

## RESEARCH ARTICLE

# Psychological Distress and Resilience in Women Diagnosed with Breast Cancer in Greece

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### Abstract

**Background:** Breast cancer is the most frequent type of cancer among women worldwide, especially in developed countries. To be diagnosed with breast cancer and undergo cancer treatment can be a very stressful event. It is estimated that one-third of cancer patients are dealing with psychological problems, such as anxiety and depression and resilience is a way of coping and overcome life stressors such cancer diagnosis. **Purpose:** The purpose of this study was to examine resilience in women diagnosed with breast cancer and its association with depression and anxiety. **Methods:** A cross-sectional study was conducted, 144 women diagnosed with breast cancer answered a questionnaire consisted of four parts: Sociodemographic data, the Patient Health Questionnaire Two-Item Depression Scale, the Generalized Anxiety Disorder Questionnaire and the Connor-Davidson Resilience Scale 25. **Results:** The majority of the sample belongs to age group 51- 60 years, with the mean age of 53.5 SD±11.7 years. The 59.5% of patients were residents of an urban area, 56.8% were married and 36.5% has 2 children. The mean value of CD-RISC25 was 65.3 SD±17.9, meaning a moderate resilience of cancer patients. The 54.5% of respondents indicated a depressed mood. The anxiety severity measured with the GAD-2, where the mean was 2.1 and 46.8% of patients suffered from high anxiety. **Conclusions:** According to our results, resilience can negative influence depressive symptomatology. Moreover, lower levels of depression can lead to fewer anxiety symptoms.

**Keywords:** Psychological distress- resilience- breast cancer- depression- anxiety

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### Introduction

Breast cancer is the most frequent type of cancer among women worldwide, especially in developed countries (Abda et al., 2017) and is recognized as the second cause of death worldwide, following lung cancer (Fasoi-Barka et al., 2015). The most common ages in which breast cancer appears, are between 35-55, while it is estimated that one in twelve women will be diagnosed with breast cancer in her lifetime (Fasoi-Barka et al., 2015; Zagouri et al., 2014). Furthermore, in the developing countries, the 70% of the diagnosis is set in the 3rd and 4th stage of breast cancer decreasing in such way the survivorship down to five years (Abda et al., 2017).

To be diagnosed with breast cancer and undergo cancer treatment can be a very stressful event and can bring not only uncertainty but also many difficulties in everyday life (Dooley et al., 2017). Despite the progress in medicine, breast cancer patients are dealing with many physical and mental problems and many research studies

have shown that the quality of life in these patients is usually very low. (Dooley et al., 2017; El Fakir et al., 2016; Tsitsis and Lavdaniti, 2014). Mental and physical problems, in addition to types of cancer treatments such as surgery, radiotherapy, chemotherapy, and hormonotherapy can affect family life, work, social activities and sexual functioning of the patients (El Fakir et al., 2016).

Although breast cancer, along with other types of cancer, is considered to be chronic conditions that don't change the fact that it is a life threatening disease. The specific treatments mentioned above, as well as their side effects, such as chronic fatigue, pain, nausea, hair loss, body image issues, and cognitive impairment (Dooley et al., 2017; Lavdaniti, 2015) are considered to be some additional stressors that often are associated with the psychological distress that cancer patients are facing. It is estimated that one-third of cancer patients are dealing with psychological problems, such as anxiety and depression. Among them, women and young people are at higher risk (Hajian et al., 2017; Lavdaniti et al., 2012).

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Nowadays, there is a growing research interest on resilience, especially in oncology nursing, as a way of coping and overcome life stressors such cancer diagnosis (Wu et al., 2016). The concept of resilience has been defined in many ways over the years. Some example definitions are “the ability of the individual to adaptively overcome adversity and stress by maintaining its psychological and physical functioning” or “to regain the normal psycho-emotional state after a psycho-pressive event” (Newman, 2005). The resilient person has the capacity to adapt to tragic events, adversities (Hardy et al., 2004).

