

Psychosocial Needs and Available Support Services Among Gynecological Cancer Patients in Federal Medical Centerabeokuta, Ogun State: A Cross-sectional Study

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Abstract

Background

Gynecological cancers are associated with substantial psychosocial morbidity, yet supportive care remains inadequately integrated into oncology services in many low- and middle-income countries. This study assessed psychosocial needs and perceived support gaps among gynecological cancer survivors in Southwest Nigeria and examined whether these needs varied by treatment modality.

Methods

A descriptive cross-sectional study was conducted among 47 women receiving follow-up care at the Federal Medical Centre, Abeokuta, Nigeria. Psychosocial needs were measured using the Supportive Care Needs Survey Short Form (SCNS-SF34), and perceived support services were assessed using adapted items from the Duke/UNC Functional Social Support Questionnaire. Descriptive statistics summarized domain scores. Chi-square tests examined the association between treatment modality and psychosocial need levels ($\alpha = 0.05$).

Results

Participants reported moderate overall psychosocial needs (mean = 3.19 ± 0.59), with the highest burden observed in psychological (3.31 ± 0.58) and health system/information domains (3.24 ± 0.61). Emotional distress and informational uncertainty were prominent. Most respondents perceived psychosocial support services as inadequate, particularly financial assistance, transportation support, and emotional support. Psychosocial needs did not differ significantly by treatment modality ($\chi^2 = 2.090$, $p = 0.911$).

Conclusion

Gynecological cancer survivors experience substantial multidimensional psychosocial needs irrespective of treatment modality. Integrating structured psychosocial screening and supportive interventions into routine oncology care is urgently needed in resource-constrained settings.

Implications:

The study examined the need for gynecological cancer survivor-centered psychosocial interventions integrated into routine oncology care to improve emotional well-being, coping strategies, and quality of life among gynecological cancer survivors.

Introduction

Gynecological cancers constitute a major public health challenge globally and are associated not only with substantial morbidity and mortality but also with significant psychosocial consequences for affected women [1]. Beyond the physical burden of disease and treatment, women diagnosed with gynecological cancers—including cervical, ovarian, endometrial, vulvar, and vaginal cancers often experience profound psychological distress, social disruption, and unmet supportive care needs throughout the disease trajectory [2]. Globally, the rising incidence of gynecological cancers has been attributed to demographic transitions, environmental exposures, and behavioral risk factors such as obesity, sedentary lifestyles, tobacco use, and alcohol consumption; however, increasing attention has been drawn to the inadequacy of psychosocial support services available to women living with these conditions [3]. In 2022, an estimated 1,473,427 new cases and 680,372 deaths were reported worldwide, with disproportionately higher psychosocial vulnerability observed in low- and middle-income countries, particularly in sub-Saharan Africa, where structured psychosocial support remains limited [4]. In Nigeria, where cervical cancer ranks as the second most common cancer among women, cancer care largely prioritizes biomedical management, often overlooking the psychosocial needs and support services critical to holistic care and improved quality of life.

This study is guided by the Biopsychosocial Model, which provides a comprehensive framework for understanding cancer survivorship by recognizing that health outcomes result from the interaction of biological, psychological, and social factors [5]. In gynecological cancer, biological disease processes and treatment-related effects interact with psychological responses such as anxiety, depression, fear of recurrence, and uncertainty, as well as social determinants including family support, financial resources, and access to healthcare services [6]. This holistic framework underpinned the importance of addressing psychosocial needs alongside biomedical treatment to improve survivorship outcomes.

Women diagnosed with gynecological cancers experience complex psychological and social challenges related to body image, sexuality, fertility concerns, financial hardship, and disruptions in social roles [7]. Psychological distress, including anxiety and depressive symptoms, has been widely reported among gynecological cancer survivors and is associated with unmet supportive care needs [8]. Additionally, inadequate social support, poor communication with healthcare providers, and limited access to information have been identified as critical contributors to reduced quality of life among cancer survivors [9].

