

THE QUALITY OF LIFE OF BREAST CANCER FEMALE PATIENTS IN MONTENEGRO

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Breast cancer is a common malignant disease in the Balkan region. The aim was to determine whether there is a difference in the parameters of perception of health and quality of life in Montenegrin female patients after surgery, chemotherapy and radiation therapy for breast cancer in relation to age, the type of treatment, and the attitudes towards preventive diagnostic measures.

The research was carried out on a sample of 200 women diagnosed with breast cancer in health institutions in Montenegro. Authentically designed questionnaire relying on three questionnaires (Functional Assessment of Cancer Therapy: General (FACT-G), its breast cancer-specific type (FACT-B), and the instrument designed by the European Organisation for Research and Treatment of Cancer (EORTC-QLQ C30)) was used.

The lowest quality of life was seen in patients aged 60–64 years. The patients frequently reported that they felt sad, lost hope or worried about family members suffering from breast cancer. The quality of life was lower in patients who stated that they did not understand their disease well. The history of breast cancer surgery was not significantly related to the quality of life, similarly to the history of chemotherapy (or the time since last chemotherapeutic session). However, the analysis of the time since last radiation therapy course yielded statistical significance; in a sense that the quality of life was lowest in the group of patients who underwent radiation therapy.

These results should inspire the clinicians to educate the patients and to provide psychological support during the treatment.

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all malignancies worldwide and causing 20% of all deaths in the female population (1). It is one of the most common causes of cancer death in Europe, second only to lung cancer (2). About 45,000 new cases of female breast cancer and 18,000 deaths occur annually in South-Eastern European countries (3). Montenegro has roughly 600,000 inhabitants (with nearly half of the population female), and a successful mammography screening program active since 2016.

The development of screening and therapeutic strategies increased the likelihood of breast cancer survival (2, 4), thus inspiring research on the quality of life of breast cancer sufferers and survivors. The quality of life stems from the state of physical and mental health, the degree of personal freedom, social and economic factors, personal beliefs and relationships with the environment (5). The main indicators of health in cancer patients are autonomy and functional capacity, regarded not only as physical health, but also as the emotional and psychological state of the patient, the environmental and social circumstances (6). The burden of breast cancer-a life-threatening chronic diagnosis with long-term therapy-presents as a transitional experience

Introduction

Breast cancer is the most common type of cancer in females worldwide, accounting for 25% of

which may result in anxiety or depression, subsequently affecting the quality of life (7).

The aim of this study was to determine the quality of life of breast cancer female patients in Montenegro. Through an investigation of specific issues related to the physical, emotional and functional state of the patients, the self-perceived quality of life scores were analyzed. Possible differences in the quality of life were examined in relation to the age of the patients, the type of treatment, the attitudes towards the preventive diagnostic measures, as well as the understanding of their own illness. Given the fact that there are no studies on this subject in the Balkan region, the results might inspire the clinicians in the developing countries to make an effort in providing the psychological support during the process of breast cancer treatment.

Materials and methods

A cross-sectional study was performed on a sample of 200 breast cancer female patients treated during the period between June and September of 2015.

The patients included in the study suffered from histologically diagnosed malignant breast disease treated with surgery, chemotherapy or radiotherapy. Informed consent was signed by all the patients included in the study. The exclusion criteria were: the presence of other malignant and/or significant systemic disease, psychiatric disorders, alcohol, and substance abuse.

A questionnaire was designed specifically for this research, inspired by three instruments: the Functional Assessment of Cancer Therapy: General (FACT-G, version 4) and the version of FACT specific for breast cancer (FACT-B, version 4), as well as the instrument designed by the European Organisation for Research and Treatment of Cancer (EORTC): EORTC QLQ-C30. The possible answers to the questions related to the quality of life were ranged from 1 ("constantly") to 5 ("never"). With 37 questions, the total score ranges from 37 (all the questions responded "constantly") to 185 (all the questions responded "never"). Certain questions are reverse-scored so that a higher total score indicates a better quality of life.

