



POST-TRAUMATIC STAGE IN CANCER SURVIVORS: A CASE STUDY OF PUNJAB INSTITUTE OF MEDICAL SCIENCE (PIMMS)

Dr. Muzafar Ahmad Bhat^{1*}, Sneha Chakrabarti², Chandrima Chakraborty³, Sahil Garg⁴

Abstract:

As a potentially devastating experience, cancer can also be a source of beneficial life improvements. In this research, we discuss the link between cancer and PTG, as well as the efficacy of Coping in the Post-Traumatic Phase in cancer survivors. The sample consisted of 100 cancer patients, 32 male and 68 female (Mean age= 52 years; Min.=18 years, Max.=77 years), who were chosen at random from the Department of Oncology at the Punjab Institute of Medical Sciences in Jalandhar, Punjab (PIMMS). The demographic factors questionnaire sample was designed to collect information about gender, age, marital status, income, educational qualification, kind of cancer, time since diagnosis, and other aspects of the diagnosis. To assess the Post-Traumatic Phase, the Post-Traumatic Phase Inventory-Short Form (PTGI-SF) was employed. Brief COPE was used to assess Coping in cancer patient survivors. Correlation values revealed a positive and substantial relationship between all aspects as well as the overall Posttraumatic Phase and Adaptive Coping, whereas Avoidant Coping showed a negligible relationship with Post-traumatic Phase. Regression research revealed that approach coping had a 23% variance in the Post-traumatic Phase model. There was no substantial difference in Coping and Post-traumatic Phases between survivors based on their residential status or therapy. However, ANOVA revealed a significant difference in the Coping and Post-traumatic Phases of survivors' marital status.

Keywords: post-traumatic Phase, approach coping, avoidant coping

^{1*, 2, 3, 4}Department of English, Lovely Professional University, Phagwara Punjab (India),
E-mail:- Muzaffarmaqsood@gmail.com, Snehachakrabarti231@gmail.com(12108995),
Chandrima1129@gmail.com(12105757), GARG27717@gmail.com(12111918)

***Corresponding Author:** - Department of English, Lovely Professional University, Phagwara Punjab (India),
E-mail:- Muzaffarmaqsood@gmail.com

DOI: - 10.48047/ecb/2023.12.si5a.082

INTRODUCTION

Cancer is a broad term that refers to a set of disorders characterized by aberrant cell phases that expand beyond cell boundaries, infecting adjacent tissues, and spreading to other organs. Cancer is the biggest cause of mortality worldwide, accounting for 10 million deaths in 2020 (World Health Organisation). Several research demonstrates a current interest in the positive impacts observed by persons who have faced extreme stressors such as cancer. These occurrences are often classified as traumatic, however, to prevent stigma, different expressions of social validation for persons affected by this condition are used. Cancer, as a potentially fatal illness, may be regarded as a traumatic event, with numerous negative implications. Physical problems generate many interruptions in patients' lives. The sickness burden comprises the painful side effects of therapies, as well as people's social and family lives and daily activities (Bellizzi et al. 2007).

Because cancer is seen by patients as a traumatic event or an extremely acute stressor capable of producing the posttraumatic Phase (PTG). PTG is a type of psychological development that occurs as a result of overcoming a major stressor or trauma in one's life. However, the traumatic experience does not directly lead to PTG. The occurrence of a traumatic event may initially shatter a person's assumptive world, or general set of beliefs and assumptions about the outside world, which serves as direction for actions, an understanding of the causes and reasons for events that occur, as well as a sense of meaning and purpose in life. Following trauma, one must engage in cognitive rebuilding, which is the process of finding meaning in the traumatic occurrence by incorporating the trauma-related information into the reconstruction of the new assumptive cosmos. The fictional world of a person. PTG, which emerges in a person as a result of these cognitive processes, is a transformative phenomenon that results in a greater level of functioning than before the individual fought with the traumatic experience or crisis. According to Tedeschi and Calhoun (1996), 2004; Calhoun et al. (2000), there is a relationship between psychological distress and PTG, with a low level of stress possibly not being enough to cause PTG in comparison to trauma, and a high level of trauma potentially overwhelming a person and preventing the development of PTG.

The literature on the effects of such traumatic situations has increasingly focused on the phenomena of positive changes or the posttraumatic Phase (PTG) that occurs after such

difficulties (Tedeschi & Calhoun, 1996). For numerous reasons, the posttraumatic Phase may be crucial in patients with long-term illnesses. After correcting for disease severity, race, and socioeconomic position, it is associated with quality of life (Tomich & Helgeson, 2004). Tedeschi and Calhoun (2004) defined a general model of the posttraumatic Phase. They propose that the posttraumatic Phase arises from the cognitive processing that occurs as a result of dealing with the aftermath of a traumatic incident. They explain that the more a person's assumptions about predictability, safety, identity, and the future are challenged, the more likely the traumatic event was seen as a crisis and the individual would experience distress. Rumination phases (i.e., repeated thinking) make up this cognitive processing of trauma, according to Calhoun and Tedeschi (2006). Rumination is primarily automatic and upsetting at first. Managing automatic rumination and disengaging from goals are all results of this early rumination phase, which also causes self-disclosure and a reduction in emotional pain. This stage results in a more intentional rumination phase, a schema change, and the emergence of a story. The integration of these difficulties into a new style of thinking leads to the posttraumatic Phase.

