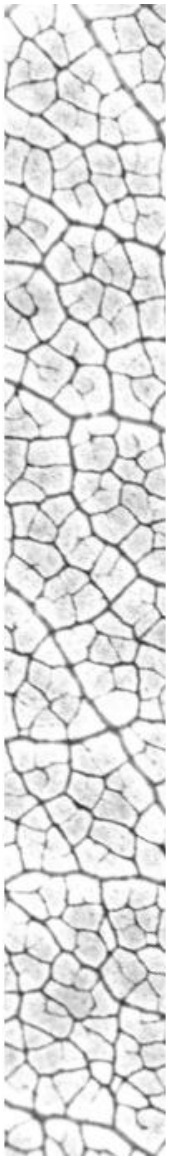

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# Coping behavior strategies and quality of life in women having breast cancer under the favorable and unfavorable course of the disease

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**Abstract**
Studies of psychological particularities and quality of life in breast cancer patients remain relevant as of today. Particularities of their coping with the difficult life situation have to be taken into account to improve quality of life in cancer patients and the probability of their convalescence and survival. The objective of this research is to find out the relationship between coping behavior strategies and quality of life as a predictive indicator of the favorable disease course in female breast cancer patients. As a result of the research conducted, the quality of life in women having the unfavorable course of the disease has been found to be significantly lower than that in female breast cancer patients in remission. Alongside this, associations between quality of life indicators with the following coping behavior strategies have been found: escape-avoidance, exercising self-control, accepting responsibility, seeking social support, distancing. The obtained results require attention on the part of social and psychological services and on the part of oncologists, because the overall quality of life indicator is related to the survival forecast and associated with coping behavior strategies.

**Keywords:** oncopsychology, coping behavior, quality of life, breast cancer, course of the disease

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## INTRODUCTION

For the modern society, the issue of oncological diseases is one of the most urgent ones: every year, the incidence of cancer and death rate of patients having malignant neoplasms mount (Bray et al., 2018). Material assets and forces of oncologists are aimed at extending cancer patients' life. Among oncological diseases, breast cancer is distinguished according to its occurrence as compared to other malignant neoplasms in women, as well as to the impact and intensity of traumatic effect. Psychological injury rate of this disease is caused, on the one hand, by the fear of illness, perception of the disease as a life-threatening one, and on the other hand – by the fear of losing femininity, unwillingness to undergo mutilating surgery resulting in cosmetic defects. This disease is frequently perceived by female patients as a factor which disrupts one's social and psychological adaptation and leaves its mark on relationships with people around one.

Concerning the nature of oncological diseases, there are implications about some psychosocial factors, certain personal features being able to act as a trigger for the disease, as well as to promote its progression or recurrent cases (Tarabrina et al., 2008; Tarabrina, 2014; Sharova, 2017; Ivashkina, 2016; Lukoshkina, Karavaeva & Vasilieva, 2016, Tsiring et al., 2019; Novikova et al., 2020). There is also a number of works providing grounds for the above factors in patients' convalescence (Falagas et al., 2007). Alongside this, it should be noted that there are studies which do not confirm the association between a person's psychological particularities, social stressful events, and the emergence of malignant neoplasms (Schoemaker et al., 2016). Scientists name the following possible reasons behind the lack of a definitive viewpoint. Sampling of the tested ones is non-homogeneous: it involves different stages of the disease, distinctions in tumor localization and type, treatment methods, age-related differences, and the like. Next, patients are subjective in evaluating their own mental state at the current point and when remembering any stressful

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events experienced. Finally, researchers may rely on methodologically controversial approaches, too (Matrenitskiy, 2018).

Thus, what role psychosocial factors play in the development of malignant neoplasms, remains an unresolved problem, and there is no uniform opinion on this question. As of today, studies of psychological particularities and mental state in breast cancer patients retain their relevance.

Getting an oncological diagnosis represents a critical situation in a woman's life and demands from her some powerful psychological resources for coping with the stress and for building a new life strategy focused on treatment. Disturbance, anxiety, uncertainty, and depression sprouting fuel exhaustion of the nervous and immune systems and reduce adaptive capacities of the woman's organism and mind. Ultimately, this set of symptoms affects the disease course, efficiency of the treatment, general convalescence, plus the patients' quality of life in a negative way. As for female patients diagnosed with cancer, their quality of life is viewed as an integral characteristic of physical, mental, and social functioning of a healthy and ill person based on the person's subjective perception (Claessens, Ramaekers & Lobbezoo, 2020; Ghislain et al., 2016; Müller et al., 2018; Rautalin et al., 2018). Numerous clinical studies prove that the quality of life indicator has predictive significance for estimating the patients' survival (Ghislain et al., 2016; Müller et al., 2018; Rautalin et al., 2018).

