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Structural equation model of psychological hardiness and perceived social support in psychological distress with the mediating role of body image dissatisfaction in women with breast cancer

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Abstract

Studies show that psychological protective factors play a decisive role in reducing the traumatic consequences of stressful factors and improving the quality of life in people with chronic diseases. In this regard, the present study was conducted with the aim of investigating the structural equation model of psychological hardiness and perceived social support in psychological distress with the mediating role of body image dissatisfaction in women with breast cancer. The present research was applied in terms of purpose and descriptive in terms of methodology. The statistical population of this research was all women with breast cancer referred to Imam Sajjad Hospital in Ramsar city, 200 people in the age range of 30 to 60 years were selected by purposive sampling method. Participants responded to instruments of psychological hardiness, perceived social support, psychological distress, and body image dissatisfaction. The results of the Sobel test showed that the body dissatisfaction variable was a mediator in the relationship between psychological hardiness ($Z=-6.71$, $p<0.01$) and social support ($Z=-0.01$, $p<-4.21$) with psychological distress. According to the results, knowing the factors affecting dissatisfaction with body image such as psychological hardiness and social support is important in the mental health of people with breast cancer and shows the necessity of interventions focused on factors related to dissatisfaction with body image in order to reduce psychological distress in these people.

Keywords: *Psychological hardiness, Perceived social support, Psychological distress, Body image dissatisfaction, Breast cancer.*

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Introduction

Cancer is considered one of the life-threatening diseases, and among them, breast cancer is the most common, the most deadly, and the most emotionally-psychologically affecting disease among women. Breast cancer accounts for one-third of women's cancers (Siegel et al., 2014; quoted by Tadayon & Zarei, 2018). In Iran, 7,000 women are diagnosed with breast cancer every year, and currently about 40,000 people in the country have breast cancer (Alipour et al., 2014; quoted by Tadayon and Zarei, 2018). In these patients, the side effects of the treatment cause an increase in emotional disorders and a significant decrease in the quality of life, which doubles the need to identify the psychological consequences in patients with breast cancer (Montazeri & Gerondif, 2001). Facing the disease can cause acute and severe crises in a person's health. Patients often experience problems such as anxiety, depression, uncertainty, reduced quality of life, and concerns related to body image (Brandão & Schulz, 2013). The high prevalence of psychiatric disorders in women with breast cancer indicates the need for more attention from healthcare officials. 25 to 90% of breast cancer patients have severe depressive disorders, and the prevalence of depression in these women, especially in the first year after diagnosis, is twice that of the general female population (Ghezelbash et al., 2012). The results of studies on depression in women with breast cancer during 92 studies indicated that depression, hopelessness, lack of interest and pleasure play an important role in the development of breast cancer (Shakeri et al., 2008). Studies reported the prevalence of depression in women with breast cancer in the range of 45 to 80% (Borges et al., 2005). Thus, women with breast cancer had the highest level of depression (79.2%) compared to other cancers of the stomach, esophagus, acute leukemia, colon and liver, and unknown types of metastases (Mashhadi et al., 2013).

Physical diseases, especially chronic physical diseases such as breast cancer, whose scope of influence has exceeded the physical condition, affect other aspects of affected people's lives, including the psychological state. It also includes interpersonal and occupational relationships, and the changes created by them are more stable, serious, challenging, and considered important stress factors. These can create serious and significant risks and problems for affected people. Part of the stressful nature of breast cancer is related to the disease itself, which is deadly and scary, but the other part of the stressful nature of breast cancer is related to its consequences. One of breast cancer's most important consequences is the significant body image changes resulting from the disease and its treatment. Therefore, changes in body image, which are considered significant and challenging changes, also act separately as a stress factor. In fact, body image is an important component of a cancer patient's quality of life (DeFrank et al., 2007). Biological factors affecting body image include age, gender, and education. Also, psychological factors affecting body image include personal and interpersonal factors, including mental health, anxiety, decreased self-confidence, and self-esteem, worry about weight gain, depression, and feelings of shame. In explaining the significant difference between the body image of women with cancer and normal women, it should be stated that women who get breast cancer also suffer physical injuries. Especially in women with breast cancer who drain their breasts, these injuries

