Oncology Nurses' Perspectives and Practices Toward the Delivery of Cancer Survivorship Care in Hong Kong

**Background:** Despite tremendous progress in understanding the unmet needs of cancer survivors, our understanding of oncology nurses' perspectives and practices in the delivery of survivorship care is inadequate. **Objectives:** The aims of this study were to assess oncology nurses' perceptions about their responsibility and frequency of delivery of survivorship care to cancer patients and to examine the factors influencing such care. **Methods:** A cross-sectional survey was administered to 81 nurses working in the oncology unit of hospitals in Hong Kong. Participants completed an investigator-developed questionnaire designed to assess oncology nurses' perceptions of responsibility, practices, and barriers regarding the provision of survivorship care for cancer patients. **Results:** Results revealed discrepancies between oncology nurses' perceptions of responsibility and practices, with high levels of perceptions of various survivorship care as their responsibility but low levels in delivery of such care. Despite that discussing and managing pain was agreed by most oncology nurses as their responsibility (95.1%), 34.6% of them have never managed survivors' pain. Besides, 33.3% of nurses have never discussed and managed survivors' sexuality issues. Lack of time (79.0%), inadequate educational resources for family members (59.3%), and lack of knowledge and skills (54.4%) were major factors that impeded survivorship care provision. **Conclusions:** This study provides further evidence for inadequacies of oncology nurses in delivering survivorship care and their perceived barriers. Further studies are required to enhance our understanding of the strategies for improving the delivery of survivorship care.
wing to the latest advancements in cancer treatment, the 5-year survival rate of cancer has risen to more than 80%. However, completion of treatment does not signal the end of a cancer trajectory. In contrast, many cancer survivors report highest unmet needs on reaching the survivorship phase compared with other phases in the cancer continuum.

Mounting evidence has shown that many cancer survivors are unprepared and have expressed a need for information related to the late and long-term physical effects after cancer treatment, including pain, fatigue, neuropathy, and impaired reproductive and sexual functioning. Apart from physical symptoms, fear of recurrence is also frequently reported and associated with a greater number of outpatient and emergency room visits. Moreover, the need for information about ongoing prevention of recurrence and strategies to stay healthy were also consistently identified.

In 2005, an Institute of Medicine (IOM) report advocated the provision of survivorship care to cancer patients who have completed primary treatment and are transitioning to routine follow-up care. The report, which provided an outline of survivorship care, consisted of 4 components, namely, “prevention of recurrence and new cancers, and other late effects”; “intervention for physical and psychosocial consequences of cancer and its treatment”; “surveillance for cancer recurrence”; and “coordination of care to ensure that all the survivors’ health needs are met.” Survivorship care has been rated favorably among those who have received such care. Besides, studies have shown that provision of survivorship care related to reduced unmet needs as well as increased knowledge about cancer, treatment, follow-up care, and quality of life.

In the 13 years after the publication of the IOM report, survivorship care has gained more and more attention and is increasingly being implemented by oncology nurses in Hong Kong. To optimize survivorship care so as to increase survivors’ quality of life and ensure successful transition from early to long-term survivorship, an important step is to advance our knowledge of survivorship care from the perspectives of different stakeholders. However, most existing studies have only examined the delivery of survivorship care from the perspectives of cancer survivors, which left some knowledge gaps in our understanding of the survivorship care provided by the local oncology nurses. On the one hand, various aspects of unmet needs in the healthcare system, disease progression, and treatment plans were consistently reported, which indicated that the needs of many cancer survivors were not met under the current healthcare system; on the other hand, some studies have compared the delivery of survivorship care among oncology healthcare providers in low- and high-income countries and those whose participants experienced specific types of malignancy, such as breast, genitourinary, or hematological cancer. However, there is a lack of studies on the perceived responsibility toward survivorship care and the care actually provided by the oncology nurses in Hong Kong. To provide further insights on the current cancer survivorship care services and the barriers to its delivery, this study aimed to (1) assess Hong Kong oncology nurses’ perceptions about their responsibilities and the frequency of survivorship care delivery to cancer patients and (2) examine the factors and barriers that affect the delivery of such care.

### Methods

#### Design

This cross-sectional survey examined the findings on Chinese oncology nurses by analyzing the Hong Kong data from a larger multinational comparative study that specifically aimed to compare differences between low- and high-income countries.

