

Original Article



Perceptions and practice patterns of cancer survivorship care among Japanese gynecologic oncologists: The JGOG questionnaire survey

Mikiko Asai-Sato ,¹ Nao Suzuki ,² Hitomi Sakai ,³ Yoshio Itani ,⁴ Shinya Sato ,⁵ Masayuki Futagami ,⁶ Yoshio Yoshida

¹Department of Obstetrics and Gynecology, Nihon University, Tokyo, Japan

²Department of Obstetrics and Gynecology, St. Marianna University School of Medicine, Kawasaki, Japan

³Advanced Cancer Translational Research Institute, Showa University, Tokyo, Japan

⁴Palliative Care Center, Yao Municipal Hospital, Yao, Japan

⁵Department of Obstetrics and Gynecology, Tottori University Faculty of Medicine, Yonago, Japan

⁶Department of Obstetrics and Gynecology, Hirosaki University Graduate School of Medicine, Hirosaki, Japan

⁷Department of Obstetrics and Gynecology, Faculty of Medical Sciences, University of Fukui, Fukui, Japan

OPEN ACCESS

Received: May 12, 2022

Revised: Jul 26, 2022

Accepted: Oct 10, 2022

Published online: Oct 26, 2022

Correspondence to

Mikiko Asai-Sato

Department of Obstetrics and Gynecology,
Nihon University, 30-1 Oyaguchi Kami-cho,
Itabashi-ku, Tokyo 173-8610, Japan.

Email: sato.mikiko@nihon-u.ac.jp

© 2023. Asian Society of Gynecologic
Oncology, Korean Society of Gynecologic
Oncology, and Japan Society of Gynecologic
Oncology

This is an Open Access article distributed
under the terms of the Creative Commons
Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>)
which permits unrestricted non-commercial
use, distribution, and reproduction in any
medium, provided the original work is properly
cited.

ORCID iDs

Mikiko Asai-Sato

<https://orcid.org/0000-0002-7811-947X>

Nao Suzuki

<https://orcid.org/0000-0002-7440-8127>

ABSTRACT

Objective: This study aimed to assess gynecologic oncologists (GOs)' perceptions and attitudes toward cancer survivorship to help improve survivor care.

Methods: We conducted a web-based questionnaire survey about survivorship issues for the GOs belonging to the Japan Gynecologic Oncology Group. We analyzed the proactiveness of the participants toward addressing 25 survivor issues. In addition, the practice patterns and barriers to care for survivors' long-term health issues, such as second primary cancer (SPC) and lifestyle-related diseases (LSRD), and return-to-work (RTW) support were assessed.

Results: We received 313 responses. The respondents had a mean of 22 years of physician experience. The ratio of men to women was approximately 7:3, and 84.7% worked at facilities for multidisciplinary cancer treatment. The respondents' proactiveness for addressing psychosocial problems was significantly lower than physical and gynecological issues ($p < 0.01$ by χ^2 test). However, most GOs tried to contribute to such issues according to patients' demands. Women GOs were more proactively involved in some survivorship issues than the men ($p < 0.05$ by logistic regression analysis). The rates of the respondents who proactively discussed SPC, LSRD, and RTW were unexpectedly high (60.7%, 36.1%, and 52.4%, respectively). However, the GOs only provided verbal support for these issues in many cases.

Conclusion: The Japanese GOs were enthusiastic about survivorship care. However, their tendency to deal with survivors' problems through their own knowledge and judgments raises concerns about the quality of care. Therefore, creating survivorship care guidelines and enhancing multidisciplinary collaboration should be prioritized.


Keywords: Cancer Survivorship; Genital Neoplasms, Female; Oncologists; Practice Patterns, Physicians'; Surveys and Questionnaires

Hitomi Sakai 
<https://orcid.org/0000-0001-8396-9121>

 Yoshio Itani 
<https://orcid.org/0000-0002-1981-0797>

 Shinya Sato 
<https://orcid.org/0000-0001-7707-8533>

 Masayuki Futagami 
<https://orcid.org/0000-0002-0766-0330>

 Yoshio Yoshida 
<https://orcid.org/0000-0003-0769-0385>

Presentation

Part of this research has been presented at the following conferences: The 59th Annual Meeting of the Japan Society of Clinical Oncology, The 18th Japan Gynecologic Cancer Conference, The 63rd Annual Meeting of the Japan Society of Gynecologic Oncology, and The 19th Japanese Society of Medical Oncology Annual Meeting.

Conflict of Interest

No potential conflicts of interest relevant to this article was reported.

Author Contributions

Conceptualization: A.M., S.N., S.H., I.Y., S.S., F.M., Y.Y.; Data curation: A.M., S.H., I.Y., S.S., F.M.; Formal analysis: A.M., S.N., Y.Y.; Funding acquisition: S.N.; Investigation: A.M., S.N., S.H., F.M.; Methodology: A.M., I.Y., S.S.; Project administration: A.M., S.H., I.Y., Y.Y.; Supervision: Y.Y.; Validation: F.M.; Writing - original draft: A.M., S.N., S.H., S.S., F.M., Y.Y.; Writing - review & editing: A.M., S.N., S.H., I.Y., S.S., Y.Y.

Synopsis

The gynecologic oncologists showed relatively proactive attitudes toward a wide range of survivorship issues. However, gynecologic oncologists tended to handle survivorship problems in a self-taught manner. Creating practical survivorship care guidelines and promoting multidisciplinary collaboration are necessary.

INTRODUCTION

Recent advances in medicine have enabled many cancer patients to return to society, and support for long-term cancer survivors has been an essential issue in modern cancer treatment [1,2]. Japanese The 3rd Basic Plan to Promote Cancer Control Programs emphasize awareness of “a society in which cancer survivors can live with dignity and peace of mind,” indicating that the promotion of cancer survivor care is a priority in society [3].

