



# Posttraumatic Growth, Meaningfulness, and Social Support in Women with Breast Cancer

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## Abstract

**Background:** Posttraumatic growth (PTG) is defined as the subjective experience by an individual as a result of the struggle with trauma. Previous research has emphasized the negative psychological experiences of cancer, while some other studies have indicated that a number of patients experience positive changes in the context of the disease. Posttraumatic growth is assumed to be related to social support and life meaning.

**Objectives:** The aim of this research was to examine the role of social support and meaningfulness in predicting PTG in patients with breast cancer.

**Methods:** One hundred and ninety-six women diagnosed with breast cancer participated in this study. The sample was recruited from Motahari Clinic in Shiraz, using convenience sampling. Participants completed the research measures, including Posttraumatic Growth Inventory (PTGI), Multidimensional Perceived Social Support (MPSS), and Personal Meaning Index (PMI). Mean, standard deviation, and multiple regression analysis were utilized to analyze data. The data was analyzed by SPSS software (version 16).

**Results:** This study showed that a majority of patients with breast cancer experienced posttraumatic growth. Of PTGI dimensions, the highest score was related with others followed by spiritual change and appreciation of life. Findings on regression analysis indicated that social support and meaningfulness significantly predicted posttraumatic growth.

**Conclusions:** This study highlighted that women with breast cancer experienced positive change. This research also indicated that women with more social support and those who had meaning in life were more likely to experience personal growth.

**Keywords:** Posttraumatic Growth, Meaningfulness, Social Support, Breast Cancer

## 1. Background

Breast cancer is one of the most prevalent cancers affecting women worldwide (1). The prevalence of breast cancer in Iranian women has been increased in recent decades (2). Breast cancer has been reported as the foremost type of cancer among Iranian females, comprising 24.6% of all cancers (3, 4). The illness and treatment of cancer has adverse impacts on the quality of life of the patients (5). Research has found that a majority of patients with breast cancer suffer from mental health problems such as depression and anxiety (6). Furthermore, a number of studies have reported that experiencing traumatic events such as cancer might result in positive growth (7).

Posttraumatic growth (PTG) is defined as the positive psychological changes perceived by the individual as a result of their struggle with a traumatic event (8). PTG occurs in the aftermath of a traumatic event, as the individual attempts to cope with their experience and its consequences.

Growth in this context is distinguished from the response to minor or every day stressors and normal developmental processes of growth (9). Furthermore, the trauma itself does not trigger the process of growth; rather, it is the individual's struggle to manage the impact of the trauma on their lives and the emotional distress in the aftermath that is the catalyst for change (7). With regard to traumatic exposure, a significant level of threat and crisis is required in order to overturn the individuals' fundamental assumptions about themselves and their world. The foundation of the perception of PTG is the individual's rebuilding and revision of these cognitive structures to incorporate the experience of trauma and the vulnerability that has accompanied it (7).

Posttraumatic growth has been reported by individuals, who have experienced various types of traumatic events. Estimates have suggested that 30% to 90% of individuals perceive significant positive changes or aspects

of growth in their lives as a result of their experience (10). Studies have focused on posttraumatic growth following traumatic events. These have included trauma, rape, combat, bereavement, natural disasters, life-threatening illness, and road accidents (11). Based on these studies, several psychosocial factors have been found to be associated with PTG such as optimism and resilience (12). Social support is also assumed to influence PTG (13). The demographics and clinical factors such as age, gender, marital status, education, and time since diagnosis have also impacted the likelihood of experiencing PTG (14). Experiencing PTG in women with breast cancer has been identified to be associated with some individual and psychosocial factors. These factors include age, time since diagnosis, cancer-related anxiety and tension, perception about cancer threat, social support, adaptive coping strategies, and spirituality (15).

Research has also examined the impact of social support on PTG. For example, a study found a positive association between perceived social support and increase on PTG (16, 17). In a study among a large sample of women with breast cancer (N = 653), the PTG score started to increase through time, specially within the first few months after diagnosis and the higher score in PTG was related to education level, longer time since diagnosis, increase in social support, the use of active adaptive coping strategies, and spirituality and mental health (18). In a review, Moreno found that many patients with advanced cancer both reported finding meaning at the end of life as significant and felt positive outcomes as a result of their experience. These patients, compared to patients in their early-stage or benign disease, experienced higher levels of personal growth (19). Johnson Vickberg et al. also examined the influence of global meaning on psychological distress in patients with leukaemia after bone marrow transplantation and discovered that higher emotional quality of life was related to higher global meaning, while higher overall distress and surgery-related distress were related to lower global meaning (20).

