Original Article

Association between Depression and Social Isolation among Women with Breast Cancer

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Abstract

Background: Cancer has been and still one of the most important challenges in our time until now. Depression after a mastectomy, anxiety, embarrassment, and suicide ideation/attempted are the most common psychological impact of breast cancer. One of the major significant risk factors for death from any cause was found to be a person's level of social isolation. **Objectives:** To identify the association between depression and social isolation among study participants. **Materials and Methods:** A descriptive (cross-sectional) design study was conducted in Babylon Province from the period December 2021 to march 2023 aimed to identify the correlation between depression and social isolation among women with breast cancer. A non-probability convenience sample was selected from the Babylon Oncology Center in Marjan Medical City. The study sample consists of (100) women with breast cancer. To collect data using the interview method, it takes (25-30) minutes to complete the form. The data were examined utilizing statistical and descriptive data analysis methods using SPSS version 2.0). **Results:** The results of the present study show that the breast cancer women experience different depression's level and social isolation, and there could be a significant relationship between depression and social isolation. There was an association between depression and social isolation and socio-demographic characteristics of study participants. **Conclusions:** Highly significant differences in the level of depression and social isolation with socio-demographical characteristics of the study sample were found at $P > 0.05$, whereas the study result shows that there were no-significant relationship with other socio-demographical data at *P*-value ($P > 0.05$). There was a positive correlation between depression and social isolation among women with breast cancer.

Keywords: Breast cancer, depression, social isolation

Introduction

Diseases are among the problems that threaten human societies, but the most important of these are life-threatening diseases and breast cancer is at the top of the list of these diseases.[1]

Breast cancer most often forms in the lining of milk ducts and the lobules that channel milk to the ducts. Certain cancers, including ductal carcinoma *in situ*, arise from non-invasive lesions.[2,3]

The top outside quadrant of the right and left breasts were similarly lumpy. Symptomless breast cancer may go undetected.[4]

There has been a steady increase in the incidence rate of breast cancer in Iraq, and it is related with a number of clear possible risk factors. These risk variables may work in conjunction with one another or in a specific order to begin or promote the development of cancer cells.[5]

It has been noted that many people experience significant reductions in quality of life due to psychological disorders. Thus, it is important for physicians to inquire about their psychological adjustment in order to detect and treat such problems at earliest diagnosis.[6,7]

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It is a well-known fact that breast cancer may impact both women and their spouses. They both tend to suffer a variety of psychological distresses, such as depression, avoidance of communication, sexual issues, isolation from one another, and/or the end of the relationship.[8]

The women who are diagnosed with breast cancer may have a variety of unfavorable responses, which can be emotionally and physically taxing.[9]

Infertility, hair loss, exhaustion, weight gain or weight loss, reduced libido, and menopausal symptoms are just some of the negative side effects of radiation, chemotherapy, and adjuvant therapy that may pose a major danger to a sense of woman about herself and her femininity and may lead to be depressed.[10]

When woman lose the emblems of her femininity this leads to a negative sense about her body image, poor self-esteem, social isolation, a false self-perception, depression, and develop the relationship problems or interpersonal issues with her family or friends.[11]

Physical disorders cause psychological disorders, which affect the social nature of the individual, as it was found that any defect at the level of membership leads to psychological imbalance of the affected individual.[12]

Materials and Methods

A descriptive (cross-sectional) design study was conducted in Babylon Province which was selected to confirm its objectives through the period December 2021 to march 2023.

Total of 100 participants of breast cancer women were selected through a non- probability convenient sample in the Babylon Oncology Center at Marjan Medical City.

Following a comprehensive assessment of the relevant literature, a questionnaire was created and amended. This questionnaire is divided into four parts: The sample's socio-demographic characteristics include (age, marital status, having children, educational level). Clinical information include (stage of disease, duration of disease since diagnosis, being diagnosed with breast cancer for the first time, family history of breast cancer). Scale of depression (11) items and scale of social isolation consist of social network: family (4) items and friendship (4) items, and social effectiveness (9) items. The rating and scoring of the instrument were (1) never, (2) sometime, and (3) always. Direct interviewing is done to gather data using a structured questionnaire. A committee of (17) professionals verified the questionnaire. A pilot study was carried out to establish the instrument's reliability. It was 0.746 for depression and 0.870 for social isolation. For the purpose of completing the questionnaire, an estimated interview duration of 25-30 min was given. Data were collected after acquiring an official agreement from the department of development and a training/branch of studies and educational research in Babylon education directorate, through using research instruments in the period from August 9th to November 29th, 2022.

Ethical approval

The study was conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki. It was carried out with patients verbal and analytical approval before sample was taken. The study protocol and the subject information and consent form were reviewed and approved by a local ethics committee according to the document number1762 on July 24, 2022 to get this approval.

