



New Day in Medicine
Новый День в Медицине

NDM



TIBBIYOTDA YANGI KUN

Ilmiy referativ, marifiy-ma'naviy jurnal



AVICENNA-MED.UZ



ISSN 2181-712X.
EiSSN 2181-2187

5 (79) 2025

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**ТИББИЁТДА ЯНГИ КУН
НОВЫЙ ДЕНЬ В МЕДИЦИНЕ
NEW DAY IN MEDICINE**

*Илмий-рефератив, маънавий-маърифий журнал
Научно-реферативный,
духовно-просветительский журнал*

УЧРЕДИТЕЛИ:

**БУХАРСКИЙ ГОСУДАРСТВЕННЫЙ
МЕДИЦИНСКИЙ ИНСТИТУТ
ООО «ТИББИЁТДА ЯНГИ КУН»**

Национальный медицинский
исследовательский центр хирургии имени
А.В. Вишневского является генеральным
научно-практическим
консультантом редакции

Журнал был включен в список журнальных
изданий, рецензируемых Высшей
Аттестационной Комиссией
Республики Узбекистан
(Протокол № 201/03 от 30.12.2013 г.)

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5 (79)

2025

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Received: 20.04.2025, Accepted: 06.05.2025, Published: 10.05.2025

UDC 618.19-006-089.87

EVALUATION OF THE EFFECTIVENESS OF REHABILITATION IN BREAST CANCER PATIENTS

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✓ *Resume*

This article examines the effectiveness of personalized rehabilitation programs in improving the quality of life for breast cancer patients. The study involved 60 patients divided into two groups: the first group was assigned a comprehensive rehabilitation program, while the second group received standard treatment methods. The patients' clinical condition was assessed using SF-36 and HADS scales, as well as other indicators. The study results showed significant positive changes in quality of life indicators for patients in the first group ($p < 0.05-0.01$), whereas changes in the second group were relatively minor. These findings demonstrate the high effectiveness of comprehensive rehabilitation for breast cancer patients based on a biopsychosocial approach. The practical significance of this research lies in its creation of a foundation for developing new, effective, and individually tailored approaches to patient rehabilitation within the healthcare system.

Keywords: breast cancer, rehabilitation, treatment, quality of life

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Maqolada sut bezi saratoni bilan kasallangan bemorlarning hayot sifatini yaxshilashda shaxsiylashtirilgan rehabilitatsiya dasturlari samaradorligi o‘rganildi. Tadqiqotda 60 nafar bemorlar ikki guruhga ajratilib tahlil qilindi: 1-guruhga kompleks rehabilitatsiya dasturi, 2-guruhiga standart davolash usullari tayinlandi. Bemorlarning klinik holati SF-36 va HADS shkalasi, shuningdek boshqa natijalari asosida baholandi. Olib borilgan tadqiqot natijalariga asosan, 1-guruh bemorlarida hayot sifati ko‘rsatkichlarida sezilarli ijobiy natijalar qayd etildi ($p < 0,05-0,01$), 2-guruhida esa o‘zgarishlar nisbatan kam edi. Olingan natijalar sut bezi saratoni bilan og‘rigan bemorlarga nisbatan biopsixosial yondashuv asosidagi kompleks rehabilitatsiyaning yuqori samaradorligini ko‘rsatadi. Tadqiqotning amaliy ahamiyati shundaki, sog‘liqni saqlash tizimida bemorlarni rehabilitatsiyasiga oid yangi, samarali va individual yo‘naltirilgan yondashuvlarni ishlab chiqish uchun asos yaratadi.

Kalit so‘zlar: sut bezi saratoni, rehabilitatsiya, davolash, hayot sifati

ОЦЕНКА ЭФФЕКТИВНОСТИ РЕАБИЛИТАЦИИ У БОЛЬНЫХ РАКОМ МОЛОЧНОЙ ЖЕЛЕЗЫ

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✓ **Резюме**

В статье изучена эффективность персонализированных реабилитационных программ для улучшения качества жизни пациентов с раком молочной железы. В исследовании 60 пациентов были разделены на две группы: 1-й группе была назначена комплексная программа реабилитации, 2-й группе - стандартные методы лечения. Клиническое состояние пациентов оценивалось по шкалам SF-36 и HADS, а также по другим показателям. По результатам проведенного исследования у пациентов 1-й группы отмечены значительные положительные изменения показателей качества жизни ($p < 0,05-0,01$), тогда как во 2-й группе изменения были относительно незначительными. Полученные результаты свидетельствуют о высокой эффективности комплексной реабилитации больных раком молочной железы на основе биопсихосоциального подхода. Практическая значимость исследования заключается в том, что оно создает основу для разработки новых, эффективных и индивидуально ориентированных подходов к реабилитации пациентов в системе здравоохранения.

Ключевые слова: рак молочной железы, реабилитация, лечение, качество жизни

Relevance

Today, breast cancer remains one of the most widespread oncological diseases among women. According to statistical data from the World Health Organization, in 2020, nearly 2.3 million new cases were registered worldwide, and these results accounted for 11.7% of oncological diseases (2021 World Health Organization).

