetary risk was low. The researcher had savings specifically to cover the cost of accommodation and travel to and within Nigeria. The risk associated with getting a response from the participants was considered low because their native language was used to communicate and interact with them. However, the research can be conducted in the UK where the pilot study took place.

4.7 Summary of Research Methodology

In this chapter, the theoretical and philosophical assumptions underlying the research methodology in the Information Science field were reviewed. A discussion of the research design, approach, strategies and timeline for this study was provided. A summary of this chapter is tabulated and presented in Table 10 by highlighting the researcher's preferences in order to conduct this research work. This study takes multiple reality perspectives thus, looks at men in rural communities as active players (from a cultural viewpoint) who understand the phenomenon under study in different ways. This assumption helps to create meaning from the narratives of the individuals studied to uncover the multiple realities (or experiences) that exist regarding health information in rural areas. The primary emphasis is to discover the influence of culture on an individual level (i.e., investigating the experiences of the community members, particularly men) in relation to their cultural dimensions and information behaviour.

The research design for this study is a qualitative case study (Yin 2003). Qualitative techniques were utilised to collect the data. These methods include in-depth semi-structured interviews and focus group discussion. Saunders et al. (2011) assert that qualitative methods provide a rich amount of data in qualitative research. In-depth semi-structured interviews and focus group discussions were used to explore participants' cultural orientation, information behaviour and source selection and to determine the influence of cultural orientation on information behaviour and source selection including the level of awareness about prostate cancer. In this study, it is considered appropriate to examine individual-level behaviour to conceptualise the societal-level (or group). This approach will enable some measure of interpretation of the individual's perspective and determine the relationship between cultural perspectives and information behaviour, and the factors which contribute to these behaviours about health information. The focus is on the cultural and antecedent factors in the context of rural areas in South-East Nigeria which influence men's information behaviour towards health information constituting the unit of analysis in this research. Patton (1987) argued that the key factors in choosing or deciding what will be the appropriate unit of analysis are to think about the aspect of the study you want to say something about after evaluation.

Thematic analysis was employed to analyse the qualitative data gathered (Clarke and Braun 2013; Braun and Clarke 2006). According to Wilson (1999), both qualitative research methods and analysis mainly seek to capture the essence of reality; that is, what people make of their life and social world. Semi-structured interviews and focus group discussions were audiotaped and transcribed verbatim (Charmaz 2011; Clarke and Braun 2013). During analysis, the transcripts were coded line-by-line to help the researcher uncover underlying meanings. Similar expressions were grouped, patterns of behaviour and experiences were identified and labelled (Clarke and Braun 2013); also, frequencies of statements and categories were noted. Descriptive statistics were used to demonstrate the interrelationships between variables.

Research Elements	Researcher's Preferences
Epistemological and Ontological	Interpretive and constructivist
Research Design	Qualitative Design
Research Strategy	Phenomenological Case study
Research Techniques	Participant observation, semi-structured interviews and focus groups
Settings / Context	Rural communities in South-East Nigeria
Units of Analysis	Antecedent Factors; Health Information Carrier Factors; Information Seeking Behaviour; Information Use and Cultural Factors
Data collection Timeline	October 2014 – February 2015
Research Participants / Sample	Men in rural South-East Nigeria
Theoretical Framework	CMIS (Johnson 1997)
Data Analysis	Thematic Analysis

Table 10-Summary of the Research Design

CHAPTER FIVE

Presentation of Findings

5.1 Introduction:

This chapter focuses on the analysis and interpretation of the data collected from the participants from five states in South-East Nigeria through the adopted data collection techniques in answering the research questions posed in chapter four (section 4.3.3). The chapter presents the findings in line with the aim of the study as posed in chapter one (section 1.3).

The analysis was carried out thematically. On this basis, the analysis was premised on the themes guided by their diagrammatical representations, including those of sub-themes. Using themes was necessary to reflect the interplay of ideas and for the construction of models to demonstrate the connectivity of concepts based on the interpretation of the results from the data. This process enabled the researcher to draw interpretations towards achieving the specific objectives of the study.

5.2 Structure of the analysis

The CMIS model discussed in the literature review in chapter two was considered useful for providing a structure to the analysis of the data. The model is presented in Figure 13. The CMIS model, which explains information seeking behaviour looking at why and where individuals look for information, was used as a framework for discussing the health information behaviour of men in rural South-East Nigeria. The three components in CMIS used for the analysis were:

1. The antecedent factors which include demographics (i.e. age, gender, education, income), experience, salience and beliefs of rural men which are related to specific perspectives around prostate cancer and health information in general.

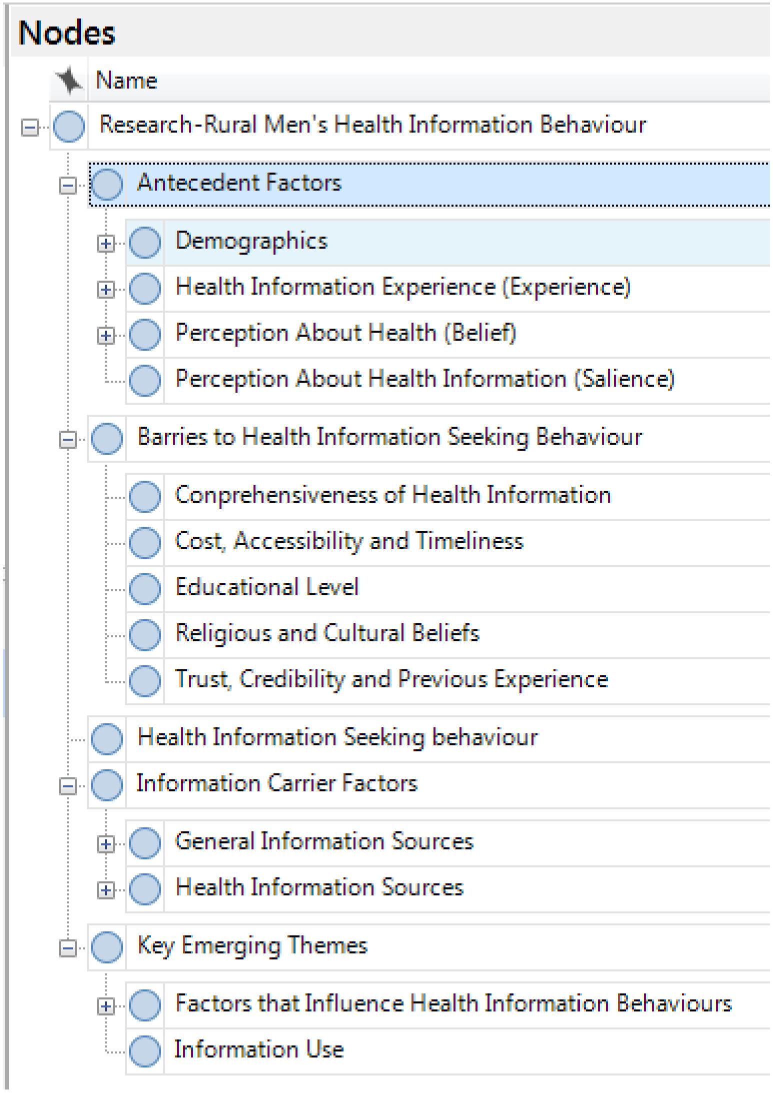
2. The Information Carrier factor which is connected to health information sources available to rural men and addresses the source characteristics and utility. The information carrier factor primarily relates to message-content

attributes such as source credibility, source trustworthiness, as well as the style and format of the information presented. In addition, the utility of health information relates to the perceived relevance, usefulness and importance of health information and sources to rural men.

3. The Information Seeking Behaviours (Actions) component of the model is concerned with how, when and why rural men seek health information. It addresses ways of communicating health information and the barriers to health information seeking activities which rural men experience when obtaining information from the health information sources available to them, as well as the factors that lead to information avoidance.

The CMIS presents a causal structure in which antecedent factors determine an individual's perception of the characteristics and the usefulness of the information, which in turn determines the use of the information carrier. In addition, the model offers a useful platform for discussing the individual and cultural contexts within which people encounter health-related information and engage in health information seeking which helps to explain the health information experiences of men within rural South-East Nigeria. Finally, the CMIS model encapsulates the views of many other scholars who have contributed to health information seeking behaviour (e.g. Sheng and Simpson 2015; Rains 2007; Johnson et al. 1995; Johnson, Andrews and Allard 2001; Johnson and Meischke 1993) and provides a basis for relating the findings of this study to previous studies. The main aspects of the CMIS model, as explained above, were used as a framework for both the interpretive analysis and the presentation of the data in this chapter.

In the data analysis and interpretation process, graphical models and other graphical representations of the themes and sub-themes were generated using the software Nvivo 10 – a qualitative data analysis tool. A graphical representation of the main thematic areas of this study (automatically organised in alphabetical order by the tool) is given in Figure 35.



Nodes

Name

- Research-Rural Men's Health Information Behaviour
  - Antecedent Factors
    - Demographics
    - Health Information Experience (Experience)
    - Perception About Health (Belief)
    - Perception About Health Information (Salience)
  - Barries to Health Information Seeking Behaviour
    - Conprehensiveness of Health Information
    - Cost, Accessibility and Timeliness
    - Educational Level
    - Religious and Cultural Beliefs
    - Trust, Credibility and Previous Experience
  - Health Information Seeking behaviour
  - Information Carrier Factors
    - General Information Sources
    - Health Information Sources
  - Key Emerging Themes
    - Factors that Influence Health Information Behaviours
    - Information Use

Figure 35 - List of Themes

Following sections discuss the main findings of the study addressing the above thematic areas and associated subcategories.

5.3 Antecedent Factors

The antecedent factors (e.g. demographics, experience, salience, and belief) of the participants who took part in this study were captured as shown in Figure 36.

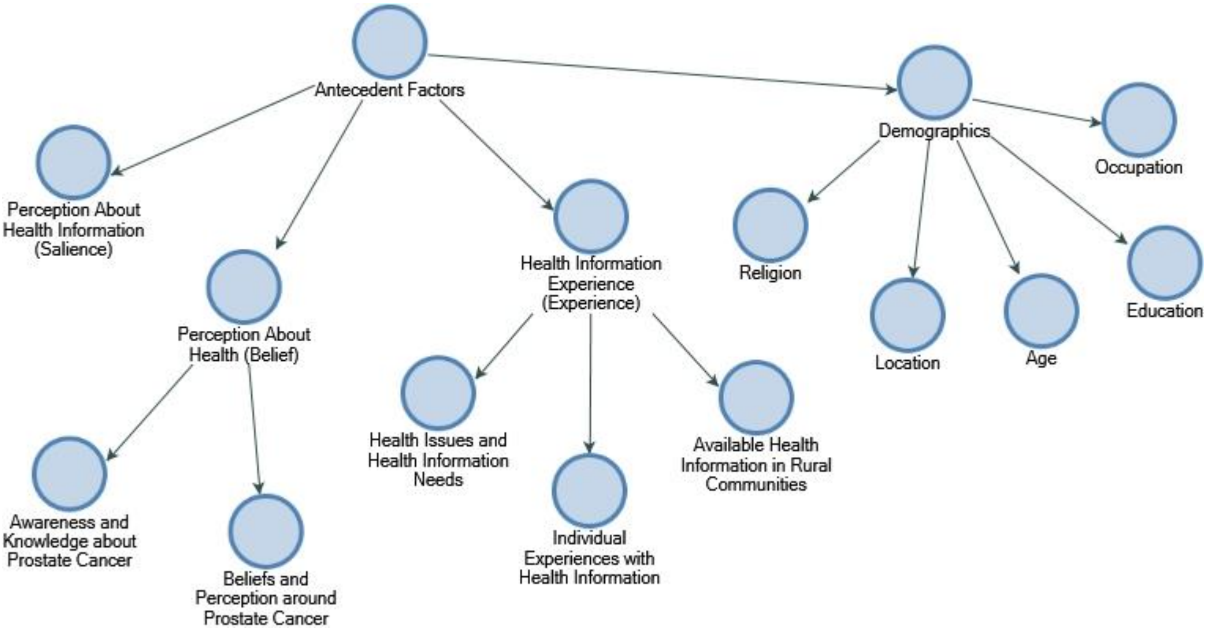


Figure 36 - Antecedents Factors of Rural Men in South-East, Nigeria

5.3.1 Rural Men's Demographic Characteristics

The demographic characteristics of the respondents are given in Table 11. A total of six questions were designed to elicit information on the characteristics of the respondents. This offered a clearer picture of the nature of the respondents and helped to understand how specific demographic variables (e.g., religion) influenced respondents' information behaviour in the context of this study. Overall, the respondents varied considerably in their demographic characteristics.

The diversity of the sample reflected the different characteristics of the study population, and it was important for ensuring that the sample was representative. A purposive cross-section of respondents was chosen, representing various religions, occupations, and different educational levels, social status and age groups. All the respondents were indigenous to the various communities in South-East Nigeria. It is important to note that a higher concentration of participants in certain areas more than others was expected as this represents the demographic profile of people in rural areas. For example, there was a higher proportion of people who had never been to school and a high number of people who were engaged in farming, which is typical in this part of the country.

Demography	Category	Frequency (n=35)	Percentage (%)
Age Group	35-39	3	8.6
	40-44	2	5.7
	45-49	10	28.6
	50 and above	20	57.1
Educational Level	Primary Education	6	17.1
	Never Been to School	25	71.4
	Secondary school	2	5.7
	Vocational college	2	5.7
Occupations	Farming	23	65.7
	Entrepreneur	4	11.4
	Petty Trading	3	8.6
	Traditional Medicine	5	14.3
Marital Status	Married	30	85.7
	Single	3	8.6
	Separated	2	5.7
Religion	Christianity	29	82.9
	African Religion	6	17.1
	Islam	0	0
Location	Abia	8	22.9
	Anambra	6	17.1
	Imo	7	20.0
	Enugu	5	14.3
	Ebonyi	9	25.7

Table 11-Demographic Characteristics of the Respondents

5.3.1.1 Age

The respondents varied in age between 35 to 50 years and older. They were not asked to mention their specific age, but to indicate the age group within which their ages fall. Given that some individuals considered information about their exact age as personal and reluctant to divulge this precise detail to strangers, the researcher adopted an age group approach instead. Moreover, asking about their exact age would have made some of the respondents uncomfortable and would negatively affect their participation. So, the use of age group was an effort to ensure the accuracy of the information and promote a comfortable atmosphere for participation.

Table 11 shows the age distribution of the respondents with more than half (20) within the high-risk age for developing prostate cancer, i.e. from 50 years and above. In addition, about one-third were penultimate to high-risk age, i.e. between the age of 45-49 years (10); the remaining participants were younger between 40 to 44 years (2) and 35 to 39 years (3). The researcher decided to include respondents from 35 years to sensitise the younger adults and expose them to the subject matter. This was important as attitudes towards health information develop from a younger age, and increasing awareness and knowledge of prostate cancer at an earlier age is fundamental, before people get older (i.e. 50 and above).

5.3.1.2 Occupation

The respondents were drawn from a broad spectrum across the community. This broad sampling gave insight into the diverse occupations and exposed the various information needs of rural men, with respect to their varied occupations. The various occupations identified were Mason, Artisan, Motorcyclist, Herdsman, Carpenter, Subsistence Farmer, Trader, Tailor, Labourer, Herbal Hawker, Native Doctor, Herbal Doctor and Bar owner. These occupations were further regrouped into four major categories (entrepreneur, farming, trading and traditional medicine) to substantially reduce the number of responses to be analysed, and allow for easy analysis.

Hence, Labourer, Mason, Artisan, Tailor, Motorcyclist, Carpenter and Bar Owner were merged as Entrepreneur while, Herdsman, Subsistence Farmers were merged as Farming. Traders were grouped under trading and herbal hawkers; herbal doctors and native doctors were under traditional medicine. Therefore, following these four categories, Table 11 shows that many of the respondents engaged in farming (23), followed by traditional medicine (5) while others engaged in entrepreneurial activities (4) and petty trading (3). However, it is important to mention that motorcyclist (known as ‘Okada’) or motorcycles were used as means of transportation in rural communities to convey people and goods from one location to another, and not primarily for service delivery. The use of motorbikes was because of bad road networks in rural communities. Also, respondents who practice farming also engaged in other occupations. For example, respondents who were entrepreneurs mentioned that they also had farmland for growing crops. This was also like the traditional medicine practitioners.

5.3.1.3 Location

The rural communities explored are presented in Table 12. These villages were selected in relation to their level of rurality and remoteness to the city in each state. A total of thirteen (13) villages were visited during the study. Three (3) villages were selected from Abia, two (2) from Anambra, three (3) from Imo, another three (3) from Ebonyi and two (2) from Enugu state.

The South-Eastern States	Participants in each state (n)	Name of Villages visited	Participants in each village (n)	Focus Groups (n)
Abia	8	Amankwu	3	1
		Obuofia	2	
		Ndiebe	3	
Anambra	6	Ubaru	3	1
		Ngodo	3	
Imo	7	Umuizi	2	1
		Ugbelle	3	
		Durueneriji	2	
Ebonyi	9	Ndiudara	3	1
		Ezza Ofu	3	
		Amaozo	3	
Enugu	5	Amodu	3	1
		Opi-agu	2	

Table 12-Selected States and Villages Visited

The number of selected villages from each state was based on the number of undeveloped villages present in the state so that states with a higher number of underdeveloped villages had more villages chosen than their counterparts.

5.3.1.4 Education

Table 11 shows that the respondents had varying educational levels ranging from no formal education to secondary education. Many of the respondents had never been to school (25), followed closely by a few who did not attend beyond primary education (6). There was a very low number of respondents who were educated at the secondary level (4). According to this finding, secondary education represented the highest education level rural men obtained.

5.3.1.5 Religion

In South-East Nigeria, there are only two religions practised by citizens - Christianity and Traditional African Religion (‘omenala’). Table 11 demonstrates that most participants in this study followed the dominant religion in the region, Christianity (29), followed by the traditional African religion (6). It was understood that every rural man professes one of these two religious faiths in the region. As this chapter will later discuss, the religious orientation of rural men plays an important role in their behaviour towards health and health information. For example, in some communities, health issues are treated based on some dominant conceptions deriving from religious beliefs and practices.

5.3.2 Rural Men’s Perceptions about Health (i.e. Beliefs)

The section describes the cultural beliefs and perceptions of men around severe health problems and specifically of prostate cancer. This context was explored in the interview by asking participants to elaborate on what they consider to be the reasons people suffer from severe health problems and whether these are connected to their cultural or religious beliefs. The insight developed from the participants’ answers to this question helped to understand and explain the role that culture plays in shaping their beliefs, attitudes and behaviour towards health problems and explore the related actions they follow in seeking possible solutions. The following sections discuss the two main causes of health problems described by most of the participants which were either connected to man-made fate or explained as an act of God. In addition, they demonstrate how health is an issue of communal responsibility and decision-making that concerns all the family and not only the individual.

➢ AS A MAN-MADE FATE

There were respondents with the view that severe health problems are not natural but man-made. This belief saw such health challenges as a consequence of some human acts or errors, including disobedience to traditions, offence to spirits (God or gods) or as malicious enchantment by someone who is a wicked individual and who rejoices in inflicting sickness upon someone else through some diabolic means (e.g. via the use of charms, poisons or incantations). The respondents mentioned some of the ways through which this man-made fate can occur:

> *"…when you step upon a charm placed on your way by some wicked people, you are most likely to fall ill" (IDI:24)*

> *"When you quarrel with someone, the person may go to the herbalist to use an incantation to cause sickness to you." (FGD 1:4)*

> *"Health issues are caused by witches who derive joy in seeing people suffer severe illness. (FGD 2:3)*

> *"sickness is not natural. It is caused by fiendish charms or incantations by someone you quarrelled with or someone who is jealous of your progress in life. (FGD 3:6)*

> *"I know that if someone poisons another person's food, the person who eats the food will become very ill…" (IDI: 33)*

> *"I know sickness could be an attack from the enemy or wicked people, that is whenever I notice anything strange in my body or health, I will go to my pastor for prayers or deliverance" (IDI: 31)*

As summed up by one of the respondents, the driving force for most man-made severe illnesses is founded on the desire to inflict pain on others because of jealousy, anger or hatred.

> *"…in every community, you will surely find people who will always seek to hurt others due to bad feelings, by inflicting them with sickness" (IDI:10)*

A few who also shared this belief pointed out that, in some cases, severe health problems are also caused by a person's disobedience to the customs and traditions of the land or because of an offence committed against someone.

> *"most of the sicknesses people suffer are because of the offence they committed against someone who dealt with them (the offender) mercilessly" (IDI:4)*

> *"on daily basis, you might offend someone without knowing that the person you have offended is bad spirited and such a person will ensure that you are punished with bad health" (FGD 3:2)*

> *"when a person deliberately disobeys our traditions, the person doesn't go free; he will be afflicted by severe disease. (FGD 1:1)*

> *"sicknesses can come upon a person when that person disobeys the law guiding our traditions; you might catch a disease through it" (IDI:5)*

> *"it is what you committed that kills you'. People suffer sickness because of all their offences to others. (FGD 3:7)*

> *"sickness comes when some people go to the city and commit evil that is against our tradition, but once they come back home, they will be struck with severe disease. (FGD 4:4)*

> *"I don't think peacemakers suffer severe illness. It is only people who go about planning evil against others, and one day their evil will catch up with them, and they will start suffering a nameless severe disease. (FGD 5:2).*

> *"…when you violate the traditions of our land, for example you went to the evil forest and cut down a tree there, you will offend the gods and they will strike the person with some strange ailments which will require sacrifices by the oracle priest to appease the gods before any cure can be achieved" (IDI:21)*

As indicated by the highlighted text, people who commit this offence of violating the traditions of the land, visit the Oracle priest to offer sacrifices to appease the gods to regain their health. With this group of believers, it can be deduced that, when a person lives a life void of offence or hatred, the chances of having the severe disease will be eliminated. Rural men have superstitious beliefs about other people in the above quotations. They do not take responsibility for their health condition but explain it as something that is inflicted by others in the community because of their relationship with that community and its customs.

- **AS AN ACT OF GOD**

Similarly, some respondents shared the belief that health conditions are entirely an act of God and therefore humans do not have control over what happens to them as that it is entirely determined by a higher power that is beyond them. This is how some of them put it:

> *"Some people become ill because God wants them to be ill not necessarily that they did anything wrong or so" (IDI:10)*

> *"I think God uses sickness to bring us closer to Him because when someone is sick they pray more and seek God's face but when the person has no illness, he will not be serious with serving God. (FGD 2:6).*

> *"the gods bring, and the gods take'. It is the gods that give good health and can*

> *cause illness whenever it pleases. So, we always pray that we will be favoured by the gods with good health. (FGD 4:1).*
>
> *"I know that nothing happens to a person except God allows it so, people fall ill only if God permits that" (IDI:17)*
>
> *"I believe sickness is a platform for people to know how powerful God is. Because when someone suffers serious illness and the pastors pray for him and he is healed, the whole community will see how powerful God is and believe more in Him. (FGD 5:7).*
>
> *"Sometimes serious diseases are warning from the gods before they strike and it better to visit the oracle priest for cleansing or do some prayers depending on whether you believe in tradition or not" (IDI: 13)*
>
> *"Sometimes the gods use sickness to draw the attention of the people, especially when someone commits a sacrilege in secret, the gods will do that so that as the oracle is consulted the evil will be exposed" (IDI:35)*

As one of the participant's excerpts above demonstrates, those who believe that severe health issues are an act of God, will usually approach the mediator between the diseased and God. The mediator is either a Christian religious leader or the oracle priest who is approached for prayers or to offer sacrifice. The responses also demonstrate that the sense of being in control has now been removed from the people and has been placed upon their God (or ancestors).

Like those who believed in man-made fate, these respondents continued to associate the possibility of being unhealthy with their level of obedience or reverence to their God (or ancestors) as well as their level of peaceful co-existence with others. This view is summed up by these respondents:

> *"My father was 80 years before he died in this village, and all through his life, he didn't go to any hospital because he was living peaceably with others and followed his ancestors with a clean hand" (IDI:16)*
>
> *"I believe if you know what the things are, which could cause you to be ill, you will try your best to avoid them. For instance, trying to be at peace with everyone around you and God" (IDI: 8)*
>
> *"when there is a lot of evil in the land, the gods may strike some people and require*

> *sacrifice and cleansing from the land. For instance, I remember when the youths were indulging in evil acts such as stealing and killing, and the gods struck seven young men with a serious disease that has no name and cure, and when the chief priest consulted the gods, a sacrifice was demanded by the community for cleansing before those seven young men were healed. (FGD 1:6)*
>
> *"the gods look after those who are peaceful and obedience to them. Look at our Igwe (Village Head), he has never complained of a common headache because he is a peaceful man who also wants his people to live in peace, so the gods have always kept him healthy". (FGD 3:2).*

- **AS A COMMUNAL RESPONSIBILITY**

During the analysis, it became clear that within the cultural tenets of South-Eastern Nigeria, health problems are considered as a communal responsibility among family members. This was how some participants expressed their views:

> *"… when my younger brother was sick, I called all the members of the family to deliberate on the necessary actions we need to take when the orthodox medicine was no more helping his situation" (IDI:3).*
>
> *"It is part of our cultural belief to be your brother's keeper especially when your brother is sick. We believe that the sick person should not be neglected by those around him irrespective of what he owes or have done" (IDI: 32).*
>
> *"In this community, if someone commits a sacrilege or other offence which results in him being sick, it is the family that the community will hold responsible for providing the materials to appease the goods" (IDI:20).*
>
> *"it is the family member of the sick person that goes to find out what is the cause of the person's sickness and how to treat the person, whether it will be traditional or medical treatment". (FGD 2:1).*
>
> *"when an elderly man is ill, the elders of the land meet to delegate one or two elders who will go and consult the oracle for the healing of the man but when it's a woman or a young person, the elderly family member of the person seeks for help for the individual and looks after him" (FGD 4:5)*

With regard to rural men's perception about health, the responses show that their beliefs were not in isolation from their cultural and religious orientation. This means that, in a family, one person's health problem is a problem for all. In this view, all members of the family take an active part (e.g. by taking decisions on where to seek treatment, payment of medical bills) in ensuring the recovery of the diseased.

All these views show that men in rural areas in South-East Nigeria, do not attribute unhealthy behaviours as possible causes of severe sickness.

5.3.2.1 Awareness and Knowledge about Prostate Cancer

The respondents were asked to describe what they know or have heard about prostate cancer, talking about where they got the information, how they got it, what they believed is its cause and symptoms, and how common it is among men in their community.

Some of the respondents indicated that they had no prior knowledge about the disease 'mgbachi mma miri' (prostate cancer).

> *"I have never heard about such a disease before" (IDI: 15)*
>
> *"No, I have not heard about that" (IDI: 19)*
>
> *"I am not aware of such a disease" (IDI: 25)*
>
> *"I don't think I've heard of this disease before". (FGD 1:3)*
>
> *"that disease you mentioned is not a common thing here, so I've not heard of that before". (FGD 3:4)*
>
> *"haaa prostate cancer is not known here. I don't have any idea about that". (FGD 5:1).*
>
> *"No, I don't have knowledge of prostate cancer". (FGD 5:6).*

However, other respondents claimed they did know about the disease, but mistook it for another ailment:

> *"I don't know much about it, but all I know is that it happens to you when you sleep with many sexual partners" (IDI: 30)*
>
> *"I know it is a disease which affects you when you want to pee; sometimes you feel sharp pain as you try to pee, I think it is an infection" (IDI: 11)*

> *"It is caused by untreated sexually transmitted infections in the past because of promiscuity" (FGD3:2)*

> *"Yes, I had heard people talking about a young man who got it when he went to the city, but he came back to the village and started distributing it to people he sleeps with" (IDI: 7)*

> *"eehh, when I travelled to the city, I heard of it that it is a disease caused by untreated childhood illness". (FGD 1:2)*

> *"I think it is a disease that men get when they have unprotected sex with women that has a sexual infection which causes back pain and infertility". (FGD 2:5)*

> *"my uncle suffered it before he died because he married three wives. He was peeing on himself at night, and it used to be painful whenever he wants to pee". (FGD 4:6)*

From these excerpts, it was clear that some respondents who described it as being a contractable disease were as ignorant as those who had no prior knowledge.

Another respondent hinted at how the social identity of men as heads (authority) and respectable figures in their household and society influence the source they use and how they use it:

> *"I sent my eldest son to go and meet the traditional man in the neighbouring village for some herbs when I had such symptoms as burning sensation while urinating" (IDI: 6)*

This excerpt makes a profound revelation about how men consult sources outside their local community on their health issues using intermediaries to protect their social ego (as faithful men and authoritative).

