

Nurses attitudes and practices towards provision of survivorship care for people with a haematological cancer on completion of treatment

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Abstract

Purpose The purpose of this study is to assess cancer nurses' perceptions of responsibility, confidence levels and practice in relation to survivorship care for people with a haematological malignancy on completion of treatment.

Methods A prospective cross-sectional survey was conducted. An online survey was distributed to members of two Australian professional bodies.

Results A total of 310 cancer nurses participated in the study, representing a response rate of 28%. The participants generally agreed that all survivorship care items were part of their role. Of the 17 survivorship care items, the three items receiving the lowest confidence scores were *discussing fertility issues*, *discussing employment and financial issues* and *discussing how to identify signs of cancer recurrence*. The least performed survivorship care items were *discussing fertility issues*, *communicating survivorship care with primary healthcare team* (i.e. *general practitioners*) and *discussing sexuality issues*. Older age, more years of experience, having a post-graduate qualification and working in non-metropolitan

area were associated with higher levels of perception of responsibilities and confidence ($p < 0.05$). The top ranked barriers to survivorship care were reported to be lack of end-of-treatment consultation dedicated to survivorship care, time and an appropriate physical space for delivering care.

Conclusions Cancer nurses perceive key aspects of survivorship care to be part of their role, however there remains variations in practice and confidence with respect to implementation of survivorship care practices.

Implications for cancer survivors Interventions that focus on enhancing the capability of cancer nurses and eliminating barriers identified in this study have the potential to improve quality survivorship care provision.

Keywords Haematological cancer · Survivorship · Post-treatment · Nurses · Barriers

Introduction

There are currently over 15 million cancer survivors in the USA [1, 2] and over 1.1 million cancer survivors in Australia [3]. The number of people living with and having survived a haematological malignancy following successful curative therapy is rising due to an increasing incidence as well as improved treatment regimens [4]. Advances in treatment regimens, anti-cancer therapies, stem cell transplantation, control of complications and supportive care have produced a progressive increase in the number of survivors over the past two decades [5, 6]. Five years after diagnosis, approximately half of adults with leukaemia will have survived, for non-Hodgkin lymphomas, over 60% and Hodgkin lymphoma, 85% [7]. As many haematological malignancies are changing from acute life-threatening illnesses into chronic conditions, immediate survival is not the only concern, and the issue of survivorship care is becoming

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of greater importance [8]. The literature suggests that supportive care needs do not cease for a person on completion of treatment [9]. After treatment, a significant amount of patients experience long-term physical and psychosocial effects from their malignancy and treatment, impacting negatively on their quality of life (QOL) [10, 11].

Studies involving mixed cohorts of cancer survivors also report experiencing significant psychosocial effects such as depression, anxiety, fear of relapse, difficulty adjusting to normal life, a sense of loss related to reduced support and contact from healthcare providers, reduced household income, sexual dysfunction, relationship issues, limited capacity to engage in full-time employment, social activities and household duties [12, 13]. Specifically, post-treatment issues for haematological cancer survivors can include physiological effects such as pulmonary, cardiovascular and renal complications, infertility, recurrent infections, impaired organ function, pain, fatigue, functional impairments, cognitive alterations, risk of subsequent malignancy and malignancy recurrence [9, 14]. In comparison to the general population, haematological cancer survivors are two times more likely to develop a second primary cancer [15]. Further, a cross-sectional study of 1873 cancer survivors reported that patients with multiple myeloma and lymphoma had significantly higher levels of symptom burden and unmet needs compared to other cancer types [10].

The Institute of Medicine's (IOM) seminal report *From cancer patient to cancer survivor: Lost in transition* considers survivorship as beginning with the diagnosis and continuing throughout the lifespan [16]. Survivorship care includes the physical, psychosocial and economic impact of cancer, with a focus on optimising a person's QOL within the context of their illness [17]. Given the issues highlighted above, the IOM's seminal report recommends further survivorship research and proposes four essential components of survivorship care to be integrated into practice. As the number of haematological cancer survivors grow, so too does the need to develop strategies to support patients along their survivorship journey. Given the holistic focus of nursing and emphasis on patient assessment, symptom management and care planning, nurses have the potential to play a key role in the provision of survivorship care [16]. More evidence is needed to inform nursing interventions that aim to care for haematology patients on completion of treatment.