#### Setting and Sample

A convenience sample of 81 hospital-based oncology nurses who (1) had spent more than half of their work time in caring for adult oncology patients and (2) worked in cancer care settings that provided chemotherapy or radiation therapy were recruited between August 2015 and July 2016.

#### Measurement

The questionnaire was composed of 3 major sections. Section 1 consists of 6 items that collected participants’ demographic details and clinical experiences (eg, age, gender, years of work experience in cancer care settings).

Section 2 included 29 items with 4 subscales that assessed the nurses’ perceptions of responsibilities and the frequency on the provision of survivorship care. This section was developed based on the IOM seminal report entitled “Lost in Transitions: From Cancer Patient to Cancer Survivor.” A total of 29 survivorship care interventions in the context of the 4 components that were outlined in the IOM report were included. Examples of these items included “discussing and managing fertility issues” and “providing screening recommendations for second cancers: periodic testing and examination, and the schedule on which they should be performed.” The oncology nurses’ perceptions of responsibilities toward the delivery of such care was rated from “disagree” to “agree,” whereas the frequency in delivering such care was rated from “never” to “very often.”

Section 3 included a list of 16 factors that impeded the provision of survivorship care for cancer patients. Examples of these factors included “lack of dedicated educational resources for family members” and “lack of interest among family members.” Items were rated on a Likert scale, from “not at all” to “quite a lot.” Face validity was ensured by inviting 10 oncology care
providers (including medical, nursing, and allied health professionals) to complete the questionnaire and provide suggestions for future amendment for those items deemed unclear. The questionnaire took approximately 10 minutes to complete.

**Procedure**

A research assistant invited potential oncology nurses in clinical areas, meetings, or educational seminars to participate in the study. An information sheet detailing the aim of the study was provided to potential participants. After obtaining informed consent, a self-administered questionnaire was given to the participants to complete.

**Data Analysis**

All statistical analyses were conducted using IBM SPSS 24 (IBM Corp, Armonk, New York). Descriptive statistics such as means, standard deviations, frequencies, and percentages were used to summarize and present the demographic characteristics of oncology nurses and all outcome measures (perceptions of responsibilities and the frequency of providing survivorship care) as appropriate. The perceptions of responsibilities as well as the frequency of providing survivorship care in each of the 4 domains of cancer survivorship care was rescaled to the range from 0 to 100 for easy comparisons. Univariate analyses of oncology nurses’ background characteristics and perceptions of responsibilities or frequency of providing each of the 4 domains of cancer survivorship care were assessed using independent t test (2 groups) or analysis of variance (3 groups or higher). All statistical tests were 2-sided with the level of significance set at .05.

## Results

### Participants’ Characteristics

Among the 81 oncology nurses who participated in the study, most were women (90.1%), aged younger than 40 years (61.7%), had a bachelor’s degree or higher (88.9%), gained more than 6 years of experience in the field of cancer care (61.8%), were employed on a full-time basis (98.8%), and worked in inpatient settings (56.8%) (Table 1).

### Perceptions of Responsibilities

Regarding the delivery of survivorship care, the element agreed by the highest numbers of oncology nurses as part of their responsibilities was discussing and managing pain (95.1%). In contrast, the element that was least agreed by most nurses was discussing information on genetic counseling and testing to identify high-risk individuals (30.9%) (Table 2).

### Survivorship Care Delivery for Cancer Patients

Care that was rated by participants as performed very often included discussing and managing fertility issues (67.9%) and organizing/ensuring the patient had a schedule of follow-up appointments with a cancer care doctor (59.3%). On the contrary, care that was rated most frequently by participants as never performed included discussing and managing pain (34.6%), followed by intimacy and sexuality issues (33.3%) (Table 3).