Other respondents believed that seeking treatment or help was a matter of turning to religion and their belief in God or that a traditional doctor was more suited to address these health issues:

> *"If you catch such disease only God Almighty can cure it completely" (IDI: 3)*

> *"It is a disease you just need to go to the traditional herbal doctor to give you some concoction which you will take for some days to get better" (IDI: 9)*

> *"hmmm if you have such disease, the best thing to do is to turn to God and confess*

> *your sins and start praying and fasting for God to forgive your sins and heals you" (FGD 2:4)*
>
> *"such disease is better treated by the native doctor who will use both spiritual and herbal means to heal the person" (FGD 3:3).*

Unfortunately, in one of the focus groups, one respondent was even of the opinion that prostate cancer is a problem suffered by women:

> *"Yes, I know what it is, it is caused by sleeping with a woman who has it" (FGD2:4)*

5.3.2.2 *Beliefs and Perceptions About Prostate Cancer*

The respondents were also asked to express their opinion and beliefs about the causes of prostate cancer. Some of these were like the above; for example, it was interpreted as the result of a curse from the gods:

> *"I believe it is a curse that comes from the gods when a man disobeys the gods…" (IDI: 11)*
>
> *"I think the gods use this sickness to punish those who do evil in the land". (FGD 3:5)*
>
> *"it is a curse from the gods to those who are guilty of an offence in the land". (FGD 4:2)*
>
> *"when a man sins secretly, the gods of the land exposes such person with this kind of sickness". (FGD 5:4)*
>
> *"if a man sleeps with another man's wife, the gods will inflict him with this sickness". (FGD 5:3)*

However, there were also some other beliefs about it which appeared to be based on logic rather than a superstition; even in that case, they did not reflect an accurate knowledge or understanding of the health condition. For example, one of the respondents explained that prostate cancer is a disease which is experienced at a young age and an incomplete medical treatment may cause it to reappear at a later age:

> *"…a disease that was not properly cured at a younger age, which then reappears*

> *as the man grows older, resulting in difficulty to pee" (IDI: 25)*

Other respondents connected prostate cancer to the sexual lifestyle of a man, explaining it as a result of unfaithful extra-marital relationships and linking it to sexually transmitted diseases:

> *"…is one of the sexually transmitted diseases, contracted from women when a man keeps multiple partners" (IDI: 28)*
>
> *"…a disease that occurs when a man is unfaithful to his wife by having many extra-marital affairs with other women" (IDI: 8)*
>
> *"only unfaithful men suffer such because my father throughout his life never experienced such as he married only my mother and remained faithful to her" (IDI: 12)*
>
> *"I am sure that any man that is faithful to his wife alone will not suffer from such sickness". (FGD 1:5).*
>
> *"most men that I have seen that suffer from this kind of sickness are those who have different women around that they are not properly married to". (FGD 2:2).*
>
> *"like myself, I don't sleep around so I've not had or experienced any symptom of such sickness and I know it is the same with men who are faithful too". (FGD 4:3).*

These excerpts reveal the cultural misconceptions that exist around prostate cancer in the rural communities and the lack of understanding and knowledge that people have about its causes. These misconceptions were also evident in the verbalisations of key and trusted members of the community. For example, one of the traditional healers in one of the villages mentioned that,

> *"most men who come to me with difficulty in urination, do not know exactly what the cause could be, so I tell them some preventive measure like staying away from women, based on what my grandfather told me when I was introduced to this alternative medicine" (IDI: 21)*

This demonstrates the danger of the lack of health information and the poor awareness level of prostate cancer in rural communities which makes room for the dominance of cultural misconceptions about health issues among men in South-East Nigeria.

5.3.3 Rural Men’s Perception of Health Information (Salience)

Following on from the evidence on the cultural misconceptions about health information and prostate cancer it was important to explore rural men’s perceived meaning and value of health information and whether this helped them to engage in health information seeking. The participants were therefore asked to express their opinion on what they consider health information to be and what its importance is to their wellbeing. The data analysed under these two themes are discussed in this section.

The respondents’ perceptions of health information revealed that they consider it to be fundamental in addressing health information needs and ensuring a healthy life:

> *“…anything which helps you to know what you didn’t know before regarding any health issue” (IDI: 11)*
>
> *“…something that helps you to understand how to live a good healthy life” (IDI:19)*
>
> *“…when you tell a person how to keep his/her body clean; I believe you are talking about health information” (IDI: 9)*
>
> *“A message about how we can avoid things that could make us fall sick.”*
>
> *“It’s something that tells people about those things which can endanger their life” (IDI: 6)*
>
> *“it is information that concerns our health like how to treat some sicknesses”. (FGD 1:5).*
>
> *“when you hear about the sickness that is on air and the treatment that you should take to avoid that sickness is health information”. (FGD 3:1).*
>
> *“the information we get from people that sell herbs. Like what the herbs that are selling can cure or prevent and how you can be using those herbs when you buy it is health information”. (FGD 5:5).*

It was also interesting to find that some participants perceived health information as something that is received or learned at school, revealing in that way a potential educational divide in the provision of health information:

> *"…it is something you learn when you go to school, your teacher will teach you how to be clean and take care of your body" (IDI: 3)*
>
> *"…those who are educated get health information from their teachers" (IDI:15)*
>
> *"whenever my son visits on holiday from his school, he will tell me what they taught him, for example, don't eat too much salt or sugar daddy to keep good health, I believe that is part of health information" (IDI: 10)*
>
> *"it is those things they taught us in school as a subject called health and physical education which talks about the kind of exercise you can do to be healthy always". (FGD 2:6)*
>
> *"my little daughter told me to be drinking water every morning that it's good for my health and this is what their teacher told them in school". (FGD 4:2).*
>
> *"sometimes the community school organises health talk for our children and they invite parents to come and learn how to keep your body clean and healthy eating". (FGD 5:1)*

Other respondents perceived the important role of health information in solving their health-related problems, demonstrating a link between the provision of health information and taking specific health-related actions. Health information was delivered in the form of suggestions or ideas deriving from trusted members of the community:

> *"I believe it is part of the suggestion that the traditional doctors say to either a person or their family on how the diseased can recover, or the possible treatments that need to be administered" (IDI: 1)*
>
> *"I think, any idea or suggestion that you receive which makes you do something concerning your health, for example when the chemist boy suggested that I remove any stagnant water around my house to reduce the degree of mosquito bite and reoccurrence of malaria" (IDI: 4)*
>
> *"it's information that tells you what you need to do when you are not well" (IDI: 7)*
>
> *"it is those things that our traditional healers tell us to be regularly doing to be healed of some sickness. Such as drinking some mixture of herbs every morning".*

> *(FGD: 3:5).*
>
> *"…sometimes when I visit my friend who has a chemist shop, he tells about so many diseases that are going on and how to avoid or treat them". (FGD 4:4).*
>
> *"the information that we get from the health centre on how to live healthier". (FGD 5:6)*

In expressing their perceptions about the importance of health information to their wellbeing, respondents' descriptions also clearly outlined words such as 'very useful', 'important' and 'relevant' and highlighted the value of information in helping them to correct wrong practices that were earlier developed because of their lack of exposure to information:

> *"… sometimes you face health problems that you don't know what you did wrong, so having information can help you to retrace your step is relevant" (IDI: 29)*
>
> *"an important something for pregnant woman, that is why they go for antenatal at the health centre to be told what to do and how to take care of herself and the baby during pregnancy" (IDI: 15)*
>
> *"…sometimes the health information helps to correct bad practices that people engage in unknowingly" (IDI: 26)*
>
> *"you will avoid some wrong behaviours if you have some information about their effect on your body, so it is very useful" (IDI: 35)*
>
> *"…relevant in teaching about health and what actions to take to live long" (IDI: 23)*
>
> *"before I used to pluck fruits like mango or cashew and ate without washing, but now I leant it's good to wash your fruits before eating to avoid typhoid". (FGD 1:4)*
>
> *"When you have health information, it helps you to correct the mistakes you used to make in the past about your health like completing the dose the chemist gave you because I used to take medicine when am sick but once am fine I will stop taking but the chemist man advised me to be completing the dose even if I am fine". (FGD 2:3).*

What was evident from the perceptions expressed by respondents within these excerpts, was the fact that rural men recognised the significance, importance and value of having access to health information in order to resolve their health problems. Following this insight, and the value attached to health information, the study examined the experiences of the respondents with health information sources.

5.3.4 Rural Men's Experiences with Health Information Sources

The data analysed under this theme contributed to identifying the kind of health information available in rural communities in South-East Nigeria and the various health issues facing men and the factors which influence their individual experiences with health information.

5.3.4.1 Available Health Information in Rural Communities

The type of health information that is received in the rural communities was examined in order to understand the extent to which health information gets to rural residents. Therefore, the respondents were asked to list the type of health information they had received or come across via any source in their communities in the past few months.

The study revealed that in rural communities, health information is received or is available via different sources, but these mainly target women and children rather specifically men:

> *"I heard that women should take their children for immunisation and antenatal care at the health centre in the neighbouring village from my friend" (IDI: 2)*

> *"I heard that some health workers would visit our community to immunise children under 5years" (IDI:21)*

> *"I heard the town crier about some months ago calling for our pregnant wives to go for their antenatal and for those who have children under 5years of age to take them in for polio immunisation" (IDI:5)*

> *"eehh, it is only what concerns the women and the children that the health workers who come to our community talk about such as polio immunisation". (FGD 3:1)*

> *"men do not specifically receive health information in this community, but I know there was a time that the children were treated of chicken pox and others were immunised against it". (FGD 3:7)*

> *"we got information that some people are coming from the city to educate our women about breast cancer, but men are not involved". (FGD 5:3).*

In addition to the provision of women's and children's health information, is other general health-related information that addresses issues, such as AIDS, Vision, High Fever, Diabetes, and Malaria, which may affect men, women and children. This type of information was available in rural communities mainly via interpersonal sources and the radio rather than via authoritative information sources (e.g. health professionals) visiting the community:

> *"…it was in 2009 when the youth copers (NYSC) came to my village and were talking about HIV/AIDS, and other sexually transmitted diseases. Apart from that one, no one has ever come to my village to speak, educate or guide the villagers (rural people) like the copers, on any other health issues" (IDI:28)*

> *"I was listening to radio the other day when the news presented mentioned something about a new killer virus called Ebola, but I didn't understand what he was saying" (IDI:9)*

> *"…two weeks ago, during the announcement in church, the session clerk requested that all those who are having a persistent high fever should wait behind…" (IDI: 11)*

Systematic and frequent visits from health professionals and health monitoring were not recurrent in these rural areas, and the citizens rarely had the opportunity to be fully informed in relation to specific health conditions. The approach followed was mainly ad-hoc and reactive rather than proactive:

> *"…when I went to the chemist for malaria treatment, he told me about the danger of exposing myself to mosquitoes at night by leaving stagnant water around my house" (IDI:30)*

> *"…about two months ago, the town crier announced in every part of the community for people to gather at the community square for an eye check because a group of medical personnel came from the city during the governorship election campaign" (IDI:14)*

> *"I remembered by this time last year some group of students came from the city to our community to share some medicines for the treatment of malaria and fever, but I've not seen doctors coming to do such thing in this village". (FGD 1:1).*

> *"when I came back from the city last month, my children told me that some church people came to share mosquitos' nets and educate people on how to keep their environment clean to avoid mosquitoes". (FGD 2:5).*

> *"…sometimes I hear health issues about a cough and catarrh are discussed on radio, but I don't hear it often because of lack of electricity to listen to the radio. (FGD 4:6).*

As is obvious from the above, none of the respondents mentioned information issues around men's health. It was, therefore, necessary to ask some follow-up questions that would clarify the participants' experiences of men's health issues in general as well as prostate cancer. The participants expressed their views as follows:

> *"I have not heard or gotten any health information that is teaching me or saying anything that is particular about men in this community" (IDI: 11)*

> *"In this community, I have not heard about that kind of sickness before, and so I have not received any information about it either…" (IDI: 22)*

> *"I heard something about that when I was travelling on the bus to see my children in Abuja, until that time, I had not heard about it in this community" (IDI:17)*

> *"I don't think I have ever heard of such thing nor seen anyone talk about them in this our community publicly probably they do in private" (IDI:24)*

> *"No, I have not come across any health information that is specifically talking about diseases that men alone suffer" (IDI:34)*

> *"nobody has given us information about that disease or any disease that is particularly for men in this community". (FGD 3:6)*

> *"eeh I only heard about men's infertility when I went to the market in the city, but I've not prostate cancer or any talk about men's health before in this village". (FGD 4:1)*

> *"I have not heard of that disease before, and I've not received any information about men's health before in this community". (FGD 5:2)*

The above excerpts indicate that men in rural South-East Nigeria lack health information about prostate cancer in their communities. Some of the reasons leading to this situation are provided, after examining the various health issues these men face, under the factors that influence rural men's health information experiences.

5.3.4.2 Health Issues and Health Information Needs

The data analysed under this sub-theme contributed to eliciting the common health problems experienced by men as well as their health information needs in rural communities across different age groups. In order to achieve this goal, the researcher asked the respondents to recall any experiences they have had in the past where they required health information or where they wanted to know more about a health issue in order to be able to support either themselves or their friends and relatives. This style of question removed the respondents from the spotlight allowing them to talk about health issues in general and as related to other people and not necessarily to themselves only.

The respondents expressed concerns about general health problems and recalled a number of different health symptoms they had encountered. In those situations, however, with the exception of one participant who had been to the chemist, most of them had consulted family, friends and alternative medicine treatment.

> *"I have seen some men complaining about back pain and high fever just like myself, and some of my friends also did suspect being infected with sexually transmitted disease. I also have sometimes noticed when I stand with others to pee, that some men do take long before passing out any urine" (IDI: 1)*
>
> *"I remember it was when I was having one severe waist pain such that I couldn't stand up straight for weeks after using all the local herbs that I know and was recommended to, I was worried and wanted to know more why I was having such a problem" (IDI: 3)*
>
> *"I remember it was when I had malaria, then I didn't know what it was, I just noticed that my mouth was bitter, and I couldn't eat again, and I was always very tired to the point that I struggled to walk, sit or stand. Then I approach the chemist that is down the road who mixed some drugs for me which I used and got better again" (IDI: 4)*
>
> *"when my son's wife called me that my son suddenly began to cough out blood persistently and she doesn't know what was wrong, then we rushed him to the*

> *native doctor where he was treated, and the doctor said he must have been infection then gave him some herbs and concoction to take three times a day" (IDI: 21)*
>
> *"I have a foot ulcer which is not getting any better despite many medical treatments I have been receiving. I would like to know what else I can do to help the situation" (IDI: 33)*
>
> *"my uncle had swollen legs for so long, and we have gone to so many places for the treatment, but we have not yet found any treatment for him apart from the medicine the chemist man gave us to reduce the pain". (FGD 1:6)*
>
> *"I know of a man who has severe back pain, his son took him to the city hospital, but the cost for the treatment was much, so they brought him back and used herbal treatment, but he later died". (FGD 2:2)*
>
> *"I have an ulcer, but I don't have money to go to the big hospital in the city, so I used the herbs the herb hawkers sell to minimise the pain. Also, I go to the health centre in our community to see the doctor, but I have not been able to meet with the doctor as he comes from the city and stays just a few hours with a lot of people to attend to". (FGD 3:2)*

Some of the participants described previous and current health concerns and symptoms which could have been linked to serious health conditions, such as urinary diseases or even prostate cancer. As is clear from the incidents detailed in these extracts, some of the men or members of their family had unresolved health information needs, while others had found temporal solutions resorting to herbal medicines without further exploring the causes of their health condition:

> *"It was when my brother was complaining of having burning sensation whenever he tries to pee. Then I was concerned and needed to have an idea on how to help me myself, but I took him to the local herb-seller who mixed some herbs for him, and he took it and was relieved because he hasn't complained about that again to me" (IDI: 2)*
>
> *"Some months ago, I was finding it difficult to pee when I have the urge to pee. This problem gave me concern because it was making me uncomfortable and having pains all the time I want to pee. Then I visit the native doctor because I wasn't sure if it was an attack or not, but when I got there the man mixed some medication for me, and since then I have been able to pass out urine with limited*

difficulty" (IDI: 7)

"I have noticed that for some time now, after dressing up after doing a pee, I will be stained with some tiny amount of urine. It was not happening to me before and, so I am concerned and wish to know more about this situation" (IDI: 26)

"I easily wet myself sometimes even before I get to stand up to go and pee, I want to know why it is happening to me and how I can stop this embarrassment" (IDI:20)

"My father before he died had back pain and pain when he's peeing for a long time, but the traditional healer in our village always give him some liquid mixture which he was taking once every day which helped him to manage the pain before he died. (FGD 3:3).

"I have a friend who wets himself unknowingly now, and he can't explain the cause of that, so he is planning to go to the city hospital and find out what is wrong with him" (FGD 4:6)

The excerpts above indicate that there was a diversity of health issues on which rural men or their relatives required more information.

In order to develop a clearer idea of the most common information needs that occurred in the population, an examination of the frequency of responses to specific health issues/symptoms are reported in Table 13.

Overall Health Concerns	Frequency (N)	Percentage (%)
Back and waist pain	32	91
Hesitancy / Delay starting to urinate	29	83
Frequent need to urinate	27	77
Infectious diseases	19	54
Malaria symptoms	30	86
Injury including fall injuries	12	34
Sexually transmitted infections	18	51
Pain/ Burning sensation during urination	24	69
High Fever	22	63
Dribbling after urination	30	86
Erectile / Potency issues	23	66

Table 13-Common Health Issues among Men in Rural Communities

Among the various health concerns, back and waist pain was the most frequently experienced by 32 rural men, followed by Malaria symptoms among 30 rural men.

The responses were also grouped according to different age groups of men who took part in the study (Table 14). The purpose was to allow the mapping of age-groups with the types of information needs and to reveal any commonality of health issues across the age groups in this rural population. However, as numbers in the younger participant groups were low to allow any meaningful comparisons, the participants were categorised in two main groups, one with participants from 35-49 years old and the second one with participants who were above 50 years old.

Age Groups	Health Concerns	Frequency (N)
35-49yrs (15)	Back pain	13
	Hesitancy to urinate	2
	Sexually transmitted infections	12
	Burning sensation during urination	6
	Malaria symptoms	11
	Dribbling after urination	11
	High fever	10
	Delay starting to urinate	8
	Infectious diseases	4
	Urinating more than twice at night	7
	Erectile difficulty	7
	Injury	3
50yrs and Above (20)	Back and waist pain	19
	Delay starting to urinate	19
	Frequent need to urinate at night	20
	Infectious diseases	13
	Malaria Symptoms	19
	Fall Injury	9
	Sexually transmitted infection	6
	Painful experience during urination	18
	High Fever	12
	Dribbling after urination	19
	Potency issues	16

Table 14-Health Issues among Men by Age Demographics

Both the younger (35 to 39yrs) and the older group of men (50yrs and above) had health concerns for themselves, their relatives or friends over health issues and symptoms, many of which were specific to men. One of the most recurrent concerns included knowledge about potency/erectile issues, which was sought by a total of 23 men in total and was, as would be expected, a most common health information need experienced by older men (16 people who reported that issue was between ages 50yrs and above). Other health concerns included high fever, which was pointed out by 22 respondents in total (10 from the younger age group and 12 from the 50 and above age group) and infectious diseases mentioned by 19 participants (6 people from the 35-49 age group and 13 participants from the 50yrs and above group). However, the most important finding to mention in relation to this age comparison was that older men had significantly higher concerns around urinary issues, some of which could have also possibly be related to prostate cancer symptoms, than their counterparts. As the table above demonstrates almost all the older men mentioned problems with pain or delay during urinating in general, including stories about other people, friends and family as explained above.

Further analysis of demographic differences included the education level of the participants. However, when the educational level was mapped in relation to different health issues experienced, it became evident that there was no noticeable variation in the experience of health concerns. This was because, as explained earlier, most of the respondents had never been to school (25). The rest had only attended school up to primary education, and only four participants had finished secondary level education. This was a common expectation among the rural populations of this study (Obertova et al. 2012).

Irrespective of their educational level all participants indicated a need for health information to be able to support themselves and others around them in the community.

After exploring the perception of men about the significance of having access to health information and the main health information needs they experience, it was necessary to investigate their experience in accessing health information in rural communities by asking the participants this question: "what is it like getting health information for men in this community particularly when using outside sources??".

5.3.4.3 Individual Experiences with Health Information

Men's individual experiences of accessing health information were explored to develop a deeper understanding around issues of access to health information in rural communities.

An important problem as put by one of the respondents was that health information provided within the community was mainly targeted at women and children rather than men:

> *"we hardly get any information about health in this community other than those calling for our women and children to present for a medical check-up in a nearby health centre" (IDI:18)*

In addition, several participants explained that all the health-related information that they needed in their day to day life was always from local sources (e.g. traditional healers). Rural men admitted having negative experiences when they attempted to get health information from any other external sources. In general, participants described their experience as, 'difficult', 'almost impossible', 'hard', 'demoralising', 'bad' 'incomprehensible', 'dumbfounded (have no idea why)', 'annoying', 'helpless', 'hopeless', 'frustrating' and 'discouraging' when trying to get hold of any health-related information that they needed from sources outside their communities:

> *"The situation is helpless and hopeless, no one cares, imagine if you have any problem today, and the local herb doctors were not around, you will die, because before they take you to the hospital with the poor condition of the roads, you will die on your way before getting there" (IDI: 8)*

> *"We struggle to tackle our problems when they arise because we don't know what to do and cannot afford the hospital bills in the city so then we end up using the local doctors in our community" (IDI: 6)*

> *"The last time that my father was having chest pain and I took him to the hospital in the city, but the experience we had was discouraging because we left our village as early as 6 am and got to the city hospital at around 10 am and there were a lot of people waiting to see the doctor already and by the time we were able to see the doctor at 3:30 pm, we were told to pay a huge amount of money for test and x-ray which we could not afford and we came back and went to the traditional healer who mixed some herbs for us and that is what he's drinking now". (FGD 5:7)*

> *"it is hard for me to go to the hospital in the city because I don't have anybody that will take of me in the city. I don't know anywhere so; I prefer to patronise the*

> *traditional healers in our village who provides us with herbal treatments". (FGD 1:3).*

A few other respondents similarly classified the situation as being poor and discouraging. A complete disconnect was evident from the centre as well as an existing divide between rural and urban geographical regions, with mainly urban citizens having easier and privileged access to health information

> *"We are completely disconnected from the city and the government, they don't even care about our health whether we are living or dead, only when it is election that they remember we exist" (IDI: 28)*

> *"The situation is poor because we don't get any such news from the government at all in this village" (IDI: 19)*

> *"it is discouraging my brother, because only those who are educated or have the finances are receiving such information, if there are even said at all" (IDI: 13)*

> *"I don't understand why government cannot come and build a good hospital in our local council at least, so we can easily access it when we need it" (IDI: 10)*

> *"it is only when you live in the city that you can go to the good hospital because we only have a small health centre here with nothing inside for treatment and the government only concentrates on providing good hospitals for those in the city". (FGD 3:4)*

> *"hmm I don't know if there is any hope for us that live in the village for good hospitals. We don't receive any news about health from the government except if you are opportune to travel to the city". (FGD 2:1)*

A couple of the educated participants explained that access to external sources of information depended on the ability of people to understand health information, for example via different media, such as the radio. There was also an emphasis on the role of people who were more educated or had links with the city to act as information providers for the rest:

> *"I am able to understand what they say on the radio because of my education, so I do get to hear some of the health-related broadcast sometimes, although it is not always on the programme" (IDI:23)*

> *"the problem is that we don't get health workers who come into the village to*

> *educate the people, and so only those who have got one business or the other to do in the city, who usually return with some information to their family and friends" (IDI: 01)*

These experiences can be attributed to the lack of health workers in many of the rural communities who could go door to door educating rural men on specific health issues that affect them. Similarly, the poor management and lack of health infrastructure in rural communities further contributed to the enduring experience and difficulty that rural men faced in search of health information to resolve peculiar health issues. As a result of these challenges, many rural men relied on their family members.

Family members and friends of those residing in the city received information about health when there was a national health alert or epidemic. This respondent said:

> *"I hear about any health problem or issue usually through my son who resides in the city, for example, during the time of Ebola, he was the one who called me and told me to use salt water to bath and regularly chew bitter kola[7] as preventive measure" (IDI: 5)*

Overall, participants were quite unhappy about their experiences of accessing health information within their communities as well as with the provision of information from external sources. In addition, although all the men who took part in this study had, at some point, interact with health information, these interactions were merely confined to local (or traditional) sources.

5.4 Information Sources and Information Carriers Factors

In this theme, the information sources utilised by rural men are presented in detail (Figure 37) as well as their characteristics and utility in Figure 42. The rise in information sources has led to scholars believe that the lay public has more opportunities than ever to take an active role in their own healthcare. However, little is known about men's use of these information sources such as the internet, healthcare provider, friends, family, television, radio, newspapers, to retrieve

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[7] Bitter kola seeds, fruit, bark and nuts are used for treating diseases and as an antibiotic in Africa.

information about prostate cancer that may help them become informed or feel empowered, especially in rural Africa.

The information carriers in rural communities are presented in Figure 37.

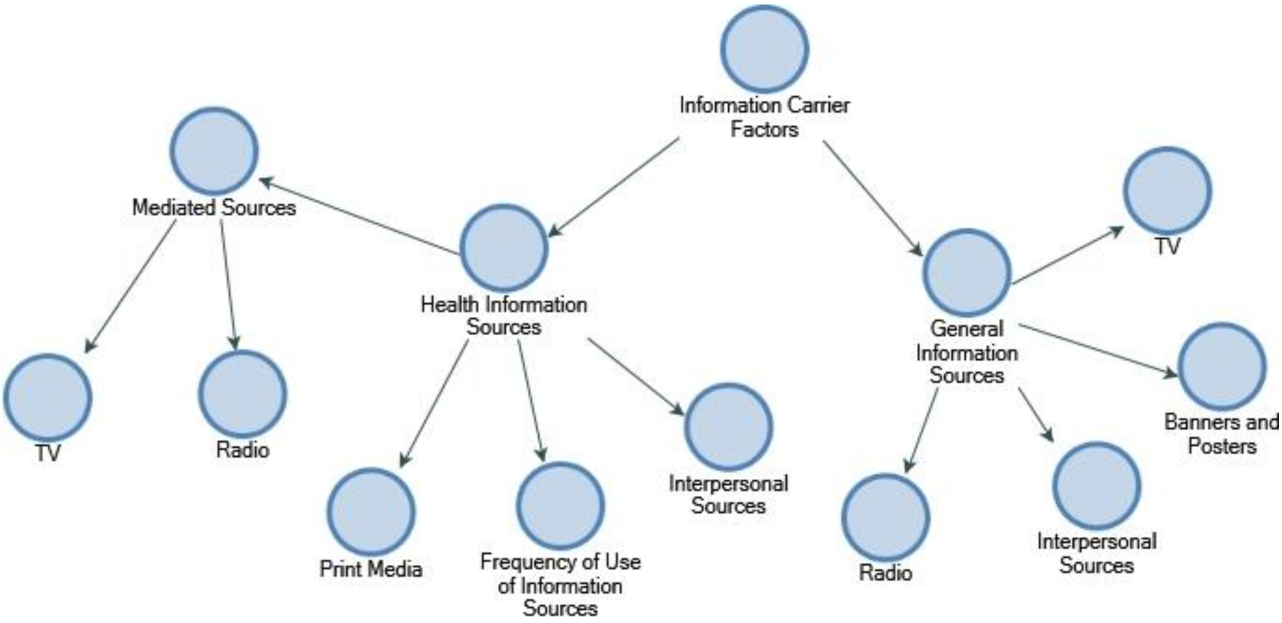

Figure 37 - Information Carriers in Rural South-East Nigeria

5.4.1 General Information Sources in Rural Communities

Table 15 presents a list of the various information sources mainly utilised by the participants. All the respondents mentioned that, at some point, they had received or asked for information either from their family and friends, from traditional rulers and town criers, from men's groups or from religious leaders to meet their information needs.

In addition, a frequently mentioned source was the radio (29) which was used by the respondents to hear news, comments or adverts. A total of 15 respondents also indicated that the television was for them a main source of information. Less than a third of the participants (10) had used health centres for information, while only 5 had gone to the chemist shop (local pharmaceutical shop) and had seen information of interest via posters or banners.

Table 15 illustrates commonly accessed information sources in rural communities and indicates the number of participants who have accessed these sources in their communities.

Information Sources Used by Rural Men	Frequency (n=35)
Radio	29
Family and Friends	35
Chemist Shops	5
Health Centres	10
Traditional Rulers/town crier	35
Television	15
Pamphlets	0
Men's groups	35
Religious leaders	35
Posters and Banners	5

Table 15-Commonly Used Information Sources for General Information

Banners and posters were mainly used for announcing to the community and disseminating information on specific occasions such as the death of a person. This was initially a practice that was common among the rich population but had gradually diffused to all parts of the community and become a norm, as explained by one of the participants:

> *"Sometimes you get to know when someone dies as you read their posters or banners placed around every possible place within and outside the community to announce their demise and burial arrangements by their family member, which has become a norm these days in our society" (IDI: 27)*

Another use of this medium was to announce cultural events to members of the community and other people who were visiting the community:

> *"We usually have banner put out in the village square and at the entrance of the community during our cultural day, to notify others passing by our community of the great event" (IDI: 9)*

An example of a banner used to disseminate information is provided in Figure 38.

Figure 38- Example of Banner used to disseminate cultural event

As the above findings demonstrate, rural men consulted multiple information sources, but the most commonly used ones were trusted interpersonal sources from within the community. However, it was also noted that many people also owned a number of additional media such as mobile phones and DVD players. These could be used for the dissemination of information, and therefore it was important to explore their degree of ownership as well as the purpose of using them. This knowledge could enable information providers to understand more about the most appropriate channels for communicating health information as well as the barriers that a rural audience faces while accessing information via different media.

Analysis of media ownership demonstrated that in addition to many people who owned radio and television (15), most of the participants also owned non-smart mobile phones (27) and a VCD/DVD player (11) in Figure 39.

