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Oncology patients' and oncology nurses' views on palliative chemotherapy: a cross-sectional comparison

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ABSTRACT

Background:

Palliative chemotherapy may be offered to patients with incurable cancer with the goal of extending life and improving quality of life. However, the adverse effects that may be associated with chemotherapy can negatively impact patients' quality of life. Oncology nurses have an integral role in caring for patients during the decision-making process and may understand the potential implications of treatment options being offered to patients.

Objectives:

1. To compare the views of medical oncology outpatients and oncology nurses about palliative chemotherapy near the end-of-life.
2. To examine the reasons oncology nurses gave for choosing not to receive palliative chemotherapy.

Design:

Cross-sectional comparison study.

Settings and participants:

A total of 194 patients, aged 18 years or over with a confirmed diagnosis of cancer who were attending a medical oncology outpatient clinic for their second or subsequent appointment completed a pen and paper survey between September 2015 and January 2016. One hundred and seven nurses who were members of an oncology nursing society or employed in an oncology setting in a participating metropolitan hospital completed an online survey between May 2018 and July 2019.

Outcome measures:

Participants were presented with data derived from the Coping with Cancer study comparing six quality of life and care outcomes for patients who received, or did not receive, palliative chemotherapy in the last 6 months of life. Participants were asked to consider the data and indicate what option they would choose if they were in the same situation. Choices included: have chemotherapy; do not have chemotherapy; and unsure. Participating nurses were also asked to provide reasons for their choices.

Results:

Three-quarters of participating nurses indicated they *would not* have palliative chemotherapy if it was offered to them, compared to just over one-third of people with cancer ($p < 0.001$).

The top three reasons participating nurses gave for not having palliative chemotherapy were: wanting to make the most of their remaining time; increasing the chance of dying in the location of their choice; and the limited benefit of palliative chemotherapy in the last 6 months of life.

Conclusion:

Nurses in this study were significantly less likely than patients to indicate a willingness to have palliative chemotherapy if they were in the last 6 months of life. Further research is needed to examine how nurses' knowledge and experience can help patients to make informed decisions about their care with the goal of achieving an end-of-life experience that best aligns with their wishes.

Problem

Little is known about oncology nurses' views regarding palliative chemotherapy.

What is already known about the topic?

- Between 20 and 50% of people with advanced cancer will receive palliative chemotherapy in the last 6 months of their lives.
- Patients should be fully informed about the potential benefits and risks of treatment options such as palliative chemotherapy.
- Oncology nurses are an important source of information for patients as they are likely to have a greater understanding of the potential benefits and risks of treatments.

What this paper adds

- When presented with a hypothetical scenario based on aggregate retrospective data about the outcomes of palliative chemotherapy, oncology nurses were significantly less likely than patients with a diagnosis of cancer to choose to have palliative chemotherapy at the end of their lives.
- Having an understanding of the potential implications of treatment options in the last few months of life may have an impact on treatment choices.

Key words

Cancer; Terminal Care; Quality of Life; Decision Making; Oncology Nursing; Patient Participation; Cross-Sectional Studies

INTRODUCTION

Many people have identified that important end-of-life goals include being cared for in the manner of their choosing, and dying in the location of their choice (Waller et al., 2018). Helping people achieve these aims can have additional benefits, including better bereavement outcomes for the patient's family and friends (Cardona-Morrell, Kim, Brabrand, Gallego-Luxan, & Hillman, 2017). In a prospective, multi-institution, longitudinal study of terminally ill patients and their caregivers (Coping with Cancer), the influence of psychosocial factors on patients' care and their caregivers' bereavement adjustment were examined (Wright et al., 2008). A secondary analysis of this data identified 216 patients who received palliative chemotherapy in the last 6 months of life and 170 who did not (Wright, Zhang, Keating, Weeks, & Prigerson, 2014). Palliative chemotherapy is defined as chemotherapy given with non-curative intent, with the goal of optimising symptom control, improving quality of life, and extending survival (Roeland & LeBlanc, 2016). This study revealed that those who received palliative chemotherapy were more likely to receive intensive medical treatment and die in a location other than home without achieving an increase in length of life (Wright et al., 2014).

