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Physicians' Awareness of the Breast Cancer Survivors' Unmet Needs in Korea

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ABSTRACT

Purpose: Physicians' awareness of their cancer patients' unmet needs is an essential element for providing effective treatment. This study investigated the accuracy of physicians' awareness of breast cancer survivors' unmet needs in Korea.

Methods: A cross-sectional interview survey was performed among 106 physicians and 320 Korean breast cancer survivors. The Comprehensive Needs Assessment Tool was administered to physicians and cancer survivors after obtaining their written informed consent to participate. Data were analyzed using t-test, analysis of variance, and multiple regression analysis.

Results: The level of unmet needs was highest in the hospital service domain (mean ± standard deviation: 2.19 ± 0.82), and the top-ranked unmet need item was "wished my doctor to be easy, specific, and honest in his/her explanation" (2.44 ± 0.93). Higher unmet needs were correlated with the presence of a genetic counseling clinic. They were not associated with age, sex, marital status, religion, department, working period, type of institution, number of staff, and number of operations. In multiple regression analysis, the presence of a genetic counseling clinic was associated with a higher level of recognition for psychological problems, social support, hospital service, and information and education needs. Physicians overestimated breast cancer survivors' unmet needs in all domains, compared to their self-reported unmet needs. The discordance in the perceived unmet needs was highest in the 'family/personal relationship problems' domain.

Conclusions: Physicians who treat Korean breast cancer survivors rated the level of unmet needs of breast cancer survivors as highest in the hospital service domain. The presence of a genetic counseling clinic in physicians' institutions was associated with a higher perception of survivors' unmet needs. Physicians overestimated the level of unmet needs in Korean

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breast cancer survivors. Efforts to reduce these discordances are needed to implement optimal survivorship care.

Keywords: Breast neoplasms; Physicians; Survivors; Unmet need

INTRODUCTION

With increasing survival rates, the number of cancer survivors is rising owing to early diagnosis and advanced treatment modalities. Breast cancer is the most common cancer among women worldwide. In Korea, 26,534 patients were newly diagnosed with breast cancer in 2017, making it the most common cancer among women, as in other countries [1]. Breast cancer has good prognosis; the 5-year relative survival rate of Korean breast cancer patients is 93.2%. There are about 217,000 breast cancer survivors, ranked 4th (11.6%) among Korean cancer survivors [2].

Most cancer survivors, including breast cancer survivors, experience various physical and psychological problems after cancer diagnosis and treatment. Since these difficulties directly affect the quality of life (QoL) of cancer survivors and are also related to treatment outcomes, efforts to identify and address the unmet needs of cancer survivors are essential for effective treatment [3].

The concordance in the perception of unmet needs between physicians and patients has a positive effect on the patients' health [4]. Additionally, higher concordance rates are correlated with higher patient satisfaction, increased treatment adherence, and better treatment outcomes [5,6]. In general, physicians assume that they are aware of the unmet needs of cancer survivors because they are cognizant of the medical conditions of their patients. However, many physicians are mainly interested in the primary treatment, such as operation and chemotherapy, and tend to neglect supportive care needs. Consequently, there is actually a considerable discrepancy in the perceptions of unmet needs between physicians and their cancer survivor patients, which is a major obstacle to providing comprehensive survivorship care [7,8].

It is essential to accurately identify the unmet needs of cancer survivors and investigate discordances regarding unmet needs between physicians and cancer survivors to provide improved survivorship care. However, several previous studies either emphasize a single factor or include small samples. Some previous studies had limitations such as the use of different needs assessment tools for the 2 groups [9,10]. Additionally, there is a dearth of comprehensive studies on specific populations of cancer survivors, including breast cancer survivors.

This study evaluated the key elements of unmet needs and factors affecting the unmet needs of cancer survivors among physicians who treat breast cancer survivors in Korea. We investigated the discordance in perceived unmet needs between physicians and breast cancer survivors to present basic data for providing adequate cancer survivorship care.