To enhance quality of life and survival probability in cancer patients, particularities of their coping with the difficult life situation have to be taken into account. A limited repertoire of coping behavior strategies prevents productive coping with the stress that accompanies female breast cancer patients as their oncological diagnosis is announced, throughout preparation for the surgery, post-surgical treatment, and after hospital discharge (Deineka, 2018; Tsiring & Evstafeeva, 2020). Recurrence may be triggered both by the fact that the oncological disease poses a chronic threat to life and by new stressful events. V.L. Matrenitskiy (2018) sees the cause of recurrent breast cancer in women's failure to completely realize the role of stress in their oncological condition. O.D. Rozhkova (2015) notes that after completing the treatment process, female patients go on using the same strategies of coping which they used to have before detection of the malignant neoplasm. They make no attempts of changing their coping strategies repertoire, which increases the health deterioration risk (Rozhkova, 2015).

Alongside the relevance of the outlined issue, gaps can be noted in the practice of studying psychological particularities in breast cancer patients. Hence, the objective of this research has been determined as follows: to find out the relationship between coping behavior strategies and quality of life as a predictive indicator of the favorable disease course in female breast cancer patients.

## LITERATURE REVIEW

Assessing solely biological consequences both of the disease and treatment is deficient, the understanding of which has led to identifying quality of life as a new treatment objective (Osoba, 1997). The World Health Organization, too, views a patient's quality of life as the principal criterion for restorative medical measures, provided that there is no actual threat to the patient's life. In modern studies, quality of life is considered as a systemic phenomenon representing the structural and tier mechanisms of health creation (complete adaptation) based on a subject's knowledge, understanding of, and attitude to health and illness (Vasserman & Trifonova, 2007). Numerous clinical studies prove that the quality of life indicator has predictive significance for estimating the patients' survival. Patients' indicators for their physical feeling, mood, nausea and vomiting, appetite, and overall quality of life indicator (except pain), as assessed by doctors at the beginning of the treatment, act as important predictors of the subsequent survival (Coates et al., 1992). Given this, restoring and maintaining quality of life in female cancer patients, with their social vulnerability taken into account, becomes a new priority of medical assistance in oncology.

The specific ways how people with malignant neoplasms overcome difficulties get explored, because the modern medicine is focused on enhancing patients' survival rate and sustaining the quality of their life. Besides, this line of research allows detailing psychological mechanisms with which people having malignant diseases adapt to the new difficult life situation.

Oncological diseases are a strong deconditioning stressor in the human life. Possible emotional responses of an individual overcoming the difficult situation caused by cancer can be irritability, anxiety, depression, passivity, sleep disorder, aggressiveness, tension, fear, and others. On top of that, "in the everyday consciousness, oncological diseases are still mythologized as the fatal ones, bordering on "being sentenced to death", and treatment is associated with the long and tormenting process of dying" (Tkhostov, 1991). Such perception of information about having a malignant neoplasm forms a distorted idea about the disease itself and eats away at the patients' psychological adaptation. The research of psychological adaptation mechanisms forms the scientific basis for developing psychological rehabilitation programs for cancer patients; meanwhile, the said mechanisms can be studied from the standpoint of analyzing the particularities of coping behavior.

The "coping behavior" concept is related to the research of psychological stress. It incorporates the following structural elements: "perceiving the stress – cognitive assessment – disruption of homeostasis / emergence of emotions – elaboration of strategies for overcoming – exercising coping behavior as such (the actions aimed at avoiding/eliminating the source of stress or adapting to the situation) – assessing the result of the actions – successful/unsuccessful coping (assessing the new situation)" (Isaeva, 2009). In the success of coping with a stressful situation, an important role belongs to one's subjective perception of the stressor, cognitive assessment thereof. "The task of coping with adverse life events consists in either overcoming the difficulties, or reducing their negative consequences, or else avoiding these difficulties, or enduring them" (Lazarus & Folkman, 1984).

In difficult life situations, a subject can use various strategies of coping (coping strategies) (Surtees et al., 2010). One of classifications of such strategies was put forward by R. Lazarus & S. Folkman (1984) based on the focus of the process of coping. In it, the authors suggest two types of coping behavior: the one oriented to problem-solving and the one focused on emotions (Lazarus & Folkman, 1984). Another coping behavior style was to be added later – the avoiding one, "characterized by denial or reducing to the minimum the importance and danger of the stressful situation, by the conscious suppression of anxious thoughts about it" (Endler & Parker, 1990).

