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## **Abstract**

**Objective** To explore the views of the multidisciplinary healthcare team towards the role of the clinical pharmacist within the palliative care unit of an oncology hospital in Malta. At present, in Malta, clinical pharmacists are not routinely involved in care provision with palliative cancer care teams and there is a need to consider their role.

**Method** Three 60 min audio-recorded heterogeneous focus groups were conducted with eligible healthcare providers at Sir Anthony Mamo Oncology Centre in Mater Dei Hospital. The topic guide was based on literature and was assessed for face and content validity by an expert panel. The transcripts were analysed using the framework method whereby emerging categories and themes were devised.

**Key findings** A total of four doctors, ten ward nurses, two Hospice community nurses, three nursing aides, one psychologist and six allied healthcare professionals consented to participate. The framework analysis resulted in four main categories namely:

- (1) pharmacists as the expert reference point;
- (2) availability of clinical pharmacists in providing clinical services on ward level;
- (3) attitudes towards potential clinical services provided by clinical pharmacists; *and*
- (4) clinical pharmacists as a link with the community on pharmaceutical matters.

**Conclusion** The general view of healthcare providers on the clinical pharmacist's role in palliative cancer care was largely supportive and positive. This should encourage policy makers to introduce clinical pharmacy services within this setting.

**Keywords** Qualitative Research • Health Services Research • Health Policy

## **Introduction**

The World Health Organisation (WHO) defines palliative care as:

an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual [1 p. 84].

This definition provides the foundation on which palliative care services should ideally be delivered [2]. Successful provision of palliative care requires multidisciplinary collaboration from various healthcare professionals [3]. The multidisciplinary approach takes into account that body, mind and spirit are dynamically interrelated in each individual; hence patients need to be treated holistically and not just from the medical perspective [4].

The need for palliative care services is predicted to increase significantly over the years due to an increasing aging population [1]. Increasing strain on the healthcare budget may result in inadequately resourced palliative care services. This would eventually translate into poor symptom control, lack of seamless care and inadequate staff education [5].

Limitations in healthcare resources require emphasis on those activities that bring about the greatest improvement in patient outcomes [6]. Various quantitative studies conducted within a hospital setting have shown that clinical pharmacy services are able to improve patient outcomes by reducing the length of hospital stay and serious adverse events including morbidity and mortality [7-9].

A clinical pharmacist is an important member of the multidisciplinary palliative care team since patients at end-of-life generally experience complex medication regimens that require frequent monitoring and adjustment [10].

In fact, the American Society of Health-System Pharmacists (ASHP) states that: “pharmacists have a pivotal role in the provision of hospice and palliative care and that pharmacists should be integral members of all hospice interdisciplinary teams” [11].

Despite this, the Oxford Textbook of Palliative Medicine only mentions reference to the presence of pharmacists in the interdisciplinary team in three sentences [12]. Pharmacists are merely described “as a resource and support for the physician rather than an independent contributor to the team” [12 p. 7].

The aim of this research was to explore the views of the multidisciplinary team towards the role of the clinical pharmacist within the palliative care unit of an oncology hospital.

## Method

This was an exploratory qualitative study using focus groups of participants. This study was conducted in the palliative care unit of the main oncology centre in Malta, Sir Anthony Mamo Oncology Centre (SAMOC) at Mater Dei Hospital. At present, in Malta, clinical pharmacists are not routinely involved in care provision with palliative cancer care teams.

The study was approved by the School of Pharmacy and Life Sciences Research Ethics Committee at Robert Gordon University, the Research Ethics Committee at the University of Malta and Sir Anthony Mamo Oncology Centre (SAMOC), Mater Dei Hospital.

Participants had to be healthcare providers (including healthcare professionals and nursing aides) delivering their services at this unit for at least twelve weeks to gain sufficient experience. Any other staff member providing assistance to the palliative cancer care unit but is not certified in the health sector (such as janitors) was excluded. All eligible participants ( $n=30$ ) at the palliative care unit of SAMOC were invited to participate in this study via electronic mail. **Table 1** provides a description of the participant pool ( $n=30$ ). No incentives were offered for participation.

The formulated initial set of open-ended and close-ended questions commonly referred to as the topic guide was based on literature [4, 11-13]. This was then reviewed for face and content validity by an expert panel of three pharmacists working at the same hospital. All pharmacists involved were of senior managerial level with one having a specialisation in clinical pharmacy.