Individuals that are considered being resilient can better cope, adjust in traumatic events and overcome the danger of developing anxiety and depression (Southwick et al., 2005). Previous studies on resilience indicated that it can be a psychological indicator and may contribute to improving psychological outcomes, such as anxiety, depression, and quality of life (Wu et al., 2016).

Despite the fact that resilience can be a protective factor in psychological distress on breast cancer, literature review has shown a lack of research studies about resilience in Greek population and especially in Greek women with breast cancer. Furthermore, no one of them examined any relation between resilience and mental health status. The purpose of this study was to examine resilience in women diagnosed with breast cancer and its association with depression and anxiety.

## Materials and Methods

### Study Design and Sample

This was a cross-sectional survey study. A convenience sampling method was used to recruit patients from an outpatient oncology department in Greece. Participation in the study was offered to all patients who came for follow-up in the oncology department and 144 patients met the inclusion criteria. All participants were women who survived breast cancer and they had been treated with different oncological therapies. The inclusion criteria were the following: (a) women, aged between 18 and 90 years; (b) a documented malignant tumor; (c) literate and fluent in the Greek language; (d) no history of prior mental disorder. All participants have given written informed consent for participation in the study. Informed consent was obtained from the study participants after full explanation of the purpose and nature of the data collection and storage. This research meets the ethics guidelines of the hospital where the study was performed. The duration of the survey was from 1st February to 31st March 2017.

### Instruments

All patients answered a questionnaire for sociodemographic and psychosocial data, which was specifically designed for the study. In the questionnaire three sections were included: A) The Patient Health Questionnaire Two-Item Depression Scale (PHQ-2) which has been shown to be a reliable and valid ultra-brief tool to assess depression diagnosis, severity, and outcome (Kroenke et al., 2003; Lowe et al., 2005). The frequency of each symptom over the previous two weeks is assessed,

with response options including not at all, several days, more than half the days, and nearly every day. These responses are scored 0, 1, 2, or 3, respectively, resulting in a total score that can range from 0 to 6, with higher scores representing more severe depressive symptoms. PHQ-2 scores of 3 or greater indicate clinically significant depression. B) The Generalized Anxiety Disorder Questionnaire (GAD-2) is a short version of the tool that is composed of the first two questions of the GAD-7 (Spitzer et al., 2006). Normative values are available (Löwe et al., 2010). The tool is a validated screening severity measure for generalized anxiety disorder as well as a good screening measure for panic, social anxiety, and post-traumatic stress disorders. C) The psychological resilience was measured with Connor-Davidson Resilience Scale 25 (CD-RISC25) (Connor and Davidson 2003, Windle et al., 2011), a self-evaluation instrument with 25 items that are ranked on a Likert scale from 0 to 4 points. The full range of the scale is 0-100 points, where higher scores indicate higher resilience. All mentioned instruments have been proven valid for Greek population by previous studies.

### Statistical analyses

Percentages, means, and standard deviations were calculated in order to provide a broader view of the data. Reliability of the instruments was tested with Cronbach's Alpha coefficient was used and found to be for PHQ-2  $\alpha=0.722$ , GAD-2  $\alpha=0.712$  and for CD-RISC25  $\alpha=0.951$ . Normality was checked by the Kolmogorov-Smirnov test. All data exhibited normal distributions and thus the parametric t-test and ANOVA were used for comparisons according to age group, stage of cancer, type of surgery, symptom burden (independent variables) and PHQ-2, GAD-2, CD-RISC25 (dependent variables). Pearson correlation coefficient was used to identify the relationship between the studied variables. Also, logistic regression analyses were used to determine which factors affect the depression and anxiety of cancer patients. Results indicated differences with a probability of less than or equal to 0.05 were accepted as significant. For statistical analysis, we used statistical program SPSS 21.

## Results

The majority of the sample belongs to age group 51- 60 years, with the mean age of 53.5 years (S.D. 11.7). 59.5% of patients were residents of an urban area. 56.8% were married and 36.5% has 2 children. The secondary education was completed by 43.9% of patients. 23.8% was public employee and 18.2% was retired (Table 1).