are more severe because they lose a part of their body that is also considered a sexual organ. This causes them to become sensitive to the loss of their organs gradually. This syndrome of attention toward body deficiency distorts their body image, eventually leading to the difference between the body image of these people and normal people. In the process of breast cancer, general attention and treatments have been focused on the physical recovery of these patients. However, physical diseases also cause psychological damage. After the occurrence of breast cancer in women, breast surgery is performed in two ways: breast conservation surgery, i.e. removal of the breast along with the margin of healthy tissue around it, and mastectomy, i.e. removal of the entire breast. Mastectomy causes complete destruction of the body image of patients and has a profound effect on the mental state of patients, but the evidence shows that even in breast conservation surgery, the appearance of the patient does not change. Even if mammoplasty or mastopexy surgery is performed, which improves the appearance of the breast, patients still have many psychological problems. Suffering from a fatal disease, fear of death and secondary effects of treatment, such as hair loss, eyebrows, eyelashes, a feeling of general weakness, nausea, or vomiting, harm patients' general health. In addition, it will adversely affect their marital satisfaction, body image, mental health, and quality of life (Travon et al., 2010).

Psychological distress is one of the problems resulting from exposure to stressful factors. Psychological distress is a non-specific negative mental state that includes feelings of anxiety and depression and is more related to mental disorders (Kessler, 2003). In general, increased risk of psychological distress is related to exposure to trauma, but research in the field of personality and social psychology has long shown that vulnerability to stressors may vary from person to person. Indeed, it has been found that individuals facing similar stressful situations perceive, react, and are affected differently by such stressors (Kobasa, 1979; cited in Harrison et al., 2002). The results of research conducted in this field highlight the role of individual and environmental protective factors. Protective factors, although they are not able to prevent stressful factors, but they significantly reduce the psychological consequences of these factors. Among the individual protective factors considered and investigated by researchers, especially in people with chronic physical diseases such as breast cancer, are the concepts of psychological hardiness and perceived social support.

Psychological hardiness is a concept that Susan C. Kubasa first defined in 1979 as a combination of attitudes and beliefs. It motivates and dares a person to do hard work in the face of stressful and difficult situations and work hard to adapt to those conditions. Also, one can open a way to growth and excellence and provide opportunities for growth from among the events that can potentially have disastrous and unpleasant consequences (Maddy, 2002). Stubbornness as a way to conceptualize one's own perception of commitment, control and challenge is a single structure that originates from the integrated and coordinated action of these three interrelated components. Commitment is intertwined with many aspects of life such as family, career and interpersonal relationships. It is used in managing stressful situations to turn it into a growth experience, not a debilitating experience that makes a person understand

the meaning and purpose of life. Control is the belief that life events and their consequences can be predicted or even changed. Coping is the belief that change is a normal aspect of life and that positive or negative situations that require re-adaptations are not only a threat to a person's safety and comfort, but also an opportunity for growth and learning (Sharifi and et al., 2005). In this regard, studies also emphasize the protective role of hardiness that reduces harmful reactions to stressful factors (Thomson & Morris, 2009; Kim et al., 2006). Another protective factor against stressful factors is perceived social support. Perceived social support has been proposed as a cognitive evaluation of the support provided by the close environment and others. Social support theorists believe that not all interpersonal relationships can be considered as social support. In other words, relationships are not inherently a source of support unless the individual considers them as appropriate and available resources to meet their needs (Merino-Tejedor et al., 2015). Thus, perceived social support may have a stronger effect on mental health than actual received social support (Hefner & Eisenberg, 2009; Jung, Haley, Small, & Mortimer, 2002). In this regard, it has been found that perceived support from family and friends positively affects mental health and helps reduce depression and stress (Wankenking, Tanzing, and Tanzing, 2016). In general, it has a negative relationship with psychological distress (Zhang et al., 2018; Segrin & Dameshka, 2011; Feng, Su, Wang, & Lu, 2017).

The occurrence of stressful events and situations in human life is inevitable and cannot be predicted or prevented in many cases. On the other hand, stressors, especially if they are chronic, often cause significant and traumatic consequences in various psychological, physical, interpersonal and occupational relationships. In the meantime, although protective factors cannot prevent accidents and stressful factors, they play a significant and significant role in reducing and adjusting the psychological and physical effects of stressful factors. Therefore, the present study was designed and implemented to investigate the relationship between psychological hardiness and perceived social support and psychological distress with the mediation of body image concern in women with breast cancer.

