

Krzysztof Bogdan Manterys, Magdalena Błażek

Division of Quality of Life Research, Department of Psychology, Medical University of Gdańsk, Gdańsk, Poland

Assessment of the quality of life of patients with breast and cervical cancer

Address for correspondence:

Mgr Krzysztof Bogdan Manterys
 Medical University of Gdańsk, Tuwima 15,
 80-210 Gdańsk, Poland
 e-mail: kmanterys@gumed.edu.pl

ABSTRACT

The location of the tumor and the type of selected treatment are factors that determine the quality of life of patients. The incidence of neoplasms increases every year, with more and more patients successfully undergoing treatment processes but also struggling with the immediate and delayed effects of the disease and the treatment applied. A diagnosis of cancer is a critical situation in everyone's life, which may disturb their sense of agency, stability, and safety. Cancer significantly affects the lives of both patients and their families, and a diagnosis confirming cancer may disturb the sense of control over one's own health. According to numerous studies on the quality of life, depending on the location of the neoplasm, the reaction of patients to the course of treatment may have various psychological effects that will have an impact on the process of adaptation to the disease and psychosocial functioning.

Neoplastic disease, depending on its location, may affect the assessment of one's own body and function in the sexual sphere. The location of the tumor not only causes changes in patients' bodies and health options related to their physicality but also affects their coping strategies, self-perception, sense of influence on one's own health, and the quality of social relations.

The objective of this article is to assess the differences in the health-related quality of life among women suffering from breast and cervical cancers.

Key words: breast cancer, cervical cancer, quality of life, sense of control

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Introduction

Breast cancer is the most common neoplasm in women in Poland, and the second, after lung cancer, cause of cancer-related death, accounting for 22.5% of all cases among cancer patients [1]. The highest number of cases of breast cancer is reported in women over 50 [2-6]. According to the National Cancer Registry, the number of cases of breast cancer in recent years exceeded 16500 and is constantly growing. On the other hand, cervical cancer is the seventh most diagnosed cancer among women, accounting for 2.8% of all cases of cancer [1]. The most frequently diagnosed histologic

subtype of cervical cancer is squamous cell carcinoma, which accounts for as much as 95% of all cases of cervical cancer [7, 8]. The development of oncological treatment methods is conducive to the increase in cancer survival and cure rates, while at the same time, researchers are paying more and more attention to the impact that the patient's psychological condition exerts on the treatment process and their quality of life following the treatment [3].

Cancer has consequences not only of a medical nature but also psychological and social. The diagnosis of the disease and the implementation of treatment significantly influences the current functioning of pa-

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tients and their social role, which changes from that of a healthy person to a sick person, and adds to everyday life the duties and procedures related to diagnostics and treatment. Psycho-oncological literature still devotes a lot of attention to the phenomenon of carcinophobia [9]. People diagnosed with this disease may experience a feeling of stigma and otherness, which may further lead to their isolation from relatives and society [9, 10]. Many studies emphasize the importance of social support during illness. A lack of acceptance and empathy, in particular on the part of relatives, may weaken the patient's motivation for further treatment, leading to withdrawal from treatment due to a feeling of loneliness, exclusion, and helplessness about the disease [11].

Disease symptoms and the selected treatment regimen are closely related to how patients function socially and the somatic symptoms they experience [12]. Researchers will focus more and more on the psychological functioning of the patients, emphasizing that it affects not only the effectiveness of therapy but also the quality of their life [13]. Knowing the differences in the functioning of patients and the importance of tumor location for their self-esteem and wellbeing will improve the work of medical staff caring for patients.

