BOŻENA KULESZA-BROŃCZYK[1], ROBERT TERLIKOWSKI[2], BOŻENA DOBRZYCKA[1], JOANNA FILIPOWSKA[3], WIESŁAW PÓŁJANOWICZ[4], KRZYSZTOF LEJMANOWICZ[5], SŁAWOMIR J. TERLIKOWSKI[1]

Jakość życia kobiet po leczeniu operacyjnym raka sutka

Streszczenie

Wprowadzenie. Rak sutka jest główną przyczyną umieralności kobiet w Polsce. Zachorowalność na ten nowotwór wykazuje stałą tendencję wzrostową. Rozpoznanie raka jest znacznym obciążeniem psychicznym i fizycznym. Po leczeniu operacyjnym wzrasta także poziom lęku silnie związany ze stresem pourazowym.

Cel pracy. Celem pracy była ocena jakości życia kobiet po leczeniu operacyjnym raka sutka.

Materiał i metoda. Badania przeprowadzono wśród 128 członkiń klubów „Amazonki" na terenie województwa podlaskiego. Za podstawę podziału respondentek na dwie grupy uznano rozległość zabiegu operacyjnego. Poziom jakości życia oceniono za pomocą standaryzowanych kwestionariuszy: EORTC, QLQ-C30, QLQ-BR23 i FACT – B.

Wyniki. Rakowi sutka towarzyszą silne i negatywne reakcje emocjonalne w postaci lęku, drażliwości, nadpobudliwości, poczucia zagrożenia i niepokoju. Objawy te odnotowano w obu badanych grupach. W grupie po mastektomii obserwowano labilność emocjonalną, utratę poczucia atrakcyjności fizycznej, zaburzenia w relacjach partnerskich i poczucie obniżenia własnej wartości. Wykazano również negatywny wpływ lęku i depresji w zakresie zdrowia fizycznego oraz życia rodzinnego i towarzyskiego. Tylko 8% badanych była zainteresowana operacją odtwórczą.

Wnioski. Ocena satysfakcji życiowej kobiet po mastektomii zależy od nasilenia stresu pourazowego. U kobiet po tumorektomii jakość życia jest na poziomie wyższym. Kobiety po mastektomii powinny być objęte długoterminową i kompleksową opieką specjalistyczną, która może im pomóc w odzyskaniu równowagi fizycznej i psychicznej.

Słowa kluczowe: jakość życia, mastektomia, rak sutka.

The quality of women's life after breast carcinoma surgery

Summary

Introduction. Breast cancer is the major cause of death among women in Poland and its incidence shows a steady growing tendency. The diagnosis of breast cancer is a considerable psychological and physical burden. After surgery, the level of fear still increases, being strongly associated with posttraumatic stress.

Aim of the study. The study objective was to assess the quality of women's life after breast carcinoma surgery.

Material and methods. The study was conducted in a group of 128 female members of the "Amazonki" clubs in Podlasie Province. The participants were divided into two groups according to surgery extent. The level of life quality was evaluated using standardized questionnaires: EORTC, QLQ-C30, QLQ-BR23 and FACT – B.

Results. Breast carcinoma is accompanied by strongly negative emotional reactions, such as fear, irritability, hyperexcitability, the feeling of threat and anxiety. These symptoms were observed in both groups of patients. In the post-mastectomy group, the patients exhibited emotional lability, feeling of lost physical attraction, disturbed relationships and low self-esteem. Negative effects of fear and depression on the physical health as well as on the family and social life were also demonstrated. Only 8% of the study patients were interested in reconstructive surgery.

Conclusions. The assessment of life satisfaction among women after mastectomy depends on the severity of posttraumatic stress. In the women who underwent tumorectomy, the quality of life is at a higher level. The female patients after mastectomy require long-term and complex specialist care that would help restore a sense of physical and emotional balance.

Key words: life quality, mastectomy, breast carcinoma.

