

ORIGINAL ARTICLE

Supportive care needs, psychological distress and social support of patients with gynecologic cancer before surgery

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Summary

Purpose: A holistic assessment of the care needs of gynecological cancer patients at each stage of disease and treatment is crucial for better care delivery. This study evaluated the supportive care needs of women with gynecological cancer before surgery, investigating correlations between care needs, depression, stress, anxiety, and perceived social support.

Methods: This descriptive, cross-sectional study evaluated 102 women with gynecological cancer who underwent scheduled surgery. Participants completed the Needs Evaluation Questionnaire (NEQ), Depression, Anxiety and Stress Scale (DASS-21), the Multidimensional Scale of Perceived Social Support (MSPSS), and a questionnaire about demographic characteristics. Data analysis was conducted using SPSS 22.0. The statistical significance level was set at $p < 0.05$.

Results: The patients' mean age was 61.1 years (± 11.1 years); 47% were diagnosed with endometrial and 29.4% with ovarian cancer. The mean number of reported unmet needs

was 10.9 (5.9). Greater needs were associated with greater psychological distress ($p < 0.001$), while overall social support was associated only with financial needs ($r = -0.21$, $p = 0.036$). Multivariate linear regression analyses showed that younger age, educational level and use of anxiolytics were risk factors for anxiety. Marital status (married or cohabiting) was associated with more information needs for diagnosis/prognosis and fewer depressive symptoms. The stage of the disease was negatively correlated with structure-related needs.

Conclusions: Patients with gynecological cancer report increased care needs preoperatively that are associated with their psychological distress, despite the high level of social support that they have received. Nurses should be on the alert for their timely identification and treatment.

Key words: anxiety, depression, gynecologic cancer, needs, social support, stress

Introduction

Gynecological cancer (GC) represents one of the most common types of cancer in the female population, accounting for 15-20% of all tumors [1]. The diagnosis of GC is made at an advanced stage in 29-79% of the cases, depending on the type (breast, endometrial, ovarian, vulvar or vagi-

nal cancer) [2,3] and is associated with a poor prognosis. However, improved treatments have led to an increase in the number of survivors of the disease [4].

The number and intensity of symptoms caused by the disease and treatments exacerbate patients'

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needs [5], mainly the psychological ones [6] and may lead to disruption of daily functioning and deterioration of quality of life [7,8]. Long-term studies have shown that 17-83% of women report increased physical, psychological, social, economic [9], spiritual [5,10], informational and other needs [5,10,11]. A recent study revealed that 83% of patients with GC reported at least one moderate to high-level need, particularly in the fields of "health and information systems", "psychological needs" and "patient care and support" [9]. Many of these needs remain unmet [5], widening the gap between a person's experience of receiving care and their actual need for care and services [12].

Moreover, women diagnosed with GC experience higher levels of psychological distress than do patients suffering from other types of cancer [13], negatively affecting the patient's psychological health [14] and well-being [10]. Psychological distress is aggravated by physical symptoms and side-effects from the disease and therapies [15], insufficient information in general [16] and in relation to issues of fertility and sexual function [17,18], inadequate social and family support [19], as well as other clinical and sociodemographic characteristics [6]. Studies have also highlighted the neglect that patients experience after the completion of cancer treatment by health professionals [16].

For the relief of physical and psycho-emotional symptoms [19,20], the improvement of quality of life [7] and the way that patients with GC deal with their illness [21], social support is imperative, coming mainly from close family and a friendly environment. Specifically, it was found that 71% of patients with GC who experienced psychological distress reported an increased need for social support after the end of treatment [14]. It is important to understand the factors that indicate the need for support, in order to develop appropriate interventions that improve supportive care [6].

In Greece, the new cases of GC (excluding breast cancer) were estimated at 4062 for 2018. Endometrial cancer had the greatest incidence and ovarian cancer had the highest mortality. Cervical cancer is the third-ranked GC in Greece, in terms of both incidence and mortality [22].

