



Depression and Resilience in Breast Cancer Patients

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Abstract

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OBJECTIVE: A significant number of breast cancer patients, during their life with the diagnosis, experience emotional distress in the form of depression and anxiety. Psychological resilience is the ability of a person to protect his/her mental health when faced with adverse circumstances such as the cancer diagnosis. This study aims to assess the resilience in breast cancer patients and to explore whether depression affects the resilience.

MATERIAL AND METHODS: Two hundred eighteen (218) women, treated for early breast cancer responded to Connor - Davidson Resilience Scale and Hospital Depression and Anxiety Scale, in order to assess the level of psychological resilience and the level of depression.

RESULTS: There is a significant negative correlation between depression and resilience in our sample ($r = -0.562$, $p < 0.001$). Individuals with higher levels of depression have lower levels of psychological resilience. There is no statistically significant correlation between the ages of the participants; time passed since diagnosis, cancer stage and resilience levels.

CONCLUSION: This study shows that patients who are less depressed have higher levels of resilience and that psychological resilience may independently contribute to lower levels of depression among breast cancer patients. The level of psychological resilience may be a protective factor for depression and psychological distress.

Introduction

Psychosocial and behavioral studies of cancer survivors show a wide variety of effects of the disease and treatments upon the lives of patients and their families. These studies come to the conclusion that being a "disease-free" does not mean to be "free from the disease." Cancer has power to influence all aspects of the human health: physical, functional, psychological/cognitive, social, economic and spiritual. Through conversation and following the life stories of people being treated for cancer, researchers have

noted that although the experience is often catastrophic, many patients show high level of resilience when faced with disease.

Cancer patients suffer from much different psychiatric comorbidity, but the most frequently diagnosed are depressive disorder, anxiety disorders (panic disorder, post-traumatic stress disorder, and phobias), adjustment disorders and delirium [1]. Often, patients have mixed condition or a combination of symptoms such as depression and anxiety.

In the literature, one can find many different data on the prevalence of clinically significant depres-

sion in oncology patients. These differences depend on the location and stage of cancer, the demographic characteristics of examined population, diagnostic criteria and instruments used, method of assessment, and many other factors [2]. Generally, it is estimated that 10% to 25% of cancer patients have clinically significant depressive symptoms [3, 4], with higher prevalence in late life of patients [5], and in malignant diseases with worse prognosis, such as pancreatic cancer and oropharyngeal cancer [6, 7]. It is believed that the incidence of depression in patients with cancer is 3 to 4 times more common than in the general population [8]. Potential reasons for the inconsistency in the literature include differences in methodology (many different tools for screening and diagnosis of depression are used), there are too much differences in defining the research population, and often the entire population of patients with breast cancer is comprised without taking into consideration the singularity of time period passed since the diagnosis [9].

Depression in patients with malignant disease contributes to reduced quality of life [10], a higher rate of suicide and desire for hastened death [11], poorer adherence to the oncology treatment [12], greater physical suffering [13] and prolonged hospital stays [14]. There is evidence that depression is an independent risk factor for mortality in patients with malignant diseases [15-18].

Cancer as a diagnosis is associated with psychological distress across all points of the trajectory of the disease. Many factors contribute to this psychological suffering such as the feeling of uncertainty about the future, loss of the autonomy and the sense of control over the changes in life and the possibility of disability, fear of suffering and death and existential worries [19].