Method

The upcoming research will be applied in terms of purpose and descriptive in terms of correlation type. The statistical population of this research is all the women with breast cancer referring to Imam Sajjad Hospital in Ramsar city, from which 200 people in the age range of 30 to 60 years were selected by purposive sampling method. For data analysis, Pearson’s correlation and causal modeling with SPSS and LISREL software were used.

Materials

Psychological Hardiness Inventory (PHI). Kubasa, Maddy and Kahn (1982) psychological hardiness inventory contains 20 items. The score of this test is calculated based on the Likert scale. The range of scores is zero (never), one (rarely), two (sometimes), three (often). A high score on this scale indicates a higher hardiness. The reliability of this test was reported by Kubasa et al. (1982) as 0.81 using Cronbach's alpha method, and by Ismail Khani et al. (2009) as 0.85 for female participants and 0.84 for male participants using the test-retest method. All the items of this scale have a correlation coefficient higher than 0.40 with

the whole test and the three factors of control, commitment and challenge explain 15.50 of the variance of the whole test (Zare & Aminpour, 2010).

Perceived Social Support Scale (MSPSS). This scale was prepared by Zimmet and his colleagues in 1988 in order to measure perceived social support from family, friends and important people in a person's life. This scale has 12 items and the respondent indicates his opinion on a 7-point scale from one for completely disagree to seven for completely agree. To obtain the total score of this scale, the scores of all items are added together. And it is divided by their number, i.e. 12. The score of each sub-scale is also divided by the sum of the scores of the related items. Its items are obtained under the scale of 4. The validity and reliability of this scale is determined by Zimmet et al. has been reported as desirable. The reliability of the scale was determined using Cronbach's alpha coefficient for the three dimensions of social support obtained from Regarding family, friends and important people in life, they reported 0.89, 0.86 and 0.82 respectively (Salimi , Jokar, and Nikpour, 2009**).**

Body Image Concern Inventory (BICI). The Body Image Concern Inventory was compiled by Littleton, Axum and Puri (2005). This questionnaire has 19 items and is self-report. The subject must answer the questions on a five-point Likert scale from (1 never to 5 always). In this way, the range of scores is between 19 and 95, and the higher the score, the higher the concern about body image. This tool has good reliability and validity, the reliability of the questionnaire was checked by internal consistency method and Cronbach's alpha coefficient was 0.93. The correlation coefficient of each question with the total score varied from 0.32 to 0.73 and the average correlation was 0.62. The convergent validity of this scale has been obtained by calculating its correlation with the obsessive-compulsive questionnaire and the eating disorders questionnaire, respectively, 0.62 and 0.40. In Iran, the validity of the questionnaire was measured in 209 female high school students in Shiraz city by two methods of binomialization and internal consistency, and coefficients of 0.66 and 0.84 were obtained, respectively (Mohammadi & Sajjadinejad, 2007).

Depression, Anxiety, Stress Scale (DASS): This tool was designed by Lavibond and Lavibond (1995), which is a set of three self-report scales to assess negative emotional states in depression, anxiety, and stress, and includes 21 questions. The use of this scale is to measure the intensity of the main symptoms of depression, anxiety and stress. The validity and reliability of this questionnaire in Iran has been examined by Samani and Jokar (2007). They reported the test-retest validity for the scale of depression, anxiety and tension as 0.80, 0.76 and 0.77, respectively. They also reported Cronbach's alpha for depression, anxiety and tension scale as 0.81, 0.74 and 0.78 respectively. In the study of Sahebi et al. (2005), the comparison of test subscales was calculated through Cronbach's alpha coefficient and its values were reported for depression 77%, anxiety 79% and stress 78%.

Findings

According to the demographic findings, the age of the participants was as follows: 20 percent (43 people) from 30 to 40 years; 35.3 percent (76 people) from 41 to 50 years; 36.3 percent (78 people) from 51 to 60 years; 8.4 percent (18 people) from 61 to 70 years old. In the examination of the marital status, it was also found that 82.3% (177 people) were married and 17.7% (38 people) were single. The data are as follows regarding the

education level of the subjects. 25 people (11.6 percent) are illiterate; 84 people (39.1 percent) have middle-school degrees; 58 people (27 percent) have a diploma; 13 people (6 percent) have associate degrees; 17 people (7.9 percent) have bachelor's degrees; 13 people (6 percent) have masters' degrees; 5 people (2.3 percent) have Ph.D. Also, the method of treatment was as follows: 123 people (57.2 percent) radiotherapy; 52 people (24.2%) chemotherapy; 21 people (9.8 percent) surgery with evacuation; 10 people (4.7 percent) surgery with no evacuation; 9 people (4.2 percent) drug therapy. The information obtained from the review of descriptive indicators can be seen in Table No. 1.

