TURKISH JOURNAL of ONCOLOGY

Turk J Oncol 2022;37(2):208–13
doi: 10.5505/tjo.2022.3541

REVIEW

The Effect of Body Image Concerns, Anxiety, and Depression on Sexual Problems in Gynecological Cancer Patients

Dilek ANUK

Division of Consultation Liaison, Department of Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-*Turkey*

SUMMARY

Gynecological cancers and their treatments directly affect the female genitals. Therefore, gynecological cancers are one of the cancer types where sexual dysfunctions are most common. Sexual problems can be a normal result of treatment processes and of cancer, as well as a reflection of the psychological difficulties experienced by individuals during the disease process. The disease itself and the treatments applied can cause psychiatric problems such as body image concern, depression, anxiety, decreased self-esteem, sleep disorders, and sexual dysfunction affect the quality of life negatively. The psychological treatment methods include psychoeducation, group therapy, sexual counseling, marriage counseling, structured psychotherapy, and brief psychosexual interventions. Psychiatric symptoms should be considered to emerge following treatment and quality of life and sexual functions may be adversely affected in gynecological cancer patients, and a multidisciplinary approach including psychological treatment and symptom management should be provided for the effective treatment of sexual difficulties.

Keywords: Anxiety; body image; depression; gynecological cancer; sexual dysfunction.

Introduction

Gynecological cancers consist of cervical, primary peritoneal/ovarian/fallopian tube, uterine/endometrial, vaginal, and vulvar malignancies, and, more rarely, malignancies associated with gestational trophoblastic disease. According to statistical estimates, in 2022, more than 115,000 new gynecological cancer cases are expected in the USA, and nearly 33,000 deaths due to gynecological cancer are expected.[1] According to the International Agency for Research on Cancer GLOBOCAN 2020 data, gynecological cancers constitute 13.1% of all female cancers in Turkey.[2] Gynecological cancer treatment usually includes surgery, chemotherapy, radiation, hormone therapy, or a combination of these methods. Patients are typically followed for 5 years as they enter the survival phase of their cancer diagnosis following the completion of their treatment. With the current developments in gynecological cancer treatment, survival rates are increasing, and more and more women live with the remnants of their cancer experience. Thousands of these women are trying to cope with the sexual sequelae caused by many factors and the problems they bring because cancer dramatically affects a woman's sexuality, sexual function, close relationships, and sense of self.[3] The World Health Organization defines sexual health as "a state of physical, emotional, mental, and social well-being in relation to sexuality."[4] Sexual intimacy and sexuality, which are important parts of life, are affected by various factors such as physical health, psychological well-being, body image perception, and general rela-

Received: January 13, 2022
Accepted: February 17, 2022
Online: February 28, 2022

Accessible online at:
www.onkder.org

Dr. Dilek ANUK
Konsültasyon İrtibat Anabilim Dalı,
Psikiyatri Anabilim Dalı,
İstanbul Üniversitesi,
İstanbul Tıp Fakültesi,
İstanbul-Turkey
E-mail: dilekanuk@gmail.com

