



# Evaluation of Happiness in Breast Cancer Patients Referring to Hospitals in Ahvaz, Iran

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## Abstract

**Background:** Breast cancer is a horrific event for many women, creating psychological and social challenges. Therefore, identifying the moderators of these challenges, including happiness, is of paramount importance.

**Objectives:** This study aimed to evaluate the happiness level in breast cancer patients referring to the hospitals in Ahvaz, Iran, in 2015 - 2016.

**Methods:** This cross-sectional study was carried out on 118 breast cancer women who referred to the hospitals in Ahvaz. A non-probability consecutive sampling method was used to select the participants. The Oxford Happiness Questionnaire was used for data collection.

**Results:** The mean happiness score of the participants was  $40.45 \pm 16.20$ , and most participants (56.8%) had a moderate happiness level. There were no significant associations between demographic data and therapeutic characteristics and the happiness level of the subjects ( $P > 0.05$ ).

**Conclusions:** According to the results, the majority of the subjects had a moderate level of happiness. Given the importance of mental health of cancer patients in the whole treatment process, it is suggested that some concepts of positive psychology, including happiness, be evaluated and considered during the treatment process of these patients.

**Keywords:** Breast Cancer, Happiness, Mental Illness, Iran

## 1. Background

Cancer is one of the earliest diseases known to humans. As a global issue, cancer is the third cause of mortality in Iran (1). Breast cancer is the most common cancer and the most important leading cause of death in women aged 39 - 44 years. It is also the second leading cause of cancer death in women after lung cancer (2). Despite recent technical advances in surgery, chemotherapy, and radiation therapy, the cancer mortality rate has remained unchanged for at least 30 years (3).

Since breast cancer is a horrific psychological, emotional, and social event for many women, it represents a tremendous loss to the person and encounters the patient with psychological and social challenges because breasts are an essential symbol of beauty and attractiveness in women (4). Response to cancer depends on many factors such as, the patient's psychological status, family and so-

cial environments, and disabilities and deformities caused by the disease that affect all the aspects of the patient's activities (5).

Today, the focus on the psychological characteristics of individuals is mainly related to the concepts of positive psychology, including happiness, which is recognized as one of the essential and innate human needs and could be regarded as the most important factor for the health of family and society (6). In Latin, the word "happiness" has two meanings of positive emotions and prosperity, the latter being synonymous with content and gratification, which seems to be the intended meaning in positive psychology. The most extensive research on happiness has been carried out by Argyle, who believes that happiness means being in a happy state or having other positive emotions, being content with life and having no depression, anxiety or any other negative emotions (7). In fact, happiness is a feeling of mental wellbeing based on the individ-

ual's assessment of his life.

Happiness consists of being satisfied with life, having a positive mood, and lacking a negative mood (8). However, little attention has been paid to the effect of happiness on human life. Happiness can significantly affect people's lives. In general, happy individuals have an optimistic attitude toward their surrounding events and try to optimally use the situations instead of having a negative attitude toward these phenomena. These individuals are responsible, have happy spirits and maintain positive thinking as their first priority in every situation. In fact, happiness is caused by the sense of content with oneself and the surrounding environment (9).

Regarding the outcomes of happiness, some studies have shown that the feeling of happiness could be used to treat mental diseases, increase hope and psychological resistance, and improve the defense force against stress. Furthermore, the results obtained by Murrell et al. indicated that a positive psychological state increased the possibility of happiness, calmness, health, and vitality in the last years of life, resulting in the improved performance of people (10).

The systematic reviews of observational studies in this regard have denoted the contribution of happiness to reducing the mortality rates in various patients, as well as normal individuals (11). For instance, patients diagnosed with breast cancer largely benefited from psychological modifications, which was associated with improving their temper (12). In addition, these interventions were shown to enhance the coping mechanisms in these chronic patients (13). According to the findings, among patients with recurrent breast cancer, those who are generally happier have a higher life expectancy than individuals without joyful experiences (14). Other studies have shown that happiness is a more important predictor of quality of life and depression than the severity and seriousness of cancer treatment and it may play a role against breast cancer (15, 16). In general, evidence shows that happiness can influence the health of people by affecting their immune system. In other words, the immune system works more efficiently in happy individuals than in unhappy people (17, 18).

