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Dietetic Students' Attitudes to and Knowledge of Working with Older People

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Abstract

Across the world, people are living longer but not necessarily healthier lives. Healthcare professionals will need to be prepared to work with older people, recognising that, at all stages of the lifespan, attention to nutrition and other health behaviours can impact positively on wellbeing. This study examined the attitudes, knowledge and future career preferences of pre-registration dietetic students in the United Kingdom towards working with older people. A questionnaire, based on the validated Palmore *Facts on Aging Quiz* and adapted to a UK population, was sent to the fifteen universities which provide dietetic courses in the UK approved by the Health and Care Professions Council (HCPC). Responses were received from thirteen universities, and, of the estimated 1250 students, 285 questionnaires were completed (response rate 23%) with the predominant demographic being 91% female, and 86% undergraduate degree type. The mean knowledge score was higher in postgraduate vs. undergraduate students (69.6% vs. 65.2%; $p < 0.011$). A weak positive correlation ($r_s = 0.155$) was found between number of placement weeks carried out and knowledge score ($p < 0.01$). Care of the elderly was the least preferred of five specialities, and 65-plus was the fourth preferred age group out of five. A greater focus should be placed on the delivery of aging education and placement experiences in dietetic courses to increase the number of graduate dietetic students who have positive work preferences towards older adults.

Keywords: ***attitudes; dietetic students; knowledge; older people; work preferences***

Introduction

We live in an aging world, with the number of people aged 60 and over predicted to double by 2050 (United Nations, 2017), with the elderly population growing faster than all other age groups. This will impact on demand for health and social care and lead to an increased dependency on hospitals, residential care, and other health and social care services (Lin *et al.*, 2011). A global shortage of healthcare professionals (Fagerberg & Engström, 2012) and a lack of professionals interested in working with older people is adding complexity to the issue (Goncalves, 2009; Samra *et al.*, 2013).

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Dietitians are qualified health professionals that assess, diagnose and treat diet and nutritional problems, both at an individual and at a wider public-health level and they play a key role in the prevention and management of health conditions in order to maintain wellness and to improve quality of life (British Dietetic Association, 2019). Non-communicable diseases are on the rise worldwide (World Health Organisation (WHO), 2011), including stroke, cancer and heart disease (Age UK, 2018), but malnutrition, chronic obstructive pulmonary disease, and dementia are also prevalent in older people and often require dietetic input (Roqué *et al.,* 2013). Future healthcare professionals, including dietitians, will therefore need to be knowledgeable regarding best practice in caring for the needs of an aging population (Mackenzie & Newman, 2017; Saka *et al.,* 2010).

Evidence suggests that attitudes held by individuals providing care can influence both career choice (Aud *et al.,* 2006; Happell & Brooker, 2001) and the quality of care provided (Ellis *et al.,* 2011; Gallagher *et al.,* 2006). Negative attitudes among healthcare professionals toward the population they are serving impacts upon the quality of care provided (Jacelon, 2002; McLafferty & Morrison, 2004). Many common assumptions about older people are based on outdated stereotypes, leading to discrimination on the basis of age and perceptions regarding an implied dependency or burden; such misconceptions challenge the development of a response to population aging (World Health Organisation (WHO), 2011). Masciadrelli (2014) cited ageism as a key factor affecting recruitment difficulties in the health and social care sectors, and fewer people working in the area will affect quality of care negatively (Coffey *et al.,* 2015). Negative stereotypes relating to the older population have also been related to an unwillingness to work with this demographic group (Carmel *et al.,* 1992; Kosberg, 1983). Negative attitudes from healthcare professionals may reinforce dependent and negatively stereotyped behaviour in older people as individuals respond to expectations of dependency (Hobbs *et al.,* 2006).

