THE RELATIONSHIP BETWEEN RESILIENCE AND BREAST CANCER

Marija Brajković, Mirjana Mikulić, Romana Barbarić, Dragan Babić

Faculty of Health Studies, University of Mostar, 88 000 Mostar, Bosnia and Herzegovina

Received on 10.09.2023. *Reviewed on 17.09.2023.* *Accepted on 29.09.2023.*

ABSTRACT

Resilience can be changed and modified over time, it is affected by many different situations and difficulties that a person overcomes during life. Resilience is a newer concept, which should be applied to the patient from the beginning of life with cancer. Clinicians should invest more time and effort in creating interventions that enable patients to foster their resilience. The term resilience or the ability to recover refers to the process of overcoming adverse events, including stress, trauma and illness. Considering the ability to recover as a personality trait imposes the assumption that the ability to recover represents a constellation of personal characteristics that enable individuals to adapt to different circumstances they encounter. Resilience as a complex phenomenon changes over time and circumstances. Understanding resilience as a complex, multidimensional and dynamic process is very important for understanding therapeutic mechanisms and healing mechanisms. Psychological factors are the most important factors that contribute to the development of resilience. It is necessary to work on the development of psychosocial interventions that will target the psychological resilience of cancer patients. Breast cancer is the most common malignant disease in women. In women with breast cancer who manage to develop the ability to resist and accept life's crisis, greater resilience and personal growth is created, thereby reducing the negative impact associated with the disease. The aim of this work is to explain the relationship between resilience and breast cancer.

Key words: connection, resilience, cancer, breast

Correspondence:
Marija Brajković, Master of radiological technology, PhD student
E mail: marija.brajkovic@fzs3.sum.ba

INTRODUCTION

The most common definition of resilience is that it is a positive adaption in the contex of significant adversity. Resilience situations are characterized as a "successful outcome" and not the negative consequences that would otherwise be expected, and this implies exposure to threats or accidents and achieving positive adaptation despite significant challenges of the develpoment path (1).

Resilience can also be understood as a product of mitigating processes that do not eliminate risk and stress but enable the individual to deal with it effectively. Resilience is the positive pole of a ubiquitous phenomenon that demonstrates individual differences in people is responses to stress and adversity. The phenomenon of maintaining adaptive functioning despite serious dangerous risks is called resilience that is resilience represents protective factor that modify, improve or change an individual is response to environmental hazards that predispose the individual to a maladaptive outcome (2).

Breast cancer is the most common malignant disease in women, which often has very serious consequences for health. Women with breast cancer have greater resilience, greater resistance and personal growth is created, which reduces the negative effect associated with the disease. The aim of this papir is to explain the relationship between resilience and breast cancer.

Resilience

A person's ability to successfully cope with developmental tasks despite adverse circumstanes is also thought to indicate resilience. In fact, resilience consists of personal qualities that enable an individual to progress in the face of adversity (3).

Resilience is also the ability to progress, mature and increase competence in the face of adverse circumstances, which include both biological abnormalities and various obstacles from the environment that can be serious and infrequent or chronic and consistent. Reaching for all resources (biological, psychological and environmental resources), a person can progress, mature and increase his own competence. It is a process of successful adaption to difficult or threatening situations, that is, resilience is a dynamic process that includes positive adaption within the contex of significant adversity (4).

In the contex of exposure to significant adversity, resilience is also the individual's capacity to navigate the journey to psychological, social, cultural and physical resources that maintain the well-being and

psychological well- being of the individual, and the capacity to individually and collectively negotiate so that the said resources are secured and experienced culturally meaningful ways. Understood in this way, resilience is a quality of both the individual and his environment that potentiates positive development (5).

According to the opinion of many theoreticians and scientists, resilience refers to achieving positive outcomes despite challenging or frightening circumstances, but successfully dealing with traumatic experiences and avoiding negative developmental trajectories associated with risks (6).