Japanese universal national medical insurance system provides cancer patients with high-quality medical care. However, long-term cancer survivor support is not considered an essential part of cancer care and is often offered as an adjunct to recurrence surveillance. Furthermore, oncology nurses and social care workers do not participate in follow-up care except in exceptional cases. Therefore, it is essential to raise awareness of cancer survivorship issues among oncologists because it will facilitate multidisciplinary collaboration.

In this study, we focused on the attitudes of gynecologic oncologists (GOs) toward cancer survivorship because we believed that enhancing GOs' attitudes would improve women's cancer care quality. Gynecological cancer frequently affects young and working-age patients, and the prognosis is generally good. In other words, many gynecologic cancer patients require long-term survivor care. Furthermore, GOs often follow patients over a long period and deal with problems that are unique to women. Therefore, we believe that GOs should be the medical providers who take the lead in cancer survivor care.

This study aimed to identify issues that need improvement in cancer survivor care in Japan. For this purpose, we surveyed GOs' awareness and attitudes towards various issues regarding cancer survivorship, including physical, psychological, and long-term health promotion and social problems [4-6]. In particular, we examined GOs' attitudes toward long-term health promotion (i.e., second primary cancer [SPC] and lifestyle-related disease [LSRD] prevention) and return-to-work (RTW), issues that have been recently in the spotlight [6-9] but seem to be unfamiliar to Japanese GOs.

MATERIALS AND METHODS

1. Survey and participants

This study was approved by the Ethical Committee at Nihon University School of Medicine (#RK-200825-3, approved on August 26th, 2020). An online questionnaire survey was conducted to assess GOs' attitudes, practice patterns, and barriers to gynecologic cancer survivor care. The principal investigators developed the questionnaire's content, and a pilot test was conducted with several volunteer gynecologists who did not participate in the actual

survey. The questionnaire was then reviewed by the Supportive and Palliative Care Committee of the Japanese Gynecologic Oncology Group (JGOG).

The GOs in the JGOG were invited to participate in the study. We sent the first invitation email via the JGOG member emailing list, and reminder emails were sent twice during the study period. In the invitation letter, we described that the completion of the survey indicated implied consent. No incentive was offered to the participants. The online survey was conducted using Google Forms between October 10th and November 20th, 2020.

In the first section of the survey, we collected the participant's background data, including their gender, age, years of experience as a physician, type of cancer practice (multimodality treatment or follow-up after treatment), type of working institute, region of their workplace, experience of having cancer, and the last digit of their day they were born. The responses with identical answers for gender, age, workplace region, and the last digit of the birthday were considered duplicates (one person answered the survey multiple times) and were excluded from the analysis.

2. Attitude and practice patterns for cancer survivor care

The second section of the survey asked about the participants' attitudes and practice patterns for patients' problems after cancer treatment, specifically how they provide information and guidance to their patients about survivorship problems. This section of the questionnaire included 26 items about physical, psychosocial, and long-term health promotion issues, and the respondents selected an answer from given choices. For the question "How often do you provide information and guidance to your patients about long-term problems after gynecologic cancer treatment?" and the answers "in most cases" and "to the patients in need" were combined as the proactive group, and the answers "only when requested by the patients" and "only seldomly" were combined and counted as the passive group. The proportions of the proactive and passive groups were calculated for each item, and the relationship between the participants' proactiveness and background factors was analyzed.

3. Practice patterns and barriers for SPC and LSRD prevention and support in RTW after cancer treatment

We asked about the participants' practice patterns and what barriers to SPC and LSRD prevention and RTW support they face. The questions regarded perceived responsibility, the contents and method of instruction to the patients, and perceived barriers to SPC and LSRD prevention and RTW support. The respondents selected answers from given options, except for the questions about perceived barriers, which allowed freely written comments.

4. Statistical analysis

The survivors' problems to which the GOs did not have a proactive attitude were extracted using χ^2 and Cramér's coefficient of association (V) tests. The relationship between the participants' background factors and proactiveness to survivors' problems was analyzed by χ^2 test or t-test according to the type of variable. Binominal logistic regression analysis was performed using gender, years of experience as a physician, type of the workplace, and the participant's history of cancer as potential confounding factors. The statistical analyses were performed using STATA SE version 17 (StataCorp, LCC, College Station, Texas, USA). Two-sided p-values less than 0.05 were considered statistically significant.

RESULTS

1. Participants' characteristics

The invitation emails were sent to 985 gynecologists of JGOG. After excluding the duplicates, we acquired 313 (31.8%) responses. The demographics of the participants are shown in **Table 1**. The ratio of men to women was approximately 70 to 30. The majority of the participants had a wealth of experience as a physician (>10 years). In addition, most of them (84.7%) worked in Ministry of Health, Labour and Welfare (MHLW)-designated cancer hospitals, where they are mandated to provide advanced cancer medicine, including survivor care. Sixteen respondents (5.1%) had experienced cancer themselves.

2. GOs' attitudes toward various problems after cancer treatment

Fig. 1 presents the proactiveness of the participants for 15 survivorship issues among the 26 items questioned in the survey. The results for all 26 items are shown in **Fig. S1**. Most respondents showed proactive attitude toward physical symptoms (i.e., intestinal and urinary tract issues, skin complications, lymphedema, and peripheral neuropathy) and gynecologic problems (e.g., estrogen deficiency symptoms and fertility issues). On the other hand, they showed less proactive attitude toward psychiatric problems (i.e., cognitive impairment, depression, and sleeping disorders), appearance care, sexual dysfunctions, and socio-economic issues (i.e., partnership, infant adoption, and financial burden) (**Fig. 1**; $p < 0.01$ by χ^2 test, Cramér's $V = 0.604$). However, most respondents were willing to provide support upon request from patients (**Fig. 1**; the answers "only when requested by the patient"). Exceptionally, a significant number of respondents expressed negative attitude toward psychological concerns and infant adoption (**Fig. 1**; the answers "only seldomly," $p < 0.01$ by χ^2 test, Cramér's $V = 0.429$).