Identification of the supportive care needed by women diagnosed with GC, from nurses and clinicians, is crucial for holistic care provision and improvement of the quality of life through the disease trajectory [23]. Nevertheless, a literature review revealed no studies, either at national or international level, that investigated the supportive care needs of women with GC, or the effect of psychological distress and social support on the care needs of these patients.

Therefore, the purpose of this study was to highlight the supportive care needs of women with GC before surgery, as well as to investigate the correlations between care needs, depression, stress, anxiety, and perceived social support.

Table 1. Participants' demographic and clinical characteristics

	n (%)
Age mean (SD)	61.1 (11.1)
Marital status	
Single	14 (13.7)
Married	58 (56.9)
Living with a partner	1 (1.0)
Divorced	10 (9.8)
Separated	3 (2.9)
Widowed	16 (15.7)
Children mean (SD)	2.1 (0.9)
Education	
Primary school/no education	27 (26.7)
Secondary school	45 (54.6)
Higher education (college, university, PhD, MSc)	29 (28.8)
Diagnosis	
Ovarian cancer	30 (29.4)
Endometrial cancer	48 (47.0)
Cervical cancer	14 (13.7)
Vulvar cancer	9 (8.8)
Vaginal cancer	1 (1.0)
Disease stage	
Grade I	30 (39.5)
Grade II	26 (34.2)
Grade III	14 (18.4)
Grade IV	6 (7.9)
Time since diagnosis (months)	
mean (SD)	5.9 (13.9)
median (range)	2.5 (2-5)
Previous cancer treatment	
No	81 (79.4)
Yes	21 (20.6)
Psychiatric medication (anxiolytics)	
No	85 (83.3)
Yes	17 (16.7)
Primary caregiver	
Husband/partner	41 (40.2)
Children	37 (36.3)
Parents	4 (3.9)
Friends	3 (2.9)
Other relatives	12 (11.8)
Self-care	5 (4.9)

Methods

Sample

This was a cross-sectional study of a convenience sample of 102 women diagnosed with GC who were hospitalized for scheduled surgery at the Gynecological Surgery Clinic of a major anticancer hospital in a metropolitan area, between May and December 2020.

Measurements

Participants completed the Greek version of the Needs Evaluation Questionnaire (NEQ) [24,25] for the assessment of supportive care needs. The questionnaire consists of 23 dichotomous questions (yes/no) relating to 8 different types of need: informational related to diagnosis and prognosis (questions 1 and 2), informational related to examinations and treatment (questions 3 and 4), communication (questions 5-8), relational (questions 20-22), assistance and treatment-related (questions 9-13), structure-related (question 14), financial (questions 15 and 16) and support (questions 17-19, 23).

The Greek version of the Depression, Anxiety, Stress Scale (DASS-21) [26,27] was used to assess the depression, anxiety and stress experienced by women during

the previous week. It is divided into three subscales (depression, anxiety and stress), each with seven questions. The answers are given on a four-point Likert scale (from 0=did not apply to me at all, to 3=applied to me very much or most of the time). High scores indicate higher levels of depression, anxiety and stress.

The Greek version of the Multidimensional Scale of Perceived Social Support (MSPSS) [28,29] was used to assess perceived social support. It comprises 12 questions, divided into 3 subscales of 4 items, related to family support, support from friends and support from significant others. The answers are given on a seven-point Likert scale. Higher scores indicate more social support.

Demographic and clinical characteristics were also recorded, including age, marital status, level of education, occupation, diagnosis, stage of the disease, previous types of treatment, antidepressant-anxiolytic treatment and time since diagnosis.

