

PSYCHOLOGICAL CHARACTERISTICS OF WOMEN WITH BREAST CANCER IN REMISSION

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Abstract: The aim of the research is to study the psychological characteristics of women with breast cancer during remission. The sample of subjects consisted of two clinical groups: women with breast cancer diagnosed before the study and who were in remission for 6 months or more at the time of the study. In the course of the study, it was found that women with breast cancer, depending on the stage of the disease (onset of the disease or remission), have different severity of psychological characteristics (basic beliefs, coping behavior methods, locus of control, resilience, life orientation) relative to each other and relative to the norms of questionnaires. The conducted research enables us to outline the prospects for further research.

Keywords: breast cancer, remission, basic beliefs, coping behavior, resilience, locus of control, life orientation.

1 Introduction

There is an increase in oncological diseases all over the world. Cancer is considered the main cause of death and an important obstacle to increasing life expectancy in all countries of the world. According to the analytical forecasts of the International Agency for Research on Cancer (IARC), by 2040 the rate of new cases of malignant neoplasms will exceed 28.4 million, assuming that the figures estimated in 2020 will remain unchanged (Ferlay et al., 2020). According to experts of the International Agency for Research on Cancer, 19.3 million new cases of cancer and approximately 10 million deaths from cancer were registered worldwide in 2020 (Ferlay et al., 2020). Due to the morbidity in 2020, breast cancer (11.7%) surpassed lung cancer (11.4%) as the most commonly diagnosed cancer in the world, followed by rectal cancer (10%), prostate cancer (7.3%) and stomach cancer (5.6%). Lung cancer is the leading cause of cancer death in 2020 (18% of deaths), followed by cancer of the rectum (9.4%), liver (8.3%), stomach (7.7%) and breast (6.9%) (Ferlay et al., 2020).

Among the female population of the world, breast cancer is the most commonly diagnosed cancer and the main cause of death from cancer. Among women, breast cancer accounts for 1 in 4 cancer cases and 1 in 6 cancer deaths, ranking first in morbidity in the vast majority of countries (159 out of 185 countries) and in mortality in 110 countries (Sung et al., 2021).

The World Health Organization claims aging and population growth, as well as features of socio-economic development, the leading reasons for the increase in the number of diseases with malignant neoplasms (Ferlay et al., 2020). It is noted that with the growth of socio-economic well-being of the country, the risk of infectious cancer is reduced, but at the same time there is an increase in the number of tumors based on hormonal disorders and poor nutrition.

In Russia, according to the International Agency for Research on Cancer, the leading place in morbidity in 2020 is occupied by malignant neoplasms of the large intestine (13.1%), followed by breast cancer (12.7%), lung cancer (10.8%), prostate cancer (7.9%) and stomach cancer (6.3%). Among men, lung cancer is the most common in terms of morbidity in 2020 (18%), among

women – breast cancer (24.4%). In terms of mortality rates in 2020, lung cancer (17.4%), stomach cancer (8.9%), intestinal cancer (8.1%), breast cancer (7.4%), pancreatic cancer (6.6%) ranks first in Russia (Ferlay et al., 2020).

According to the presented statistics, breast cancer is the most common among the female population in the world and Russia. As risk factors for the development of breast cancer, Russian researchers identify genetic burden, hormonal and immunological status of women, age of women, deterioration in the level and quality of life of the population, improvement in the quality of diagnosis and accounting of malignant neoplasms, reproductive factors (regularity of the menstrual cycle, the number of births, breastfeeding, the presence of abortions and miscarriages), exposure to ionizing radiation, alcohol consumption on a daily basis in combination with other negative risk factors and others (Tarabrina, 2014; Sukhareva et al., 2017; Letyagin et al., 2006; Chissov et al., 2012; Merabishvili, 2007; Egorova & Shaplygin, 2013).

2 Literature Review

Analyzing foreign studies, we can find several groups of factors associated with the risk of breast cancer. Considering the reproductive factors of breast cancer development, Zhou (2015) and colleagues note that women who have not given birth have about twice the risk compared to women who have given birth to three or more children. The authors also emphasize the relationship between the later age of the first birth (after 35 years) and the occurrence of breast cancer in comparison with women who gave birth before the age of 20 (Zhou et al., 2015). Breastfeeding, especially long-term, can lead to a reduction in the risk of breast cancer: the incidence of cancer decreases by 4.3% for every 12 months of breastfeeding (Collaborative Group on Hormonal Factors in Breast Cancer, 2002). A number of researchers note that menstrual characteristics (early age of menarche, late age of menopause and type of menopause) can act as markers of the risk of developing breast malignancies (Collaborative Group on Hormonal Factors in Breast Cancer, 2012). Evidence linking the use of oral contraceptives by a woman with the occurrence of breast cancer was described in a worldwide epidemiological study of the joint Group on Hormonal Risk Factors for Breast Cancer (Collaborative Group on Hormonal Factors in Breast Cancer, 1996). Colditz (1998) found a link between a woman's high height in adolescence and the development of breast cancer in adulthood. The authors explain this relationship, among other things, by the fact that human height is associated with the age of menarche, and menarche is inversely related to the risk of breast cancer (Collaborative Group on Hormonal Factors in Breast Cancer, 2012).