The concept of quality of life

Health-related quality of life is defined as: “the functional effect of the disease and its management perceived (experienced) by the patient” [14]. The World Health Organization (WHO) proposes to expand this definition by adding that: “health is the fullness of the physical, mental and social wellbeing of a person, not only the absence of disease or disability” [15]. This means that the way the disease is perceived is not the sole determinant of the patients' quality of life, and there are also other factors involved in the subjective assessment of the patient's wellbeing. Moreover, the absence of disease is not the only condition for satisfactory human wellbeing. A similar opinion was expressed by De Walden Gałuszko, who describes health as: “an assessment of one's own life situation made during the period of illness and treatment, taking into account their special role.” Within this definition, four areas of health are distinguished: physical state, mental state, as well as somatic sensations, and social situation [16]. The state of health is undoubtedly included in the quality of life, and at the same time, this concept refers to the assessment of the life satisfaction of the respective person. Therefore, more and more attention in human functioning is focused on the social, psychological, and economic spheres because what we ultimately define as wellbeing requires subjective satisfaction with various spheres of human functioning [17].

The genesis of interest in the quality of life dates back to the 1970s, when medicine, due to the progress in the treatment of patients, began to pay attention to health and non-health consequences of chronic diseases. This is due to the emergence of a new approach in medicine that assesses the results of treatment not only on the basis of the duration of the patients' survival but also their subjective assessment of their life satisfaction [17]. In an attempt to define patients' quality of life, research took two basic directions: psychometric and qualitative. The first relates to the use of standardized psychometric scales to measure patients' ability to “perform basic everyday activities, the level of their mental (emotional) functioning, and social adaptation” [17]. The second line of research focuses on individual experiences and a subjective assessment of health and functioning during the disease [18]. The same authors distinguish the assessment of the quality of life in the effect of treatment, noting that it is important not only to assess the doctor but also the patient. The way the disease is comprehended, the selected treatment regime, as well as the duration of the disease, all affect the final assessment of patients' wellbeing. The researchers point out that the patient's perspective, including the evaluation of the quality of life and what is important for the patient at this particular moment are of particular importance in assessing the quality of life [19].

Patients' quality of life suddenly changes upon being diagnosed with cancer. Their current lifestyle and habits are disturbed, as patients have to adapt to the recommendations related to treatment and, importantly, a shift in their social role from that of a healthy person to that of a sick person. A diagnosis of cancer arouses anxiety and concerns about further health, and the treatment process and the associated undesirable effects lead to a reduction in the functioning and wellbeing of patients.

The quality of life of breast cancer patients — the effect of treatment

The quality of life of breast cancer patients depends on numerous factors. What is of particular importance, apart from the selected treatment, are patients' reactions to the diagnosis, the disease acceptance rate, and the adopted strategies of coping with stress [20]. The diagnosis of breast cancer involves changing one's entire lifestyle. As a result of a breast cancer diagnosis, women often feel fear, regret, anger, despair, and anxiety. These emotions are related to concerns about their future, including the treatment process, potential survival, and social functioning [18]. According to the researchers, what is frequently reported by patients as consequences of breast cancer and its treatment are fatigue, symptoms of gastric upset, nausea, vomiting, pain in the arm and shoulder, arm swelling, and difficulty breathing [21, 22].

Chemotherapy

Chemotherapy is one of the most common treatment regimens for breast cancer patients. This treatment reduces the quality of life not only through side effects such as nausea, chronic fatigue, abdominal pain, and weakness but also causes psychological deterioration in patients [3]. Women awaiting chemotherapy often experience fear of the treatment and their prognosis, but also of the change of their social role from that of a healthy person to that of a sick person, as well as physical changes related to the selected treatment (eg. hair loss) [23]. According to researchers, the psychological condition of patients is reduced due to emerging emotions such as fear, sadness, anxiety, and concerns about their appearance [2, 24]. Despite these fears and side effects related to chemotherapy, emotional support from their partner and family helps patients cope with the effects of the disease and emotions accompanying the treatment process [3, 17].