Table 1. Demographics of the participants (n=313)

Characteristics	No. (%)
Gender	
Men	228 (72.8)
Women	85 (27.2)
Age (yr)	
Under 40	58 (18.5)
40–49	140 (44.7)
50–59	79 (25.2)
60 and above	36 (11.5)
Years of experience as a physician	
Under 10	7 (2.2)
10–19	117 (37.4)
20–29	121 (38.7)
30 and above	68 (21.7)
Type of cancer care provided	
Multidisciplinary treatment	299 (95.5)
Other	14 (4.5)
Type of working facility	
MHLW-designated cancer hospital	265 (84.7)
General hospital	41 (13.1)
Other	23 (7.4)
History of having cancer	
Yes	16 (5.1)
No	297 (94.9)

MHLW, Ministry of Health, Labour and Welfare.

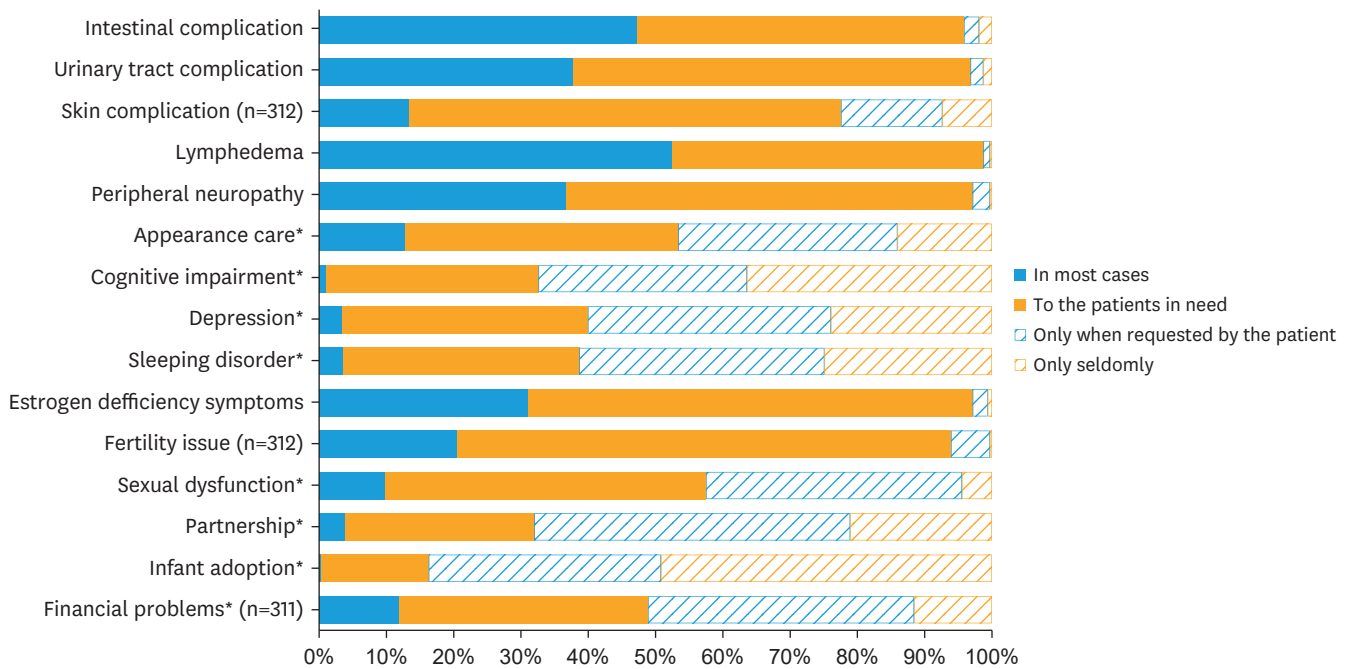


Fig. 1. Frequency of providing information and guidance to patients about long-term problems after cancer treatment (15 of 26 items). The answers “in most cases” and “to the patients in need” are combined as the proactive group (colored columns). The other answers are combined as the passive group (shaded columns).
 *Items with significantly higher rates of passive answers compared to other items (χ^2 test $p < 0.05$).

For the items toward which GOs showed a reluctant attitude, we performed statistical analysis to identify the characteristics of more enthusiastic participants. The univariate analysis showed that gender, the workplace (MHLW-designated cancer hospital or not), and the participants' history of having cancer were significantly related to some of the items (Table S1). In addition, we considered that the respondents' years of experience strongly influence the working circumstance and practice patterns. Hence, gender, the type of the workplace, the experience of having cancer, and years of experience as a physician were chosen as explanatory variables for multivariate analysis. As shown in Table 2, the women doctors were more likely to provide information on appearance care, sexual dysfunction, partnership issues, and support for RTW than the men. Contrarily, the men had a higher perception of the patients' financial burden than the women. The respondents with cancer experience were more proactive in providing information about infant adoption than others.

