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Moderating Role of Self-compassion in Relation to Psychopathological Symptoms and God Attachment in Women With Breast Cancer

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ABSTRACT

Background: In many of past studies, the strong role of God as an attachment figure in reducing psychopathological symptoms has been confirmed. In an effort to account for the effectiveness of attachment to God in mitigating psychopathological symptoms in healthy people we came upon self-compassion as a potential mediating variable in this process. Hence, in the current research, we studied this relation in Iranian Muslim women diagnosed with breast cancer.

Methods: A total of 360 Muslim women diagnosed with breast cancer were asked to fill the Attachment to God Inventory, Self-Compassion Scale, and Depression, Anxiety, and Stress Scale. Data were analyzed using path analysis method with AMOS 22.

Results: The anxiety dimension of attachment to God was significantly correlated with the severity of anxiety, but the avoidance dimension had no direct effect on any of the symptoms. Also, the anxiety dimension was found to be positively correlated with depression and stress indirectly via self-compassion. However, in the case of the avoidance dimension, no such relationship was observed. As a result, attachment anxiety causes a decrease in self-compassion in this group of women, and this, in turn, results in more severe psychopathological symptoms like anxiety, stress, and depression.

Conclusion: Considering the results of this study, we conclude that improvements in the mental health of Muslim women diagnosed with breast cancer are not exclusively achieved by attachment to material symbols. Rather, attachment to God as a spiritual symbol can have a great impact on the mental health of these women. In fact, secure attachment to God can help improve mental health through positive effects on self-compassion and should be considered as a treatment in psychological interventions.

Introduction

Cancer is a major public health concern around the world. According to the US cancer statistics in 2016, breast cancer was the most common type of cancer (29%) and the second leading cause of cancer

mortality in women living in the US.¹ Breast cancer is also the most common types of cancer in Iranian women.² Signs of psychopathology, especially depression, stress, and anxiety, are remarkable and noticeable in these patients.³ Women with breast cancer are more severely affected by psychopathological disorders compared with healthy people and other cancer patients,⁴ which affects their quality of life and coping strategies.^{5, 6} Therefore, paying attention to these patients and finding coping strategies for their psychopathological symptoms are very important.

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One of the most influential variables in psychopathology is a variety of attachment in people suffering from cancer.⁷ Different attachment styles in adults are classified into two categories of anxiety and avoidance.⁸ Attachment theory accounts for the different emotional responses that individuals display during illness,^{2,7,9} especially cancer.¹⁰ According to Bowlby's attachment theory, finding attachment figures as a safe and accessible haven represents a pattern of self, world, and others in the person's mind that is named the "internal working model."¹¹ If an individual's experience is positive, representing being accessible and reliable in relation to this source, this pattern is formed positively. That is, the individuals see themselves, others, and the world as a safe and predictable place which makes them securely attached. If the source of the attachment is too intrusive, the pattern formed in the person's mind becomes negative and insecure. Those who experience secure attachment with the help of reliable internal support resources in times of stress and distress will gain perceptions of self-efficacy and self-regulation that make it possible for them to have effective coping with stress and distress.¹² Although attachment begins in early childhood, it continues until adulthood and later. Then, notice to different types of attachment symbols are developed, and—like the childhood—as attachment security increases, mental health increases.¹³ The next important issue to be considered is that without accounting for the role of God in the lives of his believers, we can't entirely study attachment relationships in this group. Indeed, attention to all aspects of attachment enables us to find a complete picture of the attachment system in individuals.¹⁴ Attachment to God is very similar to the attachment of a child to his caregiver: as children's attachment system is activated in stressful situations, making them seek parental care and support, adults find God as a safe and secure haven.¹⁵ A secure attachment to God and creating a secure working model of God in one's mind increase tolerance for hardships of life. In contrast, if the image of God in someone's mind is an unkind and insecure one, the impacts on them will be negative.¹⁶