Coping behavior in female breast cancer patients was studied in the works by N.V. Deineka (2018), N.V. Tarabrina et al. (2008), and others.

Exploring the coping strategies repertoire and quality of life as a predictive indicator of the favorable disease course in breast cancer patients provides broader opportunities for pointed efforts in preventing the disease progression by means of updating the subject's own adaptation resources (Morris, Pettingale & Haybittle, 1992).

## RESEARCH METHODOLOGICAL FRAMEWORK

Research objective: finding out the relationship between coping behavior strategies and quality of life as a predictive indicator of the favorable disease course in female breast cancer patients.

Research tasks:

1. Psychological diagnosing of the quality of life indicators in women having the favorable and unfavorable course of the oncological disease – breast cancer; comparison of the said indicators.
2. Psychological diagnosing of indicators of coping behavior strategies in women having the favorable and unfavorable course of the oncological disease – breast cancer; search for intercorrelations between the quality of life indicators and those of coping behavior strategies.

Methods of the research: questionnaire survey, survey, methods of descriptive statistics, and nonparametric Mann-Whitney (U-)test. For studying quality of life in female breast cancer patients, the authors used the SF-36 questionnaire (36-Item Short-Form Health Survey) recommended by the international guidelines. With this questionnaire, disruptions of patients' physical, psychological, and social functioning can be identified. Results of diagnosing are presented as scores on 8 scales, and the scales are framed so that a higher score corresponds to a higher level of quality of life. The following indicators are assessed: the general state of health (GH); physical functioning (PF); role functioning depending on physical state (Physical Role Functioning, RP); role functioning depending on emotional state (RE); social functioning (SF) as determined by the extent to which physical or emotional state limits social activity (communication); the intensity of pain (Bodily Pain, BP); vitality (VT); and mental health (MH).

For studying coping behavior in female patients, the authors used the ways-of-coping questionnaire (Lazarus & Folkman, 1984). It allows identifying the ways of coping with difficult life situations and diagnosing the way a subject's efforts are focused in coping with the difficulties: on transforming the situation, avoiding it, or alleviating the internal emotional tension caused by the stress.

The research involved 122 women aged 26 to 80 (Med = 55,8, Min = 39, Max = 79), Russian residents, undergoing treatment at Chelyabinsk regional clinical center for oncology and nuclear medicine. They have the following education levels: 51 % of the women have a secondary vocational education, 38,8% – a higher education, and 10,2% – a general secondary education. According to the level of income, the sample was distributed as follows. 8,2% of the women note a higher-than-average income level, 58,8% – the average one, 14,4% – a lower-than-average one, 10,3% – a low one, and 8,2% – a critically low one (among the participants of the research, there turned out to be no women with a high income level). The entire sample of women have a history of breast cancer diagnosed. All the female patients have the luminal tumor type, with the moderately differentiated one being more frequent. The unfavorable course of the disease (stages III and IV) is observed in 23 of the women, remission – in 98, which means, the latter have the favorable course of the disease.

For conducting this study, individual data collection form was used. Before surveying, the authors asked the respondents verbally if they consented to participate in the research. To build up motivation for the survey, the authors established a contact of trust with the tested ones and explained the procedure to the respondents. If

**Table 1.** Comparative analysis of quality of life indicators in female breast cancer patients under the favorable and the unfavorable disease course

| | Female BC patients with the favorable course of the disease (N=98) | Female BC patients with the unfavorable course of the disease (N=23) | U | p |
|---|---|---|---|---|
| General state of health (GH) | 55,9 | 54,7 | 1165 | 0,946 |
| Physical functioning (PF) | 71,9 | 62,7 | 935 | 0,119 |
| Role functioning depending on physical state (RP) | 54,3 | 26 | 762 | 0,006 |
| Role functioning depending on emotional state (RE) | 54,3 | 29,1 | 687 | 0,001 |
| Social functioning (SF) | 75 | 65,1 | 857 | 0,037 |
| Bodily pain intensity (BP) | 63,5 | 55,3 | 985,5 | 0,217 |
| Vitality (VT) | 59,4 | 50,4 | 894 | 0,068 |
| Mental health (MH) | 63,3 | 49,3 | 749 | 0,006 |

(Source: authors)

required, they were assisted in understanding and filling out the questionnaire forms. There was no time limit set for filling out the questionnaires.