METHODS

Study population

A cross-sectional interview survey of 106 physicians was performed between July 2016 and August 2017. The members of the Korean Breast Cancer Society who provided informed consent to participate were recruited as participants in the study. After excluding 4 respondents due to missing data, the final analysis included 102 physicians. Additionally, a cross-sectional interview survey was conducted among 320 breast cancer survivors during the same period after obtaining their informed consent to participate. They were recruited from among the patients who had been diagnosed with breast cancer and were receiving treatment in 6 medical centers in Korea: Jeonbuk National University Hospital, National Cancer Center, Samsung Medical Center, Myongji Hospital, Soonchunhyang University Seoul and Bucheon Hospital. The Institutional Review Board (IRB) of Jeonbuk National University Hospital, Jeonju, Korea (approval number 2016-01-018-004) approved this study. Moreover, breast cancer survivors were surveyed after obtaining approval from the IRB of each of the 6 medical centers mentioned above.

Measurements

The needs of cancer survivors as perceived by physicians and breast cancer survivors were assessed using the Comprehensive Needs Assessment Tool (CNAT), which was developed at Korea's National Cancer Center [11]. The CNAT is the most appropriate tool to measure the needs of Korean cancer survivors. The CNAT comprises 59 items grouped into 8 domains: information and education (10 items), psychological problems (10 items), healthcare staff (8 items), physical symptoms (12 items), hospital service (6 items), family/personal relationship problems (3 items), religious/spiritual support (2 items), and social support (8 items) (**Supplementary Table 1**). Breast cancer survivors were instructed to rate each item on a 4-point Likert scale (0 = no need, 1 = low need, 2 = moderate need, 3 = high need) based on their experiences in the past month. Physicians were also surveyed regarding their perceived roles. We investigated the unmet needs of Korean breast cancer survivors as perceived by physicians, analyzed the factors affecting the perceived unmet needs, and examined the discordances in the perception of unmet needs between physicians and breast cancer survivors.

Statistical analyses

Principal component analysis was used for factor extraction, the eigenvalue threshold was defined as 1, and factor analysis was conducted using the varimax method among orthogonal rotation methods. The *t*-test and analysis of variance were performed to compare need scores for each factor and need scores according to the physicians' characteristics. The need score for each factor was used as the dependent variable, and variables that were statistically significant in univariate analysis were used as independent variables. Then, multiple regression analysis was conducted to investigate the effects of major variables on needs. Furthermore, the differences in the perception of unmet needs between physicians and breast cancer survivors were investigated. All statistical analyses were performed using SPSS version 23.0 (SPSS Inc., Chicago, USA), and statistical significance was set at $p < 0.05$.

RESULTS

Characteristics of the study population

Among the physicians, the highest proportion (51 people, 50.0%) belonged to the 40–49 age group, and 64.7% were males. Eighty-seven physicians (85.3%) were married and 69.6% (71/102) had a religion. Majority of the physicians (93, 91.2%) were surgeons, and 42.1% (43/102) were breast specialists who had worked as surgeons for 10 or more years. Regarding the type of institution, 78.4%, 42.1%, and 54.9% physicians worked at an academic hospital, an institution with 2–3 breast cancer staff, and an institution with a genetic counseling clinic, respectively. Regarding the total number of breast cancer operations performed per month, the proportion of surgeons performing 11–20 cases per month was the highest (30/102 people, 29.4%) (**Table 1**).

Table 1. Characteristics of physicians

Characteristics	No. (%)
Age (yr)	
< 40	35 (34.3)
40–49	51 (50.0)
≥ 50	16 (15.7)
Sex	
Male	64 (62.7)
Female	38 (37.3)
Marital status	
Married	87 (85.3)
Unmarried	15 (14.7)
Religion	
Yes	71 (69.6)
No	31 (30.4)
Department	
Surgery	93 (91.2)
Others	9 (8.8)
Working period (yr)	
≤ 2	7 (6.9)
> 2, ≤ 5	23 (22.6)
> 5, ≤ 10	29 (28.4)
> 10, ≤ 20	30 (29.4)
> 20	13 (12.7)
Type of institution	
Academic	80 (78.4)
General	17 (16.7)
Special	2 (2.0)
Private	3 (2.9)
No. of staff	
1	11 (10.8)
2–3	43 (42.1)
4–5	21 (20.6)
≥ 6	27 (26.5)
No. of operation (/month)	
< 10	16 (15.7)
11–20	30 (29.4)
21–50	27 (26.5)
≥ 51	29 (28.4)
Genetic counseling clinic	
Yes	56 (54.9)
No	46 (45.1)