[1] Department of Obstetrics and Gynecological Nursing, Medical University of Bialystok
[2] Department of Rehabilitation, Medical University of Bialystok
[3] Regional Centre of Oncology, Maria Sklodowska-Curie Memorial in Bialystok
[4] Faculty of Mathematics and Informatics, University of Bialystok
[5] Szczytno Country Hospital

INTRODUCTION

The methods used to treat breast carcinoma and its sequels may contribute to a reduction in life quality determined by somatic, psychical and social factors. Improvement in the therapeutic methods and their outcome, manifested by e.g. longer survival, induces a comparative assessment of life quality in women who have undergone mastectomy and those who have had conserving surgery e.g. tumorectomy [1].

The term *quality of life* (QL) is described in many ways, falling into the normative, phenomenological, empirical as well as relation categories. QL may relate to the clinical norm (lack of disease symptoms), social norm (playing a definite role) or individual norm (accomplishing personal goals). The term *quality of life* appeared in the American dictionary after World War II and evolved gradually [2]. Initially, it meant 'good life' in a consumptive sense, then the meaning was extended to 'being' and related to the motivational sphere, i.e. human capabilities and possibilities of satisfying the needs. In the medical aspect, good quality of life has been identified with subjective well-being. Such QL assessment is related to the following variables: demographic, personal, economic and random incidents. Attempts to specify the definition of QL have eventually led to a new concept of health related quality of life (HRQL), which comprises four aspects: 1) physical state and motor activity, 2) mental condition, 3) social situation and economic conditions, 4) and somatic sensations [3].

Breast carcinoma is the major cause of death among women in Poland and its incidence shows a steady growing trend. The increased incidence rate is mainly observed among menopausal women and is associated with a change in the lifestyle of the Polish population of women, especially these elements that affect the hormonal balance [4, 5].

The most common method used to treat breast carcinoma is surgical procedure, which until recently has been associated with breast amputation and axillary lymph node removal. Extensive surgery induces a number of unfavourable changes within the upper limb and shoulder girdle, including limited movement in the shoulder joint, reduced muscle strength on the operated side and disturbed statics leading to posture deformation. Lymphatic oedema of the limb is a relatively common effect of axillary lymph node removal. Also psychic disorders are a serious sequel after the amputation. They usually involve fear of being disabled, fear of death, or being rejected, of broken family, loss of physical attractiveness or femininity. Physical invalidity and the resulting psychical trauma are the costs that have to be frequently paid for being cured.

Breast conserving therapy (BCT) is an alternative to mastectomy in early stages of carcinoma. From the oncological point of view, tumorectomy is a radical procedure, which may result in complete cure and at the same time allow organ protection [6, 7]. The conserving therapy involves surgical removal of a primary focus with radiation of potential neoplastic microfoci that may be located outside the main mass of tumour. Institution and constant modification of a complex oncological therapy that includes surgical intervention combined with chemotherapy, radiotherapy and hormone therapy considerably increase the chances of being cured.

However, the specific nature of breast carcinoma and the range of therapeutic actions undertaken place the female patients in an unusually difficult and complex situation. The patients' integrity is at risk in the biological, social, psychological and moral-spiritual aspects [8]. In the society in which breasts are an "attribute of being a woman and a mother" mastectomy causes stress, embarrassment, and may lead to breakdown and fear of getting back to normal life, of broken family and loss of sexual activity. The situation of the woman who has undergone breast cancer surgery is very stressful due to uncertainty regarding the efficacy of treatment and fear of disease recurrence, physical impairment (limited movement, decreased muscle strength, oedema), breast loss, the so called half woman complex, as well as personal, family and professional problems [9-11]. The effects of breast cancer therapy leave permanent physical and psychic scars. After surgery, the level of fear strongly associated with posttraumatic stress still increases, which results in reduced self-esteem and life quality among the patients [12].

AIM OF THE STUDY

The study objective was to assess the quality of women's life after breast carcinoma surgery.

