

УДК 618.19-089.87

## FUNCTIONAL STATE OF THE UPPER LIMB IN WOMEN WITH POSTMASTECTOMY SYNDROME WITH DIFFERENT TYPES OF ATTITUDE TO THE DISEASE

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**Abstract.** The investigation of some features of attitude type to the disease is an integral part of developing of the differentiated application of psychological and physical rehabilitation of patients of different nosology. Objective: to determine the peculiarities of the functional state of the upper limb in women with postmastectomy syndrome with different types of attitude to the disease. 50 women with postmastectomy syndrome on clinical stage of rehabilitation were involved in this study. It was proved that women with a rational type of attitude to disease show significantly better results of the functional state of the upper limb compared to interpsychic and intrapsychic.

**Keywords:** type of attitude to the disease, upper limb, women, postmastectomy syndrome.

**ФУНКЦІОНАЛЬНИЙ СТАН  
ВЕРХНЬОЇ КІНЦІВКИ В ЖІНОК  
З ПОСТМАСТЕКТОМІЧНИМ  
СИНДРОМОМ З РІЗНИМИ ТИПАМИ  
СТАВЛЕННЯ ДО ХВОРОБИ**

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**Анотація.** Вивчення особливостей типів ставлення до хвороби є невід'ємною частиною побудови диференційованих програм психологічної та фізичної реабілітації пацієнтів різних нозологій. Мета – визначити особливості функціонального стану верхньої кінцівки в жінок з постмастектомічним синдромом з різними типами ставлення до хвороби. До дослідження залучено 50 жінок з постмастектомічним синдромом на стаціонарному етапі реабілітації. Встановлено, що у жінок з раціональним типом ставлення до хвороби відзначено вірогідно кращі результати функціонального стану верхньої кінцівки порівняно з інтер- та інтрапсихічним типами.

**Ключові слова:** тип ставлення до хвороби, верхня кінцівка, жінки, постмастектомічний синдром.

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ВЕРХНЕЙ КОНЕЧНОСТИ У ЖЕНЩИН  
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СИНДРОМОМ С РАЗЛИЧНЫМИ  
ТИПАМИ ОТНОШЕНИЙ К БОЛЕЗНИ**

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**Аннотация.** Изучение особенностей типов отношения к болезни является неотъемлемой частью построения дифференцированных программ психологической и физической реабилитации пациентов различных нозологий. Цель – определить особенности функционального состояния верхней конечности у женщин с постмастэктомическим синдромом с различными типами отношения к болезни. В исследовании приняли участие 50 женщин с постмастэктомическим синдромом на стационарном этапе реабилитации. Установлено, что у женщин с рациональным типом отношения к болезни отмечено достоверно лучшие результаты функционального состояния верхней конечности по сравнению с интер- и интрапсихическим типами.

**Ключевые слова:** тип отношения к болезни, верхняя конечность, женщины, постмастэктомический синдром.

**Introduction.** Leading literary sources [2, 6, 7] indicate that breast cancer takes an important place among the female population. There are 163,256 patients with breast cancer registered in oncologic institutions of Ukraine in 2013. Paying attention to this disease is caused by the fact that according to Zaporizhzhya Regional Oncology Center in 2013 709 women were diagnosed with the breast cancer and the number of registered deaths totaled 401 cases [2].

The most common consequence of breast cancer is postmastectomy syndrome (PMES), which includes the manifestation of symptoms such as upper limb lymphostasis, limiting range of

motion in the shoulder joint, sensory disturbances, cardiovascular and respiratory systems, deterioration of quality of life, negative psycho-emotional effects, etc. [3, 4, 5, 8].

One of the features of cancer is the psychopathological changes that occur in most patients because of the specificity of the disease. However, they deeply affect not only somatic but also the mental component.

**Relationship with the academic programs, plans, themes.** The selected research direction corresponds to the research topic of Zaporizhzhya National University “The development, experimental testing and implementation in practice the measures of physical rehabilitation to improve the health status of different categories of people” (state registration 0114U002653) and Lviv State University of Physical Culture “Physical rehabilitation of disabled people with disorders of the musculoskeletal system” (state registration 0111U006467).

