

Sense of coherence, general self-efficacy and health behaviors in women after mastectomy

Sylvia Michałowska, Magdalena Bogucka

Abstract

Aim: The aim of the study was to evaluate the relationship between the sense of coherence, general self-efficacy and health behaviors in women after mastectomy.

Method: 62 post-mastectomy female members of the “Amazonka” association in Szczecin and Pila completed The Sense of Coherence Scale (SOC-29), The General Self-Efficacy Scale (GSES), The Health Behavior Inventory (IZZ), the Personal Values List (LWO) and a self-designed questionnaire. Collected data were analyzed with IBM SPSS Statistics package.

Results: Statistically significant, positive correlations were observed between sense of coherence and health behaviors, and sense of coherence and positive mental attitude. Perceived support from family/friends was linked to health behaviors. There were significant positive correlations between general self-efficacy, health behaviors and positive mental attitude. No links were found between the value attributed to health and manifested health behaviors in women after mastectomy.

Conclusions: The sense of coherence and general self-efficacy were significantly related to health behaviors in women after mastectomy.

mastectomy; sense of coherence; general self-efficacy

INTRODUCTION

Breast cancer is one of the most commonly diagnosed types of cancer and the main cause of death in women. Years of oncological practice have contributed to developing a number of activities currently used in its prevention, diagnosis and treatment. One of them involves mastectomy, ie. a surgical procedure consisting in the removal of the breast.

From a psychological point of view, the experience of cancer and the consequences of surgical and medical interventions, in particular mastectomy, seem to be important for the assessment of patients' functioning. This results from a specific emotional burden of cancer, especially breast cancer. As an element of the treatment process, resulting directly from the disease itself, mastectomy may involve various changes affecting both the physical and mental functioning of patients. Factors considered important for the assessment of the health and well-being of female cancer patients are their health behaviors and lifestyle choices.

Treatment and recovery can be extremely complex and long. The concomitant feelings of anxi-

Sylvia Michałowska¹, Magdalena Bogucka²: ¹Department of Clinical Psychology, Institute of Psychology, University of Szczecin, Szczecin, Poland; ²Szczecin Autistic Aid Association, Szczecin, Poland.

Correspondence address: sylwiimichalowskiej@gmail.com

ety, fear of complications, relapse and death can lead to a long-lasting sense of helplessness, sadness or resignation. At this point, health behaviors are an extremely important factor that can support the healing process, increase life satisfaction and improve general well-being.

Lifestyle can be a factor largely associated with the onset of the disease, although it cannot be construed as its only determinant. Nowadays it is assumed that there is an interdependence between the risk of cancer and regular alcohol consumption [1]. All this makes it legitimate and even necessary to answer the question of what psychological factors affect health behaviors, thus leading to a satisfactory level of patient functioning.

As a stressful event, cancer experience requires specific coping strategies. Studies to date have shown how significantly particular elements of the sense of coherence, ie. comprehensibility, manageability and meaningfulness, impact the health and coping preferences of ill persons. Why is this so? Research results indicate that a strong sense of coherence is likely to empower individuals to take action [2], and suggest there is a relationship between the sense of coherence and the declared tendency to engage in health behaviors, such as a healthy diet, relaxation, preventive behaviors or physical activity [3]. As a global orientation of life, sense of coherence helps to balance the requirements of the environment with one's available resources and may significantly affect the health behaviors manifested by patients. In addition, pro-health behaviors may constitute a positive contribution to the overall well-being of patients, by strengthening the sense of meaning and thus increasing their involvement in the treatment process. This is observed in patients with chronic neuropathic pain [4], suggesting that people with poor sense of coherence tend to rely on the strategy of catastrophic thinking. Given available research findings, it is worth noting that the sense of coherence can be considered a resource for ill persons, affecting their quality of life. Similar conclusions could be drawn from a 2016 study by Szatkowska et al., who demonstrate that a strong sense of coherence in people with oncological diseases significantly correlated with a greater quality of life, as well as better cognitive, emotional and social functioning [5].

Notably, all the actions undertaken by patients, especially those beneficial to their health, depend on a number of factors, including not only the sense of coherence, but also general self-efficacy. Fundamental for shaping and introducing changes in the field of pro-health behaviors, the concept of self-efficacy plays an important role in modern health psychology [6].

