

Psychological adaptation to cancer in women with breast cancer considering selected medical factors

Mateusz Niemiec^{1,A-D,F®}, Irena Dorota Karwat^{1,C,E-F®}, Magdalena Konieczny^{1,D-F®}, Edyta Wojciechowska^{1,F®}, Katarzyna Sygit^{1,2,E-F®}, Elżbieta Cipora^{1,A,C-F®}

- ¹ Medical Institute, Jan Grodek State University, Sanok, Poland
- ² Faculty of Health Sciences, Calisia University, Kalisz, Poland
- A Research concept and design, B Collection and/or assembly of data, C Data analysis and interpretation,
- D Writing the article, E Critical revision of the article, F Final approval of the article

Niemiec M, Karwat ID, Konieczny M, Wojciechowska E, Sygit K, Cipora E. Psychological adaptation to cancer in women with breast cancer considering selected medical factors. Ann Agric Environ Med. doi: 10.26444/aaem/206068

Abstract

Introduction and Objective. The diagnosis and treatment of breast cancer result in numerous somatic, psychological, and spiritual challenges, the severity of which depends on the patient's psychological adaptation to the disease. The aim of the study is to assess the psychological adaptation to cancer in women with breast cancer, taking into account selected medical factors.

Materials and Method. The study included 522 women diagnosed with breast cancer. The diagnostic survey method was used, with research tools including a Self-Authored Questionnaire and the Mini-Mac Psychological Adaptation to Cancer Scale. Statistical calculations were performed using the Statistica 13.3 software package, with a significance level of $p \le 0.05$. **Results.** A constructive coping style predominated in the studied group, with the highest intensity observed in positive re-evaluation (M=22.18). A higher stage of cancer progression correlated with a greater intensity of the 'fighting spirit' strategy (p=0.016). The longer the time since breast cancer diagnosis, the lower the intensity of anxious preoccupation (p=0.030), helplessness-hopelessness (p=0.005), and the destructive coping style (p=0.009). The destructive coping style $was \ more \ frequently \ observed \ in \ women \ who \ had \ not \ undergone \ chemotherapy \ (p=0.001), \ while \ surgically \ treated \ women$ exhibited a higher intensity of the helplessness-hopelessness strategy (p=0.047). In contrast, patients who had undergone radiotherapy had a lower mean level of anxious preoccupation (p=0.006).

Conclusions. The analyzed medical factors – such as the time since cancer diagnosis, cancer stage, self-assessment of current health status, and applied therapies – determined the psychological adaptation to the disease in women diagnosed with breast cancer.

Kev words

breast cancer, Mini-Mac scale, coping strategies.

INTRODUCTION

Breast cancer is the most common malignancy among women. Currently, nearly 25,000 new cases of this cancer are diagnosed annually in Poland [1]. A cancer diagnosis is a highly challenging situation for both the patient and her family; the treatment process also leads to numerous somatic, psychological, and spiritual difficulties. Women experience various psychological distress symptoms, most commonly including anxiety (panic, post-traumatic stress disorder, phobias), depression, and accompanying disorders. In the early stages of diagnosis and treatment, terms such as 'acute stress disorder' or 'post-traumatic stress disorder' may best illustrate the psychological challenges associated with a cancer diagnosis [2, 3]. The psychological reactions to cancer and its treatment can be observed at every stage of the disease. These reactions include:

- the initial phase, from symptom onset to diagnosis;
- the terminal phase.

chronic phase, covering surgical treatment, chemotherapy, hormone therapy, immunotherapy, or radiotherapy;

Address for correspondence: Elżbieta Cipora, Medical Institute, Jan Grodek State University, Sanok, Poland E-mail: ecipora@up-sanok.edu.pl

Received: 26.03.2025; accepted: 09.06.2025; first published: 20.06.2025

To cope with difficult emotions and adapt to the new reality brought about by the disease, patients typically go through three stages of response: denial and disbelief, gradual acceptance of the illness, and finally, adaptation to the situation [4].

The scientific literature on psycho-oncology lacks a unified definition of the factors influencing psychological adaptation to cancer. This adaptation is primarily considered in terms of coping with stress in the face of a critical life event. Psychological adaptation to illness serves as a process aimed at alleviating emotional distress. Ultimately, it seeks to restore the psychological balance in individuals facing a cancer diagnosis, which significantly reshapes their reality. Adaptation to the disease is justified by two primary goals: coping directly with the illness and managing the treatment process, which profoundly impacts the patient's life [5].