tionship status.[5] A healthy sex life is as important in cancer patients as it is in healthy people.[6] Since gynecological cancers and their treatments directly affect the female genitals, they are perhaps the most common cancers that cause sexual dysfunction. In the general population, female sexual problems are quite common, affecting 43% of women.[7,8] The estimated prevalence of sexual dysfunction in gynecological cancer patients is between 40% and 100%.[8-10] Sexual dysfunction has been observed in cervical cancer patients at a rate of 66.7%[11] and in gynecological cancer patients at a rate of 65%.[12] Decreased sexual desire, difficulty in sexual arousal, dyspareunia, recurrent vaginal infections, vaginal atrophy, decreased vaginal lubrication, feelings of losing femininity, cessation of all sexual activities, difficulties related to menopausal symptoms, and infertility associated with cancer treatment have been reported.[13,14] The frequency of sexual problems in women with gynecological cancer can be attributed to the fact that this disease has a strong negative effect on female identity and threatens people's perceptions of their own sexuality.[15,16] Both the cancer itself and the treatments can cause psychiatric problems such as depression, anxiety, decreased self-esteem, sleep disorders, sexual dysfunction, and decreased quality of life.[17,18] While sexual dysfunction associated with chemotherapy and radiotherapy usually resolves after treatment is completed, anatomical problems related to surgery can have a long-lasting effect on a patient's sexuality.[19] Surgical procedures often lead to decreased vaginal lubrication, difficulties in penile-vaginal intercourse, pain, decreased body image and self-esteem, arousal disorders, and orgasmic disturbances as a result of cuts or damage to the nerves innervating the pelvic organs.[19,20] Table 1 summarizes sexual dysfunctions and their causes in gynecological cancer patients.

Studies show that psychological variables such as depression, anxiety, body image, and the inability to "feel like a full woman" negatively affect sexual functioning in gynecological cancer.[21] In addition, some studies have shown that sexual dissatisfaction increases rates of depression and anxiety. Levin et al. (2010)[22] reported that sexual morbidity is a significant predictor of depressive symptoms and body image-related stress. Another study concluded that sexual dissatisfaction has the potential to cause high levels of depression and anxiety.[23] Although there is a mutual interaction between sexual problems and psychological symptoms, the effects of body image problems, depression, and anxiety on sexual problems in gynecological cancer patients will be discussed in this article.

Body Image Concerns

Many studies have noted that gynecological cancer diagnosis and treatment methods cause deterioration in the body image of women.[24,25] Surgical interventions are the leading cause of such deterioration.[26] After major surgical interventions such as radical hysterectomy, vulvectomy, and total pelvic exenteration, many women experience feeling different, such as appearing less physically appealing to their spouses or sensing that their attractiveness as a sexual partner will decrease and their sexual life will deteriorate.[26] The end of reproductive capacity due to uterine deficiency and thoughts and concerns about sexuality increases the risk of depression in patients who have undergone hysterectomy for gynecological cancer.[27] After hysterectomy, in particular, women may experience intense sadness because of the meaning that women ascribe to the uterus and their belief in losing their feminine identity. Negative thoughts about physical appearance and negative sexual self-perception may develop in patients after surgical treatment and subsequent adjuvant radiotherapy treatment.[28] Alopecia, fatigue, nausea, and vomiting have been experienced after chemotherapy treatment, which can affect women's self-esteem and sense of sexual attractiveness.[29] All of these problems affect women's sexual lives negatively by increasing their feelings of fear, anxiety, and depression. In addition to body image problems, fear of cancer recurrence, post-traumatic stress dis-

Table 1 Sexual dysfunctions and their causes in gynecological cancer patients.

Sexual dysfunction	Causes of dysfunction
Decreased sexual desire/libido Sexual arousal problem Dissatisfaction in sexual life Absence of sexual fantasies and dreams Vaginal dryness/lack of lubrication Disparoni (painful intercourse) Anorgazmi	**Psychological:** Body image problems, anxiety, depression, fatigue, feeling of losing your femininity, concerns about infertility (in young patients), relationship changes and problems, communication problems **Treatment:** Chemotherapy, radiation to the pelvic area, surgical treatment to the pelvic organs, menopause, hormonal changes, pain, neuropathy, antihypertensives, diuretics, neuroleptics, antidepressants, antipsychotics, etc.