The researcher sought to form a sufficient number of mixed focus groups (minimum of three), to ensure theoretical saturation of results so that no new categories and/or themes continue to emerge. Those interested were randomly assigned into one of the focus groups after an adequate number was recruited, to ensure heterogeneous focus groups.

The focus groups were of approximately 60 min duration, were conducted by the principal researcher in the doctor's office of the palliative care unit at SAMOC, audio recorded with two voice recorders (SONY® ICD-PX333 Digital Voice Recorder and Apple® iPhone 5) to guarantee recordings even if one device failed to function and transcribed verbatim, with Maltese statements translated into English. Field notes were also taken by the assistant moderator (another pharmacist with a specialisation in clinical pharmacy) to supplement the recordings.

Data analysis was carried out using the Framework Approach since the research is led by pre-defined objectives whilst a semi-structured approach was followed in the focus groups [14]. The principal researcher was the sole person involved in the analysis.

## Results

A total of twenty-six healthcare providers (full staff complement of thirty) were willing to participate; however, there were seven unforeseen dropouts. **Table 2** provides a description of the participants' demographics.

The main categories that emerged from the focus groups were namely: pharmacists as the expert reference point, availability of clinical pharmacists in providing clinical services on ward level, attitudes towards potential clinical services provided by clinical pharmacists and clinical pharmacists as a link with the community on pharmaceutical matters. A wide range of key themes emerged from these four categories as shown in **Table 3**.

### Category: Pharmacists as the expert reference point

#### *Mixture compatibility*

Various nurses expressed their view that a pharmacist should be available to clear any doubts that may arise during the preparation of two or more drugs within the same syringe,

“It’s very important to have someone [a pharmacist] around. Because even especially with the... with the pumps that... that we give, the opioid pumps and everything, even with regards compatibility or... or... or what we need to do or the... the doses or whatever. It would be a good idea to have someone around in the ward... not we stay calling.”

*(Female ward nurse, 29 years, 7 years' experience)*

#### *Addressing patient concerns*

Various healthcare providers agreed that patients could refer to pharmacists for any concerns regarding their therapy,

“Many patients would appreciate somebody to talk to about their medication and side effects and... sometimes they come up with their own queries even though the doctor would have seen everything. As in but I think I have forgot to tell the doctor this or is it... this right? So even as a follow up or a reference point.”

*(Female psychologist, 51 years, 15 years' experience)*

#### *Assistance with documentation*

Pharmacists were described as adequately geared to assist with documentation issues in connection with protocol-regulated drugs. Protocol-regulated drugs are those drugs that are only approved for use in the National Health System for specific indications. A special request needs to be submitted for each patient to the relevant health authorities if the particular indication is not listed in the approved protocol. Such drugs can only be prescribed and administered if the request is approved. This documentation process would be more efficient if pharmacists are involved,

“...cause he will take... he will be in charge of that situation... maybe he will know the... the person whom to go... he knows better the process for example sometimes I... I forget that I have to fill the paper for docusate.”

*(Female ward nurse, 22 years, 3 years' experience)*

## **Category: Availability of clinical pharmacists in providing clinical services on ward level**

### *On-call services*

The nursing profession expressed the need of a pharmacist being accessible at night, not necessarily being physically present but with at least an on-call service. The current 24-hour emergency call service is not meeting their needs, as pharmacists present on shift via phone are not specialised in the field,

“We don’t want the... the pharmacists physically here. He... the pharmacist doesn’t need to be physically here. But at least... an on-call something. To... sometimes we do call pharmacy there’s the 24-hour service but again they are not experienced in palliative.”

*(Female ward nurse, 44 years, 2 years’ experience)*

### *Ward round participation*

Participation in the ward round was positively appraised, as it would benefit the patient,

“Coming to think about it... what use it would be to be there present... getting to know the patients... being involved in the care... not like... the... the previous thought of a pharmacist. He would be an active pharmacist actually. Like you’re mentioning it would be really good for a consultant to turn round and ask cause I... I imagine that every... no one knows everything. But I think it would be really good to be there present if the consultant has a problem he turns to the proper person to ask the question about the problem.”

