Posttraumatic Growth and Related Factors Among Postoperative Breast Cancer Patients

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\textbf{Abstract}

Breast cancer is the most common cancer type among women which is a highly-challenging and traumatic situation for women which threatens some psychological aspects such as femininity, motherhood and sexuality and therefore differs from other cancer types. Recently, rather than focusing on negative consequences of breast cancer after diagnosis and treatment, researchers focus on possible positive consequences after experiencing a trauma which refers to posttraumatic growth. The aim of the present study was to assess the relationship between social support, dispositional hope, internal-external locus of control and posttraumatic growth among postoperative breast cancer patients. The study was conducted with 31 postoperative breast cancer women (mean age=50.48, SD=11.59) who were undergoing postoperative treatment. Participants were from different cities in Turkish Republic of Northern Cyprus. “Posttraumatic Growth Inventory (PTGI)”, Multidimensional Scale of Perceived Social Support (“MSPSS”), “The Hope Scale (HS)" and “Rotter’s Internal-External of Control Scale (IELCS)” were administered to test the hypothesis of the study. Posttraumatic growth was found to be positively related with social and dispositional hope. Besides, the results did not reveal any significant relationship between posttraumatic growth and locus of control. Understanding the contributing factors to the development of posttraumatic growth among breast cancer patients is an important issue in the posttreatment process of breast cancer to improve psychological health of women with breast cancer.

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Peer-review under responsibility of Academic World Research and Education Center. 

\textit{Keywords:} Breast Cancer, Posttraumatic Growth, Dispositional Hope, Social Support, Internal-External Locus of Control

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1. Introduction

Cancer is one of the most important and current health problems in the world and it is generally associated with fear, hopelessness, guiltiness, being abandoned, anxiety, pain or death. It is a chronic and life-threatening disease which has both physical and psychological effects on the patients. Although many preventive and medical treatment methods have been developed with the advances in technology and medicine, cancer is still perceived as a life-threatening disease which impairs many domains of life of the patients such as family relations, sexuality, work and self-care (Gumus, 2006; Ozkal & Arıkan, 2014).

Breast cancer is the most prevalent cancer type among women. Breast is associated with concepts of maternity and femininity among women. In most cultures, breast is perceived as a symbol of motherhood, womanhood and sexuality. In addition, breast cancer requires highly stressful medical and surgical procedures. The possibility of losing breast increases the anxiety about the disease. These situations make the treatment process more traumatic for women. Therefore, it can be indicated that breast cancer is perceived as a threat for women’s feminine and maternal identity, body image, sexuality, self-confidence, self-esteem, psychological status and relationships with the environment (Lantz & Booth, 1998). Breast cancer is the most common type of cancer among women which constitutes twenty-three percent of all cancer diagnosis in women (Tahan, Ziauiddin & Soran, 2009). According to the statistics reported by World Health Organization, 7.6 million people died in the world because of cancer in 2008 and breast cancer was the fifth common cause of cancer deaths, accounted for 458,000 of these deaths (World Health Organization, 2014).

Since it is the most prevalent cancer type among women and makes women more anxious and traumatized due to the perceptions and meanings about breast for them, there are many research in literature about the psychological consequences of breast cancer among women such as trauma and especially posttraumatic stress disorder, depression or other anxiety disorders. However, in the recent years, there is more interest about positive psychological consequences of breast cancer in the literature. Posttraumatic growth is one of the most studied concepts among women with breast cancer after the term proposed by Tedeschi and Calhoun in the 1990s (Tedeschi & Calhoun, 1996). In general terms, posttraumatic growth can be defined as positive psychological, cognitive and emotional changes after experiencing a struggle with a highly challenging life crisis (Tedeschi & Calhoun, 2004). As a concept, posttraumatic growth is related with positive consequences of traumatic life events and individuals’ coping processes after facing with traumatic life situations. Accordingly, there are several factors reported in the literature such as personality characteristics like locus of control (Cummings & Swickert, 2010) dispositional hope (Ho et al., 2011) and perceived social support (Bozo, Gundogdu & Buyukasik-Colak, 2009) which contribute to the development of posttraumatic growth. Locus of control was firstly proposed by Rotter and it is considered as an important aspect of personality. It basically refers to the extent in which individuals believe that they can control events that affect them and attribute accomplishments and failures to internal or external factors (Rotter, 1966; Chalak, Nasri & HeidariTabrizi, 2014). There are two dimensions of locus of control, internal and external. Individuals with higher internal locus of control believe that his/her behavior is guided by his/her personal decisions and efforts. Individuals with higher external locus of control believe that his/her behavior is guided by fate, luck, or any other external circumstances (Dereceli & Dorak, 2011). Another personality factor related with posttraumatic growth is dispositional hope. Snyder and colleagues (1991) stated that hope is a positive motivational state and important personal resource which is formed by an interaction of a sense of successful agency and pathways.