Turk J Oncol 2022;37(2):208–13
doi: 10.5505/tjo.2022.3541

order, anxiety, and depression symptoms persist. Depressed mood, altered self-image, and increased anxiety due to psychiatric illness and psychopathology may cause sexual dysfunction in women.[30]

Anxiety

Anxiety is a symptom frequently observed in cancer patients. While the anxiety levels of newly diagnosed cancer patients may increase up to 50%, chronic anxiety may continue in 30% of patients in the long term.[31] Psychological challenges experienced by women during the gynecological cancer process include fear of death, fear of being dependent on others, uncertainty about the future, problems related to fertility, loss of role and function, and economic issues, which can cause anxiety.[32] When the relationship between anxiety and sexual function is examined, it can be perceived that the presence of pain during sexual intercourse may trigger anxieties about pain before intercourse, and it may also reduce sexual satisfaction and orgasm experiences.[33] A study of women with gynecological cancer reported that 69% of participants feared that their cancer would recur, while 66% feared that their cancer would spread, and 54% were uncertain about their future. The same study determined that 45% of women felt sad, and 44% felt depressed and experienced anxiety.[34] Such research findings indicate that anxiety causes sexual dysfunction disorders in women.[34,35]

Studies have shown that 50% of women with orgasm inhibition and 88% of women with dyspareunia and vaginismus have anxiety as defined by psychiatric diagnostic criteria, and 44% of women with panic disorder experience sexual dysfunction.[36,37] Regarding anxiety as the cause of sexual dysfunction, the literature explains that increased sympathetic activity brought on by anxiety in women disrupts genital vasocongestion. This is because the inhibition of the parasympathetic nervous system impairs sexual stimulation.[35] Impairment of genital vasocongestion may then impede lubrication and sexual arousal in women, and dyspareunia and vaginismus may adversely affect the sexual lives of couples as a result.[35] Consequently, a lack of sexual stimulation can lead to low sexual interest, sexual reluctance, and the inability to experience orgasm.

Depression

About 25-42% increase in the incidence of depression in gynecological cancer patients has been reported due to physical (location of the tumor and presence of pain), psychosocial (stress and individual's maturity), and social (interpersonal relations) factors.[38] In addition, studies investigating psychiatric comorbidities in gynecological cancer patients have shown that approximately one in five women treated for gynecological cancer (cervical, endometrial, or ovarian cancer) has depression.[39] Moreover, depression can be seen in women during the gynecological cancer treatment process due to many factors. These include anxiety based on uncertainty about the treatment process, fears of the cancer spreading to other organs and of death, changes in female identity, body image, and sexuality, difficulty in daily living activities, and lack of emotional support.[40] Depression may also occur due to the removal of the ovaries in radical hysterectomy and the loss of estrogen as a result of entering menopause. The resulting symptoms manifest themselves as genitourinary trophic disorders and neurovegetative and psychiatric symptoms.[41,42] The hormone estrogen plays a role in the development of many organs and tissues, and it can have permanent effects on the organization and development of the central nervous system. In particular, estrogens affect brain chemistry by changing the concentration of many neurotransmitter amines, so estrogen deficiency, hot flashes, sleep disorders, depression, and mood changes can be seen.[41] Estrogen deficiency constitutes a biochemical basis for the development of depression. Tryptophan, which plays a role in serotonin metabolism, is important for preventing depression. Although the amount of total tryptophan does not change in postmenopausal and post-oophorectomy women, these women experience a decrease in free tryptophan, which causes a decrease in serotonin. Therefore, decreased serotonin in the brain tissue leads to depression.[41,43] The increase in plasma-free tryptophan levels and a decrease in depression complaints with estrogen treatment reveal the relationship between estrogen and depression. The reason that depression causes sexual dysfunction is found in the neurotransmitter dopamine.[43] Dopamine is considered to have a facilitating effect on sexual response and desire, and dopamine levels in the blood decrease in individuals with depression.[43] Studies conducted with patients with gynecological cancer show the relationship between problems in sexual life and depression. Some studies have stated that the sexual problems experienced by women due to radical hysterectomy can last from 6 months to 2 years after the operation, and it has been reported that fatigue, anxiety, and depression continue for 5 years after the treatment.[44,45] A study of women diagnosed with ovarian cancer and undergoing oophorectomy concluded that 6% of the women

had depressive symptoms for years.[46] Decreased sexual desire and arousal are associated with clinical depression as well as low self-esteem and frequent anxious and depressive thoughts. On the other hand, some antidepressant drugs can negatively affect sexuality. Antidepressants' side effects can include problems such as decreased or loss of sexual desire, inability to reach orgasm, painful orgasm, sexual arousal problems, decreased sexual satisfaction, dryness in vaginal secretions, dyspareunia, and vaginismus.[43]

