

Post-traumatic Growth in Breast Cancer Patients: A Qualitative Phenomenological Study

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Abstract

Background: Studies about cancer-related trauma have shown that psychological reactions to the disease are not exclusively negative but most patients also report positive experiences. These positive perceptions are also called post-traumatic growth and benefit patients psychologically, spiritually, and physically. Therefore, we have conducted a study about how women with breast cancer perceive post-traumatic growth and the recognition of its dimensions in Iran.

Methods: This qualitative study was conducted by using Interpretative Phenomenological Analysis. A total of 23 women with breast cancer who met the inclusion criteria were selected after which patients completed a researcher-generated open-ended questionnaire. Data were analyzed according to the guidelines for the Interpretative Phenomenological Analysis and Smith method.

Results: Participants' perceptions in this study about post-traumatic growth included three themes: spiritual growth, appreciation of life, and increased personal strengths.

Conclusion: Themes found in this study conformed to dimensions according to the Tedeschi and Calhoun theory of post-traumatic growth. However, relations with others were not found in the present study. We propose that interventions should be designed and implemented in order to facilitate and enhance post-traumatic growth.

Keywords: Breast neoplasm, Stress disorders, Traumatic, Post-traumatic growth, IPA

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Introduction

Breast cancer is the most common cancer among Iranian women with an annual incidence of 8500 cases.¹ Improvements in screening, diagnosis and treatment of this disease have increased five-year survival from

48% to 84% among different centers in Iran, which calls for more attention to mental well-being and quality of life in this group.² The special nature of the disease caused by factors such as long-term, multimodality treatment and its related side-effects, the

psychosocial consequences, the possibility of recurrence and uncertainty about the future have a tremendous impact on a patient's quality of life. Thus cancer is not only a trauma distinct from other devastating life events, but also increases patient vulnerability to post-traumatic stress disorder (PTSD), as defined by DSM-IV.³⁻⁷

In addition to the negative effects, most researchers believe that chronic and threatening diseases, such as cancer, are not only perceived as a threat or loss, but also create opportunities for growth and positive changes. These positive mental changes that occur following traumatic events are called benefit finding, stress-related growth, thriving, positive changes, and post-traumatic growth (PTG) according to Tedeschi and Calhoun and have dimensions such as changes in relationships with others, increased personal strength, realization of new possibilities, appreciation of life, and spiritual changes.⁸⁻¹⁴ PTG, which is the result of constructive cognitive processing, can be considered both a process and a consequence. The PTG process begins when a horrible, distressing event - Tedeschi and Calhoun call it seismic event- such as a cancer diagnosis, challenges or destroys a person's cognitive scheme toward the world and self. PTG as a consequence includes some coping processes which entail adaptation with the traumatic event and the creation of a more positive view toward the world for the patient.^{11, 15, 16}

From the experimental point of view, growth perception is prevalent in cancer patients at different degrees, ranging from 60% to 95%.^{8,17} Several studies emphasize the advantages of drawing attention from psycho-pathology to human positive function in order to achieve an optimal degree of health and well-being.¹⁸ PTG perception as the most important predictor of long term adaptation with a chronic disease can create the hope to overcome a traumatic event, and can be applied as a base for clinical practice.^{10,17} PTG can also decrease the negative effects of the disease, diminish depression rate, improve quality of life, enhance mental well-being, optimism, life satisfaction and survival in cancer patients.¹⁷

These are important aspects in psychotherapy and prevention.^{10-12,19,20} Although proven clinically valuable, most studies about PTG have been conducted in the West; such studies in other countries and cultures are scarce. We have designed this study to answer the following questions. What are the dimensions of Iranian women's perception of PTG among breast cancer patients? How well do their perceptions conform to the Tedeschi and Calhoun theory?

Materials and Methods

The present qualitative study was approved by the Ethics Committee at Shahid Beheshti University of Medical Sciences, and was conducted using interpretative phenomenological analysis (IPA).

Phenomenology is a method of qualitative study that concentrates on human perception, emphasizing people's personal experiences as they happen.²¹ From the phenomenological point of view, studying humans and the world is a holistic interpretative science. One looks for the meaning which is found in the context of progressive interpersonal relationships.²² IPA is a type of phenomenological study which seeks an insider's perspective to the lived experiences of people. This method stems from clinical health psychology and has been designed by Smith et al. in 1995 to present deep descriptions of human experiences.²¹ In this method, which is sometimes called double hermeneutic, the researcher attempts to understand and interpret the meaning that a person gives to what happens to him/her.²³ IPA does not aim to discover causes but to clarify meanings of phenomena through life experiences. This method suggests an important change from cause and effect to human subjectivism and discovering the meaning.²⁴ IPA does not confine data collection to interviews, but uses other sources such as writings and questionnaires.²⁵ Using written answers is not a new method of data collection; many studies consider such texts as qualitative information sources.²² In order to extensively study the experience of PTG and its dimensions among women with breast cancer,

we have chosen IPA for this study.