Patients with breast cancer show a higher rate of five-year survival compared to other malignancies in women. It is believed that the survival rate of patients with breast cancer is between 80% and 95% [20]. The diagnosis of breast cancer is no longer considered as a fatal diagnosis, and is more and more accepted as a disease with positive treatment outcomes. Although the disease is successfully treated, the actual diagnosis of cancer and treatment that patients must undergo are very stressful. Clinicians should be aware of the frequency of depression in cancer patients and early identify the psychological symptoms. Early detection and treatment of depression in patients with breast cancer improves the patients' quality of life and increases the probability of successful recovery [21]. The period after completion of the initial oncologic treatment is also a time of transition when women need to transform their role of "breast cancer patient" to the role of "symptom-free patient" or "survivor" [22]. The depressive disorder is often underestimated in patients with breast cancer [23, 24]. It is considered that depressive disorder is most common in the period when the diagnosis of

breast cancer is established. The depressive disorder later in life after the initial therapy for breast cancer is not thoroughly researched. During regular oncological follow-up examinations, psychological needs of patients living with no signs of cancer are often overlooked [25]. One of the prominent causes for development of depression among breast cancer survivors is the fear of cancer recurrence or occurrence of metastases [26].

Very important psycho-social factor regarding the psychological suffering of cancer patients is their resilience. Resilience implies the ability of a person to protect or recover his/her mental health despite the existence of objective difficulties. Resilience is not a single feature of the person but it is a result of the interactions between multiple personality traits and environmental factors [27]. It is believed that higher levels of resilience protect a person from psychiatric disorders. In cancer patients, higher levels of resilience are associated with better quality of life and lower levels of depression in patients [28]. Given that most resilience studies in cancer patients are cross-sectional studies, it is difficult to derive a reliable conclusion whether people who are resilient suffer less from psychological distress or the lesser psychological suffering makes people more resilient when dealing with an adversity. The ability of patients to protect their mental health and experience positive psychological growth when faced with catastrophic experience is insufficiently explored.

This study aims to assess the resilience in breast cancer patients and to explore whether depression affects the resilience of patients suffering from breast cancer.

Material and Methodology

The study was conducted in the oncology department of the Clinical Hospital "Dr. Trifun Panovski" in Bitola and University Clinic for Oncology and Radiotherapy in Skopje. Participation in the study was offered to all patients who came for a follow-up in the oncology wards in Bitola and Skopje and who met the inclusion criteria. Data for 218 patients have been compiled and analyzed in this study, women treated for breast cancer, older than 18 years, treated with different oncological therapies and that are in a different time period from the initial treatment of malignant disease.

Inclusion criteria

The diagnosis of early breast cancer to be based on histopathology analysis (stage I, II and III); Patients with breast cancer can be included in the

study if they have completed the initial surgical and oncological treatment at least 1 month prior the interview; Patients who have or have had metastasis cannot be included in the study; Patients who have comorbid or pre-existing brain disorders in the form of delirium, encephalopathy or other disorder in the course of treatment were not included in the study; Patients included in the study had no history of psychiatric illnesses (schizophrenia spectrum, schizotypal and delusional disorders, affective disorders, diagnosed personality disorders, addiction) before the diagnosis of breast cancer.

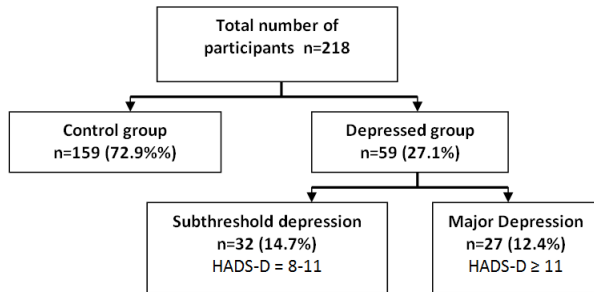


Figure 1: Depression according to HADS scale, cut-off HADS-D ≥ 8

Participants answered the following questionnaires:

1. Questionnaire for psychosocial and oncologic parameters specifically designed for the study.

2. Connor-Davidson Resilience Scale 25 (CD-RISC25) [29, 30], is a self-evaluation instrument of 25 items that are ranked on a Likert scale from 0 to 4 points. The full range of the scale is from 0-100 points, where higher scores indicate higher resilience.