Table 2. Top 10 unmet needs of physicians

Rank	Items	Score (mean ± standard deviation)	Domain
1	Wished my doctor to be easy, specific, and honest in his/her explanation	2.44 ± 0.93	Healthcare staff
2	Needed information about current status of my illness and its future courses	2.40 ± 1.01	Information and education
3	Wished to be able to seek doctor in a quick and easy way when in need	2.38 ± 0.80	Healthcare staff
4	Needed help in coping with fear of recurrence	2.38 ± 0.74	Psychological problem
5	Wished for a short waiting period between the reservation and the doctor appointment	2.37 ± 0.80	Hospital service
6	Needed information about correct diet (food to eat, food to avoid)	2.36 ± 0.84	Information and education
7	Needed information about tests and treatments	2.34 ± 1.00	Information and education
8	Needed an easy and accurate explanation about its benefits, side effects and application of current medication	2.32 ± 0.99	Information and education
9	Needed help with depression	2.32 ± 0.75	Psychological problem
10	Needed information about symptoms require a hospital visit	2.31 ± 0.91	Information and education

Factor analysis of needs

Seven factors were extracted from the factor analysis of the needs of breast cancer survivors perceived by physicians. They were labeled according to the characteristics of the items included in each factor as follows: "information and education," "psychological problems," "social support," "healthcare staff," "hospital service," "physical symptoms," and "information and education (II)." As a result of factor analysis, of the 59 items, one item (Q9) was not classified under any particular factor; therefore, it was excluded from the needs variable of breast cancer survivors (**Supplementary Table 2**). Among the top 10 unmet need items, 5 items belonged to the information and education domain, and the unmet need score was highest in the hospital service domain (mean ± standard deviation: 2.19 ± 0.82) (**Table 2**). The item with the highest unmet need score was "wished my doctor to be easy, specific, and honest in his/her explanation" in the healthcare staff domain (2.44 ± 0.93).

Needs by characteristics of the study population

There was no significant difference in the level of unmet needs according to age, sex, marital status, and religion among physicians (**Table 3**). The perceived unmet needs were higher among non-surgeon physicians than among surgeons; however, there was no statistically significant difference (1.98 needs according to age, $p = 0.178$). There was no difference in unmet needs according to the type of institution, working period, and the number of staff. As the number of cases of breast cancer operations performed per month increased, the level of unmet needs also increased; however, there was no statistically significant difference. The presence of a genetic counseling clinic was statistically significantly correlated with higher unmet needs concerning psychological problems, social support, hospital service, and information and education (II). Multiple regression analysis was conducted to investigate the influence of each independent variable on the total score of each unmet need as the dependent variable. The results revealed that physicians working at institutions with a genetic counseling clinic (**Table 4**) perceived a higher number of unmet needs of cancer survivors.

Comparison of the perceived unmet needs between physicians and breast cancer survivors

The comparison of the perceived unmet needs between physicians and breast cancer survivors revealed that physicians rated the level of unmet needs of cancer survivors as higher in all domains as compared to the breast cancer survivors (**Figure 1**). Among the top 10 discordant unmet needs, 5 items belonged to the "physical symptoms" domain, the highest discordance was observed in the "family/personal relationship problems" domain (1.94 ±