Despite the recognized importance of psychosocial care, substantial unmet needs persist globally, particularly in low-resource settings [10]. Evidence from sub-Saharan Africa indicates that cancer survivors frequently report unmet emotional, informational, and practical support needs, reflecting limited integration of psychosocial services into routine oncology care [11]. In Nigeria, cancer care remains largely biomedical, with psychosocial assessment and interventions rarely incorporated into standard clinical practice [12].

In Ogun State, empirical evidence on the psychosocial needs of women with gynecological cancer and the availability of support services remains scarce. Understanding these needs within the

biopsychosocial framework is essential for designing specific interventions, strengthening survivorship care, and informing institutional and policy-level responses.

Therefore, this study aimed to assess the psychosocial needs and available support services among women with gynecological cancer in the Federal Medical Center, Abeokuta, Ogun State, Nigeria. Generating local evidence on these needs is critical to guide healthcare providers, policymakers, and support organizations in developing comprehensive psychosocial interventions to improve coping capacity, emotional well-being, and overall quality of life among gynecological cancer survivors.

METHOD

Study Design and Setting

This was carried out using a descriptive cross-sectional study conducted at the Federal Medical Centre, Abeokuta, Ogun State, Nigeria.

Participants

A purposive sampling technique was used to recruit women diagnosed with gynecological cancer who were receiving follow-up care at the Federal Medical Centre, Abeokuta (FMCA), Ogun State, Nigeria. FMCA is a major referral center for oncology and surgical services in the state and therefore manages a substantial proportion of gynecological cancer cases.

A total enumeration approach was employed, whereby all eligible gynecological cancer survivors available during the study period were invited to participate, resulting in a sample size of 47 participants. Total enumeration was used because the population of gynecological cancer survivors attending the facility during the study period was relatively small, and including all eligible participants maximized statistical power and minimized selection bias. Given the limited population size and single-center design, this study was exploratory and institution-based; therefore, findings should be interpreted within this context.

Inclusion criteria were willing women aged 18 years and above with a confirmed medical diagnosis of gynecological cancer (cervical, ovarian, uterine, vulvar, or vaginal cancer) who were mentally and physically capable of providing informed consent and completing the questionnaire. Exclusion criteria included women with benign gynecological conditions, critically ill patients, those unable to communicate effectively, and those who declined participation.

Data Collection

Data were collected using standardized instruments to assess psychosocial needs and available psychosocial support services. Psychosocial needs were assessed using the Supportive Care Needs

Survey Short Form (SCNS-SF34) [13], while available social support services were assessed using items adapted from the Duke/UNC Functional Social Support Questionnaire (DUFSSQ) [14]. The PhenX Toolkit guided the selection of standardized psychosocial measurement domains.

The questionnaire comprised three sections. Section A captured demographic and clinical characteristics, including age, marital status, education level, occupation, residence, type of gynecological cancer, year and stage of diagnosis, treatment modality, and comorbid conditions. Section B contained the SCNS-SF34, a validated 34-item instrument measuring cancer-specific supportive care needs across five domains: psychological, health system and information, physical and daily living, patient care and support, and sexuality. Responses were rated on a five-point Likert scale ranging from 1 (no need/not applicable) to 5 (high need). Section C assessed the availability of psychosocial support services, including counseling, informational support, peer support, social welfare services, and healthcare provider support, adapted from the DUFSSQ.

Data were collected through face-to-face administration of questionnaires by trained research assistants during oncology clinic visits between May and July 2025. This approach facilitated clarification of questions, ensured completeness of responses, and minimized missing data, while ensuring minimal disruption to clinical care.

Content validity was established through expert review by specialists in oncology nursing and psychology, who assessed item relevance, clarity, and comprehensiveness. Reliability was assessed through a pilot test among gynecological cancer patients in a similar setting outside the study population. Internal consistency reliability was evaluated using Cronbach's alpha, yielding coefficients of 0.89 for the SCNS-SF34 and 0.86 for the psychosocial support section, indicating good reliability [15].

Statistical Analysis

Data were analyzed using descriptive statistics (frequencies, percentages, means, and standard deviations). Psychosocial need levels were categorized as low, moderate, or high based on aggregate SCNS-SF34 scores. Chi-square tests were used to examine associations between treatment modality and psychosocial need level. Statistical significance was set at $p < 0.05$. Given the modest sample size, inferential findings were interpreted cautiously.