MATERIAL AND METHODS

The study was conducted between March and September 2009 at the monthly meetings of women organized in the "Amazons" Clubs in Podlasie Province. The study group consisted of 128 women who had undergone surgical treatment. The respondents were divided into two groups according to the extension of surgical procedure (mastectomy, tumorectomy). The level of life quality was assessed using standardized questionnaires. EORTC (*European Organization for Research and Treatment of Cancer*) serves to evaluate life quality of carcinoma patients. The QLQ–C30 module monitors 7 areas: physical functioning, social role, the most important cancer-related symptoms, therapy burden, emotional functioning, financial status and global quality of life. The QLQ-BR23 module is used to assess the quality of life among breast cancer patients and involves the functional scale, the image of body, sexual functioning, life perspectives and description of symptoms characteristic of breast cancer. The questionnaires were used after a consent from the EORTC study group had been obtained. For the statistical analysis the program Statistica 6.0 (Statsoft Inc., Poland) was used.

RESULTS

The mean age of patients after mastectomy was 58 years, after tumorectomy – 54 years. No statistically significant sociodemographic differences were noted in the area of marital status and education (Table I).

By far more women after mastectomy were retired (58%), whereas a similar number of women in both groups were on disability allowance. Approximately 60% of women after mastectomy belonged to the "Amazons" Club. The most numerous was the group of women who had mastectomy and whose net income per one person in household was 1000-2000 PLN (53.7%) (Table 1). Taking into account the extent of surgery, the study group of 128 contained 93

TABLE 1. Chosen sociodemographic factors.

Variables		Mastectomy (n=93)	Tumorectomy (n=35)
Socio-demo-graphic data	Mean age (SD)	58.25 (+/- 6.23)	54.54 (+ /- 9.78)
	Marital status		
	wife/partner	53.76%	71.43%
	widow	18.28%	8.57%
	divorced/separated	13.98%	14.29%
	single	13.98%	5.71%
	Education		
	elementary	6.45%	0.00%
	vocational	4.30%	14.29%
	secondary	52.69%	54.29%
	higher vocational	17.20%	8.57%
	university graduate	19.35%	22.86%
	Professional situation		
	regular employment	30.11%	40.00%
	housekeeping	1.08%	0.00%
	retirement	58.06%	40.00%
	disability allowance	10.75%	11.43%
	unemployment	0.00%	8.57%
	income (net) / month per one person in the family		
	< 1000 PLN	43.01%	42.86%
	1000-2000 PLN	53.76%	42.86%
	> 2000 PLN	3.23%	14.29%
	membership in the 'Amazonki' Club	59.14%	34.29%

patients after mastectomy and 35 after tumorectomy. Unilateral mastectomy was performed in 90% of cases, bilateral in 10%. Complications were more common after tumorectomy. Chemotherapy was instituted in 84.6% of women after mastectomy and in 71.4% after tumorectomy. Radiotherapy was applied in most women after tumorectomy (91%) and in more than half of those after mastectomy (55%). Hormonal therapy was introduced in over 69.7% of patients having undergone conserving surgery and in 54% after radical procedure. Breast reconstruction was performed in 5% of women after mastectomy and in 7.7% after tumorectomy. Similar percentages of women (8%) expressed interest in reconstructive surgery (Table 2). No significant differences

TABLE 2. Clinical data of the women studied.

Variables		Mastectomy (n=93)	Tumorectomy (n=35)
Clinical data	mean BMI (kg/m^2) (SD)	27.39%	26.77%
	The operated breast		
	unilateral mastectomy	89.25%	-
	bilateral mastectomy	10.75%	-
	partial mastectomy	-	35
	intraoperative complications	2.15%	8.57%
	chemotherapy	84.62%	71.43%
	radiotherapy	55%	91.18%
	hormonal therapy	54.76%	69.70%
	second surgery		
	reconstructive surgery	4.55%	7.69%
	interest in reconstructive surgery	8.05%	8.05%

TABLE 3. The quality of patients' life after carcinoma surgery (QLQ-C30).