Although several studies have investigated PTG in the context of traumatic events in Iran (21), no research to date has investigated the relationship between social support, meaningfulness, and PTG in a chronic condition such as breast cancer. Since PTG can be influenced by cultural factors, it is important to be explored in a variety of contexts like the Iranian society. Furthermore, many studies in Western societies have found that difficult conditions such as chronic illnesses might rise positive growth. Therefore, it is important to investigate whether individuals within Iranian context, who suffer from chronic illnesses such as cancer, will experience posttraumatic growth.

## 2. Objectives

The aim of this study was to examine the role of social support and meaningfulness in predicting posttraumatic growth in a sample of women with breast cancer.

## 3. Methods

The total sample included 196 women with the diagnosis of breast cancer visiting clinics for treatment. The sample was recruited from the Motahari Clinic in Shiraz, using convenience sampling. The research proposal was approved by the Ethical Committee of the School of Psychology of the University of Shiraz. The consent form was obtained from participants and they were briefed about the study. The inclusion criteria for this study were to be diagnosed with breast cancer for at least 6 months, to be able to understand the items of the questionnaires, and not to have psychological problems. The exclusion criteria were to have mental disorder, not to be able to understand the items, and to be diagnosed less than 6 months. The questionnaires were personally administered at the clinic by the second author of this study.

Posttraumatic Growth Inventory (PTGI) (22) was applied to measure posttraumatic growth in women with breast cancer. This scale consists of 21 items and included 5 subscales, including relating to others (7 items), new possibilities (5 items), spiritual change (2 items), personal strength (4 items), and appreciation of life (3 items). The scores of PTGI ranged from 0 to 105 and each item was rated based on a 5-point Likert scale from 0 (I did not experience this change as a result of my illness) to 5 (I experienced this to a very great degree as a result of my illness). This measure has been used in many studies and researchers have reported good reliability and validity. The authors of the PTGI reported Cronbach's alpha of .90 for this scale (22). Several studies have used PTGI in Iran and reported an acceptable reliability. Studies in Iran have reported acceptable levels of internal consistency and reliability for this scale with Cronbach's alpha coefficients ranging from 0.67 to 0.90 for the subscales, showing that this is a valid and reliable measure for use in Iranian women (23).

Personal Meaning Index (PMI) was used to assess the sense of meaning in life. This scale was developed by Reker (24) based on Victor Frankel's theory of life meaning. It consists of 16 items and answers are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scores on PMI range from 16 to 112 and the higher score shows a high level of meaning in life and a lower score indicates a low sense of meaning. This measure has been utilized in many studies and researchers have reported good reliability and validity. The author

has reported Cronbach's alpha of 0.89 for PMI (24). The PMI has been used in Iran and good validity and reliability have been reported for that. For example, in a study on college students, researchers have reported 0.95 and 0.90 for Cronbach's alpha and test-retest reliability, respectively (25).

Multidimensional Scale of Perceived Social Support (MSSS) (26) was used to measure perceived social support in context of illness. This scale consists of 3 subscales, including social support from family (4 items), support from friends (4 items), and support from significant other people (4 items) and 12 items. Participants answers items based on a 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree) and scores ranged from 12 to 60. The MSSS has been widely used and most of the studies have found a good reliability and validity (26). Cronbach's  $\alpha$  coefficient has been found to be 0.84 for the scale and 0.90, 0.93 and 0.85, for the friends, significant others, and family subscales, respectively, from the patient sample. A 2-month period test-retest reliability was 0.84 for the scale and 0.73, 0.78, and 0.84, for the friends, significant others, and family subscales, respectively, in the healthy sample (27).

#### 4. Results

The results of demographics characteristics showed that the participants' age ranged from 25 to 78 and the mean age of the sample was 52 (SD = 12.32). The majority of the respondents (48%) had not completed high school, 36% had high school education, and 17% had college education. In terms of marital status, the majority of women were married (80%), 14% were single, and the rest were widow (6%). In terms of clinical variables, the results indicated that the average duration of cancer was 28 months. The demographics and clinical data are presented in Table 1. The results of the descriptive data showed that the mean score for the total score of PTGI was 72.13 (SD = 16.55). Of dimensions of PTGI, the highest score was relating to others (M = 23.48, SD = 6.30) followed by spiritual change (M = 7.97, SD = 1.98), and appreciation of life (M = 12.36, SD = 2.70). The results also indicated a high score on social support (M = 67.60, SD = 10.07). In terms of meaning of life, the results of the current study showed a relatively high score for the sample on PMI (M = 82.22, SD = 12.56), ranging from 16 to 112 (Table 2). The results of the relationships between the variables showed a significant association between social support ( $r = 0.37$ ,  $P < 0.001$ ), personal meaning ( $r = 0.33$ ,  $P < 0.001$ ), and PTG. The results of predicting PTG showed that both social support ( $\beta = 0.19$ ,  $P < 0.05$ ) and meaningfulness ( $\beta = 0.26$ ,  $P < 0.05$ ) significantly predicted the PTG.