3. Hospital Anxiety Depression Scale (HADS) [31-33], - for self-assessment of anxiety and depression. The HADS scale contains 14 items: 7 for assessment of anxiety symptoms and 7 for assessment of depressive symptoms. For each item there are four possible answers scored from 0 to 3 points. The total sum of both subscales (depression, anxiety) is interpreted as follows: 0-7 no symptoms, 8-10 borderline case, 11 points and more than 11 indicates clinically significant anxiety or depression. In studies with cancer patients, researchers accepted to use cut-off ≥ 8 points on HADS-D subscale for clinically significant depression.

All participants have given a written informed consent for participation in the study. The study was approved by The Ethics Committee for research on people at the Medical Faculty in Skopje.

Results

The mean resilience score of the whole group is 74.7 (0-100) SD 17.0, and the mean depression score on HADS-D is 5 (SD 4.2). The not depressed subgroup had mean resilience of 79.1 (SD 14.6), the subthreshold group had 68.2 (SD 14.3) and the major depression group had mean levels of resilience of 56.4 (SD 18.7).

Table 1: Summary of demographic and oncological data

Demographic Information		Cancer Diagnosis and Treatment	
Age / Range	30-90	Stage	186
Age / Mean (years)	60.2	I	52 (27.9%)
Marital Status	216	II	74 (39.8%)
Married	147 (68%)	III	60 (32.3%)
Never Married	13 (6%)	Time from diagnosis	211
Other (Divorced, widowed)	56 (25.9%)	6 months-1 year	23 (10.9%)
People in household	217	1-2 years	28 (13.2%)
Only the patient	27 (12.4%)	2-5 years	74 (35.1%)
Shares with other/s family members	190 (87.6%)	>5 years	86 (40.8%)
Patient is parent	218	Type of Treatment	218
Yes	198 (90.8%)	ChemoTh+RadioTh+Surgery	104 (47.7%)
No	20 (9.2%)	ChemoTh+Surgery	72 (33%)
Age of Patients' Children	192	RadioTh+Surgery	11 (5%)
<10 years old	6	Surgery	31 (14.2%)
11-20	17 (8.9%)	Type of Surgery	212
21-30	55 (28.6%)	Partial Mastectomy	40 (18.9%)
>31	114 (59.4%)	Mastectomy	165 (77.8%)
Education	217	Double Mastectomy	7 (3.3%)
Primary School	56 (25.8%)	Adjuvant Therapy (present)	206
Secondary School	88 (40.6%)	Yes	134 (65%)
University	73 (33.6%)	No	72 (35%)
Employment	214	Type of Medication	121
Employed	58 (27.1%)	Tamoxifen	108 (89.2%)
Unemployed	50 (23.4%)	Aromatase Inhibitor	13 (10.8%)
Retired	106 (49.5%)	Who financially supports the family?	214
Place of residence	200	Patient alone	58 (27.1%)
Urban area	167 (83.5%)	Patient's partner	36 (16.4%)
Rural area	33 (16.5%)	Patient and partner together	86 (40.2%)
Family Net Monthly Income	214	Other	34 (15.9%)
Up to 10000 MKD (160 EUR)	58 (27.1%)	No of individuals in the 195 social support network	195
10000-30000 MKD (160-500 EUR)	116 (54.2%)	0 individuals	5 (2.6%)
>30000 MKD (>500 EUR)	40 (18.7%)	1-5 individuals	73 (37.4%)
		>5 individuals	117 (60%)

There is strong negative correlation between the level of resilience and the level of depression on the HADS-D subscale ($r = -0.562$, $p < 0.001$). The level of resilience does not correlate with the age of participants ($r = -0.077$; $p = 0.263$).