Results

Table 1
Sociodemographic and Clinical Characteristics of Respondents
(n = 47)

Variable	Category	n	%
Marital status	Married	34	72.3
	Single	11	23.4
	Widowed	2	4.3
Educational level	Primary	4	8.5
	Secondary	11	23.4
	Tertiary	21	44.7
	Postgraduate	11	23.4
Employment status	Employed	20	42.6
	Self-employed	20	42.6
	Unemployed	7	14.9
Residence	Urban	42	89.4
	Rural	5	10.6
Occupation	Trading	31	66.0
	Civil service	14	29.8
	Public service	2	4.3
Cancer type	Cervical	13	27.7
	Ovarian	12	25.5
	Uterine	11	23.4
	Endometrial	9	19.1
	Choriocarcinoma	1	2.1
	Vulvar	1	2.1
Cancer stage	Stage I (Ia–Ib)	21	44.7
	Stage II (IIa–IIb)	20	42.6
	Stage III–IV	6	12.7
Year of diagnosis	1998–2019	2	4.2
	2020–2022	18	38.3

Variable	Category	n	%
	2023–2025	27	57.4
Comorbidities	Hypertension	17	36.2
	Diabetes	6	12.8
	Coronary heart disease	1	2.1
	None/Other	23	48.9
Treatment modality	Surgery	24	51.1
	Chemotherapy	10	21.3
	Radiotherapy	2	4.3
	Combined therapy	11	23.4

Table 1 presents the sociodemographic and clinical characteristics of the respondents. The majority of participants were married (72.3%), indicating that most had spousal or family support systems. Educational attainment was relatively high, with most respondents having tertiary (44.7%) or postgraduate (23.4%) education, suggesting a well-educated study population. Employment status showed that 42.6% were employed and 42.6% were self-employed, while only 14.9% were unemployed, reflecting a largely economically active group. Most respondents resided in urban areas (89.4%), which may imply better access to healthcare services. Trading was the predominant occupation (66.0%), followed by civil service employment (29.8%).

Regarding clinical characteristics, cervical cancer was the most common cancer type (27.7%), followed by ovarian cancer (25.5%) and uterine cancer (23.4%), while choriocarcinoma and vulvar cancer were the least reported (2.1% each). Most respondents were diagnosed at early to mid-stages of cancer, with stage I (44.7%) and stage II (42.6%) accounting for the majority, whereas only 12.7% were diagnosed at advanced stages (stage III–IV). The majority of diagnoses occurred between 2023 and 2025 (57.4%), indicating an increase in recent case detection or referral to the study facility.

Nearly half of the respondents reported comorbid conditions, with hypertension being the most prevalent (36.2%), followed by diabetes (12.8%). Surgery was the most common treatment modality (51.1%), followed by combined treatment approaches (23.4%) and chemotherapy alone (21.3%), while radiotherapy alone was the least utilized treatment option (4.3%).

Overall, the table highlights the diverse sociodemographic and clinical profiles of gynecological cancer survivors in the study setting, with a predominance of early-stage diagnoses and surgical treatment, and a high burden of comorbid conditions.

Table 2
Descriptive Summary of Psychosocial Needs Domains (n = 47)

Domain	Items (n)	Mean $\pm$ SD	Level of Need
Physical needs	5	3.05 $\pm$ 0.62	Moderate
Psychological needs	9	3.31 $\pm$ 0.58	Moderate–High
Health system & information needs	11	3.24 $\pm$ 0.61	Moderate
Patient care & support needs	6	3.17 $\pm$ 0.59	Moderate
Sexuality needs	3	2.87 $\pm$ 0.64	Low–Moderate
Overall psychosocial needs	34	3.19 $\pm$ 0.59	Moderate
Note: Scores range from 1 (no need) to 5 (high need)			

Table 2 presents the descriptive analysis of psychosocial needs among gynecological cancer patients. Overall, respondents reported moderate to high levels of psychosocial needs across multiple domains, with mean scores ranging from approximately 2.83 to 3.49 on the five-point scale, indicating substantial unmet needs.