Results

Table 1 findings show age was 48.60 ± 9.90; more than two-fifth were aged 47-56 years (n = 43; 43.0%), concerning the marital status, more than a half were married (n = 59; 59.0%). While regarding having children, the majority reported that they have children (n = 81; 81.0%), and concerning to level of education, more than two-fifth reported that they are primary school graduates (n = 44; 44.0%).

The study results display that a half of participants are in the third stage of disease (n = 50; 50.0%), concerning the duration of illness for more than two-fifth is six months (n = 44; 44.0%). Regarding being diagnosed with breast cancer for the first time, most reported to be so (n = 75; 75.0%). Ultimately, more than a half reported that they have a family history of breast cancer (n = 55; 55.0%) [Table 2].

The study results reveal that there are statistically significant inverse correlation between participants' age and depression, social isolation within the family, and social effectiveness.

Table 1: Socio-demographic characteristics

SDVs	Classification	Freq.	%
Age/years Mean (SD): 48.60 ± 9.90	27–36	15	15.0
	37–46	20	20.0
	47–56	**43**	**43.0**
	57–67	22	22.0
Marital status	Single	11	11.0
	Married	**59**	**59.0**
	Divorced	10	10.0
	Widowed	20	20.0
Children	**Yes**	**81**	**81.0**
	No	19	19.0
Education level	Read and write	18	18.0
	Primary	**44**	**44.0**
	Secondary	13	13.0
	Diploma	11	11.0
	Bachelors	14	14.0

Bold indicates the high values.

Table 2: Participants' medical profile

Clinical information	Classification	Freq.	%
Stage of disease	Stage 1	5	5.0
	Stage 2	45	45.0
	Stage 3	**50**	**50.0**
Duration of disease since diagnosis	**6 month-2 years**	**44**	**44.0**
	3 years–5 years	39	39.0
	More than 5 years	17	17.0
Being diagnosed with breast cancer for the first time	**Yes**	**75**	**75.0**
	No	25	25.0
Family history of breast cancer	**Yes**	**55**	**55.0**
	No	45	45.0

Bold indicates the high values.

The study results display that there are statistically significant differences in depression, social isolation within the family, and social isolation in terms of the social effectiveness, among marital status groups (*P*-value = 0.000, 0.000, 0.000) respectively.

Discussion

Findings of the present study reveal that more than two-fifth of the age group is 47-56 years old [Table 1]. Women of this age group often stop their education after elementary school because of cultural pressures, social norms, economic realities, and other factors unique to their community. As a result, they may be unaware of the warning signs of breast cancer and other health issues. This study agrees with[13] in China who found that more than half of the patients (53.6%) had primary or junior school. A study conducted by[14] found out that majority of study sample (68%) had higher education. A study conducted by[15] concluded that participants with high educational levels had a noticeably increased risk of getting breast cancer compared to those with low educational levels.

The study results display that half of participants are in third stage of disease [Table 2]. These findings reflect women's poor health awareness of breast cancer and its early detection competencies and/or poor primary healthcare services designated to early detection of breast cancer in Iraq. A study conducted by[16] mentioned that 42.5% of study sample were in the second stage of disease. Another study was supported presented study done by[17] who found most of the patients diagnosed in the second stage of breast cancer.

The study results display that more than half experience moderate depression [Figure 1]. Getting chronic diseases, including cancer, is considered one of the stressful life events, which has a strong relationship that contributes to the occurrence of psychological and physical disorders. A study conducted by[18] reported prevalence of depression of 38.2% in patients with breast cancer. Anther supported study was done in Saudi Arabia by[19] who found a higher prevalence of depression symptoms was verified in

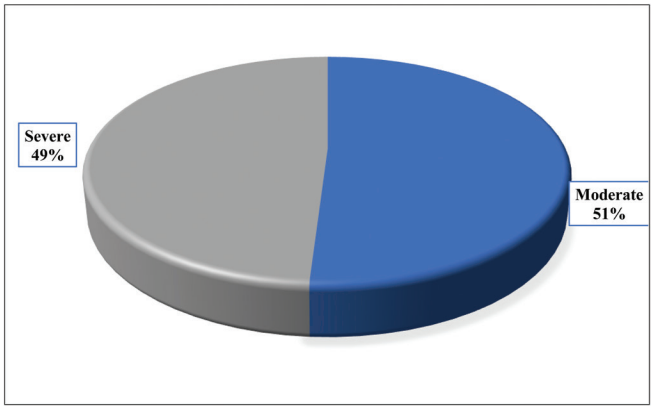

Figure 1: Level of depression. The study results display that more than a half of study participants experience a moderate depression (*n* = 51; 51.0%) compared to those who experience severe level of depression (*n* = 49; 49.0%)