The last factor which contributes to the development of posttraumatic growth is perceived social support. Social support could be defined as information which leads an individual to perceive that he/she is loved, valued, cared for and belongs to a network of communication (Cobb, 1976; Campbell & Gilmore, 2014). When individuals with chronic diseases such as cancer and asthma (Muhbes & Alyeassery, 2014) experience lack of social support especially family support, they perceive their situation even worse.

As mentioned before, these three psychological constructs are found to have a contribution to the development of posttraumatic growth. In the light of the literature mentioned above, if these psychological constructs contribute to the development of posttraumatic growth among postoperative breast cancer patients are examined in this study.
1.1. Aim of the Study

The present study aims to investigate the role of social support, locus of control and dispositional hope in the development of PTG among postoperative breast cancer patients in North Cyprus.

1.2. Importance of the Study

Since there is not any previous study examining the relationship between PTG and some variables among the Turkish Cypriot postoperative breast cancer patients, the present study might be considered as a pilot study for other research in this area. Focusing on the possible positive consequences of trauma could provide many benefits to professionals who work with cancer patients in clinical settings in terms of contributing to the adaptation process after diagnosis and posttreatment.

2. Method

2.1 Participants

The present study was conducted with 31 postoperative breast cancer patients (mean age=50.48, SD=11.59) who were undergoing postoperative medical or hormonal treatment, chemotherapy and radiotherapy. To be eligible for participation in the current study, the criteria were being older than 18 years old, having a diagnosis of primary breast cancer within the past 5 years and at least three months should have passed after the surgery, but not more than three years should have passed after treatment.

2.2 Instruments

"Posttraumatic Growth Inventory” (PTGI), “The Hope Scale” (HS), “Multi-dimensional Scale of Perceived Social Support” (MSPSS) and “Rotter’s Internal-External Locus of Control Scale” (IELCS) were used to collect data from the patients.

The PTGI was developed by Tedeschi and Calhoun (1996), translated into Turkish by Kilic (2005) and then revised and adapted by Dirik and Karanci (2008). The PTGI assess positive changes perceived as a result of coping with trauma or illness and consisted of 21 items and has 5 subscales that are new possibilities, relating to others, personal strength, spiritual change, and appreciation of life. Each item was rated on a 6-point scale ranging from 0 (I did not experience this change as a result of my crisis) to 5 (I experienced this change to a very great degree). According to Dirik and Karanci (2008), factor analysis of PTGI demonstrated 3 factors which were labeled as changes in ‘relationship with others’ (Cronbach’s Alpha = .86), ‘philosophy of life’ (Cronbach’s Alpha = .87) and ‘self-perception’ (Cronbach’s Alpha = .88) in Turkish sample. Tedeschi and Calhoun (1996) stated that the internal consistency coefficient of the scale was .90 and the test-retest reliability with 2-month interval was .71.

The MSPSS was first developed by Zimet, Dahlem, Zimet and Farley (1988). It is a 7-point Likert-type scale consisting of 12 items questioning the source and the level of social support provided by a significant other, family, and friends. Higher scores on this scale demonstrate higher levels of perceived social support. The reliability of the Turkish version was assessed by Cronbach’s alpha and it was found to be between .80 and .95 (Eker, Akar & Yaldiz, 2001).

