**Bondar O. V. Quality of life in patients with locally advanced metastatic breast cancer after palliative treatment. Journal of Education, Health and Sport. 2025;77:60768. eISSN 2391-8306. https://dx.doi.org/10.12775/JEHS.2025.77.60768**
**https://apcz.umk.pl/JEHS/article/view/60768**
**https://zenodo.org/records/15352129**

The journal has had 40 points in Minister of Science and Higher Education of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of 05.01.2024 No. 32318. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical culture sciences (Field of medical and health sciences);
Health Sciences (Field of medical and health sciences). Punkty Ministerialne 40 punktów. Załącznik do komunikatu Ministra Nauki i Szkolnictwa Wyższego z dnia 05.01.2024 Lp. 32318. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przypisane dyscypliny naukowe: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).
Received: 21.12.2024. Revised: 27.12.2024. Accepted: 05.01.2025. Published: 20.01.2025.

UDC 616.379.008.64:616.137.86

# QUALITY OF LIFE IN PATIENTS WITH LOCALLY ADVANCED METASTATIC BREAST CANCER AFTER PALLIATIVE TREATMENT

**O. V. Bondar**

**Odesa National Medical University, Odesa, Ukraine**

## Abstract

The majority of scientists obtain subjective data by patients surveying using questionnaire. More than 400 different general and special questionnaires have been proposed and used to assess the quality of life in modern oncology. The purpose of the study was to evaluate the quality of life in the fields of mental and physical conditions of patients with metastatic breast cancer who underwent palliative surgery compared with patients who received standard treatment regimens, and to determine the level of satisfaction with social relationships. Due to quality of life concept multifactorial nature the questionnaire takes into account three main aspects: physical (medical), psychological and social. The data obtained allow to state that breast cancer patients quality of life self-perception depends on the methods of treatment used: intra-arterial polychemotherapy, radiotherapy, hormone therapy, bisphosphonate therapy and palliative surgery. In the areas of mental and physical condition, the quality of life was higher in patients in the experimental group than in patients in the control group, where they received standard treatment without surgery.

**Key words: metastatic breast cancer; surgical treatment; palliative treatment; quality of life; questionnaire; mental condition; physical condition; social condition**

The majority of scientists obtain subjective data by patients surveying using questionnaire [2, 5, 7]. Many studies have noted that satisfactory functional results confirmed by certain instrumental studies do not always coincide with patients' quality of life.

Many authors dealing with the problem of breast cancer treatment have repeatedly encountered a situation where despite likelihood poor clinical results in patients with mail disease progression, some of them assessed their quality of life as good and even excellent regardless the repeated courses of special treatment that forced them to spend long time in the clinic. And, conversely, with excellent clinical results, patients assessed their quality of life as very poor.

More than 400 different general and special questionnaires have been proposed and used to assess the quality of life in modern oncology [1, 6, 13]. Standard questionnaires are: FACT – Functional Assessment of Cancer Therapy (functional assessment of antitumor therapy); EORTC – QLQ – C30 – questionnaire of the European Organization for Research on Cancer, which contains 30 questions, 5 parameters + parameters of general quality of life; RSQL – Rotterdam School of Quality of Life Assessment, which includes 38 questions, 3 parameters and an assessment of general quality of life; CARES-SF – assessment system after cancer rehabilitation – 59 questions, 5 parameters + assessment of general quality of life; and many others. Some researchers use A.Visick scale. The following most frequently studied parameters are used in the process of questionnaire survey: body weight dynamics; the need for the patient to adhere to a diet; return to previous work.

One should stress that there is no generally accepted definition of quality of life [9-11]. Quality of life is a complex, multifaceted but not fully understood concept [4, 13]. According to WHO definition, "… quality of life related to health is a combination of physical, mental and social well-being and not the simple absence of disease". Studying the quality of life in patients with breast cancer after palliative treatment is obvious. Quality of life multifunctional evaluation includes various areas of human activity: physical, functional, physiological, psychological, social [8].

Among the many components that directly affect the patients' quality of life, his material costs for treatment are far from the last place. The cost of medical services, including medicines, in recent years are reported to exceeded by 45-50% similar costs for nononcological groups of patients. This is explained by the high cost of patients with stomach cancer treatment.

Thus, despite the successes of modern oncology, the problem of metastatic breast cancer palliative treatment remains open. The data of large randomized studies indicate that breast cancer active palliative treatment (with appropriate selection rules) has obvious advantages over conservative methods. Metastatic breast cancer surgical treatment, as before, remains one of the main methods of complex treatment and should be based on two main requirements: radicalism of intervention and compliance with the ablastics and antiblastics rules.

