

Original Article

Sexuality in Cancer Treatment: Knowledge, Attitudes, and Practices Among Oncology Physicians

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ABSTRACT

Aim: This study aimed to evaluate the knowledge, attitudes, and practices of oncology clinicians regarding sexual health in cancer patients, an often overlooked yet essential component of patient care.**Methods:** A cross-sectional survey was conducted among 145 oncology specialists in Türkiye, including medical oncology, radiation oncology, surgical oncology, gynecologic oncology, and hematology professionals. A 31-item questionnaire assessed clinicians' knowledge, attitudes, and practices related to sexual health during cancer treatment. Statistical analyses were performed using Statistical Package for the Social Sciences v25.**Results:** A very small proportion of clinicians (3.4%) had received specific training on sexual health in cancer care, while 86.9% expressed a desire for further education. Discussions on sexual health were infrequent, with 15.2% of clinicians never addressing it at treatment initiation and 33.1% never addressing it during follow-up. A lack of time and insufficient knowledge were the most cited barriers. Although 57.9% believed they provided adequate information, 42.1% felt underprepared.**Conclusion:** Sexual health remains under-discussed in oncology practice due to limited training and systemic barriers. Enhancing clinician education-especially regarding newer therapies such as immunotherapy-through continuous medical programs is essential. Addressing sexual health proactively may significantly improve the overall quality of life for cancer patients.**Keywords:** Cancer treatment, oncology clinicians, quality of life, sexual health

Introduction

Cancer is one of the leading causes of morbidity and mortality worldwide, affecting both men and women. According to GLOBOCAN 2020 data, it is estimated that nearly 2 million new cancer cases will be diagnosed in the United States [1]. Early-onset cancers, which are diagnosed in patients aged 18 to 49, are increasing in prevalence, especially in developed countries. Although cancer continues to be a significant cause of mortality, survival rates have significantly improved for certain cancer types, such as breast cancer in women and prostate cancer in men. As a result, it is crucial to prioritize the quality of life during treatment and follow-up for cancer patients [2]. As the life expectancy of cancer survivors increases, greater attention must be paid to the side effects of cancer treatments. Among young cancer patients, sexual health should be considered an increasingly important aspect of quality of life [3].

Although sexuality is often overlooked or downplayed for various reasons, it is fundamentally one of the most basic human needs. In this context, discussing sexual health with patients and providing recommendations when necessary becomes crucial. Regardless of the cancer type, it is expected that clinicians transparently explain the potential side effects of treatments and interventions on sexual health, as well as the preventive measures that can be taken, throughout the course of cancer treatment [3]. Chemotherapy, radiotherapy, surgery, and hormonal treatments can negatively affect sexual health in both men and women with cancer due to multifactorial physical, psychological, and sociocultural factors [4]. For example, a survey conducted among women with breast cancer observed that sexual activity, reported at 71.9% before chemotherapy, decreased to 47% by the end of chemotherapy [5]. In general, the most common sexual problems reported in men are erectile dysfunction and decreased libido, while

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in women, the most common sexual issues include vaginal dryness, other genital changes causing pain during sexual activity, and loss of sexual desire [6]. In a study conducted by Özbek and Kılıç Uçar [7], sexually active women with cancer were evaluated. It was found that 55% of the patients experienced sexual problems after their diagnosis, with only 29.2% of those experiencing issues shared this with healthcare providers. In another study by Flynn et al. [8], 74% of cancer patients reported that discussing sexual issues with oncology specialists was important. However, the percentage of patients who received information about sexual function varied by cancer type (23% for lung cancer, 29% for breast cancer, 39% for colorectal cancer, and 79% for prostate cancer). Clearly, despite the high prevalence of sexual problems in both men and women, these issues are seldom discussed with patients and healthcare providers.

Based on the current literature and the existing gap in communication between cancer patients and healthcare providers regarding sexual issues, our study aimed to investigate the knowledge and attitudes of oncology professionals towards sexual health in cancer patients. We designed a cross-sectional survey to assess their general knowledge of sexual health and their approach to discussing sexual concerns during the diagnosis and treatment phases. Through this study, we sought to highlight the importance of addressing sexual health issues in oncology care identify areas for improvement in communication between oncologists and patients and ultimately enhance the quality of life for cancer patients.