Participants

This study was part of a larger project which has been going on since Sept 2010 in one of the clinics of the Cancer Research Center (CRC), Shahid Beheshti University of Medical Sciences. The present study is the result of data collection from Sept 2010 to Mar 2010. During this period, women diagnosed with breast cancer who attended the clinic for treatment or follow up were invited by telephone to participate in the larger study called "Experiences, Needs and Perceptions of Women with Breast Cancer from Diagnosis to now". They were asked to write their heartfelt answers to certain questions. The inclusion criteria were as follows: age 25 years or older; no history of recurrence or metastases; less than five years from cancer diagnosis; and a history of completion of surgery, chemotherapy and radiotherapy as indicated.

The necessity of including surgery and chemotherapy as part of the inclusion criteria was based on studies that have shown which the type of trauma can cause different PTG processes and consequences.²⁶ These therapeutic procedures can change the severity of trauma perception because of their side effects, which in turn can influence the occurrence and severity of PTG.

The elapsed time since the trauma is another controversial point that has led to different results. While some studies emphasize that the highest level of PTG occurs immediately after trauma, others believe that it is better to study this phenomenon well after the traumatic event to make certain that it is reliable and to remove unreal growth experiences.^{8, 10, 18, 27} Due to the importance and sensitivity of the first five years after diagnosis for survival and patients' awareness of this fact -that it can cause trauma related distress-, we have selected this period of time for PTG.

Patients who chose to participate were assured of confidentiality via phone contact. The package of questionnaires and written consent form were subsequently mailed each patient. Patients'

writings were comprised of open-ended questions in which they were asked to write about their cancer experiences, its effects on their lives, their perception of life after the cancer diagnosis, and to compare life now with life before diagnosis. Out of 60 questions, 10 were related to PTG. Content validity of the responses were approved through reliable texts and by confirmation from three oncologists and psycho-oncologists.²⁸⁻³¹ Data analysis was concurrent with questionnaire collection. The suitable sample size for IPA was 10 or less,²² however it was necessary to have adequate samples to reach theme saturation. Therefore this study enrolled 23 patients.

Data analysis

We used SPSS-16 for quantitative-descriptive data analysis. The qualitative data analysis was in accordance with the IPA methodology and Smith method.²² Initially, the presumptions were written by the main researcher about the perception experience of PTG and were compared with what was received during the study. Results were finally discussed with the supervising researcher. Then, the PTG section of the questionnaires was separately reviewed several times by two researchers and relevant quotations were numbered. Reviewers wrote their interpretations of each quotation. Next, themes were determined and labeled by the researchers and then categorized in special clusters. After determining the final codes, two researchers who worked together checked the codes to determine the presence of super-ordinate and sub-ordinate themes that were related to each other. Those themes were merged to create a new description for the PTG. Finally, data were reviewed by a supervising researcher. To provide for the possibility of evaluating validity and reliability of interpretations for readers, themes were presented along with participants' quotations.

Results

Demographic characteristics of participants were as follows. Patients were between 34 to 61 years of age (mean: 46.22±8). There were, ten (43.47%) women in disease stage I, six (26.09%)

in stage II and seven (30.44%) in stage III. Mean duration since diagnosis was 26.96 ± 12.9 months. All patients had completed an active treatment course. Four underwent mastectomies and the remaining underwent breast conserving surgery (BCS). All patients were treated with chemotherapy and radiotherapy, with the exception of one patient who did not receive radiotherapy. Of patients, 8 (34.78%) were employed, 3 (13.04%) were retired, and 12 (52.18%) were housewives. All except one were married and had children. Table 1 describes each participant.

According to data analysis, there were 185 quotations and 3 super-ordinate themes of PTG perception from the participants: spiritual growth, appreciation of life, and increasing personal strength. A summary of stages of emerging super-ordinate and sub-ordinate themes from participants' quotations is presented in Table 2. In general, spirituality was both a super- and a sub-ordinate theme in women's perception of PTG. Spirituality shows itself in personal strength as belief in God's blessings in helping to reach new psychological capabilities, and in the appreciation of life theme in preparing the person to stand before God in heaven. The relationship between these three themes is shown in Figure 1.