Different operational definitions of resilience have resulted in disparate results. It is precisely for this reason that many theoretical and researchers in this field believe that additional theoretical refinement will improve the precision of definition and resilience research and thus improve the necessary communication between experts. In this sense, the first steps should be aimed at the development of the concept of resikience itself, that is, at understanding the reasons for its appearance and acceptance by scientists and theoreticians (7).

The term resilience or the ability to recover refers to the process of overcoming adverse events, including stress, trauma and illness and resilience to the personality traits associated with this process. Considering the ability to recover as a personality trait imposes the assumption that the ability to recover as a personality trait imposes the assumption that the ability to recover represents a constellation of personal characteristics that enable individuals to adapt to the different circumstances they encounter (8).

Resilience as a complex phenomenon changes over time and circumstances. Understanding resilience as a complex, multidimensional and dynamic process is very important for understanding the therapeutic mechanisms of healing. Primary resolution is considered a protective factor in the development of mental disorders, while its lack is interpreted as a risk factor for the occurrence of mental disorders. Secondary resilience refers to an individual is ability to face and cope with illness, and to achieve healing and recovery. Tertiary resilience enables patients to develop a healthy and productive lifestyle with their disease, helps them adapt to the life limitations associated with the disease, and creates positive life attitudes. Symptoms and neuropsychobiological dysfunctions often overlap with each other in mental disorders, it is of great importance to recognize mechanisms of recovery ability specific to individual disorders.

Transdiagnostic studies of general and specific recovery ability could significantly contribute to strengthening the concept of holistic medicine (9).

Resilience is an important trait that contributes to a person is mental and physical well-being. Evidence suggests that resilience is related to motivation. This motivation to recover from physical or psychological traumatic events after learing about an oncological disease reduces the impact of risk factors, thus increasing a person is ability to cope with the many challenges that this disease brings. In this way, resilience protects oncology patients from psychosocial health problems, such as depression, anxiety, fear and helplessness, and helps reduce related negative effects (10).

In the context of cancer, resilience refers to an individual is protective attributes and/or personal traits, which are thought to be modifiable and to promote successful adaptation to cancer, including, but not limited to, meaning and purpose in life, sense of coherence, optimism, positive emotions, self- esteem, self-efficacy, cognitive flexibility, coping, social support and spirituality (11).

Oncology patients with a higher level of resilience had a higher level of quality of life. The strongest positive connection was found between resilience and psychological health of oncology patients. The stage of the disease was negatively related to the quality of life of oncology patients. Psychological interventions to strengthen resilience should be an integral part of a multidisciplinary and holistic approach to the treatment of cancer patients (12).

Breast cancer

Breast cancer is the most common malignant tumor in women in the world, which occurs when normal glandular cells of the breast change their properties and begin to grow uncontrollably, multiply and destroy the surrounding healthy tissue. Breast cancer most often affects women over 50 years of age, but younger women can also get it. Men can also get breast cancer, but breast cancer is a hundred times more common in women than in men (13).

Breast cancer develops due to DNA damage and gene mutations that can be affected by estrogen exposure. Sometimes there will be inheritance of DNA defects or pro-cancer genus such as BReast CAncer 1 (BRCA1) and BReast CAncer 2 (BRCA2). Therefore, a family history of ovarian or breast cancer increases the risk of developing breast cancer. In a normal person, the immune system attacks cells with abnormal DNA or abnormal growth. This fails in those with breast cancer, which leads to tumor growth and spread (14).

Ductal carcinoma in situ (DCIS) is recognized as discrete spaces filled with malignant cells, usually with a recognizable basal celllayer composed of presumably normal myoepithelial cells. Papillary and cribriform types of DCIS are generally lower-grade lesions and may take longer to develop into invasive carcinoma. Solid and comedo types of DCIS are generally higher-grade lesions. DCIS, if left untreated, usually transforms into invasive cancer. Invasive breast cancers are recognized by the lack of overall architecture, random infiltration of cells into different amounts of stroma, or the formation of layers of continuons and monotonous cells, regardless of the shape and function of the glandular organ. Pathologists generally divide invasive breast cancer into ductal and lobular histological types (15).