Methods

Our study is designed as a cross-sectional survey. Based on current information and literature, a questionnaire named the “oncology physicians’ knowledge and attitudes regarding sexuality in cancer treatment” was prepared by the researchers. The survey was distributed online to specialists in medical oncology, radiation oncology, surgical oncology, gynecological oncology, and hematology, who were asked to voluntarily complete the questionnaire. This approach aimed to investigate the specialists’ general knowledge of sexuality and their attitudes towards patients during routine clinical practice. After obtaining ethical approval, the participants were requested to complete the online survey forms between March 1, 2025 and March 31, 2025.

The questionnaire, consisting of a total of 31 questions, ensured the confidentiality of the participants’ personal information. Basic data such as gender, age, area of specialization, professional experience, and the institution at which they work, were recorded. In addition to questions assessing the participants’ basic knowledge on sexual health in cancer patients, questions were specifically included to evaluate their knowledge and attitudes towards patients, particularly at the time of initial diagnosis, and during various stages of treatment. Participants’ responses to these questions were recorded.

Ethical approval for the study was obtained from the Non-invasive Clinical Research Ethics Committee of Uşak University and was conducted in accordance with the Declaration of Helsinki (decision no: 578-578-09, date: 20.02.2025).

Statistical Analysis

Statistical analyses were performed using Statistical Package for the Social Sciences statistics for Windows, version 25 (IBM Corp., Armonk, NY, U.S.A.). Descriptive statistics were presented as frequency distributions and percentages. The chi-square test or Fisher’s exact test was used to compare independent categorical variables. Two-way statistical analyses were conducted in this study, and a p of <0.05 was considered statistically significant.

Our study was planned and conducted in accordance with good clinical practice guidelines. As this was a cross-sectional survey study conducted exclusively among physicians, no patient participation or patient data were involved. All participants were oncology specialists who voluntarily completed the anonymous online questionnaire. Therefore, a signed patient consent form is not applicable in this context.

Results

A total of 145 participants were included in our study. Of the participants, 79 (54.5%) were male and 66 (45.5%) were female. Overall, 126 physicians (86.9%) were aged 45 or younger. Among the participating physicians, 67.6% were medical oncology specialists, 16.6% were radiation oncology specialists, and the remaining 15.9% consisted of hematology, gynecologic oncology, and surgical oncology specialists. The basic demographic characteristics of the participants in our survey are detailed in Table 1.

The majority of participants (n=140, 96.6%) answered “No” to the question posed to the physicians, “Do you ask patients about their sexual preferences during their first treatment?” Various questions were directed at the participants regarding the communication, attitudes, and approaches of physicians when starting treatment, as well as during the follow-up and treatment processes for oncological patients. One of the most important questions in this field, crucial for quality of life in clinical practice, is: “How frequently do you have an informative discussion about sexual health with your patients when starting oncological treatment?” Twenty-two participants (15.2%) answered “I never have such discussions.” Eighty participants (55.1%) stated that they rarely have such discussions, while 28 participants (19.3%) said they sometimes do. Only 13 participants (9.0%) reported that they frequently have discussions on this matter with their patients. In general, it was striking that discussions on sexual health topics remained infrequent. Similarly, when asked “How frequently do you assess or discuss your patients’ sexual health during the follow-up and treatment process?”, 48 participants (33.1%) answered “I never discuss it.” Seventy one participants (49.0%) said “I rarely discuss it. Twenty participants (13.8%) stated that they sometimes have such discussions, while just 5 physicians (3.4%) reported that they frequently

Table 1. Basic demographic characteristics of the participants

Total number of participants: 145		Number (%)
Gender	Male	79 (54.5%)
	Female	66 (45.5%)
Age	25-35	50 (34.5%)
	36-45	76 (52.4%)
	46-55	13 (9.0%)
	56-65	4 (2.8%)
	>65	2 (1.4%)
Medical specialty	Medical oncology	98 (67.6%)
	Radiation oncology	24 (16.6%)
	Hematology	10 (6.9%)
	Surgical oncology	12 (8.3%)
	Gynecological oncology	1 (0.7%)
Years of experience in the specialty	0-3 year	56 (38.6%)
	4-6 year	44 (30.3%)
	7-10 year	21 (14.5%)
	11-15 year	11 (7.6%)
	>15 year	13 (9.0%)
Institution type	State hospital	12 (8.3%)
	Training and research hospital	51 (35.2%)
	City hospital	3 (2.1%)
	University hospital	62 (42.8%)
	Private hospital	17 (11.7%)

have these discussions. In a follow-up question, which aimed to explore the reasons why physicians do not discuss sexual health with their patients and allowed multiple answers, the majority of physicians (n=79, 54.5%) cited, "I don't have enough time" as the reason. The second most common reason was that patients did not wish to discuss this matter (n=73, 50.4%). Similarly, 45 physicians (31.0%) reported that patients were not concerned with this issue. Notably, 28 participants (19.3%) stated that they lacked sufficient knowledge about cancer and sexuality to discuss it with their patients.