Table 3. Needs by characteristics of physicians

Variables	Total	Information and education	Psychological problem	Social support	Health care staff	Hospital service	Physical symptom	Information and education (II)
Age (yr)								
< 40	1.94 ± 0.53	2.14 ± 0.77	2.10 ± 0.61	1.49 ± 0.65	1.90 ± 0.75	2.12 ± 0.72	1.90 ± 0.56	1.89 ± 0.69
40–49	2.05 ± 0.54	2.19 ± 0.67	2.17 ± 0.61	1.61 ± 0.79	1.95 ± 0.84	2.24 ± 0.62	2.05 ± 0.61	2.15 ± 0.61
≥ 50	2.01 ± 0.56	2.21 ± 0.55	2.04 ± 0.64	1.65 ± 0.75	2.07 ± 0.73	2.45 ± 0.53	1.89 ± 0.67	1.75 ± 0.82
p-value	0.626	0.923	0.753	0.693	0.771	0.238	0.446	0.061
Sex								
Male	2.01 ± 0.53	2.22 ± 0.60	2.09 ± 0.60	1.56 ± 0.71	2.00 ± 0.75	2.26 ± 0.59	1.94 ± 0.61	1.97 ± 0.69
Female	2.00 ± 0.56	2.11 ± 0.81	2.18 ± 0.63	1.60 ± 0.79	1.87 ± 0.85	2.19 ± 0.75	2.03 ± 0.60	2.04 ± 0.69
p-value	0.996	0.473	0.464	0.774	0.448	0.616	0.488	0.595
Marital status								
Married	2.01 ± 0.53	2.19 ± 0.65	2.13 ± 0.61	1.58 ± 0.72	1.97 ± 0.80	2.24 ± 0.62	1.96 ± 0.61	1.98 ± 0.69
Unmarried	1.99 ± 0.60	2.13 ± 0.87	2.13 ± 0.61	1.56 ± 0.85	1.81 ± 0.73	2.20 ± 0.84	2.03 ± 0.59	2.07 ± 0.70
p-value	0.911	0.747	0.964	0.944	0.466	0.833	0.687	0.671
Religion								
Yes	1.99 ± 0.53	2.16 ± 0.68	2.11 ± 0.61	1.54 ± 0.71	2.02 ± 0.72	2.18 ± 0.66	1.95 ± 0.60	1.97 ± 0.66
No	2.04 ± 0.56	2.22 ± 0.71	2.17 ± 0.62	1.65 ± 0.81	1.79 ± 0.93	2.36 ± 0.60	2.03 ± 0.63	2.06 ± 0.74
p-value	0.668	0.728	0.669	0.496	0.232	0.182	0.568	0.512
Department								
Surgery	1.98 ± 0.53	2.16 ± 0.69	2.10 ± 0.62	1.53 ± 0.72	1.92 ± 0.80	2.23 ± 0.63	1.96 ± 0.61	1.97 ± 0.67
Others	2.24 ± 0.59	2.38 ± 0.67	2.43 ± 0.44	1.98 ± 0.77	2.27 ± 0.62	2.28 ± 0.85	2.09 ± 0.51	2.22 ± 0.83
p-value	0.178	0.361	0.119	0.080	0.210	0.829	0.543	0.304
Working period (yr)								
≤ 2	1.83 ± 0.73	1.92 ± 0.95	1.92 ± 0.81	1.39 ± 0.79	2.00 ± 0.87	1.86 ± 0.89	1.79 ± 0.59	1.95 ± 0.80
> 2, ≤ 5	2.01 ± 0.53	2.23 ± 0.69	2.18 ± 0.60	1.62 ± 0.71	1.89 ± 0.67	2.21 ± 0.69	1.99 ± 0.59	1.99 ± 0.69
> 5, ≤ 10	1.96 ± 0.58	2.11 ± 0.81	2.05 ± 0.68	1.49 ± 0.83	1.83 ± 0.95	2.25 ± 0.68	2.04 ± 0.65	1.94 ± 0.56