A survey with 299 dietetic students from ten American universities demonstrated that students had a low knowledge of aging and the lowest average preference for working with older rather than younger people (Kaempfer *et al.,* 2002). The study concluded that improved education regarding aging was required in the population investigated. Carmel *et al.* (1992) also carried out a study relating to education and attitudes of medical, nursing and social work students towards older patients and concluded that these individuals ranked caring for older adults as a low priority. These studies support the theory that an unrecognised and inherent bias may exist among dietitians to working in long-term care. This is a significant issue because of the inevitability of dietitians working with this aging population in the future. Similarly, Stevens (2011) found that nursing students rated working in technical areas higher than working with older people, and that poorly resourced care environments increased students' negative attitudes, even if initially perceptions were not negative. These findings support the work of Kydd & Wild (2013) and Brown *et al.* (2008), suggesting that student work placements were not rewarding and negatively affected the students view of working with older people. Most studies have focused on short-term effects of courses aiming to change knowledge and attitudes. However as attitudes are established cognitive entities, short-term achieved changes may lessen as time passes (Carmel *et al.,* 1992).

Despite the increasing numbers of older people, the United Nations Population Fund (UNFPA) (2012) concluded that low levels of training in geriatrics and gerontology exist within healthcare professions. Nutrition and dietetic student attitude scores improved after an educational self-care intervention with older adults; this challenged students' stereotypical views on older adults and had a positive effect on students' intention to work with this group (Lee *et al.,* 2008). Therefore the current study aimed to ascertain the attitudes, knowledge and future career preferences of UK dietetic students towards working with older people.

Methods

In January 2018, a cross-sectional study of UK dietetic students was carried out using a validated online questionnaire (Breytspraak & Badura, 2015). The questionnaire was disseminated by course leaders to students across the UK via email. Ethical approval was sought and granted by the School of Pharmacy and Life Science Ethics Review Committee at Robert Gordon University, Reference Number: S96.

Questionnaire

A *Facts on Aging* questionnaire was adapted with permission from Breytspraak & Badura (2015), contextualised, with their permission, to a UK population (Appendix A). The *Facts on Aging*

questionnaire was originally developed by Palmore (1977) and has been used in over 150 studies (Palmore 1998). The estimated time for completion was 5–10 minutes. Participants were asked to answer true/false on 46 statements, including mental, physical, and social facts surrounding aging. Some of the statements addressed common misconceptions or stereotypes of older people.

The adapted questions relevant to a UK population were factually determined by national studies and statistics (Qs: 24, 27, 28, 29, 30, 41, and 42). These questions relate to the population demographic (Office for National Statistics, 2017), hospital beds occupied by people with dementia (Alzheimer's Society, 2009), and the state pension (Pensions Advisory Service, 2017). Demographic information was collected regarding sex, degree type (undergraduate or postgraduate), and number of placement weeks completed.

One point was awarded for each question answered correctly. The attitudes of participants were indirectly measured using the *Facts on Aging* questionnaire, by determining which questions indicated a negative/positive bias if answered incorrectly, and the subsequent net bias score was interpreted. Positively biased items were those which, when answered incorrectly, indicated an unrealistically favourable image of older people in comparison to negatively biased items answered incorrectly (indicating a negative image). At the end of the questionnaire, students were also required to rank their preference of working with different age groups using a 1–5 Likert scale.

The questionnaires were piloted for understanding in a non-respondent student group at Robert Gordon University with twelve students participating. Minor adjustments were made to the wording and to demographic questions following the piloting. The questionnaire was produced using Survey Monkey® software, and all responses were anonymous. No identifiable demographic information was gathered, and completion of the questionnaire was regarded as implied consent.

Sample

All universities providing Health and Care Professions Council (HCPC) approved courses or British Dietetic Association (BDA) accredited courses in the UK were identified via the BDA website ($N = 15$). Course leaders were contacted and asked to forward an invitation to participate to all cohorts of students studying dietetics (undergraduate and postgraduate). Course leaders were also asked to provide information regarding numbers of students currently studying dietetics at each university. Reminders were sent via email to course leads at Week 3 of study commencement. The BDA website was also used to disseminate the questionnaire, via a hyperlink.