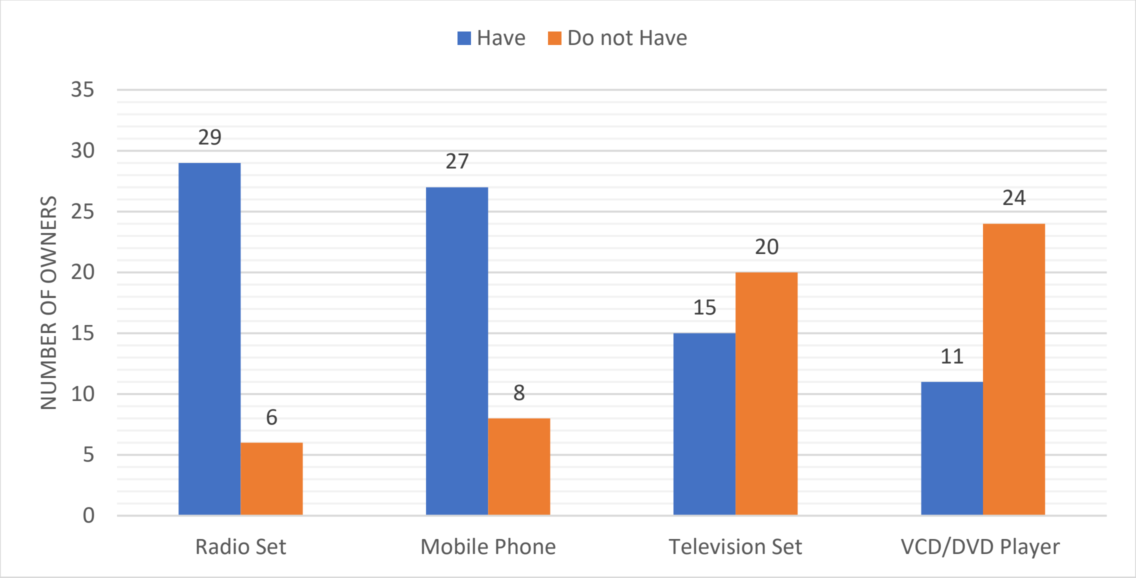

Figure 39- Ownership of Media

In addition, a further examination of the demographics of the participants in relation to age and education concluded in an interesting result. Fewer people in the 'over 50' and 'no education' categories owned a mobile phone or television (Table 16). This meant that certain categories of people could be more disadvantaged in terms of the provision of information through these media. Radio remained the most commonly owned form of media among older men. It was also frequently used in the local bars where older men gathered in the evening after farm activities to drinking for relaxation.

	Media (n=35)				Educational Level (n=35)			
	15		20		10		25	
Age	35-49	%	50+	%	Up to Secondary	%	No education	%
Radio	10	66.7	19	95	10	100	19	76
Television	13	86.7	2	10	10	100	5	20
Mobile phone	15	100	12	60	10	100	17	68
VCD/DVD	8	53.3	3	15	6	60	5	20

Table 16-Tabulation of Media Ownership among younger and older men

5.4.2 Health Information Sources in Rural Communities

Health information seeking requires access to a variety of sources of information in which individuals might obtain information on various health issues to meet their health information needs. The present study explored where rural men obtain their health information and examined their preferred sources and associated barriers. To achieve this goal, the respondents were asked to recall an instance in the past few months, where they needed health information and to describe how they received information listing the person, place or medium and describe why they used it together with any challenges they faced.

It was found that men have access to multiple sources to obtain information regarding their health problems. The sources sought and consulted by the rural men were categorised into two main groups, interpersonal and media sources. With the exception of print health materials, a variety of interpersonal sources and media were available across the different communities examined in the study. However, their frequency and use differed significantly according to the working routines and specific cultural activities of the communities. These practices are explained in more detail in the following sections.

Health Information Sources	Health Information Sources Available in the Rural Communities				
	Abia (3)	Anambra (2)	Imo (3)	Ebonyi (3)	Enugu (2)
Chemist Shop	Yes	Yes	Yes	Yes	Yes
Local herb hawkers	Yes	Yes	Yes	Yes	Yes
Traditional Rulers	Yes	Yes	Yes	Yes	Yes
Media (Radio, TV)	Yes	Yes	Yes	Yes	Yes
Mobile Phone	Yes	Yes	Yes	Yes	Yes
Traditional Healer	Yes	Yes	Yes	Yes	Yes
Native doctor / Priest (Dibia)	Yes	Yes	Yes	Yes	Yes
Religious / Faith Leaders	Yes	Yes	Yes	Yes	Yes
Family / Friends	Yes	Yes	Yes	Yes	Yes
Men’s Groups	Yes	Yes	Yes	Yes	Yes

Table 17-Available Health Information Sources in the rural communities

5.4.2.1 *Interpersonal Sources of Health Information*

The most frequent sources of information used to obtain information about health by the majority of rural men were traditional health professionals, family and friends, cultural and religious leaders, men's groups and health clinics. Among the traditional health professionals, local herb hawkers, traditional healers, traditional doctors (or oracle priests) were predominant. Similarly, among the health clinics, health centres and chemist shops were consulted. However, relatively few men also consulted information from the radio, TV set and mobile phones. The result is given as follows:

5.4.2.1.1 Local Herb Hawkers

Most health-related information among rural communities was solely provided by local herb hawkers. Some of these hawkers carried herb medicines in a basin, bag or vehicle to the marketplace, around the village or at a public area like the village town hall. As highlighted by the participants, local herb hawkers were a key information source for the community:

> *"When I need information, depending on the kind of information, say health, I will go to one man who mixes herb medicine and sell in the village, for example, balm for massage of my legs to heal arthritis." (IDI: 19)*
>
> *"I usually speak to one of the herb sellers in the community when I want to clarify some health issues which I don't understand" (IDI:13)*
>
> *"those people in the market that sell local herbs provides with the health information we need and how to use the herbs for the treatment of sickness one may have. (FGD 1:4)*
>
> *"in this community, it is the local herbs that we go to when we need information about out our health. (FGD 5:5)*

5.4.2.1.2 Traditional Healers

Traditional healers are people who have inherited special skills for curing specific ailments by using herbs and natural techniques. They do not conjure bad spirits through incantations neither do they engage in ritual or sacrifice like the native doctors. Traditional healers are not considered to be harmful. Participants used traditional healers for herbal medicine and a number of different health issues:

> *"when I have any health issue, for example, Malaria or Fever, I do go to Mr Agwu, to prepare herbal concoction for me" (IDI:2)*
>
> *"When I had dislocation of my waist, I visited one man who is an expert in using local herbs to massage broken bone" (IDI: 19)*
>
> *"when I feel some strange things in my body which I don't understand, I will go and talk to the traditional healer" (IDI:17)*
>
> *"whenever anybody has a serious health issue, it is the traditional healers we run to for cure. (FGD 2:2)*
>
> *"when our village head son had a severe sickness, it was the traditional healers that prepared a concoction that was used to cure him, and since today he has been fine". (FGD 4:5).*
>
> *"I go and ask the traditional healers if I am unwell for information" (IDI:35)*

5.4.2.1.3 Traditional Doctors (or native doctors)

The other health information source consulted by men in rural communities included the traditional doctors. They were consulted especially when the men (or patient) could not understand the cause of the health issue they were experiencing. Doctors existed almost in every community the researcher visited, and they were considered as key local health information sources:

> *"anytime I find anything strange or unknown health condition in me or my family; I will go to the native doctor so that he can reveal to me the cause or remedy for the problem" (IDI:14)*
>
> *"I go to the traditional doctors for help when anyone in my family is sick. They have the power to find out what problem is and cure the illness" (FGD 3:2)*
>
> *"in this community, the traditional doctors are the ones that help people to cure a mostly strange illness that has no name because sometimes it might not be what you can just take medicines, but they will use their power to do some healing incantations. (FGD 1:1)*
>
> *"...but I went to a traditional doctor in the neighbouring village who prepared some*

> *strong concoction and placed me on a daily medical with intense massage, that was how I got relieved as I am today although the problem persists sometimes, I don't have the money to go to big hospital, I will be managing it and take the medication, the traditional doctor gave me" (IDI: 3)*

A traditional doctor, however, was considered to be endowed with some powers to consult the spirit world. This ability made them in some communities perform the same function as the oracle priest (i.e., offering sacrifices to the gods when sacrilege is committed by a member of the community as the chief priest who consults the oracle). For example, as explained by the participant, either native or traditional doctor were contacted when they needed detailed and spirit-related information about their health:

> *"For me, the traditional doctors are my favourite source of information because they give you detailed information about the cause of your ill health and they understand how to handle different health problems both naturally and spiritually" (IDI: 34)*

In addition, health centres and traditional healers referred men to consulting traditional doctors when a health problem was beyond their level and scope. For example, one of the respondents who was a traditional doctor explained that:

> *"Mostly clients we have are people with health problems which have spiritual connections. They are referred to us by different people" (IDI: 27)*

However, not everyone preferred traditional doctors. As one of the respondents confirmed, he often visited traditional doctors when he was not satisfied with the information provided by other sources or when all the treatment from other sources had resulted in no improvement. He said:

> *" I will only go to the traditional doctors as my last resort if I do not find sufficient information from health centres or when their treatment is not yielding any result" (IDI: 31)*

5.4.2.1.4 Religious Leaders

For those who were practising Christians, Christian religious leaders served as their first point of call for prayers and information when they were experiencing health difficulties. Most rural people use religious leaders (e.g. pastors) as sources of health-related information:

> *"I run to my reverend when I am not feeling well so we can pray together and believe God for healing" (IDI:17)*
>
> *"I usually will go to church and see my pastor or ask other members about the information" (IDI: 11)*
>
> *"In our church, we do organise seminars for men where we talk about men's stuff" (IDI:11)*
>
> *"In church, we have men Christian association, where we do invite some educated individuals from the city to educate us on some things including health" (FGD:3)*
>
> *"I believe in God for healing so each time I have any health issue, I ask my pastor to join me to pray and fast for God to heal me from that illness. (FGD 2:1)*

Christian religious leaders were chosen because of the belief that they have supernatural powers given to them by God to do the working of miracles and healing of all manners of diseases.

> *"If I am sick I go straight to my pastor for prayers and anointing" (IDI: 23)*

The Christian religious leaders were of optimal trust and reverence which were important qualities of their pastoral care and counselling services.

5.4.2.1.5 Family and Friends

Rural men also sought health information from their families and friends. As the findings revealed, friends, neighbours and relatives were consulted by rural men for different health issues:

> *"My children usually look after me anytime I am not feeling well, or I need something" (IDI: 25)*
>
> "my son in the city who takes care of me is the one gives me information about health when he *returns, and he buys me some medicine from the city. (FGD 4:5)*
>
> *"I do go to my friend who mixes herbs in the community" (IDI: 28)*
>
> *"I ask my family for information about any issue I face in my health" (IDI:11)*

However, there were many others who also expressed that they listen to the radio and watch television.

> *"I listen to radio for news or any commentary "(IDI: 15)*

> *"…usually it is while I am watching TV if there are any health-related advert, then I will take it" (IDI:29)*

> *"most times I am confused about something related to my health, I will phone my children in the city and tell them what is happening to me" (IDI:23)*

It was also important to note that the participants approached their families and friends first before consulting other sources and that additional sources were used to supplement the information they initially obtained from their family and friends. A man, for example, explained that:

> *"Besides the information I get from outside, I usually ask my son first of all about any health problem I face. I also share what I know about any health problem with him and other family members" (IDI: 32).*

In addition, men also shared and discussed the information which they brought from any sources of information with their male family members. Some respondents said:

> *"I also get information from my eldest son and other family members. We usually discuss some health issues such as 'isinwanyi' (Gonorrhea and Syphilis), 'ukwuoku' (a condition of having low sperm count or watery sperm)" (IDI: 28)*

> *"...I usually ask my brother first of all about any health problem I face because he is educated. I also share what I know about any health problem with him and my male children" (IDI3)*

> *"I asked my brother who also reside in this community first about anything I face regarding my health" (IDI: 20)*

5.4.2.1.6 Health Clinics (Health Centre and Chemist Shop)

As a few participants indicated, health workers at the health centre were their primary sources of information and solution for their health issues. One respondent stated that:

> *"Our health centre is the place I usually go for health information because they are*

> *trained although I don't get all the information I require because you hardly see the doctor (FGD 5:2)*

> *"Now that we have a health centre the health workers there are now my favourite sources of information. Before, I would have gone to the chemist. But now I can go to them and consult on health issues. For me, they are the preferred ones" (IDI: 2).*

> *"When the nurses who do immunisation for my kids come I usually ask them if I have a question" (IDI: 14)*

In addition, a number of men in other communities, where a health facility does not exist, acknowledged that having such a service would be preferable and that they would frequently consult it for information around health problems.

Other participants just used the chemist shops when they needed health information:

> *"When I want to check my health, I go to the health centre at a neighbouring town. Although he is very expensive and the only one in our community" (IDI:4)*

> *"the chemist boy at the village square is where I go for anything I don't understand" (IDI:20)*

> *"we only have two chemist shops in this village, but they don't use to have the powerful medication for some health issues only paracetamol and other pain relief drugs, however, we still get some information about what to do" (IDI:8)*

5.4.2.1.7 Men's Groups or Associations

Beyond family and friends, rural men also used other informal social groups, such as youth meetings and men's associations (a gathering) to seek information about health from their peers who were of a similar age. Members of these groups often asked information from those who were educated among them or had participated in any organised health information programme in the health centre:

> *"Those men who are in our midst or who belong to our age grade usually listen and utilise the information those who have attended any government programme (like the retired civil servants) provide. We do this during regularly during our monthly and quarterly meetings" (IDI: 25)*

> *"Sometimes if I was not able to make it to the men's association meeting in church, I will want to know what they learned so that I will always know what to do when I face any difficult situation" (IDI: 22)*

> *"What we do in our meeting is to set aside a time in our agenda when we talk about or share information and experiences if anyone desires to contribute" (IDI:6)*

> *"Whenever we have men's meeting, and health issues are discussed, I have the opportunity to ask questions from those who work in the city and have better health information" (FGD 4:1)*

> *"when we gather, and we see someone who is having any health issues, someone there in the meeting, who have experienced that will recommend what can be used to treat the problem, that's how I got some information I know today" (IDI:21)*

5.4.2.2 Media as Sources of Health Information

Even though a majority of rural men relied on information from traditional sources (especially, interpersonal sources), the health information they obtained from the media (e.g. radio and TV) was found to be very low, with TV specifically being the least consulted when compared to radio. Media, overall, was the least consulted health information sources in rural communities, especially by those with no basic education. People considered specific media as predominantly connected with entertainment. For example, owners of TV (10) and DVD (9) used them for entertainment rather than as sources of information.

However, most of those who owned a mobile phone (20) and radio (19) considered them to be more of an information communication tool.

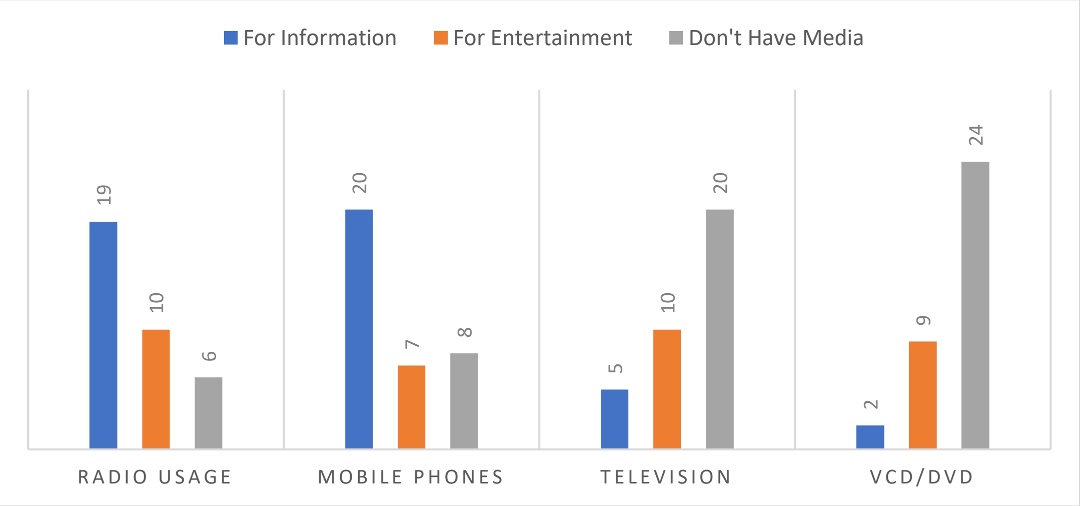

Figure 40-Use of Media for Information and Communication purposes

The radio was still not considered to be a useful source of health information as men could only listen to it after work, and it rarely addressed specifically men's health issues:

> *"I listen to the radio when I return from farm or in the morning on market days" (IDI:8)*
>
> *"I do come across news about health –like the Ebola disease, on radio" (IDI:7)*
>
> *"…sometimes you can hear from the radio, but it might not be particularly for you, they could be talking about children or women" (IDI: 11)*

The use of radio by older and less educated men for health information related purposes was also more difficult as radio presenters communicate primarily in English (the Igbo language is only used for offering a news summary, known as ('nchikota akuko'). Health promotion programmes are usually in English which only the educated few among the rural men can understand means that there is a need to repackage this type of information in a way and via a medium that these people could also understand considering people's literacy levels and seniority. Finally, as explained, these media were not always accessible to due to lack of electricity.

However, rural men indicated that they used their mobile phones to exchange messages with their family frequently:

> *"if I (*need *any information I will call my son in the city that is why he bought mobile phone for me" (IDI:23)*
>
> *"I have a phone that I use to contact my children who are in the city" (IDI:13)*
>
> *"I was using phone before to text my children until our transformer got spoilt and since then I have not been able to charge the battery(IDI:9)*
>
> *It was also interesting to find out that some of these communications were also related to health issues:*
>
> *"I asked my uncle who was in the city through phone what I can do to a particular health issue I faced some months ago" (IDI: 23)*

Therefore, mobile phones could potentially be a key communication medium for health-related messages to reach out to local communities (Aryee 2014) as they use them regularly to connect with families and other individuals without the restrictions experienced when using other media. These are discussed in more detail in relation to different other sources in section 5.4.2.3.

5.4.2.3 Frequency of Use of Information Sources

The frequency of using different information sources by men in rural communities is vital because this knowledge would help to elicit their preferred time and period during which information provision could reach out to most of them and achieve increased access to information. Knowing when people access specific information source is crucial for information providers as a way of informing their strategy in reaching their target audience in rural communities. Thus, the respondents were asked to mention their preferred time they consult/use any of the information sources. As the results demonstrate, rural men consulted information sources mostly in the morning, evening and during festive periods. In addition, some information sources were consulted more frequently than others.

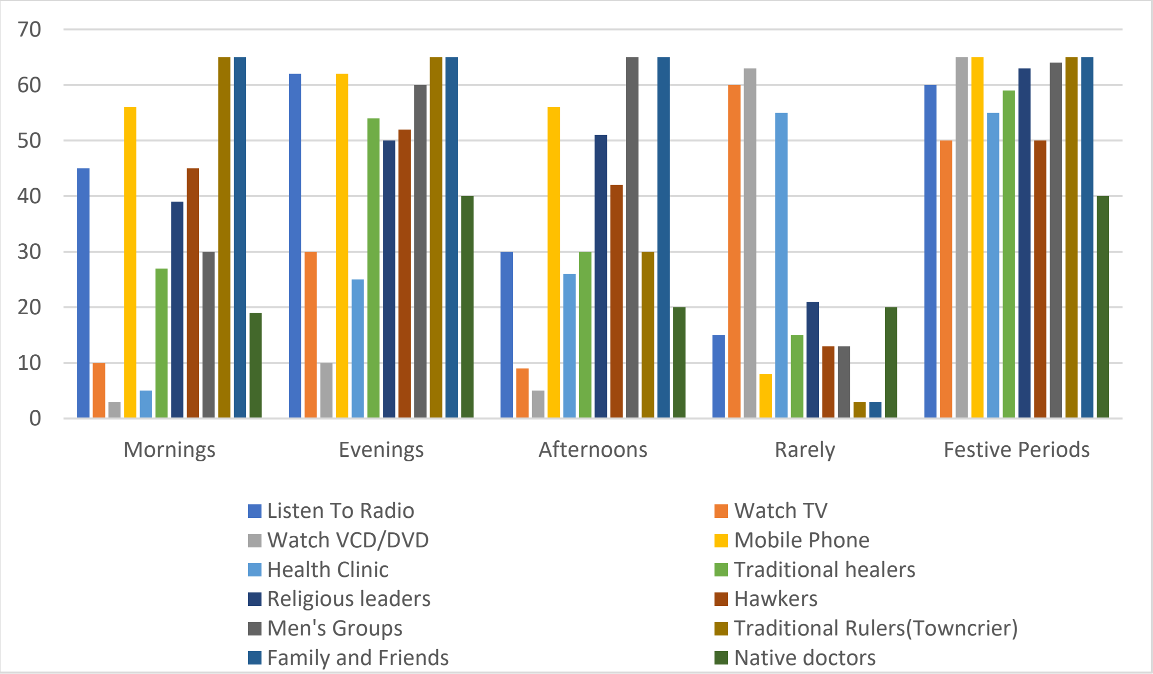

Figure 41-Frequency of use of information sources

Mobile phones were used at all times of the day (i.e. in the morning, afternoon and evening) and during festive periods. Radio was, however, mostly accessed in the evenings and during festive periods. Overall, there was increased activity across the board in the evenings and during festive periods. This was because most men (especially young one) engaged in farm activities during the day and festive periods. Family members visited the city to celebrate with their relatives which meant that there was more free time an opportunity for people to get together. Most villages that are connected to the national grid also usually enjoy a regular supply of electricity during festive periods thus giving villagers the opportunity to use different media more often.

For the results, it is also important to note that traditional healers, Christian religious leaders and men's groups were consulted weekly, particularly on each market day as local men's groups usually hold their meetings in the morning of every market day. Similarly, Christian religious leaders were also significantly used on Sundays and during the week. Meanwhile, sources such as family and friends, traditional healers, herb hawkers, native doctors and traditional rulers were used whenever the need arose. These traditional sources are preferred because they are cheaper, available, reliable and culturally appropriate to the user.

The study further found that health clinics are rarely accessed by rural men in rural communities. This means that there is a low number of contacts between rural men and health professionals in rural communities. Information presented through television could not frequently be accessed except during festive periods. This demonstrates that different information sources were accessed at different times and according to the specific cultural norms of the community. Most rural dwellers were not exposed to other sources beyond those in their communities, so they were confined to this traditional information flow system.

5.4.2.4 Use of the Internet and Libraries

In the course of the data collection process, the researcher explored the presence of some other information sources which included the internet and the library. However, in rural communities, there is absolute lack of internet connectivity because the required infrastructure is not available. Many of the rural men did not even know what internet or websites meant or were about. There was an absolute lack of knowledge around this topic:

> *"I have never used it before, so I don't know it…" (IDI:15)*
>
> *"I don't know what to do with it" (IDI:11)*
>
> *"Internet, what is it like?" (IDI:14)*
>
> *"we don't have public library or internet in this community (FGD 1:1)*

In addition, there was no functioning public library or information centre in the participating communities in this study, as explained by the following respondents:

> *"In this village, there is none even in my son's school; there is no library" (IDI:22)*
>
> *"We are not educated, so government didn't provide one for us" (IDI:30)*
>
> *"(laughs)…who will use it? We are farmers and what is important to us is our agriculture" (IDI:31)*
>
> *"We will not be able to use it because we don't read/write in English may be our children who are going to school now can…" (IDI:28)*

5.4.2.5 Print Media (e.g. posters, leaflets, pamphlets and banners)

Overall, many of the men indicated that they have never used print media to obtain health information. Similarly, except for when disseminating general information, print media were rarely used for health information in the rural communities. There were at most two posters on the wall of a few consultation rooms in the health centres visited by the researcher that focused mainly on Malaria, HIV/AIDS and Ebola. However, even the posters found on the wall of the consultation rooms had more text in English than pictures. Hence, considering the literacy status of these rural men, posters of that nature may not adequately communicate the required information to the rural community, because the targeted users cannot read nor understand non-native languages. It, therefore, means that the illiteracy level of these rural users contributes to their low level of access to non-traditional information sources.

Also, there were no additional materials focusing on other health issues of interest to men, such as prostate cancer and no available leaflets, posters and pamphlets to be given to men which they could take home to read and share with other members of their family or community. Furthermore, in those health centres, there was also no indication of any audio or video materials that could inform men about health issues such as prostate cancer.

Based on the researcher’s observation in those participating communities, it is therefore important to emphasise that rural men require access to these print media and multimedia for easier access to health information and to enable them to meet their health information needs. Access to print media and multimedia sources can be used to supplement information provided by other sources. Similarly, they can also serve as a teaching tool which interpersonal information sources such as health workers can use to disseminate health information to men about specific health issues that may affect them, such as prostate cancer. These print media and multimedia sources can be designed in such a way that both the literate and the illiterate among rural communities can use them to obtain health-related information. In addition, only very few rural men are relatively better educated.

5.4.3 Information Carrier Factors

This section offers an overview of the information carrier factors of the sources that rural men utilised with the goal of understanding why and how these factors influence sources used to satisfy their health information needs. The study examined how these sources were evaluated based on their cultural appropriateness, comprehensibility, availability, trust, usefulness, ownership, affordability and frequency of use to acquire health information. The result offers insight into the factors that influence source choices and use by the men in rural Nigeria.

Banners and posters:

Men in rural Nigeria indicated that banners and posters are useful and attractive as information channel but there are used seasonal during festive periods and burial announcement. The study gathered that due to the information being in non-native language, the readability and cultural appropriateness are low thus, require literacy skills to comprehend the information. Based on this, images and other traditional objects can be incorporated in the design to increase the readability, credibility and relevance the information channel in rural areas.

Interpersonal sources:

Interpersonal sources (i.e., human sources) were identified as the preferred channel for receiving health information because they are located within the communities and can be consulted at any time of the day or night. Interpersonal sources are considered useful, relevant, tested and highly verifiable because users can easily access and question the expertise of the sources from another user. In addition, they are culturally appropriate (i.e., use native language and recognise cultural norms and beliefs) and require no literacy skills. These sources are characterised by increased comprehensibility, credibility and trustworthiness as it is oral-based, timely, attractive and cheap as preferred means of communication.

Radio:

Although radio set is available in rural Nigeria, the community users indicated that the broadcast is usually at hours when they are in their farms. Also, the comprehensibility of the information through the radio is low as it is not culturally appropriate (use of non-native language, and poor recognition of culture and tradition). In addition, the people believe that the credibility and reliability of information from the radio remain low because they see radio as one of the government's agent, and the people do not trust their government. One other factor that was associated with radio, was the few number of owners because it is expensive to buy and use especially with the poor supply of electricity and dependent on battery for operation. These factors were similar to that associated with the TV set. However, one significant difference with the TV was that the number of owners were smaller compared to the radio set. Also, the operational cost was more as TV can only be operated with electricity.

Figure 42 provides detailed representation of the information carrier factors associated with the various sources utilised by men in rural Nigeria to acquire health information.

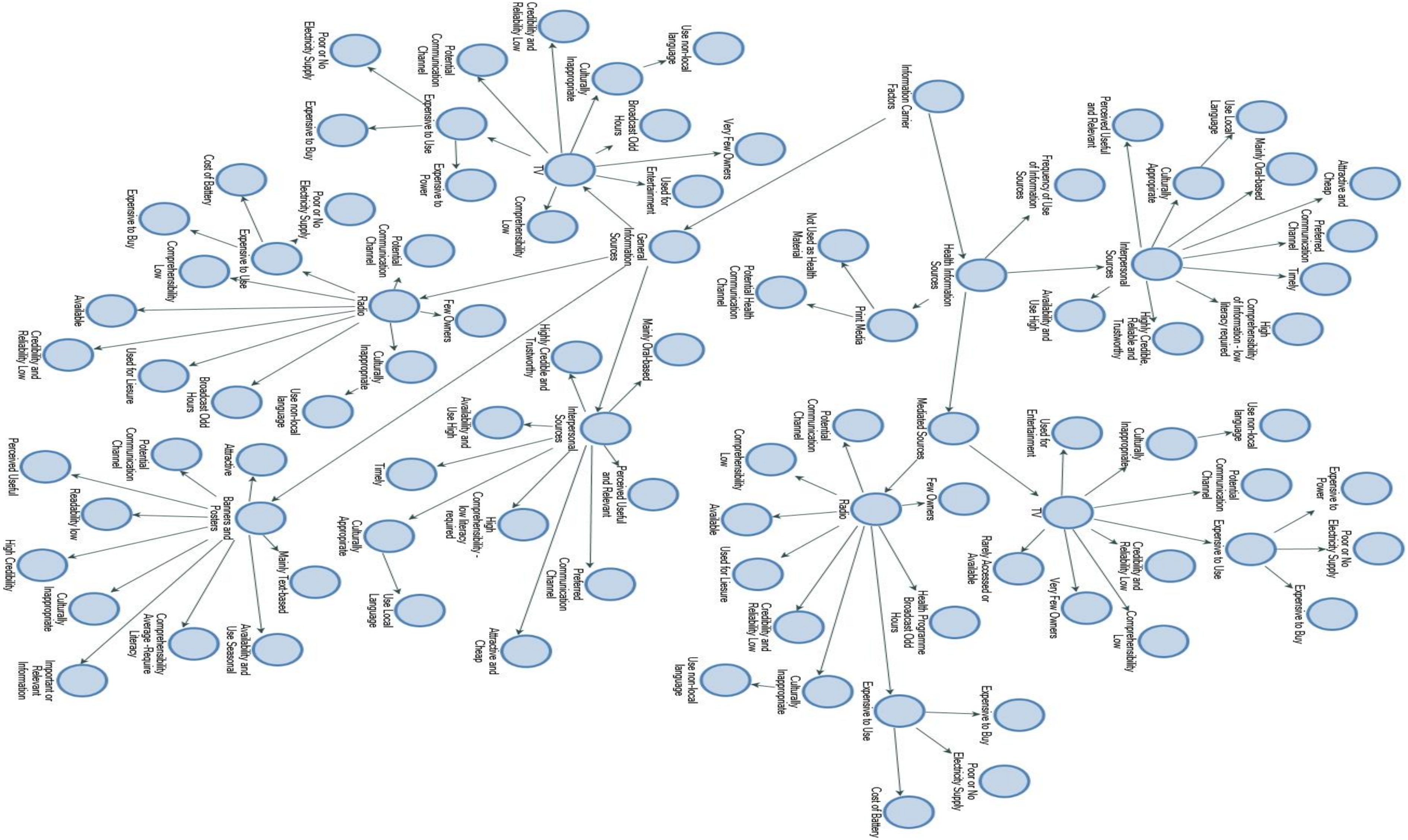

Figure 42- Information Carrier Factors

5.5 Health Information Seeking Behaviour, Use and Barriers

The respondents were asked to narrate their experiences of when they needed health information, how they went about finding the information and how they use it. This question was asked to understand how rural dwellers go about seeking health information in their local communities to inform ways in which information could be effectively disseminated to the community and address barriers to its provision and use.