Self-efficacy consists in a belief that one's goals are feasible, even though there are external obstacles that may hinder their achievement. According to contemporary research, such conviction is extremely important for the health. It seems that self-efficacy level and expectations regarding the outcomes of one's actions are considered an important factor in formulating intentions and actual participation in preventive screening for breast cancer [7]. What is more, strong self-efficacy reportedly promotes better pain control, mobilization of the immune system and coping with stress in people with coronary artery disease. A belief in one's power to cope with the disease is also important for stabilization of the cardiovascular function [8].

In addition, research on students of dietetics suggests that those who score high on the General Self-Efficacy Scale (GSES) report much greater satisfaction with life, which seems to affect their health behaviors [9]. Similarly, Lewak and Smolińska show differences in the level of self-efficacy depending on the severity of smoking in doctors. In their study, doctors who smoked daily reported poorer self-efficacy than those who did not smoke compulsively, thus confirming that high self-efficacy is conducive to health-related behaviors and can protect against harmful anti-health practices, which include smoking [10]. A conviction of one's efficacy is important not only when preventive measures are necessary, but also when health resources have already been compromised, action is required to minimize the negative consequences of the disease or promote the healing process. Research by Żuralska et al. on a sample of 44 residents of the Social Welfare Home in Gdańsk showed that those with low self-efficacy reported fewer preventive behaviors, health practices and positive eating habits [11]. According to current analyzes, self-efficacy is likely to play an essential role in the treatment of patients with oncological diseases, as it may be associated with

better psychological adaptation to cancer. Findings of Rogala et al. from a study on cervical cancer patients [12] suggest that a higher level of self-efficacy is associated with the use of constructive coping strategies, such as increased fighting spirit and positive reevaluation. In addition, Mariańczyk et al. reported higher self-efficacy scores in patients who engaged in proper prevention of cervical cancer, thus exhibiting more positive health behaviors [13].

There is no doubt that the level of self-efficacy may reflect one's potential and that it can be used to cope with various demands of life, including maintaining or modifying health behaviors. Suggested dependencies between health behaviors and such elements of psychological functioning as sense of coherence or self-efficacy, have prompted researchers to carry out further analyzes, which may lay both theoretical and empirical grounds for real changes in medical help and support provided to patients.

General self-efficacy and sense of coherence are extremely important for the treatment process and adaptation to the disease, eg. the level of patient acceptance [14]. A greater sense of self-efficacy is also associated with an increased frequency of pro-health behaviors [9].

OBJECTIVES

The aim of this study was to assess the relationship between the sense of coherence, general self-efficacy, and health behaviors exhibited by women after mastectomy.

To achieve this goal, we formulated the following specific hypotheses:

- a) A higher sense of coherence is associated with a higher level of health behaviors in women after mastectomy;
- b) A higher level of self-efficacy is associated with a higher level of health behaviors in women after mastectomy;
- c) Greater value attributed to health correlates with a higher level of health behaviors in women after mastectomy;

MATERIAL AND METHOD

The study included 62 women who underwent mastectomy, and at the time of the study were members of the "Amazonka" associations in Szczecin (West Pomeranian Voivodeship) and Piła (Greater Poland Voivodeship). The participants represented 4 age groups: 41-50 years, including 2 women (3% of respondents); 51-60 years, including 18 women (29%); 61-70 years, including 26 women (42%); and 71 years and over, including 16 women (26%). 32 women (52% of respondents) indicated a city of 20-100 thousand inhabitants as their place of residence, 26 women (42%) a city of >100 thousand inhabitants, 3 women (5%) a city of <20 thousand people, and 1 was a village resident (2%). Most participants were married or in a partner relationship (55% of respondents – 34 women), 17 (27%) were widows, 6 (10%) were divorced or separated, and 5 (8%) were single. 37 of the surveyed women (60%) had high school education, 19 (31%) declared higher education, and 6 (10%) had vocational education. In terms of occupational status, there were 5 categories: 39 women (63% of respondents) were retired, 15 (24%) received health/disability pension, 3 did physical work (5%), 3 did office work (5%) and 2 were on welfare (3%). Collected medical data indicated that 47 of the surveyed women underwent a radical mastectomy (76% of the sample), 12 (19%) underwent a simple mastectomy and 3 a radical modified mastectomy (5%). As regards additional treatment, chemotherapy was administered in 37 of the surveyed women (60% of respondents), 28 (45%) were treated with radiotherapy, while hormone therapy was used in 29 participants (47%). 10 women (16% of the sample) underwent breast reconstruction. The maximum time from surgery in the sample was ≥4 years, reported by 58 (94%) women. The minimum time was <1 year, declared by 3 women (5% of respondents). In the case of one respondent, time from surgery amounted to 3 years (2%).

