

Post Trauma Distress as a Predictor of Post Traumatic Growth among Cancer Survivors

MS Received February 05, 2013; Reviewed November 14, 2013; Accepted November 18, 2013

Bhavana Arya and Evelyn R. Thomas

Abstract

Adversity can lead to growth is an ancient concept. There is enough empirical evidence that people experience personal growth after experiencing a traumatic event. In the aftermath of trauma, when the basic assumptions about the world are put to test, many individuals actually report positive psychological growth, conceptualized as post traumatic growth (Tedeschi & Calhoun, 2004). The experience of cancer causes major outcomes positive and negative both. Research suggests that individuals experience Posttraumatic Growth (PTG) from the diagnosis and treatment of cancer. The present study investigates the prevalence of PTG in 60 cancer patients and explores the role of post trauma distress as a predictor of PTG. The results are particularly relevant in the Indian context, given the collective nature of Indian society and the importance given to family and relationships in the Indian culture.

Keywords: Post Traumatic Growth, Post Traumatic Distress

Introduction

The Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR; American Psychiatric Association [APA], 2000) specifically defines a trauma as "direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate (Criterion A1). The person's response to the event must involve intense fear, helplessness, or horror (or in children, the response must involve disorganized or agitated behavior) (Criterion A2)". (p. 463)

Trauma and Post Traumatic Growth (PTG)

A traumatic event is one which has the ability to challenge the core beliefs that one has about the world, and in this state of confusion, when the individual is actually struggling to cope, the foundations of PTG are laid.

Posttraumatic growth (PTG) is a construct first proposed by Tedeschi & Calhoun (1996) that has undergone conceptual refinements over the past decade (Tedeschi & Calhoun, 1996, 2004; Tedeschi, Park, & Calhoun, 1998). Tedeschi and Calhoun (2004) define posttraumatic growth as the “positive psychological change experienced as a result of the struggle with highly challenging life circumstances” (p. 1). Often co-existing with elements of distress (Janoff-Bulman, 2004; Tedeschi & Calhoun, 2004), posttraumatic growth involves both, the development of individuals beyond their “previous level of adaptation, psychological functioning, or life awareness” and a fundamental change in the individual as a whole (Tedeschi, Park, & Calhoun, 1998, p.3).

Posttraumatic growth is a paradoxical phenomenon (Tedeschi & Calhoun, 2004; Tedeschi, Park, & Calhoun, 1998). The central paradox of this field is that from the depths of loss and pain, growth and gain may emerge.

Cancer and Post Traumatic Growth

Being diagnosed with cancer can be traumatic for any individual. Immediately after the diagnosis, a cancer patient is confronted with concerns regarding diagnosis and survival, and then at later stages there are issues like the side effects and possible reoccurrence. A lot of negative outcomes have been associated with the diagnosis of cancer and many researchers have reported outcomes like increased levels of psychological distress (Bloom, 2002; Montgomery, et al., 2003; Zabora, et al., 2001), symptoms of depression and anxiety (Deimling, et al., 2002) and cancer-related health concerns such as worries about a recurrence or a second primary cancer (Deimling, et al., 2006).

In spite of the fact many cancer survivors report increased stress and poor adjustment, many survivors also report positive outcomes and periods of psychosocial growth after their diagnosis. The present study utilizes Tedeschi and Calhoun's (2004) conceptualization of posttraumatic growth which states that PTG is “the experience of positive change that occurs as a result of the struggle with highly challenging life crises” (Tedeschi & Calhoun, 2004, p.1).

Cancer has the ability to shake one's worldview and significantly impact one's assumptions about life (Janoff-Bulman, 1992). The diagnosis and subsequent treatment of cancer can cause negative psychological and physical sequelae that can severely impact individuals' everyday lives (Gurevich, et al., 2002). Specifically, cancer has the ability to negatively impact numerous aspects of the individual including physical, emotional, social, and occupational functioning (Kornblith, 1998).

But at the same time, being diagnosed with cancer may provide opportunities for positive growth due to many reasons (Cordova, 2008). First, after cancer has been diagnosed, there is a pertinent threat of reoccurrence. Cancer is never really 'over'. Cancer patients are never really "post-trauma. With ambiguity surrounding one's future, cancer patients may begin to look at life differently and there is a change in their priorities. Second, the cancer experience can change one's life indefinitely. To cope up they might have to bring about a lot of changes in their life physically as well as psychologically. With time they establish new parameters for what is considered normal for them. Third, the cancer experience may force them to rely more on people around them for care and emotional support. Subsequently, cancer patients may reevaluate their relationships. Last, cancer has the ability to call into question one's mortality. As people experience an existential crisis, they may rethink their religious and spiritual beliefs and their beliefs about the world in general. In any other traumatic event, things hit and are gone. But in a life threatening illness like cancer, it is never really gone. It is an ongoing struggle. Thus, cancer has the ability to provide opportunities for positive growth.