Invasive ductal carcinoma tends to grow as a cohesive mass; it appears as discrete abnormalities on mammograms and can often be felt as a discrete lump in the breast smaller than lobular carcinomas. Invasive lobular carcinoma tends to invade the breast in one unit, which explains why it remains clinically occult and often escapes detection on mammography or physical examination until the disease becomes extensive. Invasive ductal carcinoma, also known as infiltrating ductal carcinoma, is the most common form of breast cancer; it accounts for 50% to 70% of invasive breast cancers (16).

Invasive lobular carcinoma accounts for 10% of breast cancers, and mixed ductal and lobular carcinomas are increasingly recognized and described in pathology reports. When invasive ductal carcinomas take on differentiated features, they are named according to the features they exhibit. If the infiltrating cells form small glands lined with a single row of smooth epithelium, they are called infiltrating tubular carcinoma. Infiltrating cells may secrete copious amounts of mucin and appear to float in this material. These lesions are called mucinous or colloid tumors (17).

Most patients with early breast cancer are asymptomatic and are detected during screening mammography. As it increases in size, the patient may detect the cancer as a lump that is accidentally felt, mostly while showering. Breast pain is an unusal symptom that occurs in 5% of cases. Locally advanced disease can manifest as peau d'orange, pronounced ulceration or fixation to the chest wall. Inflammatory breast cancer, advanced breast cancer, often resembles a breast abscess and is manifested by swelling, redness and other local signs of inflammation. Paget's disease of the nipple usually presents with nipple

changes that can be distinguished from nipple eczema (18).

Malignant breast tumors most often, and in 90% of cases, arise from ductal epithelium, and less often 10%, from lobular epithelium. They are divided into two large groups, with regard to the basement membrane, into non-infiltrating, in situ carcinomas that have not penetrated the basement membrane and infiltrating carcinomas that have penetrated the basement membrane, i.e. invasive carcinoma (19).

The relationship of resilience and breast carcinoma

Resilience has an important impact on the quality of life of cancer patients. There are several positive and negative factors that can affect the resistance and quality of life of cancer patiente. These are: disease-related risk including perceived disease, ambiguity and complexity, symptom stress, disease severity; family protective factors, which include perceived social support from family and socioeconomic variables; social protection factors, which include perceived social support from friends, influence from others with similar conditions, and perceived support from service providers; individual risk factors including avoidant, emotional and fatalistic coping measures/strategies; individual protective factors, which include confrontational, optimistic, and supporative coping, along with hope and spiritual factors. Studies have examined the impact of psychological resilience on cancer patients. These studies indicate that resilience is a protective factor against stress among cancer survivors, suggesting that cancer patients with high resilience require less psychosocial support to manage their stressful situations, compared to those with low resilience (20).

Resilience mediates between cancer symptoms and distress and quality of life among survivors, and plays an important role in protecting them from the harmful effects of cancer symptoms (21).

Resilience is a critical component for quality of life at all stages; during diagnosis, treatment, survival and palliative care. This is an important trait for promoting positive psychosocial well-being. Early identification of psychological factors related to quality of life after treatment is important among patients as increased risk of worse outcomes, as it can help them develop interventions to improve quality of life (22).

Despite the increase in the survival rate, it is well known that the diagnosis of breast cancer, as well as the treatment resulting from the disease, affects many vital aspects (work ability, interpersonal relationship,

body image or daily habits), assuming an important impact on the physical and psychological health of a being (23).

Research in the positive psychology approach has focused on psychological adaptation, suggesting that breast cancer survivors can cope with extremely adverse situations and adapt to them (24).

Although a cancer diagnosis involves personal suffering, many women with breat cancer can develop the ability to resist and accept a life crisis, resulting in greater resilience and personal growth, which in turn reduces the negative affect associated with the disease (25).