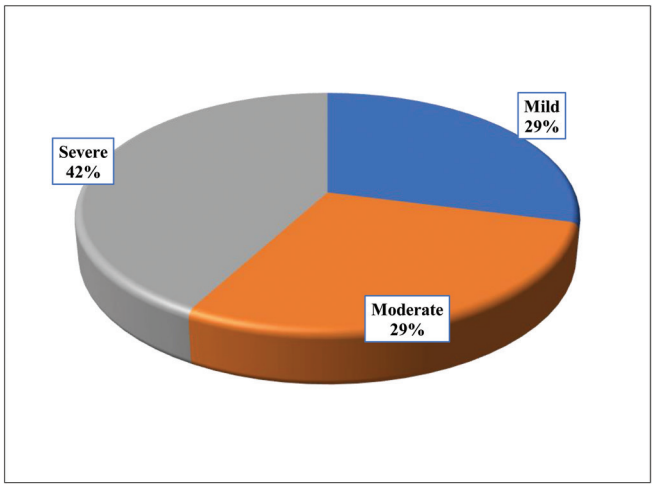

Figure 2: Level of social isolation within family. The study results demonstrate that more than two-fifth of study sample severely feel of social isolation within the family, followed by those feel both mildly and moderately of such an isolation (*n* = 29; 29.0%) for each of them

patients with breast cancer. According to a research by,[20] many women express deep sadness about the prospect of being unable to carry out their roles as wives and mothers by providing for their husbands and children. Studies showing a greater frequency of depression in women with breast cancer. The findings of the current research[21] are supported by studies that demonstrate a higher prevalence of depression among women diagnosed with breast cancer.

Yet, this study is inconsistence with current study which found the prevalence of different level of depression in women with breast cancer was 24.75%.[22] An additional study displayed a prevalence of depression of 38.8%.[23] In a study done by,[24] found that 38 present of participants with breast cancer have symptoms of depression.

The study results demonstrate that 42 present severely feel of social isolation within the family [Figure 2]. The reason for the increase in isolation between the patient and his

family members may be due to the patient's fatigue from the process of illness and treatment and the depression that the participants suffers during this period, or the patient may think about isolation from the family members to get them accustomed to separation in case the patient died in a shorter time due to illness. A study by[25] was conducted in order to better understand the challenges women in Punjab face during diagnosis and treatment for breast cancer. They found that women with breast cancer prefer to isolate themselves from their family members, even if they provide support, especially individuals who show sympathy, as these women indicated that they need love, not sympathy.

The study results revealed that most feel of social isolation within the friends context is moderately [Figure 3]. Having breast cancer leads to a lack or interruption of

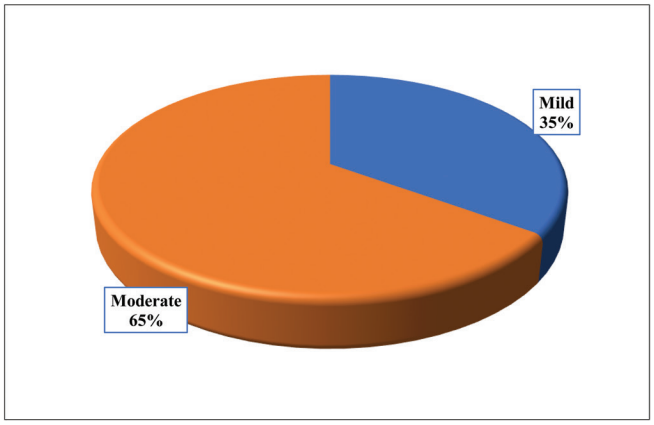

Figure 3: Level of social isolation within friends. The study results revealed that most severely feel of social isolation within the friends context (n = 65; 65.0%) followed by those who moderately feel so (n = 35; 35.0%)

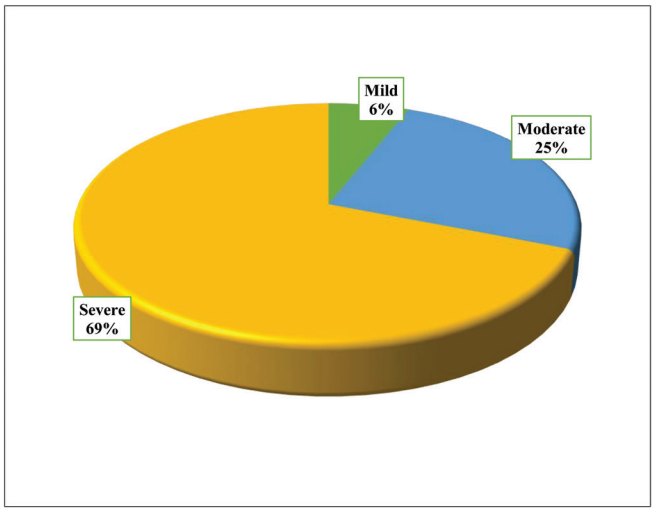

Figure 4: Level of social effectiveness. The study results exhibit that most severely feel of social isolation in terms of the social effectiveness (n = 69; 69.0%), followed by those who moderately feel so (n = 25; 25.0%), and those who mildly feel so (n = 6; 6.0%)

communication with friends, due to the patient's inability to practice usual activities due to the disease process, the participant's preoccupation with treatment, and the accompanying with psychological problem. According to a study conducted by[26] they found that a large percentage of breast cancer patients are socially isolated and this makes their chances of tumor recurrence and death higher. A study conducted by[27] disagreed with presented study and found that women with breast cancer always received social support from friends and work units.

