

PERSONALITY TRAITS AND DECISION ON BREAST RECONSTRUCTION IN WOMEN AFTER MASTECTOMY

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The aim of the study was evaluation of the correlation between selected personality traits in women after mastectomy and their decision on breast reconstruction.

Material and methods. The study was conducted between 2013-2015, in the Department of Plastic, Reconstructive and Aesthetic Surgery, Medical University of Lodz, and Department of Oncological and Breast Surgery, CZMP. Comparative analysis comprised 40 patients, in whom mastectomy and breast reconstruction was done, and 40 women after breast amputation, who did not undergo reconstructive surgery. Basing on self-constructed questionnaire, five features of personality were evaluated in these women: pursue of success in life, ability to motivate others, openness to other people, impact of belonging to a social group on sense of security and the importance of opinion of others about the respondent. Apart from the questionnaire, in both groups of women a psychologic tool was used (SUPIN S30 and C30 tests) to determine the intensity of positive and negative emotions.

Results. Women who did not choose the reconstructive option were statistically significantly older at mastectomy than women who underwent breast reconstruction. There were statistically significant differences between both groups in response to question on being open to other people and value of other people's opinion. The differences in responses to question on the impact of belonging to a social group on personal sense of safety were hardly statistically significant. In psychometric studies there were significant differences in responses to SUPIN C30 test for negative emotions and S-30 for positive emotions. The level of negative emotions – feature of group A was in 47.5% in the range of high scores and in 47.5% within low and low-average scores. Among women from group B 57.5% had high scores, while 37.5% low and average scores. There were significant differences in the results of positive emotions evaluation in S-30. Women who did not undergo breast reconstruction usually had high scores, while those who decided on reconstructive surgery usually had low scores and low-high scores.

Conclusions. 1. The decision on breast reconstruction after mastectomy is connected with personality features of patients. Introvert women, who base their self-opinion on opinion of others and their sense of security on belonging to a social group, rarely choose to undergo breast reconstruction. 2. Younger patients after mastectomy more frequently choose the breast reconstructive option. 3. A special algorithm of medical and psychological care in patients after mastectomy should be created to improve their further quality of life.

Key words: breast reconstruction, mastectomy, personality

Breast cancer is one of the most frequently diagnosed neoplasms, constituting 11.9% of all neoplastic diseases worldwide (1). It is the fifth most common reason of death from neoplasms in general. It is the most frequent cause of cancer-related deaths among the female population of under-developed economic regions (14.3% of all deaths from neoplasms), and second after lung cancer cause of death

among women in developed countries (15.4% of all deaths from cancer) (1).

In Poland breast cancer is the most frequently diagnosed neoplastic disease in women and second neoplasms-related cause of death. The disease usually develops in women over 50 years of age (80%), and 50% of cases are diagnosed in women between 50 and 69 years of age. The risk of breast cancer develop-

ment increases up to the 7th decade of life, and decreases in older women (2).

Methods that increase early detection and therapeutic options in breast cancer are aimed not only at improving the efficacy of treatment, but also at decreasing trauma connected with the disease. However, in a large number of cases a debilitating surgery – mastectomy is unavoidable. A woman after mastectomy and adjuvant treatment – hormonal therapy, radiotherapy and chemotherapy perceives herself as a completely different person. The fact that she must resume her everyday duties, despite limitations and disability, significantly affects the psyche of patients. The new situation in life is very often connected with lack of self-acceptance and may give rise to serious psychological problems (3). Removal of a breast, which is the symbol of womanhood and maternity, leads to stress and embarrassment in front of the partner and social environment. Mastectomy affects the attractiveness, deprives the woman of stereotypical symbol of femininity, leads to desexualisation of the body, as breasts constitute an important element of physical and sexual attractiveness of women (4, 5). Decrease in attractiveness affect the quality of life (4, 5).