Hormone therapy

Hormone therapy is another method applied in breast cancer treatment. Hormone treatment causes inhibition of estrogen's influence on cancer cells (e.g. tamoxifen), which affects the homeostasis of the whole body and patients' quality of life. One of the most common side effects of this type of treatment are vasomotor symptoms, which include, among others: hot flashes, night sweats, and sleep disorders [25]. The use of hormone treatment in breast cancer affects the emotional condition of the patient, which can lead to low mood, a feeling of anxiety, or depressive disorders. Apart from their emotional situation, patients undergoing hormone therapy also complain of a deterioration of their sexual function and problems with chronic fatigue [25]. Mourits, Bockermann, de Vries et al. have a similar opinion on the effects of hormone treatment on the quality of life in patients subjected to it. According to these researchers, treatment with hormone therapy negatively affected the libido of patients, which resulted from secondary symptoms of the treatment in the form of dyspareunia or vaginal dryness [26–28]. In the same review, Jagielska et al. pointed out that hormone treatment is also associated with the risk of developing cancer of the endometrium, which may additionally trigger patients' anxiety during the treatment [25].

Surgery

Breast cancer often requires surgical intervention. Depending on the selected treatment strategy and the

needs resulting from the development of the neoplastic lesion, the case conference may decide to perform a mastectomy. Currently, medicine ever more often opts for breast-conserving surgery or mastectomy with simultaneous breast reconstruction or reconstruction performed after the procedure.

The breast removal procedure has an impact on patients' quality of life. Mastectomy affects not only the physicality of the body but also functioning in everyday life and the patient's psychological condition. Hospitalization and the mastectomy procedure are a traumatic experience that disrupts all levels of psychological functioning.

According to Słowik, Jabłoński, Michałowska-Kaczmarczyk et al., a mastectomy “may be the underlying cause of numerous anatomical and physiological disorders. These include limb lymphoedema, decreased muscle strength, limited mobility of the hand in the joints, and postural defects” [2]. The same authors point out that the symptoms resulting from the applied surgical treatment affect the functioning of a woman in her everyday life, which translates into the overall quality of life and wellbeing of the patient. Pytka and Spych, who researched the impact of radical mastectomies on patients' quality of life, had a similar opinion on this subject [5]. According to these researchers, breast cancer and the selected treatment significantly reduce the quality of life in all spheres: psychological, social, professional, and intimate [5].

In the era of substantial development of oncological surgery and research on the quality of life, more and more attention is paid to the aspect of cancer patients' perception of their bodies. According to researchers, the very nature of the surgery and postoperative scarring affects not only the physical but also the social and psychological functioning of patients. This is because breasts belong to the area of female identification and, apart from their child-feeding function, they also have an aesthetic, sexual, and symbolic dimension that affects the patients, their self-esteem, and their perception of themselves as women. Based on many psychological observations, researchers identified the “half-woman complex” in patients after mastectomy without breast reconstruction. Symptoms attributed to this area of psychological functioning are decreased self-esteem, lack of acceptance of one's body, and decreased quality of intimate life. These symptoms result from the mastectomy procedure, which influences the perception of the aesthetics and attractiveness of one's body and the symbolism of femininity [2, 24, 29, 30].

Attitude towards the performed procedure also has a significant impact on wellbeing. The negative evaluation of the postoperative scar in the case of mastectomy was associated with a lack of appetite, depression, and irritability [2]. The same study noted that the assess-

ment of postoperative scar may vary depending on the economic situation of the patients and the support they received from their partners, family, and self-help groups. This proves that patients' socio-economic situation may be a psychological resource for coping with the effects of the disease [30].

Interestingly, Zegarski, Głowacka, and Ostrowska drew attention to the interdependence of the patients' financial situation after losing a breast on their assessment of the appearance of the postoperative scar. The worse the perception of the patients' financial situation, the worse their postoperative scar (mastectomy) was, which translated to a reduced assessment of their perceived quality of life [29]. Researchers assume that the above dependence may result from the perception of the positively assessed financial situation of the patient as an additional psychological resource of the quality of life, which could translate into better coping with the disease and treatment effects [29]. According to a number of studies, only 24% of patients remain professionally active during treatment. It is important, as both professional activity and acquiring funds for further treatment may modulate the overall functioning of the patient [29]. In the same publication, Zegarski et al. presented a conclusion based on many studies, which shows that due to the development of breast cancer and the treatment process, 78–88% of women experienced a reduction in their quality of life in the sexual sphere. Moreover, in studies on the quality of life, it was observed that the quality of sexual functions, sexual activity, and body-image perception were worse in the case of multimodal treatment than in the case of surgery alone. A particularly noticeable decrease in sexual function (eg. sexual drive) and self-esteem was noticed in the case of younger patients [29].