Among physical needs, fatigue/lack of energy (mean = 3.15) and feeling unwell (mean = 3.15) were the most prominent concerns, while pain and difficulty performing household activities were reported at moderate levels.

Psychological needs were particularly pronounced, with anxiety (mean = 3.45), feeling down or depressed (mean = 3.38), feelings of sadness (mean = 3.21), and concerns about death and dying (mean = 3.32) indicating significant emotional distress among participants. Uncertainty about the future and worries about cancer progression also reflected moderate to high psychological burden.

Health system and information-related needs were substantial, especially being informed about test results quickly (mean = 3.49), information about treatment benefits and side effects (mean = 3.36), and explanations of tests (mean = 3.30). These findings suggest gaps in timely communication and patient education within the healthcare system.

Patient care and support needs were also evident, including worries about their relatives (mean = 3.34), keeping a positive attitude (mean = 3.47), and the desire for reassurance and continuity of care, highlighting the importance of emotional and relational support.

Sexuality-related needs, including changes in sexual feelings and relationships, were reported at lower to moderate levels (means ranging from 2.83 to 2.91), indicating that although present, these concerns were less prominent compared to emotional and informational needs.

Overall, the findings indicate that gynecological cancer patients experience multidimensional psychosocial needs, with emotional distress and informational gap, underscoring the need for structured

psychosocial interventions and improved patient-centered communication in oncology care.

Table 3
Availability of Psychosocial Support Services (n = 47)

Support Service	Less than Desired n (%)	As Much as Desired n (%)	Mean
Visits with friends/relatives	43 (91.5)	4 (8.5)	1.09
Help around the house	36 (76.6)	11 (23.4)	1.23
Emergency financial help	41 (87.2)	6 (12.8)	1.13
People who care about me	38 (80.9)	9 (19.1)	1.19
Love and affection	32 (68.1)	15 (31.9)	1.32
Telephone calls from people I know	36 (76.6)	11 (23.4)	1.23
Talk about my disease	32 (68.1)	15 (31.9)	1.32
Talk to someone I trust	39 (83.0)	8 (17.0)	1.17
Talk about money matters	34 (72.3)	13 (27.7)	1.28
Invitation to go out	38 (80.9)	9 (19.1)	1.19
Useful life advice	38 (80.9)	9 (19.1)	1.19
Help with transportation	40 (85.1)	7 (14.9)	1.15
Help when sick in bed	38 (80.9)	9 (19.1)	1.19
Note: Mean scores range from 1 (Much Less Than Desired) to 2 (As Much as Desired). Lower scores indicate inadequate support.			

Table 3 showed that most psychosocial support services were perceived as inadequate by the respondents. For example, over 90% reported insufficient visits from friends and relatives, while more than 85% lacked transportation and emergency financial support. Emotional support, including love, affection, and opportunities to talk to someone trusted, was also reported as limited, with 68–83% of participants rating these services as “much less than desired.”

Table 4
Association between Type of Treatment and Psychosocial Needs (n = 47)

Treatment Type	Low Need n (%)	Moderate Need n (%)	High Need n (%)	Total n (%)
Chemotherapy	5 (50.0)	5 (50.0)	0 (0.0)	10 (21.3)
Radiotherapy	1 (50.0)	1 (50.0)	0 (0.0)	2 (4.3)
Surgery	9 (37.5)	14 (58.3)	1 (4.2)	24 (51.1)
Combined	3 (27.3)	7 (63.6)	1 (9.1)	11 (23.4)
Total	18 (38.3)	27 (57.4)	2 (4.3)	47 (100)
Chi-square test: $\chi^2 = 2.090$, $p = 0.911$ (Not Significant)				
Note: Psychosocial needs did not vary significantly by treatment type.				

Chi-square analysis revealed no significant association between type of treatment and psychosocial needs ($\chi^2 = 2.090$, $p = 0.911$). Moderate psychosocial needs were consistently reported across all treatment modalities: 50% of chemotherapy patients, 58.3% of surgical patients, and 63.6% of those receiving combined therapy. Only a small proportion of patients reported high or low psychosocial needs, indicating that psychosocial concerns are universal among gynecological cancer patients, regardless of treatment modality.