The relationship between body mass index, obesity and breast cancer risk has been studied in a number of researches (Renehan et al., 2008; Suzuki et al., 2009; Vrieling et al., 2010). Research data suggest that increased physical activity reduces the risk of breast cancer: a 25% reduction in average risk was found for the most physically active women compared to the least active women (Zhou et al., 2015). A statistically significant increase in the risk of breast cancer (from 8% to 17%) is associated with a sedentary lifestyle (Shen et al., 2014; Zhou et al., 2015).

Revealing the genetic risk factors for breast cancer, the authors note that women in whose family there were cases of breast cancer in their closest relatives have a 1.5-2 times greater risk of developing breast cancer (Familial Breast Cancer Working Group, 2001). An increased risk of breast cancer was observed in those who were exposed to radiation at any age.

Considering endogenous factors of breast cancer, many researchers emphasize that endogenous estrogens increase the risk of breast cancer: there is a direct relationship between the level of estrogen in the blood and the risk of developing malignant neoplasms (Key et al., 2002, 2013; Yager &

Davidson, 2006; Zhang et al., 2013; Colditz, 1998; Thomas et al., 1997; Zanetta et al., 2000). Progesterone plays a key role in breast development, and according to experimental data, progesterone metabolites can both reduce and increase the risk of breast cancer (Wiebe, 2006; Wiebe et al., 2010).

Additional markers of breast cancer risk include the use of hair dye (Takkouche et al., 2005), bras (Chen et al., 2014), deodorants (Mirick et al., 2002) and breast implants (Lipworth et al., 2009). A potential risk factor for the occurrence of malignant neoplasms of the mammary glands is occupational: exposure to chemical compounds (Mikoczy et al., 2011), electromagnetic fields (Chen et al., 2010), night shift employment with subsequent suppression of melatonin production (He et al., 2015). These risk markers are considered by the authors as assumptions and require additional research.

Despite the growing interest in the problem of breast cancer in women, the range of psychological phenomena studied in this area is quite limited. It is worth noting that the works of P. Revidi (1983), H.J. Eysenck (1994), L. Temoshok (1987), Y. Chida (Chida et al., 2008), I.G. Malkina-Pyh (2008), M.G. Ivashkina (2016), N.V. Tarabrina (2014) and others describe the psychological prerequisites for the development of malignant neoplasms. As risk factors for the occurrence of breast cancer, the authors identify restraint in the manifestation of emotions (Revidi, 1983; Temoshok, 1987; Fasano et al., 2020), pronounced feelings of guilt and self-doubt (Revidi, 1983), external locus of control and low importance of the value of health (Ivashkina, 2016), unproductive coping strategies (Chida et al., 2008; Fasano et al., 2020), feelings of hopelessness and self-helplessness (Temoshok, 1987), rigidity of attitudes (Revidi, 1983), feelings of despair and depression (Revidi, 1983) and others.

The indicated risk factors for breast cancer (reproductive, genetic, psychological, hormonal, lifestyle-related, etc.) are justified by researchers using theoretical conclusions, and/or statistical, and/or empirical, and/or experimental data and allow, based on the available information, to identify the relevance of the problem of breast cancer development today.

Breast cancer, in addition to the threat to physical health and life, differs in the strength and intensity of the traumatic effect, which consists in the fear of losing femininity, which is associated with causing a cosmetic defect. Also, this disease can be perceived as a factor that disrupts a person's socio-psychological adaptation and affects the relationships with others. J. Fasano et al. (2020) emphasize the role of psychological characteristics in coping with stress caused by a long treatment process. H.J. Eysenck (1994) notes that a person with such personal characteristics as self-sacrifice, conformity, suppression of anger, manifestation of anxiety and anxiety, and others, in case of cancer, faces a faster death than people with other personal characteristics.

