

DEPRESSION STATUS IN BREAST CANCER SURVIVORS IN SAUDI ARABIA

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ABSTRACT

Breast cancer is one of the most common malignancies in Saudi Arabia with high mortality rate. In the current study, we are aiming to determine the severity of depression in these survivors and to define the main factors that might affect the severity of the depression. These factors are including the demographic characteristics of participants, the prevalence of chronic diseases and the social status. We included 83 breast cancer survivors from Zehra Breast Cancer Association to participate in the study voluntarily. Depression level had been evaluated by using the Hamilton Anxiety Rating Scale (HAM-D17) and all the participants completed questionnaires about their social life and the predominant chronic diseases in Saudi Arabia. The severity of depression was significantly associated with survivors who have 3 children or more ($p = 0.029$). No other significant associations have been found between the severity of depression and other factors such as age, geographical locations, marital status and the most common chronic diseases. Depression level must be evaluated in the breast cancer survivors especially in women who have had children and during the first year of recovery.

Key words: Breast cancer, Depression, Survivors

INTRODUCTION

Breast cancer is one of the most common cancer affecting women worldwide with 2.2 million new cases in 2020 (Alqahtani *et al.*, 2020; Sung *et al.*, 2021). Due to the advanced technologies for the early detection of the tumor and optimized therapeutic strategies, breast cancer has a very significant rate of recovery and consequently a higher survival rate. Despite the increase in the survival rate, the level of depression is moderately high among these survivors. Moreover, depression can persist up to 10 years after recovery which emphasize the importance for the frequent evaluation for depression in these survivors (Tsaras *et al.*, 2018; Yi and Syrjala, 2017). Several studies have shown the importance of supporting these survivors in and outside their homes due to physical and psychological effect of the diagnosis and treatment (Costanzo *et al.*, 2007; Stanton, 2012).

Depression is one of the psychological problems that affects physical health outcome and disturb the social life. Unfortunately, major depression is very common in breast cancer survivors and mostly untreated once the survivors stayed out of the hospital. This leads to social isolation and lack of social support. In addition, it leads to more worries for the survivors about their children, metastasis and recurrence which increases the level of depression dramatically (Brett *et al.*, 2018; Hwang and Yi, 2014). According to the official reports from the King Faisal Specialist hospital and research center in Saudi Arabia, more than 24% of breast cancer survivors have been diagnosed with moderate to severe level of depression. This declares the evaluation of the level of depression that is associated with breast cancer recovery to help these survivors to get their normal life back. Defining the factors that either increase or decrease the level of depression is very important as well.

The main purpose of the study was to estimate the level of depression in breast cancer survivors and to identify the factors affecting the quality of life in these survivors. This subsequently will offer reassurance for depressed survivors and help in providing the adequate support for early detection, prevention and treatment of depression.

Methods

Study Sample

We included 83 women who are voluntarily participated in this study with no history of depression before the recovery from breast cancer. All the participants were from the Zahra Breast Cancer Association, which is a health charity organization to support breast cancer patients and survivors. All the participants were from different regions in Saudi Arabia and completed the treatment course during the past 10 years. Any participants who have had any type of cardiopulmonary disease or metastatic tumor have been excluded from the study. The study protocol has been approved by the ethical committee at Umm Al-Qura University (ref: HAPO-02-K-012-2015-05-62). In addition, all the participants were asked to sign an informed consent before filling the forms for the depression assessment.

Depression Assessment

We assessed the dispersion level by using the Hamilton Anxiety Rating Scale (HAM-D17). Moderate depressive symptoms defined on the scale for the value 14 or more, while severe depression symptoms for the value of 19 or more. The evaluation has been done by interviewing the patients and directly evaluating them. Another survey has been giving to the participants to receive more information about their social life and if they have had any chronic diseases.

Statistical Analysis

All statistical analysis were conducted using the 22nd version of SPSS software (IBM Corp. Armonk, NY, USA). All the variables were summarized in Table 1 by frequency and percentage for categorical data and mean and standard deviation for numerical data.