Discussion

The results suggest that women diagnosed with gynecological cancer experience a wide range of psychosocial needs spanning emotional, physical, informational, and social domains, with moderate-to-high levels of concern reported across many areas. Emotional needs, such as anxiety and the need to maintain a positive attitude, were particularly pronounced, with sadness and fears related to disease progression frequently reported. These findings align with prior research indicating that women with gynecological cancers often experience heightened emotional distress, uncertainty, and fear about prognosis, which collectively contribute to a significant psychosocial burden [16]. Using the biopsychosocial model, these findings illustrate the dynamic interaction between biological illness, psychological responses, and social context, highlighting that the emotional impact of cancer is deeply intertwined with the physiological and situational realities of the patient [17].

Moderate levels of physical concerns, such as fatigue and persistent feelings of being unwell, further underscore the dimension of biopsychosocial, showing how physical symptoms exacerbate psychological distress. These results are consistent with studies by [18], which reported that fatigue and ongoing physical discomfort intensify psychosocial challenges in female oncology patients. The convergence of physical and emotional symptoms reinforces the importance of a holistic approach that recognizes the interdependence of bodily health and psychological well-being in cancer survivorship [19].

Informational and care-related needs were also highly salient for respondents. Needs related to reassurance from medical staff, understanding test results, awareness of treatment side effects, and being treated with dignity were reported at moderate levels, indicating the critical role of clear communication and patient-centered care. These findings provide empirical support for a study, emphasizing that access to timely, accurate, and comprehensible information enhances patients' sense of control and emotional adaptation during cancer treatment [18, 19]. Additionally, the desire for a pleasant hospital environment and continuity of care reflects the influence of the care setting on psychosocial stress, consistent with [20], who highlighted the significance of healthcare environments and provider-patient interactions in promoting overall patient well-being [21]. From a biopsychosocial model perspective, these results demonstrate that both social and environmental factors are central to the patient's capacity to cope and adapt.

Analysis of psychosocial support services revealed substantial gaps in social, emotional, and practical support for women with gynecological cancer [22]. Many respondents reported receiving "much less than I would like" in areas such as visits from friends and relatives, emergency financial assistance, and transportation support. Emotional support and social interaction, including having someone to discuss personal problems or people who care about the patient's well-being, were notably lacking. These results reinforce previous literature documenting pervasive unmet supportive care needs among oncology survivors, particularly in low-resource settings [23]. The clustering of mean scores around 1.0 highlights the low availability of perceived psychosocial support and underscores the urgent need for structured interventions that strengthen family engagement, peer networks, and institutional support. Within the study's conceptual model, these findings illustrate that social and institutional factors critically shape the patient's psychosocial experience and quality of life [3].

Finally, chi-square analyses indicated no significant differences in psychosocial needs based on treatment modalities or the presence of comorbid conditions ($p > 0.05$). Patients undergoing chemotherapy, radiotherapy, surgery, or combinations thereof reported moderate psychosocial needs, and conditions such as hypertension or diabetes did not significantly influence need levels. These findings are consistent with other recent studies showing that psychosocial burdens are largely independent of treatment type or comorbidities, highlighting the universality of these needs among gynecological cancer patients [3, 24, 25]. Taken together, the evidence underscores the importance of providing comprehensive psychosocial support to all patients, regardless of clinical variables, and emphasizes the urgent need to integrate emotional, informational, and social interventions into standard oncology care to mitigate distress and improve overall patient outcomes. .

The study had several limitations. Environmental, psychosocial, and behavioral factors may have influenced participants' responses and were beyond the researcher's control. Additionally, the study was conducted at a single government hospital in Ogun State, limiting generalizability to other health facilities. Future research could generate more comprehensive insights by including patients' partners and expanding the study across multiple institutions. Incorporating these considerations within a

biopsychosocial framework could enhance understanding of the multifaceted needs of gynecological cancer survivors and guide the development of targeted interventions.