According to the model proposed by Greer, Moorey, and Watson, there are five main psychological adjustment styles to illness: avoidance-denial, fighting spirit, helplessnesshopelessness, fatalism-stoic acceptance, and anxious preoccupation [6].

- Fighting spirit is associated with a low external locus of control and high social support.
- Helplessness-hopelessness results from a high external locus of control and low social support, manifesting in

Mateusz Niemiec, Irena Dorota Karwat, Magdalena Konieczny, Edyta Wojciechowska, Elżbieta Cipora. Psychological adaptation to cancer in women with breast cancer...

patients as feelings of despair, passivity, anxiety, sadness, and depression.

- Anxious preoccupation is primarily linked to fearful attitudes toward the disease and the entire treatment process.
- High levels of helplessness-hopelessness correlate with reduced functional ability, and patients exhibiting this coping style, along with anxious preoccupation, generally report a lower quality of life.

Active Coping Strategies and Psychological Adaptation. Active, confrontational, and avoidance-based coping strategies have a more positive impact on a cancer patient's functioning than passive and resignation-based strategies. The **fighting spirit** attitude contributes to better social functioning, while **constructive coping strategies** in dealing with cancer-related challenges are directly associated with a **higher quality of life**.

The extent to which a patient can psychologically adapt to the illness is reflected in emotional, cognitive, and behavioural processes. The process of adjusting to one's health condition significantly affects the patient's future life and that of their close social circle. Different attitudes and coping strategies related to psychosocial adaptation to cancer influence stress levels. They also determine the intensity of perceived somatic symptoms, which directly affects the level of functioning of the patient and her family.

Coping strategies for cancer are crucial, as it is natural to strive for an improved quality of life at all stages of the disease [7, 8].

OBJECTIVE

The aim of the study is to assess the psychological adaptation to cancer in women with breast cancer, considering selected medical factors.

MATERIALS AND METHOD

The study included 560 women diagnosed with breast cancer, who were patients of the Specialist Hospital of the Podkarpackie Oncology Centre named after Father Bronisław Markiewicz in Brzozów. A total of 522 fully completed research tools were included in the analysis. Participants were women diagnosed with breast cancer undergoing oncological treatment, who gave informed consent to participate in the study.

The mean age of the participants was 56.42 years (MdN=58.00; SD=11.70). The majority were married (72.8%, N=380), lived in urban areas (60.2%, N=314), and had a secondary education (43.5%, N=227). Detailed demographic data are presented in Table 1.

In the studied group of women there was significant variation in the stage of cancer at the time of diagnosis. In almost half – 49.2% (N=257) – of the respondents, the cancer was at stage T2 at the time of diagnosis. The majority – 72.8% (N=380) – began breast cancer treatment within one month of diagnosis.

The most commonly used oncological treatment method in the study group was chemotherapy, applied to 82.4% (N=430) of the respondents. Surgical treatment was the

Table 1. Demographic data of patients

N	%
522	100
16	3.1
63	12.1
119	22.8
142	27.2
161	30.8
21	4.0
25	4.8
380	72.8
75	14.4
32	6.1
10	1.9
208	39.8
147	28.2
111	21.3
49	9.4
7	1.3
24	4.6
101	19.3
227	43.5
170	32.6
	522 16 63 119 142 161 21 25 380 75 32 10 208 147 111 49 7

second most frequently used method, applied to 64.7% (N=338) of the women. Radiotherapy was significantly less common, administered to 24.3% (N=127) of the respondents. Hormone therapy was used in 15.1% (N=79) of the women. The remaining 2.5% (N=13) underwent other treatment methods, including immunotherapy.

Among the 522 women diagnosed with breast cancer, 64.7% (N=338) underwent surgical treatment. Breast-conserving surgery was performed in 42.3% (N=221) of cases, whereas radical surgery, involving breast amputation and often the removal of nearby lymph nodes, was performed in 22.4% (N=117) of the respondents. 35.3% (N=184) of the studied women had not yet undergone surgery.

In the studied group, 45.2% (N=236) of the respondents underwent breast surgery within one year, while for the remaining women, the time since surgery exceeded one year (Tab. 2).