Participation in the study was voluntary and anonymous.

Research protocol was approved by the Ethics Committee of the Institute of Psychology at the University of Szczecin.

The aim of the study was to assess the relationship between the sense of coherence, gener-

al self-efficacy, and health behaviors manifested by women after mastectomy, using the following research tools: the Sense of Coherence Scale (SOC-29), the General Self-Efficacy Scale (GSES), the Health Behavior Inventory (IZZ), the Personal Values List (LWO) and a self-designed survey to collect selected socio-demographic and medical data.

The Sense of Coherence Scale (SOC-29) [15] was designed to measure global sense of coherence, in accordance with Antonovsky's approach, as a tendency to perceive external reality, environmental stimuli and stressors (Juczyński 2009) [15]. The tool consists of 29 items, expressed in the form of questions.

The General Self-Efficacy Scale (GSES), created by Schwarzer and Jerusalem, consists of 10 questions. It is used to measure self-beliefs concerning the ability to cope with various difficult demands of life [15].

The Health Behavior Inventory (IZZ) was designed by Juczyński based on various health promotion programs and available tools for studying health-related practices. The inventory consists of a pool of 24 statements, which are descriptions of various types of health behaviors. It is used to determine the overall intensity of behaviors that are considered conducive to health, and to indicate their severity in four separate categories: proper eating habits, preventive behaviors, health practices and positive psychological attitude [15].

The Personal Values List (LWO) consists of two parts. The first part contains a description of 9 symbols of happiness relating to human values. The second part contains 10 categories of personal values, among which there is health and it is identified with the physical and mental spheres [15].

The self-designed questionnaire was created for the purpose of this study to collect medical, sociodemographic and health-related information. Questions about medical history concerned: type of performed surgery; mastectomy of the second breast; adjuvant therapy; breast reconstruction surgery; time from surgery; forms of support (psychological assistance, psychotherapy, support group membership), and perceived support from family and/or friends.

The second group of questions concerned selected manifestations of health behaviors, such

as: involvement in hobbies / interests, physical activity, participation in social life. According to our results, the majority, ie. 25 women (40% of respondents), reported "rather high" involvement in their hobbies/interests. 21 women rated it as "average" (34%), 14 as "very high" (23%), and 2 as "rather low" (3%). 26 (42%) of the surveyed women rated themselves as "rather" physically active persons. 21 women (34% of respondents) rated their physical activity as "average", 13 women considered themselves "very" physically active (21%), and 2 assessed their physical activity level "rather badly" (3%). 32 women (52%) rated their participation in social life as "fairly good" and this was the dominant feature. 13 women (21%) rated it as "very good", 12 as "average" (19%), 4 as "rather bad" (6%), and 1 as "very bad" (2%).

All collected data was analyzed using the IBM SPSS Statistics package. Pearson's r was used to test the relationships between the total SOC-29 score, its individual components (comprehensibility, manageability and meaningfulness), the total IZZ score, and its separate categories (proper eating habits, preventive behaviors, positive mental attitude and health practices).

To assess the relationship between general sense of self-efficacy and selected manifestations of health behaviors (involvement in hobbies / interests; physical activity; participation in social life), we performed Spearman's rho test.

RESULTS

All research results are presented in the form of tables and discussion.

The mean total score on the Sense of Coherence Scale (SOC-29) was 128 points. The median was 124 points, and the standard deviation was 22.53. The minimum was 80 points and the maximum was 218 points. The mean score for the sense of comprehensibility was 44 points, and the standard deviation was 9.93. The minimum was 19 points and the maximum was 77 points. The mean score for the sense of manageability was 46 points. The median was 45 points, and the standard deviation was 8.77. 27 points was the minimum and 70 points was the maximum score. The mean score for the meaningfulness scale was 39 points. The median was 38 points, and the standard de-

viation was 7.24. 28 points was the minimum and 71 points was the maximum score.