Speaking about the study of the psychological characteristics of patients with oncopathology with different course of the disease, we can note the study of M.P. Ershova (Aralova & Ershova, 2005). The author investigated the features of personal development of boys and girls with cancer pathology with different remission periods and notes that the remission period significantly determines the personal characteristics of boys and girls with cancer diagnosis. At the same time, the most psychologically stressful period is from 5 to 10 years after direct treatment. V.A. Chulkova and E.V. Pestereva (2015) studied the peculiarities of psychological adaptation to the disease of patients with malignant lymphomas at various stages of the disease (before treatment, during primary treatment, during the treatment of relapses, remission).

3 Research Methodological Framework

Based on the urgency of the problem of the prevalence and development of breast cancer, the existing prerequisites for the study of the psychological characteristics of patients with breast cancer with different course of the disease, the purpose of this work was formulated: to study the psychological characteristics

of women with breast cancer during remission. The realization of this goal will make it possible to subsequently identify psychological factors that contribute to improving the long-term effectiveness of treatment. Psychological characteristics of women in remission can act as a criterion for predicting the course of the disease.

In accordance with the purpose of the study, empirical tasks were identified. Firstly, to diagnose psychological characteristics (basic beliefs, coping behavior, locus of control, resilience, life orientation) in women with breast cancer in remission and women with diagnosed breast cancer at the time of the study. Secondly, to compare psychological characteristics (basic beliefs, coping behavior, locus of control, resilience, life orientation) in women with breast cancer during remission and at the stage of diagnosis with the normative indicators of the studied characteristics.

The general scheme of empirical research was determined by the purpose of the work. In accordance with the purpose of the study, the sample consisted of two clinical groups. Firstly, women with breast cancer diagnosed before the study and in remission for 6 months or more at the time of the study. The criterion for inclusion of patients in the research sample was the onset of remission during the disease and the duration of this remission – 6 months or more. Complete remission (CR; complete remission) – the complete disappearance of all tumor manifestations of the disease, confirmed by the same research methods that revealed these changes, and, if necessary, additional research methods. Complete remission is established after the end of treatment and only if it persists for at least four months after the end of the program. Secondly, women with diagnosed breast cancer at the time of the study who are under the supervision of an oncologist from the moment of diagnosis. The criteria for inclusion of patients in the study were: the presence of a malignant tumor originating from the epithelium of breast tissue (breast cancer) of stage I, II, III and IV with a moderately differentiated variant of the tumor, hormone-dependent therapy, being under the supervision of an oncologist from the moment of diagnosis up to 6 months.

The basis of the empirical research was the Chelyabinsk Regional Clinical Center of Oncology and Nuclear Medicine, Chelyabinsk. A total of 289 women participated in the study, 98 of them in remission aged 39 to 79 years, average age 57 years, median 58 years; at the stage of diagnosis, 191 people aged 26 to 80 years, average age 55.5 years, median 57 years.

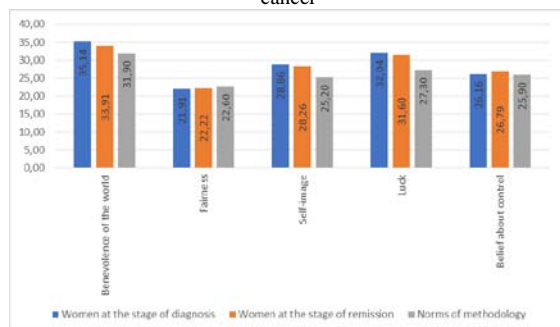
The research methods were questionnaire survey, testing method, methods of mathematical data processing. The testing and questionnaire survey were conducted in an individual form. The questionnaire allowed us to collect data on socio-demographic indicators. The following research methods were used: World assumption scale (R. Janoff-Bulman, adaptation by M.A. Padun, A.V. Kotelnikova (2008)), the Life Orientation Test (Scheier M.F., Carver C.S., adaptation by D.A. Tsiring, K.Yu. Evnina (2013)), "Ways of Coping Questionnaire" (R. Lazarus, S. Folkman, adaptation by T.L. Kryukova, E. V. Kuftyak, M.S. Zamyshlyayeva) (Kryukova, 2010), Hardiness Survey (S. Maddi, adaptation by D. Leontiev) (Leontiev & Rasskazova, 2006), Subjective control test questionnaire (J., Rotter, adaptation by E.F. Bazhin, S.A. Golyunkina, A.M. Etkind (1984)). Mathematical methods of statistical data processing are presented by methods of descriptive statistics. Methods of primary descriptive statistics are numerical indicators that characterize the features of the distribution of the trait measured in the sample, in particular, reflecting the level of severity of the measured property and the degree of its variability. In this study, average indicators were used to assess the difference in the severity of psychological characteristics of the subjects in comparison with the norms of the methods.