In 2015, we conducted a pilot study in one metropolitan public cancer care setting with 119 cancer nurses caring for patients with a haematological malignancy to test the research tools [18]. The pilot study confirmed majority of nurses accepted key survivorship practices as part of their role and that the tools had acceptable reliability and validity [18]. On the basis of the pilot, a larger national survey was planned to identify to gather Australian cancer nurses' perceptions about their nursing responsibilities as well as their confidence and frequency of survivorship care provision for haematological

cancer patients. Understanding these can inform interventions that aim to integrate the essential components of survivorship care into regular care provided by cancer nurses for this patient group at a national level.

Methods

Aim

The aim of this study was to identify Australian cancer nurses' perceptions about their nursing responsibilities as well as their confidence and frequency of survivorship care provision for haematological cancer patients.

Study design

A prospective cross-sectional online survey was conducted. Inclusion criteria required participants to be an enrolled nurse (EN) or a registered nurse (RN), over the age of 18, who identified themselves as a care provider, in any capacity, for people with a haematological malignancy in Australia. In Australia, to be eligible for registration with the Australian Health Practitioner Regulation Authority, RNs complete a 3-year Bachelor of Nursing program and ENs complete an 18-month Diploma of Nursing in the Vocational Education sector. Assistants in nursing or other non-regulated nursing staff were excluded. Potential participants were sourced from the memberships of the two peak national oncology nursing professional groups, the Cancer Nurses Society of Australia (CNSA) and the Haematology Society of Australia and New Zealand (HSANZ) Nurses Group. At the time of data collection, the CNSA had a membership of 900 nurses who worked across all sectors of cancer care. The HASNZ Nurse Group included approximately 200 members who were nurses working in haematology including malignant and non-malignant conditions. The research ethics committees of the Royal Brisbane and Women's Hospital and the Queensland University of Technology granted low and negligible risk ethical approvals for the study.

Procedure

An invitation to participate was sent via email to all members of the CNSA and the HSANZ Nurses Group via their respective professional body. A reminder email was sent 2 weeks later. A cover letter was attached to the invitation email, explaining study procedures and assuring participants of anonymity. Invitation emails contained a link to an online questionnaire via the platform Survey Monkey®. Survey completion was accepted as implied consent and all responses were anonymous. As an incentive, all participants were given the opportunity to enter a draw to win an iPad on completion of

the survey. It was ensured that entry details (names and contact information) in this lucky draw were not linked with survey data in any way.

Measurement

The survey questionnaire items were generated from the IOM's seminal report *Lost in transition: From cancer patient to cancer survivor* [19] and other literature relating to factors influencing behavioural change in health professionals [20]. The initial survey tool was piloted locally in a single-centre study [18] and changes were made to ensure content validity. Each survey took approximately 12–15 min to complete. The 83-item survey questionnaire was made up of three sections (see Table 1). Section one measured participant's characteristics (age, gender, years of experience in cancer nursing, highest qualification, work settings and main role). Section two outlined 17 common survivorship practices. These practices were categorised into (i) interventions for consequences of cancer and its treatment; (ii) surveillance for cancer recurrence and (iii) coordination of care. Participants were asked to rate their level of agreement whether the care should be their responsibility using a five-point Likert scale, their level of confidence in delivering the care using a numeric analogue scale of 0–10 and the level of frequency to which they provided this survivorship care using a five-point Likert scale. Section three comprised a list of 12 barriers for quality survivorship care provision to patients and 11 barriers for caregivers and/or family members. Participants were asked to rate their level of agreement via a five-point Likert scale on the extent they felt each listed barrier was impeding on their survivorship care provision. They were also asked to provide free-text responses regarding any other barriers they identified. Free-text data were qualitatively analysed and results are reported elsewhere [21].