*(Female Hospice community nurse, 40 years, 21 years’ experience)*

## **Category: Attitudes towards potential clinical services provided by clinical pharmacists**

### *General outlook*

A potential new service was discussed whereby a pharmacist performs a medication review of patients who have been recently switched to palliative cancer care on an outpatient basis. It is argued that patients should not be left for review when they are admitted in the ward only,

“A clinical pharmacist would be beneficial on an outpatient basis when they... the patient at least goes for the first time as a new case... seen by palliative specialists. The treatment shouldn’t be reviewed for the first time when they... when they end up here in the ward as end-of-life patients. I think certain treatment should be reviewed as a new case even if the patient isn’t... isn’t admitted at the ward.”

*(Female doctor, 25 years, 2 years’ experience)*

### *Guideline and protocol development*

It was emphasised that pharmacists should involve themselves in protocol development, as it would benefit the multidisciplinary team. In fact, pharmacists should lobby to include off-label indications in the formulary,

“The pharmacist would be able to push certain indications for certain medications for example on the government formulary. You have the proper indications for that certain type of medication. And some patients they occasionally need to use that other medication which is not indicated. The clinical pharmacist would be able to push for certain indications. To make them you know accessible.”

*(Female doctor, 25 years, 2 years’ experience)*

### *Management of medication errors*

Participants agreed that the clinical pharmacist has an important role in the prevention of medication errors to ensure patient safety. It was described that pharmacists are fit to assume this meticulous role,

“These are very basic simple things that even the clinical pharmacist... those roles the attention to detail of these types of things and preventing certain errors are also important.”

*(Female doctor, 52 years, 28 years' experience)*

### *Stock management*

Pharmacists not specialised in clinical pharmacy currently carry out the top-up system; however the system is not treatment chart based. One participant stated that there would be an adequate stock replenishment if a clinical pharmacist were present in the ward since the required stock amounts would be compiled from the treatment charts,

“They can talk to the other pharmacists where we can order... cause sometimes another problem... for example during the night... night shift I come and I don't find a treatment. He would... he would be able to go with them. With the ones who come here and order accordingly.”

*(Female ward nurse, 22 years, 3 years' experience)*

### *Patient discharges*

Doctors declared that they do not have sufficient time for patient discharges and regarded pharmacists as the best healthcare professional to carry out this role,

“I dedicate 5 minutes of my time to explain the doses, regimen... but I cannot dedicate more than that. So I just explain once and that's it... They either take it or they don't.”

*(Female doctor, 25 years, 2 years' experience)*

“The doctor on the ward has to do a chart for the patient on discharge and explain that to the... these are things that a clinical pharmacist could be in a better position to do in a more professional way.”

*(Female doctor, 52 years, 28 years' experience)*

This would even re-enforce information given by the doctor, hopefully increasing compliance in the process,

“Educating the patient could also lead to compliance no? So I think the clinical pharmacist's role there would be also re-enforcing what the doctors told them and hearing it from two people and maybe from the person who can explain... the medicines and the side effects, how much you take and so on and how to take them.”

*(Female psychologist, 51 years, 15 years' experience)*

An interesting concept was described where the pharmacist provides pharmaceutical advice (eg. how to increase morphine dose) as an addendum on discharge letters. This could then be utilised in the future by general practitioners if for example there is destabilisation in pain control in the community,

“We write the discharge letter... so if a pharmacist has access to that and can add an addendum and maybe plan out for the GP [general practitioner], listen if the patient... the pain is continues to increase... you can increase this way. You can add this, you can add that. Some points for advice.”

*(Female doctor, 25 years, 2 years' experience)*

## **Category: Clinical pharmacists as a link with the community on pharmaceutical matters**

### *Collaboration with the community scenario*

Participants expressed the fact that currently there is a gap within the community scenario as no pharmacist specialised in palliative care is available for guidance. It was mentioned that a separate pharmacist, other than the one in the hospital, should work together with the community team to improve upon the current service,

“Once they are discharged, the Hospice gets very involved. And the Hospice does not have a pharmacist. So there is a gap there.”

*(Female ward nurse, 44 years, 2 years' experience)*

### *Benefits of community services*

Development of primary care services (including pharmaceutical services) in the palliative specialty was described to reduce the dependence on hospitals, as patients are most likely to remain stable within the community,

“...if it had to be in the community, it would save the hospital and the healthcare system loads of money really and truly. So I think at least basic training in palliative care, medications to... for community. Pharmacist, community everyone, all healthcare professionals.”