Variables	Mastectomy (n=93)					Tumorectomy (n=35)				
Life quality category	x (%)	Min	Max	SD	Me	x (%)	Min	Max	SD	Me
Functional scale – overall	55.73	0.00	100.00	19.50	50.00	64.05	0.00	100.00	24.07	66.67
Physical functioning	66.61	8.33	100.00	20.19	73.33	70.90	26.67	93.33	15.86	73.33
Playing roles	72.04	0.00	100.00	26.26	66.67	77.62	16.67	100.00	23.89	83.33
Emotional functioning	57.13	0.00	100.00	22.93	66.67	63.02	0.00	100.00	24.58	66.67
Cognitive functioning	73.01	0.00	100.00	23.29	83.33	73.81	16.67	100.00	22.25	83.33
Social functioning	72.40	0.00	100.00	25.36	83.33	78.57	33.33	100.00	21.98	83.33
Occurrence of symptoms										
Tiredness	44.32	0.00	100.00	22.07	33.33	41.75	0.00	88.89	20.89	33.33
Nausea and vomiting	14.65	0.00	83.33	19.85	0.00	12.38	0.00	66.67	17.31	0.00
Pain	36.38	0.00	100.00	27.69	33.33	31.90	0.00	100.00	21.15	33.33
Dyspnoea	31.16	0.00	100.00	29.98	33.33	24.51	0.00	100.00	26.35	33.33
Insomnia	53.26	0.00	100.00	32.80	50.00	40.95	0.00	100.00	33.42	33.33
Lack of appetite	19.71	0.00	100.00	25.17	0.00	10.78	0.00	33.33	15.83	0.00
Constipation	24.91	0.00	100.00	30.06	33.33	23.81	0.00	66.67	22.25	33.33
Diarrhoea	11.96	0.00	100.00	20.72	0.00	5.71	0.00	33.33	12.75	0.00
Financial problems	35.87	0.00	100.00	33.24	33.33	20.95	0.00	100.00	31.40	0.00

were noted in the assessment of the respective functional scales of the basic questionnaire investigating the quality of life of patients with neoplastic disease. The best results were obtained in the area of social functioning (77.6%) and accomplishing social roles (78.5%) in patients after conserving surgery. Over half of the women after mastectomy (57.3%) claimed that their emotional functioning was normal. The most seldom reported complaints after mastectomy included diarrhoea (11.9%), and nausea and vomiting (14.69%), as compared to 5.7% and 12.3%, respectively, after tumorectomy. The patients after mastectomy most frequently complained of insomnia (53.2%) and tiredness (44.3%). These values were lower after tumorectomy (40.9% and 41.7%, respectively). Women after mastectomy exhibited a greater negative effect of anxiety and depression on both physical health and family and social life (Table 3).

In the scale situating the quality of life in the post-mastectomy women, sexual functioning (81.9%) and sexual pleasure (70.5%) received the best assessment. In the post-tumorectomy group, the body image and sexual functioning got the highest rating (73.6% and 73.2%, respectively). In the post-mastectomy group, the feeling of loss of physical attractiveness, disturbed relationships and low self-esteem was observed. The lowest rating was obtained for future perspectives and fear of health (40% of post-mastectomy and 36% of post-tumorectomy patients).

Cancer-related complaints reported by the respondents usually referred to nervousness due to hair loss after tumorectomy (57.1%) and mastectomy (43%). Upper limb swelling and complaints on the operated side were by far more common after mastectomy (41.4%). The patients after conserving surgeries more frequently complained of side-effects of the systemic therapy (31.6%) (Table 4). Table 5 presents study results of the FACT–B scale in the aspect of functional status.

DISCUSSION

The study shows that there has been a change, although not radical, in the quality of life among post-mastectomy and post-tumorectomy women. Approximately 11% of the women in both groups are on disability allowance. About 30-40% still work professionally [13]. Due to the radical nature of the procedure as well as its sequels (likelihood of lymphatic oedema), the patients tend to spare more the limb on the operated side, which is reflected in difficulties with physical exercise. However, most problems appear in the sphere of sexual and psychic life. Numerous studies conducted in younger women affected by breast cancer demonstrate correlations between sexual disorders, lowered sexual activity and patients' perception of their own body [14]. These trends were confirmed by our own study. Most study patients do not accept the loss of femininity, which is reflected in limited sexual activity and reduced feeling of attractiveness. This psychical state is defined as the "half woman complex" [3].

TABLE 4. The quality of patients life after mastectomy and tumorectomy (QLQ-BR-23).