Statistical analysis

Statistical analysis was completed using SPSS version 22. Descriptive statistics were used to summarise study variables. Independent-samples *t* tests were used to explore relationships between a range of professional factors and the overall total outcome measures. The overall total scores for levels of agreement, confidence and frequency were the sum of all individual item scores under the categories of survivorship care. For missing data, available case analysis was performed.

Results

Participant characteristics

In total, 310 cancer nurses participated in the study, representing a response rate of 28%. An estimate of 1100

members was part of the two participating organisations at the time of data collection. The majority were female (94.2%, $n = 292$) and working in adult care (94.2%, $n = 292$) and metropolitan settings (72.6%, $n = 225$). Over half of the participants were over 40 years of age (60%, $n = 186$), had over 10 years of experience in cancer nursing (57.6%, $n = 178$), had a post-graduate qualification (66.8%, $n = 207$) and were working full-time (58.4%, $n = 181$) in a main role in direct clinical care (64.8%, $n = 201$) (Table 2).

Scale reliability and missing data

Cronbach's alpha for all subscales (perception of responsibility, frequency, confidence and impeding factors) ranged between 0.84 and 0.97. Using the Spearman *r* correlation coefficients, there were statistically significant correlations between all subscales of perception of responsibility, confidence and frequency, further supporting the internal consistency of the scale. A total of 28 participants (9%) dropped out at various stages of the online survey. There was a significant difference in missing data between those with a post-graduate qualification and those without. Those without a post-graduate qualification were more likely to drop out ($p < 0.05$), resulting in missing data at least for later parts of the survey. There were no significant relationships between all other demographic/professional characteristics and whether they completed the entire survey or not.

Perception of responsibility, confidence and frequency of delivering survivorship care

The participants generally agreed that all survivorship care items were part of their role, with mean scores over 4 for all items except for *discussing about how to identify signs of cancer recurrence* ($M = 3.87$, $SD = 1.13$) and *ensuring follow-up appointment schedule with primary healthcare providers* ($M = 3.92$, $SD = 1.15$). The mean confidence scores for all items ranged between 6.28 and 8.30. Of the 17 survivorship care items, the three items receiving the lowest confidence scores were *discussing fertility issues*, *discussing employment and financial issues* and *discussing how to identify signs of cancer recurrence*. In terms of frequency, mean frequency scores for all items ranged between 2.34 and 3.86. The least performed survivorship care items were *discussing fertility issues*, *communicating survivorship care with primary healthcare team* (i.e. *general practitioners*) and *discussing sexuality issues* (Table 3).

Factors associated with perception of responsibility, confidence and frequency of delivering survivorship care

Table 4 outlines the relationships between a number of demographic/professional characteristics and perception of responsibility, confidence and frequency of delivering survivorship

Table 1 Survivorship care items included in the questionnaire

Intervention for consequences of cancer and its treatment	
Discuss information on peer support groups available for patients after treatment	The levels of agreement among health professionals on whether the care should be their responsibility (<i>Likert</i>)
Conduct distress screening with patients to identify psychosocial risks and refer to supports	1 = <i>Totally disagree</i>
Discuss sexuality and intimacy issues patients may face after treatment	2 = <i>Somewhat disagree</i>
Discuss fertility issues patients may face after treatment	3 = <i>Do not know</i>
Discuss long-term physical side effects/late effects of treatment	4 = <i>Somewhat agree</i>
Discuss information on exercise and physical activity after treatment	5 = <i>Totally agree</i>
Discuss with the patient, healthy diet recommendations	The levels of confidence of health professionals in delivering the care (<i>Numeric analogue scale</i>)
Discuss information on health behaviours	0 = <i>cannot do at all</i>
Discuss information on managing at home/getting help with household tasks	10 = <i>Highly certain can do</i>
Discuss employment and financial consequences of cancer and refer to supports	The levels of frequency of providing survivorship care by health professionals
Surveillance for cancer recurrence	(<i>Likert</i>)
Discuss how to identify signs of cancer recurrence	1 = <i>Never</i>
Coordination of care	2 = <i>Occasionally</i>
Link the patient with appropriate supportive services	3 = <i>Often</i>
Discuss who to contact with questions	4 = <i>Very often</i>
Communicate survivorship care with multidisciplinary team	5 = <i>All of the time</i>
Communicate survivorship care with primary healthcare team (i.e. GP)	
Ensure follow-up appointment schedule with haematologist	
Ensure follow-up appointment schedule with primary healthcare provider	