> 10, ≤ 20	2.05 ± 0.41	2.18 ± 0.57	2.22 ± 0.40	1.60 ± 0.64	2.05 ± 0.67	2.21 ± 0.57	1.96 ± 0.52	2.12 ± 0.75
> 20	2.01 ± 0.61	2.34 ± 0.45	2.01 ± 0.75	1.62 ± 0.74	1.98 ± 0.85	2.46 ± 0.49	1.86 ± 0.74	1.78 ± 0.73
p-value	0.893	0.737	0.624	0.911	0.861	0.424	0.841	0.661
Type of institution								
Academic	1.99 ± 0.54	2.18 ± 0.69	2.09 ± 0.61	1.53 ± 0.71	1.94 ± 0.81	2.26 ± 0.64	1.95 ± 0.60	1.95 ± 0.69
General	2.04 ± 0.56	2.18 ± 0.75	2.22 ± 0.65	1.63 ± 0.83	1.85 ± 0.73	2.16 ± 0.72	2.04 ± 0.63	2.22 ± 0.58
Special	2.36 ± 0.42	2.26 ± 0.00	2.43 ± 0.10	2.21 ± 0.91	2.70 ± 0.14	2.25 ± 1.06	2.00 ± 0.71	2.67 ± 0.00
Private	2.09 ± 0.62	2.14 ± 0.71	2.29 ± 0.68	2.14 ± 0.65	2.27 ± 0.64	1.83 ± 0.52	2.28 ± 0.63	1.67 ± 1.00
p-value	8.467	0.998	0.729	0.290	0.464	0.685	0.783	0.189
No. of staff								
	1.96 ± 0.52	2.00 ± 0.87	2.12 ± 0.62	1.52 ± 0.77	1.87 ± 0.84	2.18 ± 0.76	2.03 ± 0.52	1.97 ± 0.74
1	1.93 ± 0.62	2.14 ± 0.77	2.00 ± 0.71	1.45 ± 0.79	1.86 ± 0.90	2.21 ± 0.70	1.85 ± 0.67	1.98 ± 0.73
2–3	2.16 ± 0.45	2.34 ± 0.46	2.30 ± 0.44	1.78 ± 0.69	2.23 ± 0.57	2.44 ± 0.42	2.07 ± 0.48	1.97 ± 0.71
4–5	2.03 ± 0.45	2.19 ± 0.62	2.20 ± 0.52	1.63 ± 0.65	1.92 ± 0.71	2.13 ± 0.65	2.08 ± 0.60	2.05 ± 0.59
p-value	8.467	0.556	0.261	0.382	0.339	0.402	0.354	0.974
No. of operation (/month)								
< 10	1.89 ± 0.64	1.92 ± 0.86	2.06 ± 0.66	1.51 ± 0.84	1.91 ± 0.79	1.94 ± 0.77	1.89 ± 0.72	2.02 ± 0.79
11–20	1.95 ± 0.52	2.21 ± 0.69	2.05 ± 0.62	1.41 ± 0.74	1.85 ± 0.80	2.32 ± 0.64	1.90 ± 0.62	1.89 ± 0.63
21–50	2.00 ± 0.59	2.19 ± 0.69	2.05 ± 0.64	1.68 ± 0.72	2.06 ± 0.85	2.22 ± 0.66	1.91 ± 0.56	1.90 ± 0.77
≥ 51	2.11 ± 0.44	2.28 ± 0.56	2.28 ± 0.52	1.65 ± 0.69	1.97 ± 0.76	2.30 ± 0.56	2.16 ± 0.56	2.15 ± 0.58
p-value	0.530	0.408	0.395	0.499	0.785	0.248	0.288	0.436
Genetic counseling clinic								
Yes	2.13 ± 0.51	2.26 ± 0.70	2.25 ± 0.56	1.79 ± 0.68	2.01 ± 0.82	2.36 ± 0.55	2.05 ± 0.64	2.17 ± 0.60
No	1.86 ± 0.53	2.08 ± 0.66	1.97 ± 0.63	1.31 ± 0.72	1.87 ± 0.75	2.08 ± 0.72	1.89 ± 0.55	1.78 ± 0.73
p-value	0.010	0.202	0.019	0.001	0.373	0.026	0.181	0.004