One of the important questions in this regard is how types of attachment to God influence the symptoms of psychopathology. In response to this question, Homan found self-compassion to be a mediating variable in

the association between attachment to God and mental health outcomes, i.e., life satisfaction, in healthy people, suggesting that secure attachment to God in healthy people can increase satisfaction with life and reduce anxiety and depression by increasing self-compassion.¹⁷ Self-compassion means "being kind and understanding toward oneself" and is considered as one of the strategies for emotional regulation. A person with higher self-compassion does not judge and compare himself or herself with ideal criteria; this person does not need an image other than what he or she has to accept.¹⁸ Self-compassion can help patients to enhance their ability to cope with the disease by improving self-regulation, namely, using healthy behavior instead of maladaptive defensive behavior.¹⁹ Cancer is one of the most stressful diseases, and self-compassion can potentially be very effective in reducing psychopathological symptoms and improving quality of life in this population.²⁰

According to the attachment theory, the need for attachment and search for a safe haven is greater in life's difficult moments, such as illness and fear, compared with other times.²¹ Also, it is notable that, in some studies, the effects of attachment types on the psychopathological symptoms in some cancer cases have resulted in different outcomes.^{6, 19} For instance, Hinnen and colleagues found that avoidant attachment had no relationship with increased psychological suffering of cancer patients, whereas this was not the case for attachment anxiety.²² However, in Rodin's study, both attachment anxiety and avoidance were associated with increased depression.²³ Studies on the mediating role of self-compassion have mostly used healthy subjects to investigate the association of the dimensions of attachment (anxiety and avoidance) with psychopathological symptoms; therefore, analyzing the role of self-compassion as an important factor in decreasing anxiety merits more consideration.^{17,24,25}

Considering the range of psychological problems in breast cancer patients and the importance of strategies to reduce the symptoms of psychopathology in them,²⁶ and given the significance of God as an attachment figure for Muslims, the present study is to investigate the mediating role of self-compassion in the relationship between attachment to God and psychopathological symptom in Muslim women with breast cancer in Iran. The expected conceptual model in this study is shown in Figure 1.

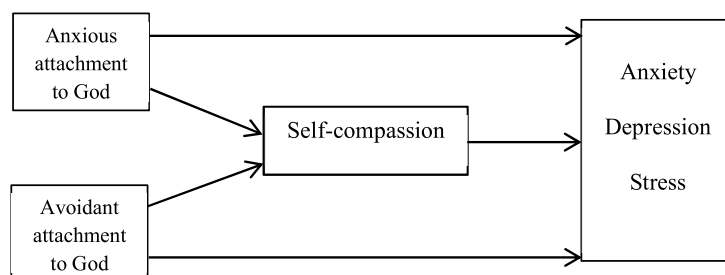


Figure 1. Conceptual model to fit



Methods

Participants and Procedures

Based on a 95% confidence level, 80% statistical power, 75 manifest variables and 11 latent variables, and an effect size of 0.5, the required sample size was calculated to be 357.²⁷ A total of 360 breast cancer patients were recruited via convenience sampling from the Breast Disease Research Center of Shahid Motahari Polyclinic in Shiraz, Iran, from May to July 2017. The participants had completed their treatment. Patients were excluded if they had a chronic illness, suffered from severe psychological trauma (such as accident or death) over the past year, or had a diagnosis of a disease affecting the psychological disorders (like hyperthyroidism). After signing the informed consent form, the patients completed the questionnaires in the clinic. For illiterate patients, the researcher or patient's attendant read the questions to them and recorded their answers. Data were collected using three questionnaires including attachment to God, DASS-21 short form questionnaire and self-compassion questionnaire.

Depression, Anxiety, and Stress Scale

The Persian version of the DASS-21 questionnaire, originally developed by Lovibond and Lovibond,²⁸ was used to measure the psychopathological symptoms of the study sample.²⁹ This questionnaire contains 21 items, and its main application is to measure the severity of the main symptoms of anxiety, depression, and stress. Each scale consists of 7 items rated on a 4-point scale from 0 (Did not apply to me at all) to 3 (Applied to me very much). To complete the questionnaire, the person should specify the status of symptoms within a week. According to the results, the Cronbach's alpha coefficients for depression, anxiety, and stress were 0.86, 0.77, and 0.86, respectively.