The study was conducted using the diagnostic survey method with two research tools – a Self-Authored Questionnaire and the Mental Adjustment to Cancer Scale – Mini-MAC, developed by Watson et al. [9]. The Polish version of the Mini-MAC scale consists of 29 statements describing the relationships of cancer patients. Based on these statements, four coping strategies with cancer can be diagnosed: anxiety absorption, fighting spirit, helplessness-hopelessness, and positive revaluation. The listed coping strategies can be assigned to two styles – destructive (strategies: anxiety absorption and helplessness-hopelessness) and constructive (strategies: fighting spirit and positive revaluation). The

Mateusz Niemiec, Irena Dorota Karwat, Magdalena Konieczny, Edyta Wojciechowska, Elżbieta Cipora. Psychological adaptation to cancer in women with breast cancer...

Table 2. Characteristics of the study participants considering medical variables

Stage of cancer	N	%
Tis	8	1,5
T1	118	22,6
T2	257	49,2
T3	120	23,0
T4	19	3,7
Time from diagnosis to treatment		
Up to 1 month	380	72,8
Over 1 to 3 months	86	16,5
Over 3 to 6 months	40	7,7
Over 6 to 12 months	7	1,3
Over 12 months	9	1,7
Type of treatment		%
Surgical	338	64,7
Hormone therapy	79	15,1
Chemotherapy	430	82,4
Radiotherapy	127	24,3
Other	13	2,5
Type of breast cancer surgery		
Radical	117	22,4
Breast-conserving	221	42,3
Not applicable	184	35,3
Time since breast surgery		
Up to 1 year	236	45,2
Over 1 year to 2 years	46	8,8
Over 2 years to 3 years	12	2,3
Over 3 years to 4 years	2	0,4
Over 4 years	42	8,0
Not applicable	184	35,3
Total	522	100

determination of coping strategies is associated with the assessment of how the patient adapts to cancer. Each strategy consists of 7 statements, and points are counted separately for each strategy by summing-up the results obtained in the individual statements. The evaluation of each statement is made on a 4-point scale, where 1 means 'strongly disagree', 2 means 'disagree', 3 means 'agree', and 4 means 'strongly agree'. The final score for each strategy ranges from 7–28 points. The higher the score, the greater the intensity of behaviours characteristic of that strategy. The score can be converted into a sten score. The range 1–4 sten is classified as low results, 5–6 as average, and 7–10 as high [9].

Statistical calculations were performed using the STATISTICA 13.3 software package, assuming a statistical significance level of $p \le 0.05$. The analysis of the relationship between 2 ordinal variables or between an ordinal and a quantitative variable was conducted by determining the gamma correlation coefficient (γ) of Kruskal-Goodman [10].

RESULTS

The assessment of psychological adjustment to cancer was conducted using a standardized tool – the Mini-MAC scale.

The highest intensity of behaviours was observed in the case of positive revaluation (M=22.18; MdN=22.0; SD=2.61). Slightly fewer points were scored by women using the fighting spirit strategy (M=21.68; MdN=21.00; SD=2.88). These 2 strategies form the constructive style of coping with the disease, and this psychological adjustment style was predominant in the studied group. The mean for the constructive style was 43.86 (MdN=44.00; SD=4.56), with the lowest score achieved by women being 23.00 points, and the highest being 56.00 points. When converted to sten scores, the mean was 6.46 (MdN=6.0, SD=1.11).

On the other hand, the lowest average value of 14.62 (MdN=15.00, SD=4.04) was observed in the helplessness-hopelessness strategy, which means that the intensity of behaviours characteristic of this strategy was the lowest. A little higher, at 18.24 points (MdN=19.00, SD=3.85), were the scores obtained by women using the anxiety absorption strategy. These 2 strategies make up the destructive style, and the average score for this style was 32.86 (MdN=34.00, SD=7.25), with the minimum score achieved by women in this style being 14.00 points, and the maximum being 56.00. The average sten score for the destructive style was 4.57 (MdN=5.00, SD=1.66) (Tab. 3, 4).