Increased morbidity connected with malignant neoplasms of the breast leads to an increased interest in the possibilities of reconstructive surgery. In developed countries reconstructive procedures are performed in 20-40% of women after mastectomy, while in Poland it is only 3-7% (6). Despite the fact that Polish patients are more and more conscious about possibilities of breast reconstruction, there still is a wide discrepancy between the number of conducted mastectomies and the number of breast reconstructive procedures. Despite the fact that directly after completed oncological treatment many patients declare the will to restore the amputated breast, only a small number of them finally decides on surgery (7, 8).

The studies on breast reconstruction conducted so far focused mainly on operative techniques and psychological analyses aimed at improvement of the quality of life of women after mastectomy (5-11).

In our study we evaluated the correlation between personality traits of patients and their decision on breast reconstruction after mastectomy.

MATERIAL AND METHODS

The study has been approved of by the Bioethical Committee of the Medical University in Łódź (RNN/233/13/KE). It was conducted between 2013-2015, in the Department of Plastic, Reconstructive and Aesthetic Surgery, Medical University in Łódź and Department of Oncological and Breast Surgery, CZMP. Women older than 18 years, who had undergone surgery at least 1 year prior to the study and who gave their formal consent, were enrolled to the study.

The analysis comprised 80 patients after mastectomy aged between 32 to 60 years. The group was divided into two subgroups: the study group (A) – 40 women after breast reconstruction and control group (B) – 40 women who did not choose the reconstructive option. The study was based on a self-constructed questionnaire comprising 48 questions on the disease, mastectomy and various aspects of patient's life and personality. From among the above, 5 questions were selected to determine that personality traits of the studied women:

1. Do you seek success in life?
2. Do you have the ability to motivate other people for action?
3. Are you open to other people?
4. Does belonging to a social group have an impact of your feeling of safety?
5. Is the opinion of other people about you important for you?

For each of the above questions the respondents were asked to select one of 5 possible answers: definitely yes, rather yes, hard to say, rather no or definitely no.

Apart from the questionnaire, in both groups of women a psychological tool was applied (SUPIN test) to determine the intensity of positive and negative emotions. The SUPIN scale was based on the idea of pleasant and unpleasant feelings by Watson and Tellegen. This tool is an adapted by Brzozowski (2010) Polish equivalent of the PANAS scale (The Positive and Negative Affect Schedule) by Watson and Clark. The SUPIN scale is used to estimate current emotional state (SUPIN S-30), but also affective features (SUPIN C-30). The SUPIN scale items are adjectives describing positive and negative emotions. A 5 point scale is used to determine the intensity of a given emotion. The respondent is asked to choose one point of the 5-point scale best de-

scribing the intensity of their emotion. The score may range between 15 to 75 points. The higher the grade, the more intense the emotion. Internal coherence of the SUPIN test (Cronbach alpha) ranges between 0.86-0.9 and direct stability is 0.8 (12). The test was conducted by one of the authors of the study, who is certified for psychological tests (Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego Zaświadczenie Nr 264/2013)

Crude numerical results of the SUPIN test were normalized. Using the standard error of measurement for this statistical tool (SEM) and 90 percent confidence intervals the range for definite result for each of the respondents was calculated. Selected values for 90 percent confidence intervals were added to or subtracted from the number of points scored by each respondent. Thus determined ranges were transformed into standardised results (according to an appropriate table of norms), obtaining the range of normal results for the studied women. The obtained sten scores were presented in ranges: 1-4 was low result, 5-6 average, and 7-10 high.

To determine the significance of differences between the two groups (A and B) in responses to the questionnaire items and for the SUPIN test results the chi-square test was used. The age of women at mastectomy in both groups was compared using the Mann-Whitney test (lack of normal distribution). All calculations were done using the STATISTICA 7.1 PL software.

RESULTS

Women who did not decide on breast reconstruction were statistically significantly older at mastectomy (median =57.5 years) than patients who underwent reconstructive surgery (median= 53.5 years) (p=0.0315).

There were no significant differences in pursuing success in life between women from group A and B (p=0.2714). Among patients who decided on breast reconstruction, as well as among those who did not choose the procedure, the majority declared that they seek success in life (55% and 35%, respectively).