The mean total score on the General Self-Efficacy Scale (GSES) was rounded to 30 points. The median was 30 points and the standard deviation was 4.99. 16 points was the minimum and 40 points was the maximum score. Upon conversion of raw scores into sten scores, 36 (58%) of the surveyed women turned out to have scored high on general self-efficacy. 19 (31%) women obtained average scores, and the remaining 7 (11%) achieved low scores.

The mean total IZZ score reflecting reported health behaviors was 87 points, and the standard deviation was 11.27. 61 points was the minimum and 112 points was the maximum score in the sample. Raw scores were converted to sten scores, and categorized into low, average and high ranges. Most participants (29 persons – 47%) exhibited average levels of health behaviors. 22 (35%) women achieved high, and 11 (18%) low scores. The mean score in terms of healthy eating habits was 21 points. The median was 22 points and the standard deviation was 4.12. The dominant score was 24 points, recorded in 10 women (16% of respondents). The minimum was 13 points, obtained by 2 women (3%). The maximum was 28 points, achieved by 4 women (6%). The mean score in the area of preventive behaviors was 22 points. The median was 22 points and the standard deviation was 3.54. The dominant score was 21 points, obtained by 8 women (13% of respondents). The minimum was 12 points, recorded in 1 woman (2%). The maximum was 30 points, also obtained by 1 woman (2%). The mean score in terms of health practices was 22 points. The median was 22 points, too, and the standard deviation was 2.89. The dominant score was 21 points, and such result was obtained by 11 women (18%

of respondents). The minimum was 15 points, achieved by 1 woman (2%). The maximum was 28 points, achieved by 2 women (3%). The mean score in terms of positive mental attitude was 22 points. The median was 22 points and the standard deviation was 3.76. The dominant score was 21 points, obtained by 9 women (15% of respondents). The minimum was 11 points, achieved by 1 woman (2%), while the maximum was 29 points, recorded in 1 woman (2%), too.

Analysis of the results obtained on the Personal Values List (LWO) showed that 20 (32%) of the surveyed women gave “good health” the rating of “4”. The highest rank, ie. “5”, was assigned to “good health” by 17 (27%) of the surveyed women. 12 women (19%) gave it a rank of “3”, 7 women (11%) a rank of “2”, 3 women (5%) a rank of “1”, and the remaining 3 women (5%) did not include it in their classification of personal values. “Good health, physical and mental fitness” was considered the most important value (rank “5”) by 32 (52%) of the surveyed women. 15 (24%) participants gave it a rank of “4”, 6 (10%) a rank of “3”, 2 (3%) a rank of “2”, 5 (8%) a rank of “1”, and 2 (3%) of the surveyed women did not include it on their personal list of values.

Pearson correlation analysis revealed statistically significant, positive correlations between the sense of coherence and the general level of health behaviors, and the sense of coherence and the level of positive mental attitude. In addition, there were statistically significant positive correlations between: comprehensibility and the overall level of health behaviors, comprehensibility and positive mental attitude, manageability and the overall level of health behaviors, and manageability and positive mental attitude. The results presented in Table 1 suggest that a higher overall sense of coherence is associated with a higher overall level of health behaviors.

Table 1. Sense of coherence (SOC-29) and health behaviors (IZZ)

Variable	Correlations					
	The correlation coefficients determined are significant at $p < .05000$					
	N = 62					
	Health Behavior Inventory – IZZ – total score	p	Proper eating habits	p	Preventive behaviors PB	P
Sense of coherence – SOC – total score	.2699	$p=.034$.1370	$p=.288$.2267	$p=.076$

Comprehensibility	.2510	p=.049	.1520	p=.238	.1816	p=.158
Manageability	.2685	p=.035	.1232	p=.340	.2317	p=.070
Meaningfulness	.1705	p=.185	.0686	p=.596	.1757	p=.172

Source: own research

Table 2 shows statistically significant, positive correlations of general self-efficacy with the overall level of health behaviors, and positive mental attitude. The study demonstrates that higher general self-efficacy was linked to higher overall level of health behaviors, a more positive mental attitude, and better self-assess-

ment regarding involvement in hobbies / interests, physical activity, and participation in social life. Nevertheless, such relationships were not observed when different types of health behaviors such as proper eating habits, preventive behaviors and health practices were considered individually.

