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## RESEARCH PAPER

### Psychological profile of breast cancer patients-sample from al-Resafa / Baghdad

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#### Abstract

**Background:** Among cancer patients; the Prevalence of psychiatric disorders is approximately 50% and most of the disorders are related to the occurrence of cancer and cancer treatment.

**Objectives:** to estimate psychological problems and conditions in breast-cancer married patients, in al-Resafa side of Baghdad, and its relation with their demographic features and some habits.

**Method & patients:** A cross-sectional study was conducted from 1<sup>st</sup> June 2018 till 1<sup>st</sup> January 2019; data were collected from patients attending breast tumor center at Baghdad teaching hospital, radiotherapy & nuclear medicine hospital, and 10 breast-tumor-centers at 10 hospitals in Al-Resafa / Baghdad city.

**Results:** in this study 182 married women with breast cancer, higher percentage 56(30.8%) aged (50-60) year, housewife 153(84.1%), complete intermediate school 36(19.8%), diagnosed in second-stage 113(62.1%), non-smoker 124(68.1%) and always practicing exercise 121(66.5%). The psychological problems; sleep-disturbance 66(33.5%), stress 60(33%), loss-of-appetite 56(30.8), outrage-without-causes 27(14.8%), crying-without-causes 22(12.1%), loss-of-hope 15(8.2%), marital-problems 14(7.7%), loss-of-interest 13(7.1%), suicide-attempt 8(4.4%), and losing-interest-to-their-children 7(3.8%). But most of them had good overall psychological condition 149(81.9%).

**Conclusion:** 182 married women with breast cancer aged  $49.42 \pm 11.213$ , complete/intermediate school, diagnosed in second-stage, non-smoker, and always practicing exercise. Psychological conditions were one-third of them have sleep disturbance, stress, loss-of-appetite, one-sixth of them had outrage-without-causes, and crying-without-causes, less than ten percent had a loss-of-hope, marital problems, loss-of-interest, suicide-attempt, and losing-interest-to their children. The overall psychological condition is good in the majority of them with statistically significant with smoking only

**Keywords:** Breast-cancer, psychological-problems, sleep-disturbance, Baghdad, Iraq

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#### Introduction

Breast cancer impacts 2.1 million women each year & also causes the of all cancer deaths among women. While breast cancer rates are higher among women in more developed regions, rates are increasing in nearly every region globally.<sup>1</sup> Breast cancer has increased over the recent years as a result of earlier detection and the use of better adjuvant treatments.<sup>2</sup> Among

cancer patients; the prevalence of psychiatric disorders is approximately 50% and most of the disorders are related to the occurrence of cancer and cancer treatment. The majority of patients suffer from major depression, adjustment disorder, anxiety disorders, sleep disorders, suicidal ideation, and delirium.<sup>3</sup> Women with breast cancer frequently attribute the origin of their breast cancer, however, to psychological factors such as stress<sup>4</sup> although scientific evidence for this is inconclusive. Stress has been defined theoretically as the response of the body to the presence of external demands or, more subjectively, as the response to the individual's appraisal of demands depending on their coping abilities.<sup>5,6</sup> Proposed biological mechanisms for an effect of stress on cancer development include neuroendocrine alterations in the hypothalamus-pituitary-adrenal axis regulating glucocorticoid release and the sympathetic nervous system regulating catecholamine levels.<sup>7,8</sup> Psychological stress and effective responses, including depression and anxiety, are known to produce neuroendocrine responses that can alter important immune, angiogenic, and inflammatory pathways in the development, progression, and control of cancer.<sup>9</sup> Stress is seen to blunt the normal diurnal cortisol pattern, which has been implicated as a risk factor for tumor initiation and progression.<sup>10</sup> Stress hormones are also known to play a role in DNA damage & repair in breast cancer cells, which also have implications for breast-cancer initiation and progression.<sup>11</sup> Depressive disorders are characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration. Depression can be long-lasting or recurrent, substantially impairing an individual's ability to function at work or school or cope with daily life. At its most severe,