The topics of chemotherapy and radiation therapy schemes and routes optimization in breast cancer palliative treatment remain poorly studied. The questions of comparative characteristics of chemotherapy compounds with diverse ways of administration, tumours radiosensitization in case of its resistance to therapy are not covered in the literature [3, 8]. The ability to patients' quality of life preserve and to find a hope in breast cancer treatment is the greatest achievement of world clinical oncology.

**The aim of the work** is to evaluate the quality of life in the fields of mental and physical conditions of patients with metastatic breast cancer who underwent palliative surgery compared with patients who received standard treatment regimens, and to determine the level of satisfaction with social relationships.

## Material and methods

This study is based on information from medical charts, outpatient dispensary observation cards of 30 patients (retrospectively and prospectively) who received treatment at the Donetsk Regional Anti-Cancer Centre (DRACC) during 2010-2014 years and the Odessa National Medical University Medical Clinic (ONMedUMC) during 2014-2020 years. The patients were diagnosed with primary inoperable forms of breast cancer which had distant metastases (T3-4N0-2M1) at the time of the initial examination.

The selection of patients into groups was carried out by time randomization.

15 patients with metastatic breast cancer were included into the study group. These patients received palliative complex treatment in conditions of DRACC and ONMedUMC which included neoadjuvant regional polychemotherapy followed by irradiation of the breast, lymphatic drainage pathways, bone foci, chemotherapy, hormone therapy, and surgery.

The control group consisted of 15 women with locally advanced breast cancer, comparable in TNM categories to the main group. Control group patients received palliative combined treatment in conditions of DRACC and ONMedUMC which includes systemic polychemotherapy on the background of adequate hormone therapy and radiation therapy, in accordance with the standards of treatment of oncological patients in Ukraine.

When determining the stage of the disease, we used the 6th, 7th and 8th editions of the TNM classification developed by a special committee of International Society for Cancer Control. The patients' distribution into selected study groups and data obtained analysis were performed taking into account the specified classification.

## Results

At the initial stage of the study the subjective assessment of the quality of life in 30 patients from both groups was evaluated. The study was performed at the stage when the patients had already been diagnosed, and after the therapy. As is known, some time must pass in order for a subjective attitude to changes in one’s life to be formed [2, 5]. Moreover, data on the quality of life in the remission phase allow us to assess and compare various therapeutic and rehabilitation programs efficacy [1, 12]. Therefore, 30 women who received the third stage of palliative treatment were randomly selected and examined concerning their quality of life.

Quality of life investigation was performed during a scheduled visit to a mammologist in the outpatient department. At that time a significant time interval (at least 3 weeks) separated the women from the moment of their initial treatment.

The expected effect of treatment was usually achieved during this time interval, and drug toxicity acute symptoms together with other complications after chemoradiation treatment, as well as early postoperative complications, disappeared. That is, patients were already able to assess how the main stages of treatment affected their lives.

Due to quality of life concept multifactorial nature the questionnaire takes into account three main aspects: a) physical (medical) - the impact of the disease, its symptoms, as well as the treatment performed on a person's functional abilities, on his daily life; b) psychological - a person's subjective attitude towards his health, the degree of his adaptation to the disease; c) social - the ability to function in society, to bring benefit.

The psychological state assessment revealed that psychological experiences prevailed over physical suffering in patients before treatment (Table 1). All women in this group had been ill for a more or less long time, they all knew that they were ill, but for various reasons they were not treated, some of them were engaged in self-medication.

Table 1

Quality of life subjective assessment by patients using scales before treatment

| Level | Physical condition | | Psychological condition | | Social attitude | | Environment | |
|---|---|---|---|---|---|---|---|---|
| | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. |
| Very low | 8 | 26.7±11.4 | 12 | 40±12.6 | 2 | 6.7±6.4 | 0 | 0 |
| Low | 8 | 26.7±11.4 | 12 | 40±12.6 | 10 | 33.3±12.2 | 8 | 26.7±11.4 |
| Limited | 12 | 40±12.6 | 4 | 13.3±8.8 | 6 | 20±10.3 | 18 | 60±12.6 |
| Satisfactory | 2 | 6.7±6.4 | 2 | 6.7±6.4 | 7 | 26.7±11.4 | 2 | 6.7±6.4 |
| Sufficient | 0 | 0 | 0 | 0 | 5 | 13.3±8.8 | 2 | 6.7±6.4 |

Most patients (12 out of 30) during their initial hospitalization in an oncology hospital assessed their psychological state as low and very low - 40±12.6%. Two women (13.3±8.8% of observations) had limitations, only one patient (6.7±6.4%) evaluated her condition as satisfactory.