Conclusion

Gynecological cancer is a disease that can have psychosocial and psychosexual effects on patients. Psychological intervention may be needed to address psychological, interpersonal, and sociocultural factors that contribute to sexual dysfunction, fear of cancer recurrence, anxiety, depression, body image concerns, sexual pain, and relationship factors. The psychological treatment methods include psychoeducation, group therapy, sexual counseling, marriage counseling, structured psychotherapy, and brief psychosexual interventions. The health-care professionals, especially doctors, should ask questions to encourage patients and their partners to express their sexual problems as an important step in revealing sexual problems that are often remnants of cancer treatment. Another point that should not be overlooked is that body image complaints, anxiety, and depression may underlie sexual problems. Sexual problems can be a normal result of treatment processes and of cancer, as well as a reflection of the psychological difficulties experienced by individuals during the disease process. In summary, health-care professionals should bear in mind that psychiatric symptoms may occur following treatment, quality of life, and sexual functions may be adversely affected in gynecological cancer patients, and a multidisciplinary approach including psychological treatment and symptom management should be provided for the effective treatment of sexual difficulties experienced by patients.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The authors declare no conflicts of interest.

Financial Support: The authors received no financial support for the publication of this article.

References

1. Siegel RL, Miller KD, Fuchs HE, Jemal A. Cancer statistics, 2022. CA Cancer J Clin 2022;72(1):7–33.
2. International Agency for Research on Cancer (IARC) GLOBOCAN 2020. Available at: https://gco.iarc.fr/today/online-analysis-table. Accessed Nov 3, 2021.
3. Ratner ES, Foran KA, Schwartz PE, Minkin MJ. Sexuality and intimacy after gynecological cancer. Maturitas 2010;66(1):23–6.
4. WHO. Education and treatment in human sexuality: the training of health professionals, report of a WHO meeting [held in Geneva from 6 to 12 February 1974]. Available at: http://apps.who.int/iris/handle/10665/38247. Accessed Nov 3 ,2021.
5. Jonczak EE, Stone ER, Pravia CI, Sider D. Life after breast, prostate, and colon cancer: Primary care's role. Cleve Clin J Med 2017;84(4):303–9.
6. Çavdar İ. Meme kanserli hastalarda cinsel sorunlar. Meme Sağlığı Dergisi 2006;2(2):64–6.
7. Laumann EO, Paik A, Rosen RC. Sexual dysfunction in the United States: prevalence and predictors. JAMA 1999;281(6):537–44.
8. Dunn KM, Croft PR, Hackett GI. Sexual problems: a study of the prevalence and need for health care in the general population. Fam Pract 1998;15(6):519–24.
9. Onujiogu N, Johnson T, Seo S, Mijal K, Rash J, Seaborne L, et al. Survivors of endometrial cancer: who is at risk for sexual dysfunction? Gynecol Oncol 2011;123(2):356–9.
10. Shankar A, Prasad N, Roy Sh, Chakraborty A, Biswas ASh, Patil Jet al. Sexual dysfunction in females after cancer treatment: an unresolved issue. Asian Pac J Cancer Prev 2017;18(5):1177–82.
11. Tsai TY, Chen SY, Tsai MH, Su YL, Ho CM, Su HF. Prevalence and associated factors of sexual dysfunction in cervical cancer patients. J Sex Med 2011;8(6):1789–96.
12. Tee BC, Rasidi AMS, Rushdan MMN, Ismail A, Sidi H. The prevalence and risk factors of sexual dysfunction in gynaecological cancer patients. Med & Health 2014;9(1):53–61.
13. Krebs LU. Sexual and reproductive dysfunction. In: Yarbro CH, Wujcik D, Gobel BH, editors. Cancer Nursing. 8th ed. Massachusetts: Jones & Bartlett Learning; 2018. p. 1011–50.
14. Demirtas B, Pinar G. Determination of sexual problems of Turkish patients receiving gynecologic cancer treatment: a cross-sectional study. Asian Pac J Cancer Prev 2014;15(16):6657–63
15. Carter J, Stabile C, Gunn A, Sonoda Y. The physical consequences of gynecologic cancer surgery and their