The standard protocol of descriptive statistics was used, including the Student's t-test and ANOVA. A *p* value below 0.05 was considered statistically significant.

Results

The mean total score of self-perceived quality of life in the entire sample was 98.95 ± 11.21 (with a minimum of 64 and a maximum of 132). The majority of women fell into the category of 55-59 years of age (22.1%), followed by women of 45-49 years of age (20.8%), and finally, women aged 50-54 (19.5%). The age structure was significantly different among various age groups ($p = 0.012$), with the lowest quality of life in women aged 60-64 (Table 1).

The history of breast cancer surgery was not significantly related to the quality of life ($p = 0.349$), similar to the history of chemotherapy (or the time since last chemotherapeutical session) ($p = 0.811$). However, the analysis of the time since last radiation therapy course yielded statistical significance; in a sense that the quality of life was lowest in the group of patients who underwent radiation therapy 3-5 years ago ($p = 0.036$) (Table 1).

The quality of life of women with various attitudes towards preventive diagnostic measures (breast ultrasound, mammography, gynecological exams) was not significantly different. However, the participants who stated that they do not understand their illness well showed a significantly lower quality of life (Table 2).

Table 3 shows the scores of specific questions regarding the quality of life. It is evident that the majority of women did not complain of physical symptoms such as pain, malaise, nausea, etc. On the other hand, a significant percentage of women complained of psychological issues such as feeling sad, losing hope, not being satisfied with the way they were dealing with cancer, and worrying about a family member possibly suffering from breast cancer. The results indicated that the majority of patients were satisfied with the support they received from their family and friends, as well as their overall activities (besides the questions regarding sexual attractiveness and the satisfaction with sex life-where a significant number of women showed dissatisfaction) (Table 3).

Table 1. The age structure and the quality of life total scores of the patients included in the study relative to the age groups and the received therapy

	Age groups						Total
	40-44	45-49	50-54	55-59	60-64	≥ 65	
Number of patients (%)	21 (10.4)	42 (20.8)	39 (19.5)	44 (22.1)	29 (14.3)	26 (13)	200 (100)
Mean ± standard deviation (minimum – maximum) of the total scores	106.75 ± 11.27 (87-123)	101.81 ± 8.62 (84-121)	95.53 ± 7.87 (84-107)	98.24 ± 9.08 (74-110)	90.73 ± 14.52 (64-115)	103.5 ± 12.86 (87-132)	64-132 (98.95 ± 11.21)
Surgical treatment performed (tumorectomy or mastectomy)							
	Number of patients (%)	Minimum – maximum (mean ± standard deviation)					p
Yes	169 (84.4)	64 – 115 (99.72 ± 9.917)					
No	31 (15.6)	84 – 132 (95.75 ± 15.618)					
Time since last chemotherapy session							
< 6 months	44 (22.1)	78 – 114 (99.75 ± 9.333)					0.811
6-12 months	31 (15.6)	85 – 111 (97.73 ± 8.253)					
1-3 years	49 (24.7)	74 – 115 (99.47 ± 11.292)					
3-5 years	21 (10.4)	64 – 121 (96.17 ± 15.467)					
> 5 years	44 (22.1)	84 – 123 (100.79 ± 9.034)					
No chemotherapy	10 (5.2)	78 – 106 (96 ± 9.957)					
Time since last radiotherapy session							
< 6 months	31 (15.6)	85 – 132 (100.35 ± 12.175)					0.036
6-12 months	31 (15.6)	92 – 101 (96.25 ± 3.775)					
1-3 years	55 (27.3)	74 – 115 (98.25 ± 13.572)					
3-5 years	21 (10.4)	64 – 105 (92.42 ± 11.65)					
> 5 years	42 (20.8)	84 – 123 (101.48 ± 8.394)					
No radiotherapy	21 (10.4)	78 – 114 (95.63 ± 11.057)					