care. Older age, more years of experience, having a post-graduate qualification and working in non-metropolitan area were all associated with higher levels of perception of responsibilities and confidence, at least for two of the three domains (intervention, surveillance or coordination) (see Table 4) (all $p < 0.05$). Participants who were working in the public setting had a greater sense of responsibility in cancer coordination activities than those working in a private setting ($p < 0.05$). Those who were working full-time had a higher confidence score in engaging in care coordination activities than those working part-time ($p < 0.05$). Participants who were older and had more years of experience engaged in discussions about identifying signs of cancer recurrence more frequently than those who were young and who had fewer years of experience ($p < 0.05$). Participants who were working in the non-metropolitan area performed care coordination activities more frequently than those working in the metropolitan area ($p < 0.05$).

Barriers to survivorship care provision

Mean scores for all barriers to survivorship care provision ranged between 1.12 and 2.72 for care to patients and between 1.16 and 2.65 for care to family/caregivers (see Table 5). For patient and family survivorship care provision, the top ranked barriers were lack of end-of-treatment consultation dedicated to survivorship care, time and an appropriate physical space for delivering care.

Discussion

To the best of our knowledge, this is the first national survey study examining nurses' perceptions of responsibility, confidence and practices concerning survivorship care provision for patients with a haematological malignancy. The relatively

Table 2 Characteristics of the respondents (*n* = 310)

	<i>N</i>	%
Age		
18–29	51	16.5
30–39	73	23.5
40–49	76	14.5
50–59	93	30
60 and above	17	5.5
Sex		
Female	292	94.2
Years of experience in oncology nursing		
< 1 year	5	1.6
1–5 years	53	17.1
6–10 years	74	23.9
11–20 years	105	33.9
> 20 years	73	23.5
Highest qualification		
Hospital certificate	14	4.5
Diploma	10	3.2
Bachelor	77	24.8
Graduate certificate/diploma	137	44.2
Masters and PhD	72	23.2
Work status		
Full-time	181	58.4
Part-time	129	41.6
Work setting		
Outpatient	127	41
Inpatient	87	29.1
Combined	79	25.5
Other	17	5.5
Proportion of work time spent caring for haematological patients		
100%	55	17.7
> 75%	43	13.9
50–75%	82	26.5
< 50%	130	41.9
Main role		
Direct clinical	201	64.8
Managerial/administrative	27	8.7
Education	27	8.7
Research/clinical trials	19	6.1
Other	36	11.6
State		
Australian Capital Territory	6	2
New South Wales	59	19.5
Queensland	40	13.2
South Australia	25	8.3
Tasmania	13	4.3
Victoria	119	39.4
Western Australia	40	13.2
Work area		
Metropolitan	225	72.6

Table 2 (continued)

	<i>N</i>	%
Regional	68	21.9
Rural	10	3.2
Other or combined	7	2.3

low response rate (28%) might place a limitation on the representativeness of the sample. However, the response rate in this study is similar or higher than similar nurse practice surveys related to cancer survivorship care provision [22–24]. This response rate was conservative as we were not able to de-duplicate people who were members of both nursing organisations. We were also not able to identify those who were ineligible because they did not care for people with a haematological malignancy in their role.