Similar results were obtained in response to question on the ability to motivate others (p=0.1175). In this respect women from both groups declared that they rather possess this ability (A – 52.5% and B – 32.5%).

However, there were significant differences in the responses to question on being open to other people (p=0.0170). Women who underwent breast reconstruction claimed that they are open to others (42.5% vs. 17,5%), while patients who did not decide on reconstructive surgery declared that they rather do not have this feature (17.5% vs 2.5%) (tab. 1).

The differences in response to question „Does belonging to a social group have an impact of your feeling of safety?” were hardly statistically significant (p=0.0551). Women who decided on breast reconstruction more frequently declared that social group is not important for their feeling of safety (rather not or not 35% vs. 15%), while women who did not undergo reconstructive surgery usually claimed that this factor determines their sense of safety (rather yes or yes 62.5% vs 30%) (tab. 2).

Significant difference in response was also found for the question on the value of other people’s opinion about the respondent for her (p=0.0163).

Women, who underwent breast reconstruction significantly more frequently claimed that the opinion of others is not important for them (rather no or no 37.5% vs 17.5%) (tab. 3).

The distribution of results in the test evaluating negative emotions – feature (SUPIN NU -15-C) was as follows: there were no women in the extreme range between low and

Table 1. Response to question, „ are you open to other people?”

Group	Definitely yes	Rather yes	Hard to say	Rather no	Definitely no	Total
Women who did not choose reconstruction (B)	23 57,50%	7 17,50%	3 7,50%	7 17,50%	0 0%	40 100%
Women after breast reconstruction (A)	19 47,50%	17 42,50%	1 2,50%	1 2,50%	2 5%	40 100%
Total	42	24	4	8	2	80

Table 2. Response to question “does belonging to a social group have an impact on your feeling of safety?”

Group	Definitely yes	Rather yes	Hard to say	Rather no	Definitely no	Total
Women who did not choose reconstruction (B)	9 22,50%	16 40%	9 22,50%	3 7,50%	3 7,50%	40 100%
Women after breast reconstruction (A)	5 12,50%	7 17,50%	14 35%	9 22,50%	5 12,50%	40 100%
Total	14	23	23	12	8	80

Table 3. Response to question “is the opinion of other people about you important for you?”

Group	Definitely yes	Rather yes	Hard to say	Rather no	Definitely no	Total
Women who did not choose reconstruction (B)	4 10%	23 57,50%	6 15%	5 12,50%	2 5%	40 100%
Women after breast reconstruction (A)	8 20%	8 20%	9 22,50%	10 25%	5 12,50%	40 100%
Total	12	31	15	15	7	80

high score. The level of negative emotions – feature in 47.5% respondents from group A was in the range of moderately high and high scores, in 47.5% in the range of high scores and on the border of low and average. 57.5% of women from group B scored moderately high and high, and 37.5% scored low or low-average. However, after separating the scores for the studied and control groups, the distribution of results in this test was not statistically significant ($p=0.7198$).

There were no statistically significant differences for the distribution of response in the test determining the level of positive emotions – feature (SUPIN PU-C-15) ($p=0.2472$).

For the test determining the level of positive emotions – stan (SUPIN PU-15-S) there were significant differences in responses of women from both groups ($p=0.0130$). Women who did not decide on breast reconstruction usually had scores on the border between average and high, and high results, while women from group A

more frequently low score and score on the border between low and high range (tab. 4).

The results of the test (SUPIN NU-15-S) for the level of negative emotions did not reveal statistically significant differences between both groups ($p=0.2456$).

DISCUSSION

The sense of control of your life has a huge impact on the emotional frame of mind, quality of life, coping with situations, but also on the function of the immune system and in result on the whole physical well-being (13).