### Comparison of Survivorship Care Delivered in Each Domain

The perceptions of responsibilities and frequency of survivorship care delivered by oncology nurses in the context of the 4 domains outlined in the IOM report are shown in Table 4. Although the results revealed that oncology nurses generally agreed providing care in these domains were their responsibilities (with mean scores ranging from 60.3 to 76.1), the frequency for them to deliver such care was relatively low as compared with other elements (mean scores ranging from 28.9 to 49.4). The domain “coordination of care to ensure that all the survivor’s health needs are met” was mostly agreed by the participants as their responsibility and was frequently delivered to cancer patients. Meanwhile, care related to “prevention of recurrent and new cancers, and other late effects” was least agreed by the participants as their responsibility and also least delivered.
Concerning the barriers to providing survivorship care, lack of time (79.0%), lack of dedicated educational resources for family members (59.3%), and lack of knowledge/skills (54.4%) were rated by the participants as the top barriers that impeded the provision of survivorship care to cancer patients (Table 5).

### Comparison of Survivorship Care Perceived and Delivered by Participants With Different Characteristics

The perceptions of responsibilities and provision of survivorship care for cancer patients as grouped by the demographic characteristics

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**Table 2** Perceptions of Responsibility of Survivorship Care Delivered for Cancer Patients

| Posttreatment Survivorship Care for Cancer Patients | Perceptions of Responsibility | Disagree | Do Not Know | Agree |
|----------------------------------------------------|-------------------------------|----------|------------|-------|
| Prevention of recurrent and new cancers, and other late effects | Discuss information on genetic counseling and testing to identify high-risk individuals who could benefit from more comprehensive cancer surveillance, chemoprevention, or other risk-reducing treatment | 25 (30.9%) | 11 (13.6%) | 45 (55.5%) |
| Intervention for physical and psychosocial consequences of cancer and its treatment | As appropriate, discussing information on known effective chemoprevention strategies for secondary prevention | 16 (19.8%) | 10 (12.3%) | 55 (67.9%) |
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### Barriers to the Delivery of Survivorship Care