Therefore, it seems that chronic and incurable diseases (e.g., breast cancer) are involved in the emergence of psychological changes and the decreased quality of life in patients. In addition, identifying the moderators of these changes is of paramount importance (10). To date, a limited number of studies have been conducted on happiness as a new component in psychology in Iranian patients. However, due to the high and rising incidence of breast cancer, the evaluation of happiness in female cancer patients is of significant importance. On the other hand, the mental wellbeing and sensitive role of women in society and family must always be considered.

## 2. Objectives

With this background in mind, this study aimed to evaluate the happiness level in breast cancer patients referring to the hospitals in Ahvaz, Iran, in 2015 - 2016.

## 3. Methods

This descriptive analytical study was conducted on 118 women with breast cancer, who referred to the hospitals in Ahvaz between October 2015 and August 2016. Sampling was done according to the census method and the subjects were selected through non-probability consecutive sampling from two general hospitals in Ahvaz (Emam Khomeini Hospital and Golestan Hospital). The inclusion criteria were as follows: a diagnosis of breast cancer for at least six months, no other disease or tumors, the age range of 18 to 60 years, informed consent to participate in the study, no history of specific mental disorders, and the ability to read and write.

The data collection tool was a questionnaire in two sections of demographic information (i.e., age, marital status, education level, employment status, economic condition, duration of disease and treatment, and type of hospital [private or public]), and Oxford Happiness Questionnaire (OHQ). The questionnaire was first designed by Michael Argyle in 1986, and its modified version consisting of 29 items was published by Hill and Argyle in 2002. The questionnaire is scored based on a four-point scale, ranging from zero to four. The total score of the questionnaire is in the range of 0 - 87, where the higher score indicates more happiness and satisfaction and the lower score demonstrates a lower happiness level (19).

The OHQ is a standard questionnaire used in various studies around the world. The validity of the translated version of the questionnaire has been confirmed in Iran. In addition, the internal consistency and correlation coefficient of the items were reported as 0.91 and -0.4 to 0.65 (mean = 0.28), respectively (19). The reliability of the research tool was confirmed by Cronbach's alpha coefficient of 0.91. Argyle confirmed its reliability with Cronbach's alpha coefficient of 0.90 with 347 subjects, whereas Alipoor and Nori proved its reliability with Cronbach's alpha coefficient of 0.93 with 101 subjects. Moreover, Alipoor and Nori (20) reported the favorable validity of the questionnaire, with Cronbach's alpha, split-half, and retest values of 0.93, 0.92, and 0.79, respectively (7).

The data were analyzed using SPSS V. 22 through the descriptive statistics and the statistical tests of ANOVA, chi-square, *t*-test, and Pearson correlation coefficient.

### 3.1. Ethical Considerations

The Ethics Committee of Ahvaz Jundishapur University of Medical Sciences approved the study (ETH-387). The formal authorization was obtained from the School of Nursing and Midwifery of Ahvaz Jundishapur University of Medical Sciences and the study hospitals for both sampling and study implementation. The purpose and the procedure of research were explained to the participants, and written informed consent to participate in the study was received from all the patients.

## 4. Results

The mean age of the participants was  $47.65 \pm 10.45$  years, and most of them (58.5%) were within the age range of 30 - 50 years. Other demographic characteristics of the subjects are presented in Table 1. As can be seen, the mean happiness score of the participants was  $40.45 \pm 16.20$ , with the minimum and maximum of 8 and 83, respectively. According to the results, a moderate level of happiness was observed in most of the subjects (56.8%) (Table 2). The chi-square test was performed to evaluate the relationship between the happiness level and the demographic characteristics, including age, marital status, place of residence, employment status, and level of education. According to the results, no statistically significant relationship was observed in this regard ( $P > 0.05$ ) (Table 3). Moreover, no significant association was found between the happiness level and the therapeutic characteristics of the participants ( $P > 0.05$ ) (Table 4).

## 5. Discussion

Today, happiness and hope are among the important and effective components of the psychological aspects of patients, including patients with breast cancer.

In general, happiness has a significant impact on the lives of individuals. Happy people have an optimistic approach toward their surrounding events and try to benefit from the situation instead of developing negative emotions. In addition, these individuals are accountable, have happy spirits, and apply positive thinking in all aspects of their lives. In other words, happiness is increased by being content with oneself and the surrounding environment (9).

