



## Section 2. Medical science

DOI:10.29013/EJTNS-25-1-14-17



### FERTILITY PRESERVATION AND QUALITY OF LIFE: A COMPARATIVE STUDY OF YOUNG WOMEN FACING CANCER TREATMENT

**Khodjaeva N.Kh. <sup>1</sup>**

<sup>1</sup> Tashkent State Dental Institute, Medifarm EKO Private Clinic

---

**Cite:** Khodjaeva N.Kh. (2025). *Fertility Preservation and Quality of Life: A Comparative Study of Young Women Facing Cancer Treatment. European Journal of Technical and Natural Sciences 2025, No 1.* <https://doi.org/10.29013/EJTNS-25-1-14-17>

---

#### Abstract

In light of significant advancements in the diagnosis and treatment of oncological diseases that have increased patient survival rates, the issue of quality of life has become increasingly relevant. Particularly important are aspects of reproductive health in younger women, as aggressive treatment methods, such as chemotherapy and radiation therapy, can lead to fertility loss and subsequently lower life satisfaction. Fertility preservation programs emerge as crucial components of treatment, providing women with the opportunity to preserve their reproductive functions.

This study assessed the quality of life of oncology patients participating in fertility preservation programs as compared to a control group that did not receive such support. A total of 140 patients were included, divided into the main group (n=75) and the control group (n=65). Quality of life was evaluated using the FACT-G questionnaire, which encompasses physical well-being, emotional and social wellness, as well as everyday life satisfaction.

The results indicated that patients with lymphoma exhibited the highest quality of life scores, while women with gynecological cancer showed the lowest results. The findings highlight the necessity of fertility preservation programs as a means to enhance the psychological and emotional well-being of women facing the threat of fertility loss during oncological treatment. The study emphasizes the importance of an individualized approach to the treatment and support of oncology patients, which can significantly improve their quality of life and level of satisfaction.

#### Keywords:

##### Relevance of the study:

In recent decades, significant advances in the diagnosis and treatment of cancer have led to increased patient survival. However,

with increasing life expectancy after cancer diagnosis, the issue of quality of life is becoming more relevant. Quality of life (QOL) assessment is a key aspect of an integrated

approach to the treatment of cancer patients, as it reflects the impact of the disease and its therapy on the physical, emotional and social well-being of patients.

Special attention should be paid to young cancer patients who are in the reproductive period. Problems associated with loss of fertility due to aggressive treatments such as chemotherapy and radiation therapy can significantly affect overall life satisfaction. Fertility preservation programs are becoming a vital component of treatment, providing women with the opportunity to preserve their reproductive functions and thus improve their quality of life and emotional well-being after completing therapy.

The study of factors affecting the quality of life of cancer patients is particularly important in the context of fertility preservation programs. The location of the tumor can significantly affect patients' perception of their life after treatment. For example, the difference in quality of life between breast cancer patients and patients suffering from gastrointestinal tumors may depend on access to fertility programs and the personal circumstances of women.

The present study is aimed at an in-depth analysis of the impact of these factors on the quality of life of cancer patients participating in fertility preservation programs.

### **Materials and methods:**

The study was comparative and descriptive in nature. It was aimed at assessing the quality of life of cancer patients participating in fertility preservation programs, in comparison with patients who do not participate in these programs.

The study included 140 patients from two groups: the main group ( $n = 75$ ), which included women who had gone through fertility preservation programs, and the control group ( $n = 65$ ), consisting of patients who did not participate in such programs. All participants provided informed consent to participate in the study.

### **Inclusion and exclusion criteria:**

The group included women aged 18 to 40 years, diagnosed with a malignant tumor, who had no contraindications to fertility preservation. Patients with severe concom-

itant diseases that could affect the overall quality of life and fertility preservation were excluded.

The FACT-G (Functional Assessment of Cancer Therapy – General) questionnaire, which is adapted for cancer patients, was used to assess the quality of life. It covers four main domains: physical well-being, social/family relationships, emotional well-being, and well-being in daily life.

Statistical analysis of the data was carried out using the Statistica v program. 4.7.1. First, the data were checked for compliance with the normal distribution using the Shapiro-Wilk criterion (if the group size was less than 50) or the Kolmogorov-Smirnov criterion (if the group size exceeded 50). In the case of an abnormal distribution, the data were described by the median (Me) and the interquartile range (Q1 – Q3).

The Mann-Whitney U-test was used to compare the two groups with an abnormal data distribution. In the case of multigroup analysis, the Kruskal-Wallis criterion was applied, and post-hoc analysis was performed using the Dunn criterion with the Holm correction. The level of statistical significance was set at  $p < 0.05$ .

The study was conducted in accordance with ethical standards approved by the local Ethics committee and in full compliance with the Helsinki Declaration. Informed consent was obtained from all participating patients.