People with terminal cancer not uncommonly receive intensive medical treatment, including repeated admissions to hospital emergency departments and invasive life-prolonging interventions in an intensive care unit, when nearing the end of life, despite increasing evidence that such treatment may not improve survival outcomes and can have negative impacts on both patients and their families (Chen et al., 2016; Mack et al., 2012). Studies suggest that more than two-thirds of people will attend an emergency department at least once in the last 6 months of their life (Reeve et al., 2018), and that the number of hospitalisations increases substantially in the last three months of life (Rana, Alam, Gow, &

Ralph, 2019), which may impact quality of life (Rana et al., 2019; Reeve et al., 2018).

Understanding the factors that contribute to quality of end-of-life care is an important public health issue (Virdun, Lockett, Lorenz, & Phillips, 2018). Measurement of the quality of end-of-life care requires an understanding of the factors that can both positively and negatively impact that care. Indicators include specific patient-related issues such as the quality of overall symptom management or the availability of psychosocial care for the patient and their family (Clark, 2017), but they may also include the measurement of various hospital admission statistics such as number of visits to an Emergency Department or Intensive Care Unit (Spilsbury, Rosenwax, Arendts, & Semmens, 2017), or the number of referrals to a Palliative Care service (Wright et al., 2016). Measurement of specific treatment modalities such as mechanical ventilation (Prigerson et al., 2015; Wright et al., 2014) and the provision of palliative chemotherapy are also important indicators of the quality of end-of-life care (Prigerson et al., 2015; Wright et al., 2014).

Between 20 and 50% of people with terminal cancer undergo palliative chemotherapy in the last month of life with the goal of prolonging survival and improving quality of life (Prigerson et al., 2015; Wright et al., 2014). Though there are some favourable reports of improved outcomes, including reduction in pain and improved appetite (Karamouzis, Ioannidis, & Rigatos, 2007; Roeland & LeBlanc, 2016), there is a recognition that achieving these goals cannot be assumed in all patients and all cancer types (Buiting, Rurup, Wijsbek, van Zuylen, & den Hartogh, 2011; Schnipper et al., 2012; Wright et al., 2014). A number of factors can impact the efficacy of palliative chemotherapy, including tumour type and individual patient characteristics and co-morbidities (Wheatley-Price et al., 2014). Maintaining hope is cited as a reason that oncologists provide the option of palliative chemotherapy (Buiting et al., 2011), and for some patients the maintenance of hope may be

an important goal (Olsson, Östlund, Grassman, Friedrichsen, & Strang, 2010). Involving patients in making decisions about the care that they receive at the end of life is acknowledged to be an important component of high-quality end-of-life care; helping to improve their understanding of treatment options and, consequently, increasing the likelihood of them receiving the care they want at the end of their lives (Australian Commission on Safety and Quality in Health Care, 2015). There is some doubt about the extent to which patients understand the care they are receiving, and this may result in patients accepting treatment that does not align with their goals for end-of-life care (Donnelly, Prizeman, Coimin, Korn, & Hynes, 2018; Heyland et al., 2015).

Nurses who care for patients with a diagnosis of cancer (hereafter referred to as oncology nurses) are an informed population group who may appreciate the possible implications of treatment options at the end of life (Beckstrand, Collette, Callister, & Luthy, 2012; Shepherd, Waller, Sanson-Fisher, Clark, & Ball, 2020). This knowledge is likely to influence the choices they would make for themselves if they were in the same situation (Shepherd et al., 2020). Nurses' integral role in caring for patients during the decision-making process also has the potential to influence their approach to caring for those patients (Bos-van den Hoek et al., 2020). As key members of the multi-disciplinary team, nurses are increasingly participating in case discussions and contributing to multi-disciplinary meetings (Tariman & Szubski, 2015). Patients and their families often look to nurses for guidance when faced with difficult decisions (Tariman & Szubski, 2015), so it is important to understand the factors that may shape a nurse's response. For example, where nurses perceive that treatment decisions have resulted in poorer end-of-life outcomes, they may be less likely to recommend those treatments to future patients (Beckstrand, Hadley, Luthy, & Macintosh, 2017; Shepherd et al., 2020). This close relationship provides a unique opportunity for nurses to complement the