Table 2. General self-efficacy (GSES) and health behaviors (IZZ)

Variable	Correlations					
	The correlation coefficients determined are significant at $p < .05000$ N = 62					
	Health Behavior Inventory – IZZ – total score	P	Proper eating habits	P	Preventive behaviors	P
General self-efficacy – GSES	.2765	p=.030	.1520	p=.238	.1969	p=.125

Source: own research

No significant relationships were found between selected sociodemographic factors and health behaviors in the study sample. The analyzes, presented in Table 3, indicated a relationship between the use of radiotherapy as an addi-

tional treatment and self-assessed participation in social life. Women treated with radiotherapy tended to assess their participation in social life as “rather good”.

Table 3. Radiotherapy and participation in social life

Statistics	Chi square test	Df	P
Chi ² Pearson's	11.44966	df=4	p=.02195
Chi ² NW	13.48432	df=4	p=.00914
Fi	.4297347		
Contingency Coefficient	.3948221		
Cramér's V	.4297347		

Source: own research

Our analyzes suggest a relationship between perceived support from family / friends and the

general level of health behaviors, as shown in Table 4.

Table 4. Perceived support from family / friends, overall health behaviors (IZZ) and selected manifestations of health behaviors

Spearman's rank-order correlation
The correlation coefficients are significant at $p < .05000$

A pair of variables	Spearman's R	P
Perceived support from family / friends, and own involvement in hobbies / interests	0.460066	0.000168
Perceived support from family / friends, and self-perception as a physically active person	0.333420	0.008093
Perceived support from family / friends and participation in social life	0.404371	0.001116
Perceived family / friends support and health behaviors (IZZ)	0.291423	0.021556

Source: *own research*

Spearman's rho was performed to test the relationship between the value attributed to health and the level of manifested health behaviors. To that end, we analyzed the ranks attributed to individual values included in the Personal Values List (LWO) and the total scores on the Inventory of Health Behaviors (IZZ), categorized as: low, average, and high. We also tested relationships between participants' personal values (LWO) and

selected manifestations of health behaviors, ie. involvement in hobbies/interests, physical activity, and participation in social life. The analysis did not confirm the expected relationship between the value attributed to health and manifested health behaviors. Therefore, higher value attributed to health was not associated with greater manifestation of health behaviors in women after mastectomy, as shown in Table 5.

Table 5. Value assigned rank (LWO), health behaviors (IZZ) and selected manifestations of health behaviors

Variable	Spearman's rank order correlation			
	The determined correlation coefficients are significant with $p < 0.0500$			
	Assessment of own involvement in hobbies / interests	Self-assessment as a physically active person	Assessing own participation in social life	IZZ – general
LWO-A-1 – large circle of friends	0,073550	0,050185	0,104022	-0,272850
LWO-A-2 – successful family life	0,011198	-0,031018	-0,012443	0,152504
LWO-A-3 – performing favorite job, profession	0,035080	-0,136630	0,024966	0,017062
LWO-A-4 – success in study, work	0,041862	0,191551	0,137397	0,044519
LWO-A-5-good health	-0,039198	0,016001	-0,011002	0,007657
LWO-A-6 – being needed by other people	-0,059340	0,072828	-0,066789	-0,103067
LWO-A-7 – good material conditions	-0,084767	-0,215866	-0,053822	0,053123
LWO-A-8 – a life full of adventures, journeys	0,180126	0,036471	0,006374	-0,017918
LWO-A-9 – fame, popularity	-0,061111	-0,059112	-0,076284	0,069480
LWO-B-1 – love, friendship	0,059406	-0,024515	0,075206	0,019285
LWO-B-2 – good health, physical and mental fitness	-0,057029	-0,035018	-0,122990	-0,015483
LWO-B-3 – sense of humor, wit	0,119634	0,094804	0,219820	0,231207
LWO-B-4 – intelligence, mental acuity	0,017390	0,015341	-0,183448	0,168631
LWO-B-5 – knowledge, wisdom	0,045152	-0,012092	0,039759	-0,003279
LWO-B-6 – joy, satisfaction	0,138409	-0,048851	-0,046455	-0,065143
LWO-B-7 – courage, determination	0,094384	0,193987	0,239903	0,004242
LWO-B-8 – kindness, gentleness	-0,007042	0,002711	-0,0022663	-0,100257