Statistics

Absolute (N) and relative (%) frequencies were used to describe the categorical variables. Continuous variables were represented as mean values and standard deviations (SD) or median and interquartile range (IQR). The Kolmogorov-Smirnov criterion was used to check normality. The Spearman correlation coefficient (r) was

Table 2. Descriptive statistics of NEQ, MSPSS and DASS-21 scales and their subscales

	Minimum	Maximum	Mean (SD)	Median (IR)
NEQ	0	22	10.9 (5.9)	10 (7-15.5)
MSPSS				
Significant other	3.25	7.00	6.35 (1.00)	6.9 (6-7)
Family	1.00	7.00	6.30 (1.29)	7 (6.3-7)
Friends	1.00	7.00	5.49 (1.54)	6 (4.5-7)
Total MSPSS score	2.50	7.00	6.06 (1.00)	6.3 (5.6-6.9)
DASS-21				
Depression	0.00	21.00	5.18 (5.13)	3 (1-9)
Anxiety	0.00	18.00	5.41 (4.49)	4 (2-8)
Stress	0.00	21.00	8.21 (5.83)	7 (4-12)
Total DASS-21 score	0.00	60.00	18.93 (14.21)	16 (7-29)

Table 3. Descriptive characteristics of NEQ subscales

	%*	Minimum	Maximum	Mean (SD)	Median (IR)
Informational needs concerning diagnosis/prognosis	86.3	0.00	2.00	1.39 (0.72)	2 (1-2)
Informational needs concerning examinations/treatment	75.5	0.00	2.00	1.31 (0.84)	2 (1-2)
Communicative needs	81.0	0.00	4.00	2.35 (1.53)	3 (1-4)
Relational needs	69.3	0.00	3.00	1.35 (1.16)	1 (0-2)
Assistance and treatment needs	60.4	0.00	5.00	1.58 (1.7)	1 (0-3)
Structure related needs	23.5	0.00	1.00	0.24 (0.43)	0 (0-0)
Financial aspects	67.3	0.00	2.00	0.99 (0.81)	1 (0-2)
Needs for support	79.2	0.00	4.00	1.7 (1.26)	2 (1-2)
Total needs (%)	94.8	0.00	95.65	47.29 (25.62)	43.48 (30.43-65.22)

*Percentage reporting at least one need, IQR: interquartile range, SD: standard deviation

used to check the relationship between two quantitative variables. The correlation is considered low when the correlation coefficient (r) ranges from 0.1 to 0.3, moderate when it ranges from 0.31 to 0.5 and high when the coefficient (r) is >0.5. Linear regression analysis was used to find independent factors related to the NEQ and DASS scales, from which dependence coefficients (b) and their standard errors (SE) were derived. The level of statistical significance was set at 0.05. SPSS 22.0 statistical software was used for the analysis.

Ethical issues

The study was approved by the Ethics Committee of the hospital (No 3003/05-02-2020) and permission was obtained. Participants were verbally informed about the study, including its purpose, confidentiality, anonymity, voluntary participation and the possibility of leaving the study at any time. Those who agreed to participate then signed a consent form.

Results

The patients' mean age was 61.1 years (± 11.1), 56.9% were married, 38.2% had their husband as their main caregiver and 36.3% had their children. The median time from diagnosis was 2.5 months (IQR 2-5 months), 47% were diagnosed with endometrial cancer, 29.4% with ovarian cancer, and most had local disease (Grade I 39.5%, Grade II 34.2%); 79.4% were not under any type of treatment, while 16.7% used anxiolytics (Table 1).

The mean (\pm SD) number of reported unmet needs was 10.9 (± 5.9). The mean total MSPSS score was 6.06 (± 1.00). The highest value was observed for "partner support", with mean 6.35 (± 1.00), and the lowest for "support from friends", with mean 5.49 (± 1.54). The mean total DASS-21 score was

Table 4. Spearman correlation coefficient between DASS-21 and MSPSS subscales and NEQ