role of oncologists in helping patients to make treatment decisions that optimise the quality of end-of-life care as well as achieving their chosen end-of-life goals (Buiting et al., 2011).

Where patients express a need for clarification, nurses can explain and provide additional information to augment that provided by the oncologist (McCullough, McKinlay, Barthow, Moss, & Wise, 2010). This may help patients to retain the information provided by the oncologist (Bos-van den Hoek et al., 2020), and provides an opportunity for nurses to educate patients about treatment options, thereby ensuring patients are well-informed as they undergo treatment (Bos-van den Hoek et al., 2020; McCullough et al., 2010). Additionally, advocacy has long been acknowledged as a key nursing role and is one of the core competency standards to which Australian nurses must adhere (Nursing and Midwifery Board of Australia, 2006). By engaging with patients as they undergo treatment, nurses are able to exercise this important role.

Comparing the views of oncology nurses with those of medical oncology patients when presented with a hypothetical scenario involving the provision of palliative chemotherapy may demonstrate potential gaps in patients' knowledge of their treatment regimes. This, in turn, may help to promote more open discussions between oncologists, nurses, patients, and their support persons, leading to a greater inclusion of patients in the decision-making process.

AIMS

1. To compare the personal views of medical oncology outpatients and oncology nurses in a hypothetical scenario where they were asked to imagine being offered palliative chemotherapy near the end-of-life.

2. To examine the reasons oncology nurses gave for choosing not to receive palliative chemotherapy in the hypothetical scenario.

METHODS

Survey development

The study forms part of a larger project examining a range of items related to end-of-life care. Items were developed through an iterative process consisting of a comprehensive literature review and critical analysis. Cancer care providers and patients participated in 20-minute individual interviews to elicit their views and experiences with end-of-life care. Potential items were then reviewed by a panel, including oncologists, a surgeon, a nurse, a palliative care physician, and behavioural scientists until consensus on content and format of items was reached. For the nurse survey, a nurse with experience in end-of-life care also reviewed potential items. Survey items were then pilot-tested for acceptability, relevance and item clarity by a small sample of patients and nurses respectively, with items modified based on this feedback. Patients who completed the pilot survey were not invited to complete a final survey. Nurses who completed the pilot survey were asked not to participate in the main study.

Samples and procedures

Oncology outpatients with a confirmed diagnosis of cancer completed a pen and paper survey between September 2015 and January 2016. Participants were aged 18 years or over and were attending the medical oncology outpatient clinic of a tertiary treatment centre for their second or subsequent appointment. No limitations were placed on cancer type or estimated prognosis. Oncology outpatient clinic staff identified eligible patients from daily clinic lists. Informed consent was obtained by a trained research assistant by consecutively approaching

eligible patients while they waited for their appointment. Consenting patients were asked to complete a pen and paper survey at home rather than in the waiting room owing to the potentially sensitive nature of the survey items. Patients were provided with a reply-paid envelope to return their completed surveys directly to the research team. Alternatively, they were able to return the survey in the sealed envelope at their next clinic appointment. Patients were advised that the survey was voluntary and provided written informed consent.

Oncology nurses completed a similar online survey between May 2018 and July 2019. Nurses were aged 18 years or over and were members of an oncology nursing society or employed in an oncology setting in a participating metropolitan hospital. Eligible nurses were emailed an invitation to participate by the oncology nursing society or the Director of Nursing of the participating hospital. Completion of the survey was taken as informed consent. A follow-up reminder was sent by the nursing society or the Director of Nursing of the participating hospital two weeks after the initial email. Participating nurses recruited from the hospital setting had the option of providing their details to receive a \$15 gift card as a gesture of thanks. The oncology nursing society did not permit this offer to be made to nurses recruited from their membership.