Variables	Mastectomy (n=93)					Tumorectomy (n=35)				
Life quality category	x (%)	Min	Max	SD	Me	x (%)	Min	Max	SD	Me
Functional scale										
Image of the body	62.48	0.00	100.00	26.11	66.67	73.06	0.00	100.00	28.35	83.33
Sexual functioning	81.96	16.67	100.00	19.11	83.33	73.23	33.33	100.00	19.07	66.67
Sexual pleasure	70.54	0.00	100.00	28.37	66.67	45.61	0.00	100.00	31.84	33.33
Future perspective	40.00	0.00	100.00	29.65	33.33	36.46	0.00	66.67	29.77	33.33
Occurrence of symptoms										
Side effects of systemic therapy	31.58	0.00	100.00	20.26	28.57	31.69	0.00	66.67	19.27	28.57
Breast-related symptoms	18.88	0.00	75.00	18.94	16.67	27.06	0.00	75.00	18.98	25.00
Arm-related symptoms	41.46	0.00	100.00	25.97	33.33	30.79	0.00	77.78	20.18	33.33
Anxiety connected with hair loss	43.09	0.00	100.00	34.35	33.33	57.14	0.00	100.00	42.35	66.67

TABLE 5. Assessment outcome in the FACT-B scale in a group of patients after mastectomy and tumorectomy.

FACT-B Scale		Score range	Mastectomy (n=93)					Tumorectomy (n=35)				
			Me	Min	Max	QI	QIII	Me	Min	Max	QI	QIII
PWB	Physical state	0-28	8	0	28	5	13	10	0	17	5	11
SWB	Family and social life	0-28	17	1	28	11	21	20	0	28	15	22
EWB	Emotional state	0-24	10	0	23	7	13	10	3	16	6	11
FWB	Everyday functioning	0-28	19	0	28	16	23	20	0	27	18	23.5
FACT-G		0-108	56	16	77	49	63	59	6	72	50	61
	Other reasons for anxiety	0-40	17	1	40	14	21	18	0	29	16	22
FACT-B		0-144	73	23	105	63	84	77	6	98	69	78.5

The women who had undergone mastectomy admitted having financial problems more often than after the conserving procedures. The presence of lymphatic oedema may cause inability to work and giving up employment, which worsens the financial situation. Chachaj et al. showed a similar correlation [15]. The neoplastic disease involves getting deep into the sphere of patient's physical complaints and requires skills of psychosocial care from the medical staff, which is accomplished through emotional support, communication ability and subjective treatment of caretakers throughout the therapeutic and nursing process [16]. This opinion was confirmed in our study. The respondents in both groups emphasized that support from the family and interdisciplinary team was indispensable to improve life quality both after radical and conserving operations.

CONCLUSIONS

The assessment of life satisfaction among women after mastectomy depends on the severity of posttraumatic stress. In the women who underwent tumorectomy, the quality of life is at a higher level. The women after mastectomy function worse in all spheres of life taking into consideration physical, emotional, cognitive and social functioning. The female patients after radical mastectomy require long-term and complex specialist care that would help restore a sense of physical and emotional balance.