Post Traumatic Distress and PTG

Although often thought to be opposite of PTG, posttraumatic stress disorder (PTSD) has been found to have mixed associations with PTG (Zoellner & Maecker, 2006). In a review of PTG and related constructs in adults, several positive, negative and non-significant relationships were found in the literature.

In their study of young cancer survivors, researchers predicted that PTG and PTSD would be negatively associated (Barakat, et al., 2006). The two constructs were, in fact, significantly positively correlated. In another study with young car accident victims, many children who reported experiencing some degree of personal growth, met the criteria for PTSD (Nader, et al., 1994).

There is a wide gap in research on the relationship between posttraumatic growth and posttraumatic stress disorder (Zoellner and Maecker, 2006). The authors suggest that factors such as trauma severity and time since trauma may influence the lack of a relationship between PTG and PTSD. Method of assessment could also play a role in the direction of the correlations.

Posttraumatic distress is linked with posttraumatic growth in the manner that only psychologically 'seismic' events which shake the assumptive world, have the potential to lead to posttraumatic growth (Tedeschi & Calhoun, 2004)

Interestingly, many researchers have identified similar initial pathways for both PTSD and PTG (Edmonds & Hooker, 1992; Yalom & Lieberman, 1991). In fact, Calhoun and Tedeschi (1998) suggest that PTG often coexists with many of the symptoms of PTSD. Both PTG and PTSD occur in response to an initial, traumatic event or stressor that elicits heightened levels of psychological distress.

Any life threatening illness has all the characteristics of being considered a trauma. Janoff-Bulman (1992) suggests that before experiencing a traumatic event, an individual perceives the world to be a safe and predictable place. These assumptions about the world are challenged by a traumatic event, following which, the world becomes dangerous, unsafe, and unpredictable. Following traumatic events, subsequently, individuals attempt to rebuild their assumptions and their shattered beliefs about the world. The reconstructed assumptions may be different than their pre-event assumptions about the world (Janoff-Bulman, 1992). Thus, the traumatic event causes emotional distress and PTG results from an attempt to cope with this emotional distress.

Occasionally, the cancer experience has a traumatic quality that produces intrusive thoughts, avoidance behavior, and heightened arousability (Alter et al., 1996; Andrykowski, et al., 1998; Green, et al., 1998; Manne, 1999; Koopman, et al., 2002; Widows, Jacobsen, & Fields, 2000), a triad of symptom clusters that comprise posttraumatic stress disorder (PTSD; American Psychiatric Association, 2000). Cognitive engagement with the traumatic event plays a central role in deciding the post trauma outcomes.

Creamer, Burgess, and Pattison (1992) provide support for cognitive processing theories in a study of office workers exposed to a multiple shooting. They note intrusion and avoidance mediate the link between exposure to trauma and development of psychological distress. Moreover,

they suggest avoidance may impair processing during earlier stages of adjustment to a trauma but the relationships between avoidance and intrusions and between avoidance and distress weakens over time. Consistent with Horowitz' (1986) theory, intrusions and avoidance are key elements in the cognitive processing of traumatic events.

Posttraumatic growth among Indian cancer patients

Most of the research on posttraumatic growth among cancer patients has been done in western industrialized nations (Ho, et al., 2004; Schroevers & Teo, 2008). The Indian healthcare system presents significant challenges for many cancer patients. Most individuals are diagnosed with advanced disease, though screening efforts are growing (Dinshaw, et al., 2005). In a qualitative study by Thombre & Sherman (2009) perceived growth in Indian oncology patients has been studied in relation to cognitive and cultural-religious processes. As far as we are aware, no studies have focused on the relationship between post trauma distress and PTG among Indian oncology patients. Many other researchers (Abraido-Lanza, et al., 1998; Ho, et al., 2004; Taku, et al., 2008) have also felt the need to carry out research on growth resulting from adverse situations in distinctive cultural contexts.

Hypotheses

H1: All measures of PTG will be positively related to the subscales on IES-R.

H2: Scores on IES-R will significantly predict PTG.

Method

Sample

The sample comprised 60 (males and females) patients diagnosed with cancer in the age range of 30-50 years. The sample had 36 males (60%) and 24 females (40%). Among them, 24 (40%) and 36 (60%) subjects were in the age range of 30 - 40 years and 40 - 50 years respectively. In addition, time elapsed after the diagnosis of cancer, 18(30%) patients were in the range of 0 - 6 months, 28 (47%) patients were in the range of 7 - 12 months and 28 (23%) were in the range of 13 -18 months respectively. In the sample, all the patients were undergoing radiotherapy and diagnosed with early stages of cancer.