**Analysis of library resources.** The studies of the most experts [3, 5, 7] clearly show that all of the patients, who underwent radical treatment for breast cancer, extremely needed psychological rehabilitation, which adequately conducting not only contributes to a noticeable improvement in health and physical condition, but also significantly improves the quality of life. The stressful factors are the detecting of malignancy, the presence of public understanding of the absence of the recovery possibility, a high percentage of deaths, possible surgery, radiation and chemotherapy which are closely related to somatic discomfort [2, 6, 7].

Given the wide polymorphism of postmastectomy syndrome, individual-typological characteristics of personality and relationship to disease, the major role plays the study of the peculiarities of the functional disorders of the upper limb in women with postmastectomy syndrome with different types of attitude to the disease.

**Objective:** to determine the peculiarities of the functional state of the upper limb in women with postmastectomy syndrome with different types of attitude to the disease.

**Research Methods.** 1. Analysis and synthesis of the library resources and empirical data. 2. Sociological methods (survey). 3. Goniometry, dynamometry. 4. Methods of mathematical statistics.

**Organization of the research.** The study was conducted on the basis of Zaporizhzhya Regional Oncology Center. In ascertaining experiment 50 women who underwent modified radical mastectomy conducted for Madden were involved. The average age of the women studied was  $55.44 \pm 1.16$  years.

To determine the type of attitude to the disease we applied the questionnaire, developed in the Laboratory of Clinical Psychology at V. M. Bekhterev Institute which allows defining 12 types of attitudes to the disease: harmonious, erhopaty, anozognozic, anxious, hypochondriac, neurasthenic, melancholic, apathetic, sensitive, self-centered, paranoid, dysphoric. Every type of attitude to the disease consisted of common feelings (wellness, mood, sleep, appetite), perceptions of the patients about their disease, treatment, attitudes toward medical staff, family, environment, work (studying), loneliness, past and future.

In generalizing the results, all types of attitude to the disease have been combined into three blocks. The first block (rational attitude) included harmonious, erhopaty, anozognozic types of relationship, indicating the most favorable response of the patient to the disease; second block (intrapsychic attitude) – anxious, hypochondriac, neurasthenic, melancholic, apathetic, indicating intrapsychic orientation of the personal response to the disease in violation of social adaptation of patients; third block (interpsychic attitude) – sensitive, self-centered, paranoid, dysphoric indicating interpsychic orientation of response.

Diffuse type of attitude predicted the presence of three or more assessment scales in the diagnostic area, while this type of women after radical mastectomy at inpatient phase was connected with intra-psychological direction [1].

**Results of the research and their discussion.** According to the analysis of types of women's attitudes to breast cancer it was found that the rational attitude to the disease, which is accompanied by relatively sufficient mental adaptation, was observed only in 22% of patients; symptoms of intra-psychological and inter-psychic maladjustment were observed in 54% and 24% women respectively.

Among the types of attitudes to the disease describing the relative psychological and social adaptation, erhopaty is the predominant type (escape from the disease to the work), which was observed in 14% of women after radical mastectomy for Madden. For these women the main point was a job and they showed excessive liability and willful attitude to activity and therefore, despite the severity of the disease they continued to perform their duties sought to maintain their professional status.

The anxious and neurasthenic types observed in 12% and diffuse – 16% of women dominated among the types of intra-psychological maladjustment. Inter-psyche attitude is manifested in excessive concern and effort to hide his illness, vulnerability, concern about the possibility of a negative impression on others through information about the disease and, as a result, avoidance of communication.

The results presented in Table 1 showed that the performance of active range of motion at the operated side in women with a rational attitude to the disease were significantly higher compared with intrapsychic and interpsychic.