Outcome measures

Participants in each group were presented with a set of real patient data derived from the 2014 study by Wright et al. in which the authors retrospectively examined whether the receipt of chemotherapy among 386 terminally ill cancer patients in the 6 months before death was associated with patients' subsequent intensive medical care and place of death (Wright et al., 2014). Presentation of the data in this way provided the opportunity to compare the views of

people with a diagnosis of cancer with those of nurses caring for people with a diagnosis of cancer. The data as it was presented to all participants is shown in Table 1.

Participants in each group were asked to consider the data and indicate what option they would choose if they were, hypothetically, in that situation. Presentation of the data in conjunction with a hypothetical scenario was considered to be the most appropriate way to measure participants' responses (Evans et al., 2015). All participants were provided with the following three options: have chemotherapy; do not have chemotherapy; and unsure. Participating nurses were also asked to provide reasons for their choices (as many as applicable).

Table 1: Scenario presented to all study participants (N=301)

A recent study compared patients who had palliative chemotherapy with those who did not have such care. All patients had a life expectancy of up to 6 months. Patients who had palliative chemotherapy lived no longer than those who did not have this treatment. There were other differences between the two groups of patients in the last week of life. These differences are shown below.

Type of care received in the last week of life	% of patients receiving this type of care	
	No chemotherapy	Had chemotherapy
Put on a breathing machine and/or had cardiopulmonary resuscitation (CPR)	2%	14%
Died in an intensive care unit	2%	11%
Fed through a tube	5%	11%
Died at home	66%	47%
Died in their preferred location	80%	65%
Referred late to specialist palliative care	37%	54%

Both groups of participants were asked to respond to the statement: “*If you were in this situation would you choose to have palliative chemotherapy?*” on a five-point Likert scale ranging from ‘strongly agree’ to ‘strongly disagree’.

Participating nurses who stated that they *would* have palliative chemotherapy were presented with a list of potential reasons for their choice and asked to select all reasons that applied to them. The following items were derived from the literature: I would want to keep fighting until the last possible moment; my family would want me to keep fighting until the last possible moment; it may help pain and symptom control until the end of my life; you never know when new treatments might appear; if my treating doctor/team recommended it, I would trust their advice; I don’t believe the data accurately portrays palliative chemotherapy; and other (nurses were asked to specify in a single free-text field).

Participating nurses who stated that they *would not* have palliative chemotherapy were also presented with a list of potential reasons for their choice. Items were derived from the literature and nurses were asked to select all reasons that applied to them. Items were: there is limited survival benefit; I would rather make the most of my remaining time (e.g. with family/friends) than risk treatment that might reduce my quality of life; my family would rather I make the most of my remaining time than risk treatment that might reduce my quality of life; to reduce the chance of receiving CPR/mechanical ventilation; to reduce the chance of dying in an ICU; to reduce the chance of receiving tube feeding; to increase the chance of dying in the location of my choice; to increase the chance of getting hospice/PC; and other (nurses were asked to specify in a single free-text field).

Participating nurses who stated that they were unsure of which option they would choose if they were in the last 6 months of their life were not asked to provide reasons for their choice.

Socio-demographics and clinical items

Oncology outpatients self-reported the following items: age, sex, cancer type, and their understanding of their life expectancy. Patients' cancer status was obtained from medical records and reviewed by a medical oncologist. Nurses self-reported the following items: age, sex, years of experience as a nurse, hours per week currently worked; nursing role (i.e. nurse unit manager; clinical nurse specialist; registered nurse); current employment status; and metropolitan or rural location.

Ethics approval

Ethical approval was granted for the study as a scientific research study as follows:

University of Newcastle Human Research Ethics Committee (H-2014-0411; and H-2017-0412); Calvary Mater Newcastle Ethics Committee (14/11/19/4.04); and Peter MacCallum Ethics Committee (LNR/46591/PMCC-2018).