3. GOs' attitudes toward SPC prevention

We further asked about the participants' attitudes toward SPC prevention for gynecologic cancer survivors. The results are shown in Table 3. When asked “How often do you advise a patient to receive SPC screening?” more than half of the participants answered “always” or “most of the time.” The types of cancer screening suggested to the patients were breast (93.9%), colon (81.2%), and gastric cancer screening (53.4%). Forty-four percent of the respondents considered GOs to be most responsible for promoting SPC prevention. Approximately 60% suggest SPC prevention relatively early, such as during treatment or at the completion of treatment. When asked “How do you provide advice and guidance on SPC prevention to a patient?” most participants answered that they do it by themselves, verbally (82.1%), and only a small number utilized the help of other professionals (8.0%) or educational material (7.3%). The most frequent barrier to SPC prevention was a lack of time (36.7%), followed by a lack of guidelines or information with which to instruct the patients (11.5%).

Table 2. Multivariate analysis of the likelihood of being proactive to post-treatment issues according to the participants' background factors

Variables	OR	95% CI	p-value
Appearance care			
Gender (woman to man)	1.751	1.036–2.957	0.036
Years of experience as a physician	0.996	0.970–1.025	0.846
Working in an MHLW-designated cancer hospital	1.498	0.675–3.326	0.321
History of having cancer	0.859	0.310–2.381	0.771
Cognitive impairment			
Gender (woman to man)	1.093	0.637–1.877	0.747
Years of experience as a physician	0.996	0.967–1.026	0.793
Working in an MHLW-designated cancer hospital	1.502	0.609–3.701	0.377
History of having cancer	1.231	0.431–3.504	0.697
Depression			
Gender (woman to man)	1.202	0.714–2.024	0.488
Years of experience as a physician	0.981	0.954–1.009	0.190
Working in an MHLW-designated cancer hospital	1.548	0.666–3.598	0.310
History of having cancer	0.625	0.210–1.859	0.398
Sleeping disorder			
Gender (woman to man)	1.623	0.965–2.729	0.068
Years of experience as a physician	0.985	0.958–1.014	0.305
Working in an MHLW-designated cancer hospital	0.817	0.366–1.820	0.620
History of having cancer	1.213	0.434–3.392	0.713
Sexual dysfunction			
Gender (woman to man)	1.746	1.021–2.984	0.042
Years of experience as a physician	0.991	0.964–1.020	0.545
Working in an MHLW-designated cancer hospital	1.840	0.827–4.094	0.135
History of having cancer	1.629	0.545–4.866	0.382
Partnership			
Gender (woman to man)	1.994	1.171–3.396	0.011
Years of experience as a physician	0.998	0.968–1.029	0.913
Working in an MHLW-designated cancer hospital	1.635	0.631–4.238	0.311
History of having cancer	1.728	0.613–4.872	0.301
Infant adoption			
Gender (woman to man)	1.172	0.567–2.239	0.733
Years of experience as a physician	1.013	0.964–1.052	0.522
Working in an MHLW-designated cancer hospital	0.790	0.278–2.241	0.657
History of having cancer	4.721	1.651–13.500	0.004
Returning to work			
Gender (woman to man)	1.836	1.069–3.155	0.028
Years of experience as a physician	0.980	0.952–1.008	0.158
Working in an MHLW-designated cancer hospital	0.933	0.414–2.101	0.866
History of having cancer	2.056	0.639–6.616	0.227
Financial problems			
Gender (woman to man)	0.567	0.338–0.953	0.032
Years of experience as a physician	0.994	0.967–1.022	0.681
Working in an MHLW-designated cancer hospital	1.202	0.543–1.022	0.649
History of having cancer	0.391	0.131–1.166	0.092

Bold-faced subjects are statistically associated with proactivity for the post-treatment issue.
OR, odds ratio; CI, confidence interval; MHLW, Ministry of Health, Labour and Welfare.

4. GOs' attitudes toward LSRD prevention

We also asked the participants about their attitudes toward LSRD prevention (**Table 4**). Approximately 40% of the participants answered that they provide advice for LSRD “always” or “most of the time,” and another 40% talked about LSRD “sometimes.” For LSRD prevention, the respondents advised their patients to control their body weight (63.7%), exercise (55.7%), maintain an appropriate diet (53.5%), quit smoking (47.5%), and undergo LSRD screening (45.9%). Similar to SPC prevention, 74.8% of the respondents suggested LSRD prevention to their patients verbally without any help from other professionals or

Table 3. Perceptions and attitudes of the participants toward second primary cancer prevention after cancer treatment (n=313)

Question	No. (%)
How often do you advise a patient to receive SPC screening?	
Always	53 (16.9)
Most of the time	137 (43.8)
Some of the time	93 (29.7)
Rarely	23 (7.3)
Never	6 (1.9)
What kind of SPC screening do you suggest to the patients?	
Breast cancer	294 (93.9)
Colon cancer	254 (81.2)
Gastric cancer	167 (53.4)
Lung cancer	97 (31.0)
Lymphoma or Hematologic cancer	4 (1.3)
None	17 (5.4)
Who do you think is most responsible for SPC prevention of a gynecological cancer patient?	
Gynecological oncologist	139 (44.4)
Primary care physician	93 (29.7)
Oncology nurse	14 (4.5)
Public health nurse	6 (1.9)
I don't know	48 (15.3)
Other	13 (4.1)
When do you think is the best timing to start SPC prevention for a gynecological cancer patient?	
At any point during treatment	72 (23.0)
When the cancer treatment is completed	118 (37.7)
After cancer treatment, when a certain amount of time has passed	111 (35.5)
I don't know.	11 (3.5)
I am not involved in this issue.	1 (0.3)
How do you provide advice and guidance on SPC prevention to a patient?	
I do it by myself, verbally.	257 (82.1)
I request help from other professionals.	25 (8.0)
I use educational material.	23 (7.3)
I am not involved in this issue.	4 (1.3)
Other	4 (1.3)
What is the most significant barrier to addressing SPC prevention for gynecologic cancer survivors?	
Lack of time to talk about this issue	115 (36.7)
Lack of guidelines or information with which to instruct the patient	36 (11.5)
The idea that SPC prevention is not the responsibility of a gynecologic oncologist	33 (10.5)
The idea that SPC prevention is not necessary unless the primary cancer follow-up is done	14 (4.5)
I already provide sufficient instruction to the patients.	66 (21.0)
Other	49 (15.7)

SPC, second primary cancer.

educational materials. Almost half (42.8%) of the respondents answered that a lack of time was the main barrier to discussing this issue with patients. The following most common answer was the idea that LSRD is not the responsibility of a GO (20.8%). Approximately half of the respondents considered primary care physicians to be most responsible for LSRD prevention of cancer survivors.