The results of this study reflect psychological profile of the studied women who underwent breast reconstruction and those who did not decide on reconstructive surgery. Personal resources of women are undoubtedly a factor influencing the decision on breast reconstruction. Women who did not undergo reconstruc-

Table 4. SUPIN S-30 for positive emotions (PU) (90%)

Group	Result						Total
	low	low-average	average	average-high	high	low-high	
Women who did not choose reconstruction (B)	7 17,50%	4 10%	0 0%	21 52,50%	8 20%	0 0%	40 100%
Women after breast reconstruction (A)	6 15%	10 25%	0 0%	8 20%	13 32,50%	3 7,50%	40 100%
Total	13	14	0	29	21	3	80

tive surgery seem more indrawn and at the same time base their self-opinion on the opinion of others, thus emotionally are strongly dependent from other people. This suggestion is supported by the fact that belonging to a social group in these women is an important factor determining their sense of safety.

According to the theory of social learning developed by J.B. Rotter, women after mastectomy wish to fulfil their emotional needs by various forms of instrumental behaviour which provide reinforcement; in the future in similar situations these women will seek similar reinforcement (14). If alternative behaviour is possible, these women will choose to fulfil their emotional needs in a way that offers most precious and expected reinforcement (14, 15, 16).

It seems that in the studied group of women who did not undergo breast reconstruction reinforcement came from their environment, as an important determinant of their sense of safety. In these women external locus of control prevails. According to Rotter it enhances such features as passivity and dependence. People with such personal traits do not trust themselves and their abilities, they are diffident, fragile and in difficult situations exhibit mechanisms of denial.

It has been observed that persons with strong sense of external control are relatively passive at attempts to change their fate (14, 15, 16), which may explain why they are sceptic towards possibilities of breast reconstruction offered by modern medicine. External locus of control may help to cope with difficult situation created by mastectomy. Rotter claims that people with external locus of control do not feel the urge to deny unpleasant information, because they do not feel responsible for them (15, 16). It may become important if the patient thinks that breast reconstruction may not bring expected results. External locus of control may help to overcome negative emotions and destructive actions connected with sense of guilt connected with lack of breast. Respondents from group A are confident women, conscious of their influence on their fate and events in life (reconstruction of breast). These women trust themselves and are more independent in decision making – „the opinion of other people about me is not important for me”, „belonging to a social group does not affect my sense of safety”.

The differences between both groups seen in the SUPIN test were seen for positive emotions. In the group of women who did not undergo breast reconstruction there were 72.5% of average-high and high results. This means that positive opinions of these women about their own body correlated with subjective perceiving of positive affective states.

Women after mastectomy from group B are characterised by higher results in negative emotions – stan, which suggests the presence of fear as traumatic sequel of events connected with the disease. This fear may appear in every woman after mastectomy, thou with various intensity. Sense of fear according to Walden-Gałuszek lasts for the longest time and may be present even outside of the period of adaptation to disease without signs of recurrence (17). The result of negative emotions correlates with age, thus interpretation confirms the fact that age determines the decision on breast reconstruction.

In our study we found subtle correlation between the studied emotions and decision on breast reconstruction. Positive emotions – feature and negative emotions – feature are permanent emotional structures affecting the way in which women react to changes in their internal and external environment.

It seems also that the age of women at breast amputation affects their decision on further reconstructive surgery. Respondents who decided on breast reconstruction underwent mastectomy at a younger age than women who did not decide on reconstructive surgery.

The presented results were obtained from a small sample, however they may be regarded as preliminary results which should prompt further studies of the discussed problems. We have demonstrated a probable correlation between personal predispositions that enable effective life after mastectomy and the decision on breast reconstruction made by these women. Determining personal profile of patients, who do not decide on reconstructive surgery, may enable psychological support for these women to prompt their activities directed at improving the quality of life after mastectomy (i.e. by making the decision on reconstructive surgery). In the light of the above it seems crucial to create interdisciplinary cooperation between therapeutic teams to create a program aimed at develop-

ing the internal sense of control in women after mastectomy.

CONCLUSIONS

1. The decision on breast reconstruction after mastectomy is connected with personality features of patients. Introvert women, who base their self-opinion on opinion of others

and their sense of security on belonging to a social group rarely choose to undergo breast reconstruction.

2. Younger patients after mastectomy more frequently choose the breast reconstructive option.

3. A special algorithm of medical and psychological care in patients after mastectomy should be created to improve their further quality of life.

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