Measures

Demographic Information was provided by the patients on a demographic questionnaire covering medical characteristics and personal characteristics. Patients answered several medical/health questions, including current diagnosis, stage of cancer, disease status, and treatments currently receiving or recently received. Patients were asked questions about age, gender, occupation, employment status, marital status, highest education degree, and place of domicile.

Posttraumatic Growth was assessed using the Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996). PTGI is a 21-item scale that assesses the extent of self-reported positive outcomes as a result of the experience of a traumatic event. Posttraumatic Growth is reflected in five areas of life as indicated by the following subscales of the PTGI namely, New Possibilities, Relating to Others, Personal Strength, Spiritual Change, and Appreciation of Life. The subscale New Possibilities is comprised of 5 items, namely 3, 7, 11, 14, and 17 which include sentences like "I developed new interests", "I established a new path for my life" etc. The subscale Relating to Others is comprised of 7 items, namely 6, 8, 9, 15, 16, 20, and 21 (like, "I more clearly see that I can count on people in times of trouble", "I have more compassion for others"). The subscale Personal Strength comprises 4 items, namely 4, 10, 12 and 19 (like "I know better that I can handle difficulties", "I am better able to accept the way things work out"). The subscale Appreciation of Life is comprised of 3 items, namely 1, 2 and 13 (like "I changed my priorities about what is important in life"). The subscale Spiritual Change comprises 2 items, namely 5 and 18. (like "I have better understanding of spiritual matters"). The items of the PTGI are on a 6-point Likert scale ranging from "I did not experience this change as a result of my crisis" to "I experienced this change to a very great degree as a result of my crisis". The total PTGI score is obtained by adding all responses, and subscale scores by adding responses to items comprising the subscale. The total PTGI score has a potential range of 0 to 126, with higher total scores indicating increasing levels of growth. As noted by Tedeschi and Calhoun (1998) the PTGI has sound psychometric properties with a good internal consistency for all the subscales ranging from 0.67 to 0.85. Though total PTGI score could be used, the multidimensional nature implies that PTGI is best explore within each subscale or dimension.

Post Traumatic Distress was assessed with the Impact of Event Scale - Revised (Weiss & Marmar, 1997). The IES-R is a 22-item self-report measure that assesses subjective distress as a result of a traumatic stressor. The IES-R

provides an overall score as well as scores on each of its subscales, namely Avoidance, Intrusion and Hyperarousal. Participants are asked to indicate how distressing each difficulty has been for them in regards to a stressful life event. The participants are asked to do this by rating each item on a 5-point Likert scale that ranges from Not at all to Extremely. The Avoidance subscale score is the mean of 8 items, namely items 5, 7, 8, 11, 12, 13, 17 and 22 (" I stayed away from reminders of it " , " my feelings about them were kind of numb ") . The Intrusions subscale score is the mean of 7 items, namely items 1, 2, 3, 6, 9, 16 and 20 ("I thought about it when I didn't mean to " , " I had dreams about it " .) The Hyperarousal subscale score is the mean of 7 items, namely items 4, 10, 14, 15, 18, 19 and 21 (" I felt irritable and angry " , " I was jumpy and easily startled . "). The overall score on the Impact of Events - Revised score is the sum of the above three clinical subscales. As noted by Weiss & Marmar (1997), the IES-R has sound psychometric properties, showing high internal consistency with coefficient alphas ranging from .87 to .92 for Intrusion, .84 to .85 for Avoidance, and .79 to .90 for Hyperarousal.

Procedure

In order to test the hypotheses, data were collected from cancer patients by means of questionnaires. Questionnaires were selected to form the basis of this research as they are relatively time and cost effective, and can be administered to a small population, with ease. The questionnaires used in this study were anonymous to reduce the likelihood that respondents would modify their answers to be in accordance with perceived societal expectations. The first step was to request permission from the authorities at the participating treatment centers. Once access had been granted, the researchers administered questionnaires on one to one basis to those patients who satisfied the inclusion and exclusion criterion and were willing to participate. The completed questionnaires were collected.

Results

The current study was conducted with an aim to explore PTG in cancer survivors and to study the role of cognitive processing in relation to post traumatic growth. Table 1 shows the descriptive statistics of the measures in the study.