Self-Compassion Scale (SCS-26)

The questionnaire, developed by Kristin Neff,³⁰ consists of 26 questions rated on a 5-point Likert-type scale (1 = almost never to 5 = almost always) and includes 6 subscales of self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. The higher total score in this questionnaire means more self-compassion. Cronbach's alpha in this research was 0.83 for self-kindness, 0.74 for self-judgment, 0.71 for common humanity, 0.78 for isolation, 0.69 for mindfulness, 0.67 for over-identification, and 0.92 for the total score. In this research, the validated Persian version was used.³¹

Attachment to God Inventory

The Attachment to God Inventory, derived from the Kirkpatrick model,¹⁵ was developed by Beck and McDonald.³² The questionnaire has 28 items rated on a 7-point scale (disagree strongly = 1, agree strongly = 7), with items 4, 8, 13, 18, 22, 26, and 28 being reverse scored. The questionnaire has two subscales assessing the two dimensions of attachment, namely, avoidance and anxiety (14 items each). The items are arranged in such a way that even-numbered questions assess the avoidance and odd-numbered items assess the anxiety dimension. Given the inventory developers' permission to drop items 14 and 16 (these two items of the avoidance dimension correlated strongly with the anxiety dimension), in this study 26 items were used. The alpha coefficient obtained in this research was 0.82 for the anxiety dimension and 0.77 for the avoidance dimension. The alpha coefficient for the whole scale was 0.78, which indicates the desired reliability of the questionnaire in the present study. The questionnaire is valid and reliable in Iran.³³

Table 1. Demographic and treatment characteristics (N = 360)

Variable		
Age, mean (SD), [range], year		47.32 (33.38), [20-83]
Time from diagnosis, mean (SD), [range], months		38.81 (41.12), [1-288]
Marital status, n (%)	Married	306 (85%)
	Divorced/separated	6 (1.7%)
	Single/never married	37 (10.3%)
	Widowed	11 (3.0%)
Education, n (%)	High school or less	141 (39.2%)
	Some college	152 (42.2%)
	College	57 (15.8%)
	Master's or higher	10 (2.8%)
Employment, n (%)	Employed	90 (25%)
	Housewife	270 (75%)
Type of treatment, n (%)	Surgery	17 (4.7%)
	Chemotherapy/surgery	51 (14.2%)
	Radiotherapy/surgery	4 (1.1%)
	Chemotherapy/radiotherapy/surgery	288 (80%)
Type of cancer, n (%)	Metastatic	44 (12.2%)
	Nonmetastatic	316 (87.8%)



Statistical Analysis

Descriptive statistics (mean, standard deviation [SD], range) and correlations between variables were calculated using SPSS version 19.³⁴ AMOS version 22 was used to perform path analysis to test the research hypotheses.³⁵ Also, we used the bootstrap method to determine the significance of the indirect paths.³⁶

Results

According to the demographic information in Table 1, the average age of the participants was 47.32 years (SD = 33.38, range: 20-83), and the duration of the first diagnosis was 38.81 months (SD = 41.12, range: 1-288). Eighty-five percent of the participants were married, 10.3% single, 1.7% divorced, and 1% widowed. In terms of education, 39.2% of the participants had a high school diploma or less, 42.2% had some college education, 15.8% had a bachelor’s degree, and 10% had a master’s degree or higher. The majority of the patients had undergone all three treatments (chemotherapy, radiation therapy, and surgery), and a small number had received surgery plus radiation therapy. Only 12.2% of them had metastatic cancer.

Descriptive, Correlations and Regression Analyses

As shown in Table 2, the means of the three indicators of psychological symptoms, namely, depression, anxiety, and stress were 11.63, 10.85, and 18.37, respectively. The mean overall self-compassion score was 3.26, with the means for the anxiety and avoidance subscales being 49.9 and 18.4, respectively.

Correlational analyses revealed significant correlations between attachment anxiety and endogenous variables, with this correlation being positive for anxiety, stress, and depression and negative for self-compassion. However, the avoidance dimension bore no meaningful correlation with any of the variables. The relationship of self-compassion to stress, anxiety, and depression was also negative and significant.

Mediation Analyses

Figure 2 shows that anxiety, stress, and depression are considered as final endogenous variables, self-compassion as a moderator of endogenous variables, and attachment to God as an exogenous variable.