Declarations

Ethics approval and consent to participate

This study was performed in line with principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Federal Medical Center Abeokuta (Ethics approval code: FMCA/470/HREC/01/2025/64). Written informed consent was obtained from all participants before data collection.

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Competing Interests

The authors declared no competing interests.

Authors Contributions.

Olubukola Olaitan Adeaga (main author): Conceptualization, study design, data collection, analysis, interpretation, manuscript drafting.

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Olajumoke Ileole Dele-Alonge and Olubukola Olaitan Adeaga: analysis, interpretation

Oluwatosin Oluwaseun Olu-Abiodun: manuscript editing.

Folashade Wina: Manuscript editing

Data availability

The datasets generated during/ or analysed during the current study are available from the corresponding author on reasonable request.

Consent to participate

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

Clinical trial number

Not applicable

Consent to publish.

Not Applicable. No individual participant data are presented in a form that could identify any participant.

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References

1. Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, Jemal A. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 74, 229–263. <https://doi.org/10.3322/caac.21834>
2. Stroecken Y, Hendriks F, Beltman J, Kuile M. Quality of life and psychological distress related to fertility and pregnancy in AYAs treated for gynecological cancer: A systematic review. 2004 *Cancers*, 16, 3456. <https://doi.org/10.3390/cancers16203456>
3. Cimino T, Said K, Safier L, Harris H, Kinderman A. Psychosocial distress among oncology patients in the safety net. 2020 *Psycho-Oncology*, 29, 1927–1935. <https://doi.org/10.1002/pon.5525>
4. Farina S, Sabatelli A, Boccia S, Scambia G. Environment, lifestyle, and cancer in women. *Int J Gynaecol Obstet*. 2025;171(Suppl 1):138–146. doi:10.1002/ijgo.70156.
5. Song HJ, Seo HJ, Choi EJ, Lee JS, Choi Y. Nursing care services to address unmet supportive care needs among cancer survivors: a systematic review. *J Cancer Surviv*. 2024 Sep 6. doi:10.1007/s11764-024-01661-9. Epub ahead of print. PMID:39240428
6. Telles R, Zimmerman MB, Thaker PH, Slavich GM, Ramirez ES, Zia S, et al. Rural–urban disparities in psychosocial functioning in epithelial ovarian cancer patients. *Gynecol Oncol*. 2024;184:139–145
7. Knudsen MA, et al. Sexuality, intimacy, and body image among adolescents and young adults with cancer: a qualitative explorative study. *Support Care Cancer*. 2024;32:219.
8. Ndreu Y, Gil-Juliá B, Picazo C, García-Conde A, Soto-Rubio A. Unmet supportive care needs in cancer survivors in Spain: a multicentre cross-sectional study on prevalence and sociodemographic and disease-related risk factors. *Curr Oncol*. 2025;32(9):524. doi:10.3390/curroncol32090524
9. Voskanyan V, Marzorati C, Sala D, et al. Psychosocial factors associated with quality of life in cancer survivors: an umbrella review. *J Cancer Res Clin Oncol*. 2024;150:249. doi:10.1007/s00432-024-05749-8.