5. GOs' attitudes toward RTW support

We asked several questions about RTW support for cancer survivors (**Table 5**). Most respondents answered that they usually have a discussion about RTW with patients before starting cancer treatment ("always," 13.7% and "most of the time," 38.7%). Approximately half of the respondents stated that a patient should keep their job during cancer treatment and return to the same job afterward. On the other hand, another half of the respondents believed that it is the patient's decision regarding whether to keep working (42.2%) or return to their job (48.9%). When asked for advice about RTW by a patient, 57.2% of respondents

Table 4. Perceptions and attitudes of the participants toward lifestyle-related diseases of gynecological cancer survivors (n=313)

Question	No. (%)
How often do you advise a patient to take care of lifestyle-related diseases?	
Always	27 (8.6)
Most of the time	86 (27.5)
Some of the time	125 (39.9)
Rarely	64 (20.4)
Never	11 (3.5)
What kind of advice do you give to a patient for lifestyle-related disease prevention?	
Receiving lifestyle-related disease screening and counseling	144 (45.9)
Maintaining appropriate body weight	200 (63.7)
Appropriate diet	168 (53.5)
Exercise	175 (55.7)
Cessation of smoking	149 (47.5)
Avoiding excessive alcohol consumption	61 (19.4)
None	38 (12.1)
Who do you think is most responsible for lifestyle-related disease prevention of gynecologic cancer survivors?	
Gynecologic oncologist	62 (19.8)
Primary care physician	162 (51.8)
Oncology nurse	25 (8.0)
Public health nurse	14 (4.5)
I don't know	34 (10.9)
Other	16 (5.1)
How do you provide advice and guidance on lifestyle-related disease prevention to a patient?	
I do it by myself, verbally	234 (74.8)
I request help from other professionals	44 (14.0)
I use educational material	18 (5.8)
I am not involved in this issue	10 (3.2)
Other	7 (2.2)
What is the most significant barrier to addressing lifestyle-related disease prevention for gynecologic cancer survivors?	
Lack of time to talk about this issue	134 (42.8)
Lack of guideline or information to instruct the patient	30 (9.6)
The idea that lifestyle-related disease prevention is not the responsibility of a gynecologic oncologist	65 (20.8)
The idea that lifestyle-related disease prevention is not necessary unless follow-up the primary cancer surveillance is done	13 (4.2)
I am confident that I provide sufficient instruction to the patients.	43 (13.7)
Other	28 (8.9)

claimed to ask for the help of other professionals at the institute, whereas 31.3% advised the patients themselves. A lack of time (17.3%) and information (10.9%) to deal with this issue were the most common barriers to RTW support.

DISCUSSION

This questionnaire survey found that the GOs had enthusiastic attitudes toward a wide range of survivorship issues. This high conscientiousness of GOs could be beneficial for cancer survivors. However, we also found several issues in gynecologic cancer survivorship care in Japan that can be improved.

The GOs' reluctant attitudes toward addressing psychiatric problems (i.e., sleeping disorders, depression, and cognitive impairment) were of concern (**Fig. 1**). Psychiatric care within routine survivor care is universally encouraged because 15%–40% of cancer survivors experience mental difficulties [5,6,10,11]. Our study did not identify the reasons for the GOs' reluctance. However, a systematic review by Dilworth et al. [12] showed that the most frequent physician barrier to survivors' psychosocial care was access to support resources.

Table 5. Perceptions and attitudes of the participants toward return-to-work support for gynecological cancer survivors (n=313)

Question	No. (%)
How often do you discuss returning to work before starting cancer treatment?	
Always	43 (13.7)
Most of the time	121 (38.7)
Some of the time	110 (35.1)
Rarely	30 (9.6)
Never	6 (1.9)
No answer	3 (1.0)
What are your thoughts about patients continuing to work during treatment?	
It is better to leave the job in principle.	2 (0.6)
It is better to leave the job if the prognosis is poor.	1 (0.3)
It is better to keep the job if the prognosis is good.	18 (5.8)
It is better to keep the job in principle.	159 (50.8)
It is up to the patient.	132 (42.2)
It is not a matter for me.	0 (0.0)
No answer	1 (0.3)
What are your thoughts about patients continuing to work after completion of treatment?	
It is better not to work.	0 (0.0)
It is better not to work unless necessary for financial reasons.	1 (0.3)
It is better to leave the job temporarily and return to work after completing treatment.	3 (1.0)
It is better to continue the same job.	153 (48.9)
It is up to the patient.	153 (48.9)
It is not a matter for me.	0 (0.0)
No answer	4 (1.3)
How do you respond to patients when they ask for advice about working? (Multiple answers allowed)	
Answer by using my knowledge.	98 (31.3)
Ask for help from professionals in the hospital.	179 (57.2)
Recommend consultation with another hospital that provides employment support to cancer survivors.	4 (1.3)
Recommend consultation with the patient's employer or Public Employment Security Office.	12 (3.8)
Only listening attentively	13 (4.2)
It is not a matter for me.	0 (0.0)
Other (free text)	7 (2.2)
What are your thoughts about return-to-work support for cancer survivors?	
I am confident that I will provide sufficient support.	9 (2.9)
I have colleagues who are professionals on this issue.	194 (62.0)
Oncologists are not responsible for this issue.	17 (5.4)
I do not have enough time to deal with this issue.	54 (17.3)
I do not have enough information about this issue to support the patients.	34 (10.9)
Other (free text)	5 (1.6)