In particular, the average value of the amplitude of flexion was greater in women with a rational attitude compared with intra- and interpsychic at 16.01 and 23.70 degrees ( $p < 0.001$ ); extension – at 10.03 and 15.11 degrees ( $p < 0.001$ ); abduction – at 10.07 and 12.03 degrees ( $p < 0.001$ ); internal rotation – at 17.72 and 17.77 degrees ( $p < 0.001$ ); external rotation – at 10.41 degrees and 9.75 ( $p < 0.001$ ) respectively.

Table 1

**Comparison of the goniometry ( $M \pm m$ ) in women with postmastectomy syndrome on the clinical stage of rehabilitation with different types of attitude to the disease**

Indicator, degrees	Rational attitude (n=11)	Intrapsychic attitude (n=27)	Interpsychic attitude (n=12)
flexion	55,45±2,42	39,44±1,45***	31,75±2,55•••
extension	34,36±1,84	24,33±1,20***	19,25±0,97•••
abduction	46,36±1,53	36,29±1,41***	34,33±2,45•••
internal rotation	50,27±2,37	32,55±1,24***	32,50±2,26•••
external rotation	45,00±1,67	34,59±1,53**	35,25±2,68••

Notes: \*\* –  $p < 0.01$ , \*\*\* –  $p < 0.001$  comparing patients with a rational and intrapsychic types of attitude to the disease; •• –  $p < 0.01$ ; ••• –  $p < 0.001$  comparing patients with a rational and interpsychic types of attitude to the disease.

Comparing performance of dynamometry was found many differences between women with different types of attitude to the disease (Table 2).

Table 2

**Comparison of the flexor muscle strength hand ( $M \pm m$ ) in women with postmastectomy syndrome on the clinical stage of rehabilitation with different types of attitude to the disease**

Indicator	Rational attitude (n=11)	Intrapsychic attitude (n=27)	Interpsychic attitude (n=12)
operated side, kg	21,81±1,15	18,22±0,80**	18,16±1,40•
non-operated side, kg	23,81±0,95	22,00±0,88	20,33±1,43•
power index on the operated side, %	27,10±1,19	21,93±1,10**	22,05±1,58•
power index on the non-operated side, %	29,72±1,12	26,61±1,34	24,62±1,57•

Notes: \*\* –  $p < 0.01$  comparing patients with a rational and intrapsychic types of attitude to the disease; • –  $p < 0.05$  comparing patients with a rational and interpsychic types of attitude to the disease.

Average dynamometry on the operated side in women with a rational attitude to the disease was significantly higher than intrapsychic and interpsychic at 3.59 ( $p < 0.01$ ) and 3.65 kg ( $p < 0.05$ ); power index on the operated side – at 5.17 ( $p < 0.01$ ) and 5.05% ( $p < 0.05$ ) respectively.

However, comparing the severity of edema between women with different types of attitude to the disease there were no significant differences for any difference contours at the shoulder, forearm and wrist (Table 3).

Table 3

**Comparison of the edema ( $M \pm m$ ) in women with postmastectomy syndrome on the clinical stage of rehabilitation with different types of attitude to the disease**

Indicator, cm	Rational attitude (n=11)	Intrapsychic attitude (n=27)	Interpsychic attitude (n=12)
Shoulder	2,09±0,28	2,48±0,17	2,58±0,19
Forearm	2,00±0,26	1,96±0,17	1,50±0,26
Wrist	1,40±0,27	1,22±0,11	1,16±0,20

**Conclusions.** Results of the study indicate that women with the rational type of attitude to the disease show significantly better results of amplitude of the flexion, extension, abduction, internal and external rotation, muscle strength hand compared to intrapsychic and interpsychic. It can be the ground for development of differentiated programs of physical and psychological rehabilitation aimed at leveling of women's psychological maladjustment and improvement of the functional state of the upper limb.

**Prospects for further research** include determining the characteristics of quality of life of woman with postmastectomy syndrome with different types of attitude to the disease.

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Стаття надійшла до редколегії 13.08.2015

Прийнята до друку 8.09.2015

Підписана до друку 28.08.2015