*(Male occupational therapist, 25 years, 3 years' experience)*

### *Barriers in community service implementation*

All the barriers mentioned were referring to the possible introduction of the pharmacist within the community team and not the hospital pharmacist. Financial reasons compounded with lack of incentives by the service provider were considered as likely barriers,

“Financial... not enough interest from some professions. The thing is finance! Everything... everything revolves around money. For example I don't imagine that a pharmacist who owns a pharmacy that is busy would involve himself into something that big without compensation. Or he's a saint or he is into politics.”

*(Male ward nurse, 40 years, 20 years' experience)*



## Discussion

This is the first qualitative study exploring multidisciplinary views on the role of the clinical pharmacist in the palliative cancer care setting. A number of key study outcomes were identified following a framework analysis as follows.

Issues with mixture compatibilities involving the subcutaneous pump were one of the major concerns among nurses. They consider the clinical pharmacist as their reference point to clarify any doubts of precipitation when two or more intravenous solutions are mixed together. In addition, they would also seek the pharmacist for guidance with regards to documentation issues including which drug requires protocol-regulated forms, to increase efficiency. Furthermore, nurses wish that the pharmacists were always available at least with an on-call service, even at night. It is important that the pharmacist involved is experienced in palliative care to help with urgent queries within an adequate timeframe. These study outcomes are consistent with both qualitative and quantitative studies in the literature that describe a positive attitude by nurses towards pharmacists [15, 16]. This is contrary to a published qualitative study where nurses were resistant to collaboration with pharmacists [17].

All participants welcomed having a pharmacist present in the ward, with one reason being the management of medication errors. Pharmacists were attributed with the characteristic of being attentive to detail. They can effectively identify and prevent errors by double-checking the treatment charts [18]. Through the treatment chart review, the pharmacist would additionally help in reducing the medication burden on patients by labeling those drugs that are no longer required. Drug discontinuation was actually the most common recommendation by clinical pharmacists in a prospective study regarding palliative care [19].

The presence of the pharmacist in the ward is also believed to have a role in stock management, particularly in preventing out-of-stock situations, as there is direct liaison with store pharmacists. Appropriate top-ups corresponding with the treatment requirements of ward patients at that current time would be carried out. The introduction of pharmacists within a Swedish palliative care team was also described to be of great benefit for stock management [20]. Participants agreed that the clinical pharmacist should also be present during the ward round. Ward round attendance has been documented to bring about improved drug history documentation, reduced drug costs and decreased patient risk [21-24].

Doctors strongly believe that pharmacists should be involved in formulary management to increase medicine access to patients under palliative cancer care. A clear example is with opioids, as currently the spectrum available locally is quite limited. They also argued for more lenient protocols including the use of certain drugs for off-label indications. Apart from this, it was mentioned that pharmacists could lobby to introduce hospital-only items into the outpatient formulary for community access. In fact, these activities were mentioned in a previous editorial [13]. Conversely, protocol development was one activity

perceived to be of lower impact than it actually has by pharmacists in an observational study consisting of qualitative interviews and quantitative questionnaires. This discordance should trigger pharmacists to realign the time they dedicate to certain activities according to the published evidence rather to their perceived impact [6].

It has been documented that patients under palliative care are often dissatisfied regarding the communication aspect with their healthcare providers, particularly clinicians [25]. Moreover, a large survey established that 87% of cancer patients desire as much information as possible [26]. Lack of time dedicated to patients is the main reason for this dissatisfaction due to inability to discuss certain issues in detail. This results in patients and their carers receiving insufficient information, which continues to add to their stress, frustration and uncertainty [27].

Since clinical pharmacists have a role in many facets of education, as highlighted in the focus groups, it is essential to include pharmacists within the multidisciplinary team. Clinical pharmacists need to dedicate enough time for patients to deal with all their concerns, especially during discharge. The pharmacist should ensure that the patient has understood clearly how to take their prescribed therapy and for what they are taking it for. For example, patients may become anxious when prescribed amitriptyline for neuropathic pain as it is usually prescribed for depression. Tackling this concern would reduce unnecessary anxiety and increase adherence [28]. Whilst education to patients is imperative, the pharmacist could also educate junior doctors to prescribe lower quantities in those patients whose prognosis is poor to reduce medicine wastage (for example prescribe a shorter treatment duration – one month instead of the standard two months' treatment).