Table 4. The result of multiple regression analysis by needs

Variables: Genetic counseling clinic (ref: No)	Information and education		Psychological problem		Social support		Health care staff		Hospital service		Physical symptom		Information and education (II)	
	β	T	β	T	β	T	β	T	β	T	β	T	β	T
Yes	0.715	1.285	0.282	2.384*	0.480	3.457†	0.140	0.895	0.286	2.259*	0.161	1.348	0.390	2.968†
Adjusted	0.006		0.044		0.098		−0.002		0.039		0.008		0.072	
F-value	1.652		5.685		11.950		0.800		5.103		1.818		8.810	
p-value	0.202		0.019		0.001		0.373		0.026		0.181		0.004	

*$p < 0.05$; †$p < 0.01$.
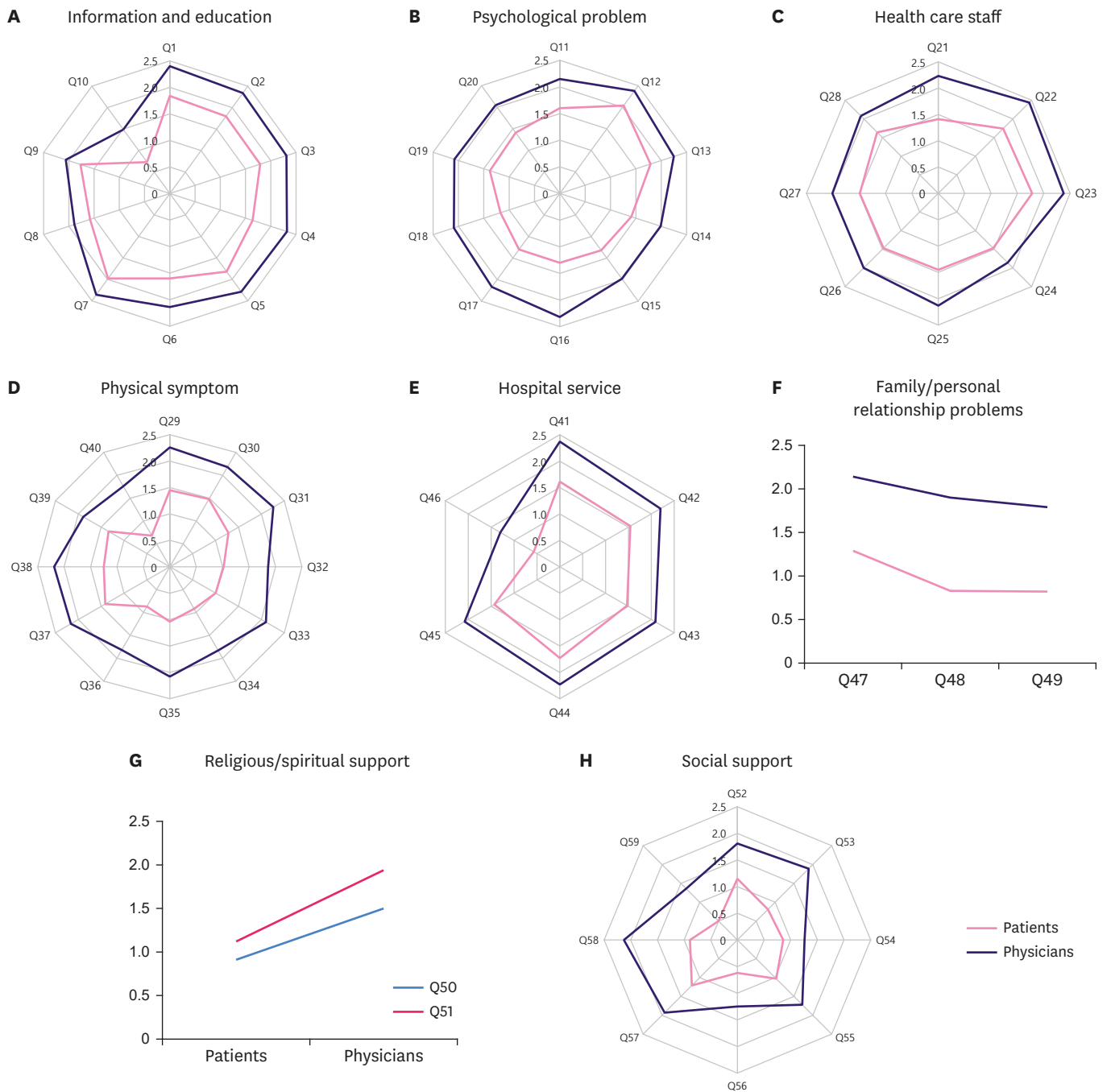
Figure 1. Discordance of unmet needs between physicians and survivors. (A) Information and education, (B) psychological problems, (C) healthcare staff, (D) physical symptoms, (E) hospital service, (F) family/personal relationship problems (G) religious/spiritual support, and (H) social support.