Statistical analysis

SPSS Version 21 was used for data analysis. Independent variables, including sex, degree type and number of placement weeks completed were compared against the dependent variables, knowledge, attitude scores and work preferences.

Knowledge and attitude scores were tested for normal distribution, and non-parametric and parametric tests were carried out. Mann-Whitney tests were used to identify significant differences between sexes, degree type with knowledge score. Spearman's Correlation Coefficient determined the correlation between number of placement weeks completed and knowledge score. The relationship between knowledge and attitudes score was also measured by Spearman's Correlation Coefficient.

Independent *t*-tests were performed to investigate differences between the groups' sex, degree type and attitude scores. For work preferences, weights were applied in reverse (5–1) to the ranking scores, and the means were calculated. A higher mean therefore indicated a more preferred career inclination. A Spearman's Correlation Coefficient test was performed to measure the relationship between attitude score and work preferences.

Results

Demographic data

Acknowledgement responses were received from thirteen universities and the questionnaires were distributed, via email, to approximately 1,084 students. Of the approximately 1,250 dietetic students in the UK, 285 (22.8%) completed the questionnaire in the 5-week timescale (see Table 1). Respondents

were predominantly female (90.9%) and undertaking an undergraduate degree (86.3%). The number of practice placement weeks completed ranged between 0 and 52 weeks, and the majority of participants had completed 0–8 weeks. Information was also collected on year of study, but this was not analysed due to differences in degree structure across the UK.

Sample demographics (*N* = 285)		
Variable	***n***	**%**
Sex:		
Male	24	8.4
Female	259	90.9
Prefer not to say	2	0.7
Degree Type:		
Undergraduate	246	86.3
Postgraduate	39	13.7
Number of placement weeks completed:		
0–8	170	29.8
9–16	21	7.4
17–24	40	14.0
>25	83	29.1

Table 1: Sample demographics

Knowledge

The mean knowledge of aging score was 65.5 ± 6.2 %. No statistically significant difference in the knowledge scores of males and females was found. A statistically significant difference between the two degree types was found for knowledge score ($p < 0.011$): the postgraduate group had a higher mean knowledge score (67.8 ± 5.3%) than the undergraduate group (65.1 ± 5.3%). There was a weak positive correlation ($r_s = 0.155$) between number of placement weeks carried out and knowledge score ($p < 0.01$). There was also a weak negative relationship between knowledge increasing and attitude scores decreasing ($r_s = -0.184$) ($p < 0.01$). The questions answered incorrectly most frequently are displayed in Table 2.

Question Number	**Description**	**% of students who answered incorrectly**
6	As adults grow older, reaction time increases	61
8	Older adults are at risk of HIV/AIDS	64
12	Older people perspire less, so they are more likely to suffer from hyperthermia	59
19	Increased problems with constipation represent a normal change as people get older.	58
23	Older adults are less anxious about death than are younger and middle-aged adults.	67
24	Older people (+ 65 years) currently make up over 20% of the UK population	88
29	The state pension automatically increases with inflation.	89
36	Older people tend to become more spiritual as they grow older.	84
37	Older adults (+ 65 years) are more fearful of crime than are persons under 65.	67
38	Older people do not adapt as well as younger age groups when they relocate to a new environment.	73
44	Older adults consider their health to be good or excellent.	69

Table 2: Most Common Incorrect Answers

Attitude bias score

The responses to the *Facts on Aging* questionnaire reflected a higher mean pro-aged bias (34.1%) than an anti-aged bias (32.6%). The resulting net bias score indicated a slight pro-aged bias overall (+1.53%, *SD* ± 22.4). In other words, on average, the students answered more questions incorrectly which indicated an unrealistically favourable image of older people, rather than incorrect answers indicating a negative image. There were no statistically significant differences between sex and attitude score or degree type. No significant differences existed between attitude scores and year of study in either degree type. No correlation was identified between numbers of placement weeks completed and bias score. There was a weak negative correlation (r_s = -0.120) between attitude score and care of the elderly preferences (p <0.05). There was also a weak negative correlation (r_s = -0.132) between attitude score and 65+ age group (p <0.05). As negative-bias increased, ranking of work preferences decreased.