	DASS-21			MSPSS				
	Depression	Anxiety	Stress	Total DASS-21 score	Significant other	Family	Friends	Total MSPSS score
Informational needs concerning diagnosis/prognosis								
r	0.15	0.21	0.19	0.21	0.07	0.05	-0.19	-0.07
P	0.124	0.033	0.058	0.035	0.469	0.633	0.054	0.514
Informational needs concerning examinations/treatment								
r	0.20	0.23	0.24	0.25	0.12	0.07	-0.18	-0.02
P	0.050	0.018	0.018	0.013	0.246	0.482	0.072	0.859
Communicative needs								
r	0.15	0.10	0.11	0.14	-0.08	-0.06	-0.15	-0.09
P	0.142	0.345	0.263	0.172	0.436	0.573	0.137	0.381
Relational needs								
r	0.42	0.47	0.42	0.47	-0.14	-0.16	-0.16	-0.12
P	<0.001	<0.001	<0.001	<0.001	0.160	0.103	0.121	0.221
Assistance and treatment needs								
r	0.24	0.32	0.26	0.29	-0.10	-0.07	-0.13	-0.06
P	0.019	0.001	0.009	0.003	0.327	0.456	0.196	0.547
Structure related needs								
r	0.10	0.17	0.15	0.17	-0.06	-0.05	-0.06	-0.07
P	0.306	0.081	0.133	0.093	0.551	0.603	0.541	0.505
Financial aspects								
r	0.23	0.20	0.23	0.25	-0.09	-0.16	-0.15	-0.21
P	0.024	0.048	0.022	0.012	0.350	0.120	0.132	0.036
Needs for support								
r	0.54	0.54	0.52	0.61	-0.28	-0.15	-0.13	-0.17
P	<0.001	<0.001	<0.001	<0.001	0.004	0.123	0.195	0.095
Total needs (%)								
r	0.40	0.44	0.39	0.46	-0.10	-0.10	-0.18	-0.11
P	<0.001	<0.001	<0.001	<0.001	0.353	0.350	0.074	0.269

Table 5. Results of multivariate linear regression analyses

	β^*	SE ^{**}	P
Informational needs concerning diagnosis/prognosis			
Married/Living with a partner	0.078	0.032	0.016
Relational needs			
Anxiolytics	0.168	0.070	0.018
Structure related needs			
Stage of the disease	-0.031	0.016	0.046
Financial aspects			
Total MSPSS score	-0.037	0.020	0.043
Needs for support			
Anxiolytics	0.164	0.067	0.016
Depression score			
Total needs (%)	0.007	0.002	<0.001
Married/Living with a partner	-0.230	0.093	0.016
Anxiety score			
Total needs (%)	0.005	0.001	0.001
Psychiatric medicine (anxiolytics)	0.270	0.098	0.007
Education	-0.084	0.032	0.011
Age	-0.009	0.004	0.014
Stress score			
Total needs (%)	0.007	0.002	<0.001
Total score DASS-21			
Total needs (%)	0.007	0.002	<0.001

* beta coefficient, ** Standard error

18.93 (± 14.21), with 5.18 (± 5.13) for depression, 5.41 (± 4.49) for anxiety, and 8.21 (± 5.83) for stress (Table 2).

Overall, 94.8% of participants had at least one need. Informational needs related to diagnosis and prognosis (86.3%) and communication needs (81%) were the main needs groups, while the lowest scores were for structure-related needs (23.5%) and assistance and treatment needs (60.4%) (Table 3).

Bivariate analysis revealed no correlations between the subscales of depression, anxiety, stress and MSPSS. The total MSPSS score was correlated only with financial needs. Apart from communication and structure-related needs, all types of needs, as well as the total NEQ score, were related to at least one of the scores of depression, anxiety and stress and the overall score of the DASS-21 scale (Table 4).

In a multivariate linear regression analysis, marriage or cohabitation was related to the number of information needs for diagnosis and prognosis ($p=0.016$). Taking anxiolytics was related to the number of relational needs ($p=0.018$) and the number of needs for support ($p=0.016$). Disease stage was related to the number of structure-related needs ($p=0.046$). The overall level of social support (total MSPSS score) was related to the number

of financial needs ($p=0.043$), while the percentage of total needs was related to the depression score ($p<0.001$). The percentage of total needs ($p=0.001$), the highest level of education ($\beta=0.084$, $p=0.011$), the patient's age ($\beta=0.009$, $p<0.001$) and the use of anxiolytics ($p=0.007$) were related to stress score. The total NEQ score was related to the stress score ($p<0.001$) and to the overall DASS-21 score ($p<0.001$) (Table 5).