Table 3. Mini-MAC scale results and sten scores of the Mini-MAC scale

М	SD	Mdn	IQR/2	Mini.	Maks.	CV [%]
18.24	3.85	19.00	2.50	7.00	28.00	21.11
21.68	2.88	21.00	1.50	10.00	28.00	13.28
14.62	4.04	15.00	3.00	7.00	28.00	27.67
22.18	2.61	22.00	1.50	13.00	28.00	11.75
43.86	4.56	44.00	3.00	23.00	56.00	10.41
32.86	7.25	34.00	4.50	14.00	56.00	22.06
	18.24 21.68 14.62 22.18 43.86	18.24 3.85 21.68 2.88 14.62 4.04 22.18 2.61 43.86 4.56	18.24 3.85 19.00 21.68 2.88 21.00 14.62 4.04 15.00 22.18 2.61 22.00 43.86 4.56 44.00	18.24 3.85 19.00 2.50 21.68 2.88 21.00 1.50 14.62 4.04 15.00 3.00 22.18 2.61 22.00 1.50 43.86 4.56 44.00 3.00	18.24 3.85 19.00 2.50 7.00 21.68 2.88 21.00 1.50 10.00 14.62 4.04 15.00 3.00 7.00 22.18 2.61 22.00 1.50 13.00 43.86 4.56 44.00 3.00 23.00	18.24 3.85 19.00 2.50 7.00 28.00 21.68 2.88 21.00 1.50 10.00 28.00 14.62 4.04 15.00 3.00 7.00 28.00 22.18 2.61 22.00 1.50 13.00 28.00 43.86 4.56 44.00 3.00 23.00 56.00

M-average, SD-standard deviation, Mdn-median, IQR/2-Interquartile range, CV-Coefficient of variation.

Table 4. Sten scores of the Mini-MAC scale

Styles	N	М	Mdn	SD	Mini.	Maks.
Constructive style	522	6.46	6.00	1.11	2.00	10.00
Destructive style	522	4.57	5.00	1.66	1.00	10.00

The results presented indicate that in the studied group of women with breast cancer, the constructive coping style predominated over the destructive style – 43.86 vs. 32.86, in stens 6.46 vs. 4.57 (Tab. 4).

The results allowed for the identification of 3 groups of respondents characterized by low, average, and high levels of the studied trait in each coping style related to cancer. In the constructive style, the vast majority – 82.4% (N=430) of women achieved stens values of 5–6, which corresponded to the average level of psychological adaptation to cancer. A group of 14.5% (N=76) of respondents achieved stens values of 8–10, indicating a high level of constructive coping. On the other hand, 3.1% (N=16) of the women achieved low scores at the 1–4 sten level.

In the destructive style, 64.0% (N=334) of women achieved scores in the range of 5–7 stens, corresponding to an average level of this style. Just over 1/3 – 34.1% (N=178) of women achieved low scores (1–4 stens), while 1.9% (N=10) of respondents achieved high scores (8–10 stens) (Tab. 5).

 $Mateusz\,Niemiec, Irena\,Dorota\,Karwat,\,Magdalena\,Konieczny,\,Edyta\,Wojciechowska,\,Elżbieta\,Cipora.\,Psychological\,adaptation\,to\,cancer\,in\,women\,with\,breast\,cancer\dots$

Table 5. Mini-MAC scale results

Ranges of Mini-MAC scale	Scoring (from-to)	Sten value	N	%
Constructive style				
Low level	23-34	1-4	16	3.1
Average level	35-48	5-7	430	82.4
High level	49-56	8-10	76	14.5
Destructive style			/ /	
Low level	14-30	1-4	178	34.1
Average level	31-47	5-7	334	64.0
High level	48-56	8-10	10	1.9

Medical factors may influence adaptation to cancer. Among these factors, the following were analyzed: the degree of cancer progression, time elapsed since diagnosis, treatment method used, and self-assessment of the current health status. A very weak positive correlation was observed between the sense of fighting spirit and the degree of cancer progression (γ =0.09). Women with a higher degree of cancer progression exhibited a higher intensity of this trait (p=0.016). Additionally, very weak negative correlations were found between the time elapsed since diagnosis and the sense of anxiety absorption (γ =-0.08), helplessness-hopelessness (y=-0.11), and the destructive style (y=-0.11). This means that the longer the time since breast cancer diagnosis, the lower the intensity of these traits. Moreover, a weak negative correlation was found between self-assessment of current health status and anxiety absorption (γ =-0.10), helplessnesshopelessness (γ =-0.16), destructive style (γ =-0.19), and the severity of depressive symptoms (γ =-0.11). This means that the higher the self-assessment of the patient's health, the lower the value in the mentioned areas. Positive correlations were also found between self-assessment of current health status and fighting spirit (γ =0.23), positive reframing $(\gamma=0.19)$, and the constructive style $(\gamma=0.29)$, meaning that the higher the self-assessment, the higher the value in these areas. Strategies and styles of adaptation to the disease were significantly statistically dependent on the self-assessment of the current health status of the women involved in the study (p<0.05) (Tab. 6).

