

# Prediction of Death Anxiety based on Body Image Concerns Mediated by Disease Perception in Patients with Breast Cancer

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Original Article

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## Abstract:

The present study aimed to predict death anxiety based on body image concerns mediated by disease perception in patients with breast cancer. In this descriptive correlation study, Templer's Death Anxiety Scale, Littleton's Body Image Concern Inventory, and Broadbent's Brief Illness Perception Questionnaire were used to collect data. The statistical population included all patients with breast cancer in Abadan City in 2020 who were referred to medical centers for six months. A total of 200 of whom were selected as the sample of the study using convenience sampling. The proposed model was evaluated using path analysis with AMOS software. The results showed that there

was a significant association between body image and disease perception ( $\beta=0.33$ ,  $P=0.001$ ), and death anxiety ( $\beta=0.57$ ,  $P=0.001$ ), and between disease perception and death anxiety ( $\beta=0.39$ ,  $P=0.001$ ). There was a relationship between body image and death anxiety through the mediating role of disease perception in patients with breast cancer ( $P=0.009$ ). According to the results of the study, the relationship of body image with death anxiety through the mediation of disease perception had a good fit and is an important step in identifying the factors affecting death anxiety of patients with breast cancer.

## Introduction

Breast cancer is the most common cancer diagnosed among women globally. It is most often seen in the middle of life between the ages of 35 and 55 years (1). Prognosis improvement and timely diagnosis result in an increased number of women living with the consequences of the disease and complications associated with its treatment. A major consequence of cancer treatment is temporary or permanent changes in the appearance, feelings, and function of the body (2). Therefore, post-treatment changes in appearance can cause body image concerns (BICs) among many women, which is a warning as BI-related concerns are accompanied by increased risks of undesired psychological and physical consequences, such as depression, anxiety, concerns related to sexual relations, and intimacy, and reduction of lifespan (3). Fear of death and its associated anxiety are among the effective factors of mental health in patients with cancer (4). Cancer diagnosis and treatment can be stressful factors (5). During the medical or surgical interventions, the patients may experience physical symptoms. With an increase in the symptoms and reduction of perceived function, the level of anxiety and distress elevates in these patients (6). These concerns are mostly due to death anxiety (DA). Existential concerns accompanied by DA can be very annoying. In patients at the advanced stage of cancer, the interaction between physical symptoms, concerns about family, age, and reduced self-esteem results in the experience of DA (7). Lehto & Stein (4) found that DA is an effective factor in mental health and a significant psychological diagnosis in patients with cancer. Moreover, body image (BI) is an important element of the quality of life of patients with cancer (8, 9). It encompasses beliefs, as well as conscious and unconscious feel-

ings. BI is a person's mental image of their physical appearance. In other words, it is a person's negative and positive feelings about their body shape and size (10).

When a person is fighting cancer, they may face many goals and challenges, which can be medical, physical, emotional, interpersonal, and spiritual. These goals and challenges, related to the quality of life, have all been threatened and impaired by cancer. Understanding the disease symptoms is among the essential psychological and behavioral variables in cancer treatment, which is based on the acquisition of information from different sources and patient's beliefs and can affect the mental health and capability of the individual in compliance with the disease (11). Farahbakhsh Beh et al. (12) showed a significant negative correlation between the perception of illness and social support, and between resilience and death anxiety. Sharifi Saki et al. (13) reported a significant relationship between the properties of psychosis and disease perception. Bibi & Khalid (3) showed that there is a significant negative relationship between death anxiety and social support, that the latter contributed to a reduction of death anxiety and an increase in the recovery period. Mikulincer & Florian (14) showed that there is a significant relationship between emotion - and problem-focused coping strategies with death anxiety.

Based on the literature review, scant studies have been conducted in Iran on the relationship between disease perception and BI with DA in cancer patients. However, none of them has investigated the relationship between disease perception and BI with DA in patients with breast cancer. Given the paucity of studies on patients with breast cancer, the present study sought to investigate a causal association between body image with death anxiety according to the mod-

erating role of disease perception in patients with breast cancer.

## Methods

The study was a descriptive correlation performed by path analysis. The statistical population included all patients with breast cancer in Abadan city and 200 of which were selected as the sample of the study using convenience sampling. Patients were introduced to the researcher after examination by a specialist physician and receiving a diagnosis of breast cancer. The inclusion criteria were: age range between 30-50 years, having at least a middle school education, and having no mental disorders. The exclusion criteria included failure to completely answer all the questions. Data were analyzed by descriptive and inferential statistics such as mean, standard deviation, and Pearson correlation coefficient. SPSS and AMOS were used for analyzing the data.

In this study, the following instruments were used to collect data: The Death Anxiety Scale (DAS): This scale was developed and validated by Templer in 1970. This scale is a self-executive questionnaire comprised of 15 correct-incorrect items. The total score of the questionnaire is in the range of 0 and 15, where the higher score indicates a higher degree of anxiety. The Brief Illness Perception Questionnaire (Brief IPQ): Brief IPQ is a 9-item questionnaire designed to rapidly assess cognitive and emotional representations of illness. The Brief IPQ uses a single-item scale approach to assess perception on a 0–10 response scale.