Various questions were directed at the participants to assess their practical approaches to discussing sexual health with patients during cancer treatment, aiming to evaluate their general behavior and attitudes in clinical practice. The majority of physicians (n=95, 65.5%) stated that they felt comfortable or very comfortable when discussing these matters with their patients. Notably, most participants (n=120, 82.8%) emphasized that they felt it was essential to discuss sexual health with patients, particularly in cases where the goal is to achieve remission. The questions evaluating the physicians' general behavior and attitudes towards sexuality, along with their responses, are detailed in Table 2.

Following the questions assessing clinicians' general approach and attitudes towards patients, additional questions were posed to examine their general knowledge on sexuality, and their practical approaches during specific treatments. When asked, "Do you think you provide accurate and sufficient information when your patients ask you questions about sexuality?", 84 participants (57.9%) answered "Yes," while 61 participants (42.1%) answered "No." The questions regarding clinicians' knowledge and

practical approaches during treatment, along with their responses, are detailed in Table 3.

Among the clinicians involved in the care of cancer patients, a very small proportion (5 participants, 3.4%) had received specific training on sexual health in cancer patients, while 140 participants (96.6%) had not received such training. Finally, when asked, "Would you like to receive training to enhance your knowledge on sexual health during cancer treatment?" 126 participants (86.9%) answered "Yes."

When asked, "Do you think you can provide accurate and sufficient information when patients ask you questions about sexual health?" it was observed that both male and female clinicians responded similarly, with "Yes" responses noted (57.6% for females and 59.0% for males, $p=0.86$). Similarly, when asked, "Would you like to receive training to enhance your knowledge on sexual health during cancer treatment?", female and male clinicians answered "Yes" at rates of 90.6% and 83.5%, respectively ($p=0.19$). When comparing based on professional experience, the proportion of participants who answered "Yes" to the first question was as follows: 42.9% for clinicians with 0-3 years of experience, 65.9% for those with 4-6 years, 71.4% for those with 7-10 years, 72.7% for those with 11-15 years, and 66.7% for those with more than 15 years of experience. Although it was observed that the level of knowledge increased with experience, this difference between groups did not reach statistical significance ($p=0.05$). Similarly, the proportion of participants wishing to receive training was 91.1% for those with 0-3 years of experience and 76.9% for those with more than 15 years of experience ($p=0.59$). Similar comparisons based on age groups, specialties, and institutions revealed no statistically

Table 2. Evaluation of physicians' general attitudes and behaviors regarding sexuality

Total number of participants: 145		Number (%)
Question	Response options	
How do you feel when discussing sexual health with your patients?	Comfortable Fairly comfortable Not very comfortable Uncomfortable	71 (49.0%) 24 (16.6%) 48 (33.1%) 2 (1.4%)
Do you refer your patients to a relevant specialist (psychiatry, urology, gynecology) when you deem it necessary to address sexual health concerns?	Yes No	130 (93.1%) 15 (10.0%)
Which patient group do you particularly feel the need to inform about sexual health?*	Early-stage patients Urogenital/gynecological cancers Advanced/metastatic patients	120 (82.8%) 87 (60.0%) 40 (27.6%)
Which age group of patients do you inform about sexual health?*	18-35 years old 35-50 years old 51-65 years old 66-75 years old >75 years old	131 (90.0%) 131 (90.0%) 73 (50.4%) 29 (20.0%) 17 (11.7%)
Do you think an active sexual life should be maintained during cancer treatment?	Yes No	132 (91.0%) 13 (9.0%)
When discussing sexual health with your patients, which topic(s) do you address?*	Reproductive health Sexual functioning Sexual side effects of treatment	91 (62.8%) 103 (71.0%) 98 (67.6%)
Is there a designated staff member or unit available to support patients with sexual health concerns during cancer treatment?	Yes No	13 (9.0%) 132 (91.0%)

*Multiple selections were allowed for this items

significant differences in knowledge levels and the desire to receive training among the groups.