Table 6. Psychological adaptation to illness and selected medical factors

Variable	Time elapsed since cancer diagnosis		Cancer at the ti diagn	me of	Self-assessment of current health status		
	Gamma*	р	Gamma*	Gamma* p		р	
Anxious preoccupation	0.08	0.030	0.06	0.121	0.10	0.008	
Fighting spirit	0.01	0.843	0.09	0.016	0.23	<0.001	
Helplessness- hopelessness	0.11	0.005	0.07	0.060	0.16	<0.001	
Positive-reappraisal	0.05	0.164	0.02	0.528	0.19	<0.001	
Constructive style	0.04	0.379	0.03	0.554	0.29	<0.001	
Destructive style	0.11	0.009	0.06	0.144	0.19	<0.001	

^{*} Gamma correlation coefficient (γ) of Goodman and Kruskal

Women who underwent surgical tumour removal had a slightly higher mean score in the area of helplessness-hopelessness compared to women who did not undergo this treatment – 14.88 vs. 14.14; p=0.047 (Tab. 7).

Table 7. Psychological adaptation to illness and the treatment methods used – surgical treatment

Variable	Ye	Surgical Yes (N = 338)		es No		t _{df = 520}	p*
	M	SD	М	SD	_		
Anxious preoccupation	18.17	3.84	18.37	3.87	-0.576	0.565	
Fighting spirit	21.65	2.91	21.72	2.83	-0.261	0.794	
Helplessness-hopelessness	14.88	3.96	14.14	4.16	1.988	0.047	
Positive-reappraisal	22.27	2.60	22.02	2.61	1.047	0.295	
Constructive style	6.48	1.13	6.41	1.07	0.651	0.515	
Destructive style	4.61	1.66	4.50	1.65	0.740	0.459	

M - average; SD - standard deviation.

In the group of women undergoing chemotherapy, compared to respondents who did not receive this treatment, significantly lower mean values were observed in the areas of anxiety absorption (M=18.04 vs. M=19.20; p=0.009), helplessness-hopelessness (M=14.37 vs. M=15.77; p=0.002), positive revaluation (M=22.02 vs. M=22.92; p=0.002), and destructive style (M=4.47 vs. M=5.08; p=0.001) (Tab. 8).

Table 9. Psychological adjustment to the disease and the applied treatment methods – radiotherapy

Variable	Radiot ye (N =	es	Radiotl n (N =	0	t _{df = 520}	p*
	M	SD	M	SD		
Anxious preoccupation	17.43	4.33	18.50	3.65	-2.743	0.006
Fighting spirit	21.86	2.91	21.62	2.87	0.810	0.418
Helplessness-hopelessness	14.30	4.17	14.72	4.00	-1.017	0.309
Positive reappraisal	22.54	2.52	22.06	2.62	1.780	0.076
Constructive style	6.53	1.15	6.43	1.10	0.836	0.404
Destructive style	4.33	1.81	4.65	1.60	-1.898	0.058

 $M-average, SD-standard\ deviation* Student's\ t-test$

A significantly lower mean value (p=0.006) was found in the area of anxiety absorption in the group of women who underwent radiotherapy (M=17.43), compared to women not treated with this method (M=18.50). For the other variables, the differences were not statistically significant (Tab. 9).

 $\textbf{Table 8.} \ \ \text{Psychological adjustment to the disease and the applied treatment methods-chemotherapy}$

Variable	Chemotherapy Yes (N = 430)		Chemo N (N =	0	tdf = 520	p*
	М	SD	М	SD	-	
Anxious preoccupation	18.04	3.99	19.20	2.97	-2.628	0.009
Fighting spirit	21.76	2.91	21.28	2.71	1.454	0.147
Helplessness-hopelessness	14.37	4.09	15.77	3.65	-3.041	0.002
Positive reappraisal	22.02	2.62	22.93	2.41	-3.094	0.002
Constructive style	6.43	1.11	6.57	1.09	-1.041	0.298
Destructive style	4.47	1.70	5.08	1.32	-3.240	0.001

M – average; SD – standard deviation. * Student's t-test

^{*} Student's t-test

DISCUSSION

In every disease, and particularly in cancer, the ability to cope with the illness and the associated problems is a crucial element that enhances the chances of successful treatment and improves the quality of life for the patient and the family. On the other hand, passive submission to the disease, paralyzing fear, helplessness, and hopelessness are factors that negatively affect therapy as well as the functioning of the patient and the family's within their environment.