Rural men sought health information for their health but also for the health of their relatives and friends, acting as mediators of information for other people who were not able to engage in health information seeking directly. In addition, many of the respondents felt that it was necessary to seek and use health information when they or a member of their household was ill, without considering the importance of information for prevention or for developing healthy behaviour. The function of health information was therefore specific to informing people on treating specific health issues after they had been experienced:

> *"Well the only time I look for health information or advice is when I am ill or any of my relative or someone I know; I just don't go looking for health advice without any need" (IDI:8)*
>
> *"I looked for information about health for my son when he was experiencing continuous severe headache" (FGD:3)*
>
> *"I visited the native doctor because the nature of my disease was strange and I believe he will tell me the cause and what to do" (IDI:17)*
>
> *"…because I don't like being sick, so that is why I go looking for information from those who sell herbs" (FGD:5)*
>
> *"the need I have makes me use it when I need the information" (IDI:20)*

The role of information mediator was typically adopted by younger people in the family and the community, and there was also a sense of obligation to inform others when a member of the community or the close family got hold of information that would be beneficial to them in similar ways. There was, therefore, a communal approach to information sharing, captured as 'onuru kara ibe ya', a need to tell others about information that may benefit them as explained by one of the participants:

> *"depending on why I needed the information like when I went to the health centre, I will apply the information I was given to resolve the problem. Also, if I hear or see someone suffering from waist pain either a friend or family member, I will tell the person what the nurse told me and show them how I did it that I got well" (IDI: 18)*

> *"I will make use of it but if it is for someone else, for instance, my children, I will ensure they follow it" (IDI:17)*

> *"I tell others who are going through the same issue" (IDI:22)*

> *"I do pass it on to my friends you don't know who might be in the same situation" (IDI:33)*

> *"in our community, we have this saying that when you hear then tell others 'onuru kara ibe ya'; we don't withhold information but share it with others" (IDI:21)*

> *"When I hear any information, I usually will share with my family and anyone who also suffers the same thing…" (IDI:35)*

> *"I get information from people, so I can also tell my family of what is happening" (IDI: 24)*

> *"the other day I saw Chima, one boy in our community who is crippled, and he was coughing badly, then I asked him what was wrong and went to the traditional healer and got some help for him" (IDI: 28)*

However, not everyone had family members in the community to rely upon. For example, a few older respondents (above 50 years old), who did not have any younger members of their family in the local community, had to resolve their own health information needs independently. Considering that older people would normally be subject to more health issues, trying to resolve their information needs without the support of their family could place them in a vulnerable position:

> *"At my age, I look after myself since my children are all in the city" (IDI:32)*

> *"I get it to know how to treat myself when I am sick, you know I am not getting younger at all" (IDI: 29)*

> *"[I seek to] …. understand the health problem that I am facing" (IDI:2)*

Except for actively seeking information when experiencing a specific health problem, people were also passively exposed to general health information on different occasions, for example, when they attended social or religious gatherings within their communities or when listening to the radio:

> *"Well when I am in the church sometimes I do hear them make some announcements" (IDI: 22)*
>
> *"When we sit out at the village square, there seem to be some gist going on there to listen to" (IDI:31)*
>
> *"It is when I am listening to radio if they give any health advice or information that I hear it apart from that, it will be when I am not well or my household" (IDI:3)*

People gathered together according to similar age groups (this was called the age grade meeting) as they were involved in similar activities related to community development. This was an opportunity for sharing information:

> *"when we gather to talk about the development of our community, we also talk about other issues during the age grade meeting" (IDI:16)*
>
> *It was also not uncommon for people to meet accidentally in the road and discuss issues that related to the community. Accidental information encounters were, therefore, ways in which people shared information community information and these and could also act as ways in which health information was also exchanged:*
>
> *"…sometimes I can ask question or talk to the person I believe has the information when I see him on the road or at the village square in the evening time" (IDI:11)*
>
> *"sometimes when I am in the meeting with the elders in council" (IDI:4)*
>
> *"I can ask my question anywhere I see the person, or if I am the one giving the message I can tell the person anywhere, so I don't forget the information" (FGD:3)*

As shown from the excerpts, rural men have experience of seeking health information themselves when having specific health problems.

5.6 Barriers to Health Information Seeking Behaviour

This section aims to discuss in detail the inhibitors to seeking health information and emphasise on the importance of adopting strategies that will minimise barriers that lead rural communities to reduced information access.

Participants were asked to discuss the challenges and difficulties they experienced during health information seeking or when accessing health information.

Their responses represented a variety of issues that are presented in Figure 43.

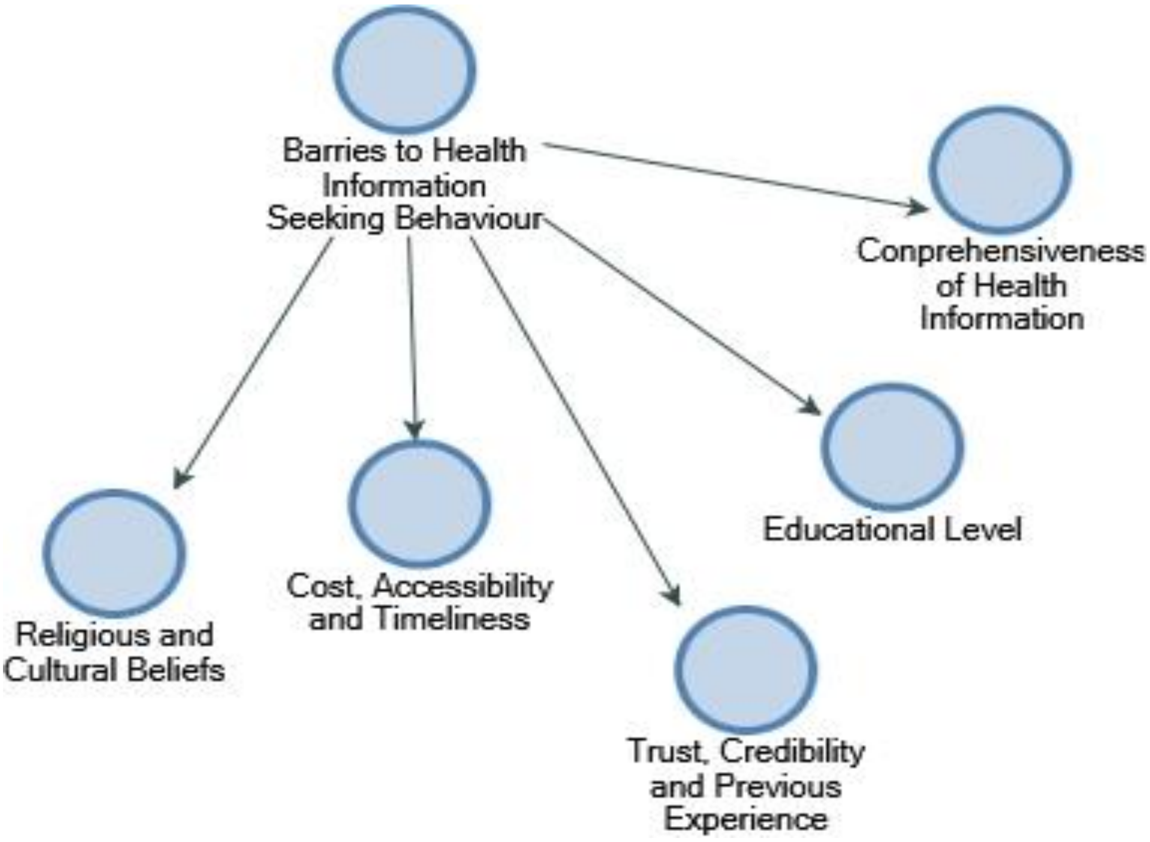

Figure 43 -Barriers to Seeking Health Information

As the following graph demonstrates, the barriers that rural participants encountered were experienced in all the different geographical areas. Their degree of occurrence was similar across the different states of South-East Nigeria.

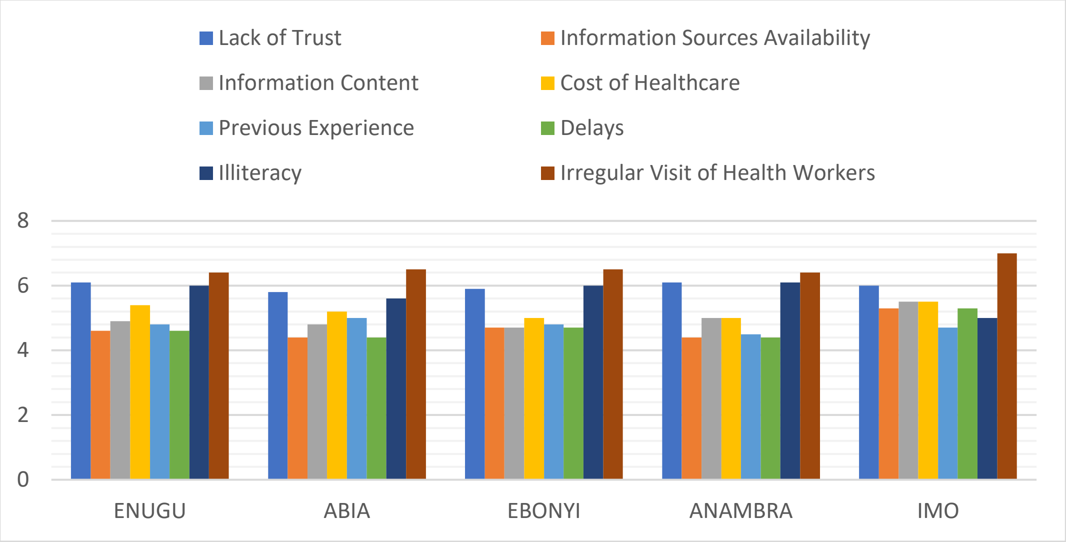

Figure 44-Barriers affecting Health Information

These barriers are discussed in detail with evidence from the participants in the following sections.

5.6.1 Educational Level

There is no doubt that illiteracy posed the highest barrier to accessing health information sources in rural communities among the selected states. Low levels of literacy meant that people were not always able to understand health information and, in those cases, it was easier for some to avoid or forget information:

> *"I will just forget about the information because I can't understand it" (IDI:14)*
>
> *"if I can't understand it then it is not meant for me" (IDI:26)*
>
> *"I will not use any message I do not understand" (IDI:11)*
>
> *"I will reject to use any information that is not useful to me" (IDI:21)*

Others, found in those situations would persevere and look for alternative information. However, this, as explained later would very often mean approaching easy to access information rather necessarily which was more suitable or needed:

> *"when I don't understand the information, I do look for a different kind" (IDI:11)*
>
> *"I will not bother about that information but try to find another" (FGD:2)*

However, rural men embraced interpersonal sources to avoid language barriers because other media sources such as the radio offered access to health information in formats which were not suitable for a rural audience:

> *"I only understand the programme in radio during the 'oge ndi Igbo' (i.e. local section), when they use Igbo to give a summary of the news ('nchikita akuko) but the other times is just to enjoy the rhythm of the music" (IDI:34).*
>
> *"sometimes when I listen to the radio, the discussion is not in my local language, so I don't understand, except if my son is at home, then he will tell me what they are talking about. But when he is not at home it could be frustrating, so I just play the radio to cool off" (IDI: 21).*
>
> *"we have radio set in this community, but the problem is that not everybody understands what they say using other languages" (IDI:29)*

In the case of print media and other information sources which were external to the community, the information provided targeted the educated members of the community, whereas the majority of rural communities were illiterate, thereby systematically relegating the larger population of the society. Most rural dwellers required the service of an interpreter to be able to effectively engage or interact with the information presented through different media and interpersonal sources (e.g. health workers). A couple of the focus group participants explained this problem:

> *"…one problem was that the nurse was unable to speak my native language because she is new to the health centre and not from this area so, there was someone else with us who was interpreting what she was saying in Igbo" (IDI: 18)*
>
> *"sometimes when we meet with health workers like those who checked our eyes, we will require someone to interpret what they are saying for us" (IDI: 24)*
>
> *"you know it is only those who went to school or are rich that can use these things so, if you are a poor man like me you will seek for the solution by yourself in a traditional manner" (IDI:30)*

The perception of the above participant also speaks about their self-esteem and how it plays a fundamental role in this aspect, as many rural men would not want to display their ignorance to other people who are educated by going to them to ask; they believed that this sometimes backfires on them as being an object of mockery or intimidation:

> *"you know it is not everything you share with people because they might use it against you tomorrow. So, if you are having any issues, you seek for the solution by yourself to preserve your self-respect" (IDI:30)*

As discussed later in this chapter (section 5.6.5), people in these situations would ignore information they came across that they do not understand irrespective of the source or quality. In the event that they encountered health information they did not understand, they would rather prefer to seek alternative options locally. These preferences were, therefore, an outcome of their low literacy level and the fact that the way in which external source provided information, did not necessarily accommodate or take into consideration their different educational levels.

5.6.2 Cost, accessibility and timeliness

One major inhibitor to information access by rural men was *cost.* Rural men confirmed that they were reluctant to seek information that is expensive considering their economic capabilities and their socioeconomic status. When speaking about cost, many of the respondents referred to the risks involved in both getting and using information. As explained by the following participants who were asked about when they would avoid seeking information, risk related to financial aspects and the difficulties encountered by the cost, influenced sourcing information:

> *"...if it (health information) is expensive to get" (IDI: 19)*
>
> *"...when other things required to use the information effectively makes it costly to use" (IDI: 6)*
>
> *"…when there is high risk attached to the information" (FGD: 2)*
>
> *"we struggle to tackle our problems when they arise because we don't know what to do and cannot afford the hospital bills in the city so then we end up using the local doctors in our community" (IDI: 6)*

In addition, participants referred to the lack of basic infrastructure which caused them to spend long hours to access health services. Some even feared that they could die while in transit through long journeys to reach their destination:

> *"the situation is helpless and hopeless, no one cares, imagine if you have any problem today, and the local herb doctors were not around then, you will die, because before they take you to the hospital with the poor condition of the roads, you will die on your way before getting there" (IDI: 8)*
>
> *"We don't have health centres in our community, and when you travel hours after paying huge transport fare to that place, you will be told that the nurse or doctor is on call."*

The respondents emphasised again the importance of receiving health information in a timely manner and when it was required, which was when a health issue was experienced, as explained earlier. The role of health information was to resolve a specific issue at hand. People or their family members would look for information only when they experienced a health problem, and for the immediate situations, they were facing. Therefore, spending long hours trying to reach health services was not a preferred activity. Information had to be timely and delivered when it was required:

> *"…how the information answers my question is one important thing to me" (IDI:3)*
>
> *"…whether the information will help me to solve my problem is what I check before looking for the information" (FGD:5)*
>
> *"I will check whether the information is relevant to resolve the problem or situation I am faced with (IDI: 16)*
>
> *"I check whether the information is useful to me at the time I received it" (IDI:7)*
>
> *"…the information has to be information that concerns me or my family or someone I know" (IDI:25)*
>
> *"I usually will consider the time it will take me to get the information and the time I need to use the information" (IDI:31)*
>
> *"as for me, when I get the information matters because if the information is becoming available when and for what I needed it for is resolved, then I won't go*

> *for it again" (IDI:9)*

However, there were instances where significant information had not reached the community when it was required, and there were no trained health professionals to educate people how to deal with specific health issues, as explained by the following participants:

> *"Sometimes the issue is that we don't even know such information exist imagine, I got to know that the government was distributing mosquito nets to households only when my sister who leaves in Aba (city) came home with one, such thing we didn't benefit because we didn't know" (IDI: 30)*

> *"…there are no trained health worker coming into our community to educate us about the health problems that men can face, so we ask ourselves and try different things to see what works" (IDI: 26)*

Because there were inadequate health facilities in most communities, rural men considered the time and effort it took them to travel between cities in order to consult needed health-related sources. Lack of timeliness meant less effort invested to meet these information needs. Timeliness was, therefore, a major influence on their choice to use information sources which were available within their locality rather than in external locations:

> *"I will also check whether the process is something that I can finish on time like when I went to the health centre, I assumed since they were back to work I could see the nurse quickly, but it was not so when I got there" (IDI: 18)*

As the majority of the rural dwellers were peasant farmers, they could hardly provide for their family and for this reason they considered the costs of accessing health information sources via hospitals or clinics which were located near their community. Preventive health behaviour was also not a normal practice in these communities. There were only a few health centres present in the local councils supporting the various communities and access to good quality information was often expensive and out of reach for poorer individuals in these rural areas.

Furthermore, using other media for information, such as having an operating radio or TV, required an extra cost for utilising alternative means to power it weekly with a battery which was a deterrent to its usage. Rural people were not able to watch any health-related programmes that concerned them or become informed about specific health issues facing the community such as the spread of an epidemic. The dependence of most media sources on power was a great barrier because most rural communities were not connected to the national grid and those who were experienced an unreliable power supply:

> *"for the past two years, we have not tasted anything called electricity in this community"   (IDI:4)*

> *"we have cried to the government to come to our aid to restore power supply to our community, yet nothing is done" (IDI:12).*

> *"we don't have electricity, if we did, is something that could have helped us to access information but we don't have electricity and those who can afford to buy generator only use it when they want because fuel is expensive, besides you will not go and tell someone who used his money to buy fuel to put on the generator for you to do something" (IDI:*

> *"I don't watch television as I don't have one because I can't afford generator or fuel to power the TV…" (IDI:31).*

There were also difficulties experienced with the scarcity of fuel and the bad condition of the roads in Nigeria which pushed transportation fares to an unbearable limit to allow rural citizens to commute from the villages to different health facilities in the city. One respondent expressed this view by saying that

> *"the cost of going to the city is high because we don't have good road network, so drivers have hiked the price of transportation" (IDI:27).*

The challenge of poor electricity supply and transportation made external information sources less available to the rural audience. Meanwhile, local sources were easily available within the communities and required no electricity and were not difficult to reach. For example,

> *"…And when I then got the money and visited the clinic, there were no nurses on duty because they were on strike, so I had to return home and use the local oil to massage the waist until we heard that the nurses are back again when I visited the health centre again" (IDI: 18)*

This was one of the reasons why rural men preferred to use the traditional doctors and alternative forms of medicine:

> *"I can go to the traditional doctor any time of the day even in the middle of the night, and he will give me attention" (IDI:21).*
>
> *"… I will rather visit the traditional doctor for herbs which will do the work even faster than go and pay huge sum for treatment that will take days" (IDI:32)*

Another barrier to health information was time wastage for those who accessed health information from sources such as the chemist shops and neighbouring health centres during their visit:

> *"anytime I want to visit the clinic, I will not go to farm that day because it will take the whole day" (IDI:22)*
>
> *"Secondly, I waited all day to see the nurse since she comes from the city, in order not to lose my turn to someone else" (IDI: 18)*

Most of the delays experienced when accessing these information sources were caused by overcrowding, because of a poor working environment and the lack of automated service delivery and the lackadaisical attitudes of health workers to their patients. One respondent captured it as follows:

> *"one major discouragement to this 'ogbara ohuru' (modern) health centres, is the delay and waste of time you experience; when you get there, it is either the doctor is not around or there is no power supply to do what you came for" (IDI:33)*

In rural clinics where they existed, according to the participants, an emergency was measured and determined by people's readiness to pay the bills or make a deposit rather than on how at risk their health situation was. Some people felt that health service providers from the city had an attitude of exploiting rural consumers when they visited. A few respondents narrated their experiences as follows:

> *"I remember when I took my son to the clinic after an accident in his school, the nurses didn't attend to us insisting until we buy registration card. I thank God my son didn't die in my hand." (IDI:37)*
>
> *"the first time I was taking to the clinic the nurses didn't commence treatment until*

> *the following day, what if I had died before that tomorrow while we paid for the patient's card. So, that discouraged me from going to any hospital for treatment" (IDI:32).*
>
> *"…. one of our sons returned from the city saying that he has learnt how to cure …. but demanded a huge sum of money for treatment and drugs" (FGD:5).*

Thus, rural men felt that local community services and sources were more valuable because they could understand and recognise their customs and traditions as members of the community, hence, present and package the information in formats appropriate for them. A respondent captured this idea in the following way:

> *"the herb sellers make examples with things I can relate with around me in order to explain the information to me which helps me to understand what he is saying and I feel free to express myself when narrating my health concerns" (IDI:14).*

So, the focus of the information presented through media and external sources was not very accessible as it was mostly urban related or for educated people. These difficulties to information access reiterate the need to structure good quality external health information in culturally appropriate and suitable ways for a rural audience.

Health centres that were close to the community were among the preferred health information sources for men in rural areas as they could deliver information from door to door. Thus, accessibility was mentioned as an important issue:

> *"When I need any health-related information, I go to the health centre in my community because they are easily accessible as they frequently do home visit also" (IDI: 6)*
>
> *"Health centres in my community are the ones who give us health information sometimes they do so going door to door for my children. Most importantly during their immunisation time where health support is needed, the workers will visit" (IDI: 4)*

However, not many health professionals were available at a local level. In all the selected states, the majority of the participants mentioned the lack of health workers in their communities to discuss or educate them on various issues around men’s health. Local health providers could encourage people using customs they were familiar with which helped to improve comprehension and acceptance of health information and help them to engage in good health behaviours actively. However, the presence of health workers in rural communities discussing or teaching men about health issues was rare, and the door to door provision of health information was not always possible:

> *“…when health workers do visit our village; they are only here for the women and children, most of the times the women are the ones asked to stay back at home to meet with the health workers while the men go to farm or other business” (FGD3)*

> *“we rarely get health workers visit us here for issues concerning men only” (IDI:25).*

> *“Presently I have no one to ask about any health issue except the traditional doctors who reside in our community” (IDI:13)*

Related to the timely and accessible provision of information there were cultural practices in rural communities to set aside specific days to observe traditional holidays and these also could act as opportunities for health professionals to reach out to the community. Usually, those days were the preferred days for the community to welcome educators. For example, when this study was conducted in some communities, the community representative suggested that a good idea would be to

> *“… visit the chief, so you will both agree on which day is convenient for you to come and interact with the people because yesterday was our market day, or will you come back next market day which is 14days from yesterday” (IDI:34)*

The communities were fond of gathering together to share information, either during festivals or via social networks. Gathering together was a demonstration of togetherness and unity:

> *“We gather at the village square to engage in training or forums for messages that require collective attention or effort” (IDI:21)*

> *“when we do any festival such as new yam festival, we gather at the village hall to plan for it” (IDI:32)*

Another way of sharing information was through story-telling**.** It is part of the African tradition to communicate vital information and cultural norms and customs through evening tales. Narrating stories is significantly part of the activities shared during social networking, and it is a natural way of communication:

> *"we communicate some information naturally by telling stories, folktales such as norms and traditions of the community or family heritage" (IDI:14)*

Cultural events, specific customs and storytelling, therefore, presented opportunities for sharing information with the community in a collective manner when the community was together in one place in a way that could address the accessibility and timeliness barriers. As there were many opportunities for these types of festivities during the year, these could increase the exposure of local people to health information and help them interact with good quality information sources.

5.6.3 Trust, Credibility and previous experiences

One reason for using local and interpersonal information sources apart from cost issues was that information disseminated in a face to face manner remained the most preferred and highly trusted provision among rural men. If people were not happy with the quality of information they had received they would consider checking with the person who provided it. Information was mainly shared locally in the community:

> *"in this our village, we speak to one another face to face when we communicate, just as I am speaking to you now" (IDI:28)*

> *"I will ask the person who gave me the information" (IDI:23)*

People also valued their past experiences and encounters with information sources. When these had been previously perceived as unreliable or untrustworthy it was less likely to use them again:

> *"I will reject any information that I had used before but wasn't helpful to me" (IDI:21)*

> *"How sure am I that the information from these places is coming from those*

> *experienced like the high priest of our land" (IDI:24)*
>
> *"I try to check if I have used such information before and what my experience was when I did use it then" (IDI: 14)*
>
> *"when I am seeking for information I consider the credibility of that information as well as my understanding of the information. These are crucial to me (IDI: 18)*

There were also some respondents who refrained from using some of the available information because of negative past experiences which include being insulted because they had difficulty comprehending what was being provided as information or because people believed that appropriate standards were not adhered to which resulted to lack of trust and fear of the services and information provided:

> *"Although we have a health centre around this community, the attitudes of those who work there towards us is a big challenge for us; they are less concerned as in they don't care whether you are in pain or dying" (IDI: 13)*
>
> *"the way they talk to you is as if you are a child forgetting that you are old enough to be their father. In fact, after visiting there, I regretted why I went there in the first place" (IDI: 25)*
>
> *"the most worrisome part is that some of the drugs that are there, are either expired or ineffective" (IDI: 34)*
>
> *"you know that the chemist operator is not qualified doctor, he just went to the city and learnt how to give people injection" (IDI: 13)*
>
> *"the chemist is just a business where you buy some tablets, and that is why most of the time, the man there could give you wrong injection" (IDI: 28)*
>
> *"the last time I went to get information from the health centre in the neighbouring village, the people there were very insulting, on my way home while I was on the bus, I overheard someone else complaining about the same issue, so that is how it is" (IDI: 26)*

Some participants had a similar belief about the lack of credibility of health information from external sources as well, such as about health information communicated on the radio:

> *"I will always believe in the information the traditional doctors give to me then belief in what I hear on the radio about my health" (IDI: 33)*
>
> *"You see all those who call themselves 'dokinta akamere' (i.e. man-made doctors) on the radio are only interested in how they can make money from us with their big grammar ('oyibo')" (IDI: 7)*
>
> *"it is only on the radio we receive the news that government is providing free medical care for older people in rural communities but in reality, we have never seen any nurse in this community let alone the free care" (IDI:29)*
>
> *"the person who speaks on radio, usually talk a lot about buying his products or visiting his clinic in the city for more information" (IDI:3).*
>
> *"…most of the people out there are just interested in how they can make a fortune off you, so I would rather not make myself their meat, by staying here and going to the places my father and forefather used in this community" (IDI: 27)*

Trust in health information sources was built through examining the experiences of others in the community, who used specific information sources before. These were taken into consideration by rural men when sourcing information:

> *"before I begin, I take time to look at how others who have used the same information responded or survived it, and the degree of impact or the outcome of using the information was" (IDI:31)*
>
> *"well I will try and check what has happened to others who also used the same information that I want to use and probably check whether they got it from the same place I want to go and get the information too" (IDI: 27)*
>
> *"I will try to see what other people who used similar information went through and how it helped them to resolve their problem" (IDI: 16)*
>
> *"I do check whether others have heard about the information before, understand it and used it too" (IDI:3)*

Rural men also used qualities such as reputation, integrity, ability and expertise to measure the trustworthiness of the interpersonal information sources they used. When a person acted as a source of information, they would be regarded as being trustworthy because individual members of the community had already encountered a positive reputation (or experience). Individual reputation in the community was built on expertise, social status and the educational level of the people with designated community responsibilities (e.g. traditional leaders). Trust was, therefore, established not only by external health expertise but also, the ground of community involvement, positive impact and length of practice with traditional medicine (traditional healers). An information source with a negative reputation (or poor integrity) within the community, for example, would be considered untrustworthy and disregarded:

> *"in choosing which information source I use, I look at of whereas in, the trustworthiness of the place the information it carries, is coming from; it is very important to me" (IDI:25)*
>
> *"the expertise of the person carrying the information or who is giving me the advice is very important to me. For example, you put information in the hands of a native doctor ('dibia') because am a Christian, I will never seek it "(IDI: 34)*
>
> *"the integrity of who is passing the information is very crucial and matters to me a lot to know if the information is something I can go ahead to find or not …" (IDI:22)*
>
> *"if the person carrying the information is known to be dubious in this our community, I can assure you nobody will listen to what he has to say" (IDI:10)*
>
> *"I will not take information that is coming from someone I don't trust" (FGD: 3)*
>
> *"some people carry fake information, so I don't listen to what anybody says about health except those I get from tradition healers" (FGD:1)*
>
> *"if I know the person giving the information, I will tend to use the information" (IDI:16)*
>
> *"I check whether the source is trustworthy" (IDI:19)*
>
> *"the information I use is the one from a source that I trust, or who I know very well in handling such issues in the community" (IDI:9)*

Quality of information was important and therefore the participants considered carefully the expertise of information providers. Quality in their view was also related to the level of clarity of information (i.e. comprehensible) as well as accuracy:

> *"before I begin I check whether the person or the place I need to go has the necessary experience or can give me the information I need and its level of clarity as well as how true the information might be" (IDI:20)*
>
> *"whether the information is detailed and genuine will be some of the things I will check in order not to waste my time or money. So, I will ask people who have similar thing or have used it or I will just give it a trial and see" (IDI:9)*
>
> *"I consider the experience of who I am going to be asking the information from to know if the information will be a good information for me" (IDI:35)*

This led people to reject external information sources which had not been subject to community approval. For example, despite the high number of radio set owners in rural communities, the purpose it served was only for leisure. There was lack of trust in media information and they were not regarded as cultural appropriate means for health information provision for the communities examined. Many rural men felt that these media could be utilized by more educated people to exploit them:

> *"…most of the times you hear people who claim they can cure all sorts of diseases in the radio just to make you come to them without knowing that they are not even doctors" (IDI:23)*
>
> *"…the other day, one of our sons returned from the city saying that he has learnt how to cure arthritis then carried out free test but demanded huge sum of money for treatment and drugs" (FGD:5)*
>
> *"you know I don't understand what they say on the radio when they make announcement in English, so I just don't pay attention to that" (IDI: 17)*

As demonstrated earlier, credibility of information was mainly associated with traditional healers and traditional doctors who were preferred by the majority of men because they were perceived to be trustworthy as sources who provided relevant information to people and could help them solve their health problems. Generally, they were also regarded as knowledgeable, with specific skills and powers. Thus, rural men would ignore any health information coming from unknown sources within their communities or from sources outside their communities that they could not verify.