Although controversial, using numbers in qualitative health studies is quite common. Within IPA guidelines, the use of numbers in a study, which is determined by the frequency of repeating a theme, can be implemented to show the importance of an issue.³² The percentage of the respondents that made any references to each identified theme was used to show the importance of a theme in this study.

Spiritual growth

Spiritual growth developed in most women (86.95%) since the diagnosis of breast cancer. This growth, which was the main dimension of their perception of PTG, deeply changed their outlook toward themselves and the world. This change facilitated their adjustment with disease and treatment. Closeness to God, the making meaning to suffering, and spiritual strategies were

sub-ordinate themes.

Many women reported that they became closer to God after their diagnosis. Closeness to God was a special situation for disease adaptation. This closeness was achieved through prayers, reading religious texts (*doa*), feeling God on one's side and talking with Him all of which equipped them with a powerful, supportive, available and reliable source (*tavakol*) which prepared them to cope with current and future problems.

Participant 19: 'After cancer, I enjoyed worshiping and talking to my God more than before. I felt especially close to God. As if a new window to the world was opened to me that I couldn't see it before. I was so close to God that I felt I was flying. This closeness made me conclude that whatever God gives us has a reason.'

Although breast cancer diagnosis, treatment, and its follow up imposed severe physical and psychological suffering on women, spiritual meaning-making for suffering could alleviate this suffering. Some women had recourse to well-known religious figures to give meaning to their suffering. Others followed well-known religious figures as models and compared their own suffering with theirs, which enabled patients to reduce their pain. Patients believed that being afflicted with cancer was a divine test for them, which was another spiritual theme that played an important role in explaining their suffering. These

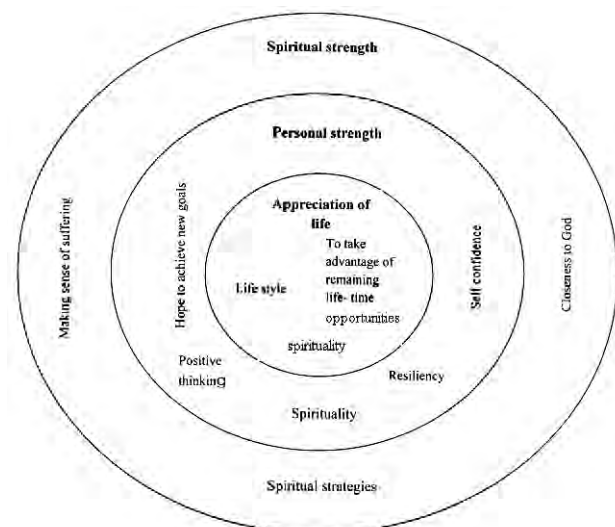


Figure 1. The relationship between PTG themes.

Table 1. Participants' demographic information.

participants	Demographic Characteristics				
	Age	Cancer Clinical Stage	Time Since Diagnosis (month)	Treatments*	Vocational Status
1	36	III	25	1,3,4	preschool teacher
2	57	I	32	1,3	retired
3	42	I	48	1,3,4	housekeeper
4	38	II	25	1,3,4	nurse
5	54	I	29	1,3,4	employee
6	41	III	20	1,3,4	nurse
7	48	II	14	1,3,4	teacher
8	53	III	13	2,3,4	retired
9	44	II	34	1,3,4	athletic coach
10	48	I	26	2,3,4	housekeeper
11	54	II	13	1,3,4	housekeeper
12	48	I	25	1,3,4	housekeeper
13	47	I	15	1,3,4	physician
14	46	III	27	1,3,4	housekeeper
15	61	III	27	1,3,4	housekeeper
16	34	II	27	1,3,4	housekeeper
17	51	I	17	1,3,4	retired
18	56	III	54	2,3,4	housekeeper
19	37	I	42	1,3,4	housekeeper
20	55	I	14	1,3,4	housekeeper
21	34	I	55	1,3,4	housekeeper
22	41	III	30	2,3,4	physician
23	38	II	8	1,3,4	housekeeper

*Treatments: 1=Lumpectomy, 2=Mastectomy, 3=Chemotherapy, 4=Radiotherapy.

concepts, in addition to helping patients survive the disease and endure its treatment and adverse effects (*sabr*), also gave them hope for realizing great spiritual and psychological achievements.