Discussion

This study highlights that sexual health is often an overlooked area in oncology practice during the cancer treatment process. The findings reveal that clinicians working with cancer patients engage in infrequent discussions and provide minimal information on sexual health, indicating a significant lack of education in this regard. Our study emphasizes the importance of developing a more comprehensive and effective approach to sexual health during the cancer treatment process.

This survey, in which the majority of participants were medical oncologists, provided an opportunity to evaluate the approach of other disciplines, such as hematology and radiation oncology, and offered additional insights. Additionally, it demonstrates the fundamental attitudes and approaches of various populations regarding both professional experience and the institutions at which they work. One of the most notable observations during patient follow-up and treatment was that 15.2% of clinicians had never discussed sexual health with their patients prior to treatment, and 33.1% during treatment, respectively, while 55.1% and 49.0% reported having infrequent discussions. More than half of the participants indicated that the most common reason for these gaps was a lack of time. Receiving a cancer diagnosis can bring about many physical and psychosocial issues. In a study by Özbek and Kılıç Uçar [7]. It was observed that, before cancer diagnosis, 22.5% of female patients reported

issues with sexual health, while this rate increased to 55.0% after diagnosis. Furthermore, only one-third of patients shared their sexual problems with healthcare professionals. Similarly, a study by Demirtas and Pinar [9]. on patients with gynecological cancers also showed a statistically significant increase in sexual problems after the cancer diagnosis. Many studies exist in the literature on this topic across various cancers, with sexual health problems during treatment reported in up to 68% of breast cancer patients and 98% of prostate cancer patients [10,11]. As clearly demonstrated by the studies mentioned above, sexual health, a significant cornerstone of quality of life for cancer patients, requires more time and attention. It is crucial that comprehensive and detailed information on sexual health be provided by oncologists and the healthcare team involved in cancer treatment. In addition to routine outpatient services, it may be valuable to have trained personnel create an environment where patients feel comfortable expressing themselves and allow extended time for patient education on this topic.

Although more than half of the clinicians believe they can provide sufficient answers to questions about sexual health, 42.1% of the remaining clinicians reported not feeling adequately knowledgeable on the subject. In response to the question, "Do you recommend active sexual activity during specific treatments?" the number of clinicians who answered "I have no information" for patients undergoing chemotherapy, immunotherapy, targeted therapies, and hormonal treatments was recorded as 12.4%, 18.6%, 17.2%, and 8.3%, respectively. Although this may be attributed to

Table 3. Clinicians' knowledge and practical approaches regarding sexual health in cancer care

Total number of participants: 145		Number (%)
Question	Response options	
Do you think you provide accurate and sufficient information when your patients ask questions about sexual health?	Yes No	84 (57.9%) 61 (42.1%)
How knowledgeable do you consider yourself regarding sexual life during oncological treatment?	None Very little/insufficient Moderate Good Excellent	0 (0.0%) 57 (39.3%) 64 (44.1%) 23 (15.9%) 1 (0.7%)
In which topic(s) do you feel most inadequate when responding to patients' questions?*	Reproductive health Sexual functioning Sexual side effects of treatment	26 (17.9%) 81 (55.9%) 41 (28.3%)
What source(s) do you use when providing information to your patients about sexual health?*	Current international guidelines Multidisciplinary approach Own clinical knowledge	63 (43.4%) 89 (61.4%) 87 (60.0%)
Do you recommend that your patients receiving chemotherapy maintain an active sexual life during treatment?	Yes, if there are no contraindications It depends on the individual case Yes, with contraception I do not recommend it I have no idea	71 (49.0%) 48 (33.1%) 1 (0.7%) 7 (4.8%) 18 (12.4%)
Do you recommend that your patients receiving immunotherapy maintain an active sexual life during treatment?	Yes, if there are no contraindications It depends on the individual case Yes, with contraception No, I do not recommend it I have no idea	89 (61.4%) 24 (16.6%) 1 (0.7%) 4 (2.8%) 27 (18.6%)
Do you recommend that your patients receiving targeted therapy maintain an active sexual life during treatment?	Yes, if there are no contraindications It depends on the individual case Yes, with contraception No, I do not recommend it I have no idea	89 (61.4%) 26 (17.9%) 1 (0.7%) 4 (2.8%) 25 (17.2%)
Do you recommend that your patients receiving hormonal therapy maintain an active sexual life during treatment?	Yes, if there are no contraindications It depends on the individual case Yes, with contraception No, I do not recommend it I have no idea	107 (79.3%) 20 (13.8%) 0 (0.0%) 6 (4.1%) 12 (8.3%)
Do you recommend that your patients receiving radiotherapy maintain an active sexual life during treatment?	Yes, if there are no contraindications It depends on the individual case Yes, with contraception No, I do not recommend it I have no idea	72 (49.7%) 42 (29.0%) 0 (0.0%) 9 (6.2%) 22 (15.2%)
*Multiple selections were allowed for this items		