Table 2: Comparison of means of resilience in 3 groups of patients (not depressed, subthreshold depression, major depression)

Not depressed vs. Subthreshold Depression	$t = 3.863$, $df = 186$	$P < 0.001$
Not depressed vs. Major Depression	$t = 6.026$, $df = 182$	$P < 0.001$
Subthreshold Depression vs. Major Depression	$t = 2.681$, $df = 56$	$P = 0.01$

Discussion

The aim of the study was to explore whether higher levels of resilience are associated with the level of depression in breast cancer patients. The findings confirm the hypothesis that the level of resilience is

negatively correlated with the level of depression in women treated for breast cancer. Higher levels of resilience may represent a protective factor from the emotional suffering of people who are dealing with significant stressful life event such as a cancer diagnosis. In our sample, the association between depression and resilience is statistically significant, although one can not reliably tell the direction of the connection between these two variables. On one hand it is possible that the low level of emotional distress causes higher levels of resilience, on the other hand the high level of resilience leads to less emotional suffering. Further longitudinal research is needed to examine whether high levels of resilience represent a long-term protection from depression/emotional suffering and to examine the relation of these two variables [34]. These findings should be evaluated with caution due to the relatively small sample and the cross-sectional design of the study; however they are a good basis for further research in this area.

In our sample, 12.4% of the patients suffered from major depression, and additional 14.7% suffered from depressive symptoms that altogether did not reach the criteria for major depression (subthreshold group). The levels of resilience are higher in not depressed group, than the subthreshold and major depression group. Also subthreshold depression group has better levels of resilience than major depression group. Our results show that even mild severity of depression reflects in the levels of resilience.

In our sample there was no statistical significance between the depression and time passed since diagnosis, and the stage of cancer $p > 0.05$. This finding is contrary to the literature data in which the level of depression decreases over time after the initial shock of the diagnosis and the treatment. More extensive research is required to reach a valid conclusion that will refer to our population.

If we collect more data from our population, about what helps oncology patients to be resilient, all healthcare professionals can create specific psychosocial interventions that target resilience. These interventions for enhancing psychological resilience may be a useful approach in overcoming the psychological distress in people who are dealing with breast cancer [35], to improve adherence to oncology treatments, and to improve the overall quality of life of the patients and their families.

In conclusion, this study shows that psychological resilience may independently contribute to lower levels of depression and psychological distress among patients treated for breast cancer. Patients who are less depressed have higher levels of resilience. More extensive research is required to verify the impact of higher levels of psychological distress on resilience and to establish the direction of the impact of these two phenomena. The level of psychological resilience may be a protective factor for depression and psychological distress.

Various psychosocial interventions to enhance psychological resilience may be useful approach in overcoming the psychological distress in people who are dealing with breast cancer. Based on data from our population, we can identify specific objectives for which psychosocial interventions can be implemented in clinical practice.