Consistent with the findings from our pilot study conducted in a local Australian tertiary cancer centre [18], findings from this current national study indicate that nurses perceive key aspects of survivorship care as part of their role. These results indicate that cancer nurses, being the largest cancer workforce, potentially provide an important solution to address the gap in delivering survivorship care to patients at the end of primary treatment or after treatment completion. Although cancer nurses predominantly agreed that survivorship care provision was part of their role, there were varying levels of confidence depending on the survivorship care activity. Of the 17 activities included in the survey, the participants reported they were least confident or least frequently engaging in discussions about employment/financial issues, fertility, sexuality issues and how to identify signs of cancer recurrence. This finding is consistent with previous studies involving cancer patients [18, 22, 23, 25]. Interventions for improving nurses' confidence and skills in these areas are required. Given online learning methods have been shown to be feasible and well accepted by nurses [23], it is also important to draw nurses' attention to the resources available to them. For example, there are existing, freely available learning resources for delivering psychosexual care [26] and discussing employment and return to work issues [27]. Survivorship care is a multidisciplinary effort and involves a range of services provided across cancer treatment centres and community organisations. It is also important that nurses optimise the use of other available resources such as multidisciplinary team members or community organisations in those areas of survivorship care which may not be as feasible to implement with current models of care.

Communicating survivorship care with primary care providers and ensuring patients have a follow-up appointment scheduled with their primary care providers were also among the least performed activities. Good communication between specialist cancer health professionals and primary care providers is essential for effective shared-care models. Although

Table 3 The perception of responsibility, confidence and frequency of delivering survivorship care activities

	Perception of responsibility [#] N = 310		Confidence* N = 299		Frequency** N = 288	
	M	SD	M	SD	M	SD
Intervention for consequences of cancer and its treatment						
Discuss information on peer support groups	4.47	.79	7.29	2.37	3.10	1.15
Conduct distress screening	4.40	.88	7.23	2.69	2.73	1.31
Discuss sexuality issues	4.42	.78	6.89	2.50	2.55	1.07
Discuss fertility issues	4.21	.93	6.28	2.64	2.45	1.06
Discuss long-term physical effects	4.42	.88	7.20	2.37	3.12	1.14
Discuss exercise and physical activity	4.48	.80	7.69	2.18	3.31	1.12
Discuss healthy diet recommendations	4.40	.83	7.79	2.09	3.24	1.15
Discuss health behaviours	4.42	.84	7.76	2.13	3.05	1.16
Discuss management at home	4.39	.80	7.69	2.21	3.20	1.11
Discuss employment and financial issues	4.03	1.03	6.52	2.68	2.66	1.10
Surveillance for cancer recurrence						
Discuss how to identify signs of cancer recurrence	3.87	1.13	6.66	2.76	2.61	1.21
Coordination of care						
Link the patient with appropriate supportive services	4.45	.82	7.69	2.31	3.25	1.19
Discuss who to contact with questions after completion of treatment	4.69	.37	8.56	1.96	3.86	1.12
Communicate survivorship care with multidisciplinary team	4.55	.81	7.89	2.40	3.11	1.29
Communicate survivorship care with primary healthcare team (i.e. GP).	4.23	.98	7.08	2.79	2.46	1.31
Ensure follow-up appointment schedule with haematologist	4.46	.90	8.30	2.31	3.81	1.25
Ensure follow-up appointment schedule with primary healthcare provider	3.92	1.15	7.07	2.84	2.73	1.34

[#] total disagreement on responsibility = 1 and total agreement on responsibility = 5

*0 = cannot do at all and 10 = highly certain can do

**never = 1 and all the time = 5

it is established that shared care between specialists and primary care providers is a feasible model of care in breast cancer [28], there is less evidence informing shared-care models for people with haematological cancers [29]. For cancer care to remain sustainable, the role of primary care providers in survivorship care must be enhanced. A recent Cochrane review recommended that, where the evidence is lacking, shared-care models should be implemented in a research setting [30].