Althought these women adapt adequately to the illness process through resilience, it is thought that a useful skill or appropriate levels of emotion management can improve the process of adaptation to the illness. In this sense, the concept of "co-vitality" appears in opposition to "comorbidity", where it refers to a set of personal factors, mainly socio-emotional comptencies, which can increase people's psychosocial adaptation (26).

Therefore, Deshields et al (24) understand resilience as a dynamic process under the influence of emotional intelligence, among other personal and social factors of risk and protection. Resilience is an important trait that contributes to a person's mental and physical well-being. Evidence indicates that it is associated with motivation to recover from phhysical or psychological traumatic events, which reduces the impact of risk factors, thus increasing a person's ability to cope with life's challenges. In this way, it protects against psychosocial health problems, such as depression, anxiety, fear and helplessness, and helps reduce related negative effects (27).

Understanding the factors that influence a higher level of resistance can have important clinical implications and can represent a guiding principle for designing psychological interventions that would accelerate recovery and improve the quality of life of cancer patients (28).

On the topic of resilience in our environment, more research has been conducted and more papers have been published. In the paper, Babić R. And colleagues conclude that the greater the resistance, the lower the vulnerability and risk of disease. Resilient people tend to be optimistic, tend to see everything as a useful experience, focus on personal strengths and qualities, use constructive criticism, develop close relationships with others, have developed social skills and are emotionally aware. Good resistance worsens and prevents the occurrence of diseases, ensures good health, facilitates and accelerates healing, and provides a

productive life and a sense of well-being despite chronic diseases (29).

In the work of Bošnjak M. And colleagues, it was determined that higher levels of resistance predict a better quality of life in patients with inflammatory bowel disease. Higher levels of resilience predicted higher levels of ostomy adjustment; in particular, persistance- defined as a resilience trait- was the most reliable predictor (30). Franjić D. And colleagues conclude that resilience is positively related to the quality of life and self-confidence of healthcare workers suffering from COVID-19 in the University Clinical hospital Mostar (31) and that a higher level of resilience statistically significantly contributes to a higher level of quality of life in colon cancer patients (32) and that people who have a higher level of resilience are more ready to face the disease, and a faster process of recovery and healing from colon cancer has been recorded in such people (33).

In his book Psychology in Medicine and Healthcare, Babić D. et al. devotes an entire chapter to resilience. Its main characteristics and its significance for health and disease are described (34).

CONCLUSION

Breast cancer is the most common malignant disease in women. Contemporary research tries to investigate the relationship between psychoemotional parameters and the length of survival of breast cancer patients. A diagnosis of breast cancer involves personal suffering. In women suffering from breast cancer who manage to develop the ability to resist and accept a life crisis, greater resistance and personal growth is created, thereby reducing the negative impact associated with the disease. Resilience is a personality characteristic that mitigates the negative effects of stress or adverse situations, thus encouraging the adaptability, and among the characteristics are perseverance, purpose in life, self-belief.

REFERENCES

1. Kirmayer JL, Sehdev M, Whitley R, Dandeneau FS,Isaac C. Community resilience: Models, metaphors and measures. Journal of Aboriginal Health. 2009;5:62-117.
2. Fletcher D, Sarkar M. Psychological Resilience. A Review and Critique of Definitions, Concepts, and Theory. European Psychologist. 2013;18:12-23.

3. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). Depression & Anxiety. 2003;18(Suppl 2):76-82.

4. Luthar SS, Ciccheti S, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. Child Dev. 2000;71(Suppl 3):543-562.

5. Ungar M,Liebenberg L. Assessing Resilience Across Cultures Using Mixed Methods: Construction of the Child and Youth Resilience Measure. Journal of Mixed Methods Research, 2011. 5 (Suppl 2), 126-149.