As far as the clinical characteristics of the sample, 48.6% of the sample was in the first stage of breast cancer and the rest was in the final stage (50.7%). 73% of patients underwent mastectomy and 27% an onectomy. Surgery and chemotherapy received 50% as adjuvant therapy, 34.5% underwent surgery, chemotherapy, and radiotherapy, and 15.5% surgery and radiotherapy.

In Figure 1 is presented the symptom burden of patients. Thirty-seven point eight percent stated that they had some symptoms, but it did not require bed rest during the day. Also, a high percentage of patients (32.4%)

Table 1. Socio-Demographic Characteristics of the Sample

		No	Percentage
Age group	Below 40	25	16.9
	41-50	34	23.0
	51-60	47	31.8
	61-70	35	23.6
	71 +	7	4.7
Place of residence	Rural	25	16.9
	Semi-urban	35	23.6
	Urban	88	59.5
Family status	Unmarried	26	17.6
	Married	84	56.8
	Divorced	20	13.5
	Widower	18	12.2
Number of children	0	33	22.3
	1	25	16.9
	2	54	36.5
	3	33	22.3
	4	3	2.0
Educational level	Primary	33	22.3
	Secondary	65	43.9
	Tertiary	49	33.1
	Master - Phd	1	0.7
Professional status	Unemployed	16	10.8
	Housewife	24	16.2
	Private employee	17	11.5
	Public employee	35	23.6
	Retired	27	18.2
	Other	29	19.6

declared that they had not symptoms, and they can do all the daily activities.

Additionally, in order to assess depressive symptoms in cancer patients based on their psychometric values, patients completed the PHQ-2. Mean (SD) depression scores were 2.2 (1.8) on the PHQ-2. 54.5% of respondents indicated a depressed mood. Moreover, the anxiety severity measured with the GAD-2, where the mean was 2.1 and 46.8% of patients suffered from high anxiety.

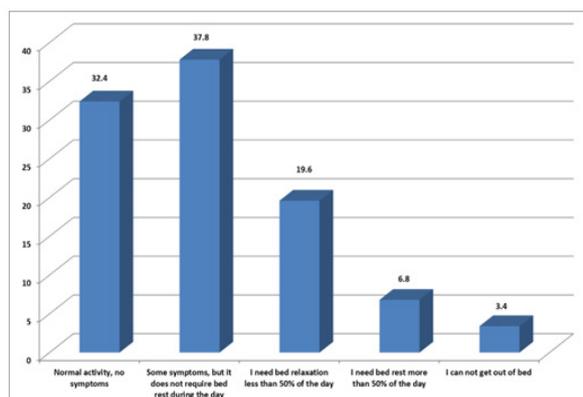


Figure 1 . Symptoms Burden

Table 2. Logistic Regression Analysis of Factors Affecting PHQ-2

	B	S.E.	Wald	df	Sig.	Exp(B)
Stage of cancer	1.951	0.653	8.931	1	0.003	7.039
Symptom burden	-0.606	0.36	2.838	1	0.092	0.546
CD-RISC25	-0.035	0.017	4.262	1	0.039	0.966
GAD-2	3.319	0.691	23.089	1	0	27.627
Constant	-0.853	1.37	0.387	1	0.534	0.426

R<sup>2</sup>, 55.8%

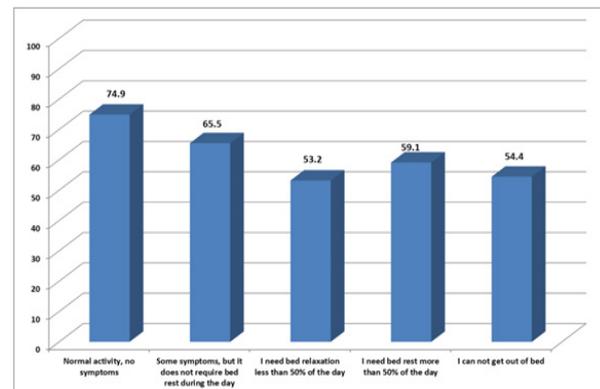


Figure 2. Mean CD-RISC25 between Symptom Burden

Also, the psychological resilience was measured with CD-RISC25. The mean value of CD-RISC25 was 65.3 (17.9), meaning a moderate resilience of cancer patients.