Table 1. Descriptive statistics of hardiness, social support, disease perception and psychological distress

Variable	Mean	Standard deviation
Psychological hardiness	52/05	14/03
Social support	45/93	9/17
Body dissatisfaction	36/04	14/76
Psychological distress	46/52	11/34

In Table No. 1, the mean and standard deviation of the main variables are specified. The mean and standard deviation of psychological hardiness is 52.05 and 14.03; the mean and standard deviation of social support are 45.93 and 9.17; the mean and standard deviation of body image dissatisfaction are 44.73 and 17.95; The mean and standard deviation of dissatisfaction are 36.04 and 14.76; The mean and standard deviation of psychological distress were 46.52 and 11.34. The normality of the data has also been checked. Normality is an important assumption for parametric analysis, which can be investigated using the skewness and skewness of the data distribution. The results of using these statistics to measure the variables of this research are presented in Table No. 2.

Table 2. The results of Skewness and Kurtosis statistics to check the normality of the data

Variable	Skewness	Kurtosis
Psychological hardiness	-0/01	-0/81
Social support	-0/48	0/46
Body dissatisfaction	0/16	0/25-
Psychological distress	0/32	-0/65

According to Table 2, the values of skewness and kurtosis obtained for the distribution of the scores of the investigated variables are between +2 and -2, which shows that the scores of the research variables have a normal distribution. Therefore, it is possible to use parametric tests to test hypotheses.

The investigation of the linear relationship between research variables was calculated using Pearson's correlation, the results of which are shown in Table No. 3.

Table 3. Pearson's correlation test results

Variable	1	2	3	4
Psychological hardiness	1			
Social support	0/43**	1		
Body dissatisfaction	-0/57**	-0/36**	1	
Psychological distress	-0/72**	-0/39**	0/47**	1

**p<0/01،*p<0/05

The results of Table 3 show the relationship between research variables. According to the results, psychological hardiness has a negative and significant relationship with physical dissatisfaction (r=-0.57, p<0.01) and psychological distress (r=-0.72, p<0.01). According to the results, social support has a negative and significant relationship with physical dissatisfaction (r=-0.36, p<0.01) and psychological distress (r=-0.39, p<0.01). According to the results, physical dissatisfaction (p<0.01, r=0.47) has a positive and significant relationship with psychological distress. All relationships are significant at the 0.01 level. Based on these results, the linearity of the relationship between the variables is accepted.

The non-collinearity between the independent variables is examined in table number 4. Collinearity is a condition that indicates that an independent variable is a linear function of other independent variables. If the collinearity in a regression equation is high, it means that there is a high correlation between the independent variables. The strength of the linear relationship between the variables related to the model is measured with an index called tolerance and VIF. For each independent variable, the tolerance value close to one is an indicator of its suitability and the values close to zero indicate that a variable is a linear combination of other independent variables (the VIF range is less than 5 and the tolerance value is higher than 0.1 is acceptable).

Table 4. Values of tolerance and VIF statistics to check the assumption of non-collinearity of independent variables

Variable	Tolerance	VIF
Psychological hardiness	0/75	1/32
Social support	0/77	1/29
Body dissatisfaction	0/65	1/52

Structural equation analysis was used to investigate the research hypothesis regarding the relationship between psychological hardiness, perceived social support, and psychological distress with the mediation of body image dissatisfaction. The results are presented in figures 1 and 2.