The Hope Scale, developed by Snyder and colleagues (1991), is a 4-point Likert type scale consisting of 12 items. Turkish version of the Hope Scale was translated and adapted to Turkish (Akman & Korkut, 1993). The Hope Scale consists of two dimensions, which are agency and pathway. Snyder et al (1991) demonstrated that the internal consistency reliability coefficient of the scale as between .70 and .80, and the test-retest reliability with 10-week interval as .76. The internal consistency reliability coefficient of the Turkish version was .65 and the test-retest reliability coefficient with a 4-week interval was .66.

The Internal-External Locus of Control Scale (IELCS) was developed by Rotter in 1966. It consists of 29 items that measure locus of control on an internal-external continuum. Each item is presented with two statements
indicating internal and external beliefs and participants are asked to choose one of these statements that they believe to be true. Six out of 29 items are filler items which are not scored. Higher scores in IELCS indicate high external locus of control and lower scores indicate higher internal locus of control. IELCS was adapted to Turkish by Dag (1991) in a sample of university students and the reliability and validity of the scale is high.

3. Results

In table 1, 2 and 3; the results of the correlational analysis between posttraumatic growth, social support, hope and locus of control are provided respectively.

Table 1. Relation of Social Support (MSPSS) and Posttraumatic Growth (PTGI) total mean score

<table>
<thead>
<tr>
<th>Social Support</th>
<th>Posttraumatic Growth</th>
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<tbody>
<tr>
<td></td>
<td>r=0.47</td>
</tr>
<tr>
<td></td>
<td>p=0.007*</td>
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</tbody>
</table>

As it can be seen from table 1, significant relationship was found between social support and posttraumatic growth when the mean scores of MSPSS and PTGI were compared by correlational analysis.

Table 2. Relation of Dispositional Hope (HS) and Posttraumatic Growth (PTGI) total mean score

<table>
<thead>
<tr>
<th>Dispositional Hope</th>
<th>Posttraumatic Growth</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>r=0.47</td>
</tr>
<tr>
<td></td>
<td>p=0.008*</td>
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</tbody>
</table>

According to table 2, there was a significant relationship between dispositional hope and posttraumatic growth when the mean scores of HS and PTGI were compared by correlational analysis.

Table 3. Relation of Locus of Control (IELCS) and Posttraumatic Growth (PTGI) total mean score

<table>
<thead>
<tr>
<th>Locus of Control</th>
<th>Posttraumatic Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r=0.22</td>
</tr>
<tr>
<td></td>
<td>p=0.241</td>
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</tbody>
</table>

In table 2, it can be clearly seen that there was no significant correlation between locus of control and posttraumatic growth.

4. Discussion

Breast cancer is a chronic, life-threatening disease and breast cancer patients might adapt to this highly challenging and stressful situation either in a positive or negative way. After the treatment process, they can sometimes adapt to this situation positively. In the current study, some variables which might be related with posttraumatic growth were examined. The purpose of the present study was to examine PTG among postoperative breast cancer patients. Additionally, the relationship between social support, dispositional hope, locus of control and
posttraumatic growth was analyzed. In the light of the literature, social support, dispositional hope and locus of control and their relationships with their posttraumatic growth were investigated for the purposes of the present study.

The finding in which social support has a positive relationship with posttraumatic growth is also consistent with the results of the studies in the literature. In their meta-analysis study, Prati and Pietrantoni (2009) figured out that social support and seeking social support coping were moderately related with PTG among postoperative breast cancer. They emphasized that social support is an important contributor for the development of PTG. Bozo, Gundogdu and Buyukasik-Colak (2009) also showed that breast cancer survivors high on social support are more likely to develop PTG.

As a conservative society, having social support from the environment is really valued among Turkish Cypriots. Having social relationships, social cohesion and social integration have been claimed to be related with the health of people who live in that society. House, Umberson and Landis (1988) identified three social processes; social support, relational demands and social regulation or control which provides social integration in societies and this is positively associated with human health and well-being. Therefore, it can be said that since Turkish Cypriot community is a conservative society as a Mediterranean country, social support is an important phenomenon and this might have been related with high social support among the participants and accordingly higher posttraumatic growth which was an expected result.

