

Evaluation of Emotional Distress in Breast Cancer Patients

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Abstract

Background: Cancer has been known as a class of dangerous diseases which cause tremendous physical and emotional problems to both patients and their families. In spite of medical advances, cancer is still considered to be equal with death and pain. This study aims to analyze the emotional distress and the causes in breast cancer patients.

Methods: This study was a quantitative study which tries to analyze the emotional distress in 82 breast cancer patients referred to the Radiotherapy and Oncology Department of Razi Hospital in Rasht, northern Iran. In this study, the emotional distress is analyzed based on a standard questionnaire which contains demographic information, distress thermometer, and a section devoted to the probable causes.

Results: Among the 82 patients that participated in this study, 32 patients (39%) suffered from severe emotional distress which had a statistically significant relationship ($p < 0.009$) with the functional status of the patients. Taking care of children, fear, anxiety, difficulties of taking bath and wearing clothes, family problems, fever and nasal dryness are the most common issues related to emotional distress.

Conclusion: Emotional distress can affect the quality of life of breast cancer patients. Therefore, oncology specialists should utilize mental health services to improve their patients' mental health as well as to control the consequences of the disease.

Keywords: Breast Cancer; Screening; Emotional Distress; Distress thermometer

Please cite this article as: Saedi-Saedi H, Shahidsales S, Koochak-Pour M, Sabahi E, Moridi I. Evaluation of Emotional Distress in Breast Cancer Patients. *Iran J Cancer Prev.* 2015;8(1):36-41.

Introduction

Psychological stress describes what people feel when they are under mental, physical, or emotional pressure. People who experience high levels of psychological stress may develop health problems (mental and/or physical). Stress can be caused both by daily responsibilities and routine events, as well as by more unusual events, such as a trauma or illness in oneself or a close family member. When people feel that they are unable to manage or control changes caused by cancer or normal life activities, they are in distress. Distress has become increasingly recognized as a factor that can reduce the quality of life of cancer patients. There is even some evidence that extreme distress is associated with poorer clinical outcomes. Psychosocial care for cancer patients often has been neglected as an aspect

of quality clinical care [1]. Breast cancer is a major public health problem for women in the world [2]. Also in Iran, breast cancer is the most common malignancy in women and is responsible for many deaths annually [3].

Around 20 to 40 percent of breast cancer patients experience high levels of emotional distress [4, 5] although less than 10 percent of them are recognized by the oncology specialists for having mental health and psychiatric consultations [6]. The most common stages of emotional distress in cancer patients are depression, stress, fear, adjustment disorders, delirium, mood disorders, dementia, and personality disorders; many patients suffer from more than one of them.

In this study, analyzing the emotional distress is done by utilizing a standard tool called Distress Thermometer (henceforth DT) which is validated by

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 Received: 10 May 2014
 Accepted: 5 Nov. 2014
Iran J Cancer Prev. 2015; 1:36-41

the *International Comprehensive Cancer Network* [7]. DT is a practical tool for screening cancer patients [8-11]. DT-P consists of a thermometer score from 0 (no distress) to 10 (extreme distress) [12]. Patients scoring 4 or above require psychological intervention as the sensitivity of score 4 has been scientifically proved by a lot of studies [13]. Besides using DT, there is a list of problems in the questionnaire which consists of sections on functional, family, emotional, religious and physical problems [5, 14, 15].

Emotional screening is an opportunity for determining the basis of emotional distress and providing appropriate treatments which can be beneficial for patients. Screening further enables us to assess and examine the relationships between emotional distress with age, gender, socio-economical situations, race, and cancer detections.

Different emotional distress treatments can be analyzed from the point of view of improvement and effectiveness. Cancer patients and their families face new challenges, arising from the disease or the treatments that they receive, which are somehow necessary for providing logical and emotional balance as well as protecting sense of confidence and strengthening the relationships with family and friends [7]. More studies try to delve into the relationships of the emotional distress with factors that can cause such an emotional distress in cancer patients like gender, age, cancer stage, kind of treatment, marital status, literacy rate, smoking, drug addiction, career, place of live, monthly average salary and so on.

Materials and Methods

This study was a quantitative research which tried to analyze the emotional distress in 82 breast cancer patients referred to Radiotherapy and Oncology Department of Razi hospital in Rasht, northern Iran. Participated in the study for breast cancer patients were optional and method in this study was non-random sampling.

The participants were informed that their personal information would not be revealed under any circumstances. Due to the fact that during the study there were no examination interventions nor any special treatments, the participants' agreement were orally taken by the physicians. The participants were further informed that participating in the study had nothing to do with their treatments.

The preconditions to participate in this study were pathology proved patients suffering from breast cancer who could speak Persian. Those who were also suffering from brain tumor or mental disorders simultaneously, were dropped from the study. The study is based on a standard worldwide questionnaire for determining emotional distress in cancer patients which has a section for distress thermometer which is done by the patients. 0 score shows no distress while 10 means extreme distress.