the multidisciplinary nature of the groups participating in the study, it is important to enhance knowledge and training in this area. A recent cross-sectional survey conducted with 2,530 oncology nurses highlighted that they have a moderate level of knowledge and a positive attitude regarding sexual health, supporting the need for broader training initiatives in this field [12]. In our current study, among clinicians specifically involved in the care of cancer patients, only 5 participants (3.4%) had received specific training on sexual health in cancer patients. Additionally, when asked, "Would you like to receive training to enhance your knowledge on sexual health during cancer treatment?" 126 participants (86.9%) responded affirmatively. Interestingly, although the increase in knowledge level was not statistically significant, there was a noticeable trend, whereby

clinicians' knowledge improved with increasing professional experience. Taken together, these findings suggest the need to develop continuous medical education programs that include sexual health, especially regarding emerging treatment approaches such as immunotherapy and targeted therapies.

Study Limitations

This study has some limitations. First, the study included not only medical oncologists but also clinical specialists from various oncology disciplines such as hematology, radiation oncology, gynecological oncology, and surgical oncology. This broad range of participants allows for a more generalized perspective in evaluating the results, however, the heterogeneous sample may still limit the ability to clearly

delineate the differences in attitudes and practices related to sexual health within each discipline. Furthermore, since the knowledge gaps and attitudes regarding sexual health are based on self-assessment, the accuracy of responses may be limited by personal perceptions and how openly the survey participants were able to express themselves. The study was also conducted solely in oncology clinics in Türkiye, and cultural and geographical factors may affect the applicability of the results in other countries. Moreover, as the responses were based on self-assessment, they may reflect subjective perceptions. Furthermore, cultural norms might have influenced participants' openness and frequency in addressing sexual health issues. Additionally, the cross-sectional nature of the data limits the ability to establish causal relationships. Long-term follow-up studies will provide an opportunity to more thoroughly examine the effects of education and changes in attitudes within this field.

Conclusion

This study has highlighted that sexual health during cancer treatment is often overlooked and emphasized a significant knowledge gap in this area. Addressing the sexual health issues encountered by patients undergoing cancer treatment and improving their quality of life is an essential part of oncology practice. The study's findings indicate the importance of dedicating more time to sexual health in clinical settings and the inclusion of trained healthcare personnel in this regard. In addition to clinical settings, it is crucial for oncology specialists to receive continuous education on sexual health in order to provide more effective counseling during the treatment process. In this context, awareness of sexual health should be increased, and educational programs in this area should be strengthened. Patients experiencing sexual health issues during cancer treatment should be addressed not only with treatment but also with psychosocial support. This study, by drawing attention to this important issue, has provided a solid foundation for future research.

Ethics

Ethics Committee Approval: Ethical approval for the study was obtained from the Non-invasive Clinical Research Ethics Committee of Uşak University and was conducted in accordance with the Declaration of Helsinki (decision no: 578-578-09, date: 20.02.2025).

Informed Consent: Our study was planned and conducted in accordance with good clinical practice guidelines. As this was a cross-sectional survey study conducted exclusively among physicians, no patient participation or patient data were involved. All participants were oncology specialists who

voluntarily completed the anonymous online questionnaire. Therefore, a signed patient consent form is not applicable in this context.

Footnotes

Authorship Contributions

Surgical and Medical Practices: A.M.Ç., Y.İ., Concept: Y.İ., Design: A.M.Ç., Data Collection or Processing: A.M.Ç., Y.İ., Analysis or Interpretation: Y.İ., Literature Search: A.M.Ç., Y.İ., Writing: A.M.Ç., Y.İ.

Conflict of Interest: No conflict of interest was declared by the authors.

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