Body Image Concern Inventory (BICI): BICI was developed by Littleton et al. (15) with 19 items measuring a person's dissatisfaction and concern about their appearance. Littleton et al. (15) investigated the factor structure of the inventory. The results indicated that there are two important factors. The first factor is comprised of

11 items including a person's dissatisfaction with their appearance, as well as examining and hiding perceived defects or flaws in appearance. The second factor contains 8 items measuring the interference of concern about appearance with social function.

## Results

The participants included 200 women with breast cancer. Descriptive statistics including mean and standard deviation (SD) and Pearson correlation coefficient of study variables are presented in Table 1.

**Table 1** Mean, standard deviation (SD), & Pearson correlation coefficients of study variables

Variables	M	SD	1	2	3
1. Body image	32.52	5.91	1		
2. Disease perception	76.64	12.79	0.73*	1	
3. Death anxiety	9.25	2.28	0.32*	0.75*	1

M: Mean; SD: Standard deviation; \*:  $p < 0.05$

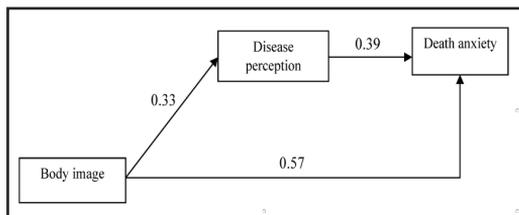
In the proposed model, the 3 variables of body image, disease perception, and death anxiety were evaluated. Table 2 presents the fitting indices for the proposed model. Figure 1 shows the proposed model in which the root means square error of approximation (RMSEA= 0.06;  $\chi^2/df= 2.44$ ; CFI= 0.997; GFI= 0.993), indicated a good model fit.

Based on the data in Table 3 there was a significant direct association between body image and disease perception ( $\beta= 0.33$ ,  $P= 0.001$ ). The association between disease perception and death anxiety was positive and significant ( $\beta= 0.39$ ,  $P=$

**Table 2** Proposed model fit indicators

Fit indicators	$\chi^2$	df	$(\chi^2/df)$	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed model	2.44	1	2.44	0.993	0.902	0.997	0.970	0.997	0.996	0.06

GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; IFI: Incremental Fit Index; TLI: Tucker Lewis Index; CFI: Comparative Fit Index; NFI: Normalized Fit Index; RMSEA: Root Mean Square Error of Approximation

**Figure 1** Proposed model of the research

0.001). We also observed a direct and significant association between body image and death anxiety ( $\beta = 0.57$ ,  $P = 0.001$ ). The indirect path from body image to death anxiety through the mediating role of disease perception was significant ( $\beta = 0.271$ ,  $P = 0.009$ ) (Table 3).

## Discussion and Conclusion

The present study aimed to investigate a causal association between body image with death anxiety according to the moderating role of disease perception in patients with breast cancer. The results showed that disease perception had a direct effect on DA in patients with breast cancer. Moreover, there was a significant relationship between BI and DA in patients with breast cancer. In other words, DA increases in patients with breast cancer who develop more attention to their BI. According to the results, the proposed model had a good fit and was an important step in identifying the factors affecting the death anxiety of patients with breast cancer. To explain, it can be said that having a disease can affect the patient's relationships. The presence of a disease can lead the patient to use ineffective coping and adaptive mechanisms which, in turn, can increase their level of stress. Increased stress is directly related to physical factors and can exacerbate the disease

severity. It has been proved that negative perception and self-esteem are signs of depression (16). It can be concluded that not only biological mechanisms but also psychological factors can affect psychosomatic diseases, including breast cancer. What makes this chronic disease psychologically important is the broad range of its neuropsychiatric aspects. Many neuropsychiatric disorders are associated with breast cancer, including depression, euphoria, bipolar disorders, abnormal crying and laughing, psychosis, attention deficit, information processing, executive function, concentration, learning, and memory. Emotional disorders (depression, fatigue, and anxiety) are among the most common psychological symptoms in patients with breast cancer and are largely connected to disabilities and poor living conditions in such patients (17).

Adaptation to the present conditions is the best strategy for enhancing the quality of life of patients with breast cancer. Disease perception is an important psychological variable defined as the patient's belief and image of their disease. It can affect their adaptability to the disease and subsequently their quality of life. This perception can show the outlook of their treatment and adaptation of their therapeutic diets (18). BI is individuals' subjective picture of their own body, specifically from others' eyes. Some people use this term only for physical appearance and some others use it in a broader sense that includes such concepts as bodily actions, movements, and coordination (19). Humans covet beauty and have long had a natural tendency towards it. A good appearance enhances a person's self-image and self-confidence. As a result, social activities are formed at an acceptable level. Appearance, as the first thing that appears

**Table 3** Path coefficients of direct and indirect effects between research variables in the proposed model

Path	Proposed model		
	Path type	$\beta$	P
Body image to disease perception	Direct	0.33	0.001
Disease perception to death anxiety	Direct	0.39	0.001
Body image to death anxiety	Direct	0.57	0.001
Body image to death anxiety through the mediator role disease perception	Indirect	0.27	0.009

in social situations while dealing with others, forms an important part of a person's identity. In today's highly dynamic and rapidly-changing society, where the first perceptions and influences on the other side are important, the appearance, symbols, and external signs are gaining considerable value and importance (20).

### Conflict of Interest

The authors declare that they have no conflict of interest.

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