In this study, the psychological adjustment to the disease in women diagnosed with breast cancer was assessed using a standard tool - the Mini-MAC (Mental Adjustment to Cancer Scale). The highest average scores in coping with cancer were found in the area of positive revaluation (M=22.18), followed by fighting spirit (M=21.68), and the lowest in the strategies of helplessness-hopelessness (M=14.62) and anxiety absorption (M=18.24). A constructive coping style prevailed over a destructive one (M=43.86 vs. M=32.86; sten scores: 6.46 vs. 4.57). In Wardas's study of patients with colorectal cancer, the average value for the anxiety absorption strategy was 18.13, helplessness-hopelessness - 16.95, and the destructive style – 35.08. However, in the group of women with breast cancer, the mean values were much higher, at 26.0, 22.6, and 48.63, respectively [11]. In the studies by Czerw et al., the constructive style dominated with strategies of fighting spirit and positive revaluation. In the prostate cancer group, the averages for fighting spirit and positive revaluation, at M=22.46 and M=22.04. [12]. In studies by Religioni et al., patients with bladder cancer achieved the highest scores on the Mini-MAC scale in the areas of fighting spirit (M=21.47) and positive revaluation (M=20.87), and the lowest in the helplessnesshopelessness strategy (M=13.22). Religioni et al. found that these patients primarily exhibited a constructive adjustment style to cancer [13]. In other studies by the same authors, it was found that women with breast cancer achieved the highest average score in the fighting spirit strategy (M=23.43), slightly lower in positive revaluation (M=22.05), and the lowest in the helplessness-hopelessness strategy (M=11.89), and slightly higher in anxiety absorption (M=15.91). The constructive coping style (M=45.11) also prevailed in the study by Wieder-Huszla et al. among patients with gynaecological cancers [14]. Li et al. in their study of Chinese women newly diagnosed with breast cancer, found that most patients used a constructive coping style, despite often experiencing high levels of stress and anxiety, and even symptoms of depression [15]. Similarly, in the studies by Krajewski et al. among bladder cancer patients, a constructive style dominated with a high level of fighting spirit (M=21.73), and the lowest was in the helplessness-hopelessness strategy (M=13.3) [16].

In the present study, as in the aforementioned studies, the constructive style dominated, but the predominant strategy was positive revaluation, while in other studies, the fighting spirit strategy prevailed [11, 12, 13]. The fighting spirit and positive revaluation attitude are linked to an internal high locus of control and proper social support. On the other hand, the attitude of helplessness and hopelessness or anxiety absorption was most often related to an improper internal locus of control, and a lack of appropriate support from the patient's environment [6].

Kulpa et al. identified a set of factors related to the psychological functioning of cancer patients that affect the effectiveness of cancer treatment and rehabilitation [17]. In

the present study, the influence of selected medical factors on the psychological adjustment of women to the disease was observed. The time that had passed since the cancer diagnosis influenced psychological adjustment to the disease (the longer the time since the breast cancer diagnosis, the lower the intensity of anxiety absorption, helplessness-hopelessness, and the destructive style). It was found that women who underwent surgical treatment were more likely to present strategies of helplessness-hopelessness, compared to those who did not undergo such treatment. In the study by Glińska et al., women after mastectomy achieved the highest scores in the fighting spirit (M=23.62) and positive revaluation (M=23.24) strategies [18].

In the present study, patients who did not undergo chemotherapy exhibited higher levels of the destructive style, including anxiety absorption and helplessnesshopelessness. Different results were obtained by Religioni et al. In women undergoing chemotherapy, a statistically significant difference was found in the anxiety absorption strategy compared to those not treated with this method (M=17.26 vs. M=15.43; p<0.05) [19]. Kulpa et al. evaluatedthe relationship between strategies and attitudes towards cancer, demographic and medical variables in oncology patients. It should be noted that in these studies, the highest level of anxiety absorption was observed in breast cancer patients. Surgically treated patients had the highest level of anxiety absorption and helplessness-hopelessness, while the lowest was observed in patients treated with radiotherapy. This group of patients (treated with radiotherapy) exhibited the highest level of the fighting spirit attitude, while patients who underwent chemotherapy showed the lowest intensity of this attitude [20].

Omari et al. found that active strategies, i.e., more confrontational ones, positively impacted the improvement of quality of life, in contrast to passive, resignation-based strategies. It was shown that breast cancer patients who used passive strategies were more prone to depression, which lowered their quality of life and significantly reduced their chances of survival [21]. Similarly, in the study by Ośmiałowska et al., it was found that breast cancer patients who used constructive strategies had a higher quality of life than those using destructive strategies [22].