depression can lead to suicide.<sup>12</sup> Depression and depressive symptoms are common mental disorders that have a considerable effect on a patient's health-related quality of life and satisfaction with medical care, but the prevalence of these conditions varies substantially between published studies.<sup>13</sup> Nowadays, breast cancer treatment demands a multidisciplinary approach and the involvement of informed patients. Personalized breast cancer care should mean both considering the prognostic and predictive biomarkers of a single tumor and considering an individual patient's preferences.<sup>14</sup> Depression is a prevalent psychological symptom perceived by breast cancer patients, and it also impacts the quality of life (QOL) in these patients.<sup>15,16</sup> People with cancer might have many factors that affect their appetite, most commonly cancer itself and treatment for cancer. Cancer itself can cause a loss of appetite for the following reasons.<sup>17,18</sup> Depression is a major risk factor for suicide. The deep despair and hopelessness that go along with depression can make suicide feel like the only way to escape the pain. Also, Women are more likely to experience depression symptoms such as pronounced feelings of guilt, excessive sleeping, overeating, and weight gain. Depression in women is also impacted by hormonal factors.<sup>19</sup> In 1969, Elisabeth Kübler-Ross described five popular stages of grief, popularly referred to as DABDA. They include Denial, Anger, Bargaining, Depression, and in last Acceptance.<sup>20</sup> There is a growing awareness that a cancer diagnosis and its treatment not only influence the patients but also their families, friends, and caregivers. Breast cancer introduces individual and relationship challenges for both the patient and her partner.<sup>21</sup> Research has shown that some of these issues can serve to bring a couple closer together (cohesion) while others can disrupt relationship functioning in different ways (e.g.,

by communication problems, less intimacy, and decreased relationship satisfaction) at different stages of the disease recovery timeline. Therefore, the disease can affect both members of the dyad and can induce serious distress, and negatively influence successful coping throughout the cancer journey. A cancer diagnosis imposes significant emotional distress on a substantial proportion of patients and their partners, posing many challenges for both members of a couple. Facing a breast cancer diagnosis, couples may experience psychosocial distress, which might also affect their individual and dyadic functioning.<sup>22</sup>

### Objectives

1. To estimate psychological problems and conditions in breast-cancer married patients, in the Al-Resafa side of Baghdad.
2. To find the relation between some psychological problems & conditions in breast cancer married patients Al-Resafa side of Baghdad characters and their demographic features and some habits.

### Patients & Methods

#### *Setting and study design:*

A Cross-section study for breast cancer married patients; which was conducted from 1 June 2018 till 1-January 2019, data collected from patients attending breast tumor center at Baghdad teaching hospital, radiotherapy & nuclear medicine hospital, and 10 breast tumor centers at 10 hospitals in Al-Resafa / Baghdad city.

#### *Ethical consideration:*

After obtaining the approval of the Ministry of Health, Medical city, & each hospital involved in data collection, all breast cancer patients were informed about the objective of the study and

indicated their permission to participate in this study.

### Method

Data were collected by using a structured questionnaire filled by interviewing 182 Cases as follows: 40 patients were from Al-Amal Radiotherapy & Nuclear Medicine Hospital, 42 patients were from National Breast Tumor Center at Baghdad Teaching Hospital, and 10 patients were from each 10 breast tumor center at hospitals of al-Resafa / Baghdad city (Al-Alwayia teaching hospital, Ebn-Albaladi teaching hospital, al-Imam Ali teaching hospital, al-Kindy teaching hospital, Al-Noaman teaching hospital, Al-Shaheed Al-THARI teaching hospital, Al-Za'fariania hospital, Fatima Al-Zahra 'a teaching hospital.

#### *Inclusion and exclusion criteria*

1. All married women with breast cancer who attended the hospitals during the visiting of researchers and residents in Al-Resafa side of Baghdad and accepted to participate in this study.
2. All cases should have pathological breast cancer based on fine-needle aspiration cytology biopsy and/or the result of histopathological examination of excisional biopsy.