Stadnicka, Pawłowska-Muc, Bańkowska, and Sadowska, while examining the impact of emotional support from their partners on the quality of life of cancer patients after breast amputation, obtained results indicating that it had a significant impact on coping with the disease and the breast loss. The support of medical staff and support groups, such as Amazons or the Cancer Fighting League [29] also played an important role in the psychological and social functioning of the patients. Interestingly, the same researchers provide information that the partner's support has a positive effect on further functioning in the intimate sphere, which promotes the recovery of patients after mastectomy [29].

According to Naz, Darooneh, Salmani, et al., positive changes in patient attitudes towards the disease occur take place as a result of growing awareness about the treatment and are also related to education. Health beliefs are also closely related to the sense of agency, which is conducive to good health practices (e.g. following doctors' orders in connection with the treatment).

In the same study, Naz et al. were able to confirm that higher education leads to greater access to health information, which influences the sense of health control [31].

Religioni, Czerw, and Deptała investigated the relationship between the location of the neoplasm and the psychological adaptation of patients to the disease. Among patients with breast, lung, intestine, and prostate cancers, breast cancer patients scored the highest in terms of showing "a fighting spirit," which meant that the affected women had a task-oriented approach to following doctors' orders and being involved in the treatment process. This result motivates us to further research the impact of cancer location on the quality of life and coping strategies [12].

Quality of life after breast-conserving surgery or breast reconstruction

Women who decide to undergo breast reconstruction, declare an improvement in their quality of life [32, 33]. Not having to wear a prosthesis is linked with psychological comfort, the freedom of image change, and a lack of stress related to the correct positioning of the prosthesis. This fundamental difference makes patients feel better in social contacts and have a significantly greater acceptance of their body image compared to patients who did not undergo reconstruction [34, 35]. The above factor is undoubtedly related to the symbolic meaning of breasts, which constitute an integral part of femininity.

The quality and type of breast reconstruction surgery are important in the assessment of women and their perception of their bodies. The studies by Edstrom-Elder, Brandberg, Bjorklund, et al. demonstrate that patients whose breasts were reconstructed using their own tissues assessed the procedure better than patients who received implants. According to the researchers, the procedure with the use of the patients' own tissues allowed to a greater extent obtaining breasts similar in size than the second method, which influenced the final assessment of patients and their quality of life [36].

What also affects the wellbeing of patients is the procedure waiting time. Women whose breast reconstruction surgery was performed immediately after mastectomy declared a better quality of life compared to women whose surgery was postponed [37–39]. This is because women who underwent simultaneous reconstruction did not have to deal with the discomfort associated with having a scar and concealing the effects of the procedure when compared to patients from the other group [17, 37, 38]. This proves the constant need to support and inform patients in order to prepare them for functioning after the surgery, both psychologically and socially.

Słowik, Jabłoński, Michałowska-Kaczmarczyk, et al. believe that the type of surgery performed has an impact on the subjective sense of the quality of life of patients [2]. There is a relationship between the type of surgery and the severity of pain symptoms in the breast. The conserving procedure was more likely (than the mastectomy) to trigger a greater intensity of symptoms (pain, swelling, and tenderness) in the examined women. In the case of mastectomy, a linear scar with a certain amount of subcutaneous tissue remains on the chest wall while in the case of a conserving procedure, a well-supplied and innervated part of the mammary gland remains, constituting a potential source of pain, swelling, and tenderness in this area. In the same study, it was noted that right-handed patients who had their right breast removed scored lower on the quality-of-life scales than patients with the dominant hand on the opposite side of their body. Removal of the breast on the side of the dominant hand is associated with a deterioration of functioning in the professional and intimate life [2].