Table 2. The quality of life total scores relative to the attitudes towards preventive diagnostic procedures and the understanding of own illness

Do you agree that regular breast ultrasound exams are important for female health?			
	Number of patients (%)	Minimum – maximum (mean ± standard deviation)	p
Strongly agree	171 (85.7)	64 – 132 (99.23 ± 8.182)	
Agree	26 (13)	87 – 107 (97.8 ± 11.731)	
Disagree	3 (1.3)	92	
Do you agree that regular mammography exams are important for female health?			
Strongly agree	169 (84.4)	64 – 132 (98.65 ± 11.356)	0.156
Agree	18 (9.1)	89 – 107 (100.43 ± 7.656)	
Disagree	3 (1.3)	123	
I do not know	10 (5.2)	87 – 106 (95.25 ± 9.743)	
Do you agree that regular gynaecological exams are important for female health?			
Strongly agree	166 (83.1)	64 – 132 (99.28 ± 11.876)	0.772
Agree	23 (11.7)	86 – 106 (98.22 ± 6.2)	
I do not know	10 (5.2)	64 – 132 (99.49 ± 11.138)	
Do you agree that regular check-up exams contribute to successful treatment?			
Strongly agree	153 (76.6)	84 – 132 (96.71 ± 11.751)	0.58
Agree	44 (22.1)	105 – 115 (106.15 ± 11.138)	
I do not know	3 (1.3)	64 – 132 (98.95 ± 11.206)	
How do you estimate your understanding of your own illness?			
Well	156 (77.9)	95 – 132 (110.5 ± 13)	0.012
Unsatisfactory	44 (22.1)	64 – 123 (97.25 ± 10.656)	

Table 3. Self-perceived quality of life regarding specific issues addressed through the administered questionnaire

Specific issues	Percentage of given answers				
	Never	Sometimes	Often	Very often	Constantly
Experiencing lack of energy	24.7	54.5	15.6	2.6	2.6
Nausea	55.8	35.1	5.2	1.3	2.6
Overall pain	45.5	44.2	5.2	1.3	3.9
Pain in specific regions of the body	23.4	62.3	2.6	6.5	5.2
Feeling malaise	49.4	44.2	2.6	1.3	1.3
Shortness of breath	61	28.6	7.8	1.3	1.3
Experiencing treatment side effects	45.5	45.5	5.2	2.6	1.3
One or both arms being soft or swollen	53.2	27.3	6.5	2.6	10.4
Being forced to stay in bed	64.9	27.3	3.9	2.6	1.3
Being unable to perform household chores	48.1	44.2	1.3	3.9	1.3
Feeling sad	20.5	22.7	6.8	22.7	27.3
Losing hope in the battle with own illness	7.8	20.8	15.6	26	29.9
Anxiety	71.8	19.5	2.6	3.9	2.6
Fear of death	28.6	55.8	13	1.3	1.3
Fear of condition worsening	59.7	22.1	15.6	1.3	1.3
Annoyed by hair loss	49.3	29.9	4.5	9	7.5
Worried about family members suffering from the same illness	23.4	35.1	10.4	14.3	16.9
Worried about stress affecting the current illness	18.2	37.7	18.2	16.9	9.1
Annoyed by weight change	37.7	26	14.3	10.4	11.7
Satisfactory dealing with own illness	28.9	59.2	9.2		2.6
Being able to feel feminine	6.5	22.1	18.2	13	40.3
Being conscious of the current dressing style	15.6	19.5	13	6.5	45.5
Feeling sexually attractive	30.4	36.2	14.5	11.6	7.2
Feeling satisfied with sex life	92.4	3.8			3.8
Enjoying things usually done for fun	1.3	14.3	16.9	19.5	48.1
Satisfactory current quality of life	5.2	9.1	16.9	27.3	41.6
Feeling close to the friends	2.6	5.2	18.2	22.1	51.9
Feeling emotional support from the family	1.3	5.2	14.3	18.2	61
Feeling emotional support from the friends	1.3	6.5	19.5	18.2	54.5
Family accepting the disease	3.9	2.6	10.4	14.3	68.8
Satisfied with the way the family communicates regarding my disease	1.3	13	9.1	18.2	58.4
Feeling close with the partner/strongest supporter	2.6	10.4	9.1	16.9	61
Being able to work individually	41.6	40.3	13	1.3	3.9
Feeling content with household work	2.6	9.1	18.2	23.4	46.8
Being able to enjoy life	2.6	24.7	11.7	29.9	31.2
Accepting the disease	1.3	10.4	11.7	27.3	49.4
Good quality sleep	1.3	20.8	15.6	29.9	32.5