Discussion

The present study investigated the supportive care needs of women with GC during their hospitalization before scheduled surgery, as well as the relationship between their care needs and anxiety, depression, stress, and perceived social support.

The main finding of this study was that greater needs were associated with more symptoms of depression, anxiety and stress, as well as a higher level of psychological distress. These results are similar to those of a previous study [30]. A review by Beesley et al [6] pointed out that the overall need-related burden experienced by women with GC was related on the one hand to integrated care, and on the other to psychological problems arising

ing from fear of disease recurrence. Moreover, a strong positive correlation between the intensity of the unmet needs of patients with GC and anxiety, depression and post-traumatic stress is noted [6]. The mean number of needs in this sample was quite high (10.9), while an overwhelming majority of the sample (94.8%) reported at least one care need, focusing on informational needs concerning diagnosis and prognosis as well as communicative needs. Most women had not undergone any treatment and were in the preoperative phase, which reinforces this type of needs. The type of needs is likely to change through the trajectory of the disease, with the possible addition of other treatments, or as the disease worsens. In general, the need for more information about the disease is high in Greece, as well as in other Mediterranean countries, which shows the need for focused and individualized management [24,25]. Additionally, women with GC are a group of patients with moderate to very high levels of needs [9].

According to one systematic review, 25-60% of GC patients report physical, social, or psychological needs due to disease and treatment [6]. The increasing number of unmet needs in different stages and different types of the disease [24,31] has a negative impact on patients' quality of life [8], reinforcing the case for systematic evaluation of care needs in daily clinical practice.

Interestingly, we found relatively low levels of psychological distress (DASS-21 score), given that the patients were newly diagnosed and were soon to undergo surgery. In comparison to our results, a cohort study in newly diagnosed GC patients reported a particularly high stress score at the start of the study (preoperatively) [32] as did Wen et al [19] in a study of patients with recurrent ovarian cancer undergoing chemotherapy. High scores on the MSPSS support scale (mean=6.06, SD=1.00) might partly explain this finding, but no correlation was found between the MSPSS and DASS-21 scale. The bivariate analysis showed that women with great needs for support had higher scores for anxiety, stress and depression. Studies have correlated poor social and family support with increased psychological distress [19,33], increased hopelessness ($p<0.001$) and death anxiety ($p<0.001$) [34] as well as post-traumatic stress symptoms ($p<0.01$) [35]. Additionally, patients with cervical cancer considered emotional support from their partners more important than functional and practical support [36].

This study has also found that women with many informational needs in relation to diagnosis and treatment had higher scores for anxiety, depression and stress, as well as a higher overall

DASS-21 score. Similar findings were reported by Husson et al [37], showing that meeting informational needs was associated with less stress and depression and a better quality of life, while unmet informational needs concerning psychological support were associated with higher levels of anxiety and depression [38]. The correlation between information and psychological distress can be attributed to the women's efforts to adapt to a new lifestyle and the requirements of the disease [10].

Participants with increased relational needs had higher scores for depression, anxiety and stress, as well as a high overall DASS-21 score. These findings are also supported by Johnson et al [39]. It is possible that, in the Greek Mediterranean culture, which is characterized by close family relationships and overprotection of patients [40], patients prefer to take on the entire psychological burden of concealing or selectively disclosing information [20] in an effort to protect their families from the stress of illness [31]. Alternatively, the high scores may be related to patients' concerns about their inability to fulfill their family responsibilities, child-care, possible premature death, or the possibility of their daughters inheriting their disease [41].

Financial needs were also associated with high anxiety, stress and depression, as well as a high overall DASS-21 score. Regardless of the type of cancer, the negative impact of the disease on patients' professional life [7] and the ever-increasing financial demands [42] are undeniable.