0.85 vs. 0.98 ± 1.07), and the item with the highest discordance was "needed someone to help me with housekeeping and/or child care" (2.13 ± 0.93 vs. 0.89 ± 1.08) (**Table 5**).

Table 5. Top 10 discordant unmet needs between physicians and survivors

Rank	Items	Difference	Domain
1	Needed someone to help me with housekeeping and/or child care	1.24	Social support
2	Needed help with nausea and/or vomiting	1.10	Physical symptom
3	Needed help with changes in sexual life	1.08	Physical symptom
4	Needed counseling and support for my return to work or for reemployment	1.08	Social support
5	Needed help with difficulties that arose in family relationships after cancer diagnosis	1.07	Family/personal relationship problems
6	Needed help with loss of hair	1.04	Physical symptom
7	Needed help with depression	1.02	Psychological problem
8	Needed help with trouble sleeping or oversleeping	0.98	Physical symptom
9	Needed help with difficulties that arose in interpersonal relationships after cancer diagnosis	0.97	Family/personal relationship problems
10	Needed help with shortness of breath	0.95	Physical symptom

DISCUSSION

The number of cancer survivors is increasing worldwide, including Korea. They experience numerous difficulties, including psychosocial distress and physical discomfort [12,13]. Efforts to accurately assess and improve the unmet needs of cancer survivors are essential for enhancing the QoL of cancer survivors and ultimately improving treatment outcomes [3]. Such supportive care should include not only physical support but various other elements, such as informational, psychological, social, instrumental, and religious support. However, many physicians focus only on the primary treatment of cancer [14]. Moreover, considerable discordance between survivors and physicians regarding expectations about physicians' roles in supportive care has been reported [15].

The Institute of Medicine has stated that treatment-centered approaches are not suitable for optimal care of cancer survivors, and a more comprehensive and coordinated care is needed [16]. Physicians' recognition of the specific unmet needs of cancer survivors can facilitate their communication with cancer survivors, enhance care levels through empathy, and lead to effective treatment-related decision-making. Therefore, the identification and management of unmet needs is an essential component of high-quality healthcare for cancer survivors. This study investigated the unmet needs of Korean breast cancer survivors as perceived by physicians and the factors affecting them. Additionally, it examined the discordance in perceived unmet needs between physicians and breast cancer survivors.

Among physicians, the level of unmet needs of Korean breast cancer survivors was perceived to be highest in the hospital service domain, whereas Korean breast cancer survivors reported the highest unmet needs in the information and education domain [17]. In other words, while survivors reported greater unmet needs for information about methods for overcoming their disease or recurrence, physicians perceived survivors as having higher needs for shorter waiting times before treatment, rehabilitation, or psychological services. These findings are not consistent with the study of Okuyama et al. [8], who reported that psychological needs were highest among both breast cancer survivors and oncologists. This disagreement in study findings can be attributed to cultural and social differences.

The top-ranked unmet need item among physicians was "wished my doctor to be easy, specific, and honest in his/her explanation," which was ranked 10th by Korean breast cancer survivors. On the other hand, the highest unmet need among breast cancer survivors was "needed help in coping with fear of recurrence," which was ranked 4th by physicians [17]. In other words, survivors did not have as high unmet needs for hospital service or healthcare staff as physicians perceived them to have. Therefore, if physicians allocate more time to offer

information and education, it will increase the satisfaction of survivors and thereby improve their QoL. In this regard, the oncology consultation time, when the physician-survivor relationship is formed, is very short in Korea with an average of 7 to 8 minutes [7]. This short consultation time is considered as a major cause of the discordance in unmet needs between physicians and cancer survivors [18]. Therefore, there is an urgent need to improve the care system by increasing the consultation time to enhance the cancer survivors' QoL through a smooth patient-physician relationship.