Discussion

The study presented herein presented several interesting findings regarding the self-perceived quality of life of breast cancer patients in Montenegro:

1. The lowest self-perceived quality of life was seen in women aged 60-64.
2. The majority of patients claimed that they often felt sad, lost hope in their battle against the illness, or worried about a family member suffering from breast cancer.
3. Lower quality of life was seen in women who reported that they did not understand their disease well.

The screening program in Montenegro resulted in a relatively large number of patients diagnosed in the treatable phase of the disease, meaning that a significant number of patients underwent long-term therapy. The results indicate that the major complaints of breast cancer patients in Montenegro are related to the psychological aspect of the disease. A similar conclusion was reached in a study by Carelle et al., which showed that breast cancer patients regarded the nonphysical effects of chemotherapy as more important than the physical symptoms. The most frequent complaints made by the patients included in their study were related to the effect of chemotherapeutical treatment on the family or partners of the patients, as well as hair loss and fatigue. Additionally, their study showed that the patient complaints regarding chemotherapy shifted from nausea, emesis, and apprehension of treatment difficulties to the worries about fatigue and functional aspects of life (8). Costa et al. analyzed 400 breast cancer survivors using EORTC QLQ-C30 (as well as its Breast Cancer-Specific version) and the Karnofsky Performance Scale, showing a positive correlation between the functional capacity and the quality of life. Furthermore, their results indicate that women with distant metastases have a lower functional capacity and quality of life, as expected (9). Hsu et al. performed a follow-up study on 535 women suffering from early or locally advanced breast cancer, reporting that their overall quality of life was similar to the quality of life of the cancer-free control group. The patients analyzed in this study showed a significant improvement in their quality of life during the first year after the diagnosis, and this trend was continued during long-term follow-up. Interestingly, a significant cognitive deficit was seen in breast cancer long-term survivors in comparison with controls. The authors hypothesize that this finding may be contributed to the long-term effects of cancer treatment, or it may reflect unmasking the previously present and undiagnosed cognitive issues (4).

The study conducted by Kaminska et al. on 85 patients treated with breast-conserving treatment and 94 patients treated with mastectomy showed that the patients aged 30-45 were more worried about their prognosis, the disease affecting their family and the relationship with their partner. Also, their study showed that highly educated patients who underwent breast-conserving therapy showed a superior social and physical functioning (7). This is in accordance with the results of the

study presented herein-lack of understanding of their own disease leads the patients to a poorer quality of life. Boman et al. showed that the learning process in breast cancer patients relied mainly on the bodily experiences and the events occurring during the process of diagnosing and treating the disease. The authors describe three main themes which encompass the process of learning and understanding from the perspective of a breast cancer patient: interacting with a diversity of information, concealed and expressed understandings, and struggling to understand and manage the new life situation (10).