Work preferences

In the work preference segment of the survey, 268 of 285 (94.0%) participants fully completed the ranking sections. In general, when participants were asked to rank age groups from 1 to 5 in order of preference, 'working with older adults' was ranked as one of the lowest 2 options. There was no significant correlation between knowledge score and work preferences.

The least preferred age group as a career option was 'adolescents' (aged 13–18) and second least preferred was the 'elderly' (65+). The 'adolescents' age group was also ranked as the most preferred choice by only 7.5% of participants as well as being ranked as the least preferred choice by the greatest number of students. The 'elderly' (65+) age group ranked fourth, with 23.9% of participants ranking it the least preferred choice.

Discussion

Knowledge

The mean knowledge score in this study was 65.5%, substantially higher than dietetic students at North American universities (40.1%) (Kaempfer *et al.*, 2002). This suggests that UK students had greater baseline knowledge when compared to an American population of students. It must be borne in mind that the questions were adapted to a UK population and that education levels may differ between regions. These results may reflect a greater content relating to the aging population in the delivery of UK curricula. Palmore (1998) stated that the average person who studies at least one gerontology course usually scores more than 80% correct on the *Facts on Aging Quiz* and in comparison to the current study (mean knowledge score 65.5%) demonstrates that knowledge improvements in the subject area can be made. It is not known, however, how long this improved knowledge is retained for, nor whether it impacts on attitudes towards older people.

The current study's participants also scored higher on average than undergraduate physiotherapy students at an Australian university who had an initial mean score of 43.6% (Hobbs *et al.*, 2006). The study had a small sample size from one university which limits generalisability however does provide useful insight to another Allied Health Professional (AHP) course using the *Facts on Aging Quiz*. Improvement in the knowledge score to 52% was observed over the 4-year degree program. A higher knowledge score was observed for postgraduates when compared to undergraduate students and this may be attributed either to a longer time spent in education or the age of student. This theory is supported by Kaempfer *et al.* (2002) who found that older dietetic students ranked working with 45–64-year-old adults higher than younger students did (p = <0.01).

The number of placement weeks completed was investigated, as more experience may be positively correlated to knowledge. The weakness of the positive correlation between placement weeks and knowledge score may be due to the majority (56.8%) of the sample having completed a low number, between 0 and 4 weeks. Traditional placement models involve supervision on a one-to-one basis or peer-assisted learning (O'Connor *et al.*, 2012). Students on placements in a care home community setting with no on-site dietetic presence reflected that benefits were derived from forming more positive and informal relationships with residents and staff, and from time spent in this setting, supporting the governmental

approach in a move from the traditional model of clinical care to a more person-centered approach (Mackenzie & Newman, 2017). Similar methods have been used in nursing programs to focus on clinical placements and increasing aging content (King *et al.*, 2013).

Eleven questions in the survey were answered incorrectly by the majority of participants (Table 2). These misconceptions may be used to inform delivery of education to students. In similar vein, a gerontological nursing course positively influenced students' perception of older adults, indicating that education providers may play a role in preference for working with this age group (King *et al.*, 2013). Myths were dispelled, and students were encouraged to engage in supported clinical rotations in nursing home settings. Although this involved a different sample of students, this theory may be translated to dietetic students.

Misconceptions surrounding aging must be addressed as these are the basis for future professional practice. Developing placements in social care settings with a greater focus on older adults is believed to better prepare the dietetic workforce of the future and to foster improved attitudes (Mackenzie & Newman, 2017).

Attitudes and bias score

Negative attitudes have been found to relate to decisions about treatment and care delivery behaviours (McLafferty & Morrison, 2004). The current study identified a slight pro-aged bias, inconsistent with previous research that indicates the average person usually has more anti-aged than pro-aged bias.

