

The Role of Psychological Hardiness and Marital Satisfaction in Predicting Posttraumatic Growth in a Sample of Women With Breast Cancer in Isfahan

Abdulaziz Aflakseir,^{1,*} Safoora Nowroozi,¹ Javad Mollazadeh,¹ and Mohammad Ali Goodarzi¹

¹Department of Clinical Psychology, School of Education and Psychology, University of Shiraz, Shiraz, IR Iran

*Corresponding author: Abdulaziz Aflakseir, Department of Clinical Psychology, School of Education and Psychology, University of Shiraz, Eram Campus, Shiraz, IR Iran. Tel: +98-71326134686, Fax: +98-7136286441, E-mail: aafakseir@shirazu.ac.ir

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Abstract

Background: Posttraumatic growth (PTG) refers to positive psychological change experienced as a result of the struggle with highly challenging life circumstances. PTG in cancer survivors is related to several psychosocial factors such as psychological hardiness and marital satisfaction.

Objectives: The purpose of this study was to examine the prediction of posttraumatic growth based on psychological hardiness and marital satisfaction.

Patients and Methods: A total of 120 women with breast cancer were recruited from several hospitals in Isfahan using convenience sampling. Participants completed the research questionnaires including the posttraumatic growth inventory (PTGI), the Ahvaz psychological hardiness scale and the Enrich's marital satisfaction scale (EMS). Statistical analysis including means, standard deviation, Pearson's correlation and multiple regression analysis were carried out using SPSS software (version 16).

Results: Results indicated that the majority of patients with cancer experienced posttraumatic growth. Findings also showed that psychological hardiness, marital satisfaction and longer time since diagnosis of cancer significantly predicted posttraumatic growth.

Conclusions: This study highlights the significant role of psychological hardiness and marital support in personal growth of breast cancer survivors.

Keywords: Breast Cancer, Psychosocial Factors, Posttraumatic Growth

1. Background

Cancer is the third leading cause of death in Iran. It is estimated that 98 to 110 per 10000 persons suffer from cancer (1). Previous research on cancer has emphasized on the negative psychological experiences of cancer, including anxiety (2), depression (3, 4) and distress (5). Studies have also indicated that a high proportion of patients with cancer also report positive changes in the context of the disease and most cancer patients ascribe some benefits to their cancer experience when confronted with their own mortality; individuals may re-evaluate goals and priorities and subsequently emerge with a greater appreciation of life, relationships, and spirituality (6, 7). Tedeschi coined the term of "posttraumatic growth" to indicate positive psychological transformation in the aftermath of a challenging life experience (8). Posttraumatic growth refers to positive psychological change experienced as a result of the struggle with highly challenging life circumstances

(8). These sets of circumstances represent significant challenges to the adaptive resources of the individual, and pose significant challenges to individuals' way of understanding the world and their place in it (8). The individual's struggle with the aftermath of trauma can produce negative, positive, and perhaps more typically, a mixture of negative and positive experiences. Tedeschi and Calhoun identified five dimensions for PTG including relating to others, new possibilities, personal strength, appreciation of life, and spiritual change (8). Studies have found that stressors including health problems such as cancer, bereavement, disaster, and combat may be related with positive consequences (9). Several studies have provided the evidence that patients with cancer experience positive changes. For example, researchers compared posttraumatic growth between patients with breast cancer and healthy women. They concluded that the breast cancer survivors showed a greater posttraumatic growth, appreciation of life, and spiritual change (7, 10). Some studies also suggest that

posttraumatic growth is positively related to optimism and hope, strong social resources, and positive reinterpretation coping (11). In a recent study on a large number of women with breast cancer, it was found that PTG score increased over time and there were women who saw a variety of positive changes during and after breast cancer treatment (12). Previous research has documented that marital satisfaction has a positive impact on patients' mental health (13). Hardiness is a psychological construct introduced by Kobasa (14) and is comprised of three components: (a) a commitment to oneself and work, (b) a sense of personal control over one's experiences and outcomes, and (c) the perception that change represents challenge, and thus should be treated as an opportunity for growth rather than as a threat. Individuals high in hardiness are hypothesized to be better able to cope with the negative effects of life stressors. Their resistance to illness presumably results from perceiving life changes as less stressful or from having more resources at their disposal to cope with life changes (14). Several studies have indicated that psychological hardiness and marital satisfaction are significant psychosocial factors for posttraumatic growth (15). Studying this subject can promote our understanding of posttraumatic growth, whether these concepts would apply for Iranians.