Participants agreed that there is a missing hospital link with the community; however separate pharmacists other than the hospital pharmacist should be responsible for the community service if it is implemented. The hospital pharmacist should not be involved in the full-blown service as otherwise it would cause burnout. The hospital pharmacist can be available to help in those cases where patients have been previously admitted in the ward. This would ensure seamless care across different sectors for the patients' benefit. It is well known that service fragmentation causes loss of continuity of care hindering the timely availability of medication [29, 30].

A team of hospital and community pharmacists was recommended to deal with the considerable number of patients in the community. This team of pharmacists can join forces with the present Hospice team of nurses in Malta who already deal with patients in the community. It was identified that lack of financial incentives could be one barrier to implementation. In fact, literature confirms that adequate financial remuneration is required to provide such services [31-33]. Improvement in primary care services would decrease hospital dependency as more patients remain in the community [34, 35].

It is believed that theoretical saturation was reached with the sample collected as no further new categories and/or themes emerged from the last focus group. The sample studied (63%) is an adequate representation of the population of healthcare providers within the palliative care unit at SAMOC.

Nonetheless, participants might have been afraid to fully express their true opinion thinking that they might personally offend the profession of the principal researcher. Researcher bias could also be present as the principal researcher was the sole individual involved in data analysis due to lack of volunteers. A team of researchers carrying out data analysis would have possibly changed some of the subjective data analysis, as qualitative studies are dependent on personal interpretations of collected data.

Simultaneously, possible candidates who were reluctant to participate could have possibly garnered negative opinions on the role of the clinical pharmacist in the palliative cancer care setting. This could have had an impact on the results obtained, as those who partook in the study may positively view the pharmacist as an invaluable team member; hence their participation.

Future research may include the compilation of a quantitative questionnaire to extend the exploration of views following the focus group sessions to support the evidence generated from the data analysis and ensure triangulation; however due to time constraints this was not possible. It would have been ideal if this was developed and distributed to the same cohort of participants in the focus groups to generate quantitative results. This could be considered as an option for further researches.

A qualitative study to explore the views of patients under palliative cancer care towards the role of the clinical pharmacist could be conducted. The results of such an innovative study could then be compared with this study to see if there are any congruent views. Similarly, another option could be a qualitative analysis among policy makers.

## **Conclusion**

The general view of healthcare providers on the clinical pharmacist's role in palliative cancer care was largely supportive and positive. This should encourage policy makers to introduce clinical pharmacy services within the palliative cancer care setting.

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**Conflicts of interest** The authors declare no conflict of interest. This study formed part of the principal author's submission for MSc.

**Table 1** Participant pool

Profession	Study population
Doctor	5
Ward nurse	12
Hospice community nurse	2
Physiotherapist	5
Occupational therapist	2
Psychologist	1
Nursing aide (carer)	3
<i>Total</i>	30

**Table 2** Participant demographics

Participant	Age	Gender	Profession	Experience in profession (years)	Experience in palliative care (range in years)
1	44	F	Hospice nurse	10	5-10
2	22	F	Nurse	2	<1
3	30	F	Nursing aide (carer)	8	5-10
4	22	F	Nurse	3	1-2
5	40	M	Nurse	20	5-10
6	26	M	Doctor	2	<1
7	25	F	Doctor	2	<1
8	24	M	Physiotherapist	1	<1
9	24	M	Physiotherapist	1	<1
10	24	M	Physiotherapist	1	<1
11	44	F	Nurse	2	1-2
12	25	M	Nurse	3	2-5
13	29	F	Nurse	7	1-2
14	52	F	Doctor	28	>10
15	51	F	Psychologist	15	>10
16	38	F	Physiotherapist	16	>10
17	40	F	Hospice nurse	21	>10
18	25	M	Occupational therapist	3	1-2
19	27	F	Nursing aide (carer)	8	2-5

**Table 3** Main categories and key themes from framework analysis

<b>Category</b>	<b>Key themes</b>
Pharmacists as the expert reference point	1. Mixture compatibility
	2. Addressing patient concerns
	3. Assistance with documentation
Availability of clinical pharmacists in providing clinical services on ward level	1. On-call services
	2. Ward round participation
Attitudes towards potential clinical services provided by clinical pharmacists	1. General outlook
	2. Guideline and protocol development
	3. Management of medication errors
	4. Stock management
	5. Patient discharges
Clinical pharmacists as a link with the community on pharmaceutical matters	1. Collaboration with the community scenario
	2. Benefits of community services
	3. Barriers in community service implementation