As knowledge score increased, the level of negative bias decreased; this could be attributed to an increased positive bias masking the decrease. The slight negative correlation between bias score and number of placement weeks completed contradicts previous findings. Stevens (2011) concluded that the more days participants spent in practice settings, the lower their corresponding ranking of working with older adults. Poorly resourced working environments increased negative attitudes and can promote a viewpoint of lowered status towards working with older people (Kydd & Wild, 2013). Mason and Sanders (2004) used face-to-face interviewing to explore the attitudes of social work students towards working with older people, and suggested that previous life experiences impacted students' choice of placement and that increased exposure to older people would improve attitudes towards the population group.

Bridges *et al.* (2012) discussed the importance of ward-level social and organisational conditions and the culture of care in influencing frontline delivery. A recent three-year investigation into the care that individuals receive in the acute setting across England and Wales highlighted mistreatment of patients with dementia and issues surrounding practices of staff in UK hospitals, including those delivering nutrition at ward level (Featherstone *et al.*, 2018). During mealtime interactions there was an emphasis on speed and efficiency. Resistance and refusal of food has been found to cause distress as staff continue to encourage and the meal no longer remains pleasurable. These findings are concerning as dietetic students undertake placement in these settings. Wells *et al.* (2004) also found that the work setting can promote embedded attitudes (both positive and negative), with professionals working in acute care having the strongest negative attitudes towards older people. This review recognised a lack of well-designed studies exploring attitudes of registered staff and students. To improve the culture of dignity and respect for older people in hospitals, training for staff is advocated (Joint Committee on Human Rights, 2007). A large number of reports stress that there is a need for specialist training for staff, to improve their knowledge, skills and attitudes within the acute setting, to deliver significant improvements in care (Royal College of Psychiatrists, 2005; Department of Health, 2009; 2015; Department of Health and Social Care, 2011).

Gutheil *et al.* (2009) suggest that it should be compulsory for educators to provide curricula that prepare future health professionals for working with older people and address negative attitudes and misconceptions about aging. An optimistic perspective on aging has the potential to aid students to practise in a non-discriminatory manner in their future careers; after participation in a lecture on productive aging, negative attitudes decreased and positive attitudes increased toward older adults (Kim *et al.*, 2017). Clinical placements, post-registration education (Aoki & Davies, 2002) and exposure to best practice (Kydd *et al.*, 2014) all influence attitudes positively.

Attitudes towards aging may be positive but may not translate to positive attitudes towards caring for older people (McKinlay & Cowan, 2006), and the assumption that positive attitudes translate into an intention of working with this age group has been challenged by researchers (Liu *et al.*, 2013). Boswell

(2012) used the *Facts on Aging Quiz* and found that those students with little knowledge of working with older people were also more anxious about aging and displayed more ageist attitudes and less interest in working with older people, while increased knowledge and education was found to mitigate ageist attitudes.

Work preferences

Working with elderly people was not ranked highly as a career choice, possibly due to the perceived complexity of other specialties. Some participants may have felt that they would prefer to work with a specific condition regardless of age which is possibly why some students ranked this specialty lower.

These low career preference rankings for working with older people coincide with findings from previous studies involving medical, nursing and social work students (Weiss, 2005; Carmel *et al.*, 1992). Kaempfer *et al.* (2002) also found that working with older adults was on average the least preferred career choice of dietetic students. In our study, the three categories of employment that included older adults were ranked lowest in terms of future career preference. Weiss (2005) found that throughout all cohorts of social work students across seven countries, motivation to work with older people was lower than for all other age groups, and suggested that low preference may exist on a large scale, which generates a growing concern for future professionals. Meeting the changing needs of society and an aging demographic will place new demands on dietetic employment (Lordly & Taper, 2008).