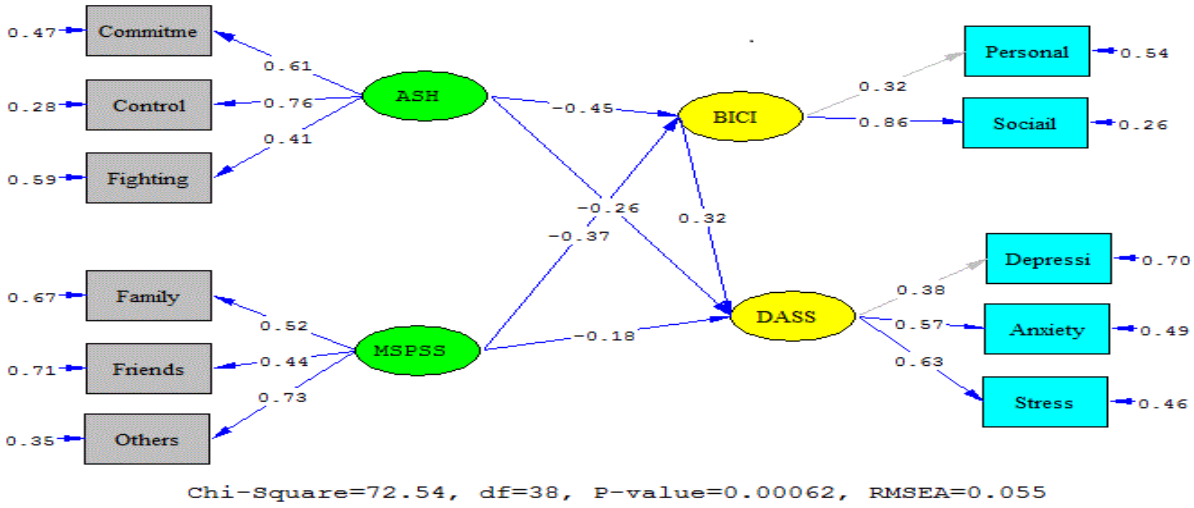

Figure 1. of the relationship between psychological hardiness and perceived social support with psychological distress with the mediating role of dissatisfaction with body image in the standard mode.

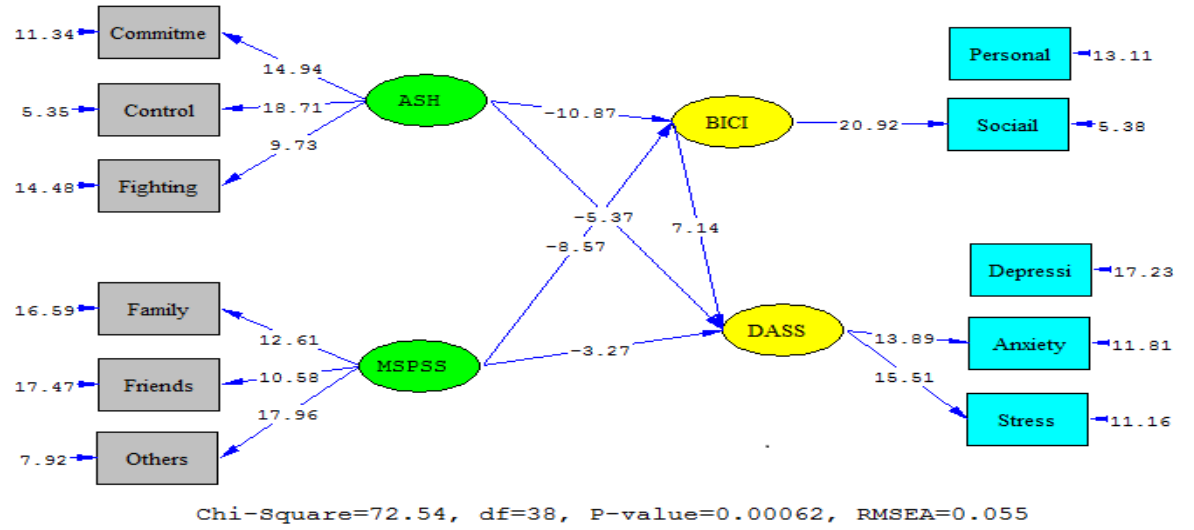

Figure 2. The relationship between psychological hardiness and perceived social support with psychological distress with the mediating role of dissatisfaction with body image in a meaningful state.

Various criteria were used to check the fit of the model indicators, the results of which are shown in Table No. 5.

Table 5. Goodness of the fit indexes of the fitted model (the relationship between psychological hardiness and perceived social support with psychological distress with the mediating role of dissatisfaction with body image

x^2/df	GFI	CFI	NFI	RMSEA
1/90	0/93	0/95	0/96	0/055

The ratio of the square to the degree of freedom does not have a fixed criterion for an acceptable model. The goodness of fit index, comparative fit index and standard fit index for models with good fit are equal to or greater than 0.9. Also, the value of the root mean square of the residuals for models that have a good fit is equal to or less than 0.05, and the values above 0.05 to 0.08 also indicate a reasonable error in the population.