In the present study, it was shown that women with more advanced stages of cancer exhibited a higher intensity of the fighting spirit strategy. Likewise, the studies by Greer et al. indicated that patients who used the fighting spirit strategy in response to a cancer diagnosis increased their chances of successful treatment and improved quality of life. This applied even to patients with advanced cancer. On the other hand, the helplessness-hopelessness strategy was associated with increased suffering for the patient [23].

The results of the present study and those by other authors indicate the need to increase therapeutic interventions for cancer patients through psychological, social, and rehabilitative support. This can help oncology patients develop constructive coping strategies, increase their sense of self-efficacy, and ultimately contribute to greater involvement in the treatment and rehabilitation process. The foundation for such actions is the identification of individuals who adopt destructive coping styles, followed by targeted interventions that consider their psychosocial characteristics [20, 24].

Studies on strategies and coping styles with cancer in women with breast cancer should continue, as they provide $Mateusz\,Niemiec, Irena\,Dorota\,Karwat, Magdalena\,Konieczny, Edyta\,Wojciechowska, Elżbieta\,Cipora.\,Psychological\,adaptation\,to\,cancer\,in\,women\,with\,breast\,cancer...$

a more thorough and comprehensive diagnosis of patient functioning, and guide the planning and implementation of interventions aimed at improving the health and social situation of affected women and their families. Additionally, such interventions can improve patient functioning by supporting them in coping with the illness through constructive strategies, such as adopting a fighting spirit and positive revaluation attitude.

CONCLUSIONS

- 1. In the studied group of women diagnosed with breast cancer, strategies of positive reframing and fighting spirit predominated, forming a constructive coping style with the illness. These strategies indicated good psychological adaptation to cancer. To a lesser extent, the respondents exhibited strategies of anxiety absorption and helplessnesshopelessness, which belong to the destructive coping style.
- 2. Psychological adaptation to the disease depended on the stage of cancer, the time since diagnosis, the method of treatment applied, and the self-assessment of the current health status.
- 3. The assessment of adaptation, including psychological adaptation to cancer, in breast cancer patients may serve as a basis for planning interventions aimed at optimizing responses to diagnosis and treatment in a way that ensures the best possible functioning of the affected women, both psychologically and physically.

REFERENCES

- 1. Smolarz B, Nowak AZ, Romanowicz H. Breast Cancer Epidemiology, Classification, Pathogenesis and Treatment (Review of Literature). Cancers (Basel). 2022;14(10):2569. https://doi.org/10.3390/cancers14102569
- Perez-Tejada J, Labaka A, Vegas O, et al. Anxiety and depression after breast cancer: The predictive role of monoamine levels. Eur J Oncol Nurs. 2021;52:101953. https://doi.org/10.1016/j.ejon.2021.101953
- 3. Tsaras K, Papathanasiou IV, Mitsi D, et al. Assessment of Depression and Anxiety in Breast Cancer Patients: Prevalence and Associated Factors. Asian Pac J Cancer Prev. 2018;19(6):1661–1669. https://doi.org/10.22034/APJCP.2018.19.6.1661
- Theuser AK, Antoniadis S, Langemann H, et al. Active Participation, Mind-Body Stabilization, and Coping Strategies with Integrative Medicine in Breast Cancer Patients. Integr Cancer Ther. 2021;20:1534735421990108. https://doi.org/10.1177/1534735421990108
- Peixoto TADSM, Peixoto NMDSM, Pinto CAS, et al. Nursing strategies to support psychological adaptation in adult cancer patients: a scoping review. Rev Esc Enferm USP. 2021;55:e03690. https://doi.org/10.1590/ S1980-220X2019039203690
- Greer S, Moorey S, Watson M. Patients' adjustment to cancer: the Mental Adjustment to Cancer (MAC) scale vs clinical ratings. J Psychosom Res. 1989;33(3):373–377. https://doi.org/10.1016/0022-3999(89)90027-5
- 7. Dinapoli L, Colloca G, Di Capua B, et al. Psychological Aspects to Consider in Breast Cancer Diagnosis and Treatment. Curr Oncol Rep. 2021;23(3):38. https://doi.org/10.1007/s11912-021-01049-3