A lack of interest in working with older adults has been associated with an inability to relate to or communicate with older people and with a perception that the work is depressing and boring (Henderson *et al.*, 2008). Similarly, services for older adults are not considered attractive career preferences for healthcare professionals and have a lower social status than other specialities (Cornwell, 2012). Issues relating to unsupportive work environments, and low professional esteem and satisfaction, may be deter healthcare professionals considering working with older people (Kydd & Wild, 2013). However, it has been demonstrated clearly by educators working with different groups of healthcare students that education alleviates ageism, and that modelling positive images of older adults in educational environments and in workplaces can help to mitigate health inequalities in this group.

Study Limitations

Modifications were made to Palmore's (1977) original questionnaire which was validated with undergraduates, graduates and faculty in a North American university, a limitation to the study design. However, the questionnaire was contextualised for a UK population for the current study. Completion rates were possibly affected by course leads taking responsibility for forwarding the invitation. A multiple-choice format may have partially addressed the issue of guessing correct answers and increased the accuracy of responses. The response rate in the current study met those required of an 80% confidence level; however, it did not meet the 95% confidence level of 37% response rate (Palmore, 1981).

The questionnaire also measures attitudes indirectly, and this should therefore be used as a rough indicator, rather than as a robust measure of attitudes, as the questionnaire design may not allow a thorough exploration with study participants. Triangulation of responses, for example using focus groups, would help to elucidate and clarify responses further.

Most previous studies carried out on this topic have been with nursing students, and it may be that results are not more generally applicable as dietitians and nurses have different working roles and undertake different educational courses. Results can however be extrapolated with caution, as both are healthcare professions. Future research should investigate demographic information which includes age and country of study, which may be a confounding factor in the present study.

Conclusion

The results derived from this study provide UK educators with an insight into how dietetic students view the growing aging population and their related career preferences. Low work preferences exist with dietetic students across the UK for the older adult age group. Knowledge in the current study was higher on average than previous literature carried out in dietetics and other health care professions, although there is room for improvement. Therefore a clear educator goal should be to increase the number of

graduate dietetic students who have positive work preferences towards older adults, with the aim of meeting workplace requirements.

The literature on this topic demonstrates the benefit to students of experiential and didactic learning in the topic area to promote both knowledge and a positive attitude to working in this field. Practice placements in varied care settings with older persons could enhance learning and develop key skills for integrated health and social care provision. Supportive and well-staffed working environments may have a positive impact on students' future work preferences; individual and professional efforts, of practice educators as well as academics, should be directed at creating a professional culture which promotes the perceived value of all practice areas, including those for older people.

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Appendix A

Facts of Aging Questionnaire - Adapted from Breytspraak and Badura (2015)

	Circle/Complete as Appropriate:
Sex:	Male/Female/Prefer not to say
Degree Type:	Undergraduate/Postgraduate or Masters
Year of Study:	_____
Total number of placement weeks completed:	_____
1. The majority of older people (+ 65 years) have Alzheimer's disease.	True/False
2. As people grow older, their intelligence declines significantly.	True/False
3. It is very difficult for older adults to learn new things.	True/False
4. Personality changes with age.	True/False
5. Memory loss is a normal part of aging.	True/False
6. As adults grow older, reaction time increases.	True/False
7. Clinical depression occurs more frequently in older people than younger people.	True/False
8. Older adults are at risk for HIV/AIDS.	True/False
9. Alcoholism and alcohol abuse are significantly greater problems in the adult population over age 65 than that under age 65.	True/False
10. Older adults have more trouble sleeping than younger adults do.	True/False
11. Older adults have the highest suicide rate of any age group.	True/False
12. Older people perspire less, so they are more likely to suffer from hyperthermia.	True/False
13. All women develop osteoporosis as they age.	True/False
14. A person's height tends to decline in old age.	True/False
15. Physical strength declines in old age.	True/False
16. Most old people lose interest in and capacity for sexual relations.	True/False
17. Bladder capacity decreases with age, which leads to frequent urination.	True/False
18. Kidney function is affected by age.	True/False
19. Increased problems with constipation represent a normal change as people get older.	True/False
20. All five senses tend to decline with age.	True/False