Turk J Oncol 2022;37(2):208–13
doi: 10.5505/tjo.2022.3541

impact on sexual, emotional, and quality of life issues. J Sex Med 2013;10 Suppl 1:21–34.
16. Huffman LB, Hartenbach EM, Carter J, Rash JK, Kushner DM. Maintaining sexual health throughout gynecologic cancer survivorship: A comprehensive review and clinical guide. Gynecol Oncol 2016;140(2):359–68.
17. Iżycki D, Woźniak K, Iżycka N. Consequences of gynecological cancer in patients and their partners from the sexual and psychological perspective. Prz Menopauzalny 2016;15(2):112–6.
18. Vitale SG, La Rosa VL, Rapisarda AMC. Comment on: "The consequences of gynaecological cancer in patients and their partners from the sexual and psychological perspective". Prz Menopauzalny 2016;15:186–7.
19. Cakar B, Karaca B, Uslu R. Sexual dysfunction in cancer patients: a review. JBUON 2013;18(4):818–23.
20. Bober SL, Varela VS. Sexuality in adult cancer survivors: challenges and intervention. J Clin Oncol 2012;30(30):3712–9.
21. Bodurka DC, Sun CC. Sexual function after gynecologic cancer. Obstet Gynecol Clin North Am 2006;33(4):621–30, ix.
22. Levin AO, Carpenter KM, Fowler JM, Brothers BM, Andersen BL, Maxwell GL. Sexual morbidity associated with poorer psychological adjustment among gynecological cancer survivors. Int J Gynecol Cancer 2010;20(3):461–70.
23. Roland KB, Rodriguez JL, Patterson JR, Trivers KF. A literature review of the social and psychological needs of ovarian cancer survivors. Psychooncology 2013;22(11):2408–18.
24. Bukovic D, Rudan I, Gorski D, Bukovic D. Psychosexual dysfunction following gynecological tumor surgery. Collegium Antropologicum 1996;20(1):129–38.
25. Burns M, Costello J, Ryan-Woolley B, Davidson S. Assessing the impact of late treatment effects in cervical cancer: an exploratory study of women's sexuality. Eur J Cancer Care (Engl) 2007;16(4):364–72.
26. Sertöz ÖÖ, Elbi Mete H, Noyan A, Alper M, Kapkaç M. Meme kanserinde ameliyat tipinin beden algısı, cinsel işlevler, benlik saygısı ve eş uyumuna etkileri: kontrollü bir çalışma. Türk Psikiyatri Dergisi 2004;15(4):264–75.
27. Farooqi YN. Depression and anxiety in patients undergoing hysterectomy. J Pakistan Psychiatric Soc 2005;2(1):13–16.
28. Donovan KA, Taliaferro LA, Alvarez EM, Jacobsen PB, Roetzheim RG, Wenham RM. Sexual health in women treated for cervical cancer: characteristics and correlates. Gynecol Oncol 2007;104(2):428–34.
29. Stead ML, Fallowfield L, Selby P, Brown JM. Psychosexual function and impact of gynaecological cancer. Best Pract Res Clin Obstet Gynaecol 2007;21(2):309–20.
30. Kornblith AB, Ligibel J. Psychosocial and sexual functioning of survivors of breast cancer. Semin Oncol 2003;30(6):799–813.
31. Marrs JA. Stress, fears, and phobias: the impact of anxiety. Clin J Oncol Nurs 2006;10(3):319–22.