5.6.4 Religious and cultural beliefs

As has been seen, religious and cultural beliefs were dominant in the community and these also significantly influenced health-related decision-making. For example, some respondents described how they ignored the reality of being sick as a sign of religious allegiance. By so doing, they paid less attention to their health. As summarised in the responses, the following participant's faith was considered as a way of addressing health issues:

> *"I am strong and live healthy by my faith" (IDI:31)*

> *"by His stripes, I am healed, so I don't need any medical help" (IDI:11)*

Participants were also of the opinion that by divine arrangement or supreme powers, they were going to be protected against sickness. For example, as put by one of the respondents:

> "I can't remember the last time I felt sick or took any medication, you know I am divinely protected" (IDI:7)

Other respondents similarly expressed put their views as follows:

> *"You know darkness has nothing to do with the light, so as a Christian, I don't visit native doctors for any help or information rather I pray to my God" (IDI:19)*

> *"Before now, our forefathers have used herbs and roots to cure all manners of diseases so when I am sick or saw something strange; I visit the herbal doctor in our community" (IDI:30*

Traditional worshippers of the African religion equally maintained a sense of protection against sicknesses by their ancestors. A worshipper, for example, proclaimed that,

> *"There is a mark on my forehead when I was born containing mixture of concoction to keep me away from any diseases" (IDI:21)*

In rural areas, religion was also a major factor that influenced whom people consulted for information:

> *"Similarly, sources which are against my faith I cannot use because they can cause me to offend my God" (IDI: 18)*
>
> *"when I am sick I go to my church or call my pastor or members for prayers…" (IDI:11)*
>
> *"I go to the native doctor 'eze ndi nmuo' for consultation so he can explain what the gods require from me for that particular issue" (IDI:24)*

The culture and the religion of the people played a significant role on the basis of imposing ideologies or beliefs which hindered rural men from seeking or utilising health information sources freely and openly. Because of cultural beliefs and norms, most men objected to using authoritative health information and rather applied unsafe home remedies or self-help procedures whenever they or any of their relatives were sick:

> *"it is what our forefathers did (our custom)" (IDI:10)*
>
> *People also tended to avoid information that was against their beliefs and tradition:*
>
> *"I will avoid any information contrary to my religion" (IDI:7)*
>
> *"whatever information that our tradition forbids" (IDI:12)*
>
> *"When the information in the radio does not agree with my belief I will look for another information which does" (IDI: 19)*
>
> *"I will not entertain any information that is contrary to my faith because most of the information out there is just to mislead people from their faith" (IDI: 2)*

Furthermore, in most African cultures men are known to be secretive about their health condition and therefore rarely admit when they are faced with health issues. The responses in this section capture this view:

> *"One of the challenges is that our people have a long-lived tradition of using herbs and roots to treat ailment" (IDI: 12)*
>
> *"Most men don't want to be stigmatised because the traditional norm is that when a man is found guilty of cheating, he will be ridiculed. So, going to ask for information about something that will expose you is very hard. This influences their view and perception and discourage them from sharing their health-related*

> *problems to others" (IDI: 5)*
>
> *"A large number of men fear losing their authority and respect from their wives and children, so they don't seek information or help to avoid being exposed of having a disease caused by being unfaithful to their wives" (IDI: 32)*
>
> *"you know if someone hears or knows that you have that kind disease, they will just say that you sinned" (IDI: 26)*
>
> *"the lack of the culture of openness when it comes to men's health conditions, so they always refrain from sharing their health-related problems with others" (IDI: 14)*

Culturally, no information went to the people without the approval of the council or elders in many of these communities. As one respondent mentioned, when visiting their community to disseminate any information at all,

> *"you are required to go and meet with the chiefs. So, that he will gather all the men to the village square or send someone with you around the community…" (IDI:25)*

Communication was therefore usually via the chief and the ruling council who disseminated information throughout the communities on an everyday basis:

> *"in this community, when there is any information for the people, the Amala (elders in council) will send their representative to contact the town crier who will then carry the message to every part of the community informing the people" (IDI:1)*
>
> *"we talk just like every other person talks to someone else by speaking to them" (IDI:25)*

5.6.5 Comprehensiveness of health information

Another factor that emerged in relation to barriers to information included the comprehensiveness of the health information received and its usefulness which was linked to the level of literacy necessary for accessing that information, as discussed earlier:

> *"I will not take any message I do not understand" (IDI:11)*

> *"I will not take any information that is difficult or not simple to use" (IDI:31)*

> *"if the information is difficult to understand" (IDI:14)*

> *"if you speak in language I don't know" (FGD:3)*

> *"information is not explained to me properly" (IDI:19)*

Language was the most important factor people considered and determined whether they proceeded to further information seeking. As Figure 45 demonstrates, rural men mostly preferred information in their local language.

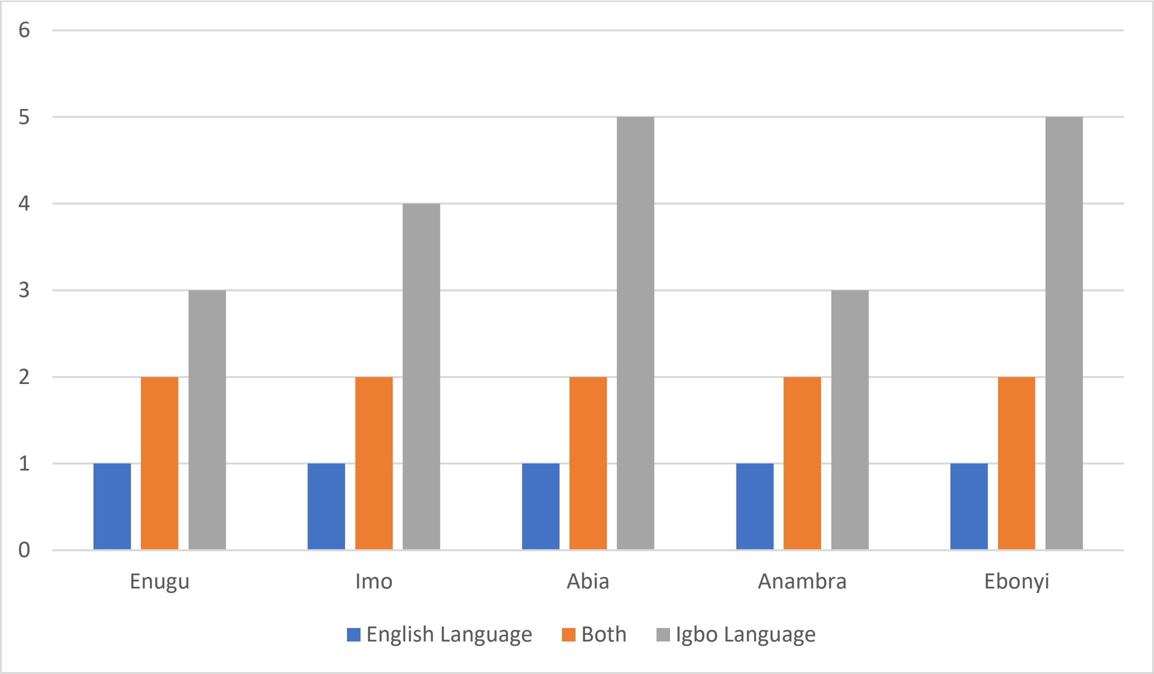

Figure 45-Language preferred when seeking information

The use of the native (or Igbo) language would help to reduce reliance on intermediaries and create the means for rural men to interpret the information themselves. This preference for the local language was also evident in participants' verbalisations:

> *"…I cannot go to a place where I cannot understand what they are saying because after I will struggle to get the information, and the language is difficult for me to understand, why then did I go there" (IDI: 18)*

> *"I prefer using my native language because it will make me more comfortable to*

> *listen and understand the information" (IDI:22)*
>
> *"I really will like to have information in Igbo" (IDI:3)*
>
> *"I will prefer you speak to me in Igbo" (IDI:6)*
>
> *"Igbo is the language we understand and speak in this community" (IDI:17)*
>
> *"We speak Igbo in this community, very few understand English 'oyibo', so interpreter is required when visitors who do not speak our local dialect visit" (IDI:34)*

The participants also described the importance of language and the way in which it determined whether they would accept or reject the information they encountered:

> *"before I engage in looking for information, I check to see if I can understand the language that will be used and if the language is something I don't understand then I will not continue" (IDI:1)*
>
> *"I first consider the language because if I don't understand what you are saying, then you are not communicating" (IDI:33)*
>
> *"I didn't go to school, so it is only my language that I know and can speak. Therefore, I consider that" (IDI:19)*
>
> *"I will not use information that is in another language other than my local language" (IDI:31)*

Language as a barrier cut across the use of different information sources. The participants found the use of non-native languages in the media (radio especially) when presenting a number of radio programmes very difficult:

> *"…it is difficult to understand the information through the radio most times because the language they use in conducting the programmes are not always our native language and so, only those who are educated understand them always, while others just listen to pass the time" (IDI: 14)*
>
> *"because those who present information on the radio are educated, most times they tend to mix the languages when they try to speak in native language" (IDI:7)*
>
> *"the other day I was listening to music on the radio, an advert was made about*

> *high sugar in the blood, but I didn't get all they said because some of the terms they use or examples they give I don't understand what they were trying to say"*

These excerpts show that language is a major cultural factor which must be taken into consideration if the information is to be comprehensible and acceptable to the rural audience. The provision of language appropriate health information materials via different media and sources was significant as there was no such material for citizens of rural areas taking into consideration their different characteristics and knowledge levels.

However, a few people in the rural community were comfortable with both languages. These were, however, only the people who belonged to the group with the most literate people in the community who had been to school or had worked in the city before:

> *"English will not be a problem for me" (IDI:17)*
>
> *"I can understand any language whether Igbo or English" (IDI:28)*
>
> *"I think I will prefer English because I have worked in the civil service in the city all my life until my retirement" (FGD:1)*
>
> *"as for me, I do not mind English even though I still understand and speak the local tongue" (IDI:12)*
>
> *"I prefer anyone since I understand English and my local dialect" (IDI:9)*
>
> *"I wouldn't mind any language as long as it is either English or Igbo" (IDI:25)*

As this study, has established, there is little, or no existing health information material targeted at men in rural areas of South-East Nigeria. Accessing non-traditional sources were mentioned to be frustrating because the information content at the domain of the rural dwellers required high literacy skills such as knowledge of a foreign language and the ability to interact with it.

All the factors discussed above were perceived significant for the effective provision of health information, and they were important conditions that should be considered if the information is going to be accepted by these rural populations. The provision of health information should reflect the literacy level of these populations and their cultural and religious beliefs as well as their existing information communication approaches and their preference for interpersonal communication.

In this section, the study focused on identifying factors that affect access to health information sources. However, some of the factors are considered as those which affect not only the information sources but also the type of information that is shared. Therefore, knowledge of the factors that make information accessible, comprehensible and reliable will help to understand how to reduce the challenges rural men face in accessing or utilising health information available in their communities. As indicated, illiteracy, ignorance, religious beliefs, the attitude of health providers, culturally inappropriate information, time, cost of access (usage), previous experiences with information sources and media are all significant elements that influence active information seeking and the steps that rural men follow to access information that concerns their health.

These barriers can be categorised into four elements:

1. The non-cultural appropriateness of the information content and channels - this includes the presentation of health information in non-local languages, traditional sources, the traditional way of communication, targeting audience’s beliefs, customs and traditions. Also, presenting information in a manner to condemn/dismiss cultural practices rather than to offer a logical alternative which involves collaboration with traditional medicine practitioners and external health workers.
2. Personal factors – these include providing health information without adequate consideration of rural men’s literacy level, socioeconomic status, beliefs, and other specific challenges they experience as being a member of that culture (e.g., fear of stigmatisation and egoism). Also, they address providing health information without attention given to rurality (i.e., location) or the level of technological advancement and knowledge within the community.
3. Information carrier factors – these include the format and style as well as timing and language in which the information is presented. They also address the proximity of source to users, affordability and use.
4. The lack of infrastructure – this addresses the absence of information

sources, health care facilities and social amenities in rural South-East Nigeria.

These underscore men's attitudes, past experiences and the socioeconomic challenges which make them reluctant to engage with sources that reside outside their communities. Overall, it was clear that rural men's experiences with health information are influenced significantly by these factors and therefore understanding how these challenges can be addressed in order to reach out to them in a culturally appropriate and timely way remains a priority for addressing their health information needs.

5.7 Conclusion

Rural men can be said to be uninformed because there is lack of culturally appropriate information services and infrastructure, they are of low-income and poorly educated. Despite being frequently at higher risk of many health problems, this group of people are less inclined to practise preventive measures and delay seeking health information (or help medical help) and when they do, often consult traditional experts in their neighbourhoods. This behaviour can be attributed to many factors which include, cultural and religious beliefs that define and perceive ill-health differently, lack of health information for men, untimeliness, and conflicting health information in the rural communities.

Rural men require accessible health information to stay healthy and become knowledgeable about effective ways of controlling diseases such as prostate cancer in rural communities. Information on how to identify symptoms and the necessary preventive measures are also very important to them. This research has identified the fundamental need for health information provision to rural areas of South-East Nigeria that targets specifically the health information needs of men. The study also provided an insight into the integral components of information provision (e.g. cultural, religious, language and education related) required for improving the accessibility of health information for rural men so that they can develop healthy behaviours to stay healthy while going about their other daily activities such as agriculture. Providing culturally appropriate health information and at a level that can be understood and used will also go a long way to support them in meeting their health information needs thereby building a stronger, healthier society for all in the rural areas of Nigeria. Individuals will be able to engage more actively with health information, if they are provided with targeted and appropriate health information that relates to their needs and circumstances.

Therefore, health information developers need to adequately take into consideration the cultural, religious and educational orientation of their targeted audience, if health information is going to make a difference in the lives of rural men in these isolated communities.

CHAPTER SIX

Discussion of Findings

6.1 Introduction

This chapter offers a critical interpretation and discussion of the analysis of the empirical data and the research findings reported in the previous chapter, based on Johnson's (1997) CMIS model (as presented earlier in Figure 13) which guided the research process. This is followed by presenting and mapping the emerging themes of the study on a revised version of the CMIS model (Figure 47) which depicts the contextual differences and characteristics of health information behaviour within the rural settings of South-East Nigeria.

The research study explored how health information is sought, shared and communicated within rural communities based on a complexity of socio-cultural norms and religious practices as well as a diversity of everyday life interrelated barriers (e.g. age demographics, language, education, cost, connectivity, and timeliness). It was argued that a detailed understanding of these factors and the barriers that men encountered within rural areas could inform the development of a health information provision strategy that is culturally appropriate and that meets the educational level of the rural people as well as their special circumstances created by their rural settings. The extended CMIS model therefore, provides a framework for addressing men's health information in the specific rural context of South-East Nigeria but, more importantly, it may also act as a basis for follow up investigations within other developing countries and rural communities that may be characterised by similar characteristics, such as a high level of illiteracy and the existence of strong cultural norms and practices similar to the ones reported in this case study.

Johnson's (1997) CMIS model has been previously adopted by many scholars to explain the information behaviour of various target groups in different contexts (Nwagwu and Ajama 2011; Oh et al. 2012; DeLorme, Huh and Reid 2011; Han et al. 2010). However, there is still a paucity of empirical studies into its applicability in different rural contexts. This study is in part aligned with the findings from several other studies of information behaviour specifically focusing on health issues (Morris et al. 2011). However, it contains authentic insights into the behaviour of rural men that was essential to explain and expand upon with original insider perspectives from the communities concerned, highlighting the influence of culture on information behaviour which had remained largely unknown before this study. The following sections present a summary of the key findings of the study in respect to the main constructs of the CMIS model:

6.2 Antecedent factors

Antecedent factors address a variety of information seekers' characteristics, including demographics, their level of health information experiences and their health beliefs which influenced their perceived usefulness (or salience) of health information.

6.2.1 Demographic Characteristics

As demonstrated earlier, the study explored the information behaviour of two different age demographics, broadly categorising participants into those who were between 35 and 49 years old (younger men) and those who were 50 years old and above (older men). Most of the participants were married with close family bonds, and religion played a major part in their culture (Best et al. 2015). The majority of the participants were Christians, but there were also a few respondents who were traditional worshippers practising the African religion (Obinna 2012; Magesa 2014; Chitando 2000). In addition, most of the respondents were mainly subsistence farmers while others practised a number of different occupations, such as entrepreneurship, petty trading and traditional medicine. These small-scale occupations were usually characterised by a minimum income threshold which explains the high level of poverty experienced by rural people. In the same manner, the respondents had varying educational levels ranging from no formal education to secondary education. However, the overall level of education was documented as very low among rural men, and most of the respondents had never been to school; there was a low number of respondents who were educated at primary or secondary level respectively. This result is indicative of the high level of illiteracy across rural communities in general.

There were a number of differences revealed by these demographic variances among rural men in relation to their health information behaviour in rural areas. Although the results are restricted to this small-scale case study and may not be indicative of the situation across rural South-East Nigeria overall, the study offers an interesting set of findings which could be followed up with more systematic quantitative research.

The results of the study echo previous research findings which demonstrate the role of people's different socioeconomic and demographic characteristics, such as age (Marrie et al. 2013; Mtega 2012; Popoola 2000). For example, a study in rural Tanzania by Mtega (2012) found that the rural people's choice of information sources was influenced by their level of education, income, age and occupation. Marrie et al. (2013) suggested that the chances of searching for health information increases with increasing socioeconomic status and age. Morrie et al. (2013) revealed that participants who were younger, on higher annual income and formal education were more likely to use mass media as sources of information first rather than interpersonal sources. Similarly, Popoola (2000) concurs to this relationship between literacy levels of the information seeker and their information source preference.

In this study, younger men showed a preference for their friends as primary sources of health information, while older men predominantly relied on their close family and other male relatives for information. Family and friends appeared to be the first point of contact for rural men who faced health challenges in general as they provided advice and support in identifying possible health solutions. In addition, the research found that men with a school qualification (primary or secondary) felt the need to search for information from sources outside their community, whereas those with no education were very reluctant.

People had access to a radio which was a commonly accessed source of information in rural communities. However, it was not considered as a means for health information specifically. Related to this was the difficulty people experienced in understanding the language of communication used which was different from their native language (i.e. Igbo). This difficulty in comprehending and adequately accessing information content resulted in rural men, especially older people, using media solely for entertainment purposes (e.g. to listen to music) in the evening or when they visited the local bars for evening leisure activities. Previous research has similarly demonstrated that media, particularly radio is frequently accessed by residents in rural communities (Nakandi et al. 2013). However, there has not been a clear understanding of how radio could form a useful medium for the provision of health information for rural populations especially for those older people or those with a low education status who may have difficulty in understanding the messages communicated.

Furthermore, a number of additional cultural factors, as well as practical barriers in rural communities, influenced the perceptions that people held around the usefulness and relevance of media sources for health information. Interpersonal sources were preferred because they were perceived to be trustworthy, familiar, cheap and available to access when required. These will be discussed in more detail in the following sections.

This study also agrees with previous research that information content and sources which consider the educational level and cultural elements such as the language of rural people are essential for disseminating information to rural communities (Prilutski 2010; Mtega and Ronald 2013; Lwoga 2010; Mooko 2005) especially in South-East Nigeria. Prilutski (2010) gave an example of a prevention campaign on HIV/AIDS composed in local songs in many different tribal languages and dance through multiple media channels to reach rural Ghanaians. By using different tribal languages, appropriate media forms (e.g. dance), created a similarity between the information giver and those listening which fostered the success of the health communication strategies. Prilutski (2010) further added that in Ghana, the more traditional (or cultural) oriented the methods of disseminating health information were, the more popular they were in access among rural Ghanaians. Studies by Lwoga (2010), Mtega and Ronald (2013) suggested that in Tanzania, information services which do not consider the illiteracy level of the rural people, by using difficult languages during information creation and dissemination to rural people, were less accessed due to the language barrier. In other words, use of technical languages during information repackaging limits information accessibility in rural areas. These studies were reflected in Botswana with the village chief, headmen and other members of the village being the most preferred sources (Mooko 2005). The study also revealed that many people in rural communities in South-East Nigeria, still travel over 7 km to access the nearest health care provider and they experienced prolonged travel time up to 1 hour due to the poor road network.

6.2.2 Health Information Experiences

In order to understand the health information experiences of rural men, it was necessary to develop a detailed understanding of what it is like to access health information in rural communities in South-East Nigeria, i.e. the kind of health information that is already available and how it is disseminated and the nature of the health issues and the information needs rural men have as revealed via the accounts of the participants in this study.

The overall experience of the participants with health information was described with negative words such as difficult, almost impossible, hard, demoralising, bad, incomprehensible, hopeless, frustrating and discouraging. This feeling of negativity reflected their experience when attempting to access, comprehend or interact with health information content mainly from external health information sources. Many of the participants indicated that the process of accessing health information was difficult while the outcome (i.e., information received) was not comprehensible or at their educational level. This limited information accessibility in most rural areas in Africa can be attributed to a number of factors, such as low literacy and inadequate basic infrastructure (Kamba 2009; Mtega 2012; Marrie et al. 2013). Etebu (2009) revealed that access to and usage of information is essential to improving rural people's livelihood. Individual traits influence the choice of sources as well as the evaluation and usage of information (Mtega 2012; Marrie et al. 2013). However, the accessibility and usage of information services among rural communities is still low (Mtega and Ronald 2013). A study by UNESCO in 2015 shows that "Nigeria continued to have a very high out-of-school population with 42% of pupils dropping out"; people who lack basic literacy and numeracy skills need positive information experiences in their everyday life.

6.2.2.1 Available Health Information in rural communities

The participants commented on the type of health information they had received or come across in their everyday lives. Health information that addressed general health issues that had an impact in the community such as AIDS, Diabetes, Malaria and was communicated mainly through interpersonal community sources rather than via authoritative external information sources (e.g. health workers) visiting the communities. Previous research by Anasi (2012) has similarly suggested that health information within rural contexts of Africa is mainly provided from within the family or community.

In addition, the findings of this study demonstrated a lack of health information on men's health issues such as prostate cancer. The participants emphasised the lack of health information that focuses on the health issues which affect men, stating that much of the information they had come across in their communities mainly focused on women and children. However, the emphasis of most previous research on health information has shed light on areas such as maternal health and immunisation rather than men's health issues (Nwagwu and Ajama 2011; Saleh and Lasisi 2011; Momodu 2002).

In addition, previous studies have found that there is lack or shortage of health workers to educate and support rural communities (Dutta 2009; Mtega 2012; Saleh and Lasisi 2011; Rutten et al. 2005; Anyaoku and Nwosu 2016). This study concurred with similar findings but also showed that even when health workers visited rural communities, their health services were again oriented towards women and children's health needs. Furthermore, visits of health workers were irregular and inconsistent for various reasons which included, lack of medical infrastructure, bad roads, and the risk of damage to medical equipment. This situation created significant barriers to health intervention, as envisaged by Morris et al. (2011) to tailor information services "where men are" but it also constituted a major barrier to health workers accessing these rural areas. Thus, rural men rarely had the opportunity to be educated, informed or supported on the specific health conditions that concern them, resulting in poor awareness levels of the symptoms of and prevention strategies for serious diseases that are prevalent among men such as prostate cancer. As we saw earlier, for example, many men reported some serious symptoms that could be linked to urinary diseases (including prostate cancer) but which were not properly addressed with formal medical examination and consultation. Looking at prostate cancer alone, it is not only more common with men of African origin but also the most prevalent type of cancer among men of African descent (WHO 2013) with significant physical, social, emotional, psychological and financial consequences. Similar lack of proper health education and prevention has been reported in previous research. For instance, Nakandi et al. (2013) found poor knowledge or awareness of prostate cancer explained why rural men mistakenly understood their symptoms related to prostate cancer to be gonorrhoea and other genital-related diseases.

However, it is also important to note that even if these were addressed, still cultural and religious beliefs of people in rural areas of Nigeria could intervene in the process, creating less willingness to address the health problems directly due to the links between bad health and wrongdoing as a sign of God-sent punishment. Ozoemena et al. (2015) for example, in a study of Nigerian men who have prostate cancer, found that people were reluctant to be informed about their health issues. Interestingly, that research study involved educated men in urban areas in South-East Nigeria who could read and write in English. This demonstrates how ingrained cultural and religious ideologies are in the community and their overall impact on men's health beyond rurality. Cultural and religious beliefs and other traditions (Abamara et al. 2017) may, therefore, be presented as significant barriers to health education and the prevention and management of health problems.

This study is not unique in emphasising the need to focus attention on the provision of health information to rural communities in Nigeria (Anasi 2012; Okwuonu et al. 2014; Nwagwu and Ajama 2011). In addition, previous research has called (or campaigned) for the need to provide information that relates to men's health in rural areas (Atulomah et al. 2010; Obertova et al. 2012; Ukoli et al. 2003; Oliver et al. 2011). However, sufficient attention so far has not been given to how health information can be made accessible for rural men to better equip and empower them to take an active role in preventing health conditions and an overall taking care of their health in proactive rather than reactive ways, embracing a healthy lifestyle and helping them to recognise early health symptoms of specific diseases. Morris et al. (2011) have called for increased focus on men's health and advised that purposeful efforts must be made to ensure that primary prevention and early intervention (such as the provision of health information) reach especially middle-aged and older men while improving health literacy among African men. However, most of the previous research has addressed how people understand and deal with health problems when these have been already experienced (Morris et al. 2013), with focus on possible treatment options and the associated risks or anticipated results of chosen treatment options (Anasi 2012). Information on prevention and early diagnosis would be beneficial for the entire family to be able to anticipate and understand how a specific illness may affect a person's health and life and how they can make informed decisions and offer support while correcting cultural misconceptions about health.

6.2.2.2 Health Issues and Health Information Needs

The findings of this study revealed that men residing in rural communities experienced health issues or demonstrated a high level of concern about a range of health problems such as high fever, malaria symptoms, sexually transmitted diseases, infections, back pain and fall injuries. However, both younger and older men who participated in the study indicated a variety of health symptoms which could have been associated with a number of diseases that only affect men (such as difficulty, delay or a burning sensation when urinating, erectile dysfunction and male infertility problems among others). The number of older men who reported some of these symptoms (specifically potency or erectile problems) were higher, than the younger men. Overall, however, the study revealed some commonalities of health issues across the two age groups, concerning health symptoms which could be linked to serious health conditions, such as urinary diseases or even prostate cancer. As a result of these health concerns combined with many health information access challenges and reliance on local sources for health information, many men and their family members in this study had significant unresolved health information needs. These results are comparable to those of the general population reported by a few other studies (Dutta 2009; Rutten et al. 2005; Anasi 2012; Anyaoku and Nwosu 2016) who have examined the health information needs of people in rural communities. However, the majority of research on men's health in Nigeria has primarily focused on urban populations in different urban areas such as Port Harcourt (Bock-Oruma, Iboh and Prince 2014), Oyo (Agalliu et al. 2015), Enugu (Ozoemena et al. 2015), Anambra (Oranusi et al. 2012), Sokoto (Erhabor et al. 2014), Benin-City (Agbugui et al. 2013), Nasarawa (Peter et al. 2016), Calabar (Ebughe et al. 2016), Lagos (Adeloye et al. 2016) and Ogun (Akinremi et al. 2014). The populations of these urban studies were, again, conducted with predominantly literate citizens such as university students (Egbera 2015), and civil servants (Oranusi et al. 2012; Ajape, Babata and Abiola 2010) who can read and write in English. Oranusi et al. (2012) study of male civil servants in Anambra state, for example, identified information needs that include diagnosis, treatment options, side effects and the impact of diseases on people's quality of life but did not focus on rural areas. Then again, research which has targeted rural people (Ukoli et al. 2003), has found that they require information on common diseases (e.g. their specific causes, symptoms and transmission) and they needed information about how to get the best treatment in order to and make informed decisions when faced with health challenges; however, it has not particularly addressed the information needs of men (Morris et al. 2011).

Rural men's high illiteracy levels, their accessibility problems and their information use challenges (Abamara et al. 2017) create a number of significant additional barriers to addressing their health information needs. Considering the prevalence of health issues experienced in the present study more targeted services are therefore required to address the health information needs of rural populations. Furthermore, on the basis of the symptoms that rural men experienced, it appears that priority should be given to health information which addresses the side effects, risks, and treatment options for specific health issues which affect rural men such as urinary diseases, sexual dysfunction and sexually transmitted diseases. Rural men should be equipped with health information which can help them improve their self-care information and appreciate the value and benefits of medical intervention for these diseases when compared to herbal (or alternative) medicine remedies that they have practised over decades.