Table 1
Mean and SD for PTG, IES and Age

Measures	Mean	SD
PTG- New possibilities	13.53	3.16
PTG- Relating to others	24.58	4.88
PTG- Personal strength	9.50	1.65
PTG - Spiritual Change	7.50	2.52
PTG- Appreciation of life	9.41	1.30
PTG	64.53	8.18
IES - Avoidance	7.00	1.34
IES- Intrusion	13.11	1.48
IES- Hyper arousal	22.68	1.74
Impact of Events	42.80	2.78
Age	41.81	6.06

Pearson's product-moment correlation coefficients (r) were conducted to determine whether a relationship existed between the cognitive processing initiated by the diagnosis of cancer and post traumatic growth. All the correlations were in the expected direction. Table 2 reports the correlation among the variables.

Table 1
Pearson Correlation of PTG, IES and Age

PTG	IES-R Subscales			IES-R Total
	Avoidance	Intrusion	Hyper arousal	
New possibilities	.22	.12	.21	.30*
Relating to others	.07	.21	.35**	.36**
Personal strength	.11	.07	-.02	.08
Spiritual Change	.10	.31*	.34**	.42**
Appreciation of life	-.02	.12	.25	.21
PTG Total	.18	.30*	.43**	.51**

All the scales of PTG and the total post traumatic growth were positively correlated with the cognitive processes of avoidance, intrusions and hyper arousal. The total impact of the traumatic event also shows a positive correlation with subsequent growth

Post traumatic distress can significantly predict PTG among cancer survivors is indicated by the regression coefficient ((R squared = .27, adjusted R squared = .25, $F(1,58) = 20.86$, $p = .000$). The distress as measured

by IES-R accounts for 25% of variance in PTG in the current sample and is a reliable predictor of PTG.

Discussion

The aim of the current study was to find out the antecedents of post traumatic growth in cancer survivors. The results of the current study supported the hypothesis that PTG is positively related to the cognitive processing that takes place after the trauma. The results may be explained according to the outcome models of PTG. According to Schaefer & Moos (1992) model of life crisis and personal growth three primary outcomes can result from a traumatic event: increases in social resources (e.g., better relationships with friends and family members), increases in personal resources (e.g., more cognitive differentiation, assertiveness, self-understanding, empathy, altruism, and maturity); and the development of and increases in coping skills (e.g., ability to think through problems, seek help when needed, and regulate affect. All the outcomes are valid indicators of PTG. Thus cognitive appraisal of a traumatic event is a precursor to growth.

Results also lend support to Janoff-Bulman's (1992) theory of growth. The three fundamental assumptions proposed by Janoff-Bulman include: the world is benevolent; the world is meaningful; and the self is worthy. Any traumatic event, provided it has the capability to shatter these basic assumptions, provides an opportunity to restructure these assumptions. Following a traumatic event it is hypothesized that instead of assuming the world is predictive and controllable, the world becomes dangerous, unsafe, and unpredictable. The reconstructed assumption about the new assumptive world have the potential to allow the individual to take on the world with a new energy and growth.

Tedeschi & Calhoun (2004) also note that distress and growth may coexist, and in fact, elevated levels of initial distress are sometimes thought to be an essential factor in promoting subsequent growth. PTG outcome models reflect several common themes, including the notion that in order for PTG to be perceived an event must reach a severe level, enough to challenge one's assumptions about life.

Many other researchers have found strong correlation between post traumatic stress and PTG. In their study of young cancer survivors, researchers predicted that PTG and PTSD would be negatively associated

(Barakat, et al., 2006). The two constructs were, in fact, significantly positively correlated.

In the current study, appreciation of life is negatively correlated with avoidance. Similar results have been reported by Creamer, Burgess, and Pattison (1992) in a study of office workers exposed to a multiple shooting. They suggest that avoidance may impair processing during earlier stages of adjustment. It has also been suggested that avoidant coping can interfere with more active coping.

The regression analysis lends support to hypothesis 2 of the study. Any traumatic event causes a lot of distress in an individual. The distress is a significant predictor of growth. According to the many outcome models of PTG, the traumatic event should have enough impact on the individual to be able to bring about PTG. Growth as an outcome is only possible when the individual feels compelled to carry out some cognitive restructuring.

Conclusion

The authors predicted a significant positive relationship between the distress caused by the traumatic event and experienced PTG. The results lend support to the hypotheses of the study. Research on PTG among cancer survivors is particularly relevant as the rate of survival has improved over the years due to improvements in medical facilities. The health care research will go a long way in improving the life of survivors. Distress is not the only outcome of a trauma. Health counselors and other professionals may find important links in such researches. The results from the present study have important research and clinical implications for understanding the relationship between PTSD and PTG among men and women who have been diagnosed with cancer. The results also support PTG as an outcome of cognitive processing to cope up with the distress caused by the traumatic event.

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