We did not find a sufficient level on the “psychological state” scale in this group.

At the same time women during the examination noted that the simple news that they would be treated, that their case was not hopeless, sometimes inspired hope, despite the fact that everyone was informed about the upcoming complex treatment in several stages, in some cases surgical treatment, the need to adapt to the new conditions of the hospital.

The satisfaction with their psychological state shifted towards higher indexes in patients of both and control groups. Thus, in the group of operated patients, 6.7±6.4% of the sample (1 person each) noted a very low and low level (Table 2).

Table 2

Quality of life subjective assessment by patients using scales after palliative treatment + mastectomy

| Level | Physical condition | | Psychological condition | | Social attitude | | Environment | |
|---|---|---|---|---|---|---|---|---|
| | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. |
| Very low | 1 | 6.7±6.4 | 1 | 6.7±6.4 | 0 | 0 | 0 | 0 |
| Low | 4 | 26.7±11.4 | 1 | 6.7±6.4 | 1 | 6.7±6.4 | 2 | 13.3±8.8 |
| Limited | 6 | 40±12.6 | 5 | 33.3±12.2 | 3 | 20±10.3 | 7 | 46.67 |
| Satisfactory | 4 | 26.7±11.4 | 6 | 40±12.6 | 9 | 60±12.6 | 5 | 33.3±12.2 |
| Sufficient | 0 | 0 | 2 | 13.3±8.8 | 2 | 13.3±8.8 | 1 | 6.7±6.4 |

In the control group, we did not meet a single patient with a very low level in the field of psychological well-being, and two women noted a low level (13.3±8.8%; Table 3).

Table 3

Quality of life subjective assessment by patients using scales after palliative treatment

| Level | Physical condition | | Psychological condition | | Social attitude | | Environment | |
|---|---|---|---|---|---|---|---|---|
| | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. | Abs. | Rel. |
| Very low | 2 | 13.3±8.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Low | 2 | 13.3±8.8 | 2 | 13.3±8.8 | 1 | 6.7±6.4 | 4 | 26.7±11.4 |
| Limited | 5 | 33.3±12.2 | 6 | 40±12.6 | 4 | 26.7±11.4 | 6 | 40 |
| Satisfactory | 6 | 40±12.6 | 6 | 40±12.6 | 6 | 40±12.6 | 5 | 33.3±12.2 |
| Sufficient | 0 | 0 | 1 | 6.7±6.4 | 4 | 26.7±11.4 | 0 | 0 |

The majorities of women examined after treatment noted some limitations or were satisfied with their psychological state. The main group: limited level on the scale of “psychological state” - 5 people (33.3±12.2%), satisfactory level - 6 people (40±12.6%).

Control group: 6 people (40±12.6%) - both limited and satisfactory levels. Unlike primary patients, in the group of already treated patients there were patients with a sufficient level of psychological well-being - two (13.3±8.8%) in the experimental and one (6.7±6.4%) - in the control.

The social aspect of the quality of life for the patient includes: loss of their social status; disruption of contacts with the usual environment, work rhythm; loss of financial opportunities and dividends; costs for treatment and funerals; social isolation; disability; lack of volunteer services, maids; perceived social support; organization of leisure activities. Inside the quality of life social aspect we assessed the patients' own social relationships and their subjective perception of the environment.

## Discussion

Analyzing satisfaction with the environment, we note that there were no respondents in any groups who noted very low satisfaction with this parameter. A low level was noted by 4 patients (26.7±11.4%) in the groups of patients who had not yet been treated and after combined treatment. In the group where palliative operations were performed, a low level was noted by 2 women (13.3±8.8%).

A high percentage of patients with limitations was found in all three groups (group I — 9 people (60±12.6%); group II — 7 people (46.7±12.9%); group III — 6 people (40±12.6%). Before the operation, one respondent (6.7±6.4%) was found with satisfactory and sufficient levels. Postoperative group: satisfactory level — 5 people (33.3±12.2%), sufficient level — 1 person (6.7±6.4%). Control group — satisfactory level — 5 people (33.3±12.2%), no respondent declared a sufficient level.

Thus, it was found that, along with the impact on life expectancy, the treatment process in the absolute majority of cases also affects the quality of life. Moreover, the most sensitive to the impact of special treatment is the sense of well-being in the areas of physical and psychological well-being.

Almost all patients noted that, when they get to the hospital, they get hope for the future, hope for cure and prolongation of life. The very news that they will be actively treated, despite the malignancy of the process, is an extremely important psychotherapeutic moment, since it means that their case is not hopeless. This is especially important because women often end up in oncology institutions without hope of cure and return to a normal lifestyle.