This study provided useful information on factors associated with survivorship care provision. An understanding of these factors may help target educational interventions to specific groups of nurses. Some of these significant relationships were not previously identified in our single-centre, pilot study [18], with a smaller sample size. In this current study, participants with post-graduate qualifications identified key aspects of survivorship care as part of their role, more so than those without a post-graduate qualification. They also had greater levels of confidence. While it is not surprising, this finding does positively affirm the importance of cancer nurses pursuing post-graduate studies. It is also interesting to highlight that nurses working in non-metropolitan settings had significantly higher scores for perception of responsibility, confidence and frequency of care, compared to those working in the metropolitan area. This finding may be explained by the relatively higher level of resources available in the metropolitan centres, where routine referrals of patients to various specialists (e.g. onco-psychologists, social workers) to care for specific issues faced by patients are more feasible. For example, patients with a sexual health concern in a metropolitan centre might be referred to a sexual health counsellor, whereas nurses in the rural areas might assume such responsibilities given the limited access to specialised supportive care.

The top ranked barriers to quality survivorship care identified in this study were similar to previous studies [18, 31]. Nurses perceived the lack of time, end of treatment consultation and an appropriate physical space to be key barriers. Beyond these factors that impede care, the free-text responses from participants identified a number of challenges at the professional and system levels [21]. Further, some of these challenges are not unique to haematological cancer survivorship [21]. These system-related barriers require further attention by policy makers and funders to improve care coordination and continuity of care across the cancer experience. Hospital executives should consider the value and plan care to enable appropriate survivorship visits. Further research is required to establish the frequency, timing and length of such visits

Table 4 The relationships between demographic/professional characteristics and perception of responsibility, confidence and frequency of delivering survivorship care activities using independent-samples *t* test

	Perception of responsibility			Confidence			Frequency		
	Interventions	Surveillance	Coordination	Interventions	Surveillance	Coordination	Interventions	Surveillance	Coordination
Possible range	5–50	1–5	6–30	0–100	0–10	0–60	5–50	1–5	6–30
Age									
≤ 39 years	42.12 (6.67)**	3.59 (1.18)**	24.92 (46.16)**	69.18 (19.22)*	5.89 (2.93)**	45.02 (12.11)	28.94 (8.77)	2.38 (1.17)*	18.81 (5.32)
≥ 40 years	44.66 (5.87)	4.06 (1.06)	27.22 (3.53)	74.39 (19.12)	7.16 (2.53)	47.60 (11.88)	29.73 (8.60)	2.76 (1.22)	19.48 (5.94)
Years of experience									
≤ 10 years	42.89 (6.42)	3.67 (1.19)*	25.39 (4.41)**	68.05 (20.37)**	5.78 (2.99)**	44.08 (12.81)**	28.39 (8.62)	2.31 (1.17)*	18.55 (5.68)
≥ 11 years	44.20 (6.42)	4.02 (1.07)	26.97 (3.82)	75.49 (17.87)	7.31 (2.38)	48.43 (11.08)	30.18 (8.63)	2.83 (1.20)	19.71 (5.69)
Gender									
Male	44.3 (3.96)	4.28 (.37)*	26.61 (3.16)	77.65 (16.32)	7.65 (2.03)	47.35 (11.49)	31.00(8.25)	2.82 (1.31)	19.41 (4.95)
Female	43.6 (6.57)	3.85 (1.15)	26.28 (4.21)	72.01 (19.44)	6.6 (2.79)	46.54 (12.07)	29.32 (8.69)	2.59 (1.22)	19.20 (5.76)
Work status									
Full-time	43.23 (6.6)	3.85 (1.10)	26.07 (4.29)	72.65 (19.62)	6.81 (2.70)	47.79 (11.70)*	29.64 (8.62)	2.65 (1.19)	19.41 (5.91)
Part-time	44.21 (6.19)	3.91 (1.18)	26.61 (3.94)	71.87 (18.89)	6.45 (2.83)	44.85 (12.30)	29.08 (8.74)	2.55 (1.25)	18.93 (5.40)
Work setting									
Public	43.9 (6.02)	3.94 (1.09)	26.63 (3.64)*	72.69 (19.58)	6.77 (2.74)	47.36 (11.40)	29.50 (8.47)	2.65 (1.20)	19.48 (5.54)
Private	42.7 (7.81)	3.63 (1.27)	25.03 (5.53)	70.90 (18.20)	6.20 (2.82)	43.50 (13.91)	29.08 (9.46)	2.44 (1.25)	18.17 (6.25)
Highest qualification									
< Bachelor	42.15 (7.14)**	3.66 (1.23)*	25.83 (4.36)	66.57 (20.97)**	5.89 (2.76)**	44.52 (12.24)*	28.11 (8.61)	2.47 (1.16)	19.08 (5.91)
> Postgrad	44.36 (5.96)	3.98 (1.07)	26.52 (4.04)	74.93 (17.94)	7.0 (2.69)	47.51 (11.83)	30.01 (8.64)	2.67 (1.23)	19.28 (5.62)
Work area									
Metropolitan	43.23 (6.76)	3.76 (1.19)**	25.73 (4.46)**	70.53 (18.74)*	6.42 (2.81)*	45.70 (12.19)*	29.00 (8.65)	2.54 (1.21)	18.71 (5.86)*
Regional, rural and remote	44.73 (5.39)	4.19 (0.91)	27.80 (2.67)	76.93 (20.04)	7.30 (2.52)	48.83 (11.35)	30.48 (8.64)	2.78 (1.20)	20.50 (5.10)