## RESULTS AND DISCUSSION

Quality of life is an indicator used in the world medicine for assessing patients' condition, their response to treatment, and convalescence history. This is a systemic predictive indicator, including in relation to oncology. The authors have studied indicators of the quality of life in female breast cancer patients having stages III and IV of the disease and in women with the BC who are in remission. **Table 1** presents the values of the quality of life indicator in the said patients. The authors conducted statistical comparison of the women's quality of life indicators to identify particularities of quality of life in the female breast cancer patients under the favorable and the unfavorable disease course. By comparing the quality of life indicators in the women who are at stages III and IV of the disease with those of the female BC patients in remission, the authors have obtained valid distinctions at a high significance level on some scales of the SF-36.

Physical role functioning (RP) is related to the role of physical issues in limitation of life activity. In the female breast cancer patients at stages III and IV of the disease, this indicator is validly lower than in the women in remission (p=0,006). The women having breast cancer (stages III and IV of the disease) note issues related to their health to limit their life activity to a greater extent. Breast cancer as a disease imposes limitations on the women's performing work or daily chores. The female BC patients at the remission stage feel vigorous and energetic, i.e., viable (VT), more than the ones at stages III and IV of the disease do (p=0,068). They experience the state of exhaustion and reduced vitality less frequently. The women having stage III and IV breast cancer assess their own social functioning (SF) subjectively lower than those in remission do (p=0,037). They are less satisfied with their own level of social activity, e.g., communication with friends, family, and peers at work. Their social contacts are decreased due to health deterioration. Related to assessing the extent of influence emotional state has on performance of work or habitual daily life, emotional role functioning (RE) is statistically lower in the female patients having the unfavorable disease course (p=0,001). This gives evidence about emotional state of the III and IV stage cancer patients limiting their everyday activity. Psychological health (MH) as an integral indicator of positive emotions is statistically lower in the women having breast cancer with the unfavorable course of the disease (p=0,006), too. The women diagnosed with cancer feel anxiety, experience depressive emotions and psychological troubles more frequently.

Alongside this, it can be seen from the comparison results that there are no distinctions in such indicators of quality of life as general health (GH), physical functioning (PF), and pain intensity (BP).

So, comparative analysis of quality of life indicators confirms that the quality of life in women having stage III and IV breast cancer is significantly lower than that in female BC patients at the stage of remission. Given that quality of life is a predictive indicator relevant to the pattern of disease and convalescence, some light has to be shed on what exactly psychological personality features of the female patients can be associated with quality of life indicators. According to the theoretical understanding, the authors have conducted correlation analysis on indicators of the quality of life in women having the favorable disease course (i.e., being in remission) and indicators of their coping behavior strategies. Results of the correlation analysis are shown in **Table 2**.

As it can be seen from **Table 2**, statistically significant relationships have been found between some quality of life indicators and coping strategies in women having the favorable course of the disease. Vitality is associated with distancing (M=10,02) as a strategy of coping behavior (r=0,215, p=0,033). As a strategy for overcoming a difficult life situation, distancing implies reducing the subjective significance of the situation, reducing the extent of emotional involvedness into the negative experience. The female BC patients in remission have this coping behavior strategy at the average level of intensity according to the testing norms of the technique. It can be suggested that the women using distancing for coping reduce the significance of the disease by means of cognitive efforts, taking a more active part in life processes.

**Table 2.** Mean values and intercorrelations of coping behavior strategies and quality of life indicators in female breast cancer patients with the favorable disease course

| | Escape-avoidance (M=11,2) | Exercising self-control (M=13,2) | Accepting responsibility (M=7,2) | Seeking social support (M=11) | Distancing (M=10,02) |
|---|---|---|---|---|---|
| Social functioning (SF) | -0,280** | -0,255** | -0,203* | | |
| Role functioning depending on emotional state (RE) | | | -0,299** | -0,311** | |
| Vitality (VT) | | | | | 0,215** |

(Source: authors)

The Social functioning quality of life indicator correlates with the Exercising self-control strategy (r=-0,255, p=0,011) in inverse proportion. This method of coping implies suppressing the emotional response, striving for self-possession and lower influence of emotions on assessment of the situation and behavior in general. On the one hand, using the strategy of "Exercising self-control" helps minimize the risk of making impulsive, hasty decisions. Meanwhile, on the other hand, a subject making frequent use of this coping strategy experiences emotional tension and difficulties expressing the subject's own emotions, feelings, and intentions caused by the problem situation. In the situation of coping with oncological diseases, exercising self-control helps the tested ones rationally evaluate and accept what is going on. However, it should be noted that frequent non-expressing, suppressing emotions and feelings, with the ones generated by the disease among them, may act as a factor preventing convalescence or entailing recurrence. Thus, high intensity of the Exercising self-control strategy (M=13,2) can reduce social functioning of the female BC patients at the stage of remission, which is manifested in diluting social contacts and adjusting down the level of communication due to worse physical and emotional state.