In their research, Jankau, Trus-Urbańska, and Renkielska examined the impact of breast reconstruction surgery on the quality of life of patients after mastectomy. The researchers discovered that women with reconstructed breasts are more involved in family, social and professional life than patients who have not undergone breast reconstruction [17], who have to deal with the issue of masking an external prosthesis. Patients who decide to use a prosthesis often limit their social activity because they have a strong need to control the location of the prosthesis and mask the physical changes resulting from the removal of the breast [17]. Other authors demonstrate a similar opinion [37, 39]. According to the researchers, the earlier the age when a woman undergoes a mastectomy, the more difficult it may be for her to accept the changes resulting from the treatment process and breast loss [40]. Elderly women have a better perspective for the future, and they function better socially than younger patients undergoing mastectomy. The difference may be because young and middle-aged adult patients are at the stage when they have already met their social needs related to starting a family and having children while in the case of patients in later adulthood, these needs could have been satisfied many years before falling ill [41, 42].

The quality of life of cervical cancer patients — the effect of treatment

Cervical cancer most often affects women between the ages of 45 and 65. This means that this type of cancer affects a group of women who are most often still professionally and socially active; women who are wives and mothers. The diagnosis of cervical cancer diametri-

cally disrupts their current functioning, influencing the performance of individual social roles, and thus, their wellbeing [43]. The diagnosis of cervical cancer often triggers anxiety in women, concerns about their further functioning, and a sense of a threat to their life. These types of sensations may persist even after treatment is completed. Patients may feel fear of relapse, anxiety, symptoms of depression, fear whether they will cope with tasks related to the implementation of social roles (as a mother and wife), and, importantly, they often declare reduced self-esteem and a sense of loss of attractiveness as women [43, 44].

The most common symptoms reported by women with this type of neoplastic disease include symptoms of premature menopause, insomnia, dyspareunia, vaginal dryness, vaginal shortening, hot flushes, constipation, complaints related to urination, sexual arousal, reaching orgasm, and achieving sexual satisfaction [21, 44–46].

Even though the effects of surgical treatment of cervical cancer may be invisible, in the sphere of social and professional functioning they have an impact on the perception of the patient's body and the quality of life [47]. Cervical cancer affects the current perception of one's body image, sense of femininity, and quality of sexual life. Numerous research reports suggest that patients' sexual experiences change both as the result of the treatment process and after treatment. Commonly reported symptoms include decreased sexual activity and interest in intercourse, decreased self-esteem, a sense of lost femininity and attractiveness [40, 48].

Bidzan, Rudnik, and Peplińska (2013) indicate two kinds of basic factors in the incidence of cervical cancer: the main and the contributing ones. The main factors include: "age, human papillomavirus infection, early onset of sexual life, a high number of sexual partners, high number of births, smoking, low socioeconomic status, previously identified pathology in pap smear, high-risk partners." The contributing factors include: "long-term use of hormonal contraceptives, improper diet, HIV infection, inflammation of genital organs caused by sexually transmitted pathogens other than HPV [9]. As with the case of breast cancer, chemotherapy, radiotherapy, surgery, and combination therapy are used to treat cervical cancer.

Depending on the case, the following methods are applied in the treatment of cervical cancer: "conserving surgery (conization, amputation), simple excision of the uterus with or without appendages, intravaginal and intrauterine brachytherapy, radical surgery with the selective removal of lymph nodes with or without adjuvant treatment, radiotherapy (teletherapy in combination with brachytherapy), radical hysterectomy with appendectomy and bilateral lymphadenectomy of the pelvic lymph nodes (the Wertheim-Meigs operation), primary radical surgical treatment with subsequent

radio-chemotherapy, radiotherapy combined with chemotherapy, and standalone chemotherapy” [9].