- Loibl S, Poortmans P, Morrow M, et al. Breast cancer [published correction appears in Lancet. 2021 May 8;397(10286):1710].
 Lancet. 2021;397(10286):1750-1769. https://doi.org/10.1016/S0140-6736(20)32381-3
- 9. Juczyński Z. Narzędzia pomiaru w promocji i psychologii zdrowia. Warszawa:Pracownia Testów Psychologicznych; 2001.
- Goodman LA, Kruskal WH. Measures of Association for Cross Classifications. J Am Statistical Assoc. 1954;49(268):732–764. https:// doi.org/10.2307/2281536
- 11. Wardas M. Relationship between the degree of illness acceptance and depression, anxiety in women with breast cancer and men with colorectal cancer. Palliative Med Practice. 2020;14(3):141–148.
- 12. Czerw AI, Religioni U, Deptała A, et al. Pain, acceptance of illness, adjustment to life with cancer and coping strategies in prostate cancer patients. Arch Med Sci. 2017;13(6):1459–1466. https://doi.org/10.5114/aoms.2016.58458
- Religioni U, Czerw A, Deptała A. Assessment of Pain, Acceptance of Illness, Adaptation to Life, and Strategies of Coping With the Disease, in Patients With Bladder Cancer. In Vivo. 2021;35(2):1157–1161. https:// doi.org/10.21873/invivo.12363
- 14. Wieder-Huszla S, Owsianowska J, Chudecka-Głaz A, et al. The Significance of Adaptation and Coping with Disease among Patients with Diagnosed Gynaecological Cancer in the Context of Disease Acceptance. Int J Environ Res Public Health. 2022;19(12):7218. https://doi.org/10.3390/ijerph19127218
- 15. Li L, Li S, Wang Y, et al. Coping Profiles Differentiate Psychological Adjustment in Chinese Women Newly Diagnosed With Breast Cancer. Integr Cancer Ther. 2017;16(2):196–204. https://doi.org/10.1177/1534735416646854
- 16. Krajewski W, Mazur M, Poterek A, et al. Assessment of Pain Management, Acceptance of Illness, and Adjustment to Life with Cancer in Patients with Nonmuscle Invasive Bladder Cancer. Biomed Res Int. 2018;2018:7598632. https://doi.org/10.1155/2018/7598632
- 17. Kulpa M, Kosowicz M, Flaga-Łuczkiewicz M, et al. Strategie radzenia sobie z chorobą i poczucie własnej skuteczności u pacjentów chorych onkologicznie (Coping strategies and sense of control in patients with oncological disease). Medycyna Paliatywna/Palliative Medicine. 2019;11(2):81–87. https://doi.org/10.5114/pm.2019.86532
- 18. Glińska J, Dańko E, Dziki Ł, et al. Przystosowanie psychiczne osób z chorobą nowotworową po leczeniu chirurgicznym / Mental adaptation of people with cancer after surgery. Pielęgniarstwo Chirurgiczne i Angiologiczne/ Surgical and Vascular Nursing. 2020;14(3):106–111.
- Religioni U, Czerw A, Deptała A. Przystosowanie psychiczne pacjentów do wybranych chorób nowotworowych. Psychiatr Pol. 2015;30:1–12.
- 20. Kulpa M, Kosowicz M, Flaga-Łuczkiewicz M, et al. Strategie radzenia sobie z chorobą i poczucie własnej skuteczności u pacjentów chorych onkologicznie (Coping strategies and sense of control in patients with oncological disease). Medycyna Paliatywna/Palliative Medicine. 2019;11(2):81–87. https://doi.org/10.5114/pm.2019.86532
- Omari M, Zarrouq B, Amaadour L, et al. Psychological Distress, Coping Strategies, and Quality of Life in Breast Cancer Patients Under Neoadjuvant Therapy: Protocol of a Systematic Review. Cancer Control. 2022;29:10732748221074735. https://doi. org/10.1177/10732748221074735
- Ośmiałowska E, Misiąg W, Chabowski M, et al. Coping Strategies, Pain, and Quality of Life in Patients with Breast Cancer. J Clin Med. 2021;10(19):4469. https://doi.org/10.3390/jcm10194469
- 23. Greer JA, Applebaum AJ, Jacobsen JC, et al. Understanding and Addressing the Role of Coping in Palliative Care for Patients With Advanced Cancer. J Clin Oncol. 2020;38(9):915–925. https://doi.org/10.1200/JCO.19.00013
- 24. Zamanian H, Amini-Tehrani M, Jalali Z, et al. Perceived social support, coping strategies, anxiety and depression among women with breast cancer: Evaluation of a mediation model. Eur J Oncol Nurs. 2021;50:101892. https://doi.org/10.1016/j.ejon.2020.101892