In this study, physicians working at institutions with a genetic counseling clinic showed statistically significant higher unmet needs concerning psychological problems, social support, hospital service, and information and education (II). Therefore, the presence of a genetic counseling clinic itself may not be a significant factor. However, these results reflect the fact that institutions with a genetic counseling clinic are generally large hospitals that are equipped with infrastructures such as facilities and manpower and thus have conditions for providing various treatment services for cancer survivors. Therefore, physicians working in large institutions are likely to have an enhanced awareness of cancer survivors' unmet needs. Shin et al. [7] reported that an oncologist's length of experience was associated with higher concordance in the perception of cancer survivors' needs. In this study, although there was no statistically significant difference, a longer working period and a higher number of operations performed per month were correlated with higher unmet needs. These results can be attributed to the fact that as physicians accumulate treatment experiences, their awareness of the needs of cancer survivors improves.

Previous studies that compared unmet needs between physicians and survivors reported varied results. Newell et al. [9] reported that the perception level of oncologists about the supportive care needs of their survivors was higher than the level reported by the survivors themselves. While the results of Newell et al. [9] are in agreement with those of Sharpe et al. [19], some other studies found that physicians underestimated survivors' needs [7,20]. Another study reported mixed results [10]. This disagreement in findings among studies may be due to the study participants, assessment tools, or cultural differences. In this study, the levels of unmet needs of survivors as perceived by physicians were higher in all domains compared to the self-reported unmet needs of survivors. The highest discordance was found in the family/personal relationship problems domain. This result suggests that Korean breast cancer survivors maintain better interpersonal relationships, including relationships with their families, than physicians expect.

High-quality cancer survivorship care requires effective communication between physicians and survivors. Communication between physicians and survivors has been found to be highly correlated with survivors' satisfaction level, treatment choices, and overall quality of care [21,22]. Physicians' better knowledge of their survivors and closer rapport were associated with their awareness of the unmet needs of the survivors [9]. However, in several studies, including the present study, physicians were found to have inaccurate perceptions of their survivors' needs. Additionally, routine QoL measurements without feedback did not to contribute to the improvement of physician-survivor communication or survivor well-being [23]. Therefore, to accurately identify the unmet needs of cancer survivors, considerable effort is required to improve survivors' unmet needs with a multidisciplinary and tailored approach suitable for each survivor by developing a standard assessment tool that can be utilized in clinical practice and provide appropriate feedback.

The present study has several limitations. First, since unmatched physician-survivor samples were used, discordances in the unmet needs between the 2 groups may not have been appropriately reflected statistically. Second, 4-point Likert scales used in the CNAT may not sufficiently reflect the multistep process of assessing unmet needs. Third, since this was a cross-sectional study, it was not possible to analyze the effects of feedback according to the study results. Therefore, a longitudinal study is needed to investigate the effects of the intervention. Despite these limitations, this study examined unmet needs of a specific patient population, i.e., breast cancer survivors, and identified their unmet needs as perceived by physicians by considering situational factors that may affect the assessment, such as the working period, number of staff, and number of operations performed per month. We also investigated the discordance in unmet needs between physicians and cancer survivors. The findings of the present study can serve as a basis for providing comprehensive cancer survivorship care.

In conclusion, among physicians who treat Korean breast cancer survivors, the level of unmet needs was highest in the hospital service domain. The presence of the genetic counseling clinic was associated with a higher perception of survivors' unmet needs. Additionally, physicians overestimated the levels of unmet needs of Korean breast cancer survivors in all domains, and the discordance in the perception of unmet needs between physicians and survivors was highest in the family/personal relationship problems domain. Therefore, it is suggested that active efforts to reduce the discordance in the perception of unmet needs between physicians and survivors should be the first step in improving medical services through the provision of comprehensive cancer survivorship care.

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SUPPLEMENTARY MATERIALS

Supplementary Table 1
Questionnaires of the Comprehensive Needs Assessment Tool

Click here to view

Supplementary Table 2
Result factor analysis

Click here to view

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