2. Objectives

The purpose of this study is to explore PTG among a group of women with breast cancer and to examine the prediction of posttraumatic growth based on psychological hardiness and marital satisfaction.

3. Patients and Methods

This correlational study conducted among a sample of women with breast cancer being treated in a hematology/oncology ward in Milad and Seyyed al-Shohada hospitals in Isfahan. Participants were 127 patients recruited during scheduled hospital visits. The research proposal was approved by the ethical research committee of the University of Shiraz and then all participants gave consent prior to their participation in the study. The research protocol conforms to the ethical guidelines of the 1975 declaration of Helsinki. To be included, all patients had to be diagnosed with breast cancer and be over 18 years of age. The posttraumatic growth inventory (TPGI) was used to measure posttraumatic growth (16). The PTGI measures the extent to which survivors of traumatic events perceive personal growth and positive changes as a result of the trauma. The scale contains five subscales including relating to others

(7 items-greater intimacy and compassion for others), new possibilities (5 items-new roles and new people), personal strength (4 items-feeling personally stronger), spiritual change (2 items-being more connected to spiritually), and appreciation of life (3 items) (8). The PTGI is a widely used self-report measure of the post-traumatic growth, consisting of 21 statements to which respondents respond on a 6-point Likert scale ranging from 0 (not at all) to 5 (very great degree) (0 = not at all, 1 = very small degree, 2 = small degree, 3 = moderate, 4 = great degree, 5 = very great degree). The internal consistency for the total score and separate subscales of the PTGI has been reported as satisfactory (Cronbach's alpha coefficient for the total score = 0.90; relating to others = 0.85; personal strength = 0.72; new possibilities = 0.84; spiritual change = 0.85; and appreciation of life = 0.67) (9). This scale has been used for Iranian sample and a good reliability and validity with Cronbach's alpha of .91 has been found (17). The Ahvaz psychological hardiness scale was also utilized to measure the posttraumatic growth. This scale is a self-report measure and has been developed for the Iranian sample (17). This questionnaire has been designed to assess hardiness and contains three components including control, commitment and challenge. It consists of 27 items and the answers are rated on a 4-point liker scale from 0 (never) to 3 (always). The research has reported Cronbach's alpha of 0.76 and concurrent validity of 0.55 for this scale (18). For assessing marital satisfaction, the Enrich's marital satisfaction scale (EMS) was used (19). For the purpose of this study, the short form of the EMS was utilized. This questionnaire consists of 47 items and the responses range from 1 (strongly agree) to 6 (strongly disagree). Studies have reported an acceptable reliability for this scale with Cronbach's alpha reported as 0.92 (19). The Enrich's scale has been used in Iran and the research has reported good reliability with Cronbach's alpha of 0.91 (20). Descriptive statistics (mean and standard deviation), Pearson's correlation coefficient and simultaneous multiple regression analysis were used to analyze the data and all statistical analyses were performed using SPSS version 16. The P value < 0.05 was considered significant.

4. Results

The present study aimed to examine the prediction of posttraumatic growth based on psychological hardiness and marital satisfaction among a group of patients with breast cancer. The mean age of the patients with breast cancer was 50.80 years (SD = 10.02), ranging from 33 to 68 years. Most of the women (82%) lived in a marital relationship, and 15 (28%) were employed. The majority of the women (79.6%) had completed high school education

or above. The average time since diagnosis of breast cancer was 4.6 years and the average PTGI total score was 67.5 (SD = 13.21). The findings also indicated that the highest score among the dimensions of PTGI was spiritual changes (M = 7.30, SD = 1.98) followed by apperception of life, relating to others and personal strength. The lowest score was obtained on new possibilities (M = 15.25, SD = 3.98). The majority of the participants experienced some degree of posttraumatic growth but more than half of the patients reported moderate to high levels of the PTG. The descriptive data on PTG, psychological hardiness and marital satisfaction are presented in Table 1. Results of the correlation analysis showed a significant association between PTG, psychological hardiness ($r = 0.35, P < 0.01$) and marital satisfaction ($r = .39, P < 0.01$).