6. Masten AS. Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. Development and Psychopathology. 2011;23:493-506.

7. Cicchetti D, Garmezy N. Milestones in the development of resilience. Special issue, Development and Psychopathology. 1993;5(Suppl 4):497-774.

8. Seiler A, Jenwein J. Resilience in cancer patients. Front Psychiatry. 2019.

9. Davydov D. M. Stewart R., Ritchie K., Chaudieu I. Resilience and mental health. Clin. Psychol. Rev. 2010.

10. Halauk V. Quality of life in health and illness. Works of the Institute for Scientific and Research and Artistic work in Bjelovar. 2013.

11. Bonanno GA, Westphal M, Mancini AD. Resilience to loss and potential trauma. Annu Rev Clin Psychol. 2011;7:511-35.

12. Šimić D, Babić R, Franjić D, Babić D Resilience and quality of life of cancer patients. Health bulletin. 2022;8(Suppl 1):68-75.

13. Vrdoljak E, Šamija M, Kusić Z, Petković M, Gugić D, Krajina Z. Clinical oncology. Zagreb, Medical publishing house, 2013.

14. Clark BZ, Onisko A, Assylbekova B, Li X, Bhargava R, Dabbs DJ. Breast cancer global tumor biomarkers: a quality assurance study of intratumoral heterogeneity. Mod Pathol. 2019;32(Suppl3):354-366.

15. Liedtke C, Kolberg HC, Kerschke L, Görlich D, Bauerfeind I, Fehm T, Fleige B, Helms G, Lebeau A, Stäbler A, Schmatloch S, Hausschild M, Schwentner L, von Minckwitz G, Loibl S, Untch M, Kühn T. Systematic analysis of parameters predicting pathological axillary status (ypN0 vs. ypN+) in patients with breast cancer converting from cN+ to ycN0 through primary systemic therapy (PST). Clin Exp Metastasis. 2018;35(Suppl8):777-783.

16. Alkabban FM, Ferguson T. Breast Cancer. [Updated 2021 Aug 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022.

17. Kitamura M, Nakayama T, Mukaisho KI, Mori T, Umeda T, Moritani S, Kushima R, Tani M, Sugihara H. Progression Potential of Ductal Carcinoma in situ Assessed by Genomic Copy Number Profiling. Pathobiology. 2019;86(Suppl2-3):92-101.

18. Radovic N, Ivanac G, Divjak E, Biondic I, Bulum A, Brkljacic B. Evaluation of Breast Cancer Morphology Using Diffusion-Weighted and Dynamic Contrast-Enhanced MRI: Intermethod and Interobserver Agreement. J Magn Reson Imaging. 2019 May;49(Suppl5):1381-1390.

19. Katzung BG, Masters SB, Trevor AJ. Temeljna i klinička farmakologija. Zagreb. Medicinska naklada. 2011.

20. Brix C, Schleussner C, Füller J, Roehrig B, Wendt G. T, Strauss B. The need for psychosocial support and its determinants in a sample of patients undergoing radiooncological treatment of cancer. J Psychosom Res 2008;65:541-8.

21. Wu L-M, Sheen J-M, Shu H-L, et al. Predictors of anxiety and resilience in adolescents undergoing cancer treatment. J Adv Nurs 2013;69:158-66.

22. Dunne S, Mooney O, Coffey L, et al. Psychological variables associated with quality of life following primary treatment for head and neck cancer: a systematic review of the literature from 2004 to 2015. Psychooncology 2017;26:149-60.

23. Marroquín B, Czamanski-Cohen J, Weihs KL, Stanton AL. Implicit

loneliness, emotion regulation, and depressive symptoms in breast cancer survivors. J. Behav. Med. 2016;39: 832–844.

24. Deshields TL, Heiland MF, Kracen AC, Dua P. Resilience in adults with cancer: development of a conceptual model. Psychooncology 2016;25: 11–18.

25. Gallagher MW, Long LJ, Richardson A, D'Souza JM. Resilience and Coping in Cancer Survivors: The Unique Effects of Optimism and Mastery. Cognit. Ther. Res. 2019;43:32–44.