Sixty nine present of the present study sample severely feel social isolation in terms of social effectiveness [Figure 4]. The reason for the lack of social effectiveness is that the patient goes through this experience, which may make them lose the self-confidence and the ability to participate in social activities. These finding are consistent with that obtained by[28] who concluded that the social isolation was noticeable among women with breast cancer at baseline. According to the study by,[29] the patients with breast cancer have few social connections, engage in fewer social activities, and lack support.

The study results reveal that there are statistically significant negative correlation between participants' age and depression, social isolation within the family, and social effectiveness [Table 3]. The younger the patient's age, the greater fears and anxiety, which may be due to fear of changing appearance, complications of the disease, or loss of life. All these lead to an increase in psychological and social problems more than older patients. This finding implies that the older the woman gets, the greater the depression they experience. A study is consistent with the current findings conducted by[30] in Tunisia found that women with breast cancer over age of 65 years were more likely to experience depression.

A study conducted by[31] found there were a significant association between the participant's age and depression and these association decreases with age. The results of the study conducted by[32] are inconsistent with the results of the current study as it concluded that there is no significant correlation between participant's age and depression.

According to the findings of previous researchers,[29,33] women with breast cancer who experience social

Table 3: Correlation among participant's age, psychological and social themes

Variables		1	2	3	4	5
1	Age	-				
2	Depression	-0.331**	-			
3	Family	-0.483**	0.794**	-		
4	Friendships	0.079	0.081	0.112	-	
5	Social effectiveness	-0.491**	0.475**	0.651**	0.053	-

** mean that the correlation is significant at the 0.01 level (2-tailed)

Table 4: Differences in depression, social isolation within the family, friendship, and social effectiveness among marital status groups

ANOVA

		Sum of squares	df	Mean square	*F*	Sig.
Depression	Between groups	163.841	3	54.614	7.480	.000
	Within groups	700.909	96	7.301		
	Total	864.750	99			
Family	Between groups	175.747	3	58.582	18.570	.000
	Within groups	302.843	96	3.155		
	Total	478.590	99			
Social effectiveness	Between groups	214.143	3	71.381	8.441	.000
	Within groups	811.857	96	8.457		
	Total	1026.000	99			

isolation are more likely to have symptoms of depression. According to[34] few social connections, engage in fewer social activities, and lack of support raises the risk of depression. Another study conducted by[35] found that women with breast cancer have a high level of depression and anxiety because of fear of disease recurrence and there was a significant association between anxiety and depression [Table 4].

This study is consistent with[36] who found positive correlation in a result of the loss of feminine symbols, women may feel low self-esteem, social isolation, and the onset of communication or problems of connection with friends or family.

There is a statistically significant positive correlation between the depression women experience and social isolation within the family, and social effectiveness [Table 4]. These results can be explained by the fact that patients who have little communication, whether with family or friends, do not receive the psychological or social support that patients greatly need at this stage, which leads to psychological problems such as depression.

A study conducted by[32] concluded the women with breast cancer reducing their interactions with others and can lead to feelings of isolation and depression. The present study agrees with the findings of[37] showed loneliness, social isolation, and depression which all have a major negative influence on one's emotional well-being and physical health. Compared to those who were not lonely, individuals who felt isolated were more expected to have symptoms of depressive and to assess their health as being poorer.

The results of current study show that there is a significant association between depression and marital status. Further post-hoc analysis displayed that the depression and stress scores were greater among single woman; this finding is inconsistent with a study conducted by[38] wherein the results showed no significant association between depression in breast cancer cases and marital status.

The current finding presented that there is a significant association between depression and level of education among study sample. The results of the study done by[39,40] were inconsistence with current results and showed that there were no statistically significant differences between the averages of psychological hardness among female patients breast cancer according to the educational level variable.

Conclusion

According to the findings of this study, the majority of women with breast cancer experience moderate depression, severe social isolation within family, moderate social isolation within friends, and severe feeling of loss of social effectiveness. There was a significant positive correlation between the depression women experience and social isolation within the family, social isolation in terms of the social effectiveness.

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Conflicts of interest

There are no conflicts of interest.

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