Table 1 shows descriptive statistics on the quality of life of cancer patients, depending on the location of the tumor. The main focus is on the following localizations: breast cancer, lymphoma, gastrointestinal tumors, and cancer of the female genital area. Patients with lymphoma had a median of 14.00 (IQR [12.00; 20.00]), which indicates a relatively high physical condition compared to other locations. For breast cancer, the data was 13.00 (IQR [12.00; 19.00]), for gastrointestinal tumors it was 14.00 (IQR [11.00; 18.75]), and cancer of the female genital area – 12.00 (IQR [11.00; 14.00]). This may be due to the fact that lymphoma patients may be less aware of the severity of their condition, which may affect their perception of physical well-being. In this category, lymphoma also shows the highest score – 15.00 (IQR [11.50; 20.50]), while breast cancer – 12.50 (IQR

Table 1. Descriptive statistics of quantitative variables depending on the location of the tumor

Indicators	Localization of the tumor			p
	Breast cancer	Lymphoma	Gastrointestinal tumors	Cancer of the female genital area
physical condition, Me [IQR]	13.00 [12.00; 19.00]	14.00 [12.00; 20.00]	14.00 [11.00; 18.75]	12.00 [11.00; 14.00]
Social/family relationships, Me [IQR]	12.50 [10.25; 18.75]	15.00 [11.50; 20.50]	12.00 [10.00; 15.75]	12.00 [10.00; 14.00]
Emotional well-being, Me [IQR]	12.00 [10.25; 17.75]	14.00 [10.00; 20.00]	12.00 [10.25; 18.00]	10.00 [9.00; 14.00]
Well-being in everyday life, Me [IQR]	18.00 [15.00; 20.75]	18.00 [16.00; 24.00]	18.00 [16.00; 21.75]	15.00 [15.00; 19.00]
0.027*				
P Cancer of the female genital area - Lymphoma = 0.016				
Total score, Me [IQR]	58.50 [50.00; 73.00]	64.00 [51.00; 83.50]	60.50 [50.00; 73.75]	49.00 [47.00; 62.00]

[10.25; 18.75]), gastrointestinal tumors – 12.00 (IQR [10.00; 15.75]), and cancer of the female genital area – 12.00 (IQR [10.00; 14.00]). Higher rates in patients with lymphoma may indicate better social support or less attention to personal problems. On the contrary, female genital cancer patients may face psychological pressure due to the threat of fertility loss, which negatively affects their perception of social relationships. In this measurement, it is also noted that patients with lymphoma have a median of 14.00 (IQR [10.00; 20.00]), which is higher compared to other groups.: breast cancer – 12.00 (IQR [10.25; 17.75]), gastrointestinal tumors – 12.00 (IQR [10.25; 18.00]), cancer of the female genital area – 10.00 (IQR [9.00; 14.00]).

Decreased emotional well-being in female genital cancer patients may be associated with high levels of stress and concern about their ability to motherhood, which creates additional psychological barriers to feeling emotionally calm. The overall quality of life score for patients with lymphoma was 64.00 (IQR [51.00; 83.50]), which is the highest indicator among these localizations. On the contrary, cancer of the female genital area showed the lowest score – 49.00 (IQR [47.00; 62.00]). This difference supports the hypothesis that the perception of health status and its psychological aspects can affect the overall quality of life. Patients with lymphoma may be more prone to underestimating their situation and, as a result, show higher scores on all criteria of quality of life.

Conclusion

Thus, this study confirms that tumor localization plays a significant role in the perception of the quality of life of cancer patients. The best indicators in patients with lymphoma can be explained by the psychological aspects of an imperfect understanding of their disease, whereas patients with cancer of the female genital area demonstrate lower levels of quality of life, which may be directly related to the threat to their reproductive health and fertility. This once again highlights the importance of fertility preservation programs for women with cancer, which can help reduce stress levels and improve their overall quality of life.

## References

- Nurudeen S. K., Douglas N. C., Mahany E. L., Sauer M. V., Choi J. M. Fertility preservation decisions among newly diagnosed oncology patients: A single-center experience. *Am. J. Clin. Oncol.* 2016; 39: 154–159. Doi: 10.1097/COC.0000000000000031.
- Balachandren N., Davies M. Fertility, ovarian reserve and cancer. *Maturitas.* 2017; 105: 64–68. Doi: 10.1016/j.maturitas.2017.07.013.
- Stroud J. S., Mutch D., Rader J., Powell M., Thaker P. H., Grigsby P. W. Effects of cancer treatment on ovarian function. *Fertil. Steril.* 2009; 92: 417–427. Doi: 10.1016/j.fertnstert.2008.07.1714.
- Mahajan N. Fertility preservation in female cancer patients: An overview. *J. Hum. Reprod. Sci.* 2015; 8: 3–13. Doi: 10.4103/0974–1208.153119.
- Arbyn M., Weiderpass E., Bruni L., de Sanjosé S., Saraiya M., Ferlay J., Bray F. Estimates of incidence and mortality of cervical cancer in 2018: A worldwide analysis. *Lancet Glob. Health.* 2020; 8: e 191-e 203. Doi: 10.1016/S2214-109X(19)30482–6.
- Guillon S., Popescu N., Phelippeau J., Koskas M. A systematic review and meta-analysis of prognostic factors for remission in fertility-sparing management of endometrial atypical hyperplasia and adenocarcinoma. *Int. J. Gynaecol. Obstet.* 2019; 146: 277–288. Doi: 10.1002/ijgo.12882.

submitted 18.01.2025;  
accepted for publication 01.02.2025;  
published 26.12.2024  
© Khodjaeva N. Kh.  
Contact: noza\_2206@mail.ru