6.2.3 Perceptions and Beliefs about Health

According to Johnson (1997), an individual's views about specific health circumstances have a direct impact on the value placed by individuals in engaging in information seeking. Morris et al. (2013) suggest that health beliefs of an individual may also influence health outcomes. An understanding of rural men's perceptions of health gave first-hand knowledge of what parameters are essential to the rural audience, the role that culture plays in their information landscape and the challenges they face.

In this study, the health problems linked to a number of cultural and religious beliefs were identified through the responses of the participants. The first one was that diseases are man-made fate and the second that they are an act of God.

These perceptions demonstrated that the cultural context in rural communities had a considerable influence on shaping how rural men think, feel and act about their health. Their beliefs and traditional norms were presented as key determinants in shaping their perceptions about their health issues.

In relation to the first misconception that health problems are man-made fate, rural men aligned with varied superstitious beliefs around health which included that ill-health is a consequence of some human acts or errors, including disobedience to traditions, offence to the spirits (God or gods) or the results of a fiendish enchantment by some wicked individual. This mindset pushed rural men to seek help from places or persons which they believed had a greater power to end the affliction of ill-health when they faced health problems. Furthermore, the study also revealed that it was not only the afflicted person who engaged in this solution seeking process but also their family members who approached sources such as the oracle priests or religious leaders whom they believed were closer to the ancestors or God. They approached for resolution purposes which can involve atonement or prayers to restore the health of their family member.

Most traditional worshippers also held similar perceptions and saw herbal medicines as being superior to orthodox medicine because referrals from medical practitioners for severe health conditions were judged as ineffective which could be because there were no previous medical records to support on-going treatment and consultation. Traditional sources were perceived to have powers to communicate with the spirits, revert situations and see beyond the physical. Many men in rural communities, accepted that native doctors who were, in some cases, Oracle priests, could see into people’s future or past, and had the power to track past activities which enabled them to predict the cause of any ailment and proffer solutions.

The second misconception that health problems are an act of God (or the will of God) has been previously found to be prevalent among African citizens including women and even among those living outside Africa (Bailey, Erwin and Belin 2000). According to Bailey, Erwin and Belin (2000), participants who believed that cancer is a punishment from God expressed and endorsed the more fatalistic view of cancer prevention and treatment, and felt they had less control over the risk of their health than their counterparts. In this study, rural men with a similar view, saw themselves as being helpless and felt less in control of their health problems, and relayed their locus of control to an invisible being (either God or their ancestors) depending on which religion (Christianity or Tradition) they believe.

The findings revealed how the belief -an act of God- influences the way, place and time rural men sought health information as well as their perceptions about the usefulness of information sources. For example, one of the participants highlighted that he immediately went to his religious leader whenever he recognised any symptoms. This behaviour shows that religious leaders were perceived as useful in resolving health problems and that they were accorded by the community a degree of trust that enabled rural men to share their health problems and to readily accept the information that was provided as accurate.

Furthermore, the findings demonstrated that rural men with this belief who were traditional worshippers prioritised going to traditional healers such as native doctors, for information to restore their health. These sources were believed to be endowed with some special powers and enjoyed a close relationship with the invisible powers. Traditional sources were considered trustworthy and credible owing to their existence over centuries before the introduction of orthodox medicine and were associated with the positive testimonies of individuals. In addition, these sources were mostly preferred because they were relatively cheaper, closer to people within the community, more accessible as traditional healers and native doctors who communicated in the native language, understood people’s traditions and were compatible with their religious and cultural beliefs. Uskul (2010) similarly found that a person’s sociocultural factor has the potential to shape their perception regarding health or illness. Uskul suggests that being a member of an ethnic minority group can add to delay when medical help is sought. For example, black people tend to have more advanced cancer when detected and consequently, have poorer survival rates than white people due to a number of factors such as knowledge and beliefs about causes of the disease, associated symptoms and trust.

The third perception about health was that the burden of ill-health is a communal responsibility. This perception cut across all the communities selected in this study. The data from the participants revealed that the process of getting help for severe health problems was a collective effort. With this perception, when a member of the family (immediate or extended) was suffering from any severe or undiagnosed health problem, the family members lend their resources and care to ensure that the deceased family member was supported throughout recovery. As demonstrated in the findings, some of the central roles that family members played included making financial donations for treatment and making deliberations on where, when and how it was appropriate to seek help. In the situation that a person lacked close access to other family members, a compound of people (or 'umu nna') or the entire the community stepped in. This perception fosters the culture of unity, brotherhood and collectivism as enshrined in the cultural slogan "onye ahala nwa nneya" (i.e. be your brothers' keeper).

6.2.3.1 Awareness levels and Beliefs about Prostate Cancer

The data revealed that only a few rural men, five respondents from both the individual interviews and focus group, had prior knowledge of prostate cancer. Many of the respondents had no prior knowledge or were ignorant about the disease. In general, the knowledge level about prostate cancer in rural communities in South-East Nigeria is extremely low. The findings agree with many other research studies conducted within rural contexts in Nigeria (Obertova et al. 2012; Atulomah et al. 2010; Oliver et al. 2011; Ukoli 2003) where respondents demonstrated limited or no prior knowledge about prostate cancer.

The data analysis showed that some respondents perceive prostate cancer to be a long-term urinary health complication which was not properly treated at a younger age. Similarly, others who could only describe the symptoms relate it to be another infection of the urinary tract (Olapade-Olaopa et al. 2014). In addition, many of the men perceived it as a contractible disease linked to promiscuity. These results showed that the perceptions and beliefs of rural men in South-East Nigeria corroborate the already established results in the literature (Atulomah et al. 2010; Oliver et al. 2011; Obertova et al. 2012; Agbugui et al. 2013; Olapade-Olaopa et al. 2014; Enaworu and Khutan 2016; Abamara et al. 2017). In addition, others believed that the disease is caused by excessive sexual intimacy with multiple women (Olapade-Olaopa et al. 2014). Even more surprisingly, a member of one of the focus groups had the belief that it is also suffered by women when he described it as a disease contracted when a man sleeps with a woman who has got it. This demonstrates the belief that it is contractable. Misconceptions regarding the causes and treatments of cancer were associated with increasing age and decreasing level of formal education.

Meanwhile, others saw cancer-related problems as a curse or punishment from God (Bailey, Erwin and Belin 2000) or their ancestors. The data shows that a good number of rural men associated the risk factor of prostate cancer to sexual activity or divinity. Guz, Gursel and Ozbek (2012) similarly reported that the religiousness of Nigerians influences their beliefs and cultural values, and in turn their health behaviour to screening awareness campaigns.

The respondents alluded to the fact that treatment is best sought by going to the traditional herbal practitioner (Azubuike and Okwuokei 2013; Abamara et al. 2017) but some members of the focus group voiced that the disease has no cure (Atulomah et al. 2010). Respondents with a Christian religious background hinted that it is only Almighty God who can grant total healing from such a disease. The finding corresponds with Azubuike and Okwuokei (2013), Guz, Gursel and Ozbek (2012) and Abamara et al. (2017) who all reported that religious and spiritual beliefs and practices are most times used as a coping mechanism for severe diseases, as Nigerians have a strong belief in God.

As pertaining to seeking health information about the disease, some participants admitted helping one of their friends in obtaining help. The majority indicated they have never received any health information about prostate cancer from any source, which agrees with Egbera (2015) and Atulomah et al. (2010). Meanwhile, a few respondents said they did seek information about such sickness through an intermediary rather than in person. Finally, two members of another group were reluctant to comment on this.

Similarly, when asked to comment on the frequency of the disease in the community, most of the respondents suggested that many men in the community experience some urinary problems, while some others were in denial that prostate cancer exists (Abamara et al. 2017). The finding is in line with the work of Ajape, Babata and Abiola (2010) who reported that their participants had not seen anyone with such a disease. However, a few participants said that the problem is common but that because they were not discussing it openly, some people were unaware of its existence (Olapade-Olaopa et al. 2014).

From the data analysis, it was established that rural men in South-East Nigeria are not aware of prostate cancer, but they experience some symptoms which could relate to it as described in their responses. In addition, the findings revealed that in South-East Nigeria, the word 'mgbachi mmamiri' which means 'obstruction to the flow of urine' was used to describe prostate cancer. This word was used probably because in Nigeria, diseases are identified by the literal description of their symptoms (Olapade-Olaopa et al. 2014). With such broad definitions, several urinary problems could easily be mistaken for prostate cancer or even prostate cancer could be mistaken for other urinary problems. For example, obstructive uropathy due to prostatic enlargement could easily be confused with a complication of poorly treated STI owing to the fact that difficulty in urination is commonly experienced in men with a previous history of STI (Olapade-Olaopa et al. 2014) The analysis revealed that the latter (that is, symptoms of prostate cancer being mistaken for other health problems) was the general perception of rural men in South-East Nigeria.

The study further revealed that the preferred mode of dissemination of this information was interpersonal communication such as community forums, talks in churches and men's association meetings. The men suggested that via this mode, the entire public can equally be educated thereby bringing about societal transformation and removing the secrecy around the disease and giving men the liberty to open communication about such health problems.

As discussed in this study, it was established that rural men were unclear of what the exact symptoms are, as they categorised difficulty in passing urine and burning sensation to be only attributed to sexual infection. However, they were not aware nor conversant with any other treatment options apart from herbal medication. This perception indicates a lack of health information or education programme in rural communities; even those who were educated believed that there is no cure for it (Atulomah et al. 2010). This recognition of the difficulty in urination by many respondents was considered significant in this study because it not only shows a lack of awareness of the disease but also reveals the extent of unmet health information needs. This was notwithstanding the general lack of awareness of the disease and the non-association of the symptoms with cancer of the prostate by many respondents.

In line with the objectives of the study to examine rural men’s perceptions about prostate cancer participants’ perspectives and beliefs about on this health issue which significantly affects men were explored in more detail. The perceptions of men about the cause of prostate cancer were alarming as they considered it be a disease contracted through sexual activity with multiple women. These findings agree with other research conducted within the context of African-American men by Taitt (2015) and Forrester-Anderson (2005). Similarly, there have been some medical-based studies which have focused on the prevalence and incidence of prostate cancer in South-East Nigeria on the knowledge and perceptions of the disease held by rural male patients. The results of these studies have concluded with some recurrent themes which highlight barriers that have been similarly found in the present study. These emphasise issues that relate to men’s lack of awareness, their misconceptions and their fears relating to the disease (e.g. impotence) as well as to other practical barriers created by poverty and the associated lack of access to medical care and screening (Ozoemena et al. 2015; Obertova et al. 2012; Ukoli et al. 2003; Ugwumba et al. 2017; Oliver et al. 2011). However, the present study has offered a deeper understanding of the cultural and religious causes which are associated with rural men's hesitance to seek health information on men’s health-related problems. Lack of knowledge of prostate cancer was found to be connected to prevailing traditional norms which conditioned a lack of open communication and necessitated keeping secret about sexual health problems. Because the causes of prostate cancer were linked to extramarital relationships, there was fear that diagnosis would have a negative impact on the relationship between husband and wife or even their children. This perception was founded on the traditional belief that genital-related health issues emanate from sexual diseases or infection. Therefore, men who suffered any of these diseases especially those who were married were regarded as being unfaithful to their families, which is a culturally misconstrued fact about prostate cancer. This could lead to embarrassment and loss of good reputation in the community as men could be labelled unfaithful and lose their sense of manhood (i.e. their pride or ego as a man). There was, therefore, a significant stigma attached to diagnosis concerning these health issues.

Secondly, among the Christian community, those who are identified with this kind of sickness were often looked on as sinners because it is against religious belief to have multiple partners as a married person or even engage in sexual relations as an unmarried person. Traditionally, the cultural and religious norms and traditions forbid unfaithfulness or casual sexual relationships before marriage and treat those associated with such acts with disdain. As a result, men who found themselves suffering genital-related health issues kept it secret because they were afraid of the impact it could have on relationships with their wife and their community if they were identified as a sinner. The communities based their interpretation by categorising prostate cancer in the same group with other popular sexually transmitted diseases such as gonorrhoea and syphilis and the associated prejudice.

Another perspective of prostate cancer was that it is a disease that may occur during the childhood of a male child, who was not properly treated, which reappears as the man got older. The latter belief associates prostate cancer with old age and sees no need to engage in seeking health information or medical help to remedy the situation as it is part of the ageing process and there is nothing that can be done about it. This view can be attributed to the lack of prostate cancer information in rural communities and the reliance on popular beliefs which are passed on and accepted as community norms in a closed rural environment which has not much access to external medical guidance or consultation.

As a result of these cultural and religious influences on the health information behaviour of this population, many people delayed seeking health information until they had exhausted all the traditional options and until their health issues were in an advanced stage. Studies by Ukoli et al. (2003) and (Ozoemena et al. 2015) found that African men tend to have more advanced prostate cancer when detected and, consequently, have poorer survival rates than European men once the cancer is detected (Ozoemena et al. 2015). African men are less likely to have prostate cancer-related screening if they are less educated, poor and living in rural communities (Ukoli et al. 2003). Ross et al. (2011) pointed out the need to examine how cancer-free men seek knowledge (or information) about prostate cancer and how that influences their behaviour. Addressing this need in South-East rural Nigeria is crucial to promote awareness, screening and early diagnosis among rural men who are a high-risk group (Ukoli et al. 2003) and break the circle of cultural and religious stigma around the disease, as the results of this study have demonstrated.

6.2.4 Health Information Carrier Factors

Knowledge of information sources used in rural communities in South-East Nigeria and their use will help information providers to evaluate the communication potential of these sources and the way in which information could be effectively presented to this rural audience in terms of its style, format, visual display, the appropriate time to be communicated, the communication language, and rural men’s perceptions of the credibility and beliefs about the source as well as the social presence of the communication medium (Loo 2009). The majority of the information sources consulted by rural men were interpersonal and oral-based, which suited rural men’s natural ways of acquiring information within their community. However, these interpersonal sources failed to meet rural men’s information needs. Despite this, understanding of rural men’s preferences can help determine the characteristics which make specific sources consulted and others not. Such knowledge could enable the modelling and repackaging of authoritative medical information available via diverse sources, e.g. print media, audio-visual information, electronic and multimedia information in ways that meet the expectations and needs of rural citizens.

Available health information sources in rural communities included interpersonal sources which enabled face-to-face communication with friends, family, traditional and religious leaders and men’s groups, and mediated (or impersonal) sources such as radio and television (with radio being one of the mostly consulted media).

In relation to the use of interpersonal sources, trust was a decisive and vital factor that determines the acceptability of any information. Among rural people trust was not just a measure of how reliable a person or information source was, but also how influential or informed and engaged with the community they were. Hence, influential individuals were regarded as trusted individuals in rural communities. Every community member was assigned a degree of trust and authority through previous health experience and engagement in community development.

Therefore, in rural areas, the credibility of any information was determined by that trust value (social trust/respect) assigned to the information source/carrier. In every community, trust value was constructed by considering everyday life social interaction in the community. In addition, trust increased when the interpersonal information source made a greater impact on communal well-being and survival. Hence, some individuals such as traditional rulers were assigned higher trust value and were more trustworthy because of the central role they played in community development and wellbeing and in that way, they also served as trusted information sources to members of the community. In most cases, they provided the bridge between the information providers (e.g. government, health professionals) and the local community. As health information mediators for the community, they carried a high degree of trust (authority) in their words, so most rural dwellers tended to put unquestioning faith in information from this local source. Rural citizens also saw these local sources as convenient, affordable and easily accessible sources, unlike non-traditional external sources which were expensive to access and were often seen as unreliable because they were perceived as vehicles for the government to sell their propaganda and as a platform to exploit the illiterate. There was, therefore, an overall sense of mistrust towards centrally based health services which was also partly created by the negative experiences of rural people of external health services which were provided only sporadically and without concern for the needs of rural people and the barriers they were experiencing.

The more educated participants from the selected states in this study, however, acknowledged that health workers are knowledgeable, experienced and trained to solve health problems. Again they were perceived as not easily accessible as they did not frequently visit men in rural areas and they were expensive with regard to treatment. Perhaps this source of health information would have been the most preferred interpersonal source by rural men if they were present in rural communities. Therefore, to overcome this shortage of health workers in rural communities (Naicker et al. 2010) the government needs to integrate members of the local communities by recruiting health workers among the rural communities who will be readily available either as family members or friends of those who need health information, particularly men. In addition, the presence of health agencies is required in rural communities as there are no active health agencies present in rural communities distributing health information material for men or engaged in awareness creation concerning prostate cancer to rural men in

South-East Nigeria.

This conclusion is also supported by earlier research which has found that in South-East Nigeria, based on the traditional culture, oral information exchange via interpersonal sources is the accustomed means of information acquisition and provision (Etebu 2009). Interpersonal sources and the oral transmission of health information were found to be preferred in rural communities (Rutten et al. 2005; Nwosu 2013; Nwagwu and Ajama 2011). "Interpersonal sources" are considered an active communication channel which serves as a primary source of health information for individuals who have strong health beliefs and specific cultural perspectives (Dutta-Bergman 2009). Specifically, family and friends, traditional leaders, and men's groups (Char, Saavala and Kulmala 2011; Nwosu 2013) are the most consulted sources for general information due to their prominent role and cultural significance. Char, Saavala and Kulmala (2011) revealed that unmarried men in India preferred interpersonal communication such as peer groups as a source of health information. Furthermore, interpersonal communication was equally found to be more persuasive because if provided emotional and social support which other information sources (e.g. media) lack. Interpersonal sources can also be used to present health information to real communities in a clear, appropriate, comprehensible and affordable form which requires little or no educational literacy (Ganju et al. 2010; Char, Saavala and Kulmala 2011) for rural men to use. In addition, this preference is also based, on additional practical factors linked to their availability, the nature of information that is exchanged (Nwagwu and Ajama 2011; Lwoga, Ngulube and Stilwell 2010), the trust level among information seekers (Simou 2015), the ease of access by seekers in terms of proximity, time and cultural appropriateness when information is presented (Essien 2014).

The ability of these sources to meet the needs of rural men addressing all these characteristics, therefore, defines their utility. Interpersonal sources are crucial to rural men because they address their cultural values and impart knowledge on a personal level, thus presenting information in such a manner that appeals to this targeted audience. However, in rural people's preference for interpersonal sources, there are some dangers including the risk of people being misguided through erroneous or inaccurate information (Mtega 2012). Mtega (2012) revealed in a study of the Kilosa people that the rural people in the Morogoro region of Tanzania preferred direct oral communication because it is the cheapest source of information, but there was a risk regarding information distortion via that communication channel. This reiterates the need to repackage and disseminate health information through other more formal channels in culturally appropriate formats. On this basis, the study sought to explore the characteristics of the different available media in rural communities in more detail to identify areas for modification that were essential for improving the communication potential of accurate and reliable external health information for rural men. The following sections aim to discuss the challenges people encounter when using other information sources and help to provide the necessary understanding of how providing intervention could help increase the use of additional available sources of health information in rural communities.

6.2.4.1 Mass Media Sources

The availability of mass media via which health information could be disseminated among rural communities in South-East Nigeria is limited to programmes which are broadcast on the TV or radio. As the following section will demonstrate, there is the absence of print media (i.e. pamphlets, booklet, posters, banners, newspapers) focusing on health information for men. In addition, internet connectivity is not available.

However, messages communicated via TV and radio do not reach that rural audience as rural men have a lower socioeconomic status and educational level/literacy level. In addition, a common perception is that these media are mainly a means of entertainment rather than health information and education. In order to target a rural audience a different tone, format, content, language and focus is required. Currently, because of the absence of these characteristics, access to any potential health information is hindered for the majority of rural men.

Although there has not been previous research to address this issue of health information accessibility in the rural areas of South-East Nigeria, much useful knowledge can be drawn from research that has been conducted in other rural contexts. For instance, Char, Saavala and Kulmala (2009) suggest that the nature of media in India should be appropriate to the cultural differences of a rural audience. Instead of media in rural communities being an extension of that in urban areas they should seek to address the multi-cultural characteristics of the population. They should do this, not using a generic approach in their information presentation, but by one that could appeal to different audiences, not only urban ones. Unfortunately, at present in rural South-East Nigeria information provided through the media glides over the fundamental cultural values of a rural audience. For example, most radio broadcasts lack rural content, appropriate cultural concepts and indigenous languages (Essien 2014; Mtega 2012). This can explain Momodu's (2002) findings with the rural people of Ekpoma in Nigeria, where 81.1% of the respondents were unable to access formal channels of information. Rural men find it difficult to reconcile media content with their cultural values and beliefs thus they avoid health information from the media (Wood et al. 2004) and turn to alternative sources. Televised programmes are scheduled mostly during morning and afternoon hours when rural men who desperately need information are on their farms. Many rural men could watch television only during festive periods when family members visit, or when there is electricity in some rural communities. In addition, media content is mistrusted in rural communities because of the proliferation of unfulfilled promises by government agencies to address rural Nigerian citizens' problems, where there is increased socioeconomic hardship and lack of support.

Similarly, as the present study found, although many rural men own mobile phones these were not used to obtain health information but mainly for communication purposes. In rural areas, there is a lack of infrastructure to support any sophisticated use of mobile phones as there is no network connectivity, the supply of electricity is poor, and the cost of smartphones is high. However, within the rural communities, ownership of a mobile phone is considered a sign of prestige, especially among those with little or no educational background and people address some of the above challenges by using top-up with vouchers that at least allow them to dial and receive calls.

Therefore, mobile phones because of their easy portability and ubiquitous nature could be used as channels for the provision of health information to a rural audience and previous research has reported this potential (Aryee 2014; Porter

2012; Zurovac, Talisuna and Snow 2012; Cole-Lewis and Kershaw 2010). Although mobile phones in rural areas remain primarily as communication devices with no fast internet access (Hampshire et al. 2015) nor smartphone capabilities, health information providers can adopt enhanced voice capabilities or a text-based format to disseminate health information (Porter 2012). A number of studies, for example, have addressed the potential of utilising mobile phone features such as text messaging (Cole-Lewis and Kershaw 2010; Zurovac, Talisuna and Snow 2012; Schoenberger, Phillips and Mohiuddin 2015; Déglise, Suggs and Odermatt 2012), and have shown that text messaging can be successful in promoting healthy behaviours in rural communities (Porter 2012); for instance in Ghana (Aryee 2014) and other countries in different contexts for controlling malaria (Zurovac, Talisuna and Snow 2012), smoking cessation (Whittaker et al. 2011), cancer screening (Hovick et al 2014) and self-management (Jongh et al. 2012). However, rural-focused mobile-based health interventions are relatively few, and mainly focused on urban populations (Shet et al. 2010, Porter 2012) where signal and connectivity are optimal. Finally, the use of mobile health apps could be promising (Zurovac, Talisuna and Snow 2012; Patrick et al. 2008) although there are not currently any specific health-related apps that target rural populations in that way.

Rural populations in South-East of Nigeria need to be encouraged to consult a range of information sources that are not mainly interpersonal. This can be achieved by offering targeted health messages that are accessible reflecting their cultural orientation, values and preferences. Although some sources are available to rural men, these are less accessible as there are numerous challenges affecting the provision, access and usage of health information in rural communities. As this discussion demonstrated, the factors which hinder a rural audience from fully accessing information conveyed through other media include the following:

1. The information disseminated is often incomprehensible to the rural audience because it is complex and requires a higher level of literacy to be understood. For example, during media broadcasts, information providers may use jargon or medical terms which are difficult for rural men to understand without the help of a third party.
2. There is not sufficient time allocated to health programmes, and when

health messages are communicated via the media, these are not at a time that rural men can attend because most days they are busy on their farmland.

3. Rural people have low levels of trust in state messages as they feel that they have been neglected in terms of government support. In addition, people fear that health messages communicated via the TV aim to exploit them for profit rather than help them address their health needs.
4. The broadcast language is foreign to the rural people, and the programmes do not address the concerns or needs of rural areas. There are, for example, no local TV channels nor community-based radio stations.

6.2.4.2 Printed Materials

The availability of printed health materials in rural areas that formed part of this research was very limited. Although other scholars have recommended print materials as best fitted to reach a rural audience (Char, Saavala and Kulmala 2009), their value, usefulness and cultural appropriateness remains questionable within a rural context because of the low literacy level of the rural communities, the need to repackage that information in the local language in order to be comprehensible and because the health messages communicated about men's health may not be understood because the meanings conveyed are not agreeable with the local beliefs and practices of rural men.

It was evidenced during the study from observation in the communities that all printed information material such as leaflets, posters, pamphlets and banners were designed to suit the urban population because the way in which they were designed was suited to a literate audience. In addition, there was a lack of printed health information material on health issues that concern men particularly, which addresses some of the health issues that men mentioned that they or their family members suffered from. As was discussed earlier, some of the health symptoms that rural men referred to could have been connected to serious urinary diseases or even prostate cancer.

As part of the observational aspect of the research, a number of health care centres located in the neighbouring cities to those rural areas were visited, but it was still found that there was no difference regarding health information material on men’s health issues such as prostate cancer. However, in these neighbouring health centres, there were posters and banners on immunisation, HIV/AIDS, and Ebola. Instead, there was no shortage of posters and banners across the rural areas visited as it was used as a common information dissemination method for other matters that concern the community such as burial programmes and political campaigns.

Ironically, most health information materials were displayed inside the health worker’s offices and consultation rooms instead of having some of this information available in the public domain such as waiting rooms, where people could see them more often. Another problem related to the display of health information material was the lack of suitable display areas in rural communities. Most suitable display areas were in an open space such as on walls or under trees where rural men gathered. Unfortunately, posters left in these open places deteriorate with exposure to moisture, or with people tearing them down to use them as toilet paper or to roll tobacco. Therefore, the question was, if posters were going to be used for the dissemination of health information (perhaps in more pictorial formats to suit the literacy level of the rural people) where these could be placed.

The purpose of producing printed information material would be to present, in a culturally appropriate manner and at the appropriate educational level, health information that is easy to read, comprehend and use. To achieve this, medical information needs to be repackaged. Guidelines are therefore needed to assist in the development of effective printed health materials for possible use in rural communities.

The present study discusses a set of guidelines on repackaging printed health materials. The guidelines are not designed to cater for the repackaging of all forms of printed material; rather they concentrate on an exhaustive list such as fliers, pamphlets and brochures. Other printed formats like textbooks, magazines and newspapers may call for design considerations that differ from these:

1. Printed health material can be developed by inclusion of the target user at all stages of the material design process. It is important to enable the target audience of any health-related interventions to voice their needs to inform effective intervention strategy.

2. The information needs of the target audience should be the primary drivers and inform the choice of layout, style and content, and not the wishes of the designer. In other words, it should be consultative rather than a top-down process. It is critical for acceptability, relevance and accessibility purposes to engage the target users in the development process and include local content (i.e. cultural elements). Practical steps include the use of local examples, images that the audience are familiar with in the social environment, recognisable illustrations, and possibly presenting the information in the target audience's native language. This will help to fuse the indigenous knowledge with medical information.

3. Using an integrated interpersonal health information provision strategy, that is, utilising direct face-to-face contact, in the distribution of the printed material would be more effective because the strategy allows for conversation, questions, and immediate feedback unimpeded by cultural barriers. Interestingly, Finnie et al. (2010) argues that the so-called illiteracy gap that limits people in rural areas from using printed materials efficiently may be unreal. However, it is possible that persons who cannot read could find someone in the community or family who could read. Therefore, the literacy ability of a person is not as important as family or group literacy In other words, the chances of having one out of the group or family who can read the material makes the inability of an individual who cannot read less obstructive to the effective use of printed material for disseminating health information because a group needs to have only one literate member or sympathetic non-member to be able to access health information in pamphlets and brochures.

There is a growing realisation of the critical supportive role that print information material can play as a communication strategy that employs a mix of media and messages tailored to the target community in their context (Finnie et al. 2010), and as a reference source for the target audience to consult when details of the 'talk' from other sources have faded from their memory.

6.2.4.3 Audio-Visual Materials Tapes on VCD/DVD

This set of materials are sparingly found and used in rural areas because they are not readily available and accessible due to the poor availability of electricity in rural areas. Therefore, they are mainly used when there is a power supply. However, in some rural villages, participants indicated ownership of VCD/DVD players for watching videos during festive periods.

Throughout this study, the researcher only came across mobile vans parked by the roadside in town centres in the council headquarters delivering health messages. Such vans are required to move into rural communities to deliver health messages. Due to bad road connection with these rural communities, there was no effort to initiate this service. However, the use of mobile vans can be an effective medium for disseminating health information to rural people where access to health information is limited. In these cases, VCD/DVD programmes could also be disseminated to the rural public and people in the community who own them could play a key role in gathering members of their family and their community to watch them together as long as these were, again, prepared in a way that was tailored to the needs of rural people respecting their level of education and literacy. These programmes could also be played during age-specific meetings where men were gathered together or during times when electricity was not an issue, i.e. during different festive seasons (such as the new yam festival) or at Sunday service during which individuals in the rural community engage in either direct or indirect information exchange.

6.2.4.4 Perception of Health Information (Salience)

Rural men have a different understanding and personal interpretations of the term information. Those with no basic education saw health information as something that belongs to the educated - the literate people. As discussed, rural men's interpretation of the salience of health information (the personal significance attached to the information) was also associated with the source from which it was obtained with more value assigned to local and familiar sources and as a result of the information that was provided via these sources (Redmond et al. 2010). Salience was also determined by the comprehensibility of the information received, the agreement of the information content with the cultural and religious beliefs of the individual, and overall with the reputation of the communicator, and the timeliness of the information, which were conditions that enabled making sense of the information received.

Furthermore, the importance of information was determined by its timeliness. Information was rewarding when people experienced specific symptoms, but when the information they encountered was not required any longer they found it to be personally discouraging and useless. Also they acknowledged that it could enable them to inform others or know what to do in the future if the problem emerged again.