According to the results of the current study, the mean score of happiness was  $40.45 \pm 16.20$  in the subjects. In total, 31.4% of the participants had a low happiness level whereas 56.8% and 11.9% had moderate and high levels of happiness, respectively. As observed, most breast cancer patients developed a moderate level of happiness.

**Table 1.** Demographic Information of Participants

Variable	Frequency (%)
<b>Age group, y</b>	
< 30	6 (5.1)
30 - 50	69 (58.5)
> 50	43 (36.4)
<b>Marital status</b>	
Single	22 (18.6)
Married	71 (60.2)
Divorced	7 (5.9)
Widowed	18 (15.3)
<b>Employment status</b>	
Employed	45 (38.1)
Unemployed	73 (61.9)
<b>Place of residence</b>	
Urban	94 (79.7)
Rural	24 (20.3)
<b>Economic status</b>	
Good	30 (25.4)
Average	61 (51.7)
Bad	27 (22.9)
<b>Level of education</b>	
Illiterate	23 (19.5)
Elementary education	29 (24.6)
High school diploma	20 (16.9)
Associate degree	13 (11.0)
Bachelor degree	24 (20.3)
Master degree	9 (7.6)

**Table 2.** Happiness Level of Participants

Happiness	Frequency (%)
Low	37 (31.4)
Moderate	67 (56.8)
High	14 (11.9)

Breast cancer affects the way that patients think about themselves and their sexual relationships. Moreover, most of these patients experience psychological reactions, which deteriorate the disease treatment and therapeutic outcomes. In a survey on 300 breast cancer women aged above 18 years, the prevalence rates of anxiety disorder, anxiety symptoms, depression, and depression symptoms were 16%, 19%, 9%, and 1.7%, respectively (21). Moreover, the diagnosis of cancer could be associated with excessive fear,

**Table 3.** Relationship Between Happiness and Demographics Data

Variables	Happiness			P Value
	Low	Moderate	High	
<b>Age group, y</b>				0.060
< 30	5 (83.3)	1 (16.7)	0 (0.0)	
30 - 50	21 (30.4)	41 (59.4)	7 (10.1)	
> 50	11 (25.6)	25 (58.1)	7 (16.3)	
<b>Place of residence</b>				0.735
Town	28 (29.8)	55 (58.5)	11 (11.7)	
Village	9 (37.5)	12 (50.0)	3 (12.5)	
<b>Marital status</b>				0.528
Single	7 (31.8)	15 (68.2)	0 (0.0)	
Married	23 (32.4)	39 (54.9)	9 (12.7)	
Divorced	2 (28.6)	4 (57.1)	1 (14.3)	
Widow	5 (27.8)	9 (50.0)	4 (22.2)	
<b>Employment status</b>				0.610
Employed	14 (31.1)	24 (53.3)	7 (15.6)	
Un-employed	23 (31.5)	43 (58.9)	7 (9.6)	
<b>Education level</b>				0.616
Illiterate	9 (39.1)	11 (47.8)	3 (13.0)	
Elementary	8 (27.6)	17 (58.6)	4 (13.8)	
Diploma	9 (27.27)	21 (63.64)	3 (9.01)	
Bachelor degree or higher	11 (33.33)	18 (54.54)	4 (12.12)	

<sup>a</sup> Values are expressed as No. (%).

**Table 4.** Relationship Between Happiness and Treatment Status

Variables	Happiness			P Value
	Low	Moderate	High	
<b>Disease duration</b>				0.818
6 months	11 (31.4)	20 (57.1)	4 (11.4)	
1 year	17 (33.3)	30 (58.8)	4 (7.8)	
5 years	6 (31.6)	9 (47.4)	4 (21.1)	
> 5 years	3 (31.4)	8 (56.8)	2 (11.9)	
<b>Treatment duration</b>				0.616
6 months	16 (38.1)	21 (50.0)	5 (11.9)	
1 year	14 (30.4)	29 (63.0)	3 (6.5)	
5 years	4 (25.0)	8 (50.0)	4 (25.0)	
> 5 years	3 (23.1)	8 (61.5)	2 (15.4)	
<b>Hospital type</b>				0.635
Public	19 (35.8)	28 (52.8)	6 (11.3)	
Private	18 (27.7)	39 (60.0)	8 (12.3)	

<sup>a</sup> Values are expressed as No. (%).

hopelessness, and mental trauma, challenging all aspects of patients lives, including physical, emotional, and spiritual dimensions (16). Hunter-Hernandez et al. also marked that cancer affects the mental health of patients and that the most important problem in dealing with this type of disease is the sense of hopelessness (22). These negative feelings can affect happiness and satisfaction with life in patients.