Concerning the barriers to providing survivorship care, lack of time (79.0%), lack of dedicated educational resources for family members (59.3%), and lack of knowledge/skills (54.4%) were rated by the participants as the top barriers that impeded the provision of survivorship care to cancer patients (Table 5).
| Posttreatment Survivorship Care for Cancer Patients | Frequency |
|--------------------------------------------------|-----------|
| **Prevention of recurrent and new cancers, and other late effects** |           |
| Discuss information on genetic counseling and testing to identify high-risk individuals who could benefit from more comprehensive cancer surveillance, chemoprevention, or other risk-reducing treatment | 21 (25.9%) 40 (49.4%) 14 (17.3%) 6 (7.4%) |
| As appropriate, discussing information on known effective chemoprevention strategies for secondary prevention | 14 (17.3%) 42 (51.9%) 17 (21.0%) 8 (9.8%) |
| **Intervention for physical and psychosocial consequences of cancer and its treatment** |           |
| Discussing patient/family peer support groups | 3 (3.7%) 30 (37.0%) 23 (28.4%) 25 (30.9%) |
| Conducting distress screening for psychological risks | 13 (16.0%) 34 (42.0%) 15 (18.5%) 19 (23.5%) |
| Discussing psychological adverse effects (ie, emotional problems, adjustment issues, anxiety, depression) | 4 (4.9%) 33 (40.7%) 24 (29.6%) 20 (24.8%) |
| Discussing and managing intimacy and sexuality issues | 27 (33.3%) 49 (60.5%) 4 (4.9%) 1 (1.3%) |
| Discussing and managing pain | 28 (34.6%) 46 (56.8%) 5 (6.2%) 2 (2.4%) |
| Discussing and managing fertility issues | 2 (2.5%) 12 (14.8%) 12 (14.8%) 55 (67.9%) |
| Discussing and managing long-term physical adverse effects/late effects (ie, memory problems, trouble sleeping, fatigue, difficulty concentrating, peripheral neuropathies, hot flushes) | 4 (4.9%) 22 (27.2%) 18 (22.2%) 37 (45.7%) |
| Providing health education to survivors regarding their diagnoses, treatment exposures, and potential late and long-term effects | 0 (0.0%) 26 (32.1%) 33 (40.7%) 22 (27.2%) |
| Discussing and encouraging appropriate exercise and physical activity | 1 (1.0%) 15 (18.5%) 30 (37.0%) 35 (43.5%) |
| Providing healthy diet recommendations including alcohol consumption | 2 (2.5%) 19 (23.5%) 34 (42.0%) 26 (32%) |
| Encouraging health behaviors including sunscreen use, smoking and alcohol consumption | 2 (2.5%) 17 (21.0%) 35 (43.2%) 27 (33.3%) |
| Discussing and managing parenting and other help at home | 5 (6.2%) 24 (29.6%) 33 (40.7%) 19 (23.5%) |
| Discussing and managing employment and financial consequences of cancer | 14 (17.3%) 29 (35.8%) 23 (28.4%) 15 (18.5%) |
| Providing resources to assist with financial and insurance issues | 8 (9.9%) 30 (37.0%) 26 (32.1%) 17 (21.0%) |
| **Surveillance for cancer recurrence** |           |
| Providing information about how to identify signs of cancer spreading or recurrence | 10 (12.3%) 34 (42.0%) 23 (28.4%) 14 (17.3%) |
| Carrying out medical checkups at follow-up, including taking history | 12 (14.8%) 29 (35.8%) 23 (28.4%) 17 (21.0%) |
| Providing screening recommendations for second cancers; periodic testing and examination, and the schedule on which they should be performed | 16 (19.8%) 39 (48.1%) 17 (21.0%) 9 (11.1%) |
| Addressing psychological impacts from their fear of cancer recurrence/relapse | 7 (8.6%) 36 (44.4%) 26 (32.1%) 12 (14.9%) |
| **Coordination of care to ensure that all the survivors health needs are met** |           |
| Ensuring linkage with appropriate external supportive services | 2 (2.5%) 33 (40.7%) 29 (35.8%) 17 (21.0%) |
| Providing information on who to contact with questions and problems | 2 (2.5%) 27 (33.3%) 27 (33.3%) 25 (30.9%) |
| Communicating the survivorship care provided with the rest of the healthcare team | 8 (9.9%) 23 (28.4%) 27 (33.3%) 23 (28.4%) |
| Communicating the survivorship care provided with the patient’s primary healthcare providers | 11 (13.6%) 26 (32.1%) 26 (32.1%) 18 (22.2%) |
| Organizing/ensuring the patient has a schedule of follow-up appointments with the cancer care doctors | 2 (2.5%) 13 (16.0%) 18 (22.2%) 48 (59.3%) |
| Providing referrals to specialists and resources as indicated | 4 (4.9%) 26 (32.1%) 20 (24.7%) 31 (38.3%) |
| Empowering survivors to advocate for their own healthcare needs | 2 (2.5%) 21 (25.9%) 28 (34.6%) 30 (37.0%) |
| Using treatment summaries and/or care plans | 10 (12.3%) 28 (34.6%) 24 (29.6%) 19 (23.5%) |
| Ensuring the patient has a schedule of follow-up appointments with primary healthcare providers | 9 (11.1%) 15 (18.5%) 23 (28.4%) 34 (42.0%) |
of oncology nurses are shown in Tables 6 and 7. Only specialist training in cancer care was found associated with higher levels of perceptions of responsibilities in providing intervention for physical and psychosocial consequences of cancer and its treatment ($P = .033$) as well as coordination of care to ensure that all health needs of the survivors are met ($P = .026$).

## Discussion

To the best of our knowledge, this study was the first of its kind in Hong Kong that examined survivorship care delivered by local oncology nurses and identified barriers to the implementation of such care. With reference to the 4 survivorship care components as recommended by the IOM report, results showed that the participants managed to provide essential survivorship care to patients. However, compared with care in the other domains (ie, care consequences of cancer and its treatment, surveillance for cancer recurrence, and coordination of care), provision of care for the prevention of recurrent and new cancers as well as other late effects was less exercised. Specifically, care such as discussing and managing pain as well as intimacy and sexuality issues were least delivered. Discrepancies were also found between oncology nurses’ perceptions of their responsibilities and frequency of providing survivorship care. For instances, comparatively high levels of perceived responsibility but low levels in care delivery were noted. Most oncology nurses believed that lack of time, dedicated educational resources for family members, and knowledge and skills were significant barriers to the delivery of survivorship care.