Rural men perceived the salience of health information to be higher when it was aligned with their cultural traditions and community knowledge; for example, every member of the community knew some local herbs which were used for the treatment of certain diseases and this knowledge had been passed on to them through the generations. However, this community knowledge made people less likely to evaluate the suitability of these traditional remedies and be satisfied with the knowledge that tradition brought. In a way, this explains why most of the rural dwellers relied upon traditional sources blindly without questioning.

Finally, rural men perceived information sharing as a fundamental property of information; in another word, the value of information lay in sharing it with others. Several approaches are deployed by rural men to share the information they acquire and the more information that was shared with the community, the more significance was accumulated. It is therefore not surprising that the traditional language was one of the key elements of effective information sharing.

6.3 Health information seeking behaviour of rural men

Rural men received information in different ways – purposefully via their own information seeking activities which involved trusted sources and via accidental encounters with information in common areas or ‘information grounds’ (Fisher, Erdelez and McKechnie 2005) such as the village square, the town hall, the church or during age grade meetings where certain information was provided by friends, acquaintances or agemates. For example, participants indicated that they had been exposed to information that was of interest to them from the church just by being physically present without expecting to receive it. Similarly, rural people encountered information on their way to the farm, or when the visited the stream or the marketplace, where they accidentally heard someone else giving information to another person that was not meant for them directly, but ‘caught their eye’ as they did not consider being in a position where they could get the vital information to solve their problems (Smith and Hepworth 2012). Information was also passively received via family and friends as a means of support and advice or via the town crier who went around the community to directly pass on information of interest to the community.

The findings of this study revealed that men in rural communities encounter some diverse barriers which are presented as significant obstacles to information seeking, especially when they are required to access information outside their communities. For example, the average distance to access quality public health facilities from rural communities was an average of 10 kilometres, and the roads were poorly maintained. These experiences were described as “discouraging”, "difficult" and giving "feeling of disconnect", driving rural men to naturally make the least effort when sourcing information (Zipf 2016, 1949). As discussed about the characteristics of the information carriers, rural men sought information that was easily comprehensible, at proximity and easily accessible (e.g. information delivered via their native language and at their literacy level). In addition, affordability and timeliness were equally information seeking enablers.

The study found that rural men engaged in information seeking activities only when they or their family or friends experienced specific health needs (i.e. created by symptoms) and that the willingness to seek health information increased as the individual’s health situation deteriorated. Previous research has similarly found (Nwagwu and Ajama 2011; Momodu 2002) that rural people only seek health information when they are ill. Anxiety and fear of deteriorating health also motivated rural men to seek health information from either native doctors or religious leaders (depending on their faith) whom they believed to have some special powers to restore their health and reduce negative effects. In these situations, people were more open to any available option that would help them restore their health whereas, at the early stage of the health situation, the interest in engaging to seeking health information was low. However, as Shieh et al.

(2009) suggest, individuals who engage in health information seeking without necessarily being when the need arises are more likely to experience good health and are better informed about healthy behaviour and lifestyle.

Conversely, health information was not always actively sought when a health issue had not been experienced and when that information conflicted with their religious or cultural beliefs. People avoided engaging in active information seeking when for example, a specific disease was associated with what the community considered to be the effect of sinful or inappropriate activities (such as in the case of urinary disease or prostate cancer which were linked with sexual disease and extramarital sexual activities).

As was seen earlier, reliance on information mediators from within the community was one of the most common ways that rural men sourced information, and it was clear that cultural and religious factors formed an integral part of their information seeking experiences (Oleribe and Alasia 2006). The act of seeking health information in such a way, consulting various local traditional sources for information on common diseases or understanding of symptoms has also been reported in previous research (Mooko 2005). Mooko's study in a rural part of Botswana showed that the rural people consulted traditional doctors where medical doctors were unable to cure certain contractable diseases. In this study, traditional healers were the main source of health information in many of the local communities with no access to medical doctors.

Information seeking using traditional local sources as well as information acceptance was driven by cultural misconceptions about health, which together with other barriers, poverty, lack of infrastructure, and low level of education did not allow people to source good quality health information and therefore they remained static in their knowledge and understanding of their health condition. Health practices were therefore ill-informed and more likely to lead to negative health results for them and their community in a repeated cycle of misinformation. Most of the local traditional health providers were unqualified chemists, herbal medicine hawkers, traditional healers and native doctors (Okonkwo 2012; Obinna 2012).

Several scholars have indicated that exposure to health information either through actively seeking or passively scanning good quality information can result in knowledge creation, and can help to adopt preventive health behaviour and increase screening practices (Nagler et al. 2010; Niederdeppe et al. 2007; Kelly et al. 2010) including cancer screening (Redmond et al. 2010). However, naturally, the African culture is dominated by interpersonal modes of communication and interaction when it comes to sourcing and evaluating information. This is also the product of the low literacy level of rural people; only a few have the capacity to interact with health information communicated in different modes and a non-indigenous language via other conventional sources which do not appeal to rural citizens as they find it difficult to relate to the style, format and presentation of that information culturally.

Conversely, traditional sources communicate health information in a way that embodies the cultural and indigenous knowledge of the rural people, making references to cultural rites, local herb remedies, rural beliefs and customs, and familiar health practices within the community which are known by its members and have been passed down from generation to generation as oral knowledge and without necessarily being documented (Ojua, Ishor and Ndom 2013). This reliance on oral communication also encourages unexpected information encounters in the community. Messages received in that manner can carry more significance for people as they embody community knowledge and represent an accepted medium (oral communication) which is familiar with how rural people learn and interact in the community, building trust and hierarchy and sharing common concerns and solutions.

A study by Prilutski (2010), similarly found that people in rural Ghana tend to accept health information that has elements they are already familiar with, while they consciously or unconsciously avoid or reject information with different views from theirs. These views also resonate with the work of Maepa (2000) in rural South Africa which revealed that the respondents were inclined towards the use of informal, oral and interpersonal sources rather than conventional because the people did not relate to conventional sources as such sources failed to reflect the culture (or identity) of the community which is supposed to be beneficiaries of the services they offer.

6.4 Summary of Key Themes

This section summarises the key themes that emerged from this study and links them to the different dimensions of the CMIS model. Based on the findings of this study a new extended model is presented which addresses the cultural, religious and language dimensions which have been found to play a fundamental role in health information seeking, sharing and use in the rural communities of South-East Nigeria. Although the new constructs of the model have been based on data collected from a very specific socio-cultural environment, the new constructs of the model present wider concepts that could be tested across different rural settings within Africa and beyond.

The emerged themes from the analysis process are illustrated in Figure 46.

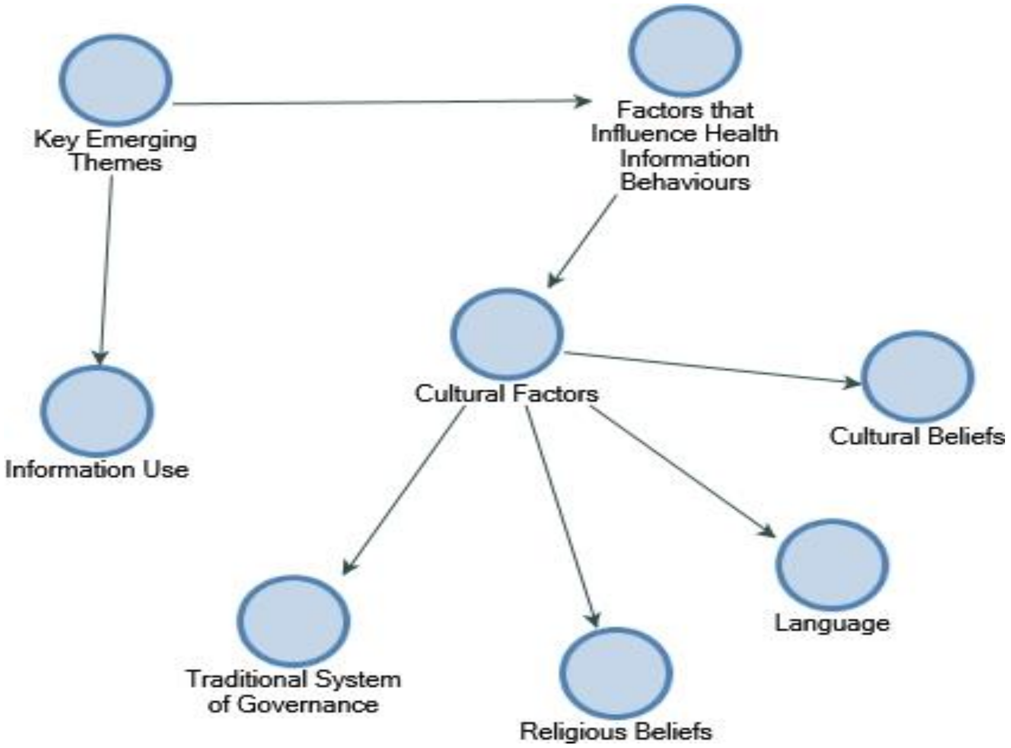

Figure 46 - Emerged Themes from the Study

As discussed in the literature review, Johnson's (1997) CMIS model consists of seven basic elements categorised into three broad areas: antecedents, information carrier factors and information-seeking actions. The antecedent factors capture the individual's underlying reasons which determine the motivation to engage in information seeking and influence their perception about an information source (e.g., age, gender, ethnicity, education and socioeconomic status) influencing people's experiences and their choice of health information channels. Other personal relevance factors such as salience - the significance or applicability of the health information sourced to a person's situation influence the motivation to seek health information (Johnson 1997; Lalazaryan and Zare-Farashbandi 2014). The third component of the model, the information-seeking actions addresses, is the different information seeking types, such as active information seeking, choosing specific sources to consult as well as information avoidance which is triggered by antecedent and information carrier factors.

Therefore, all these three dimensions are interrelated and interact with each other. Although the CMIS model addresses the personal characteristics of the information seeker and the importance they assign to the information for fulfilling their health information needs. The model does not emphasise the cultural characteristics of the information seeker, their involvement in collective cultural activities as set by the environment in which they are situated and is based on the hypothesis that the health information seeker has already experienced a health problem. As seen in this study, rural people's information seeking activities are governed by specific cultural norms and beliefs, and these determine both active information seeking and use as well as information avoidance. Part of this culture is also the consideration of language and religious differences which, as this study demonstrated, condition whether the information is understood, accepted and therefore used. These concepts which relate to the new dimensions, this research is adding to the CMIS model and is summarised in this section.

6.4.1 Cultural Factors – norms and traditions

Culture is defined as the total way of life of a group of individuals who exhibit a homogenous sense of cultural beliefs, concepts, and practices. Culture is a powerful tool for influencing the behavioural patterns of individuals (Nwaru 2015; Matsumoto 2007) and thus also information behaviour. The Igbos, the citizens of South-East Nigeria, are a society dominated by culture. Their health-related cultural beliefs comprise ancient practices such as belief in spirits, superstition, and secrecy about certain issues which may be considered taboo in that society (e.g. sexual health). This explains why rural men may be reluctant to talk about their health condition or seek help publicly when these present the possibility of social stigma. Cultural practices also strongly influence people's information behaviour and perception about modern medicine which is considered of secondary importance when it comes to addressing health issues. Instead, traditional health practices and knowledge have a prominent position in this rural culture.

Furthermore, in rural communities in South-East Nigeria, social norms position males as strong and tough members of the family who rarely succumb to difficulty or weakness. Succumbing to illness and asking for help jeopardise men losing their ego and their sociocultural place in their closed societal structure. Rural men seeking health information for a health problem is perceived as an attack on their ego.

In the present study, rural men referred to symptoms that could potentially relate to prostate cancer or other serious illnesses and this calls for a concerted effort to encourage healthy behaviours, improve awareness of different illnesses that concern men, and encourage men to present for screening which could help to increase survival rates with early monitoring for those that have been affected.

Men's social stigmatisation could lead to integrity loss and character defamation before family and friends or extradition because of the specific health issues they experienced. This is because it is believed that an unfaithful man is not worthy of being respected in society. Therefore, these cultural perspectives about male health issues lead to information avoidance, secrecy, lack of outspokenness and non-proactive attitudes towards addressing health problems. This is not only evident in rural communities across South-East Nigeria but also within other multicultural societies in developed countries. For example, research studies within different contexts have widely reported that men who suffer from men's health issues, such as prostate-related diseases, are faced with stigmatisation and social alienation (Woods et al. 2004; Daher 2012; Taitt 2015). The impact of this is that people present for screening when it is too late because of the fear of stigmatisation by family members and society at large.

6.4.1.1 Cultural Beliefs

Knowledge of these beliefs, however, helps to consider ways in which culturally sensitive information could be shared in ways which do not threaten the established norms of rural society (Daher 2012). For example, information communicated on men’s health issues (i.e. on the causes, effects, and treatment of serious diseases that affect men such as prostate cancer) could be delivered in culturally appropriate ways. As a first step, this could take the form of information that educates the rural community about the causes and prevention of men’s health issues which have been by tradition stigmatised by misinformation and have been linked to behaviours that are not considered as normative or accepted by the community (e.g. men being unfaithful), leading men to conceal their health situations in order to alleviate emotional distress and cultural alienation. Embedding the cultural values of the targeted population into health information communication can have a profound effect on how patients, families and the rural society interrelate to embrace preventive behaviours and treatment programmes. In other words, health intervention needs to be culturally sensitive to embrace the different characteristics of the rural context via a proper understanding of cultural beliefs and activities that will enable information to be digested and used by rural communities.

The researcher by extending the results of this study broadly beyond its immediate context, demonstrates how cultural understanding is significant for the provision of information that concerns both genders and beyond specific locations. The cultural factor has not been given sufficient attention as one of the decisive factors that influence health information seeking behaviour and use. There are numerous examples reported in other research that concern a diversity of different cultures and geographical locations and how these influence people’s beliefs about health. For example, in rural Mexico, it is believed that a pregnant woman is in danger of having a “harelipped baby during a solar eclipse” (Castro 1995); in China, some people believe that a pregnant woman should not eat rabbit meat to prevent birth defects and rubella infection (Cheng et al. 2003). However, these cultural differences have not been considered when developing formal health education programmes targeting these communities.

6.4.1.2 Traditional System of Governance

Another cultural tradition in South-East Nigeria is that people settle very close to each other in villages and a hierarchical structure governs these villages. Senior men are at the top of the hierarchy and are supported by their other kinsmen who make up the ruling council. The ruling council is coordinated by a paramount leader ('Eze') who is chosen according to the custom of the land hereditary. The ruling council are selected from all the royal lineage based on their seniority (the oldest in the royal family rules). These men make laws and policies which govern the community. This ruling council can determine the health information behaviour of their subjects as they are the custodians of authority and have the power to allow or disallow access to the people under them by any person or group. This implies that, if the community leader is not attuned to embracing modern health, he could deny or make access to information for his followers difficult. In such circumstances, the paramount leader will be presented as a barrier to accessing health information especially as rural people rely mostly on interpersonal sources to meet their health information needs. Similarly, this governing body can also implement policies which discourage access to health information for example, refusal to donate a plot of land for the construction of medical hospitals or clinics, promotion of attitudinal barriers concerned with cultural practices such as upholding the belief that men's sexual illness are signs of the violation of marital vows between man and woman, as is expected in African custom.

As this cultural structure of rural communities demonstrates, there are opportunities for engaging community leaders to become informed mediators for the people they have responsibility for. With the right direction and health education, these governing groups could develop into health information programme instigators for the community in consultation with government official bodies.

6.4.1.3 Religious Beliefs

The indigenous faith of rural men centres on a belief in spirits and in the belief that there is a supreme being or creator, known as "Chukuokike/Chineke" (Sampson 2014). Religious beliefs are demonstrated in two forms, Christianity (i.e. the belief in God) and African religion (i.e. the belief in a deity) (Sampson 2014). It emerged that many South-East indigenous people attend church services and make frequent use or reference to God (or Jesus) in their everyday conversation as an indication of their respect, dependence and allegiance to God's supremacy.

Rural men exhibited strong religious practices such as prayer. Prayer was the preferred means of coping especially among those with the lowest socioeconomic status, who cannot afford access to health information. Prayer is believed to have a positive effect on the well-being of the people. Religious communities also supported their members, providing social support that improves the sense of control, hope and self-esteem through involvement in religious practices such as fasting, deliverances and counselling (Guz, Gursel and Ozbek 2012). Religious leaders constituted a major part of the interpersonal sources utilised both for information and support when dealing with health issues (Guz, Gursel and Ozbek 2012).

The strong religious culture of rural men has been demonstrated in other information behaviour studies focusing on different user groups, such as oil palm traders (Nwagwu and Ajama 2011), churchgoers (Freeburg 2013), pastors (Matsveru 2013), STD patients (Akinnawo and Oguntimehin 1997) and cancer patients (Fourie 2008). The deep religious inclination of rural communities influences not only their behaviour (Obinna 2012; Magesa 2014; Chitando 2000) but also determines their mystical interpretation of health issues such as mental illness (Nonye and Oseloka 2009), sexually transmitted diseases (Nwagwu 2008), eye disease (Eze, Chuka-Okosa and Uche 2009), men's infertility (Umeora et al. 2008), menstrual health (Umeora and Egwuatu 2008), children born with sickle cell anaemia (Ugwu 2016), epilepsy (Ezeala-Adikaibe et al. 2014), convulsions (Okeke, Okafor and Uzochukwu 2006) and diabetes (Chinenye and Ogbera 2013).

6.4.1.4 Language

Language in this study was presented as the vehicle through which cultural heritage, social norms and traditions were preserved and passed on to the next generation. Although English is the official language used in Nigeria and most urban areas, indigenous language (i.e. Igbo) is the dominant language among the Igbos in rural South-East Nigeria. Igbo is the official regional language which is even preferred within office environments, although official notices, circulars or news are communicated in the national language (English). This meant that only rural men with formal education had the option to communicate in English in addition to the indigenous language. Meanwhile, those who did not have formal education could only use Nigerian 'Pidgin'- a mixture of common English with Igbo during conversation.

It was found that among rural men in South-East Nigeria, language was the major factor which contributed to the preference of interpersonal sources because these sources used the native language for communication. This finding resonates with other scholars who reiterated the alignment of rural dwellers to traditional sources based on language factors (Nwagwu and Ajama 2011; Nonye and Oseloka 2009). Rural men expressed their comfort when engaging with health sources in their indigenous language. In addition, the fact that mass media mainly used English was presented as a barrier to a rural audience. Broadcasting corporations in South-East Nigeria such as Radio BCA (Abia) and Sunrise FM (Enugu) do not frequently use Igbo except during their news summary sessions (e.g. 'Nchikota Akuko) when there are special traditional programmes on events in Igboland known as 'Oge Ndi Igbo'. This lack of information in the local language in the media meant that when vital health information was communicated or when health programmes were broadcasted these were not comprehensible and thus were missed by the rural people. The same lack of local language was also observed in print materials, documents and recorded formats.

Hence, it is essential that health information is delivered in Igbo so that people in rural communities without formal education, who understand little or no English can also benefit from that information. As the study also demonstrated, language barriers were also one reason why media sources were not consulted by men for information but were used only for entertainment.

6.4.2 Information Use

All the factors discussed above contributed to the low use of good quality health information and therefore a low level of awareness of health issues that affected the men who participated in this study. The health information needed, was not presented in a manner people could interact with or use at the time needed. Nwafor et al. (2016, 2017) suggest that quality and accurate health information should be presented in diverse formats, through print media, mass media and community health workers in such a way that motivates and enables rural people to make use of that information for both their personal benefit and that of their families and community at large, and to initiate necessary lifestyle modifications for greater self-efficacy (Anyaoku and Nwosu 2016) and thus increase their chances of healthy living. Rural men, instead, repetitively relied on local health remedies which presented a danger to their health and wellbeing. Health information providers, therefore, need to understand that these communities have some different cultural, demographic and economic features that need to be taken into consideration when designing, packaging and presenting health information for that information to be used (Anyaoku and Nwosu 2016). When people come across health information which they do not comprehend they can experience mental discomfort, cognitive dissonance and increasing uncertainty (Narayan, Case and Edwards 2011). Integrating factors of culture in health information (or campaign messages) (Amidu, Harrison and Olphert 2016) will promote effective health information use necessary to encourage behaviour change (Savolainen 2009; Taylor 1991; Choo et al. 2008).

Johnson's (1997) CMIS model has not addressed the concept of health information use. However, information use is an important aspect of information seeking behaviour as demonstrated by this research. Information use has also been highlighted by previous research into information seeking behaviour such as by the work of Taylor (1991) and Choo et al. (2008). Information use includes the construction of new knowledge and new meanings, the transformative act of shaping decisions and influencing others, and the movement and exchange of information with others (Loo 2009). Effective information utilisation can be achieved in rural areas by repackaging existing health information in a suitable form and format that is accessible to rural communities.

CHAPTER SEVEN

Contribution, Recommendations and Conclusion

7.1 Introduction

The overall aim of the present study was to understand the health information behaviour of rural men in South-East Nigeria and explore the influence of culture on their information behaviour and offer recommendations on culturally appropriate health information provision strategy suitable for rural dwellers.

The study has also met the set objectives by means of:

1. Understanding the broader health challenges and existing health information needs of rural men in South-East Nigeria.

2. Identifying health information sources available to rural men and the barriers they face accessing and using those sources in rural areas.

3. Exploring the information seeking behaviour of rural men and the information flow patterns in rural areas.

4. Examining the knowledge, perception, beliefs and awareness level of prostate cancer among rural men.

5. Understanding how culture influences the information behaviour of rural men in rural areas.

6. Offering recommendations on a culturally appropriate information provision strategy to adopt for improved accessibility and usability of men's health information in rural communities.

7.2 Reflection on Objectives

Objective 1

*The **first objective** of this study was to provide an understanding of the broader health information challenges that men in rural communities in South-East Nigeria face and their associated health information needs*.

There were some health problems highlighted by rural men during this study. The health issues which were mentioned included back and waist pain, many different expressions of urinary issue/problems, erectile/potency issues, high fever, infectious diseases and sexually transmitted infections. From the result, it can be revealed that most of these health problems were age-related with symptoms which could relate to a urinary problem or even prostate cancer.

In general, rural men demonstrated a lack of health information that addressed men's specific health issues within the local communities. There was less focus on the men in rural communities regarding health information provision; men lacked knowledge about preventive measures, symptoms of specific health issues, treatment options and screening exercises. The lack of health information specifically targeted at men was attributed to misconceptions about health as man-made-fate or an act of God. This perception has resulted in men redirecting the locus of control about their health away from themselves which propelled them, in search of remedies, to engage in poor health behaviours, rely on cultural or alternative medicine, and on the dominance of cultural or religious beliefs around health which reduce curative chances. In relation to men related health issues, such as prostate cancer, this is specifically important for prevention and early diagnosis. Previous research by Ukoli et al. (2003) supports this that rural men who finally get to the hospital for treatment, do so with locally advanced metastatic conditions, a condition where cancer has spread to other parts such as the bone.

Rural men are in acute need of health information targeted at them, and most importantly that which is culturally and educationally appropriate to demystify the prevailing cultural misconceptions around male-specific health problems.

Research Objective 2

The ***second objective*** *of this study was to identify health information sources available to rural men and the barriers they face accessing (or using) them.*

The major health information source available in rural communities were interpersonal sources. Interpersonal sources included traditional healers, family and friends, religious leaders, local herb hawkers and traditional doctors (or native doctors). In addition, health clinics which included health centres and chemist shops were also available in very few communities. Furthermore, there were media sources also available, mainly Radio and TV.

However, only oral-based sources, usually interpersonal sources, were the most utilised sources for obtaining health information in rural communities. Although media (radio and TV) were present, the most preferred sources for obtaining health information were local traditional healers and doctors (Iroegbu 2011). These sources were preferred because they were closer to the people to access any time of the day or night, they were cheap, and information could be communicated in the native language of the rural community and at the level appropriate to rural men's educational qualification. In that way, information was understood according to the cultural and religious beliefs of the rural people, and they could communicate using things familiar and within their environment to aid comprehension. In addition, interpersonal sources were trusted as the information they provided could be verified. Although health clinics were present in very few communities, the workers were usually people from the city who were not always available due to bad roads, non-payment of salary, lack of medical facilities to discharge their duties and high costs of transportation. As a result of these challenges, those health clinics were poorly utilised as sources for obtaining health information because the services were expensive, not readily available and often with delays.

The major barriers faced by rural men with media sources were the inability of rural men to access the source effectively and comprehend the information content conveyed due to several factors such as, lack of cultural elements in the content, poor educational level (or illiteracy), language barriers, credibility and trust issues (people were not able to verify the information from the media), the high cost of usage of non-interpersonal sources especially the television as it requires electricity to power (even the radio which uses batteries, many of the men could not afford the battery on a weekly basis due to their economic status), inconvenient timing of broadcast (as any health programme on the media was mainly broadcasted in mid afternoon at a time the men were on their farms). The timing would have been more suitable if it was in the late evening from 6 pm when the men were back from their farms and relaxing at home or in the bar.

Furthermore, the study revealed that there was a lack of information resource centres such as public libraries and internet cafés in the rural communities. There was also a lack of print media material with men's health information in the entire community, lack of community radio stations; the high cost of mobile data and poor network coverage hampered the use of mobile phones as a source of health information in rural communities.

Research Objective 3

*The **third objective** of the study to understand the health information behaviour of rural men, and how information flows around in the communities.*

The study revealed that rural men had experience of seeking health information for their health and the health of their families. Rural men sought health information mainly from traditional sources present in their local communities. The information sought by rural men revolved around their health and reflects the desire to overcome the struggle to uphold their social status and being strong. The study showed that health information seeking was guided by their cultural and religious beliefs which in turn, determined the sources they consulted, how and when they consulted the sources. As echoed by rural men, seeking health information about male-specific health issues was done secretly or through encounters (or passively) due to the lack of open communication around male-specific health issues, and the fear of stigmatisation by family members and the society at large if it was discovered they were infected with male-specific health problems such as prostate cancer.

In general health matters, rural men were found to be active seekers. However, men who were of poor health status were more likely to seek health information than healthy men. Furthermore, the search for health information was only limited to sources within the communities because they believed that herbs (or alternative medicine) are superior to orthodox medicine and were culturally appropriate. Thus, only men who were educated or had relatives outside the communities interacted with sources outside their local communities. The men sought health information to make decisions pertaining to them and their family members. The high need for health information can be because men in rural communities suffer from lack of medical services and a poor standard of living, poverty and lack of health workers to cater for their health needs. The men sampled showed a poor health status and these situations pushed them to seek health information to act towards reducing negative effects of fear and stigmatisation.

Rural men perceived health information to be significant for improving their wellbeing and health status. They believed that having access to health information plays a crucial role in enabling them to make informed health decisions and to cope with the challenges they face.

The way information flows within the community is given in Figure 22 which highlights the key places and informants.

Research Objective 4

The ***fourth objective*** *of the present study was to examine the knowledge, perception, belief and awareness level about prostate cancer among rural men.*

Rural men's awareness levels and knowledge of prostate cancer was low. The study revealed that only a few respondents among the sampled men had prior knowledge about prostate cancer and they still lacked knowledge about treatment options, screening exercises and the causes of their problem.

Significantly, the study highlighted the various beliefs and perceptions around the cause of prostate cancer. Some of the notable beliefs were that the risk factor for having prostate cancer was excessive sexual activity and previous experience of sexually transmitted infection. The respondents believed that unfaithful men were at risk of having prostate cancer, and there were some cultural beliefs that the most potent treatment option is through herbal medicine. Ukoli et al. (2003) showed that rural men are at higher risk of developing prostate cancer. The result of this study, similarly, showed that rural men have different perspectives of prostate cancer, and were unlikely to present for screening till a later stage which might reduce a curative outcome (Ozoemena et al. 2015).

Research Objective 5

The **fifth objective** of the present study to understand how culture influences information behaviour of rural men in rural areas, was achieved.

The present study revealed that there were some cultural factors such as, language, religious beliefs, cultural beliefs, norms and traditions which determined which sources rural men consulted and utilised for obtaining health information. The study further showed that these cultural factors could either be enablers or inhibitors to accessing health information in rural communities in South-East Nigeria. Culture also created a strong sense of community which enabled the sharing of information within the community boundaries.

The choice of health information sources was largely influenced by cultural belief and religious beliefs which further shaped the perceptions of the people in rural communities. It was evident that the respondents preferred and trusted health information sources who offered information which mirrored their beliefs and recognised their traditions. More so, they preferred information content which was provided following this natural way of communication established in the rural communities.

Research Objective 6

The ***sixth objective*** *of this study, to offer recommendations on culturally appropriate information provision strategy to adopt for improved accessibility and usability of men's health information in rural communities was achieved and provided in section 7.3 and 7.4*

7.3 Contribution to Literature

Many studies on health information in the Nigerian context have focused on urban citizens. Thus, the contribution of this research lies in highlighting the significance of setting up and implementing effective information provision strategies for rural people. The study enabled developing a better knowledge of the information environment of rural people as well as about their behaviour. It is envisaged that this information will help to alert information providers to the issues that rural people face with a view to developing strategies aimed at providing health information that is tailored to the needs of these communities. With this perspective, this research is important because currently there is a significant gap regarding health information provision to rural men well as quality health workers based in those communities.

Finally, the study offered a conceptual modification of Johnson's CMIS model demonstrating new significant dimensions that should be taken into consideration when conducting research studies within a rural context. This extension to the model presents new opportunities for testing empirically new dimensions of health information behaviour that may apply to different rural contexts beyond the rural regions of South-East Nigeria. These constructs have been deliberately kept generic to accommodate the individual differences and cultural idiosyncrasies of diverse rural settings.