Statistical analysis. Descriptive statistics included frequencies and percentages of non-missing observations for categorical variables and mean with SD for continuous variables. Participants' responses were categorised into strongly agree/agree (SA/A), unsure, and strongly disagree/disagree (SD/D). Age was compared between patients and nurses with a t-test. Chi-squared test of independence was used to assess the association between patients, nurses and the question would you choose to have palliative chemotherapy? P-values < 0.05 were considered statistically significant. Analyses were programmed using SAS v9.4 (SAS Institute, Cary, North Carolina, USA).

RESULTS

Responses were received from 194 patients (45% of eligible) and 107 nurses. As the survey was distributed directly to the nurses by the oncology nursing society and the Director of Nursing of the participating hospital, data on eligibility and consent rates for nurses are not available. Patients' socio-demographic and clinical characteristics are presented in Table 2, and nurses' socio-demographic and clinical characteristics are presented in Table 3. The mean age of the patient group (64; SD 11.5) was significantly higher ($p < 0.001$) than the nurse group (46; SD 12.3). Patients reported a range of cancer types and just over half of participating patients were unsure about their predicted life-expectancy.

Table 2: Socio-demographic and clinical characteristics of the patient group (N= 194)

Characteristic	Total (N)
Sex	
Male	82 (42%)
Female	112 (58%)
Age (years)	
Mean (SD)	64 (11.5)
Australian born	
Yes	166 (88%)
No	23 (12%)
Missing	5
Cancer type	
Breast	64 (33%)
Colorectal	35 (18%)
Prostate	19 (10%)
Lung	21 (11%)
Other	53 (28%)
Missing	2
Current cancer status (from medical records)	
Treatment with curative intent	51 (27%)
Treatment completed and in follow up	68 (36%)
Incurable but receiving treatment	57(30%)
Incurable and not receiving treatment	12(6.4%)
Missing	6
Life expectancy	
2 years or less	20 (11%)
More than 2 years	67 (35%)
Unsure	103 (54%)
Missing	4

Table 3: Socio-demographic and clinical characteristics of the nurse group (N=107)

Characteristic	Sample N (%)
Sex	
Male	4 (4.0%)
Female	96 (90.0%)
Missing	7 (6.0%)
Age (years)	
Mean (SD)	46 (12.3)
Years of experience	
Mean (SD)	21 (12.9)
Hours per week currently worked	
Mean (SD)	35 (7.8)
Nursing role	
Nurse unit/ward manager	6 (5.6%)
Registered nurse	30 (28.0%)
Clinical nurse specialist	19 (17.8%)
Clinical nurse consultant	28 (26.2%)
Nurse educator	6 (5.6%)
Other (please specify)	11 (12.0%)
Missing	7 (6.5%)
Current employment status	
Permanent	96 (91.6%)
Casual	2 (1.9%)
Agency	0
Missing	7 (6.5%)
Location	
Metropolitan	84 (78.5%)
Rural	16 (15.0%)
Missing	7 (6.5%)

Choice regarding palliative chemotherapy

Responses from each group of participants to the question “*If you were in this situation would you choose to have palliative chemotherapy?*” are presented in Table 4.

Patients were significantly more likely to indicate that they *would* have palliative chemotherapy if they were in the last 6 months of their life ($p<0.001$). Just over one-third of participating patients indicated that they *would not* have palliative chemotherapy if they were in the last 6 months of their life (38%; $N=73$); as opposed to three-quarters of participating nurses (73%; $N=78$).

Oncology nurses’ self-reported reasons for choosing *not* to have palliative chemotherapy

Table 5 presents the reasons oncology nurses gave for choosing not to have palliative chemotherapy. All participants provided at least one reason. The top three reasons were, in descending order, wanting to make the most of their remaining time; increasing the chance of dying in the location of their choice; and the limited benefit of palliative chemotherapy.