In our republic, breast cancer remains one of the diseases with a high growth trend. According to Globocan 2022 data, 5,022 new cases were identified in our republic, and breast cancer ranks first among oncological diseases.



Unfortunately, 2,246 patients died early from this disease, which is 10.2% of all deaths from oncological diseases.

The complications of breast cancer have a serious impact not only on the physical condition of patients but also on their mental state. In oncology, surgical, radiotherapy, and chemotherapy treatments lead to negative effects in patients, such as fatigue, lymphedema, decreased physical activity, and depression. Currently, in modern oncology, the rehabilitation of breast cancer patients remains one of the most pressing issues [2].

Organizing rehabilitation for patients with breast cancer creates opportunities to improve their quality of life, reduce disease complications, and facilitate their adaptation to society [3]. Several authors have studied how rehabilitation programs and specialized physiotherapeutic treatments, particularly in outpatient settings, can significantly reduce the risk of lymphedema, relieve pain, and increase the chances of returning to an active lifestyle [6].

While screening and early diagnosis practices for breast cancer are being implemented in our republic, a more systematic approach is required to improve patient rehabilitation and quality of life. Furthermore, providing psychological support to patients and implementing social rehabilitation programs are crucial components in the overall recovery process. Based on the above, this article analyzes the importance of post-breast cancer rehabilitation, its methods, and the rehabilitation opportunities available in our republic's conditions.

Materials and methods of research

This is a retrospective, observational study conducted without a control group, utilizing data from electronic medical sources. The research compares conditions before and after rehabilitation.

The study was conducted from 2023 to 2024 at the Samarkand branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology. It involved 60 patients with breast cancer who had undergone surgical and chemotherapy treatments. The patients were divided into two groups: the first main group (n=30) comprised 30 patients who participated in individualized rehabilitation programs during the post-treatment period; the second group (n=30) consisted of patients who received only standard treatment and were indifferent to and did not participate in rehabilitation procedures. The age of the patients ranged from 23 to 64 years. The research included only patients diagnosed with breast cancer who received treatment at least 1 month ago. The rehabilitation program included physical exercises (breathing exercises, walking, light cardiac loads - 3 times a week, for 45 minutes); psychological support (weekly conversations, stress management classes); nutritional counseling; prevention and treatment of lymphedema, as well as aesthetic rehabilitation. Training on self-monitoring of the clinical condition (self-monitoring, symptom identification).

The following clinical assessment methods were employed in the scientific study. SF-36 questionnaire to determine quality of life indicators. HADS (Hospital Anxiety and Depression Scale) to assess the levels of anxiety and depression. 6-minute walk test. Laboratory tests (CRP, Hb, ALB) to monitor general inflammation and nutritional status. Patients' general condition was evaluated at the beginning of rehabilitation, at week 4, and at the end of week 8. Statistical analysis included the use of mean values, standard deviations, t-test, Pearson's correlation, and ANOVA test. The obtained statistical results were considered significant at the $p < 0.05$ level. The study was approved by the Ethics Committee, and written consent was obtained from the patients for their participation in the research.

Results of the study and its discussion

According to the results of our study, it was established that the main quality of life indicators according to the SF-36 questionnaire in patients of the main group were significantly higher than in patients of the control group (Table 1).

Table 1

SF-36 Indicators			
SF-36 Indicators	I group (n=30)	II group (n=30)	p
Physical activity	83,5±7,3	72,0±8,1	<0,01
Mental health	76,6±6,7	67,8±7,5	<0,01
General satisfaction	82,4±5,6	71,05±6,7	<0,01

Table 1 presents the comparative results of quality of life indicators of patients with breast cancer in the first and second groups, assessed on the basis of the SF-36 questionnaire. Based on the results of our research, the individual rehabilitation method and psychological assistance provided to the first group of patients resulted in physical activity scores of 83.5±7.3 points, mental health scores of 76.6±6.7 points, and overall life satisfaction levels of 82.4±5.6 points. For the second group of 60 patients, the corresponding indicators were 72.0±8.1, 67.8±7.5, and 71.05±6.7 points, respectively. The significantly higher scores in the main group were proven to be statistically significant ($p < 0.01$).

Table 2

HADS results			
Indicators	I group (n=30)	II group (n=30)	p
Concern	7,1 ± 1,1	10,3 ± 2,4	< 0,01
Depression	6,2 ± 1,0	9,7 ± 2,2	>0,05

Table 2 presents an assessment of anxiety and depression levels in breast cancer patients during the post-rehabilitation period using the HADS scale, comparing the results of groups 1 and 2. In the primary first group, due to the inclusion of psychological support in the rehabilitation program, the level of anxiety decreased significantly, while depression showed a relative decrease. These results indicate the clinical effectiveness of psychosocial rehabilitation.