RESULTS

Patients Characteristics

Eighty-three breast cancer survivors completed the Hamilton Anxiety Rating Scale (HAM-D17). As Illustrated in Table 1, about 54% of the participants were older than 40-years. Most of these participants were located in the central region of Saudi Arabia (60.2%). More than 80% were married and have children (3.32 child \pm 2.64). More than 85 % of the participants started the treatment immediately after the confirmed diagnosis of breast cancer either with mastectomy (50.6%) or chemotherapy (45.8%). A very small percentage have Diabetes and/or hypertension (less than 10%).

Table 1. Characteristics of the study participants.

	N	(%)
Age		
20 to 30	5	6
31 to 40	33	39.8
41 to 50	24	28.9
51 to 60	18	21,7
More than 60	3	3.6
Residency		
West	19	22.9
East	7	8.4
Center	50	60.
North	4	4.8
South	3	3.6
Marital Status		
Single	8	9.6
Married	67	80.7
Divorced	5	6
Widow	3	3.6
Treatment type		
Medication	2	2.4
Radiation	1	1.2
Chemotherapy	38	45.8
Mastectomy	42	50.6
Start of Treatment after confirmed Diagnosis		
Immediately	71	85.5
After 1 month up to 6 months	12	14.5
Diabetes		
No	75	90.4
Yes	8	9.6
Hypertension		
No	75	90.4
Yes	8	9.6

Depression Status in Breast Cancer Survivors

The mean score for overall depression was 17.1 ± 10.5 . The depression level was categorized into four levels as indicated in Fig.1. 25.3% of the participants had the highest level of depression (very severe depression), followed by mild depression which was detected in 24.1% of cases. On the other hand, 18.1% of the participants had no depression or were normal according to the Hamilton Anxiety Rating Scale (Fig.1).

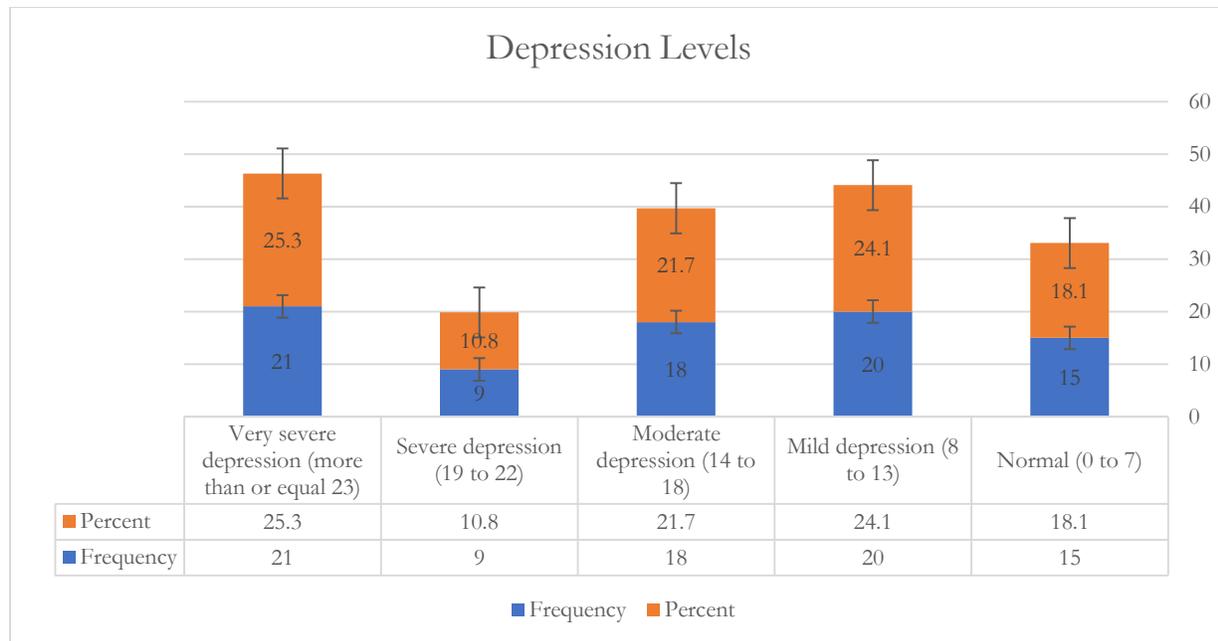


Fig. 1. Depression status among the participants in the study.