Of the nine participating nurses who indicated that they would have palliative chemotherapy, all but one believed that it may help pain and symptom control until the end of their life. Each of the other options were selected by two or fewer participating nurses. All participants gave at least one reason.

Table 4: Participants' response to the statement: *"If you were in this situation would you choose to have palliative chemotherapy?"*

Choice	Patients (N=194)	Nurses (N=107)	p-value
Would have palliative chemotherapy	35% (n=67)	8% (n=9)	<0.001
Would not have palliative chemotherapy	38% (n=73)	73% (n=78)	
Unsure	28% (n=54)	19% (n=20)	

Table 5: Oncology nurses' self-reported reasons for choosing *not* to have palliative chemotherapy

(Participating nurses who indicated that they disagreed or strongly disagreed with the statement '*I would choose to have palliative chemotherapy*'.)

Reason	Nurses (N=78)
I would rather make the most of my remaining time (e.g. with family/friends) than risk treatment that might reduce my quality of life	95% (n=74)
To increase the chance of dying in the location of my choice	72% (n=56)
There is limited survival benefit	71% (n=55)
To reduce the chance of dying in an ICU	62% (n=48)
To increase the chance of getting hospice/PC	60% (n=47)
To reduce the chance of receiving CPR/mechanical ventilation	51% (n=40)
My family would rather I make the most of my remaining time than risk treatment that might reduce my quality of life	50% (n=39)
To reduce the chance of receiving tube feeding	45% (n=37)
Other (please specify)	5% (n=4)

Note: Participating nurses were allowed to select more than one reason.

DISCUSSION

In this study comparing the perceptions of oncology nurses with those of medical oncology outpatients about the receipt of palliative chemotherapy in the last 6 months of life, significantly more oncology nurses than oncology outpatients indicated that they would *not* have palliative chemotherapy. Three-quarters of participating nurses, compared with just one-third of participating patients, responded that they would not have palliative chemotherapy if they were in the last 6 months of life. The disparate results between groups is an important finding and warrants further exploration of the reasons given by oncology nurses for their decision.

The top reasons participating nurses gave for choosing not to have palliative chemotherapy were that they did not want to risk reducing their quality of life; in their opinion they would be more likely to die in the place of their choice; and they believe that there is limited survival benefit. Much of the available literature examining patients' goals for end-of-life care suggests that they also place a substantial value on outcomes such as adequate symptom management, as well as being able to contribute to decisions about their care, and avoiding protracted, painful end-of-life experiences (Detering, Hancock, Reade, & Silvester, 2010; Steinhauser et al., 2000). It is important, then, to understand why significantly more oncology patients than oncology nurses indicated that they would be willing to have palliative chemotherapy if they were in the last 6 months of life, given the scenario presented in this study. A number of potential reasons should be considered. Firstly, there is a chance that people who are currently 'well', such as the nurses in this study, may respond differently from those who have a diagnosed illness, and it is possible that patients with more advanced cancer may be more willing to choose to have chemotherapy despite the attendant risks outlined in the hypothetical scenario presented in this study (Matsuyama, Reddy, & Smith,

2006). Newer chemotherapeutic agents are often better tolerated and, as such, may be more acceptable to patients undergoing palliative chemotherapy, though patients in this study may not be aware of this (Abotaleb et al., 2018; Behl & Jatoi, 2010). Participating patients had a diverse range of cancer types, approximately one-third of which were considered to be incurable. It is not known how many patients were aware of this information, as it was drawn from medical records, but half of all participating patients indicated that they did not know what their life expectancy was.

Open and effective communication between healthcare providers and their patients/families is an integral part of high-quality healthcare (Australian Commission on Safety and Quality in Health Care, 2015; Sanson-Fisher et al., 2019). However, doubt over patients' understanding of the potential impact of their treatment regimen has been reported in the literature, raising concerns about how well-informed patients are when agreeing to undergo palliative chemotherapy (Burns, Broom, Smith, Dear, & Craft, 2007; Monga et al., 2019; Prigerson et al., 2015; Weeks et al., 2012). In fact, the belief that chemotherapy at the end-of-life can be curative, rather than palliative, is not uncommon among patients (Mack et al., 2015; Prigerson et al., 2015).