This may also be true for our study. In Japan, it is not easy for patients to find supportive resources for non-prominent psychiatric issues such as sleeping disorders, anxiety, and mild cognitive impairment, although patients with apparent psychiatric problems have good access to psychiatrists [13]. Therefore, GOs may feel pressure to manage their patients' mild psychiatric problems themselves. Establishing access to the resources to support survivors' mental health, including trained oncology nurses, clinical psychologists, and peer supporters, may be helpful to improve this situation.

The GOs' attitudes toward survivors' sexuality and social issues are another topic of concern. Almost all the GOs in our study provided care for estrogen deficiency symptoms and infertility. However, fewer GOs were proactive about the issue of appearance care, partnership, infant adoption, and financial burden (**Fig. 1**). Women GOs were more proactively involved in sexuality-related issues than men (**Table 2**). According to a systematic review by Reese et al. [14], only three studies have assessed the influence of provider gender on communication about sexual concerns after cancer, and women were associated with

greater communication than men in one study [15], but not in the other two [16,17]. We speculate that the apparent influence of physicians' gender on survivors' sexuality care in our study resulted from cultural attitudes. Open discussion about sex is embarrassing, particularly between people of different genders. Most studies about cancer survivors' sexualities are from Europe and North America [14], whereas our results show an aspect of cancer survivor care in the cultures of Asia and other areas of the world. Nonetheless, we do not intend to claim that women physicians are better supporters of women patients. Instead, our results suggest the importance of the involvement of various providers with different backgrounds. Indeed, the men GOs were more concerned about the financial burden on the patients than the women, and the GOs who had experienced cancer cared more about infant adoption, a sensitive issue that is challenging to discuss in Japan (**Table 2**) [18].

Cancer survivors have a higher risk of developing new cancer than those who have never had cancer, and 1 in 9–12 cancer survivors is estimated to experience an SPC [19,20]. Similarly, it has been reported that young cancer survivors are at increased risk for hypertension, dyslipidemia, and diabetes later in life [21,22]. Therefore, it is crucial that cancer survivors receive appropriate information about SPC and LSRD prevention and access health care interventions as needed. In our study, approximately 60% and 40% of the respondents claimed to proactively discuss SPC and LSRD prevention, respectively, with their patients, showing high motivation for addressing these issues (**Tables 4** and **5**). However, there are a few points to be concerned about. In Japan, screenings for lung, colorectal, gastric, breast, and cervical cancers are recommended in the national cancer screening program. Therefore, it is reasonable for Japanese cancer survivors to undergo these five cancer screenings. However, only 50% of GOs recommended gastric cancer screening, whereas most of them suggested screenings for breast and colorectal cancer, the cancers that occur as hereditary cancer syndromes such as hereditary breast and ovarian cancer syndrome and Lynch syndrome [23,24]. Moreover, 82.1% of the respondents provided verbal advice on SPC prevention (**Table 3**), 74.5% provided verbal advice on LSRD prevention, and only 14.0% would refer their patients to other professionals (i.e., primary care physicians; **Table 4**). These data raise the suspicion that the quality of GOs' SPC and LSRD prevention is not ensured.

To overcome this problem, establishing guidelines and educational materials for survivors' long-term health care is required. The respondents cited a lack of information, in addition to a lack of time, as a barrier to survivors' long-term health care (**Tables 3** and **4**). Although the need for Japanese guidelines on long-term health management of cancer survivors is recognized, widely usable guidelines have not yet been developed [25]. For example, the American Society of Clinical Oncology (ASCO) Breast Cancer Survivorship Care Guidelines [26] provide detailed recommendations for a healthy lifestyle and breast cancer related SPC screening. Similarly, the Japanese Breast Cancer Guideline devotes pages to specific lifestyle recommendations for breast cancer survivors [27]. We believe similar guidelines and educational materials must be developed for gynecological cancers.

Furthermore, the collaboration between oncologists and primary care physicians (PCPs) is recommended for long-term health care of cancer survivors [28]. In Japan, a national program named the "Cancer Collaborative Critical Path" has been implemented to facilitate collaboration between oncologists and PCPs in major cancer types, such as lung, colorectal cancer, and so on. However, the partnership between PCPs and oncologists in clinical practice is still insufficient. [25,29]. Much less, there are very few cases in which primary care gynecologists and GOs collaborate to provide survivor care. Establishing a collaborative system between gynecological PCPs and GOs is a crucial issue to be solved.

RTW is important for cancer survivors' financial security and identity [8,9,30] and for maintaining a valuable working population in an aging society like Japan. Accordingly, the Japanese government positions RTW support as one of the most important issues for cancer survivorship, and various social support programs are currently being established [30,31].

Approximately half of the respondents answered that they routinely discussed RTW with their patients (**Table 5**), showing high awareness and positive attitudes about survivors' RTW support. However, concerns remain about the quality of the support. When asked for their ideas on patients' RTW during and after cancer treatment, about half of the respondents answered they would suggest that patients continue working at their same place of employment, whereas the other half answered that "it is up to the patient" (**Table 5**). Because the meaning of work differs from person to person, it is only reasonable to respect the patient's autonomy. However, if a patient has an employment problem and their doctor says, "it is up to you," the discussion may not go deep enough, and they may miss an opportunity to get the proper support.