#### *Sampling method used*

Convenient sampling by taking all married women with breast cancer who attended the selected hospitals during the last six months of 2018 (1 June 2018 till 1-January 2019), and residents in Al-Resafa side of Baghdad and accepted to participate in this study.

### *Pilot study*

After taking expert opinions (two family physicians, two community physicians, one psychiatric), a pilot study was performed to evaluate the questionnaire validity. It was carried out on a sample of 15 female patients. This sample was excluded from the total sample. Then the necessary modifications in the sheet were done according to the results of the pilot study and expert opinions.

### *Questionnaire*

A designed questionnaire was developed and a direct interview was done with all women included in the study to evaluate and analyze the risk factors of breast cancer for women in Baghdad. The questionnaire includes four parts: *the first part* consists of three questions: information about a general characteristic of women (age, level of education, carrier), *the second part* consists of two questions: the habits; smoking, physical activity. *The third part* consists of three questions: cancer history (recent stage, diagnostic stage, and diagnostic-date), and *the fourth part* consisted of 10 questions of present or absence of psychological conditions and problems (sleep disturbance, stress & anxiety, outrage without causes, crying without causes, loss appetite, loss of hope, loss of interest, suicide attempt, mother loss of internet in her children, marital problems) according to the patient opinion herself. With (Cronbach Alpha Reliability Statistics) was 0.755.

### *Statistical analysis and outcomes:*

Data entry and analysis by using SPSS ver. 23, the frequency, percentage, mean and standard deviation of age, and minimum and maximum of diagnostic date and Chi-Square test & Yate correction test were used.  $P < 0.05$  considered significance.

The overall psychological conditions were calculated for 10 questions as two for the absence of the condition and one for a presence of it and scored as that: 10-13 were considered as poor overall-psychological-conditions, 14-17 were considered as neutral overall-psychological-conditions, 18-20 were considered as good overall-psychological conditions.

### **Results**

One hundred and eighty-two married women with breast cancer enrolled in this study, higher percentage of age (50-60) year was 56(30.8%) followed by (40-49) year was 54(29.7%), with a mean  $49.42 \pm 11.213$ . Most of the participants were housewives 153(84.1%), the highest percentage of them complete intermediate school 36(19.8%) followed by primary, then secondary. Most of the patients diagnosed in the second stage of breast cancer 113(62.1%) and recently at the same stage 109(59.9%), diagnosed between 2006 and 2018 most of them within 2018, 104(57.1%). They have good lifestyle habits near two-third: non-smoker 124(68.1%) and always practicing exercise 121(66.5%). As shown in (table-1 and figure-1).

**Table 1.** distribution of breast cancer patients' demographic features, stages, diagnostic date, smoking state, and practicing exercise.

		Frequency	%
Career	<b>housewife</b>	<b>153</b>	<b>84.1</b>
	Employed	28	15.4
	Retired	1	.5
Educational level	Illiterate	30	16.5
	Read and write	26	14.3
	Complete primary school	34	18.7
	<b>Complete intermediate school</b>	<b>36</b>	<b>19.8</b>
	Complete secondary school	25	13.7
	Complete institution	14	7.7
	Complete college	17	9.3
Recent stage	First-stage or in situ	20	11.0
	<b>Second stage</b>	<b>109</b>	<b>59.9</b>
	Third stage	43	23.6
	Fourth stage or metastasis	10	5.5
Diagnostic stage	First-stage or in situ	22	12.1
	<b>Second stage</b>	<b>113</b>	<b>62.1</b>
	Third stage	41	22.5
	Fourth stage or metastasis	6	3.3
Diagnostic date Min = 2006/01/01 Max = 2018/10/11	<b>2018</b>	<b>104</b>	<b>57.1</b>
	2017	47	25.8
	2016	10	5.5
	2015	10	5.5
	2014 and before	11	6.0
Smoking	<b>Not smoker</b>	<b>124</b>	<b>68.1</b>
	Ex-smoker	3	1.6
	Smoker	4	2.2
	Passive smoker	51	28.0
Exercise	Rarely/ never	7	3.8
	Sometimes	31	17.0
	Most time	23	12.6
	<b>Always</b>	<b>121</b>	<b>66.5</b>
		182	100.0 %

The study found that the participants had some psychological problems; which are sleep disturbance 66(33.5%), stress 60(33%), loss of appetite 56(30.8), outrage without causes 27(14.8%), crying without causes 22(12.1%), loss of hope 15(8.2%), marital problems 14(7.7%), loss of interest 13(7.1%), suicide attempt 8(4.4%), and losing interest to their children 7(3.8%). And most of the participants had good overall psychological condition 149(81.9%) as shown in figure 2 and table (2).