The quality of functioning during the development of cervical cancer is related to the patients’ subjective sense of resourcefulness. According to Kozak (2002), patients with a strong sense of resourcefulness demonstrate better functioning in the emotional and cognitive spheres, which translated into their coping better with the hospitalization process resulting from oncological treatment [49].

According to Bidzan, Rudnik, and Peplińska, women with cervical cancer treated by surgery achieve high results of the quality-of-life assessment in the social, professional, and family spheres. An interesting exception in the presented study is in the sphere of sexual functioning where patients report poor quality of life [9].

Radio-chemotherapy

Kieszkowska-Grudny, Rucińska, Biedrzycka, and Nawrocki investigated the effect of combined treatment on the quality of life of patients suffering from cervical cancer. According to these researchers, after the disease and treatment, patients reported: lower back pain, fecal incontinence, hot flushes, sweating, and soreness of the vagina and vulva [43]. Like in the studies by Bidzan, Rudnik, and Peplińska, the authors drew attention to the sexual sphere of patients. The declared sexual activity of women with cervical cancer was reduced (with 38% of women sexually active in the last month after the completion of oncological treatment). Sexual disorders were associated with the symptoms of vaginal dryness, pain during intercourse, as well as low self-esteem, and other side effects related to the disease and the treatment process [9]. Dahiya, Acharya, Bachani, et al. reached similar conclusions when evaluating the impact of radiotherapy on patients’ functioning [50]. These researchers add that both chemotherapy and radiotherapy are associated with sexual issues such as dyspareunia. Moreover, psychological factors also play an important role in sexual behavior. In the same studies, patients with cervical cancer experienced increased anxiety concerning their sexual performance [50].

Radiation therapy

Radiotherapy leads to anatomical and functional changes in patients’ vaginas [16]. According to Donovan, Taliaferro, Alvarez, et al. the most frequent symptoms include menopausal symptoms, infertility, dyspareunia, vaginal dryness, short inelastic vagina, lack of vaginal lubrication, pain during sexual intercourse, and lack of sexual satisfaction [40, 44, 48].

Sang, Bae, Joo, et al. pointed out the characteristic effects of radiotherapy in cervical cancer. According to their research, women who survived cervical cancer reported: lymphoedema, diarrhea, constipation, financial difficulties, problems in social functioning, anxiety related to their sexual performance, and worse body image [46].

Discussion

The physical dimension of how women function during and after oncological treatment undoubtedly has a significant impact on their psychological condition and perception of their bodies, including their identity as women.

The abovementioned results of studies describing the psychological condition of women suffering from breast and cervical cancer suggest that the location of cancer and the psychosocial development stage of the patient (which in this case, means early or late adulthood) will affect the way patients perceive the disease is and deal with the stress. Depending on the age group and socioeconomic situation, patients will focus more or less on specific side effects of treatment and how hindering they are for the implementation of developmental tasks assigned to a specific age group (e.g. starting a family, sex life, having children) [41, 42].

Regardless of the location of cancer, it affects the woman’s perception of her body image, sense of attractiveness, and femininity. According to research, the most important factor influencing the perception of one’s own attractiveness is surgery, which leads to fundamental changes not only in the functioning but also in the appearance of the patient. Despite the differences, both groups of women reported a deterioration in their perception of themselves as women. The sole fundamental difference is the “half-woman complex” quoted in the research literature, diagnosed in women after mastectomy. The half-woman complex emphasizes the importance of physical values in the sense of female identity. The postoperative scar formed after mastectomy requires the women who are subjected to it to pay more attention to masking it with a prosthesis and to prevent this change from being noticed by others. The very fact of losing their breasts, despite the support of relatives, causes severe discomfort in women [2, 17, 24, 29].

Many studies prove that the support of loved ones, and especially of their partner, allows women to cope better with the effects of treatment. Support groups also play an important role in recovery and are of particular importance for patients’ functioning in the psychological and social sphere. Therefore, there is a need for systematic work with patients and psychoeducation in dealing

with emotions and perception of the body image, and more broadly, of the woman's identity [51].

Conflict of interest

The authors have declared no conflicts of interest

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