Participant 4: 'When pain occurred to me, I asked God for patience. I asked H.H Fatemeh (S.A: Her Excellency Fatemeh is the daughter of prophet Mohammad(s)) for patience. When breathing and eating got irritating, I remembered God and the sufferings of H.H Fatemeh. I was not superior to her. This calmed me and really helped me.'

Participant 21: 'The disease period was a testing period from God to measure my tolerance, to clear me like I was born again, and although the treatment side effects were too hard to me, I tried to pass this test with flying colors.'

The women believed that after being afflicted with breast cancer they used spiritual strategies more often. Patients tended to use spiritual concepts such as trusting in God, patience, forgiveness (*afv*), gratitude, and altruistic

tendencies (*ehsan*). For some patients, cancer provided an opportunity to apply these spiritual strategies to achieve a new definition for their existential meaning and their status in the world.

Participant 5: 'I'd use up all my time to help others as much as I can. I have given hope to many patients with my words. Now I can love everybody, and if someone needs my help, I don't refrain.'

Personal strength

Some women (32%) considered regaining relative health after their experiences with breast cancer diagnosis and its treatments, which were considered unsolvable at first, as an important factor to increase their personal strength. In their opinion, overcoming the cancer increased their self confidence, resiliency, problem solving and positive thinking skills. Furthermore, this growth helped them to raise their hopes to achieve new objectives in life. In this theme, spirituality had a special position that supplied enough energy for

Table 2. Summary of sub-ordinate and super-ordinate themes developed from participants' quotations.

Number of quotations	Relevant quotations	Analyzer's interpretation	Sub-ordinate themes	Super-ordinate themes
83	I knew that every thing happened in our life, certainly it was His test.	She thinks her disease is a divine test.	Making meaning to suffering	
155	The disease affected me in a very positive way, it caused to I know my God more and to love Him more	She believes that disease helps her to know God more.	More closeness to God	Spiritual growth
42	I understood His purpose was perfect, maybe I didn't realize the causes of His willing now, so I yielded to Him and I was happy for His satisfaction.	God is omniscient and worthy of trust (trust to God).	Spiritual strategies	
94	I could defend my feelings better than before and stand against the hardships.	The disease has enhanced her strengths of self-expression and coping skills.	Resiliency	Personal strengthening
18	Afterward I tried more to achieve my goals, now I found that I am powerful much more than what I thought before.	The disease has improved her knowledge of actual abilities.	Self-confidence	
78	I just realized that every thing might happen in a moment, now if I kissed my little daughter. I'd hug her from bottom of my heart and smell her and kissed her.	Lifetime is short and we should appreciate it (mindfulness).	Taking advantage of opportunities in life.	Appreciation of life
26	Now I felt very nice about the nature and music, I enjoyed them more.	Paying more attention to the beauties than before had.	Enjoying life's beauties	

personal growth.

Participant 13: 'before the disease, I've always had an anxious, frail, and weak personality. I couldn't express myself. Cancer made me stronger than before. It showed me I'm not a coward. I feel I'm stronger than ever, and that's because of God's blessing and my will power.'

Participant 6: 'after the disease, I devised a new plan for my life, and tried to do things I hadn't done before. I was successful, too. For example, I got my driving license, I passed a jewelry course. Now I am thinking of going to university.'

Appreciation of life

Others (30.43%) said that being afflicted with breast cancer confronted them with the fact that

the opportunity to live in this world and enjoy its beauties was limited. Patients whose breast cancer diagnosis was disclosed more abruptly wrote more about the unpredictability of death. These patients attempted to take advantage of opportunities by adapting new and healthy lifestyle approaches in order to increase the quality and quantity of their lives. This change in lifestyle included increased attention to a safe diet, regular physical activity, and stress management. On the other hand, others believed that they must use any opportunities and means to perform charity work and establish the foundation for a good life in the other world. Muslims believe this life is a prelude to the next world.³³ These interpretations led them to appreciate the value of life with special thanks to God as the Creator (shokr) and

responsibility to the otherworld.

Participant 15: 'I've enjoyed everything more since I got sick. You might not believe that it seems as if I didn't see seasons, trees, people and even my family very well. Every second is important for me from now on. Whatever I can do makes me happy and feels strong.'

Participant 22: 'I put aside unimportant stress. Hardships don't bother me anymore because I believe if I'm alive and healthy all problems have a solution.'