Likewise, expanding the evidence base of survivorship care delivery by different stakeholders is important in advancing services planning. With new knowledge added to the empirical evidence on the delivery of survivorship care by oncology nurses in Hong Kong, this study has identified several inadequacies. Consistent with previous findings, our study showed that information on cancer recurrence and late effects was less frequently delivered by the participants, despite that it was commonly identified by cancer patients as an important but neglected aspect of their comprehensive survivorship care. The phenomenon was likely due to the allocation of more resources to patients undergoing cancer treatment within the current local healthcare system as opposed to care in the post-treatment phase. In general, only follow-up medical consultations are provided after a 3-month interval once the patients have completed their primary treatment. This can give a high level of unmet needs to cancer survivors and generate service gaps in the overall

### Table 4 Perceptions of Responsibility and Frequency of Survivorship Care Delivered for Cancer Patients

| Survivorship Care Domains                        | Perceptions of Responsibility | Frequency |
|-------------------------------------------------|-------------------------------|-----------|
| Prevention of recurrent and new cancers, and other late effects | 60.3 (23.5) | 28.9 (20.6) |
| Intervention for physical and psychosocial consequences of cancer and its treatment | 73.6 (18.4) | 45.0 (16.5) |
| Surveillance for cancer recurrence              | 68.7 (22.8) | 37.1 (20.7) |
| Coordination of care to ensure that all the survivor’s health needs are met | 76.1 (19.4) | 49.4 (19.7) |

Subscale scores are rescaled to the range from 0 to 100 for ease of comparisons. Data are presented as mean (SD).

### Table 5 Barriers to the Delivery of Survivorship Care for Cancer Patients

| Factors Impeding Provision of Survivorship Care for Cancer Patients | Not at All | Somewhat | Quite a Lot |
|-------------------------------------------------------------------|------------|----------|------------|
| You do not know what survivorship care is                         | 10 (12.3%) | 39 (48.1%) | 32 (39.6%) |
| You lack time                                                     | 1 (1.2%)   | 16 (19.8%) | 64 (79.0%) |
| You lack knowledge/skills                                         | 4 (4.9%)   | 33 (40.7%) | 44 (54.4%) |
| You do not see the value of survivorship care                     | 48 (59.3%) | 19 (23.5%) | 14 (17.2%) |
| You do not know when patients are completing their treatment      | 22 (27.2%) | 34 (42.0%) | 25 (30.8%) |
| You do not know where the patient is on their disease trajectory  | 17 (21.0%) | 41 (50.6%) | 23 (28.4%) |
| Communication barriers between you and the patient                | 21 (25.9%) | 43 (53.1%) | 17 (21.0%) |
| Communication barriers between you and the family members         | 16 (19.8%) | 47 (58.0%) | 18 (22.2%) |
| Survivorship care is not a priority for my organization           | 12 (14.8%) | 34 (42.0%) | 35 (43.2%) |
| Lack an appropriate physical location (eg, a quiet room)          | 16 (19.8%) | 28 (34.6%) | 37 (45.6%) |
| No end of treatment consultation dedicated to survivorship care in my organization | 15 (18.5%) | 35 (43.2%) | 31 (38.3%) |
| Lack of evidence-based practice guidelines informing survivorship care | 10 (12.3%) | 35 (43.2%) | 36 (44.5%) |
| Lack of dedicated educational resources for patients              | 11 (13.6%) | 28 (34.6%) | 42 (51.8%) |
| Lack of dedicated educational resources for family members        | 10 (12.3%) | 23 (28.4%) | 48 (59.3%) |
| Patients’ lack of interest                                       | 24 (29.6%) | 33 (40.7%) | 24 (29.7%) |
| Family members’ lack of interest                                 | 27 (33.3%) | 28 (34.6%) | 26 (32.1%) |
Survivorship care. Moreover, the limited time for each consultation further hinders oncology nurses to discuss with the patients on topics such as likelihood of cancer recurrence and late effects of cancer treatment.

This study also found that survivorship care in matters of intimacy and sexuality was least frequently performed. More than 90% of participants in this study never or only occasionally discussed these issues with cancer patients. This finding is consistent with those from previous studies. Effective strategies and tools should therefore be developed to facilitate the communications of sexuality issues between healthcare providers and survivors.