According to the goodness of fit characteristics reported in the above table, the fit of the model is at a good level. In general, the conceptual relationships of the research were examined with experimental data, and the results of the model fit in diagrams 4-8 and 4-9 show that the psychological distress prediction model based on psychological hardiness and social support with the mediation of physical dissatisfaction has a favorable fit.

Next, the standard relationships and significance levels of the variables in the model were examined based on charts 1 and 2, the results of which are presented in table 6.

Table 6. Standard coefficients and significance levels of relationships between research variables

Direct path	Standard coefficient	t
Psychological hardiness to psychological distress	-0/26	-5/37
Social support to psychological distress	-0/18	-3/27
Psychological hardiness to body dissatisfaction	-0/45	-10/87
Social support to body dissatisfaction	-0/37	-8/57
Body dissatisfaction to psychological distress	0/32	7/14

Sobel's test was used to investigate the indirect effects and mediating role of dissatisfaction with body image in the relationship between psychological hardiness and social support with psychological distress, which are reported in Table No. 7.

Table 7. The results of examining the mediating role of dissatisfaction with body image in the relationship between hardiness and social support with psychological distress through the Sobel test.

Predictive variable	Criterion variable	Mediator variable	Sobel's test (z)	P
Psychological hardiness	Psychological distress	Body dissatisfaction	-6/71	0/01
Social support	Psychological distress	Body dissatisfaction	-4/21	0/01

According to the table, the body dissatisfaction variable has a significant mediating role in the relationship between psychological hardiness (Z=-6.71, p<0.01) and social support (Z=-0.01, p<-4.21) with psychological distress.

Discussion

The present study investigated the structural equation model of psychological hardiness and perceived social support in psychological distress with the mediating role of body image dissatisfaction in women with breast cancer. The relationship of the variables with each other in the form of predicting psychological distress based on psychological hardiness and social support with the mediation of body image dissatisfaction was investigated. The results obtained from the goodness of fit indices show that the designed model has a good fit and the obtained path coefficients are also significant, considering that in all paths the t-value was higher than 1.96. Therefore, the direct and indirect effects of psychological hardiness and perceived social support on psychological distress were confirmed.

The relationship between adverse life events or stressors and mental and physical health is well established, and many studies report that stressful life events cause impaired health and psychological dysfunction (Tirrell and Ruh 1971, cited from Beasley, Thomson, & Dididson, 2003). In general, exposure to trauma is associated with an increased risk of psychological distress, including post-traumatic stress disorder (PTSD), anxiety, and depression (Tedeschi & Calhoun, 2004). People with high hardiness are likely able to withstand the negative results of life's stressful factors. Their resistance to illness is likely due to the perception of life changes as less stressful events or a greater ability to cope with life changes (Aflakesir et al., 2016). In fact, people with high self-control consider life events to be predictable and controllable and believe that they can influence events through personal effort. Therefore, they not only do not see themselves as victims of change, but also try to be the main determinants of the consequences of change. On the other hand, people who have a high level of hardiness, compared to people who have a low level of hardiness, use more effective coping strategies to deal with problems (Bartone et al., 2016). In this regard, Ridner's analysis (2004; cited by Rhoten, 2015) also shows that one of the determinants of psychological distress is the perception of the inability to cope effectively. Psychological distress appears especially when life events are perceived as undesirable or uncontrollable (Sales & Mallen, 1981; cited in Harrison et al., 2002). As a result, stubborn people, instead of being passive and having a low perception of control, actively and with a high perception of control take different and effective strategies such as accepting the reality of stress in life. Because the dimensions of hardiness, that is, commitment to a meaningful purpose in life and relationships versus withdrawal. it is the belief that one has control over one's environment and outcomes as opposed to feelings of helplessness, and the attitude of learning and growing from positive and negative life experiences instead of being threatened by them. It leads to a reduction in assessing the threateningness of stressful situations and the challenge of considering them. The challenge of considering the events and, as a result, actively dealing with them instead of threatening and withdrawing helps to learn from positive and negative experiences and makes people more adaptable to the conditions and less affected by the changes. In this regard, research findings show that hardiness increases resilience (Benano, 2004) and people with high resilience have positive adaptation skills in stressful situations and can accept reality (Hadadi and Basharat, 2010; Burns & Anstey, 2010). Therefore, people feel more in control and deal successfully with stressful situations (Hystad et al., 2009). These attitudes in hardiness also provide the necessary courage, motivation and ability to transform environmental stressors into opportunities for growth and lead to many positive results such as improving mental and physical health in the face of stress (Thomson & Morris, 2009). . Therefore, psychological hardiness is considered as one of the protective factors against stressful factors such as breast cancer.