There are other sections in the questionnaire about demographic information of the patients which should be done by the interviewer/researcher. There is still another section which aims to find the probable causes of emotional distress consisting 38 mental, economical, social and physical ones. Regarding the emotional, functional, religious and physical questions, the researcher explains them in details, considering the patients' cultural and economical status, and tried to write their answers in the questionnaire. The reliability and validity of the questionnaire have been approved by the National Comprehensive Cancer Network (NCCN) and it is suggested to be used in different countries.

In Iran, the reliability and validity of the aforementioned questionnaire have been approved by Montazeri et al. (2004). The variables in this study are gender, age, literacy rate, marital status, smoking, drug addiction, monthly average wage (below between and above 400,000 Rials to 1500,000 Rials), the performance status of the patient based on a five-class performance status called ECOG (1 means the ability to do easy tasks and five means being unable to do anything), place of live (city or village), thermometer rank (0 to 10 in which 4 or above shows the presence of distress), analyzing the treatment of the patient in an earlier month by asking questions or checking the radiotherapy, surgery or chemotherapy records, and also factors affecting the distress of the patients by asking 32 to 'yes - no' questions about his performance, emotional, religious and physical problems. To analyze the data, descriptive statistics (relative frequency) and Chi square test using SPSS (version 20).

Results

In this research, 82 patients (79 females, 3 males) were studied. The median age was 50.1 ± 10.96 . There were 38 patients from 45 to 60 years old that was more than any other age groups. The

Table 1. It shows demographic and clinical characteristics of study sample.

variables	Patients (%)
Gender	
male	3 (3.7)
female	79 (96.3)
Smoking	
Yes	1(1.2)
No	81(98.8)
Addiction	
yes	0 (0)
No	82 (100)
Marital Status	
single	4 (4.9)
married	70 (85.4)
divorced	1(1.2)
widow	7 (8.5)
place of residence	
urban	56 (68.3)
Rural	26 (31.7)
literacy level	
Illiterate	17 (20.7)
Elementary	34 (41.5)
Diploma	25 (30.5)
Graduate	6 (7.3)
average monthly income	
<400,000 R*	6 (7.3)
400,000-1,500,000 R	20 (24.4)
<1,500,000 R	56 (68.3)
treatment over the last month	
yes	67 (94.1)
No	15 (5.9)
Treatment	
Radiotherapy	73 (89)
Chemotherapy	1 (1.2)
Both	2 (2.4)
Unknown	6 (7.3)
Insight into disease	
yes	79 (96.3)
No	3 (3.7)
Metastasis	
yes	1 (1.2)
No	81 (98.8)

R*: Rial; the commonest currency in Iran

youngest patient was 26 and the oldest was 75. The average detection time was 2.54+ 8.02. The earliest detection time was one month and the latest was thirteen months. Demographic information like marital status, literacy rate, place of live and monthly average wage is available in table 1.

Table 2. It shows frequency distribution of distress thermometer.

Score	N	%
0	5	6.1
1	5	6.1
2	15	18.3
3	25	30.5
4	14	17.1
5	11	13.4
6	2	2.4
7	1	1.2
8	2	2.4
9	2	2.4
10	0	0

From the point of view of physical ability, 13 patients (15.9%) could do parts of their personal affairs, 11 (13.4%) could do their personal affairs but not physical activities, 51 (62.2%) could do light physical activities but not hard ones and 7 (8.5%) could do physical activities without any limitations. The emotional distress distribution based on the Distress Thermometer shows that 32 patients (39%) had high rate of emotional distress (score \geq 4) and 50 (61%) had low rate of emotional distress (score \leq 3) (Table 2). The distribution of available problems is listed in table 3 which shows that keeping children is the most important performing problem. From among several family problems, challenges with children are the most problematic one. By the same token, fear and anxiety are the most important emotional problem related to emotional distress.

Difficulties in taking bath and wearing clothes, fever and nasal dryness are the most important physical, clinical and body problems, respectively. Table 3 shows the distribution of emotional distress in patients participating in this study in a group with emotional distress more than or equal to 4 and a group equal to or less than 3. The table also shows there are significant emotional distress relationships between the two groups like problems with keeping children at home, housing, economical and educational issues of children, fear, anxiety and angeriness (Table3).

Table 3. It shows the frequency of significant emotional distress in patients based on co-factors.