Factors associated with depression level

Main factors were selected based on a priori passed on previously reported studies about depression to test the association between these factors and the occurrence of depression in breast cancer survivors. In this study, marital status was significantly associated with high level of depression ($p = 0.05$). Another statistically significant finding is the effect of the number of children on the depression level ($p = 0.029$) as seen in Table 2. Indeed, survivors who have 3 children or more were scored to have highest level of depression (18.14 ± 12.36). However, age, residency and treatment type were not significantly associated with depression (Table 2).

Table 2. Association between depression level and demographic/clinical/ social data.

Variable	Chi-Square	p-value
Age	2.43	0.65
Residency	3.3	0.503
Marital Status	7.74	0.052
Treatment Type	2.71	0.439
Number of Children	2.22	0.029

Chronic Diseases affect the depression level in breast cancer survivors

Major chronic diseases that might have been correlated with depression level have been assessed. Type 2 diabetes and hypertension are the most common chronic diseases in Saudi Arabia. However, these two chronic diseases were not significantly associated with the depression level in our study group.

DISCUSSION

Many studies have reported that breast cancer survivors suffer from long-term psychological condition such as depression and anxiety. The results in the current study demonstrated the presence of moderate to severe depression among breast cancer survivors overall. Furthermore, we found that severe depression was significantly higher

among breast cancer survivors who had 3 children or more. This finding could be attributed to many reasons such as the struggles of the survivors to get back to their normal life and the fear that their children will experience the same disease as they had. Another explanation for the high level of depression is the effect of cancer on physical and/or psychological health in general. These findings are consistent with many previous studies which found that survivors who had children suffered from high level of depression compared to those who had not (Aggeli *et al.*, 2021; Inhestern *et al.*, 2017a; Inhestern *et al.*, 2017b).

There are many factors which increase the level of depression among these survivors which makes it very complicated to identifying the exact reason behind the high-level of depression. Changes in the physical appearance affects the survivor's mental health especially for women who had undergone mastectomy or the due to the side-effects of chemotherapy. These two types of treatment, which accounted for more than 90% of our study participant had received, affect the survivor's self-esteem. However, the effect of treatment was not statistically significant in our study (Türk and Yılmaz, 2018).

Generally, family members usually provide health and/or psychological support to their patients, however and paradoxically in our study, it increased the level of depression. This unusual finding could be due to relatively different or unique social customs in the Saudi community such as consanguinity which is very common.

In our study, we could not detect any significant association between chronic diseases such as diabetes mellitus or hypertension and depression. Similar results have been previously reported (Salakari *et al.*, 2017; Storey *et al.*, 2019; Su *et al.*, 2017).

Our study has limitations, the sample size is very limited as we were not granted an easy access to more survivors to collect more data. Also, the findings for this study cannot be generalized due to small sample size, therefore, we hope to expand this study and add more participants.

To the best of our knowledge, this study is unrivaled as it is the first study conducted in Saudi Arabia to evaluate the depression among breast cancer survivors from a medical aspect. There are two studies about depression and anxiety in breast cancer but the main focus is on the religious side. Another study investigated the general factors that are associated with depression in breast cancer patients (Salakari *et al.*, 2017; Storey *et al.*, 2019; Su *et al.*, 2017).

Further studies are needed to investigate the prevalence of depression in Saudi Arabia and determine the exact causes behind its development in breast cancer survivors. Psychotherapist counseling should be also encouraged in order to help the survivors to return to their normal life.

Acknowledgements

The author gratefully acknowledges the Zahra Breast Cancer Association for the data collection. The author also, extends thanks to Dr. Ahela Bilal for her help in data collection.

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(Accepted for publication January 2022)