Hamer et al. found that breast cancer patients receiving chemotherapy had a lower quality of life and a greater symptom burden than patients without chemotherapy. On the other hand, patients with ductal carcinoma in situ and with early-stage cancer who underwent radiation treatment had a greater quality of life than the patients not receiving radiation therapy (11). Marino et al. showed that patients receiving chemotherapy for breast cancer more commonly report "severe problems" with physical well-being and had a lower breast cancer-specific quality of life; however, there were no differences in the functional, social and family well-being in comparison with the patients who did not receive chemotherapy (12). Tiezzi et al. found that chemotherapy worsened the physical functioning of the patient (13). The study presented herein did not show any significant differences in the quality of life regarding chemotherapy or radiation therapy. However, a relatively small number of patients not receiving these types of treatment (10 and 21, respectively) may have influenced the lack of statistical significance.

A satisfying result of this study is related to a significant number of patients receiving psychological support from their environment (family and friends). Namkoong et al. published the results of two randomized clinical trials performed by the National Cancer Institute as an analysis of expressed and received emotionally supportive messages in breast cancer patients within 2 months of diagnosis. In their study, perceived bonding was positively related to all four coping strategies (active coping, positive reframing, planning and humor). The authors emphasize the significance of perceived bonding as well as the patients' power to provide emotional support to others, thus strengthening shared group bonds (14).

The present study has several limitations. There was neither specific analysis of the type of radiotherapy or chemotherapy, nor there was any precise information on the extent of the disease (locoregional or distant metastases). Also, there was no analysis of the time passed since diagnosing cancer and administering the questionnaire, or any baseline psychological testing before receiving any treatment for breast cancer. A similar study should be repeated in a prospective manner (with the aforementioned variables which were omitted in this study) with a matched control group in order to further investigate the quality of life of breast cancer patients in the developing European countries.

Conclusion

Breast cancer is a serious, life-threatening condition requiring long-term therapy. The treatment of breast cancer in developing countries is challenged with social and economic circumstances. The study indicates that breast cancer patients in Montenegro complain about the psychological issues

more frequently than the physical symptoms. Furthermore, the understanding of their own illness is positively related to the quality of life. The results should inspire the health professionals in developing countries to provide psychological support and educate the patients in order to facilitate the treatment of breast cancer.

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KVALITET ŽIVOTA ŽENA OPERISANIH OD KARCINOMA DOJKE U CRNOJ GORI

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Karcinom dojke je česta maligna bolest na Balkanu. Cilj rada bio je utvrditi da li postoje razlike u parametrima percepcije zdravlja i kvaliteta života među crnogorskim bolesnicama nakon operacija, radioterapije i hemioterapije zbog karcinoma dojke. Pomenuti ishodi ispitivani su u odnosu na uzrast, vrstu tretmana i stav prema preventivnim dijagnostičkim merama.

Istraživanje je sprovedeno na uzorku od 200 žena sa karcinomom dojke, lečenim u zdravstvenim ustanovama u Crnoj Gori. Korišćen je autentično dizajnirani upitnik baziran na tri prethodno dizajnirana upitnika (Functional Assesment of Cancer Therapy: General (FACT-G); njegova vrsta, specifična za karcinom dojke (FACT-B), kao i instrument dizajnirani su od strane Evropske organizacije za istraživanje i lečenje raka (EORTC-QLQ C30)).

Najniži kvalitet života nađen je kod bolesnica starosti od 60 godina do 64 godine. Bolesnice su često navodile da se osećaju tužno, da gube nadu ili da brinu da će neko iz njihove porodice oboleti od raka dojke. Kvalitet života bio je niži među bolesnicama koje su navele da ne razumeju svoju bolest dobro. Vreme operacije karcinoma dojke nije bilo značajno povezana sa kvalitetom života, slično vremenu hemioterapije (ili vremenu od poslednje hemioterapijske sesije). Međutim, analiza vremena od poslednjeg kursa zračenja dala je statističku značajnost, u smislu da je kvalitet života bio najniži u grupi bolesnica koje su bile podvrgnute zračnoj terapiji.

Ovi rezultati treba da inspirišu kliničare da edukuju bolesnike i pruže im psihološku podršku u toku lečenja.

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Ključne reči: dojka, karcinom, kvalitet života