Table 1. Descriptive Characteristics of the Participants on Demographic/Clinical Variables, Psychological Hardiness, Marital Satisfaction, and the Dimensions of PTG

Variable	Mean \pm SD
Age	50.80 \pm 5.08
Duration of illness, y	5.50 \pm 0.82
Posttraumatic growth	67.55 \pm 13.21
Relating to others	22.5 \pm 4.33
New possibilities	15.25 \pm 3.98
Personal strength	12.30 \pm 3.01
Spiritual change	7.30 \pm 1.98
Appreciation of life	10.20 \pm 2.15
Psychological hardiness	64.46 \pm 6.09
Marital satisfaction	118.22 \pm 8.11

To determine the prediction of posttraumatic growth, variables including the total score of psychological hardiness, marital satisfaction, illness duration and the level of education were inserted into the model as independent variables and the total score of posttraumatic growth was entered into the model as dependent variable. The results of regression analysis showed that marital satisfaction ($\beta = 0.68, P < 0.001$), illness duration ($\beta = 0.43, P < 0.001$) and psychological hardiness ($\beta = 0.24, P < 0.01$) significantly predicted posttraumatic growth, while education did not predict posttraumatic growth in patients with breast cancer (Table 2).

All independent variables entered into the model explained 28 percent of the total variance of posttraumatic growth ($R^2 = 0.28, P < 0.01$).

5. Discussion

The findings showed that the majority of women with breast cancer reported some degree of posttraumatic growth. The average PTG total score in the present study was moderate to high and was higher than women with breast cancer in other research (21). For example, 46% of colorectal cancer survivors in Jansen's study reported moderate to high level of PTG. This was even lower for spiritual change (33%) (22). Totally, studies investigating breast cancer have reported that patients experienced positive growth from their cancer experience (23, 24). The high scores on PTG in this sample may be related to the fact that stress symptoms were higher in the sample compared to breast cancer survivors studied elsewhere (24). Alternatively, differences in socio-demographics of the sample might have influenced differences in PTG outcomes. For instance, participants in the present sample were older compared to participants in the other studies (24, 25). Gender may be another possible explanation on high level of PTG in the sample of this study. Several studies have reported that women experience more personal growth compared with men (26). The total posttraumatic growth score for this study was considerably higher than that of Tedeschi and Calhoun's (8) research but rather similar to a study conducted in Iran (27). It also found that psychological hardiness and marital satisfaction significantly predicted PTG. This finding was consistent with those of the previous research (25). Findings from this research on the relation of PTG with marital satisfaction demonstrated a positive significant association between PTG and marital satisfaction. These findings were in agreement with the results obtained in most previous studies (13, 28, 29). These findings provide further evidence that the difficult aspects of life crises such as cancer can trigger significant changes in peoples' behavior, values, and priorities. Patients with cancer may view the threat posed by their illness as a catalytic agent for restructuring their lives (30) and this supports Tedeschi and Calhoun's model of posttraumatic growth (8). The results of the present study also indicated that duration of illness significantly predicted PTG among patients with breast cancer. These findings were in agreement with previous research indicating PTG increased over time (12). For example, in a cross-section study on women with breast cancer, those with longer time since diagnosis of their disease reported higher level of PTG (13). Education did not have any significant role in this study that can be due to high variation of sample's education level.

Limitations of the study include the use of a convenience sample of cancer survivors that limits the generalizability of the results to all patients with breast cancer. The second limitation is the use of questionnaire as the mea-

Table 2. Multiple Regression Analysis of Posttraumatic Growth

Variable	B	SE	β	T	P Value	R ²
Education	0.15	0.14	0.11	0.85	0.9	0.28
Duration of illness	0.38	0.04	0.43	8.56	0.001	
Marital satisfaction	1.03	0.12	0.68	8.49	0.001	
Psychological hardiness	0.35	0.12	0.24	2.79	0.01	

Abbreviations: B, Beta; SE, Standard Error; T, Independent T-Test.

sure for collecting data; whereas, a qualitative study would allow a rich inquiry on psychological experiences of cancer survivors. A cross-sectional design was the third limitation of this study. The causal relationship between variables is not possible with this kind of study.

Future studies should consider a longitudinal research. Future studies should also examine the role of other important psycho-social as well as clinical factors (e.g. social support, self-efficacy, coping strategies) and clinical variables (e.g. chemotherapy and the stage of cancer) in predicting PTG. PTG among patients with other chronic medical conditions can also be studied.

5.1. Conclusions

This study indicated that the majority of women with breast cancer experienced posttraumatic growth. This research also showed that longer time since diagnosis, psychological hardiness and marital satisfaction were associated with greater posttraumatic growth in women with breast cancer. These findings support PTG model suggesting growth after stressful condition such as cancer.

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Footnotes

Authors' Contribution: Conceived the research and participated in its design and drafted the manuscript, Abdulaziz Aflakseir; gathered data and performed the statistical analysis, Safoora Nowroozi; advisors of the research, Javad Mollazadeh and Mohammad Ali Goodarzi.

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