Furthermore, when asked how they provide RTW support to their patients, 31.3% of the GOs said they would provide the support themselves despite the most frequent barrier to RTW being a lack of time during outpatient visits (**Table 5**). Thus, GOs are motivated to provide RTW support for their patients but they appear to be unable to provide adequate assistance due to a lack of knowledge and an overload of practical work. Therefore, establishing a system that allows for smooth collaboration with specialists is necessary to provide appropriate support.

Some limitations of this study should be recognized. First, only a small proportion of JGOG members (31.8%) participated in this study. Therefore, there may be a bias if only the members interested in cancer survivorship responded to the survey. The other concern is the unbalanced backgrounds of the participants. Most of the respondents were experienced gynecologic oncology experts, and a majority of their workplaces were tertiary oncology facilities with well-developed cancer survivor support programs. Therefore, the GOs' high awareness of cancer survivor support shown in this study may overestimate the actual situation in Japan. In any case, our study contributed to identifying the issues that needed to be improved in gynecologic cancer survivorship care in Japan, even among such motivated GOs. Finally, we primarily examined how the GOs provide survivorship care to patients but did not assess whether the survivors benefit from this care. It is important to investigate this because the respondents in this study tended to give support in a self-directed manner. We are currently conducting another surveillance study to evaluate the situation of survivorship care in Japan from the perspective of gynecologic cancer survivors.

In summary, our data revealed the GOs' attitudes to be engaged in survivorship, including psychosocial and long-term health issues. However, we also found that the GOs tended to address survivors' issues by their own motivations and direction without the help of others. Our study therefore suggested the urgency of providing GOs with practical guidance and educational materials regarding gynecological cancer survivorship care and strengthening multidisciplinary collaboration. Based on the findings of this comprehensive study, further research is needed to develop practice programs for each of the survivorship care components (i.e., post-treatment complications, SPC prevention, LSRD prevention, and social support, including RTW). Studies on post-treatment sexuality issues, SPC prevention, and LSRD prevention are currently being conducted by JGOG Supportive and Palliative Care Committee members. In addition, we plan to develop a support tool to identify individual survivors' problems to facilitate appropriate support and linkages to multidisciplinary collaboration.

ACKNOWLEDGEMENTS

Part of this study was funded by Research Grants from the Japanese Ministry of Health, Labour and Welfare (Research for Promotion of Cancer Control Program; grant number JPMH19EA1015; principal investigator: Nao Suzuki). The authors would like to thank Mr. Hitoshi Sawada of Japanese Gynecologic Oncology Group (JGOG) for his assistance with conducting the survey and Ms. Aiko Kiriya for her secretarial assistance. We also acknowledge the contributions of the Supportive and Palliative Care Committee members of the JGOG.

SUPPLEMENTARY MATERIALS

Table S1

Univariate analysis of the likelihood of being proactive to post-treatment issues according to the participants' background factors

[Click here to view](#)

Fig. S1

Frequency of providing information and guidance about long-term problems to patients after cancer treatment (all 26 items).

[Click here to view](#)

REFERENCES

1. Mullan F. Seasons of survival: reflections of a physician with cancer. *N Engl J Med* 1985;313:270-3.
[PUBMED](#) | [CROSSREF](#)
2. Shapiro CL. Cancer survivorship. *N Engl J Med* 2018;379:2438-50.
[PUBMED](#) | [CROSSREF](#)
3. Ministry of Health, Labour and Welfare. The basic plan to promote cancer control programs [Internet]. Tokyo: Ministry of Health, Labour and Welfare; 2018 [cited 2022 Apr 7]. Available from: <https://www.mhlw.go.jp/file/06-Seisakujouhou-10900000-Kenkoukyoku/0000196975.pdf>.
4. Westin SN, Sun CC, Tung CS, Lacour RA, Meyer LA, Urbauer DL, et al. Survivors of gynecologic malignancies: impact of treatment on health and well-being. *J Cancer Surviv* 2016;10:261-70.
[PUBMED](#) | [CROSSREF](#)
5. Recklitis CJ, Syrjala KL. Provision of integrated psychosocial services for cancer survivors post-treatment. *Lancet Oncol* 2017;18:e39-50.
[PUBMED](#) | [CROSSREF](#)
6. Shapiro CL, Jacobsen PB, Henderson T, Hurria A, Nekhlyudov L, Ng A, et al. ReCAP: ASCO core curriculum for cancer survivorship education. *J Oncol Pract* 2016;12:145.
[PUBMED](#) | [CROSSREF](#)
7. Denlinger CS, Sanft T, Moslehi JJ, Overholser L, Armenian S, Baker KS, et al. NCCN guidelines insights: survivorship, version 2.2020. *J Natl Compr Canc Netw* 2020;18:1016-23.
[PUBMED](#) | [CROSSREF](#)
8. Petecet JR. Cancer and the meaning of work. *Gen Hosp Psychiatry* 2000;22:200-5.
[PUBMED](#) | [CROSSREF](#)
9. Yagil D, Eshed-Lavi N, Carel R, Cohen M. Return to work of cancer survivors: predicting healthcare professionals' assumed role responsibility. *J Occup Rehabil* 2019;29:443-50.
[PUBMED](#) | [CROSSREF](#)