LWO-B-9-nice exterior, presence	-0,346993	-0,093919	-0,020775	-0,244901
LWO-B-10-wealth, property	-0,109239	-0,105691	0,033904	-0,247059

Source: *own research*

DISCUSSION

The study presented in this paper was not free from limitations. Therefore, any conclusions should be drawn with caution and due consideration of the specificity of the investigated sample. As members of the “Amazon” association, study participants were characterized by a stronger sense of agency and greater willingness to undertake and maintain various activities to improve their health. Hence, it seems reasonable to conduct similar studies on women after mastectomy who are not members of such associations. In addition, most of the surveyed women represented the age range of 61-70 (26 persons – 42% of respondents), which seems to have important implications, especially in light of available research findings. The specifics of this period of life and associated changes were tackled in a study by Kurowska and Orzoł [17], who invited a group of 102 elderly patients (aged >60) of a primary care outpatient clinic in Tuchola to complete the Sense of Coherence Scale (SOC-29). Average levels of manageability and meaningfulness, and a strong sense of comprehensibility were observed in the sample, suggesting that older people may manifest a greater degree of understanding of their current life situation. The importance of the sense of coherence in aging people was also investigated by Finogenow [18], who concluded that the sense of manageability, which is a component of the sense of coherence, may encourage readiness to undertake activities that could replace professional activity and protect against experiencing emotions such as fear, shame or sadness [18]. Another limitation of this study is the fact that the examined group consisted of a relatively small number of participants. In the future, it would be worthwhile to perform similar analyses on a larger sample.

What is more, in this study we present a correlation-based approach only. Exploration of cause and effect relationships would, therefore,

require further research. We did not observe a relationship between the value attributed to health and the level of health behaviors, which is in line with the conflicting research findings published to date. Our analyzes did not confirm the relationship between the majority of selected sociodemographic and medical factors, and health behaviors. The results, however, could be distorted due to large disproportions in the sizes of specific subgroups, representing selected variables.

The analyses presented and discussed in this paper have some practical significance, including the conclusion that the majority of the surveyed women report moderate to high levels of health behaviors. Similar findings have been described in other studies, eg. by Pacian et al. [19], or Andruszkiewicz and Oźmińska [20]. The results may indicate that research participants are mostly willing to cope with difficult situations and engage in health behaviors. The women investigated by Pacian et al. exhibited the strongest preference for preventive behaviors, and seemed least interested in proper eating habits. In our sample, most women scored high on positive mental attitude, while the results on the other subscales reached similar levels.

Our research suggests that stronger sense of coherence correlates with higher scores in terms of health behaviors and positive mental attitude. To a certain extent, this remains in line with Antonovsky’s assumption that the sense of coherence affects the ways individuals use their resources, motivates to take action and helps maintain a positive attitude.

Our results may thus indicate that the sense of coherence is reflected mainly in the psychological functioning (high positive attitude scores), and not necessarily when it comes to the actual manifestations of health behaviors in everyday practices.

We also measured the relationship between self-efficacy and health behaviors. Studies to date report links between a stronger sense of

self-efficacy and a higher level of health behaviors. Our results suggest strong general levels of self-efficacy in women after mastectomy. This indicates that post-mastectomy patients are likely to believe that they have the skills necessary to effectively manage their own behavior.

According to theoretical assumptions, a strong sense of self-efficacy should be reflected in more active behavior, which is why it is considered to play a key role in the initiation and maintenance of pro-health behaviors. Strong self-efficacy is believed to alleviate anxiety or feelings of helplessness and to enhance mood, which would explain its relationship with positive mental attitude. Such correlations are reported in various studies, suggesting that self-efficacy might affect health outcomes in chronic diseases such as asthma or diabetes and protect ill persons against mental and physical deterioration [21].