Furthermore, statistically significant differences were found between the stage of cancer and PHQ-2. The majority of patients (60%) in the first stage had not depression, while 63.9% in final stage had (p =0.012). End-stage patients were more likely to be depressed. The type of surgery and the GAD-2 score were found statistically significant differences. 84.3% of women who underwent mastectomy, felt from anxiety, whereas only 15.7% of patients who underwent in oncoectomy was anxious (p=0.016).

Also, patients belong in the age group of 71+ years showed lower resilience (49.1) in comparison with patients who belonged in the age group of 51-60 years (70.4) (p=0.029). The symptom burden was found to be statistically significant between CD-RISC25 (p ≤ 0.001). Patients with symptoms were more likely to be less resilient (Figure 2).

The correlation analysis showed that PHQ-2 and GAD-2 were in positive correlation (r=0.603, p ≤ 0.001). Patients with anxiety were more likely to be depressed. However, CD-RISC25 and PHQ-2 negatively correlated (r=-0.362, p ≤ 0.001) and GAD-2 (r=-0.219, p=0.022) as

Table 3. Logistic Regression Analysis of Factors Affecting GAD-2

	B	S.E.	Wald	df	Sig.	Exp(B)
Symptom burden	0.533	0.269	3.942	1	0.047	1.705
PHQ-2	2.995	0.581	26.6	1	0	19.992
Constant	-2.559	0.612	17.464	1	0	0.077

R<sup>2</sup>, 47.5%

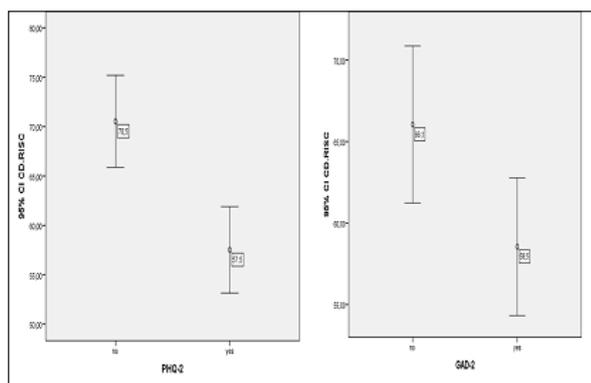


Figure 3. Mean CD-RISC25 and PHQ-2, GAD-2

well. This means that less resilient breast cancer patients reported depression and anxiety.

Finally, two different logistic regressions analyses were conducted in order to determine which factors affect the depression (PHQ-2) and anxiety (GAD-2) (Table 2, 3).

- Patients in final stage are more likely to be depressed by 7,039 times.

- If psychological resilience is increased by 1 point, then depression of patients will decrease by 3.4%.

- Patients with anxiety are more likely to be depressed by 27,627 times.

- Patients with symptoms are more likely to face anxiety by 1,705 times.

- Patients with depression are more likely to face anxiety by 19,992 times.

## Discussion

The aim of this research study was to identify the level of resilience in women diagnosed with breast cancer and also to find if there is a relation between resilience with depression and anxiety.

Study results are showing that high percentage of patients has no symptom burden due to cancer, but a significant percentage stated that they have some symptoms which do not require bed rest during the day. This finding is in accordance with the study of Cleeland et al., (2013) who indicated that approximately one-third of the patients reported moderate-to-severe symptoms. Whereas many cancer-related symptoms are the result of disease, however, some symptoms are increasingly recognized that can also be caused by cancer treatment (Cleeland et al., 2003).