10. Hong YR, Yadav S, Suk R, Khanijahani A, Erim D, Turner K. Patient-provider discussion about emotional and social needs, mental health outcomes, and benefit finding among U.S. adults living with cancer. *Cancer Med* 2021;10:3622-34.
[PUBMED](#) | [CROSSREF](#)
11. Senf B, Fettel J, Demmerle C, Maiwurm P. Physicians' attitudes towards psycho-oncology, perceived barriers, and psychosocial competencies: Indicators of successful implementation of adjunctive psycho-oncological care? *Psychooncology* 2019;28:415-22.
[PUBMED](#) | [CROSSREF](#)
12. Dilworth S, Higgins I, Parker V, Kelly B, Turner J. Patient and health professional's perceived barriers to the delivery of psychosocial care to adults with cancer: a systematic review. *Psychooncology* 2014;23:601-12.
[PUBMED](#) | [CROSSREF](#)
13. Akechi T. Psycho-oncology: history, current status, and future directions in Japan. *Japan Med Assoc J* 2018;1:22-9.
[PUBMED](#) | [CROSSREF](#)
14. Reese JB, Sorice K, Beach MC, Porter LS, Tulsy JA, Daly MB, et al. Patient-provider communication about sexual concerns in cancer: a systematic review. *J Cancer Surviv* 2017;11:175-88.
[PUBMED](#) | [CROSSREF](#)
15. Scanlon M, Blaes A, Geller M, Majhail NS, Lindgren B, Haddad T. Patient satisfaction with physician discussions of treatment impact on fertility, menopause and sexual health among pre-menopausal women with cancer. *J Cancer* 2012;3:217-25.
[PUBMED](#) | [CROSSREF](#)
16. Stead ML, Brown JM, Fallowfield L, Selby P. Lack of communication between healthcare professionals and women with ovarian cancer about sexual issues. *Br J Cancer* 2003;88:666-71.
[PUBMED](#) | [CROSSREF](#)
17. White ID, Allan H, Faithfull S. Assessment of treatment-induced female sexual morbidity in oncology: is this a part of routine medical follow-up after radical pelvic radiotherapy? *Br J Cancer* 2011;105:903-10.
[PUBMED](#) | [CROSSREF](#)
18. Shiraishi E, Sugimoto K, Shapiro JS, Ito Y, Kamoshita K, Kusuhara A, et al. Study of the awareness of adoption as a family-building option among oncofertility stakeholders in Japan. *JCO Glob Oncol* 2020;6:350-5.
[PUBMED](#) | [CROSSREF](#)
19. Mariotto AB, Rowland JH, Ries LA, Scoppa S, Feuer EJ. Multiple cancer prevalence: a growing challenge in long-term survivorship. *Cancer Epidemiol Biomarkers Prev* 2007;16:566-71.
[PUBMED](#) | [CROSSREF](#)
20. Donin N, Filson C, Drakaki A, Tan HJ, Castillo A, Kwan L, et al. Risk of second primary malignancies among cancer survivors in the United States, 1992 through 2008. *Cancer* 2016;122:3075-86.
[PUBMED](#) | [CROSSREF](#)
21. Nottage KA, Ness KK, Li C, Srivastava D, Robison LL, Hudson MM. Metabolic syndrome and cardiovascular risk among long-term survivors of acute lymphoblastic leukaemia - from the St. Jude Lifetime Cohort. *Br J Haematol* 2014;165:364-74.
[PUBMED](#) | [CROSSREF](#)
22. Meacham LR, Sklar CA, Li S, Liu Q, Gimpel N, Yasui Y, et al. Diabetes mellitus in long-term survivors of childhood cancer. Increased risk associated with radiation therapy: a report for the childhood cancer survivor study. *Arch Intern Med* 2009;169:1381-8.
[PUBMED](#) | [CROSSREF](#)
23. Kuchenbaecker KB, Hopper JL, Barnes DR, Phillips KA, Mooij TM, Roos-Blom MJ, et al. Risks of breast, ovarian, and contralateral breast cancer for BRCA1 and BRCA2 mutation carriers. *JAMA* 2017;317:2402-16.
[PUBMED](#) | [CROSSREF](#)
24. Menahem B, Alves A, Regimbeau JM, Sabbagh C. Lynch syndrome: current management in 2019. *J Visc Surg* 2019;156:507-14.
[PUBMED](#) | [CROSSREF](#)
25. Okubo R, Wada S, Shimizu Y, Tsuji K, Hanai A, Imai K, et al. Expectations of and recommendations for a cancer survivorship guideline in Japan: a literature review of guidelines for cancer survivorship. *Jpn J Clin Oncol* 2019;49:812-22.
[PUBMED](#) | [CROSSREF](#)
26. Runowicz CD, Leach CR, Henry NL, Henry KS, Mackey HT, Cowens-Alvarado RL, et al. American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. *J Clin Oncol* 2016;34:611-35.
[PUBMED](#) | [CROSSREF](#)

27. Japanese Breast Cancer Society. Clinical practice guidelines for breast cancer screening and diagnosis, 2018 edition. Tokyo: Kanehara Shuppan; 2018.
28. Adam R, Watson E. The role of primary care in supporting patients living with and beyond cancer. *Curr Opin Support Palliat Care* 2018;12:261-7.
[PUBMED](#) | [CROSSREF](#)
29. Kimachi M, Omae K, Kamitani T, Fukuma S. Primary care physicians' perceptions concerning engagement in cancer survivor care. *J Gen Fam Med* 2021;23:149-57.
[PUBMED](#) | [CROSSREF](#)
30. Takahashi M. Cancer survivorship: current status of research, care, and policy in Japan. *Jpn J Clin Oncol* 2016;46:599-604.
[PUBMED](#) | [CROSSREF](#)
31. Endo M. How do gynecologists face to social problems among women cancer survivors? *J Obstet Gynaecol Res* 2021;47:1651-3.
[PUBMED](#) | [CROSSREF](#)