Interestingly, despite that most participants (95.1%) agreed that discussing or managing survivors’ pain issues is part of their responsibilities, most of them (91.4%) rarely or even never performed it in practice. It is well recognized that cancer treatment can have detrimental adverse and late effects on survivors. One of these effects is chronic pain, which is an adverse effect that significantly impairs survivors’ quality of life and has a prevalence of

| Table 6 | Perceptions of Responsibility Toward Survivorship Care for Cancer Patients Stratified by Background Characteristics |
|---------|--------------------------------------------------------------------------------------------------|
| **Background Characteristics** | **Prevention of Recurrent and New Cancers, and Other Late Effects (Subscale Score)** | **Intervention for Physical and Psychosocial Consequences of Cancer and Its Treatment (Subscale Score)** | **Surveillance for Cancer Recurrence (Subscale Score)** | **Coordination of Care to Ensure that All the Survivor’s Health Needs Are Met (Subscale Score)** |
| Age, y | | | | |
| 18–29 | 58.3 (22.9) | 72.2 (11.7) | 69.8 (19.4) | 76.2 (10.3) |
| 30–39 | 58.2 (24.0) | 70.2 (21.3) | 64.2 (22.6) | 71.7 (20.1) |
| 40+ | 63.7 (24.0) | 77.6 (19.6) | 71.6 (25.4) | 76.7 (23.5) |
| P (1-way ANOVA) | .603 | .291 | .462 | .305 |
| Gender | | | | |
| Male | 64.1 (27.9) | 76.1 (7.6) | 74.3 (16.8) | 78.1 (5.2) |
| Female | 59.9 (23.2) | 73.4 (19.2) | 68.1 (23.4) | 75.8 (20.3) |
| P (independent t test) | .640 | .690 | .472 | .753 |
| Highest education level | | | | |
| Bachelor’s degree or lower | 59.5 (24.9) | 72.1 (19.4) | 69.0 (24.6) | 74.9 (20.7) |
| Postgraduate diploma/certificate or higher | 61.4 (21.9) | 75.7 (17.0) | 68.2 (20.4) | 77.6 (17.6) |
| P (independent t test) | .719 | .377 | .876 | .531 |
| Specialist training in cancer care | | | | |
| Did not receive specialist training in cancer care | 57.0 (23.70) | 70.1 (18.5) | 64.6 (23.1) | 72.1 (18.7) |
| Received specialist training in cancer care | 65.2 (23.8) | 78.8 (17.1) | 74.6 (21.2) | 81.9 (19.1) |
| P (independent t test) | .128 | .033 | .051 | .026 |
| Years of experience in cancer care | | | | |
| ≤5 | 54.0 (25.1) | 72.8 (10.7) | 69.0 (19.3) | 77.0 (8.9) |
| >5–10 | 56.2 (23.9) | 69.1 (28.8) | 65.6 (26.5) | 70.6 (26.9) |
| >10 | 67.4 (20.5) | 76.1 (18.7) | 69.6 (24.5) | 77.4 (22.5) |
| P (1-way ANOVA) | .052 | .584 | .856 | .589 |
| Primary work setting | | | | |
| Outpatient | 61.2 (24.2) | 79.7 (15.0) | 76.0 (18.3) | 82.5 (11.7) |
| Inpatient | 57.1 (23.2) | 70.7 (17.7) | 64.7 (22.3) | 74.6 (17.4) |
| Mixed | 68.8 (22.8) | 74.8 (22.8) | 71.5 (27.5) | 72.6 (29.2) |
| P (1-way ANOVA) | .230 | .195 | .164 | .244 |

Abbreviation: ANOVA, analysis of variance.
Data are presented as mean (SD).
almost 40%. Nurses may already be aware of the importance in managing survivors’ pain; reasons for their infrequent performance of such care might be partly due to the fact that existing evidence-based practice guidelines primarily focus on relieving pain for patients with advanced diseases. As few guidelines focus on pain relief for cancer survivors, understanding the barriers to adequate survivorship care provision is undoubtedly essential.

The participants identified factors such as lack of time, insufficient educational resources, and lack of knowledge/skills as some of the multiple barriers in providing survivorship care. In fact, similar results have been reported in other studies. In some other studies, the lack of information was mostly cited by cancer survivors as an unmet need. Because a lack of resources was associated with reduced care delivery, dedicated efforts should be exerted accordingly to overcome these barriers in future service planning.