The Accepting responsibility strategy is at the average level of intensity in female BC patients at the stage of remission (M=7,2). Implying one's realizing the association between one's own behavior, actions, and consequences thereof, this strategy correlates negatively with indicators of social functioning (r=-0,203, p=0,045) and role functioning depending on emotional state (r=-0,229, p=0,003). So, when searching for causes of the disease, a woman using this strategy of coping recognizes her own role in the emergence of the disease, and she is ready to accept the responsibility in these conditions. In uncontrollable situations, though, accepting responsibility proves to be an unproductive coping strategy; there is a risk of the feeling of guilt and excess self-criticism emerging. Low indicators of the intensity of this coping behavior strategy can lead to higher social activity of the female BC patients, to their communicative activity. In the women having BC in remission, the Accepting responsibility strategy is also associated with role functioning depending on emotional state. The negative value of correlation coefficient indicates the inverse relation here, which suggests that with low expression of the Accepting responsibility strategy, the female patients' role functioning goes up, and they gain the opportunity to perform their daily work and role tasks, which promotes the favorable course of the disease.

Social functioning correlates negatively, too, with the Escape-avoidance strategy (M=11,2) which allows quickly reducing emotional tension by means of denying and overlooking difficulties, by passive behavior, irritability, and switching to other activities. In outward appearance, fulfilling this coping strategy can be manifested in a behavior which is not typically inherent in the person: sudden, unjustified activity or, by contrast, uncharacteristic passivity aimed at distraction from the task, avoidance of difficulties. The women applying this strategy strive not to think about the terminal illness, downplay its importance or deny its existence altogether. They prefer avoiding the thoughts about their diagnosis and eluding from the treatment. Such behavior of the female BC patients relays their inner tension, and it is also indicative of their poor understanding of their current condition. In its turn, this results in their lower social functioning and low communicative activity, which together with worsening physical and emotional state leads to the unfavorable course of the disease.

The coping strategy of "Seeking social support" (M=11) implies a subject's being oriented to interacting with those around the subject, obtaining the information on the issue and emotional support, advice, recommendations. While using this coping strategy enables one to resolve the problem in question with other people involved, on the other hand, there is a risk of one's getting a feeling of helplessness and developing a standpoint of depending on others. This coping strategy negatively correlates with role functioning (r=-0,311, p=0,002) caused by emotional state. It can be suggested that when drawing on seeking social support, a woman who faces the terminal illness feels some dependence on the people around her, experiences negative emotions in relation to it, which prevents her from performing work or other everyday activities (including larger time consumption, reduced volume of work, lower quality of work, etc.), and may indirectly affect the favorable disease course and the process of convalescence at large.

## CONCLUSION

An oncological disease situation is a powerful stressor for one which demands mobilizing one's resources and vigor. It is coping behavior that enables a

subject to cope with the difficult life situation, and the lack of these skills may have adverse consequences for the subject's well-being and health. Particularities of coping are studied given the objective necessity: patients' condition of stress is noted not only in the diagnosing situation but also during treatment and after that. In case of failure to cope with the stress, there is a risk that the disease will recur, progress into the severe form, or entail remote effects.

When studying the favorable and unfavorable disease course in female breast cancer patients, the authors have found some particularities of the quality of life in the women and identified the way these features are related to their coping behavior strategies. As a result of the research conducted, the quality of life in women having the unfavorable course of the disease has been found to be significantly lower than that in female breast cancer patients in remission. Meanwhile, the quality of life indicator in female BC patients having the favorable course is associated with some coping behavior strategies. The female breast cancer patients in remission tend to suppress their emotional response and to control their own feelings. The quality of life indicator as a predictive indicator of convalescence has been found to be related to such coping behavior strategies as distancing, exercising self-control, accepting responsibility, escape-avoidance, and seeking social support.

These findings require attention on the part of social and psychological services and on the part of oncologists, because the overall quality of life indicator is related to the survival forecast.

The essence of rendering psychological assistance to female breast cancer patients consists not so much in relieving their moral and psychological suffering, rather than in enhancing the effect of the treatment, which means, building up the survival rate. The authors come to the conclusion that for women with breast cancer, psychological rehabilitation programs have to be included into the treatment protocol on a compulsory basis. The aim of this is to improve the effect of the treatment, quality of life, and health in women having this oncological diagnosis by means of psychological adjustment of their coping behavior strategies.

The distinctions identified at this stage will serve as the basis for building relationships with female patients when rendering them psychological assistance. They will also underlie further empirical study of psychological factors which influence survival and disease course in patients having malignant neoplasms.

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