4 Results and Discussion

In the course of the study of the psychological characteristics of women during remission, differences in a number of indicators

were revealed. Figure 1 shows the results of the World assumption scale (Padun & Kotelnikova, 2008) in women at the stage of diagnosis, during remission, as well as the norms of the methodology used.

Figure 1 Features of world assumption of women with breast cancer



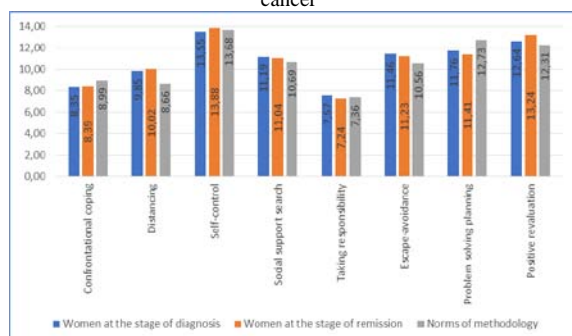
Source: compiled by the authors

According to the data obtained, women with an oncological diagnosis, both at the stage of its diagnosis and during remission, have a more pronounced belief about the benevolence of the surrounding world. Respondents expressed a belief about the security of trust in the world around them, that the people around them are generally kind and trustworthy. The "Self-image" belief, implying the subject's confidence that he is worthy of love and respect, and the belief about his own luck are more pronounced in women with breast cancer relative to the norms of the questionnaire.

The conviction of women with breast cancer in remission in the benevolence of the world and that they were lucky, on the one hand, helped them to cope productively with the situation, on the other hand, is associated with a favorable course of the disease. The onset of remission for patients with an oncological diagnosis, as a rule, is the desired outcome of the disease, and enables to be sure of good luck and that the world is favorable. The expression of beliefs about the benevolence of the world, the value and significance of one's self, and luck in women at the stage of diagnosis can serve as a predictor for the further onset of remission.

Next, we analyzed the ways of behavior in difficult life situations in the studied groups using the questionnaire of R. Lazarus (Kryukova, 2010) (Figure 2).

Figure 2 Features of coping questionnaire of women with breast cancer



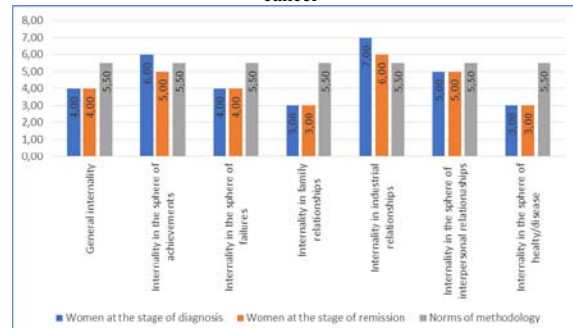
Source: compiled by the authors

According to the data obtained, women in remission and at the stage of cancer diagnosis use the "Distancing" coping strategy more often compared to the norms of the questionnaire. This method of coping involves the application of cognitive efforts in order to reduce the significance of a stressful situation. Distancing allows to separate oneself from the situation, distract oneself from it, switching the attention to other aspects of life. To a lesser extent, relative to the norms of the methodology, the strategy of "Problem solving planning" is expressed in women who participated in the study. An analytical approach to solving

the problem, efforts to change the situation are less often used by women in the situation of cancer.

The results of the study of the level of subjective control (Bazhin et al., 1984) in women in remission and at the stage of diagnosis are presented in Figure 3.

Figure 3 Features of the locus of control of women with breast cancer

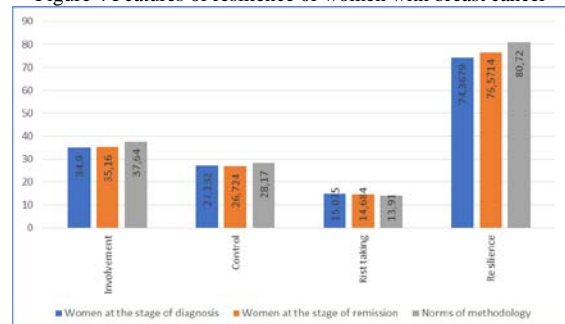


Source: compiled by the authors

Analyzing the data obtained, we can note that women in remission and at the stage of diagnosis are characterized by externality in the field of failures, that is, they consider them the result of bad luck and attribute responsibility for the failures to other people. Also, the respondents are characterized by externality in family relationships: women single out their partners as the reason for the events taking place in the family, not themselves. Regarding health and illness, women with an oncological diagnosis are also more characterized by externality compared to the norms of the questionnaire. The subjects believe that the state of health is the result of chance, luck, a combination of external circumstances, and believe that recovery depends more on the actions of other people and doctors. In the field of industrial relations, women with breast cancer are characterized by internality, they recognize that their actions and efforts are an important factor in career growth, organization of their own activities, and relationships in a team.