References

- Kroll J. Posttraumatic symptoms and the complexity of responses to trauma. *JAMA*. 2003;290:2672-70. <http://dx.doi.org/10.1001/jama.290.5.667> PMID:12902373
- Brintzenhofe-Szoc KM, Levin TT, Li Y, et al. Mixed anxiety/depression symptoms in a large cancer cohort: prevalence by cancer type. *Psychosomatics*. 2009;50:383-391. <http://dx.doi.org/10.1176/appi.psy.50.4.383>
- Rodin G, Zimmermann C, Rydall A, et al. The desire for hastened death in patients with metastatic cancer. *J Pain Symptom Manage*. 2007;33:661-675. <http://dx.doi.org/10.1016/j.jpainsymman.2006.09.034> PMID:17531909
- Pirl WF. Evidence report on the occurrence, assessment, and treatment of depression in cancer patients. *J Natl Cancer Inst Monogr*. 2004;32:32-39. <http://dx.doi.org/10.1093/incimonographs/igh026> PMID:15263039
- Lo C, Zimmermann C, Rydall A, et al. Longitudinal study of depressive symptoms in patients with metastatic gastrointestinal and lung cancer. *J Clin Oncol*. 2010;28:3084-3089. <http://dx.doi.org/10.1200/JCO.2009.26.9712> PMID:20479397
- Benton T, Staab J, Evans DL. Medical comorbidity in depressive disorders. *Ann Clin Psychiatry*. 2007;19:289-303. <http://dx.doi.org/10.1080/10401230701653542> PMID:18058286
- Clarke DM, Currie KC. Depression, anxiety and their relationship with chronic diseases: a review of the epidemiology, risk and treatment evidence. *Med J Aust*. 2009;190:S54-S60. PMID:19351294
- Kessler RC, Berglund P, Demler O, et al. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA*. 2003;289:3095-3105. <http://dx.doi.org/10.1001/jama.289.23.3095> PMID:12813115
- Zainal NZ, Nik-Jaafar NR, Baharudin A, Sabki ZA, Ng CG. Prevalence of depression in breast cancer survivors: a systematic review of observational studies. *Asian Pac J Cancer Prev*. 2013;14(4):2649-56. <http://dx.doi.org/10.7314/APJCP.2013.14.4.2649> PMID:23725190
- Grassi L, Indelli M, Marzola M, et al. Depressive symptoms and quality of life in home-care-assisted cancer patients. *J Pain Symptom Manage*. 1996;12:300-307. [http://dx.doi.org/10.1016/S0885-3924\(96\)00181-9](http://dx.doi.org/10.1016/S0885-3924(96)00181-9)
- Chochinov HM, Wilson KG, Enns M, et al. Depression, hopelessness, and suicidal ideation. *Psychosomatics*. 1998;39:366-370. [http://dx.doi.org/10.1016/S0033-3182\(98\)71325-8](http://dx.doi.org/10.1016/S0033-3182(98)71325-8)
- Colleoni M, Mandala M, Peruzzotti G, et al. Depression and degree of acceptance of adjuvant cytotoxic drugs. *Lancet*. 2000;356:1326-1327. [http://dx.doi.org/10.1016/S0140-6736\(00\)02821-X](http://dx.doi.org/10.1016/S0140-6736(00)02821-X)
- Chen ML, Chang HK. Physical symptom profiles of depressed and nondepressed patients with cancer. *Palliat Med*. 2004;18:712-718. <http://dx.doi.org/10.1191/0269216304pm950oa>
- Prieto JM, Blanch J, Atala J, et al. Psychiatric morbidity and impact on hospital length of stay among hematologic cancer patients receiving stem-cell transplantation. *J Clin Oncol*. 2002;20:1907-1917. <http://dx.doi.org/10.1200/JCO.2002.07.101> PMID:11919251
- Pinquart M, Duberstein PR. Depression and cancer mortality: a meta-analysis. *Psychol Med*. 2010;40:1797-1810. <http://dx.doi.org/10.1017/S0033291709992285> PMID:20085667 PMID:PMC2935927
- Satin JR, Linden W, Phillips MJ. Depression as a predictor of disease progression and mortality in cancer patients: a meta-analysis. *Cancer*. 2009;115:5349-5361. <http://dx.doi.org/10.1002/cncr.24561> PMID:19753617
- Lloyd-Williams M, Shiels C, Taylor F, et al. De-pression—an independent predictor of early death in patients with advanced cancer. *J Affect Disord*. 2009;113:127-132. <http://dx.doi.org/10.1016/j.jad.2008.04.002> PMID:18558439
- Iosifescu DV. Treating depression in the medically ill. *Psychiatr Clin North Am*. 2007;30:77-90.