**Table 2.** Distribution of the participants according to an overall psychological condition as:

Overall psychological condition	Frequency	%
Poor psychological condition	4	2.2
Neutral psychological condition	29	15.9
Good psychological condition	149	81.9
Total	182	100.0

The overall-psychological condition had significant relation with smoking ( $P= 0.033$ ), but not with age, carrier, educational level, treatment method, recent stage, diagnostic stage, and practicing exercise, as appeared in the table (3).

**Table 3.** Relation between the overall psychological conditions and breast cancer patients' demographic features, recent stages, diagnostic date, smoking state, and practicing exercise:

		Total	Overall psychological condition			P-value
			Poor	Neutral	Good	
Age (years)	19-29	8	0	2	6	0.323
	30-39	28	2	8	18	
	40-49	54	0	7	47	
	<b>50-59</b>	<b>56</b>	<b>2</b>	<b>8</b>	<b>46</b>	
	60-69	29	0	3	26	
	≥ 70	7	0	1	6	
Educational level	Not write and not read	30	1	3	26	0.472
	Read and write	26	1	5	20	
	Complete primary school	34	0	6	28	
	Complete intermediate sch.	36	0	3	33	
	Complete secondary school	25	2	6	17	
	Complete institution	14	0	2	12	
	Complete college	17	0	4	13	
Career	Housewife	4	24	125	153	0.905
	Employee	0	5	23	28	
	Retired	0	0	1	1	
Smoking	Not smoker	124	2	17	105	0.033
	X-smoker	3	0	0	3	
	Smoker	4	1	0	3	
	Passive smoker	51	1	12	38	
Exercise	Rarely/ never	7	0	2	5	0.423
	Sometime	31	0	8	23	
	Most time	23	0	4	19	
	Always	121	4	15	102	
Recent stage	First-stage or in situ	1	6	13	20	0.360
	Second stage	2	15	92	109	
	Third stage	1	5	37	43	
	Fourth stage or metastasis	0	3	7	10	
Treatment methods	Mastectomy	10	0	0	10	0.783
	Chemotherapy	10	0	3	7	
	Mastectomy & chemotherapy	96	3	19	74	
	Mastectomy & drugs	2	0	0	2	
	Chemotherapy & radiation	3	0	0	3	
	All	61	1	7	43	
Diagnostic stage	First-stage or in situ	1	6	15	22	0.734
	Second stage	2	17	94	113	
	Third stage	1	5	35	41	
	Fourth stage or metastasis	0	1	5	6	
<b>Total</b>		<b>182</b> <b>(100%)</b>	<b>4</b> <b>(2.2%)</b>	<b>29</b> <b>(15.9%)</b>	<b>149</b> <b>(81.9%)</b>	