Social support is also considered as an important resource for coping with stress and improving health (Thwaites, 2010; DeLongis & Holtzman, 2005) and reduces the impact of stress on mental health (Lee, Koeske & Sales, 2004). Because a person's exposure to stress is strongly influenced by the methods

of receiving social support, and social support is focused on people's cognitive assessment of their surroundings and the level of confidence in accessing help and support (Babaei Amiri, 2018). Another aspect of the relationship between social support and reducing psychological distress, including symptoms of anxiety and depression, is important because social support helps people to reduce the need to devote time and cognitive space to worries and concerns related to have different problems resulting from the stressful conditions they face. In fact, in such situations people feel that they do not have to deal with all aspects of the stressful situation alone. Especially, loneliness is one of the dimensions of psychological distress. Alternatively, individuals with high perceived social support may have a general ability to maintain positive emotions and reality check against more catastrophic appraisals (Kessler et al., 1991; cited in Lowe, Chan, & Rhodes, 2010). It has also been found that the symptoms of depression are not related to the factors related to the disease, such as stage, time of diagnosis and treatment methods (surgery, chemotherapy, radiation therapy). On the contrary, they have the most relationship with many psychological variables such as perceived social support (Bardwell et al., 2006). Also, the research results of Jang et al. (2018) show that psychological distress in women is more related to social support than men. Therefore, in breast cancer patients, social support is one of the more important protective factors, and it is highly necessary to pay more attention to this protective factor among women with breast cancer.

The obtained findings show a significant negative relationship between psychological hardiness and perceived social support with body image concerns. This finding is consistent with the results of the research of Hodder, Chur-Hansen, and Parker (2014), which shows the relationship between social support and body image disorder. Among other findings, a significant positive relationship exists between body image concern and psychological distress. This finding is consistent with the results of studies conducted in this field.

Perceived social support gives people a sense of value and membership in a social network and the opportunity to create and strengthen their relationships (Charyton et al., 2009). This feeling of being valuable, lovable and belonging to the communication network enables people to deal with stressful factors such as changing body image and to be in a more favorable psychological condition. Perceived support may also be provided by encouraging individuals to believe that they have resources they can turn to if they want to distract themselves from the painful situation. These resources can influence secondary control responses to stressors by creating a context for positive thinking and cognitive restructuring. For example, although physical and appearance changes have happened to me due to illness, I know that regardless of my appearance and physical appearance, I am supported and accepted by those around me. Also, the importance of body image as a concept in women's lives was emphasized in a study by Pickler and Weintrad (2003, cited in Fobair et al., 2006), which showed that the better the body image, the better women cope with cancer. On the other hand, negative perceptions of body image among breast cancer survivors include feeling less sexually attractive and self-conscious about appearance (White, 2000, cited in Fobair et al., 2006). Therefore, on the one hand, within

the framework of cultural stereotypes, sexual attractiveness for women is considered one of the important and decisive features for being accepted. On the other hand, the self-awareness that occurs in the form of special attention to thoughts has increased the frequency of thoughts about the appearance situation, which probably has a negative content. Therefore, it seems that especially the commitment aspect of hardiness in people with high hardiness helps people by providing goals, meaning of life and further important values to assign the self-oriented valuation system to existential and non-appearance values more than to external characteristics. In this regard, adequate and appropriate social support also causes a change in the valuation system based on appearance characteristics by increasing the feeling of being accepted by others. As a result, it reduces the consequences of appearance changes, and by preventing isolation and loneliness, it reduces self-awareness of appearance. As a result, the presence of high hardiness and perceived social support plays the same protective role against physical changes as a stressful factor and leads to the reduction of distress caused by these changes that it plays against breast cancer.

Ethics

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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