Great emphasis has been placed on the concept of a good relationship between patient and health professional [11] since the quality of this relationship is even more important than the time devoted or the information provided to the patient [43]. However, we found no correlation between communicational needs and DASS-21 subscales.

This study also showed that women receiving social support had fewer financial needs ($p=0.036$). Wen et al [19] observed that total social support, support from family, friends and significant others, was associated with less severe financial difficulties. In general, as the need for financial support for cancer patients increases over time [42], especially for daily practical needs [44], the contribution of social support in this area can be particularly valuable.

Multifactorial analysis showed that married or cohabiting patients had significantly more informational needs concerning diagnosis and prognosis and significantly fewer depressive symptoms than non-married or non-cohabiting patients. This result is in agreement with a previous study [45], which found that single cancer patients had significantly more depressive symptoms. Nota-

bly, the family environment and the support that patients receive from it is a protective factor for women's psychology, but does not decrease their need to be informed about their condition. Greater informational needs among married women have also been reported in patients with gastrointestinal cancer [46].

Women taking anxiolytics had more needs for specialized support, relational needs and more stress than women who did not take anxiolytics. Although no similar results have been reported in the literature, these findings may be attributable to the high percentages of two sub-needs belonging to these groups, the need to feel more useful within their family (52.5%) and the need to feel more reassured by their relatives (69.6%), resulting in additional stress and the use of anxiolytics to manage it. Cassidy et al [47] found that the use of psychiatric medication was correlated with depression ($p=0.008$) and overall psychological distress ($p=0.019$).

A patient's high educational level was associated with less stress. This finding is in agreement with another study [33]. In contrast, Cassidy et al [47] found that women with a higher educational level had higher levels of psychological distress. Researchers attributed the correlation to the likelihood that these women would be more open about revealing symptoms of psychological distress, compared to women with a lower level of education.

This study also showed that stress was negatively correlated with the participants' age. This finding is in agreement with another study which explained that younger women with GC may be more likely than older women to experience problems with sexuality, fertility and fear of premature death [47].

Finally, although the stage of disease is reported to be a risk factor for many unmet needs [6] in the present study it was correlated negatively with only the number of structural needs. This may be attributed to the fact that the majority of participants were satisfied with the structure-related needs, because this was the group of needs with the lowest percentage. Furthermore, patients with advanced disease may consider that structure-related needs are not vital, while focusing on other problems arising from the disease.

Despite the interesting findings of this study, limitations should also be mentioned. One was the completion of questionnaires at a single hospital, by patients at a single stage of their disease (before surgery); thus, the results can not represent the GC population at different stages of disease and treat-

ment. Another limitation is the fact that the needs assessment questionnaire refers to general needs, rather than specific needs related to the nature of GC, such as sexuality, body image, etc.

Future studies should use specialized needs assessment tools to examine the needs at different stages of the disease and treatments. Their results will contribute to a more effective assessment of the supportive care needs of women with GC and to the design of a person-centered and individualized plan of care by health professionals.

Conclusion

Summarizing the results of the present study, patients with GC awaiting surgery report increased supportive care needs, which are associated with their psychological distress, despite the high perceived social support.

Until now, the number of studies investigating the care needs of these patients with GC and the relationship to psychological distress and social support is limited. Importantly, given the negative impact of care needs on the mental state of patients with GC [6] and the likelihood of one problem complementing or exacerbating another [15], providing comprehensive supportive care for these patients should be a priority for nurses on a daily basis. In the clinical setting, nurses should also be able to identify groups of patients at greater risk for psychological distress and unmet needs, but also to motivate and encourage the integration of support networks into the care and management of the problems arising from the disease.

Notably, the results of the study are expected to raise the awareness of health professionals about the importance of evaluating these parameters and their role in improving the care provided to women with GC.

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Conflict of interests

The authors declare no conflict of interests.

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