## Discussion

The annual report of the Iraq Ministry of Health 2020, announces that the second cause of top ten causes of cancer deaths according to the primary site for the female is breast cancer by 12.3%, without Kurdistan region.<sup>23</sup> Current study, 182 married females with breast cancer attended the selected hospitals during the study period; and residents in Al-Resafa side of Baghdad, mean age  $49.42 \pm 11.21$  years, this is similar to study published in 2019, where 1349 Iraqi women diagnosed with breast cancer of whom 1147 (85%) had age above 40 years.<sup>24</sup> According to the American Cancer Society, the aging process is the biggest risk factor for breast cancer. That's because the longer we live, the more opportunities for genetic damage (mutations) in the body. And as we age, our bodies are less capable of repairing genetic damage.<sup>25</sup> In this study, the highest percentage of participants diagnosed in the second stage, this is the same result as a retrospective study enrolled 1172 female patients who were diagnosed with breast cancer at the Referral Training Center for Early Detection of Breast Tumors, Medical City Teaching Hospital in Baghdad over a 4-year from 2014 to 2017.<sup>26</sup> The most psychological problem in married females in this study was sleep disturbance, were involving one-third of them, this is similar to a study with 152 women found Up to 80% of breast cancer patients report sleep disturbance.<sup>27</sup> Stress was the second psychological problem in participants in this study as 33% of them. Many causes for stress; Cancer, treatment availability, body image, death and leaving her babies without her, life in Iraq with unstable conditions; who can be not in stress condition. A systemic review found a possible association between stress and cancer, especially regarding stressful life events.<sup>28</sup> Another study



enlisted that Stress hormones can alter the behavior of some neutrophils, potentially causing dormant cancer cells to reawaken.<sup>29</sup> Loss of appetite, present in 56(30.8%) of the participant, it's one of breast cancer symptoms and it's a result of many drugs and other treatments used in breast cancer.<sup>30,31</sup> Nearly one-sixth of them had outrage without causes, its symptoms of anger, in the beginning of diagnosis with breast cancer, the patient might feel anxious, angry, and sad all at the same time. It's normal to be afraid of something that can threaten her life.<sup>32</sup> Less than ten of the participants had one or more depression symptoms: loss of hope, loss of interest, crying without causes, suicide attempt, which is lower than a result of a systematic review and meta-analysis to 72 studies performed in 30 countries, entered the final stage of analysis; found the global prevalence of depression among breast cancer patients was 32.2%. Specifically, the prevalence of depression was highest in the Eastern Mediterranean region and twice as high in middle-income countries as compared to developed countries.<sup>33</sup> This deference is may be related to social and religious support more in Iraq. Suicide attempt but not the death was found in 4.4% in this study, women in Iraq have suicide death in 2000 was 2.7 decline to 2.0 in 2018 data from World Bank,<sup>34</sup> while WHO mentions that Over 590 people died in 2019 in Iraq due to suicide, and 1112 attempted suicide; 80% of these people were women which translates to an average of one death per day due to suicide, and three people/day to have attempted suicide. The number of suicide cases reported in 2019 is higher than those reported in 2018 (519) and 2017 (422). Over several years, many Iraqi families have suffered from mental health scars caused by past conflicts and economic hostilities, which raises concerns as it may increase suicide rates or associated risk factors, including social

isolation, anxiety, uncertainty, unemployment, stress, and economic difficulties, which could worsen depression, anxiety.<sup>35</sup> Marital problems 14(7.1%), Mother loss of internet (interest) in her children 7(3.8%), one can cause another. Many of the challenges that couples face when trying to navigate a sexual relationship after breast cancer are based on assumptions and expectations about how sex should be. Most people with breast cancer who experience sexual problems don't need long-term therapy, but they may find it useful to talk to someone about a particular problem or at a particular point in their treatment or recovery. Talking about changes to their body, sex and intimacy can be difficult. But addressing their concerns is an important part of their breast cancer treatment and care.<sup>36</sup> Empirical research enlisted The Psychosexual Challenges Faced by Breast Cancer Survivors and their Intimate Partners, as Psychosexual dysfunction related to breast cancer treatment, Pain and sexual dysfunction, Body image, Psychotropic medications, Intimate relationships, and partner response, the results show that group psychotherapy is a successful treatment modality and it is often used within oncology psychotherapeutic practice. Couple-based coping training interventions with early-stage breast or gynecological cancer survivors and their partners aimed at facilitating their psychosexual adjustment appear to be more effective than individual training.<sup>37</sup> Fortunately, that overall psychological condition was good in the majority 149(81.9%) of participated women. It had significant relation with smoking ( $P = 0.033$ ), but not with age, career, educational level, treatment method, recent stage, diagnostic stage, and practicing exercise. This is the same finding of Pakzad R, et al. study 2020 which was find smoking and breast cancer has a significant positive adjusted association.<sup>38</sup>

## Conclusion and Recommendation

Psychological conditions were one-third of them had sleep disturbance, stress, loss of appetite, one-sixth of them had outrage without causes, and crying without causes, less than ten percent had a loss of hope, marital problems, loss of interest, suicide attempt, and losing interest to their children. The overall psychological condition is good in the majority of them with statistically significant with smoking only.