Table 2. Descriptive analysis and correlations between variables

variable	Mean (SD)	Range	Depression	Anxiety	Stress	Self-compassion	AxGA	AvGA
Depression	11.63 (10.97)	0-21	-					
Anxiety	10.85 (9.3)	0-32	0.74**					
Stress	18.37 (11.77)	0-21	0.75**	-				
Self-compassion	3.26 (0.79)	1.15-5	-0.75**	0.72**	-			
AxGA	49.9 (17.58)	17-95	0.45**	-0.65**	-0.79**	-		
AvGA	18.4 (8.48)	12-75	-0.33	0.47**	0.47**	-0.57**	-	
				0.002	-0.2	-0.02	-0.01	-

Note: AxGA, Anxious God Attachment; AvGA, Avoidant God Attachment
* P < 0.05; ** P < 0.01

The results of the analysis of the model are shown in Table 3. The direct relationship between the anxiety dimension of attachment to God and self-compassion and anxiety was significant. Also, self-compassion had a direct relationship with all the three scales of psychopathological symptoms examined. No other significant direct relationship was observed.

The coefficients for indirect effects (Table 3) were estimated using the bootstrap function in AMOS 22, with a repetition of 5000 and a 95% confidence interval. It is evident that only the anxiety dimension of attachment to God is significantly and positively correlated with and three symptoms of psychopathology, with the strongest relationship being between stress and the anxiety dimension of attachment (B = 0.44, 95% CI = 0.37-0.45).

It can be concluded that there is both direct and indirect relationship between the anxiety and dimension of attachment to God. In the case of the other two psychopathological variables, stress and depression, this relationship is only indirect,

mediated by self-compassion. The avoidance dimension of attachment to God does affect symptoms of psychopathology directly or through self-compassion.

We used fitness indicators to evaluate the model. These indices can determine the suitability of the model for the data. For our model, root mean square error of approximation (RMSEA) was 0.001, Comparative Fit Index (CFI) 0.99, and incremental fit index (IFI) 0.99. Since the first criterion is close to zero and the other two criteria are close to one, the model can be said to fit well.³⁵

Because of the effects of education and employment status on dependent variables, the model was retested after controlling for demographic variables. The results indicated that the model had a good fit, and differences were only related to the direct effects: the direct effects of attachment anxiety in women with high school education or less was not significant for any of the psychopathological variables, whereas the relationship with the three variables was significant for employed subjects. For

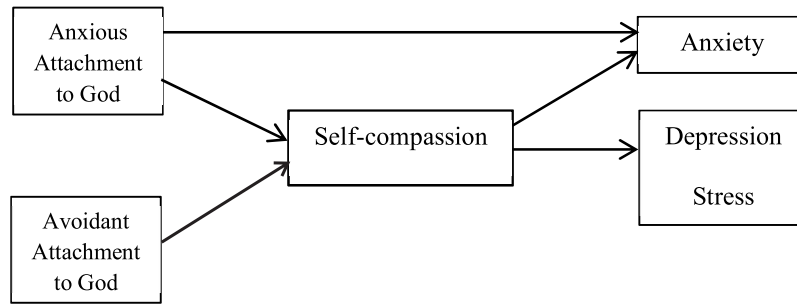


Figure 2. Proposed mediation model predicting depression, anxiety, and stress from anxious attachment to god, avoidant attachment to god, and self-compassion

Table 3. Direct and indirect effects for the mediation model

Criterion variable	AxGA	AvGA	Self-comp Criterion variable	Direct effect		Indirect effect of AxGA		Indirect effect of AvGA	
	Self-comp	Self-comp		AxGA	AvGA	B	95% CI	B	95% CI
Depression R ² = 0.83	-0.57*	-0.03	-0.72*	0.04	-0.05	0.42*	[0.39,0.42]	0.02	[-0.05,0.10]
Anxiety R ² = 0.78			-0.59*	0.15*	0.01	0.32*	[0.26,0.31]	0.01	[-0.04,0.07]
Stress R ² = 0.92			-0.78*	0.04	-0.04	0.44*	[0.37,0.45]	0.02	[-0.06,0.11]
self-comp R ² = 0.33				-0.57*	-0.03				

AxGA: Anxious God Attachment; AvGA: Avoidant God Attachment; self-comp, self-compassion

* $P < 0.05$

women with university education, the direct effect was significant for anxiety and stress. The model for women with some college education and housewives were similar to the crude model.