26. Pérez-González JC, Yáñez S, Ortega-Navas C, Piqueras JA. Educación emocional en la educación para la salud: cuestión de salud pública. Clín. Salud. 2020;31:127–136.

27. Abrams MS. Resilience in ambiguous loss. Am J Psychother 2001;55:283-91.

28. Boškailo E, Franjić D, Jurić I, Kiseljaković E, Marijanović I, Babić D. Resilience and quality of life of patients with breast cancer. Health bulletin, 2021;7(Suppl 2):13-22.

29. Babić R, Babić M, Rastović P, Ćurlin M, Šimić J, Mandić K, Pavlović K. Resilience in Health and Illness. Psychiatr Danub. 2020 Sep;32(Suppl 2):226-232.

30. Bošnjak M, Bešlić I, Ćeško M, Babić D, Hasanefendić B. Inflammatory bowel diseases and resilience. Health bulletin. 2022;8(2):34-45.

31. Franjić D, Franjić I, Babić D, Grgić S, Spahalić M. Association of resilience with quality of life and self-esteem in healthcare workers of covid-19 hospital. Health bulletin. 2021;7(2):13-22.

32. Franjić D, Babić D, Marijanović I, Martinac M. Association between Resilience and Quality of Life in Patients with Colon Cancer. Psychiatr Danub. 2021 Dec;33(Suppl 13):297-303.

33. Franjić D. Colon cancer and resilience. Health bulletin. 2019;5(2):66-74.

34. Babić D. Psychology in medicine and healthcare. University in Mostar. Mostar. 2020.

POVEZANOST REZILIJENCIJE I KARCINOMA DOJKE

Marija Brajković, Mirjana Mikulić, Romana Barbarić, Dragan Babić

Fakultet zdravstvenih studija Sveučilišta u Mostaru, 88000 Mostar, Bosna i Hercegovina

SAŽETAK

Rezilijencija se može mijenjati i modificirati tijekom vremena, na nju utječu mnoge različite situacije i nevolje koje osoba svlada tijekom života. Rezilijencija predstavlja noviji koncept, koji treba biti primijenjen u pacijenta od početka života s rakom. Kliničari bi trebali uložiti više vremena i truda u stvaranje intervencija koje omogućuju pacijentima da potaknu svoju otpornost. Termin rezilijencija ili sposobnost oporavka odnosi se na proces prevladavanja nepovoljnih događaja, uključujući stres, traumu i bolest. Razmatranje sposobnosti oporavka kao osobine ličnosti nameće pretpostavku da sposobnost oporavka predstavlja konstelaciju osobnih karakteristika koje omogućavaju pojedincima da se prilagode različitim okolnostima s kojima se susreću. Rezilijencija se kao kompleksan fenomen mijenja kroz vrijeme i okolnosti. Shvaćanje rezilijencije kao složenog, višedimenzionalnog i dinamičnog procesa vrlo je važno za razumijevanje terapijskih mehanizama te mehanizama izlječenja i iscjeljenja. Psihološki čimbenici najvažniji su čimbenici koji doprinose razvoju otpornosti.Potrebno je raditi na razvoju psihosocijalnih intervencija koje će ciljati na psihološku otpornost pacijenata oboljelih od raka. Karcinom dojke najčešća je maligna bolest u žena. Kod žena oboljelih od karcinoma dojke koje uspiju razviti sposobnost odupiranja i prihvaćanja životne krize, stvara se veća otpornost i osobni rast, čime se smanjuje negativan učinak povezan s bolešću. Cilj ovog rada je objasniti povezanost rezilencije i karcinoma dojke.

Ključne riječi: povezanost, rezilencija, karcinom, dojka

Osoba za razmjenu informacija:
Marija Brajković, mag.radiološke tehnologije, PhD student
E mail : marija.brajkovic@fzs3.sum.ba