Dispositional hope was also found to have a relationship with posttraumatic growth. There are some studies which have demonstrated similar results with the present study showing that higher levels of hope might lead to posttraumatic growth and positive consequences. According to Stanton and colleagues (2002), breast cancer patients who were high in hope have greater adaptational benefits when struggling with breast cancer. They also stated that high-hope cancer patients tend to have higher positive outcome expectancies about treatment and recovery from breast cancer.

However, the hypothesis assuming that breast cancer patients with internal locus of control would be more likely to develop PTG was not confirmed. No correlation has been found between locus of control and PTG. This result is inconsistent with the findings of previous studies in the literature. This might be due to the results of the Rotter’s Internal-External Locus of Control Scale which was administered to the participants in order to assess whether the patients have internal or external locus of control. According to the results of this scale, the scores on the locus of control scale revealed that participants tend to have external locus of control rather than internal locus of control. Since patients have external locus of control based on the results, the hypothesis could not be confirmed. In addition, there was no correlation between having external locus of control and developing PTG as well.

As it can be seen from the results, participants generally reported higher PTG regardless of some their demographic and illness related variables. This can be interpreted as a situation in which although breast cancer is a really challenging and traumatic life event, people have the ability to develop posttraumatic growth regardless of what traumatic event or experience they face with.

Since breast cancer is a trauma, it involves actual or threatened death and had a threat to physical integrity. Accordingly, breast cancer patients feel fear, helplessness and horror due to cancer. In addition, all types of traumas and therefore in this case breast cancer appear suddenly and disrupt individual’s prior beliefs, thoughts, evaluations about life and others. Therefore, while breast cancer patients experiences these negative consequences of breast cancer, they might also try to find benefit from this highly challenging experience, restructure their beliefs, thoughts, and appraisals about life and change their life priorities.

5. Limitations of the Study

One of the limitations of the current study is about the way of collecting data. The answers were collected from participants orally. Therefore, participants may have given socially desirable answers and this might possibly have affected the results of the study. The patients experiencing such a trauma and a highly challenging process may avoided from expressing themselves and this might had an effect on the results of the study. Another limitation of the study is small sample size. The sample was only consisted of breast cancer patients. This might be another
limitation of present the study. Including participants with other cancer types might have yielded different results and there would be the opportunity to make comparisons among groups with different cancer types. In addition, participants diagnosed with breast cancer and had an operation in the time range of within one month and five years. This broad time range of time since diagnosis and post-treatment might have affected the results of the study. Having diagnosed with breast cancer for a long time might change the perceptions about the disease and this might result in different PTG scores.

6. Conclusion and Recommendations

In this study, the results showed that women with breast cancer experience posttraumatic growth after having operation. The study has three hypothesis and based on the results, two of them confirmed but one of them was not confirmed. According to the results, social support and dispositional hope play an important role in the development of PTG. Women with high social support and high hope experience higher levels of posttraumatic growth. However, locus of control which is the third independent variable of the study was not found to be related with experiencing PTG after operation. Due to several reasons, the sample size of the study was small and this might lead to problems about the generalizability of the results. 31 women who had diagnosed with breast cancer and had an operation participated to the study. After having permission, the study was conducted in the oncology departments of these hospitals. However, only 31 participants could be included to the study. North Cyprus is a country with a small population and this can be an important factor for the small sample size of the study. Future studies should include larger sample sizes in order to improve the statistical power and therefore more generalizability of the results.

In conclusion, the present study tried to demonstrate that although breast cancer is a traumatic and highly challenging situation, women can experience posttraumatic growth. At this point, it is important to understand and detect the factors which contribute to the development of PTG among women in order to contribute to the posttreatment process by increasing the possible positive outcomes of breast cancer. Therefore, it can be said that this study might lead to future studies which will be conducted among postoperative breast cancer patients in the North Cyprus community.

References