The model accounted for 34% of the variance in posttraumatic growth of the sample. The results are shown in Table 3.

**Table 1.** Demographic Characteristics and Clinical Factors of the Sample (N = 196)

Demographic and Clinical Factors	No. (%)
<b>Education</b>	
College	32 (16)
High school	70 (36)
Below high school	94 (48)
<b>Marital status</b>	
Married	158 (80)
Single	27 (14)
Widow	11 (6)
<b>Type of therapy</b>	
Surgery	17 (9)
Surgery-chemotherapy	68 (35)
Surgery-chemotherapy-radio therapy	58 (30)
Surgery-radiotherapy	53 (26)
Duration of cancer, month	18
Duration of treatment, month	34

**Table 2.** Means and Standard Deviations of the Subscales of PTG, Social Support, and Meaningfulness for Women with Breast Cancer (N = 196)

	Mean	SD
PTGI (total score)	72.13	16.55
Spiritual change	7.97	1.98
Relating to others	23.48	6.3
Personal strength	17.34	4.31
New possibilities	15.66	5.07
Appreciations of life	12.36	2.70
Social support	67.60	10.07
Meaningfulness	82.42	12.56

#### 5. Discussion

The current study investigated PTG among a group of women suffering from breast cancer. The findings showed that the majority of women with breast cancer experienced PTG to some degrees. These findings support the theory of posttraumatic proposed by Tedeschi and Calhoun (7). The average score of PTG among the sample of the present study was 75 that was higher than that reported in other studies administered in different contexts and even

**Table 3.** Simultaneous Multiple Regression Analysis for Predicting Posttraumatic Growth in Women with Cancer (N = 196)

Variable	B <sup>a</sup>	SE	$\beta$	t <sup>b</sup>	P Value	R <sup>2</sup>
Social support	0.22	0.78	0.19	1.77	0.05	0.34
Meaningfulness	0.29	0.45	0.26	1.95	0.03	

Abbreviations: SE, standard error;  $\beta$ , Beta.

<sup>a</sup>B = unstandardized coefficient.

<sup>b</sup>t = t value.

higher than that reported in a similar study in Iran ( $M = 72$ ). One possible explanation for higher PTG in this sample may be related to different demographics and clinical factors. For example, the majority of the participants in this study were young and research has indicated that young people are more likely to experience PTG (17). Furthermore, longer time since the diagnosis of illness may be associated with a higher level of PTG (14). Gender may also be related to experiencing positive change. The sample of this study was women and previous studies have shown a higher level of PTG for females than males (28). The findings of this study was also consistent with previous research, indicating a positive association between traumatic events and personal growth. These studies have documented that some patients with cancer reported greater appreciation of life, better relationships with others, and spiritual change as a result of their experience with their illness (14).

Moreover, significant role of personal meaning and social support in predicting PTG was found in this study. These findings also confirmed other studies, indicating the impact of life meaning on PTG. For example, in a study on patients with breast cancer, Schoen and Nicholas found a strong association between level of meaning and quality of life (29). Meaningfulness and PTG can be associated, but cannot be concluded that either meaningfulness leads to PTG or PTG results from meaning making; indeed, both conditions are likely to occur (30). Research has shown that meaning making will typically occur when an event such as a severe illness disrupts an individual's beliefs and goals system (30). But, this will not always happen after a traumatic event. The present study supports previous research on the role of social support on PTG. For example, some studies have found that increase in social support is associated with PTG (31). This finding confirms Tedeschi's theory that social support enhances PTG by allowing disclosure about severe stressful situations (32). Furthermore, what a patient is experiencing can be influenced by the feedback they receive from other people, thereby allowing the individual to positively reshape what is occurring to them (33).

The current study contains several limitations. The first limitation is related to clinical and demographics fac-

tors. The sample in this research was homogenous in terms of age, education, and the stage of illness. Future studies should recruit a more diverse sample in terms of the mentioned variables. Furthermore, we cannot conclude a cause-effect relation based on this cross sectional study. The present study highlights the importance of social support and life meaning to experience personal growth. The results of this research have some clinical implications for health professionals, who work with individuals with chronic illnesses. Traumatic event may also be a potential factor to personal growth in some patients. This finding encourages clinicians to pay more attention to positive experience, and not merely focus on illness-related deficits. Furthermore, clinicians might be able to assist patients to live more meaningfully.

### 5.1. Conclusion

This study showed that the majority of the participants experienced some degrees of posttraumatic growth. This study also demonstrated that women with breast cancer, who perceived a higher level of social support and had meaning in life, were more likely to experience posttraumatic growth.

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### Footnotes

**Authors' Contribution:** Abdulaziz Aflakseir designed the research and drafted the manuscript; Sara Soltani gathered and analyzed the data; Javad Mollazadeh advised the research.

**Conflict of Interest:** None declared.

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