With regard to the background of oncology nurses, only those who receive specialist training in cancer care were reported to have significantly higher levels of perceptions of their responsibilities in providing intervention for physical and psychosocial consequences of cancer and care coordination. Other background characteristics made no difference to the frequency of providing survivorship care for patients. This finding was in contrast to existing evidence, which shows that training and knowledge are associated with increased discussion and delivery of survivorship care to survivors. The inconsistencies are likely to be due to the possibility that survivorship care has only recently gained attention from the government. Although the current education and training may have instilled the perceptions of responsibilities, the ideas

| Background Characteristics | Prevention of Recurrent and New Cancers, and Other Late Effects (Subscale Score) | Intervention for Physical and Psychosocial Consequences of Cancer and Its Treatment (Subscale Score) | Surveillance for Cancer Recurrence (Subscale Score) | Coordination of Care to Ensure that All the Survivor’s Health Needs Are Met (Subscale Score) |
|----------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------|
| Age, y                     |                                                                                 |                                                                                                |                                                 |                                                                                         |
| 18–29                      | 32.8 (25.5)                                                                     | 49.7 (13.5)                                                                                   | 43.8 (21.8)                                     | 54.9 (14.0)                                                                             |
| 30–39                      | 27.9 (17.4)                                                                     | 46.1 (15.9)                                                                                   | 36.5 (23.2)                                     | 49.0 (18.7)                                                                             |
| 40+                        | 26.6 (19.0)                                                                     | 40.6 (18.3)                                                                                   | 32.7 (16.5)                                     | 45.3 (23.6)                                                                             |
| P (1-way ANOVA)            | .525                                                                            | .114                                                                                            | .141                                           | .200                                                                                    |
| Gender                     |                                                                                 |                                                                                                |                                                 |                                                                                         |
| Male                       | 37.5 (26.7)                                                                     | 43.9 (14.1)                                                                                   | 40.6 (20.9)                                     | 44.4 (13.7)                                                                             |
| Female                     | 27.9 (19.8)                                                                     | 45.2 (16.8)                                                                                   | 36.8 (20.8)                                     | 49.9 (20.3)                                                                             |
| P (independent t test)     | .213                                                                            | .848                                                                                            | .624                                           | .460                                                                                    |
| Highest education level    |                                                                                 |                                                                                                |                                                 |                                                                                         |
| Bachelor’s degree or lower | 26.6 (20.2)                                                                     | 43.9 (16.4)                                                                                   | 36.1 (19.3)                                     | 48.4 (19.8)                                                                             |
| Postgraduate diploma/certificate or higher | 31.2 (21.1) | 46.5 (16.7)                     | 38.6 (22.7)                                     | 50.6 (19.9)                                                                             |
| P (independent t test)     | .267                                                                            | .481                                                                                            | .604                                           | .622                                                                                    |
| Specialist training in cancer care |                                                               |                                                                                                |                                                 |                                                                                         |
| Did not receive specialist training in cancer care | 29.4 (20.71) | 43.5 (16.2)                     | 37.5 (21.6)                                     | 49.9 (19.0)                                                                             |
| Received specialist training in cancer care | 28.0 (20.7) | 47.2 (16.5)                     | 36.7 (19.7)                                     | 48.7 (21.0)                                                                             |
| P (independent t test)     | .766                                                                            | .322                                                                                            | .873                                           | .809                                                                                    |
| Years of experience in cancer care |                                                               |                                                                                                |                                                 |                                                                                         |
| ≤5                         | 29.0 (24.9)                                                                     | 46.4 (15.6)                                                                                   | 39.7 (23.4)                                     | 52.8 (17.7)                                                                             |
| >5–10                      | 30.4 (18.2)                                                                     | 48.7 (14.9)                                                                                   | 43.8 (22.5)                                     | 50.8 (16.5)                                                                             |
| >10                        | 28.1 (17.8)                                                                     | 42.5 (17.8)                                                                                   | 32.5 (16.6)                                     | 45.9 (22.3)                                                                             |
| P (1-way ANOVA)            | .942                                                                            | .415                                                                                            | .154                                           | .354                                                                                    |
| Primary work setting       |                                                                                 |                                                                                                |                                                 |                                                                                         |
| Outpatient                 | 34.2 (21.9)                                                                     | 47.8 (15.9)                                                                                   | 42.1 (19.3)                                     | 50.1 (18.2)                                                                             |
| Inpatient                  | 26.9 (20.2)                                                                     | 43.3 (16.6)                                                                                   | 35.9 (22.0)                                     | 49.0 (19.0)                                                                             |
| Mixed                      | 28.1 (20.2)                                                                     | 46.6 (17.2)                                                                                   | 35.2 (18.7)                                     | 49.7 (24.4)                                                                             |
| P (1-way ANOVA)            | .429                                                                            | .554                                                                                            | .499                                           | .975                                                                                    |