32. Larrison EH. Sexuality issues. In: Lockwood S, editor. Women's Cancer. 1st ed. Sudbury, USA: Jones and Bartlett; 2009. p.209.
33. Bukovic D, Silovski H, Silovski T, Hojsak I, Sakic K, Hrgovic Z. Sexual functioning and body image of patients treated for ovarian cancer. Sex Disabil 2008;26(2):63–73.
34. Steele R, Fitch MI. Supportive care needs of women with gynecologic cancer. Cancer Nurs 2008;31(4):284–91.
35. Meston CM, Hull E, Levin RJ, Sipski M. Kadın orgazmı. In: Lue TF, Basson R, Rosen R, Giuiano F, Khoury S, Montorsi F, editors. Seksüel Tıp. 1st ed. Istanbul: İstanbul Medikal Yayıncılık; 2006. p.785–812.
36. Basson R. Kadın cinselliği ve cinsel bozukluklar. In: Gibbs R, Karlan B, Haney A, Nygaard I, editors. Danforth's Obstetrik ve Jinekoloji. 10th ed. Ankara: Güneş Tıp Kitabevleri; 2010. p. 742–48.
37. Laurent SM, Simons AD. Sexual dysfunction in depression and anxiety: conceptualizing sexual dysfunction as part of an internalizing dimension. Clin Psychol Rev 2009;29(7):573–85.
38. Valentine A. Depression, anxiety, & delirium. In: Pazdur R, Coia LR, Hoskins WJ, Wagman LD, editors. Cancer management: A multidisciplinary approach. New York: The Oncology Group; 2003. p. 865–79.
39. Holt KA, Mogensen O, Jensen PT, Hansen DG. Goal setting in cancer rehabilitation and relation to quality of life among women with gynaecological cancer. Acta Oncol 2015;54(10):1814–23.
40. Yıldırım NK, Özkan M, Özkan S, Özçınar B, Güler SA, Özmen V. Meme kanserli hastaların tedavi öncesi ve sonrası anksiyete, depresyon, yaşam kalitesi. Nöropsikiyatri Arşivi 2009;46(1):175–81.
41. Durmuşoğlu F, Erenus M. Nörovejetatif Semptomlar. In: Ertüngealp E, Seyisoğlu H, editors. Menopoz ve osteoporoz. 1st ed. Istanbul: Form Reklam Hizmetleri; 2000. p. 23–6.
42. Erel T. Menopozda genitoüriner trofik bozukluklar. In: Ertüngealp E, Seyisoğlu H, editors. Menopoz ve Osteoporoz. 1st ed. Istanbul: Form Reklam Hizmetleri; 2000. p.42, 63–6.
43. Öztürk MO, Uluşahin A. Ruh sağlığı bozuklukları. 11th

ed. Ankara: Tuna Matbaacılık; 2008. p. 37–9, 269, 853.
44. Jensen PT, Groenvold M, Klee MC, Thranov I, Petersen MA, Machin D. Longitudinal study of sexual function and vaginal changes after radiotherapy for cervical cancer. Int J Radiat Oncol Biol Phys 2003;56(4):937–49.
45. Pomel C, Atallah D, Le Bouedec G, Rouzier R, Morice P, Castaigne D, et al. Laparoscopic radical hysterectomy for invasive cervical cancer: 8-year experience of a pilot study. Gynecol Oncol 2003;91(3):534–9.
46. Wenzel LB, Donnelly JP, Fowler JM, Habbal R, Taylor TH, Aziz N, et al. Resilience, reflection, and residual stress in ovarian cancer survivorship: a gynecologic oncology group study. Psychooncology 2002;11(2):142–53.