The results presented in this paper show that self-efficacy correlates with the level of health behaviors and positive mental attitude. In addition, a higher sense of self-efficacy is associated with a greater involvement in hobbies / interests, greater physical activity and participation in social life. Therefore, received support may indirectly constitute a health-protective factor, contributing to increased physical activity, which can lead to a number of positive health outcomes, such as greater fitness, supporting the functioning of the immune system, reducing anxiety and depressive symptoms [22].

Our results should therefore be considered in further attempts to answer the question of whether creating an environment that strengthens the sense of self-efficacy can play a positive role in enhancing health behaviors and fostering a positive mental attitude. This study findings indicate that the surveyed women, despite being convinced of their own efficacy, tend to lack a triggering factor that would motivate them to actually *engage in* health behaviors, such as proper eating habits, preventive behaviors or health practices. In this case, self-efficacy is reflected only in a positive *mental* attitude. It can be assumed that the examined women with a high level of general self-efficacy should have the conviction that the desired health-related outcomes are possible, rooted in the fact that a strong sense of self-efficacy is linked to a belief that one's actions can change the external re-

ality and that undertaking such actions is feasible [23]. In light of the above, it would be worthwhile to consider other factors that could potentially contribute to actually engaging in specific, desirable health behaviors.

In this study, we investigated the relationship between the sense of coherence, self-efficacy, the value of health, selected sociodemographic and medical factors, and manifested health behaviors. The discovery of variables affecting health behaviors would indicate areas for therapeutic interventions to support, educate and motivate women to lead a healthy lifestyle. Patients' role in returning to effective functioning is often underestimated, and their faith in progress and their own abilities may increase the effects of treatment. Behavioral determinants are therefore of key importance for good health. It is critical for patients to lead a healthy lifestyle and take conscious action to ensure good functioning.

Our results show that strong sense of coherence and general self-efficacy can have a positive impact on a healthy lifestyle and can be reflected in a positive mental attitude, resulting in a greater satisfaction with one's life. All these findings have a practical relevance and can serve as a determinant in the planning of therapy and psychoeducation of women.

Patient support should include education on self-care, which can facilitate adaptation to new situational requirements and own limitations, enhance understanding of one's physical needs, and promote the use of preventive measures to avoid complications.

CONCLUSIONS

1. The sense of coherence and general self-efficacy are related to the overall level of health behaviors.
2. Positive mental attitude manifested by women after mastectomy is linked to their sense of coherence and general self-efficacy.
3. The level of health behaviors manifested by post-mastectomy patients is associated with the support they receive from their family / friends.
4. The amount of support post-mastectomy patients receive from their family / friends is associated with their level of involvement

in hobbies/interests, as well as physical and social activity.