p* < 0.05*p* < 0.005

and how these visits can best meet the needs of the patients from the perspectives of surveillance, distress screening and management of late effects.

This study has two key limitations. Firstly, the participants were members of professional bodies, highly educated and actively engaged in professional activities. This may limit the generalisability of results to all cancer nurses in Australia. Secondly, 9% of the participants dropped out at different stages of the online survey and only completed some components of the online survey. We do not expect that this small number of drop out would have significantly impacted the overall results of the study. Despite these limitations, this study provided data to inform future national initiatives to optimise the potential resource provided by the cancer nurses as the largest cancer workforce, to contribute to quality survivorship care.

Conclusion

Cancer nurses perceive key aspects of survivorship care as their role. A range of system and healthcare professional interventions are required to enhance the contribution of cancer nurses to quality survivorship care provision. These interventions include targeted education that focuses on specific area of priorities, especially in areas where nurses are least confident. These areas include, but are not limited to, strategies to address employment/financial issues, fertility, sexuality issues and how to identify signs of cancer recurrence. Interventions to promote continuity of care across the cancer experience could also help the integration of survivorship care activities to the usual care provided by cancer nurses.

Table 5 Impeding factors for patient and family care provision ($n = 282$)

	<i>M</i>	<i>SD</i>
Patient care provision		
Lack of time	2.61	.96
Lack of knowledge/skills	1.85	.76
Lack of educational resources	1.94	.84
Lack of appropriate physical location (e.g. quiet room)	2.30	1.04
Lack of interest on your part	1.12	.37
Do not know when treatment completion is due	1.81	.88
Do not know the patient's position on disease trajectory	1.83	.84
Patient's lack of interest	1.78	.70
Communication barriers with patient	1.59	.64
Survivorship care does not impact patient positively	1.23	.67
No dedicated end-of-treatment consultation	2.72	1.14
Not a priority for the organisation	2.17	1.03
Family care provision		
Lack of time	2.44	1.00
Lack of knowledge/skills	1.77	.75
Lack of educational resources	1.93	.87
Lack of appropriate physical location (e.g. quiet room)	2.34	1.07
Lack of interest on your part	1.16	.45
Do not know when treatment completion is due	1.88	.88
Families'/caregivers' lack of interest	1.65	.62
Communication barriers with family/caregiver	1.59	.66
Survivorship care does not impact family positively	1.19	.56
No dedicated end-of-treatment consultation	2.65	1.06
Not a priority for the organisation	2.13	1.06

1 = not at all, 4 = a great deal

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Research involving human participants or animals All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

Informed consent Informed consent was obtained from all individual participants included in the study.

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