### *The psychological resilience of breast cancer patients*

Findings from this research study are showing that patients from Greece have moderate levels of resilience. The study of Ristevska-Dimitrovska (2015) indicated that a sample of women with breast cancer in Bitola and Skopje also declared moderate levels of resilience ( $74.7 \pm 14.6$ ). Moreover, Kim et al. (2015) in their study found that resilience scores in a sample of 106 women from Korea is  $69.77 (\pm 19.49)$ , mean considered to be moderate as well. Furthermore, age has appeared to be a predicting factor for the resilience women are experiencing, as older women patients have a higher

probability of experiencing higher level of resilience. Age is also reported as a predictor factor by Di Giacomo et al. (2016), who in a sample of 82 women in Italy concluded that young patients seem more emotionally resilient. Cancer symptoms are also related to resilience levels. More specifically, patients with cancer symptoms reported lower levels of resilience in comparison to patients that had no cancer symptoms during the research process. The presence of cancer symptoms is also related to resilience levels in the study of Ristevska-Dimitrovska et al. (2015), where is reported that less resilient breast cancer patients stated worse symptoms.

Studies are reporting that symptoms can decrease the quality of life (Jatoi et al., 2000, Buchanan et al., 2005) And the National Institutes of Health (2003) is mentioning that very often a symptom can be the cause of the existence of another, such as pain, that usually causes naturally generate depression, fatigue, and nausea. (National Institutes of Health, 2003). Depression is frequent in cancer patients. Despite the fact that the impact of cancer on patients is very clear, it continues to be under-diagnosed and inadequately treated (Dauchy et al., 2013). The majority of our sample showed a depressed mood and suffered from high anxiety. This also was found by Hinz et al., (2016), who highlighted that 46.4% felt mild/moderate depression. Lim et al., (2011) indicated that anxiety is also present in all treatment types of breast cancer while results of other studies are similar to ours and in accordance with the above results (Ashbury et al., 1998; Sherbourne et al., 1996; Sheard et al., 1999).

The stage of cancer is related to depression mood, as the patients in the first stage have lower score in PHQ-2 than patients in the third or fourth stage. Several studies showed that various kinds of coping strategies are used by patients to deal with depression and anxiety in different types and stages of cancer (Vodermaier, Linden, MacKenzie, Greig and Marshall, 2011; Gustafsson et al., 2006). Type of surgery affects the total CAD-2 score, as patients that undergone mastectomy declared higher anxiety levels than those who had undergone onectomy (Khan et al., 2016; Kamińska et al., 2015).

Study results also show that there is a statistically significant correlation between levels of resilience and depression and anxiety levels. Depression levels are negatively related to resilience, while there is a positive correlation with anxiety levels. The depression scale was positively affected by anxiety, while negatively by resilience. Similar results are reported in other studies. Matzka et al., (2016) in their research also studied the relationship between resilience and psychological distress and found a negative correlation (Schumacher et al., 2013; Min et al., 2013; Cuhadar et al., 2014).

The main limitation of the present study is the small sample and the fact that participants were recruited from one oncologic unit. Therefore, results cannot be generalized for all breast cancer patients. In addition, this was a study conducted with a self-administrated questionnaire that along with resilience was assessing anxiety and depression. A self-administrated questionnaire can only detect the danger for depression and anxiety and cannot replace clinical examination from a psychiatrist.

In conclusion, resilience is a dynamic multifactorial process, in the development and shaping of which, biological and psychosocial factors are involved and interact. Stress and resilience are generally very important factors in the treatment of life-threatening diseases such as cancer and low depressive and anxiety symptoms along with high levels of resilience are a predisposing factor for positive disease outcome in breast cancer patients.

According to the results of the present study, resilience is negatively correlated with depressive symptomatology; a fact that might contribute to the experience of positive emotion such as self-esteem, peace, and hope. Moreover, depression is related to lower levels of anxiety symptoms. Thus, it can be said that that resilience may shield women from depression and anxiety as well. Interventions that foster resilience and increase its levels might change their patients' approach to emotional coping, decrease the experience of psychological distress and enhance quality of life for breast cancer patients.

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