REFERENCES

- Musiał, Z., Sendeczka, W., Zalewska – Puchała, J. Jakość życia kobiet po mastektomii. *Problemy Pielęgniarstwa*. 2013; 21 (1): 38–46.
- Pasikowski, T. Stres i zdrowie. Podejście salutogenetyczne. Poznań: Wydawnictwo Fundacji Humaniora. 2000; 59-65, 92.
- Sęk, H. Salutogeneza i funkcjonalne właściwości poczucia koherencji. In: H. Sęk, T. Pasikowski (ed.), *Zdrowie – stres – zasoby. O znaczeniu poczucia koherencji dla zdrowia*. Poznań: Wydawnictwo Fundacji Humaniora. 2001; 23-41.
- Kurowska, K. Ligas, I. Poczucie koherencji a strategie radzenia sobie z bólem u pacjentów z przewlekłym bólem neuropatycznym. *Anaesth Rescue Med*. 2016, Vol. 10 Issue 3, 254-264.
- Szatkowska, K., Dreger E., Basińska, M.A. Poczucie koherencji i więź z Bogiem osób chorych onkologicznie a ich jakość życia. *Psychoonkologia*. 2016; 37-46.
- Juczyński, Z. Poczucie własnej skuteczności – teoria i pomiar. *Folia Psychol*. 2000; (4): 11-24.
- Seydel, E.R., Taal, E., & Wiegman, O. Risk-appraisal, outcome and self-efficacy expectancies: Cognitive factors in preventive behaviour related to cancer. *Psychol health*. 1990; 4(2): 90 – 109.
- Schwarzer, R., & Fuchs, R. Self-efficacy and health behaviors. In: M. Conner & P. Norman (Eds.), *Predicting health behavior: Research and practice with social cognition models*. Buckingham, UK: Open University Press. 1996; 163-196.
- Nowak, G. Pawlas, K., Duda, S., Kulik, A., Nowak, D. Poczucie własnej skuteczności a zachowania zdrowotne i satysfakcja z życia studentów dietetyki. *Psychologia Rozwojowa*. 2018; 23 (3): 83-95.
- Lewtak, K. Smolińska, J. Uogólnione poczucie własnej skuteczności a zachowania antyzdrowotne lekarzy rodzinnych na przykładzie palenia tytoniu. *Przeegl Epidemiol*. 2011; 65: 115 – 121.
- Żuralska R., Mziray M., Muczyn A., Postrożny D, Kuzepska M. Ocena związku między zachowaniami zdrowotnymi a poczuciem własnej skuteczności u pensjonariuszy Domu Pomocy Społecznej w Gdańsku. *Problemy Pielęgniarstwa* 2012; 20 (2): 247–251.
- Rogała, D., Mazur, A., Maślińska, M., Krawczak, M. Przystosowanie do choroby nowotworowej u pacjentek z rakiem szyjki macicy. *Pielęgniarstwo Polskie*. 2016; 2 (60); 170-174.
- Mariańczyk, K., Steuden, S. Oczekiwania oraz intencje zachowań zdrowotnych jako czynniki warunkujące wykonywanie profilaktycznej cytologii w grupie kobiet po 45. roku życia. *Psychoonkologia* 2011; 2: 55–64.
- Andruszkiewicz, A., Kubicka, A., Nowik, M., Marzec, A., Banaszekiewicz, M. Poczucie koherencji i poczucie własnej skuteczności jako wyznaczniki akceptacji choroby w grupie pacjentów przewlekle chorych. *Problemy Pielęgniarstwa* 2014; 22 (2): 239–245.
- Juczyński, Z. Narzędzia pomiaru w promocji i psychologii zdrowia. Warszawa: Pracownia Testów Psychologicznych: 2009.
- Łuszczynska, A. Zachowania zdrowotne i ich zmiana: definicje i teorie. In: S. Kot (ed.), *Zmiana zachowań zdrowotnych. Dlaczego dobre chęci nie wystarczają?* Gdańsk: Gdańskie Wydawnictwo Psychologiczne. 2004; 13-45.
- Kurowska, K., Orzół, B. Poczucie koherencji a zadowolenie z życia u osób starszych. *Gerontol Pol*. 2016; 24: 91-97.
- Finogenow, M. Poczucie koherencji a satysfakcja z życia i dobrostan emocjonalny u osób w wieku emerytalnym. *Psychologia Społeczna*. 2013; (26): 346–353.
- Pacian, A., Kulik, T., Skórzyńska, H., Chruściel, P., Stefanowicz, A., Dąbrowska, A. Health factors among women after mastectomy. *Prz menopauzalny* (5). 2013: 392-398.
- Andruszkiewicz, A., Oźmińska, A. Zachowania zdrowotne kobiet po mastektomii. *Ann Acad Med Siles*. 2005; 59(4): 298-301.
- Kuijjer, R.G., de Ridder, D.T.D. Discrepancy in illness-related goals and quality of life in chronically ill patients: the role of self-efficacy. *Psychology and Health* 2003; 18(3): 313–330.
- Kushi, LK., Doyle, C., McCullough, M. et al. Nutrition and Physical Activity Guidelines Advisory Committee: American Cancer Society guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity. *Cancer JC* 2012; 62: 30-67.
- Łuszczynska, A., Schwarzer, R. Od ogólnych do specyficznych przekonań o własnej skuteczności — utrzymywanie i odzyskiwanie zdrowia w świetle teorii społeczno-poznawczej. In: Brzeziński J. M., Cierpiałkowska L. (ed.). *Zdrowie i choroba. Problemy teorii, diagnozy i praktyki*. GWP, Gdańsk: 2008.