Communication in cancer care can be challenging, with oncologists frequently being required to break bad news to patients and their families (Gilligan et al., 2018). Oncologists have reported feeling uncomfortable with this role, and of withholding information from their patients because they do not want to cause fear or anxiety, or remove their patients' hope for the future (Gilligan et al., 2018; Monga et al., 2019; Wright et al., 2008). Additionally, the decision to offer palliative chemotherapy as a treatment option to patients approaching the end of their life is complex, and in a study examining the reasons oncologists gave for

offering palliative chemotherapy to their patients a number of driving factors are cited. Key among them is that patients and their families often insist on receiving treatment despite advice to the contrary (Behl & Jatoi, 2010). Difficulty predicting prognoses can further complicate the choice of appropriate treatment and can lead to more complex and nuanced discussions with patients and their families (Bluhm et al., 2016); and a fear of being seen to abandon the patient may also be a factor (Vasista, Stockler, Martin, Lawrence, & Kiely, 2020).

Despite these factors, studies examining oncology patients' wishes for information about their prognosis and treatment suggest that the majority would want to be fully informed, and that the provision of this information does not increase fear or anxiety (Bernacki & Block, 2014; Clark, 2017; Wright et al., 2008). Nurses caring for these patients may have an understanding of the complex factors surrounding such decisions and efforts should be made to understand how this knowledge can be used to enhance patients' understanding of the treatment being offered to them. Nurses may be more intimately aware of the potential ramifications of intensive care, not only for the patient, but also for the broader healthcare system (i.e. cost of care, or availability of beds for patients with a more optimistic prognosis) and this may be one of the reasons that a smaller percentage of nurses than patients indicated that they would be willing to have palliative chemotherapy in the last 6 months of life. It is possible that nurses are more pessimistic about the receipt of palliative chemotherapy given the likelihood that they have had more exposure to patients who have experienced adverse outcomes than with those who have not. Nurses may also understand some of the nuances in the doctor-patient relationship, be more likely to understand that palliative treatment is not curative treatment, and they may be better able to process the statistics offered in the survey than participants in the patient group.

Strengths and limitations

Results obtained from a hypothetical scenario may not be representative of real-world phenomena; however, the use of actual patient data increases the validity of this hypothetical scenario. The patient group was drawn from one treatment centre and this may limit the generalisability of the results. The average age of the patient group was 64 and a younger patient may be more willing to choose to have palliative chemotherapy than an older patient. The study did not seek reasons for patients' choices and there is a chance that some patients may not have fully understood, or may not trust, the question. Participating nurses worked in a diverse range of settings, across the country which increases the generalisability of the results in the nurse group; however, their responses may be reflective of the specific area of oncology in which they work and data on practice area was not collected in this study.

Conclusion

Nurses in this study were significantly less likely than patients to indicate a willingness to have palliative chemotherapy if they were in the last 6 months of life. The possible reasons for the disparate results between oncology nurses and oncology patients are discussed. Given their key role in supporting patients at this sensitive time in their lives, further research is needed to examine how nurses' knowledge and experience can help patients to make informed decisions about their care with the goal of achieving an end-of-life experience that best aligns with their goals and wishes.

Credit author statement

Jan Shepherd: study conception and development, data acquisition, and interpretation/analysis of findings; Amy Waller: study conception and development, data acquisition, and interpretation/analysis of findings; Rob Sanson-Fisher: study conception and development, and interpretation/analysis of findings; Nicholas Zdenkowski: interpretation/analysis of findings; Charles Douglas: interpretation/analysis of findings; Katherine Clark: interpretation/analysis of findings.

All authors have read and approved the final version to be published and agree to be accountable for this work.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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