Discussion

Our model showed that the relationship of anxiety dimension of attachment to God with psychopathological symptoms was mediated via self-compassion, although attachment anxiety had a direct effect on increasing the anxiety level in women with breast cancer. Secure attachment to God can help improve anxiety and other psychopathological symptoms in a direct manner, by affecting the nervous system, as well as an indirect manner, by increasing self-esteem.³⁷ Self-compassion can be defined as positive self-esteem toward oneself.³⁰

Self-compassion is the cause of many good attributes, such as optimism, and the ability to deal with harsh situations in life and helps individuals to see all the different aspects of the same issue,³⁸ and improve their quality of life.²⁰ Through their proper internalization of receptive and accessible attachment figures, people with safe attachment develop the capacity to create a sensation of self efficacy which improves their self-regulation. In fact, self compassion is one of the self-regulation methods in people that is linked with sense of relief and

satisfaction.¹²

In people with attachment anxiety, this relation is not a secure haven.¹⁴ As a result, self-efficacy that was meant to work as a heart some fact as God's aid does not have any impact but reduces their self-compassion. Self-Compassion is not just a single attribute, rather is a variable that affects other positive attributes to change and has a vast effect on different characteristic variables.³⁸ Compassion plays a role as a protector against anxiety, stress, and depression symptoms on patients with cancer and enhances patients' satisfaction with life.²⁰ Women with breast cancer can make a better vision of themselves by concentrating on compassion, and it can drastically decrease their mental pain and suffering.³⁹ This model for anxious attachment to God is comparable to that of a model on healthy people, but this was not the case for the avoidance dimension of attachment to God: the avoidance dimension also correlates with psychopathological symptoms in healthy individuals too,¹⁶ but in our study, there was no significant correlation.

It seems that avoidant attachment in individuals with cancer has no relationship with psychopathological symptoms.^{22,40} The reason for this can be seen in the coping strategies of individuals with avoidant attachment. They are unable to express their need for an attachment source because of the use of reciprocal



coping methods, which makes them even refuse to demonstrate and confess to their psychological problems.¹³ In fact, in difficult times when psychological suffering is greater than their endurance, these individuals tend to deny and suppress perceived psychological suffering despite the increased need for close proximity to attachment figures. Therefore, it can be said that the symptoms of the psychopathology expressed in this group are not necessarily the true suffering perceived in them. Of course, this relationship varies in different studies, and some studies have actually found a significant relationship.^{23,41} Perhaps the type of cancer and the severity of the disease also contributes to this.⁷

The current model has a good consistency even after controlling for demographic variables, and there were only some differences in direct effects of attachment anxiety on psychopathological symptoms. These differences can be accounted for by similarities of psychopathologic symptoms with each other and their similar origin, which can make it difficult to distinguish between them.⁴²

The mediating effect of self-compassion in the relationship between attachment anxiety and depression and stress has been demonstrated in previous research.^{17,43} As a result, those who perceive God as being almighty, always present, kind, and gracious, can also be compassionate to themselves, and this alleviates their psychopathic symptoms greatly.

Based on the results of this study, we can recommend clinicians and psychological health professionals to consider using attachment to spiritual and religious figures such as God to help their patients, especially those in terminal stages of the disease. Safe attachment to God can even affect threat structure in the brain, which can reduce the huge costs of psychiatric interventions in these individuals.⁴⁴

Also, according to the results of this study, reducing the anxiety dimension of attachment to God can increase self-compassion in these individuals. Moreover, self-compassion can strengthen other positive personality traits, such as optimism and acceptance of life events, and helps the patient to see different aspects of an event,³⁸ resulting in improved quality of life.²⁰

Given the fact that cancer patients require a safe haven, attachment to God as an omnipotent and omnipresent entity can play a safe supporting role for these patients; and since this can affect other psychological functions of the individuals to reduce their psychopathological symptoms, it would be helpful to include encouraging attachment to God in psychological and clinical interventions for these patients.

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Conflict of Interest

None.

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