7.3.1 Extending the CMIS model

Personal factors in the CMIS model address demographics, experience, beliefs and salience (the significance and applicability of health information). All these aspects were verified in this study as they determined how rural men searched for information and consulted specific sources. However, salience was a problematic term in this study as people were not necessarily experiencing a health problem. Therefore, salience is more appropriate when a health issue has already been experienced as it implies that a person is aware of their health information needs. The aspect of salience can only be determined by an individual after the information has been found. However, what the present study revealed was that rural people in many cases were not aware of what their health information needs were and therefore they could not move to that stage. Despite that, salience has significance in this study from the perspective of encouraging and educating people to consider the general value of health information for their everyday lives in terms of developing more proactive health information seeking for prevention purposes.

Linked to the concept of personal factors is also the use of information. The CMIS model has conceptualised health information seeking behaviour with no details about how the information that is sourced can be utilised. This study, however, demonstrated that rural people use information and sources based on their characteristics and that information use may also enrich community knowledge by means of sharing information. People used health information not only for their interests but also for the interests of their family, friends, and their entire community. Non-use of health information was triggered when the information sourced challenged existing cultural norms or beliefs and personal factors. For example, health information had to be avoided when the health issue posed threats to the personal factors of a person's family or close community ties. In other words, people shy away from seeking health information if the health issue had been stigmatised by the community because, doing so is perceived to tarnish their name and societal image (an example of this was when prostate cancer was described as linked to sexual diseases and therefore to extra-marital relationships). Therefore, information use, personal characteristics and culture were closely interconnected.

The aspect of barriers has been considerably discussed in previous research in the work of Wilson (1999). The CMIS model, however, did not explicitly address the health-related obstacles of specific communities such as the one this study explored within a rural setting. The present study identified a diversity of practical problems which were presented as barriers to the effective sourcing and use of health information.

One of them was the issue of timeliness which meant that people would ignore information that was not delivered or sourced when it was required. However, the dimension of timeliness also revealed that rural men proactively sought information only when they experienced signs of illness. There was no education about prevention in these rural communities and people did not understand their health information needs until they experienced health symptoms. Thus, the importance of timeliness for prevention cannot be overemphasised especially for rural men who are at a specific age which poses risks for some illnesses such as prostate cancer.

The concept of culture, which addresses a constellation of cultural and religious beliefs, language and local traditions and norms, is the most significant facet that has been added to the CMIS model. The evidence deriving from this study on the influence of cultural aspects of information seeking behaviour and use was compelling, and this is the main contribution to knowledge that this research has put forward. This evidence has already been extensively discussed on the basis of the extent to which rural men in this study consulted traditional healers, followed natural remedies and believed in supernatural powers when it came to addressing their health problems. In addition, external sources were not easily trusted (e.g. information via the media or health professionals in the town) because people felt that they could be easily exploited. This behaviour is culturally significant but inappropriate when it comes to the prevention and treatment of illnesses.

In addition, as the study showed, cultural and religious beliefs created a prejudice related to specific illnesses and created a connection between ill health and wrong deeds in the community which was presented as a significant barrier to information seeking. Again, this demonstrates the connection between constructs in the model. Culture can be perceived as a barrier to information seeking and use as well as indirectly to the prevention and the early diagnosis of illnesses that may carry a social stigma. From a different perspective, culture could also be perceived as an enabler. For example, the study demonstrated how an information mediator such as the village chief could be a key person for information dissemination. Culture also created a strong sense of community which enabled the sharing of information within the community boundaries. The extended model demonstrates variations in information behaviour because of different contexts within rural communities.

The study has therefore proposed that this sense of closed community with specific customs and cultural characteristics should be considered when designing health programmes. The changes adaption in the CMIS Model are highlighted in an orange box in Figure 47.

The extension of Johnson’s 1997 Comprehensive Model of Information Seeking Behaviour.

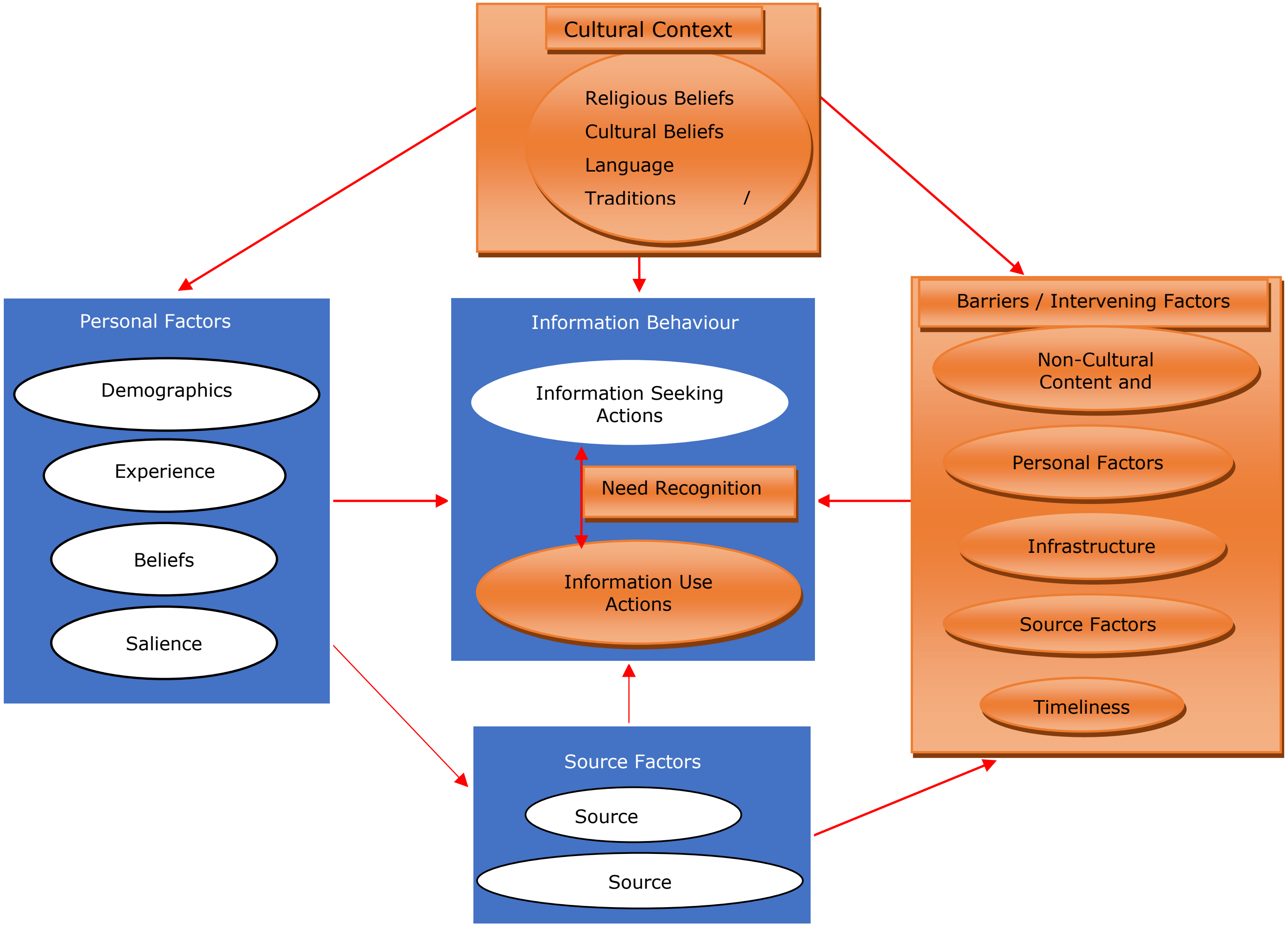

Figure 47 – Revised Johnson’s Health Information Behaviour Model – An Extended CMIS Model

In this revised model, the antecedent factors were conceptualised as person-related factors because the focus of this study is on men's information experience in rural communities. The focus of this study differs from the original CMIS focus which is specifically aimed at patient's (women) actions in relation to their health condition. Also, in the original model, the antecedent factors were health-related factors. The revised model supports the notion that information seeking behaviour is context-bound. In order words, the characteristics (e.g. age, level of education, experience and perceived usefulness) and the cultural context (or orientation) of an individual may determine the processes, choice of source and depth of engagement during information seeking.

In addition, the revised model highlighted the importance of information need recognition as a concept in the information behaviour processes. Recognising one's need for information can prompt the individual to engage in information seeking, or to use generated information to make informed health decisions.

Also, barriers to accessing health information were silent factors within the original CMIS model. Meanwhile, the revised model conceptualised cultural context, personal context, source factors, timeliness and availability of infrastructure, and non-cultural appropriateness of information sources and information content as possible barriers to accessing health information.

Finally, the revised model reveals that information seeking behaviour (as well as active avoidance) and information use are two possible actions that an individual can take based on the context of this study.

7.4 Recommendations

The study aimed to explore the health information behaviour (HIB) of rural men in South-East Nigeria relating to accessing and utilising prostate cancer information. Also, to gain an understanding of how different socio-cultural factors may influence the access and use of prostate cancer information by rural men in South-East Nigeria and whether the existing provision of health information is culturally appropriate. The presentation and discussion of findings in Chapters 5 and 6 have shown that there is a need for improved health-related information, specifically prostate cancer information provision to rural South-East Nigeria. Based on the findings, the researcher makes some recommendations that attempt to address the current weaknesses in the provision of prostate cancer information in Nigeria.

The study puts forward some recommendations that should be taken into consideration for improving the experiences of rural men within South-East Nigeria and by extension to other geographical rural areas where cultural traditions and norms play a role in how information is sourced, disseminated, shared and used.

Recommendation 1:

In order to repackage prostate cancer, those involved in health information services (health workers, information providers) need to continually consider and examine the various underlying socioeconomic and cultural factors of their intended audience to provide targeted prostate cancer information and enhance its provision in a realistic manner. Assessment of rural men’s socioeconomic and cultural factors help to identify the barriers to limiting access and use of health information, the information sources available, and the ways of adopting a suitable information provision strategy that meets the needs of rural men. This study shows that language, tradition, religion and belief are vital to achieving cultural sensitivity. Recognising beliefs of rural men for example that ill-health is a “man-made fate”, can provide the baseline to educate men about the consequences associated with such views. These consequences might include failure to present for the cancer screening, wrongful attribution of prostate cancer to sexual behaviour and stigmatisation of those affected with prostate cancer, which can all influence their healthy living.

Similarly, health information needs to be repackaged in the Igbo language to enable men in rural communities irrespective of their educational status to access, understand and adequately utilise the information. In addition, it is vital to communicate health information by citing examples with material objects such as plants, tools found within rural communities to promote comprehension and awareness which in turn, could promote healthy behaviour. This recommendation highlights the fact that it is not only important to provide information in the local language of the intended audience but also to integrate factors of culture which will promote effective health information use that is necessary to encourage the positive health-related behaviour. Also, to empower and increase self-efficacy in rural men, prostate cancer information could be repackaged in different formats for example, as a film show, drama, stories, radio jingles or songs to meet the needs of rural men. In rural communities, oral-based formats may be a better way of educating people, and it is more appropriate as the people lack literacy skills, than text-based so the written text may not be the best medium.

Recommendation 2:

It is recommended that to improve the acceptability and cultural sensitivity of those who provide information services; health information providers need to embrace the cultural values and identities of the Igbos. For example, information providers could dress up in the local traditional attires when visiting rural communities. This practice of dressing in Igbo traditional attires when visiting men can help to attract interest, signal support and demonstrate solidarity among rural residents. Within the Igbo tradition, when foreigners or visitors come dressed in the local traditional attires, this symbolises friendship, attachment and encourages interaction. As a result, this practice goes a long way to unify the people and visitors to the community by eliminating concerns around cultural differences at first sight. Consequently, it helps in reducing resistance, promoting openness, attention and a sense of belonging by creating a common ground as well as some elements of trust between the local men and those visiting them. This recommendation sterns from the belief that when cultural bridges are eliminated - when information providers recognise and identify with the cultural heritage of the people, and rural men could come openly, ready to interact then access to and utilisation of prostate cancer information could be improved in rural communities.

Recommendation 3:

The researcher recommends that to ensure effective dissemination of health-related information to the wider population in rural communities promptly targeted prostate cancer educational programmes should be communicated during specific times when rural people gather all together. For example, prostate cancer information would be better communicated in the evening, on market days or during religious gatherings, cultural events such as new yam festivals. Similarly, age grade meetings or community forums provide excellent opportunity particularly the festive periods when there is a higher chance of electricity supply and family integration to disseminate prostate cancer information to men in rural South-East Nigeria. This recommendation stresses the need to expand access points for prostate cancer information in rural communities. Increasing access points can be realised by utilising every opportunity to reach rural men in their natural environments and everyday routines. By expanding access points for prostate cancer information in rural communities, the barrier of shame, secrecy, fear and stigmatisation could be reduced while acceptability, public sensitisation and awareness, timeliness and use of information could improve.

Recommendation 4:

Concerning the repackaging of prostate cancer information, it is recommended that collaboration between formal information sources and informal information sources such as traditional healers needs to be promoted to ensure acceptability, reliability and cultural sensitivity of the information. Traditional healers, as well as the chiefs, could be tasked to contribute to the repackaging and translation of health information into formats that are accessible to the men in their communities. The use of formal sources should be encouraged while keeping in mind that informal sources resonate with rural communities as being culturally appropriate, tested, cheap, accessible, available, closer and reliable. Rural men should be encouraged to use more formal health information sources as these provide evidence-based and more reliable information compared to informal sources which rely on inherited skills. In addition, banners and posters with pictures are viable channels for dissemination of prostate cancer information within rural communities.

Recommendation 5:

The findings have shown that rural men would greatly appreciate, access and utilise relevant, timely, culturally appropriate and reliable prostate cancer information. Therefore, the researcher believes that health information providers should repackage and provide prostate cancer information that suits the needs of rural men. To do this, an information provision framework that integrates elements of interpersonal communication with the local system of presentation and communication of information within rural communities in South-East Nigeria is recommended. Such a strategy must recognise the natural ways rural audience seek and use information, and the dynamics around information flow in rural communities as detailed in section 3.1.5. A coordinated approach that brings together, coordinates and recognises all stakeholders in rural communities would greatly enhance health information provision in rural South-East Nigeria. For example, health information providers could involve individuals with a leadership role in the community (e.g. the village chiefs) as well as traditional healers to act as information mediators and gateways to reach the targeted audience.

This recommendation emphasises the use of the integrated interpersonal provision strategy in Figure 48 for the provision of prostate cancer information to men in rural South-East Nigeria. This strategy recognises the value of trusted information sources, cultural beliefs, the mode of communication and the preferred language of the target group to achieve the desired information provision goals - accessibility and usability of health information.

The integrated interpersonal health information provision strategy for rural areas.

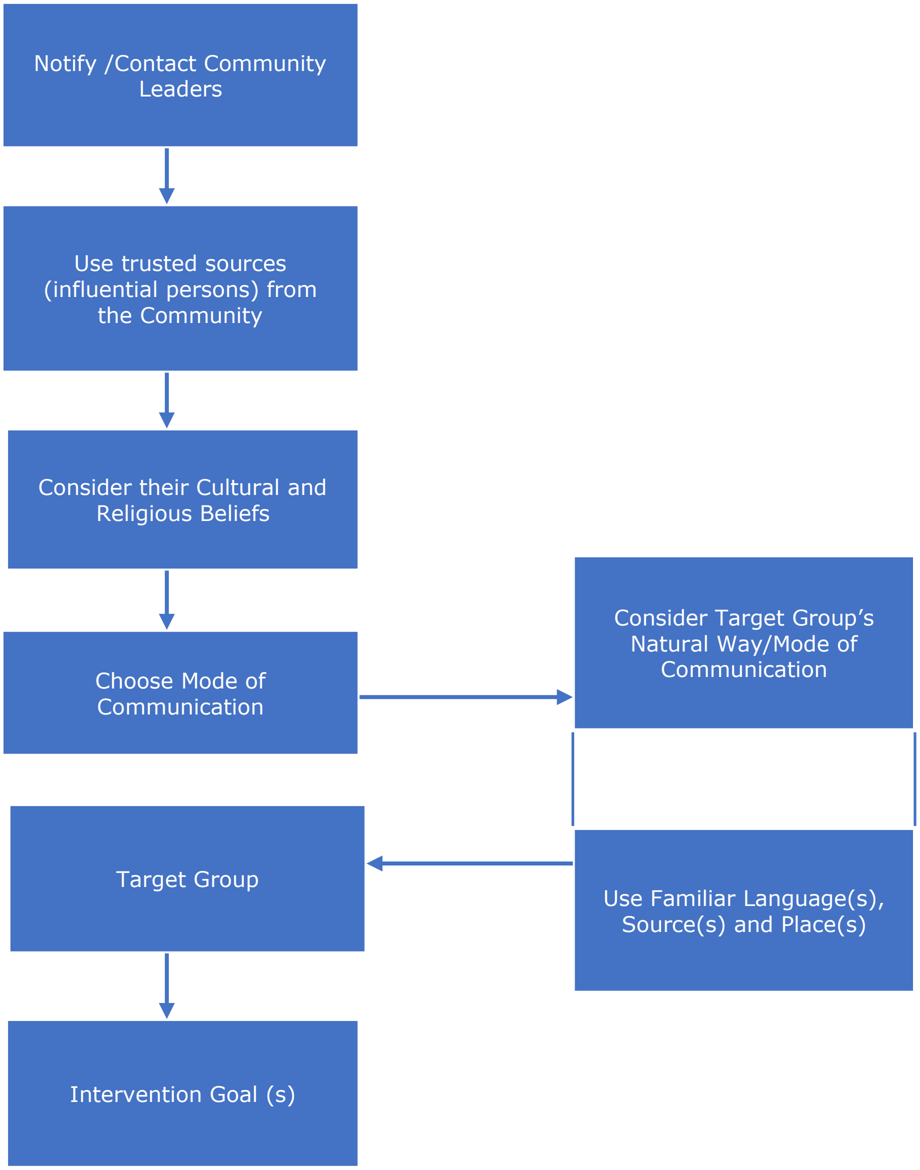

Figure 48-Integrated Interpersonal Health Information Provision Strategy

7.5 The Study Limitations and Future Research

This study employed a qualitative research approach which explores rural men’s health information behaviour and the influence of cultural factors on their health information behaviour within a specific cases study, representing the views of a few rural men in the community only. Although a rich understanding of the cultural and religious perspectives of rural men as well as the barriers they encounter was developed, the qualitative nature of the research study and its small sample limited the statistical generalisation of the findings as the sample does not necessarily represent the views of the wider Nigerian rural male population outside the context of this study. However, the revised model from this study could form the basis for further research that could be tested with a larger group of rural men from the same locality or within another rural Nigerian context and beyond.

In addition, to explore rural men's behaviour more quantitatively to test the revised model quantitatively, action research projects could also be developed to evaluate specific health intervention designed for rural citizens and tailored health programmes for the rural community. For example, an empirical study could be conducted with the community chiefs to understand and evaluate their health literacy levels with the aim of addressing the potential to position them as key informants of accurate health information for the community in new ways in consultation with health professionals. More research is required in the areas of recommendation offered by this research study to ensure the actionable impact in terms of the improvement of health information provision to the rural male population of South-East Nigeria.

7.6 Conclusion

This study has highlighted the imminent need for health information that is accessible in South-East Nigeria to empower rural men to make informed health decisions and to adopt positive health behaviour that will help resolve their health problems. As the study demonstrated, there is not only a lack of health information material, campaigns and health workers for men's health but also a widespread phenomenon of unhealthy behaviours and practices based on cultural misconceptions, beliefs and fear among rural men.

Rural men engaged in health information seeking when they identified health problems. However, for addressing culturally sensitive health issues, they were unable to access health information either from their internal or externally from their outside information environment. Common among rural men was the need for an information intermediary who facilitates open information exchange among rural men and access to external information resources (e.g. appropriate programme via media and access to health information providers etc.) An information intermediary could interpret printed information in other languages for them in a way that is understandable and can lead to action. However, the only intermediaries available (e.g. traditional doctors, family) could easily promote inaccurate information. Rural men required an information intermediary for accurate and timely information for health promotion and proper management of health issues. This was especially important for older men who were above 50 years old as they were more vulnerable and at risk of suffering age-related disease.

Rural men's traditional beliefs and practices shaped their information behaviour. Beliefs and traditions also influenced their tendency to trust or mistrust information based on the source characteristics and whether there was an immediate need to apply that information. Most of these sources were interpersonal as they were more accessible than others, and information exchange was based on oral communication which conformed to the cultural patterns and expectations of the rural population. Rural men were more attracted to sources which recognised their spiritual faith (e.g. Christians often sought information from organisations within the church such as

Men’s Christian Association (MCA) to provide health information and support) and because these sources do not require high levels of literacy to be consulted.

Men in rural communities showed symptoms which could be potentially related to urinary problems or even prostate cancer. However, men in rural communities were less likely to be screened for these health problems because of the stigma attached to them and consequently could be later diagnosed with serious health issues at an advanced stage. Late diagnosis would result in limited treatment options and poorer outcomes. Therefore, there was a difference between rural men and other health information users in their attitudes towards preventive health care.

The findings of this research have demonstrated the importance of focusing on men's information behaviours in the rural context to help them reduce barriers that hinder access to information services. These barriers were shared by differences of language, cultural and religious beliefs. The study revealed that information in rural areas should be repackaged according to cultural-appropriate ways and in ways that address poor literacy. Access to prostate cancer information is very important in that it opens rural men’s understanding. However, the issue of accessibility of prostate cancer information, as well as examination of how the information could be repackaged, has been discussed. If rural men are equipped with the right information, they will become more healthy and effective in carrying out their duties to the family and the community at large.

Furthermore, the study has demonstrated the importance of reviewing the information sources rural audience have access to in order to identify gaps in information provision. The provision of prostate cancer information to rural men is a vital area that health information providers in Nigeria should consider if awareness programmes and other related interventions are to be successful in rural areas. Prostate cancer information provision can be enhanced when all the stakeholders in rural communities and the formal information sources collaborate so that the information content and provision approach are culturally appropriate. With a systematic approach, men can constantly be provided with health-related information in rural communities.

Recommendations on how to improve the present state of prostate cancer information provision have been made, including recommendations for further research.

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Appendices

Appendix A: Consent Form for Participants

I have read the Participant Information Sheet for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study at any time or to decline to answer any questions in the study. I understand I can withdraw any information I have provided up until the researcher has commenced analysis on my data. I agree to provide information to the researchers under the conditions of confidentiality set out on the Participant Information Sheet.

I agree to participate in this study under the conditions set out in the **Participant Information Sheet**. In addition, I **consent to my responses being recorded, and pictures or videos of me taken by the researcher if required.**

Signed: ____

Name: ____

Date: ____

Chikezie Daniel Emele, Researcher,
Dr Konstantina Martzoukou, Lecturer,
Information Management Department,
School of Creative and Cultural Business,
Robert Gordon University, Garthdee Road,
Aberdeen AB10 7QE.

Appendix B: Interview Guide

1. What age group do you belong?
   35– 39 ☐ 40– 44 ☐ 45– 49 ☐ 50 or above ☐
2. What is your marital status? Answer ……………………………..
3. What is your place of residence and native language? Answer.............
4. Which other language(s) can you speak? Answer..............................
5. What is your religion? Answer ………………………………………………………………….
6. What is your occupation? Answer ……………………………………………………….
7. What is your highest level of education? Answer …………………………………
8. Describe your experience where you looked for health information what sources did you approach first, (Probe: why those sources)?
9. Are there any challenges you face in using these sources to obtain the health information you needed (Probe: what can be done to remove such barriers)?
10. What are the problems that hinder you from seeking health information in this community?
11. Which of the following electronic devices (e.g. Radio, Television and Mobile Phone) do you have, and what do you use them for?
12. What are the common health issues that most men show concern about?
13. What comes to your mind when you hear the word health information (Probe: What is it like getting health information as a man in this community)?
14. How often do you receive health information in a year in this community, and why (Probe: do health workers visit this community at all)?
15. If someone wants to provide health information to all the men in this community, what will you advise (Probe: how is information passed across to people in this community)?
16. When do you look for health information, and how do you decide on the source you consult (Probe: What are the factors you look at)?
17. What will make you reject information (Probe: what about to accept or use the information)?
18. What do you do with the information you receive (Probe: how do you decide whether

the information is relevant to you)?

19. When you are given information that is not in your native language what do you usually do (Probe: why)?
20. If you receive information that does not support or agree with your belief, what do you do (Probe: why)?
21. What are the things you believe are the cause of health problems (Probe: what of prostate cancer)?
22. How will your language or belief determine where you get information about your health (Probe: why)?
23. Do you believe you can control your wellbeing, and why (Probe: What would you say are the benefits of using health information)?
24. How do you think information can be packaged to reflect your culture and to make the information understandable, acceptable and more useful to encourage positive health behaviour?
25. What type of information about health can you recall that you have gotten in this community either from the radio, TV or any place (Probe: do you understand them, and why)?
26. Does providing information through the community leaders, radio, TV or any other means make any difference on the value of the information (Probe: what difference)?
27. What do you know about prostate cancer (Probe: its causes, signs and possible treatments)?
28. Have you looked for information about prostate cancer before, and what made you look for prostate cancer information? (Probe: Do you receive any of such information about prostate cancer in this community)?
29. When a man in this community always feels the need to urinate frequently than normal, or always pees on himself or have difficulty peeing (hesitancy) or stays too long peeing, what do other men in this community think is wrong with him (Probe: What is their view and how they treat the person suffering these)?
30. In what ways (i.e., modes or formats) do you get or receive information (Probe: have you been given information on printed material)?

Appendix C: Focus Groups Guide

Introduction (warm-up question):

1. ***What kind of experience has your community had with receiving health information?***
   Probes: what about receiving health information meant only for men? How do you receive information in the community?

Subject Area:

2. ***In your view, what are the things that could cause a man to reject (or avoid seeking) health information, even though he needs that information?***
   Probes: how do most men access health information? Are there local clinics or health workers resident in this community?

3. ***How much do you know about the risk factors for prostate cancer- have you heard about prostate cancer before now?***
   Probes: Is prostate cancer concern in your community? Do people talk about prostate cancer openly? Do you know signs of prostate cancer? Do you get health information specifically on prostate cancer in your community?

4. ***Do you think some men know how to reduce the chance of having prostate cancer?***
   Probes: What are the possible concerns or challenge men who might have prostate cancer in the community face? What do you think some men believe is the cause of prostate cancer?

5. ***Do you think access to health information by men in rural communities differ from women -why?***
   Probes: Is there health education programs in the community? Do rural men experience any difficulty when accessing health information -what?

6. ***In your view, how do cultural norm or tradition influence seeking and use of prostate cancer information in the community?***
   Probes: What are the cultural traditions or beliefs that can hinder men from seeking prostate cancer information? What are the general beliefs about causes of sickness? Are there traditional treatments for prostate cancer available in your community? The information from outside your community is it culturally appropriate to access and use –why or why not?

7. ***If someone wants to provide health information to the men in the community, how do you reach and motivate men in your***

community?
Probes: What do you think is the best approach that will be more acceptable to community members? When is the appropriate time, or language, and place to disseminate information in your community?

Conclusion

8. ***What are the common electronic devices that men in your community have and what are they used for?***
   Probe: What is your community experience with electricity, internet connectivity and road network? Do you get print materials in this community? When do you

Do you have any other comments?

Appendix D: Ground Rule for Group Discussion

It is helpful for me to let everyone know about some ways we will make the group discussion go smoothly and respectfully for all participants. Therefore, the following are some recommended guidelines or "ground rules" to help establish the group norms:

1. Only one person talks at a time.

2. Confidentiality is assured. "What is shared in the room stays in the room."

3. It is important for us to hear everyone's ideas and opinions. There are no right or wrong answers to questions – just ideas, experiences and opinions, which are all valuable.

4. It is important for us to hear all sides of an issue – both the positive and the negative.

5. It is important for all ideas to be equally represented and respected.

Appendix E: Participant Information Sheet

Project Title:

Examining health information source selection, access and use by men in rural areas of South-East Nigeria: Mapping culturally appropriate health information provision.

Purpose:

This research or related activity is conducted as part of the primary research for Doctoral Degree.

What is this research project about?

This research explores how men in rural south-east of Nigeria, select, access and use health information, mapping culturally appropriate health information provision. Specifically, the study identifies health information needs, criteria for choosing health information sources, health information presentation and design, and the effect of culture on health information behaviour of men in rural communities.

What will you have to do and how long will it take?

The researcher wishes to interview you. This should take no longer than 1 hour and will take place at your desired location within the community (if safe and void of interruption). The interview will be recorded. You will be asked to give consent before the interview.

What will happen to the information collected?

The researcher will study, analyse and provide findings based on what you have said. The findings will help to understand the situation under study, and to achieve a doctoral degree [PhD]. Only the researcher and his supervisor (if applicable) will be privy to the notes, documents and recordings. The researcher will keep transcriptions of the recordings and a copy of the paper but will treat them with the strictest confidentiality. No participants will be identified in the publications, and every effort will be made to disguise your identity. At the end of the study, notes will be destroyed, and recordings erased.

Declaration to participants

If you take part in the study, you have the right to:

- Refuse to answer any question, and to withdraw from the study at any time (including after the interview or focus group has been completed).
- Ask any further questions about the study that occurs to you during your participation.
- Be given access to a summary of findings from the study when it is concluded.

Who's responsible?

If you have any questions or concerns about the project, either now or in the future, please feel free to contact either:

The Researcher:

Chikezie Daniel Emele
c.d.emele@rgu.ac.uk
School of Creative and Cultural Business,
Robert Gordon University, Garthdee Road,
Aberdeen AB10 7QE.