Table 3

Lymphedema control findings			
Indicator	I group (n=30)	II group (n=30)	p
Lymphedema occurrence	13,3 %	33,3 %	<0,05
Perimetric growth	1,0±0,12 см	2,2±0,32 см	<0,01
Observation of pain	6,5 %	26,7 %	<0,05
Sense of heaviness	3,2 %	23,1 %	<0,05
Biompedance Index	1,04±0,09	1,6±0,1	<0,01
Lymphedema reduction	93,5 %	61 %	<0,05

The problem of positive control of lymphedema in the postoperative rehabilitation of patients with breast cancer is of great importance today. The results of analyses conducted between the two groups demonstrated the high efficacy of the rehabilitation methods.

In the first group, comprehensive measures were applied to patients (involved in the rehabilitation program), namely manual lymphatic drainage, bandaging, lymphatic drainage exercises, and psychological support measures. Most importantly, 15 of these patients underwent lymphovenous anastomosis. In these patients, lymph nodes were sclerosed before and during surgical procedures, thereby disrupting lymph flow. Patients in the second group were provided only with standard lymphatic drainage massage and bandaging. According to the results of our study, lymphedema occurred in 13.3% of patients in the 1st group, which was significantly lower than the indicator recorded in 33.3% of patients in the 2nd group ($p < 0.05$). The parameters of perimetry also differed in favor of the first group: the perimetric growth of the hand was 1.0 ± 0.2 cm in the 1st group and 2.2 ± 0.4 cm in the 2nd group ($p < 0.01$). No significant difference was also found in the patients in terms of pain and heaviness. In the first group, pain was noted in 6.6% of patients, and the feeling of heaviness in only 3.3% of patients, while in the second group these indicators were 26.6% and 23.3%, respectively ($p < 0.05$). According to the results of bioimpedance spectroscopy, the level of lymph fluid accumulation in patients of the 1st group was 1.05 ± 0.1 and significantly lower (1.5 ± 0.3) than in patients of the 2nd group ($p < 0.01$). A decrease in clinical symptoms of lymphedema was noted in 93.3% of patients in the 1st group, while in the second group it was 60% ($p < 0.05$). The results obtained in the study show that the comprehensive rehabilitation program is effective in eliminating lymphedema and reducing its complications. Improvement of the functional state, a decrease in pain and lymphedema symptoms, as well as an improvement in the quality of life showed better results in patients of group 1. In this regard, comprehensive rehabilitation measures serve to prevent and reduce lymphedema and increase the effectiveness of rehabilitation of patients with post-breast cancer (Table 3).

Table 4

Results of the SGRQ survey			
Indicators	I group (n=30)	II group (n=30)	p
Symptoms	72,9 [72,5-74,6]	68,1 [62,0-74,3]	< 0,05
Activity	12,5 [12,5-12,6]	12,5 [12,2-12,6]	< 0,05
Effects of disease	23,8 [21,6-24,9]	23,8 [22,7-24,9]	< 0,05
General indicators	28,0 [26,9-29,1]	27,7 [26,4-29,0]	< 0,05

According to the results of completing the above questionnaire, certain data were identified regarding indicators such as "symptomatic" activity and the impact of the disease in breast cancer. The parameters for "Activity" and "Disease impact" were shown to be low. Statistical analysis results revealed no significant differences between the groups. Our studies have established that personalized rehabilitation and psychological support for patients with breast cancer have positive effectiveness as an important component of the overall treatment strategy. In the first group, the quality of life indicators in the SF-36 questionnaire were significantly higher compared to the control group ($p < 0.01$). Notably, significant positive changes were observed in physical activity, mental health, and overall satisfaction. Taking into account the psychosocial state of patients and applying a personalized approach to them serves to improve not only the symptoms of the disease but also the quality of life [4,5].

Conclusions

The results of our scientific research clearly showed the effectiveness of a comprehensive approach to the rehabilitation process of patients with breast cancer. In the first group, the indicators of quality of life, the level of physical activity, mental state, and overall satisfaction of patients were higher than in the second group ($p < 0.01$). When assessing the level of anxiety and depression in patients of both groups using the HADS scale, it was found that in the 1st group, where psychological assistance was provided, the levels of anxiety and depression were significantly reduced compared to the 2nd group ($p < 0.01$). The results of lymphedema control improved in group 1, and its occurrence, increased perimetry of the arm, and pain sensation were statistically significantly lower ($p < 0.05-0.01$). Improvement of lymph flow and complete absence of signs of lymphedema were found in patients who underwent lymphovenular anastomosis. The results obtained by us revealed that personalized, comprehensive rehabilitation programs play an important role in improving the physical, mental, and social status of patients with post-breast cancer.

As a result of the study, the following practical recommendations can be given to medical practitioners. Implement an individualized and comprehensive approach to the rehabilitation process for post-breast cancer patients. Mandatory inclusion of physiotherapy exercises, lymphedema management, and psychological support in rehabilitation programs. Application of microsurgical techniques, such as lymphovenular anastomosis, in the early stages or simultaneously with mastectomy for the prevention of lymphedema. Conducting regular monitoring using standard scales (SF-36, HADS) to assess the quality of life and emotional state of patients. Strengthening the system of early detection and treatment of lymphedema through screening examinations. At the same time, aesthetic surgical procedures can be performed in the future to improve the quality of life of patients and prevent future psychological problems[1].

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Entered 20.04.2025