The results of comparing the indicators of Hardiness survey (Leontiev & Rasskazova, 2006) of respondents in remission and at the stage of diagnosis are shown in Figure 4.

Figure 4 Features of resilience of women with breast cancer

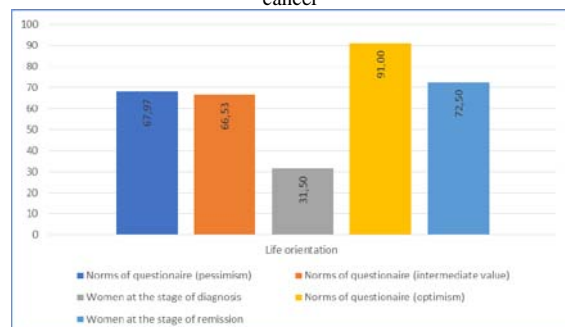


Source: compiled by the authors

According to the data obtained, the level of resilience and its indicators in subjects with an oncological diagnosis is within the normal range. There are small differences in the indicators of involvement and the overall level of resilience. Involvement implies that a person enjoys his own activities, is involved in what is happening and feels confident. The opposite of involvement is the feeling of rejection. Resilience is a system of a person's beliefs about himself, about the world and relationships with him. The high severity of resilience and its components contributes to productive coping with stressful life situations and reducing internal tension.

Next, we analyzed the features of life orientation (Tsiring & Evnina, 2013) of women with breast cancer in remission and at diagnosis (Figure 5).

Figure 5 Features of the life orientation of women with breast cancer



Source: compiled by the authors

Diagnostics of life orientation allows us to identify the orientation of the subject towards optimism, positive expectations from the future or towards pessimism, that is, negative expectations from the future. Comparing the data obtained with the characteristics of the questionnaire, we can note that women with breast cancer were diagnosed with intermediate values in the severity of optimism-pessimism, regardless of the features of the course of the disease (remission or the stage of diagnosis).

To date, cancer remains one of the most prognostically unfavorable diseases worldwide, despite the constant search for scientific methods of treating this pathology. Such conclusions are based on a statistical assessment of cancer survival and the probability of life preservation over the past 10 years. Such a situation shows the need for a comprehensive, interdisciplinary study of this problem and consideration of other possible causes of this pathology, including consideration of psychological factors on the course of the disease and its outcome (survival).

This study is devoted to the study of psychological characteristics in women diagnosed with breast cancer. Women in remission and women diagnosed with breast cancer who do not currently have information about the further course of the disease were selected as the study groups. These groups were selected in order to determine the psychological factors contributing to improving the long-term effectiveness of treatment. The results obtained in this study allow us to put forward two assumptions that require additional empirical verification. Firstly, the revealed psychological features in women with breast cancer can act as predictors of cancer pathology. Secondly, the detected psychological features can act as a criterion for predicting the course of the disease (the onset of remission). To date, work is underway to verify the assumptions made by continuing cooperation with women who participated in this study at the stage of diagnosis. At the moment, we are studying the features of the course of their disease, as well as the relationship with psychological characteristics during a longitudinal study designed for three years.

5 Conclusion

Currently, there are only a small number of studies that reveal the specific psychological characteristics of patients with breast cancer. The conducted research makes it possible to identify the specifics of the severity of psychological characteristics of women with cancer diagnosis and outline the prospects for further research. Thus, women with breast cancer, regardless of the course of the disease (remission or the stage of diagnosis), expressed beliefs about the benevolence of the world, the value and significance of their own Self and luck. In women with cancer, the coping strategy of "Distancing" prevails, and to a lesser extent "Problem solving planning" is expressed. Women in remission and at the stage of diagnosis are characterized by

externality in the field of failures, in family relationships. Regarding health and illness, women with an oncological diagnosis are also more characterized by externality compared to the norms of the questionnaire. The resilience indicators of respondents with breast cancer are within the normal range. Optimism-pessimism in women with an oncological diagnosis, regardless of the features of the course of the disease (remission or the stage of diagnosis), are expressed at an average level.

The data obtained can serve as a scientific basis for the development of a system of psychological support for patients with malignant neoplasms. Taking into account the impact of psychological factors on the course of the disease, the lack of psychological support services in oncological medical institutions indicates the need for scientific research aimed at studying the psychological determinants of the course of the disease, their impact on the nature of the response to antitumor treatment.

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Primary Paper Section: A, F

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