REFERENCES

1. Niwińska A, Tchórzewska H, Nagadowska M, Pieńkowski T. Ocena leczenia oszczędzającego (BTC) raka piersi w opinii pacjentek leczonych tą metodą. II Ogólnopolska Konferencja „Diagnostyka i leczenia raka piersi" Warszawa Falenty 22-24 marca 2001. PTOK Streszczenia Warszawa 2001, 43.
2. De Walden-Gałuszko K, Majkowicz M. Jakość życia w chorobie nowotworowej. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego; 1994. p. 13-21.
3. Chwałczyńska A, Woźniewski M, Rożek-Mróz K, Malicka I. Jakość życia kobiet po mastektomii. Wiad Lek. 2004;57(5/6):212-6.
4. Czerniak U, Ziółkowska-Łajp E, Wieliński D. Charakterystyka wybranych czynników społeczno-demograficznych polskich Amazonek z lat 1995-2000. Fizjoterapia. 2005;13(1):5-11.
5. Lewandowska K, Bączyk G. Funkcjonowanie kobiet po mastektomii jako ocena efektywności leczenia, opieki pielęgniarskiej oraz edukacji. Ginekol Prakt. 2009;3:12-16.
6. Łuczak E, Lisowski J, Poziomska-Piątkowska E. Społeczne i ekonomiczne uwarunkowania jakości życia kobiet po mastektomii. Kwart Ortop. 2008;2:127-37.
7. Nowicki A, Krajewski E, Maruszak M. Wczesne wyniki leczenia raka gruczołu piersiowego metodą oszczędzającą. Współcz Onkol. 2006; 10(3):85-91.
8. Jassem J. Leczenie systemowe po zabiegu operacyjnym. In: Jassem J, editor. Rak sutka. Warszawa: Springer PWN; 1998. p. 152-266.
9. Andrzejewski W, Kassolik K, Ochrymowicz M, Pawłowska K. Ocena jakości życia kobiet po mastektomii zrzeszonych w Klubie Amazonek. Fizjoter Pol. 2008;8(1):51-64.
10. Piątek J, Krauss H, Gaik M, Krawczyk J, Sajdak S. Jakość życia kobiet po amputacji piersi. Przegl Ginekol Poł. 2004;4(4):173-7.
11. Stępień RB. Uwarunkowania społeczno-demograficzne poziomu lęku i depresji u kobiet po radykalnym leczeniu chirurgicznym raka piersi – mastektomii. Probl Pielęg. 2007;15(1):20-5.
12. Graja T, Grodecka-Gazdecka S. Czynniki wpływające na jakość życia kobiet leczonych z powodu raka piersi. Przegl Ginekol Poł. 2005;5(3): 115-20.
13. Smolec B, Śniarowska M. Psychospołeczne uwarunkowania jakości życia po mastektomii. Ku lepszemu funkcjonowaniu w zdrowiu i chorobie. Wrocław: AWF; 1998. p. 445-50.
14. Barnaś E, Skręt A, Skręt-Magierło J, Sobolewski M. Jakość życia kobiet z chorobą nowotworową piersi. Przegl Menopauz. 2009;1:15-19.
15. Chachaj A, Małyszczak K, Lukas J, Pyszel K, Pudełko M, Tarkowski R, Andrzejak R, Szuba A. Jakość życia kobiet z obrzękiem limfatycznym kończyny górnej po leczeniu raka piersi. Współcz Onkol. 2007;11(9): 444-8.
16. Stępień R, Wrońska I. Lęk i depresja jako emocjonalne uwarunkowania możliwości funkcjonalnych kobiet po radykalnym leczeniu raka piersi. Studia Medyczne. 2008;31-35.

Informacje o Autorach

Dr n. med. Bożena Kulesza-Brończyk – asystent, Zakład Pielęgniarstwa Położniczo-Ginekologicznego, Uniwersytet Medyczny w Białymstoku; mgr Robert Terlikowski – asystent, Klinika Rehabilitacji, Uniwersytet Medyczny w Białymstoku; dr n. med. Bożena Dobrzycka – adiunkt, Zakład Pielęgniarstwa Położniczo-Ginekologicznego, Uniwersytet Medyczny w Białymstoku; dr n. med. Joanna Filipowska – kierownik, Zakład Rehabilitacji, Białostockie Centrum Onkologii im. Marii Skłodowskiej-Curie; mgr Wiesław Półjanowicz – wykładowca, Zakład Zastosowań Informatyki w Edukacji, Instytut Informatyki Uniwersytetu w Białymstoku; lek. med. Krzysztof Lejmanowicz – Szpital Powiatowy w Szczytnie; prof. dr hab. n. med. Sławomir Jerzy Terlikowski – kierownik, Zakład Pielęgniarstwa Położniczo-Ginekologicznego, Uniwersytet Medyczny w Białymstoku.

Adres do korespondencji

Zakład Pielęgniarstwa Położniczo-Ginekologicznego
Uniwersytet Medyczny w Białymstoku
15-062 Białystok, ul. Warszawska 15