Some of them have been repeatedly refused treatment in local medical institutions. Others have tried several types of self-treatment, none of which has brought the expected result. Still others have not sought help at all due to fear of being isolated by society or for other reasons. It is noted that all patients, in addition to somatic problems, by the time of applying to specialized medical institutions had more or less pronounced psychological suffering and a rather low quality of life.

## Conclusions.

The study confirmed that breast cancer patients quality of life self-perception depends on the methods of treatment used: intra-arterial polychemotherapy, radiotherapy, hormone therapy, bisphosphonate therapy and palliative surgery.

In the areas of mental and physical condition, the quality of life was higher in patients in the experimental group than in patients in the control group, where they received standard treatment without surgery. Satisfaction with social relations was found in 73.3+2.4% of the main group and 66.7+3.2% of the control group, (p=0.005).

## References

1. Dumanskiy YuV, Bondar OV, Tkachenko OI, Stolyarchuk EA. Comparative characteristics of the quality of life of patients with locally advanced breast cancer after regional and intravenous chemotherapy. Clin Surgery. 2018; 85(6): 55-59. [In Ukrainian]

2. Dumanskiy YuV, Bondar OV, Tkachenko OI, Stolyarchuk EA. Comparative characteristics of the quality of life of patients with locally advanced forms of breast cancer after polychemotherapy in systemic and intralymphatic regimens. Clin Surgery. 2018; 85(9): 61-65. [In Ukrainian]

3. Kuznetsova OV, Stepula VV, Nikel B, Shandra OA, Vastyanov RS. Comparative neurotoxicity studies under the conditions of use of different antitumor drugs. Odessa Medical Journal. 2005; 3: 21-25. [In Ukrainian]

4. Ashinuma H, Sekine I. Targeted therapy for solid tumors in the elderly. Nihon Rinsho. 2015; 73(8): 1419-1424.

5. Bondar OV. The quality of life role in patients with locally advanced breast cancer in the comprehensive evaluation of the complex neoadjuvant treatment efficiency. Journal of Education, Health and Sport. 2019; 9(11): 371-380.

6. Botteri E, Veronesi P, Vila J, Rotmensz N, Galimberti V, Thomazini MV. Improved prognosis of young patients with breast cancer undergoing breast-conserving surgery time. Br J Surg. 2017; 104(13): 1802-1810. doi: 10.1002/bjs.10658.

7. Dumanskiy Y, Bondar O, Tkachenko O, Stoliarchuk E, Ermakov V. Comparison of quality of life of patients with local distributed breast cancer forms after chemotherapy in regional and system regimes. EUREKA: Health Sciences. 2018; (3): 12-20.

8. Harbeck N, Penault-Llorca F, Cortes J, Gnant M, Houssami N, Poortmans P. et al. Breast cancer. Nat Rev Dis Primers. 2019; 5(1): 66. doi: 10.1038/s41572-019-0111-2

9. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Breast Cancer. Fort Washington PA: NCCN; 2015. Ver. 2.2015.

10. Mateo AM, Mazor AM, DeMora L, Sigurdson ER, Handorf EA, Daly JM. et al. Patterns of Care and Efficacy of Chemotherapy and Radiotherapy in Skin-Involved Breast Cancers of All Sizes. Clin Breast Cancer. 2019; 19(4):292-303. doi: 10.1016/j.clbc.2019.02.003.

11. Moroz VM, Shandra OA, Vastyanov RS, Yoltukhivsky MV, Omelchenko OD. Physiology. Vinnytsia: Nova Knyha. 2016. 722.

12. Simos D, Clemons M, Ginsburg OM, Jacobs C. Definition and consequences of locally advanced breast cancer. Curr Opin Support Palliat Care. 2014; 8: 33–38. doi: 10.1097 SPC.0000000000000020.

13. Zhang W, Liu R, Wang Y, Qian S, Wang J, Yan Z, Zhang H. Efficacy of intraarterial chemoinfusion therapy for locally advanced breast cancer patients: a retrospective analysis of 28 cases. Onco Targets Ther. 2015; 6: 761-765. doi: 10.2147/OTT.S44882.

**Funding**

This research received no external funding.

**Institutional Review Board Statement**

This scientific report did not require IRB approval, any patients were used to receive the information.

**Informed Consent Statement**

The retrospective analysis of material was used. Written informed consent from the patients was not necessary to publish this paper.

**Data Availability Statement**

The data presented in this study are available on request from the author.