10. Bergerot C, Jacobsen PB, Rosa WE, Lam WW, Dunn J, Fernández-González L, et al. Global unmet psychosocial needs in cancer care: health policy. *EClinicalMedicine*. 2024;78:102942. doi:10.1016/j.eclinm.2024.102942
11. Amoo P, Busisiwe N. Exploring the unmet needs of family caregivers of cancer patients in Southwest Nigeria. *Int J Africa Nurs Sci*. 2025;23:100864. doi:10.1016/j.ijans.2025.100864
12. Nwosu AD, Ossai EN, Ilo CA, Madu AJ, Onwuasoigwe O, Ezenwosu O, et al. Screening for psychosocial distress and depression among cancer patients in a regional cancer centre in Nigeria: a cross-sectional study. *Rwanda Med J*. 2025;81(4):10–21. doi:10.4314/rmj.v81i4.3.
13. Broadhead WE, Gehlbach SH, de Gruy FV, Kaplan BH. The Duke-UNC Functional Social Support Questionnaire: measurement of social support in family medicine patients. *Med Care*. 1988;26(7):709–23
14. PhenX Toolkit. Supportive Care Needs – Cancer. 2026 Jan 23. Available from: <https://www.phenxtoolkit.org/protocols/view/321101>
15. Abdelrahman H, Al Qadire M, Zehry H. Reliability and validity of the Arabic version of the Short Form Supportive Care Needs Survey Questionnaire (SCNS-SF34-A) among cancer patients. *Semin Oncol Nurs*. 2024;40(3):151646. doi:10.1016/j.soncn.2024.151646
16. Siao CL, Chang WC, Chen CH, Lee YH, Lai YH. Symptoms, distress, finances, social support, resource utilization, and unmet care needs of patients with gynecological cancer. *Eur J Oncol Nurs*. 2024;72:102686. doi: 10.1016/j.ejon.2024.102686. Epub 2024 Aug 22. PMID: 39317144.
17. Kirca N, Adibelli D, Toptas T, Yilmaz S. Perceived social support, fatigue, and sleep quality in women treated for gynecological cancer: a cross-sectional study. *Support Care Cancer*. 2025;33(7):636. doi: 10.1007/s00520-025-09674-5. PMID: 40580301; PMCID: PMC12206204.
18. Elkefi S, Matthews AK. Exploring Health Information-Seeking Behavior and Information Source Preferences Among a Diverse Sample of Cancer Survivors: Implications for Patient Education. *J Cancer Educ*. 2024;39(6):650–662. doi: 10.1007/s13187-024-02448-3. Epub 2024 May 28. PMID: 38807002.
19. Bore MG, Dadi AF, Ahmed KY, Hassen TA, Kibret GD, Kassa ZY, Amsalu E, Ketema DB, Perry L Professor, Alemu AA, Shifa JE, Alebel A, Leshargie CT, Bizuayehu HM. Unmet Supportive Care Needs Among Cancer Patients in Sub-Saharan African Countries: A Mixed Method Systematic Review and Meta-Analysis. *J Pain Symptom Manage*. 2024;67(3):e211-e227. doi: 10.1016/j.jpainsymman.2023.11.023. Epub 2023 Dec 2. PMID: 38043746.
20. Addressing cancer survivors' information needs and satisfaction: a systematic review of potential intervention components for survivors with a rare cancer type. *Orphanet J Rare Dis*. 2024;19(1):387. doi:10.1186/s13023-024-03403-7. PMID:39425097; PMCID:PMC11488126
21. Gbaranor KB, Pepple BG, Ore AC, Mube AW, Cookey-Gam IF, Ekeng O, Ogbonda NP, Bademosi I, Maakai B, John EE, Orukwogu U, George TS, Kinanen, LD, Nunumaa BB. Psychological effects arising from infertility amongst married women in South-South Nigeria. *Scholars International Journal of Anatomy and Physiology*. 2024 7(9), 148–152

22. Chen M, Zhang Y, Zhang F, Jiang F, Wang X. Psychological state and decision perceptions of male and female cancer patients on fertility preservation. *Support Care Cancer*. 2022;30:5723–8. doi:10.1007/s00520-022-06973-z..
23. Afework T, Wondimagegnehu A, Bogale AS, Kantelhardt EJ, Addissie A. Predictors of unmet supportive care needs of adult cancer patients in Ethiopia. *Eur J Cancer Care (Engl)*. 2022;31(6):e13694. doi:10.1111/ecc.13694
24. Graf J, Junne F, Ehrental JC, Schäeffeler N, Schwille-Kluntke J, Stengel A, Mehnert-Theuerkauf A, Marwedel L, Brucker SY, Zipfel S, et al. Unmet supportive care needs among women with breast and gynecological cancer: Relevance of attachment anxiety and psychological distress (2020). *Frontiers in Psychology*, 11, 558190. <https://www.ncbi.nlm.nih.gov/pubmed/33192814>
25. Ene-Peter J, Orukwogu U. Caregiver burdens of cancer patients in Rivers State University Teaching Hospital (RSUTH) (2023). *IPS Journal of Public Health*, 2(1), 18–22.