Participant 4: 'God has given me an opportunity to repent for my past sins. Now I try to be a positive person, to take good actions, and do charity as much as I can. All my things should be for God's satisfaction so I have enough stock for the other world, and I am acquitted before God.'

Discussion

Themes in this study are to a great extent in accordance with the dimensions of PTG according to the theory of Tedeschi and Calhoun. In most studied conceptions of PTG dimensions in women with breast cancer, the first and main dimensions were a stronger and richer relationship with others, in addition to a stronger feeling, while spiritual perception ranked next or last.^{8, 17, 34} However, the present study found spiritual growth as the most significant dimension of PTG while increased personal strength and appreciation of life ranked next. It is clear that cultural aspects play an important role as key variables in life experience perceptions.¹⁷ It has been proven that being religious has a reciprocal relationship with PTG. The experience of PTG can lead to more religious experiences and being religious can lead to an increased PTG.^{16, 18} Therefore, considering the dominant Islamic culture in Iran, and special role of religion and spirituality in facing stressful events, predominance of the spiritual growth theme and its sub-ordinate themes such as increased relationship with and trust in God is quite justified.

From the psychological point of view, some studies have shown that struggling with trauma perception can deepen people's spirituality and

religious beliefs^{35,36} because in such situations people establish a stronger relationship with a higher existence, perceive His extensive presence, and experience a higher degree of religious and spiritual beliefs.¹⁸ It is clear that stronger religious beliefs can increase feelings of control and tendency to seek meaning.¹¹ This finding is in compliance with the enhancing spiritual strengths found in this study such as patience (sabr), trust in God (tavakol), forgiveness (afv), altruism (ehsan), and gratitude (shokr). These strengths are attempts by patients to give meaning to their lives. Finding a meaning both during and after a trauma gives the patient an opportunity to experience emotional alleviation and achieve a new philosophy of life, so that the patient's basic presumption of life will change.¹²

Increased personal strength was the second dimension of PTG perception in this study. Collins et al. believed that psychological growth and stronger feeling were the most important dimensions of PTG in cancer patients.¹¹ Although they were not the most important dimensions in our study, as with many other studies, our study has shown that people can learn lessons when faced with a trauma and equip themselves with skills such as self-confidence, increased experience about life, positive self-assessment, trauma management, and personal strength. These skills shape up their characteristics and lead to growth.^{4, 36-38} It appears that living with a trauma like cancer affects people's evaluation of their capabilities to face future predicaments.³⁸

The last dimension of PTG perception in this study was appreciation of life which was in compliance with many studies in this field.^{27, 39, 40} Thompson determined that increasing PTG perception among cancer patients was associated with increased understanding of the value of each small issue in life.¹⁰ In general, it seemed that while seeking meaning and its related cognitive processes, life threatening events promoted people's appreciation of life and improved their commitment to it.²⁸ Positive changes in relation with others were another dimension of PTG in the theory according to Tedeschi and Calhoun, but was

not reported in our study. Social and cultural factors seemed to play an important role. Some women expressed their worries of the social consequences of revealing their disease. Therefore they tried to reduce relations with relatives, friends and neighbors. Further studies can clarify this subject.

The present study had some limitations. It was self-reported; therefore there was the possibility of related bias. Based on the nature of interpretative studies, our study aimed to provide some information about the perception of PTG, not to generalize the findings. However, because our results were in compliance with many other studies, it can be inferred that most Iranian cancer patients have the same PTG perception as our participants. While our participants had finished their active treatment course, some studies have shown that the highest level of PTG occurs immediately after trauma.⁸

Since people's approach to trauma is an important indicator of the quality of their psychological functioning,¹² it is recommended to conduct interventional and applied studies to facilitate PTG in women with breast cancer and/or people with other cancers.

Some studies have shown that the PTG experience is not limited to traumatized people; such experiences can extend to their family members as well.⁸ Therefore, PTG interventions for families of cancer patients are also recommended. It has been proven that designing and implementing such interventions can benefit patients and their caregivers psychologically, spiritually, and physically. The extent of its efficacy can be determined in other studies. Recognizing psychological, social and cultural factors associated with PTG is another important subject that needs further investigation. It is recommended that the process of PTG should be studied in a longitudinal research amongst long term cancer survivors.

Conclusion

Positive achievements in PTG are outcomes of Iranian women with breast cancer. They include

empowerment in spirituality, personal strength and appreciation of life with a responsibility to God, humans and the next world. Positive achievements are effective in increasing both quality and quantity of life in breast cancer patients, thus all caregivers should pay more attention to such achievements.

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