<http://dx.doi.org/10.1016/j.psc.2006.12.008>

PMid:17362805

19. Lo C, Li M, Rodin G. The assessment and treatment of distress in cancer patients: overview and future directions. *Minerva Psichiatr.* 2008;49:129-143.
20. Coleman MP, Forman D, Bryant H, et al. Cancer survival in Australia, Canada, Denmark, Norway, Sweden, and the UK, 1995–2007 (the International Cancer Benchmarking Partnership): an analysis of population-based cancer registry data. *Lancet.* 2011;377:127-38.
[http://dx.doi.org/10.1016/S0140-6736\(10\)62231-3](http://dx.doi.org/10.1016/S0140-6736(10)62231-3)
21. Weinberger T, Forrester A, Markov D, et al. Women at a dangerous intersection: diagnosis and treatment of depression and related disorders in patients with breast cancer. *Psychiatr Clin North America.* 2010;33:409-22.
<http://dx.doi.org/10.1016/j.psc.2010.01.005>
PMid:20385344
22. Allen JD, Savadatti S, Levy AG. The transition from breast cancer 'patient' to 'survivor'. *Psychooncology.* 2009;18:71-8.
<http://dx.doi.org/10.1002/pon.1380>
PMid:18613299
23. Qiu J, Yang M, Chen W et al. Prevalence and correlates of major depressive disorder in breast cancer survivors in Shanghai, China. *Psychooncology.* 2012;21:1331-7.
<http://dx.doi.org/10.1002/pon.2075>
PMid:21983854
24. Popoola AO, Adewuya AO. Prevalence and correlates of depressive disorders in outpatients with breast cancer in Lagos, Nigeria. *Psychooncology.* 2012;21:675-9.
<http://dx.doi.org/10.1002/pon.1968>
PMid:21462281
25. Park BW, Hwang SY. Unmet needs of breast cancer patients relative to survival duration. *Yonsei Med J.* 2012;53:118-25.
<http://dx.doi.org/10.3349/yvmj.2012.53.1.118>
PMid:22187241 PMCID:PMC3250332
26. Pan L, Han Y, Sun X, et al. FDG-PET and other imaging modalities for the evaluation of breast cancer recurrence and metastases: a meta-analysis. *J Cancer Res Clin Oncol.* 2010;136:1007-22.
<http://dx.doi.org/10.1007/s00432-009-0746-6>
PMid:20091186 PMCID:PMC2874488
27. Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. *Child Dev.* 2000;71(3):543-62.
<http://dx.doi.org/10.1111/1467-8624.00164>
PMid:10953923 PMCID:PMC1885202
28. Gotay CC, Isaacs P, Pagano I. Quality of life in patients who survive a dire prognosis compared to control cancer survivors. *Psychooncology.* 2004;13(12):882-92.
<http://dx.doi.org/10.1002/pon.808>
PMid:15386789
29. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety.* 2003;18(2):76-82.
<http://dx.doi.org/10.1002/da.10113>
PMid:12964174
30. Windle G, Bennett KM, Noyes J. A methodological review of resilience measurement scales. *Health Qual Life Outcomes.* 2011;9:8.
<http://dx.doi.org/10.1186/1477-7525-9-8>
PMid:21294858 PMCID:PMC3042897
31. Zigmond, AS; Snaith, RP. The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica.* 1983;67(6):361–370.
<http://dx.doi.org/10.1111/j.1600-0447.1983.tb09716.x>
PMid:6880820
32. Vodermaier A, Millman RD. Accuracy of the Hospital Anxiety and Depression Scale as a screening tool in cancer patients: a systematic review and meta-analysis. *Support Care Cancer* 2011;19(12):1899-908.
<http://dx.doi.org/10.1007/s00520-011-1251-4>
PMid:21898134
33. Singer S, Kuhn S, Götze H, Hauss J, Hinz A, Liebmann A, Krauss O, Lehmann A, Schwarz R. Hospital anxiety and depression scale cutoff scores for cancer patients in acute care. *Br J Cancer* 2009;100(6):908-12.
<http://dx.doi.org/10.1038/sj.bjc.6604952>
PMid:19240713 PMCID:PMC2661775
34. Min JA1, Yoon S, Lee CU, Chae JH, Lee C, Song KY, Kim TS. Psychological resilience contributes to low emotional distress in cancer patients. *Support Care Cancer.* 2013;21(9):2469-76.
<http://dx.doi.org/10.1007/s00520-013-1807-6>
PMid:23604453
35. Steinhardt M, Dolbier C. Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. *J Am Coll Health.* 2008;56(4):445-53.
<http://dx.doi.org/10.3200/JACH.56.4.445-454>
PMid:18316290