problems		Significant distress 4 >= Score		No distress 3 <= Score		Statistical Estimation (p value)
		%	N	%	N	
Functional problems	Child care	28	23	72	59	p<0.001
	housing	3.7	3	96.3	79	p<0.001
	economic	15.9	13	84.1	69	p<0.001
	transportation	48.8	40	51.2	42	p=0.825
	education	9.8	8	90.2	74	p<0.001
Familial problems	dealing with Children	13.4	11	86.6	71	p<0.001
	dealing with partner	12.2	10	87.8	72	p<0.001
emotional problems	Depression	43.9	36	56.1	46	p=0.269
	fears	30.5	25	69.5	57	p<0.001
	Nervousness	36.6	30	63.4	52	p=0.015
	Lack of interest in usual activities	3.7	3	96.3	79	p<0.001
spiritual problems	Religious beliefs	7.3	6	92.7	76	p<0.001
physical problems	Appearance	13.4	11	86.6	71	p<0.001
	Bathing-dressing	0	0	100	82	p<0.001
	urination	8.5	7	91.5	75	p<0.001
	Constipation	11	9	89	73	p<0.001
	Diarrhea	1.2	1	98.8	81	p<0.001
	eating	18.3	15	81.7	67	p<0.001
	fatigue	41.5	34	58.5	48	p=0.122
	swelling	19.5	16	80.5	66	p<0.001
clinical problems	Fever	4.9	4	95.1	78	p<0.001
	vertigo	18.3	15	81.7	67	p<0.001
	ingestion	20.7	17	79.3	65	p<0.001
	concentration	13.4	11	86.6	71	p<0.001
	Mouth sores	3.7	3	96.3	79	p<0.001
	Nausea	25.6	21	74.4	61	p<0.001
Others	Nose dry	9.8	8	90.2	74	p<0.001
	Pain	29.3	24	70.7	58	p<0.001
	sexual	40.2	33	59.8	49	p=0.077
	Itching/skin dry	32.9	27	67.1	55	p=0.002
	sleep	51.2	42	48.8	40	p=0.825
	Burning and tingling hands	22	18	78	64	p<0.001

Statistical analysis of the data shows no significant relationship between marital status and emotional distress ($p=0.524$).

Discussion

It is clear that the cancer is a difficult disease, with affecting cancer patients and their families both physically and emotionally. Emotional distress in cancer patients has been identified as a significant problem. Distress has become increasingly recognized as a factor that can reduce the quality of

life of cancer patients. Recent increase in cancer incidence, experiencing emotional distress in cancer patients as well as the problems of oncology specialists in examining a vast number of patients motivated us to analyze the causes and the effects of emotional distress on breast cancer patients. After determining the distribution thermometer in the patients, it became clear for us that 39% (32) of the 82 participants suffered from recognizable emotional distress and 61% percent (50) suffered from low emotional distress. Distribution of significant emotional distress in patients, according to the

cofactors showed that, there are significant relationships between the two groups (score \geq 4, score \leq 3) in number of variables such as child care, housing, economic statues, education, fear and anger. The recognizable emotional distress rate was 50%, 21/9% and 34% in the studies by Trask, Strong and Dabrowski, respectively [16-18]

However based on the results of our study there was no statistically significant relationship between distribution of ages and emotional suffering (p=0.06), but with increasing age there was considerable distress score $>$ 4 will be greater. This finding is consistent with the strong results [18].

There was no statistically significant relationship between marital status and emotional distress. As expected based on Herschbach's findings, the lowest rate of emotional distress was experienced by married participants [19-23]. Similar to Herschbach and Strong's studies, the results of this study reveal that there was not a significant relationship between emotional distress and smoking [18, 22, 23]. In the other hand, being or not being a drug addict seems to have nothing to do with the rate of emotional distress.

Similar to Herschbach and Rites results and in contrary with Lonnie study, there was not a relationship between emotional distress and literacy rate [20, 22, 23]. The results further reveal that there was not a statistically significant relationship between monthly average wage and emotional distress. However, two points should be clarified here: Firstly, the categorization of the patients into 3 groups based on the monthly average wage was done subjectively as we did not have access to the exact amount of their wages. Secondly, as the participants were asked to tell us their monthly average wage, it seems that at least some of them might not tell the exact amount due to socio-cultural issues.

Based on the results of this study, and similar to those of Herschbach, Lonnie and Strong, living in cities or villages has nothing to do with the emotional distress of the participants [18, 20, 23]. Similar to Herschbach and in contrary to Lonnie's study, there was no significant relationship between the earlier month treatments and the emotional distress [20, 23].

The results of our study indicate that in patients with the less performing abilities, the more recognizable rate of emotional distress (score $>$ 4) increases. It is expected and also consistent with the result of Lonnie's study [23]. Another finding of this

study is the fact that the emotional distress increases unless the patient knows about his medical status.

Conclusion

Emotional distress can affect the quality of life of breast cancer patients. Based on the results of this study, the emotional distress rate of the patients was determined according to the influential factors. It seems that paying attention to the abovementioned problems as well as using psychology teams and trained personnel can help the patients and decrease the number of problems which can result in a reduction in the rate of emotional distress. Therefore, oncology specialists should utilize mental health services to improve their patients' mental health as well as to control the consequences of the disease.

Acknowledgement

This paper has extracted from a thesis by Dr. Koochak-Pour, and has supported by Research Deputy of Guilan University of Medical Sciences. The authors would like to thank the vice chancellor for his assistance and the Research Committee for their support.

Conflicts of Interest

There was no conflict of interest in this article.

Authors' Contribution

Hamid Saeedi-Saedi, Soodabeh Shahidsales, Mona Koochak-Pour, Emad Sabahi, Irene Moridi have designed the present study. Soodabeh Shahidsales has written the article, and Hamid Saeedi Saedi, and Irene Moridi have edited the article. Mona Koochak-Pour and Emad Sabahi have been responsible for collecting the data, and Hamid Saeedi-Saedi and Soodabeh Shahidsales have contributed to the analysis and data interpretation.

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