Enhance the couple-based coping training interventions with early-stage breast also psychological support for the survivals. Training courses for doctors & especially oncologists on "how to break bad news". Also establishing psychological support unites in breast tumor center at Baghdad teaching hospital, radiotherapy & nuclear medicine hospital, and breast-tumor-center in Al-Resafa / Baghdad city. Improve hospitals' registration system to fill in all the information.

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### الملف النفسي لمرضى سرطان الثدي: -عينة من الرصافة / بغداد

الخلفية: بين مرضى السرطان. تبلغ نسبة انتشار الاضطرابات النفسية حوالي ٥٠٪ وترتبط معظم الاضطرابات بحدوث السرطان وعلاجه.

الاهداف: تقدير المشاكل والظروف النفسية لدى مرضى سرطان الثدي المتزوجين في ناحية الرصافة من بغداد وعلاقتها بسماتهم الديموغرافية وبعض عاداتهم.

الطريقة والمرضى: أجريت دراسة مقطعية من (٢٠١٨/٦/١ - ٢٠١٩/١/١) تم جمع البيانات من المرضى الذين يحضرون إلى مركز أورام الثدي في مستشفى بغداد

التعليمي، ومستشفى العلاج الإشعاعي والطب النووي، وعشرة مراكز لأورام الثدي/ مستشفيات في الرصافة / مدينة بغداد.

النتائج: تم دراسة ١٨٢ امرأة متزوجة مصابة بسرطان الثدي، أعلى نسبة ٥٦ (٣٠,٨٪) تتراوح أعمارهن (٥٠-٦٠) سنة، ربة منزل ١٥٣ (٨٤,١٪)، متوسطة كاملة

٣٦ (١٩,٨٪)، تم تشخيصهن في المرحلة الثانية ١١٣ (٦٢,٦٪) غير مدخنة ١٢٤ (٦٨,١٪) ودائماً يمارسن التمرين ١٢١ (٦٦,٥٪). المشاكل النفسية اضطراب النوم ٦٦

(٣٣,٥٪)، التوتر ٦٠ (٣٣٪)، فقدان الشهية ٥٦ (٣٠,٨٪)، الغضب بدون أسباب ٢٧ (١٤,٨٪)، البكاء بدون أسباب ٢٢ (١٢,١٪)، الخسارة- الأمل ١٥ (٨,٢٪)،

المشاكل الزوجية ١٤ (٧,٧٪)، فقدان الاهتمام ١٣ (٧,١٪)، محاولة الانتحار ٨ (٤,٤٪)، وفقدان الاهتمام بأطفالهم ٧ (٣,٨٪). لكن معظمهم كان لديهم حالة نفسية عامة

جيدة ١٤٩ (٨١,٩٪).

الخلاصة: ١٨٢ امرأة متزوجة مصابة بسرطان الثدي تتراوح أعمارهن بين ٤٩,٤٢ - ١١,٢١٣ في المدرسة الكاملة / المتوسطة، تم تشخيصهن في المرحلة الثانية، غير

مدخنات، ويمارسن الرياضة دائماً. كان ثلثهم يعانون من اضطرابات في النوم، وتوتر، وفقدان الشهية، وسدسهم لديهم غضب بلا أسباب، وبكاء بلا أسباب، وأقل

من عشرة في المائة لديهم فقد الأمل. والمشاكل الزوجية وفقدان الاهتمام ومحاولة الانتحار وفقدان الاهتمام بأطفالهم. الحالة النفسية العامة جيدة عند الغالبية منهم ذات

دلالة إحصائية مع التدخين فقط

المفردات الأساسية: سرطان الثدي، مشاكل نفسية، اضطرابات النوم، بغداد، العراق