According to the literature, the disease period is prolonged with lower life satisfaction (23). Correlational studies indicate a positive and sustainable relationship between happiness and physical health (24). In a study, it was demonstrated that happiness is a more important predictor of quality of life and depression than the severity and seriousness of cancer treatment (15). In addition, happiness might play a positive role in breast cancer (25). In a study conducted by Ebright and Lyon on women with breast cancer, it was concluded that those with higher levels of hope and happiness reported lower levels of anxiety and stress (16). Mehrabi assessed the effectiveness of Fordyce happiness model on 60 patients with cancer and diabetes and reported that happiness is a personality trait and, as one of the important components of life, can affect the mental and physical health in everyday life. In addition, they concluded that the sense of content and happiness in life is one of the most important factors affecting the mental and physical health of patients and could be beneficial for increasing joy, promoting the quality of life, strengthening patients physically against the disease (e.g., cancer), and creating hope in patients (26).

According to the results of the current survey, no association was found between happiness and age of the participants. However, Safari performed a study on 170 students to evaluate the relationship between their level of happiness and demographic characteristics. They found a significant correlation between the participants' age and the happiness level, demonstrating that individuals within the age group of 20 - 30 years had a higher happiness level. Nevertheless, no significant association was observed between happiness and marital status of the subjects, which is consistent with our findings (27). Moreover, Ahmadi-darrehshima et al. carried out a study on 50 breast cancer women, observing no significant relationship between the level of happiness and the duration of disease and treatment and age (28).

According to the literature, joyful experiences are higher among women, young adults, and high self-esteem people than in men, the elderly, and low self-esteem individuals (29, 30). Therefore, it could be inferred that joyful experiences are usually lower in the surviving patients with breast cancer than in their peers of the same age. In the mentioned study, no significant relationship was ob-

served between happiness and economic status. In contrast, Hoseini Yazdi et al. conducted a study on 60 cancer patients in Kashmar, Iran, to evaluate the association between economic status and happiness and showed that treatment costs and low economic status of patients had a negative impact on the happiness level of the subjects (31). According to Howell et al. (32), money and economic status could intensify anxiety and reduce satisfaction and happiness in individuals. On the other hand, some research indicates that income is one of the factors affecting happiness and mental wellbeing of individuals since it helps people to meet their specific needs (33).

The strength of the study was that it addressed an important concept in the process of adjusting to breast cancer, i.e. happiness level. The limitation of the study included its small sample size, limiting the generalizability of the results. Therefore, the findings of this study should be reassessed after similar studies were conducted in other contexts.

### 5.1. Conclusions

According to the results of the current study, the majority of the subjects had a moderate level of happiness. Given the importance of the mental health of cancer patients in improving the quality of life and better prognosis and treatment outcomes and its significance in the whole treatment process, it is suggested that some concepts of positive psychology, including happiness, be evaluated during the treatment process of these patients and psychological counseling be provided with an emphasis on this concept.

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### Footnotes

**Authors' Contribution:** Sarah Karampour and Malek Fereidooni-Moghadam designed the study and gathered the data; Koroush Zarea and Reza Masoudi analyzed the data and drafted the manuscript.

**Conflict of Interests:** The authors declared no conflict of interests.

**Ethical Approval:** The Ethics Committee of Ahvaz Jundishapur University of Medical Sciences approved the study (ETH-387). The formal authorization was obtained from the School of Nursing and Midwifery of Ahvaz Jundishapur University of Medical Sciences and the study hospitals for both sampling and study implementation.

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**Patient Consent:** The purpose and the procedure of the research were explained to the participants, and written informed consent to participate in the study was received from all the patients.

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