Abbreviation: ANOVA, analysis of variance.
Data are presented as mean (SD).
are not yet comprehensive enough to motivate significant changes in the practice of survivorship care. To explore factors that influence the perceptions of responsibility and delivery of survivorship care among oncology nurses in Hong Kong, a future qualitative study is required.

**Strengths and Limitations**

This is the first local study conducted to understand the perspectives and practices in the delivery of survivorship care among oncology nurses in Hong Kong. It aimed at allowing comprehensive understanding of survivorship care delivery and helping healthcare professionals to identify the gaps and challenges for survivorship care planning for cancer patients. However, the small sample size, together with the use of convenience sampling in only a few hospitals, might have probably made the results prone to bias and therefore limit generalization of the findings. Likewise, limited questionnaire options instead of an exhaustive list were provided on practices as well as factors impeding provision of survivorship care for patients. Future qualitative studies are therefore indicated to explore survivorship care provision and its associated barriers in more details.

**Implications**

The results of this study offer insights into the strategies to improve the quality of cancer survivorship care. These strategies include the development of high-quality and accessible educational programs for nurses as well as identification of effective approaches to optimize survivorship care provision.

Taking into account the growing population of cancer survivors, improved educational strategies in survivorship care at all levels are of utmost importance. In this regard, programs that focus on the knowledge and skills of survivorship care provision should be included in the curriculum at both bachelor and postgraduate levels. Introducing the concept of survivorship care to the students in the early stage, for example, while they are still at an undergraduate level, will enable them to acquire the foundational knowledge and core competencies associated with cancer survivorship care. This will ultimately enable them to assimilate more advanced information on the topic. For instance, an innovative cancer educational program involving both carers and healthcare providers as program deliverers was found effective in enhancing undergraduate students’ knowledge on survivorship care while promoting their attitudes and confidence to the care delivery. For postgraduate level, specialty training opportunities should be expanded beyond the dissemination of foundational knowledge. In particular, focus should be placed on the barriers and inadequacies of survivorship care provision identified in our current study. Gaps in current curricula, such as the lack of discussion on recurrent and late effects of cancer, managing pain of survivors, and training on the skills in initiating conversations with cancer survivors on sexuality and intimacy issues, should be addressed. Program or online resources that were shown to enhance the capability of oncology nurses in planning and implementing survivorship care should be used as a model for future development of continuing education programs.

Moreover, dedicated efforts should be devoted to improve the continuity and coordination of care. In fact, an increasing trend was noted internationally for a focus on the provision of treatment summaries or survivorship care plans to cancer patients to facilitate their understanding on and management of the potential detrimental effects of cancer and its treatment. A review of 10 studies also demonstrated some positive outcomes on patients’ satisfaction upon the provision of care plans. This highlights the pressing needs for an examination of the potential benefits in adopting such approach in the local context. As oncology nurses would be more likely to deliver survivorship care effectively if resources are readily available to both themselves and patients, efforts in adapting the survivorship care plans and modifying them to fit the local cultural context would likely be effective in addressing the issue of limited resources while enhancing the continuity of care across the cancer trajectory. Last but not the least, various models of survivorship care that aim at improving the clinical outcomes of survivors in both hospital and community care settings, with nurse- or oncologist-led care program, are also worthy of further consideration.

**Conclusion**

This study has identified several inadequacies and barriers in the provision of survivorship care among oncology nurses in Hong Kong. Emerging evidence has shown that interventions provided to survivors for the pain management and discussions on intimacy and sexuality issues are suboptimal. Significant barriers to the implementation of survivorship care were identified, including lack of time, educational resources for patients and family members, and knowledge and skills. Results have underscored the need to develop educational resources and increase training in survivorship care, especially for oncology nurses, to advance the delivery of such care to adult cancer patients. To achieve success in this model of care, thoughtful consideration of service planning and resource allocation is required.

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