Factors that come under the Post-traumatic Period

Five elements that contribute to the posttraumatic Phase have been identified as a result of the development of a scale to measure it, the Posttraumatic Phase Inventory (Tedeschi & Calhoun, 1996).

Individual Strength

Changes in self-perception after a traumatic encounter constitute the first posttraumatic phase element. A person may find increased personal power to deal with life after being able to survive a crisis that threatens their well-being (Tedeschi & Calhoun, 1996).

New Potential

Since alterations in self-perception after trauma may also give rise to new possibilities (Tedeschi & Calhoun, 1996). The survivor discovers new possibilities for his life while battling difficulties in multiple areas (Lindstrom et al., 2013).

Connecting with Others

Deeper and more meaningful connections may form after experiencing trauma (Tedeschi & Calhoun, 1996). Some relationships will get

stronger as a result of going through a crisis and utilizing social support when necessary to help make possible lives easier.

Gratitude for Life

When faced with a traumatic situation, one may feel grateful to be alive and develop a new appreciation for life (Tedeschi & Calhoun, 2004). As a result, the individual starts to pay attention to little things that they had previously ignored or dismissed (Tedeschi et al., 2004), which leads to a shift in priorities and a greater appreciation for life (Lindstrom, Cann, Calhoun, & Tedeschi, 2013).

A Shift in the Soul

Trauma survivors may need to reevaluate their religious convictions and seek spiritual guidance to understand the meaning of the trauma and how it will affect their lives. This procedure might improve spirituality and religious convictions. Although not limited to individuals who already have a strong spiritual or religious connection, nonreligious people may also feel some Phase in the spiritual realm (Tedeschi et al., 2004).

Handling the situation or Manage Stress

According to Rajendran et al. (2011), coping is a cognitive process used to tolerate, lessen, or manage the experience of a stressful situation. According to Daisuke and Ayumi (2016), one way to organize coping mechanisms is to divide them broadly into approach and avoidance categories. In cancer patients, coping techniques are crucial because they can predict a greater level of health-related quality of life and a lower level of sadness and anxiety. Examples of these coping techniques include acceptance and emotional support. Higher levels of avoidance coping, such as self-blame and denial, on the other hand, were associated with higher levels of sadness and anxiety as well as lower levels of health-related quality of life (Nipp et al., 2016). According to PTG studies on various cancer kinds, approach coping techniques (such as positive reappraisal and acceptance) and religious coping also help cancer survivors forecast PTG (Shand et al., 2015; Casellas-Grau et al., 2017). The behavioral and cognitive efforts people make to cope with stressful events are referred to as psychological coping. In coping research, the definition of coping provided by Folkman and Lazarus (1980) is frequently used. They define coping as the cognitive and behavioral efforts used to manage, tolerate, or minimize pressures and demands from both the inside and the outside. The consequences of this definition are as follows. (a) Coping acts are distinguished by certain coping

process characteristics rather than by their impact as reality distorters. (b) The person's behavioral and cognitive responses are both a part of this process. (c) The bulk of the time, coping is composed of various single acts that are arranged sequentially to create coping episodes. In this way, coping is typically characterized by a multiplicity of action sequences and, as a result, a relationship between coping actions. (d) According to Lazarus and Folkman (1984), coping strategies are identified by the emphasis they place on different elements of a stressful situation. They can make an effort to alter the person's contextual reality that underlies unfavorable feelings or problem-focused coping with stress.

Various Coping Techniques

Given that numerous coping mechanisms have been discovered (Carver & Connor-Smith, 2010). However, there is disagreement over how to group these tactics into a more comprehensive design. Three different coping mechanisms have been categorized by Weiten (Weiten & Lloyd, 2006).

Focused on Appraisal

Appraisal-focused coping techniques are utilized when a person changes the way they think, for as by using denial or removing themselves from the issue. People can alter their aims and beliefs, for as by finding humor in a circumstance, to alter the way they think about a problem.

Techniques to Focus on the Problems

This is usually accomplished by gathering information about the situation and gaining new abilities to deal with it. Problem-focused coping attempts to modify or eliminate the sources of stress.

Focused On Emotions

This coping strategy involves diverting attention, letting go of repressed feelings, controlling uncomfortable emotions, meditating, or implementing structured relaxation techniques. Managing the emotions that go along with stress perception is the goal of emotion-focused coping (Brannon & Feist, 2009). All three types of coping mechanisms can be helpful, and people frequently combine all three. However, some claim that those who utilize problem-focused coping mechanisms will adjust to life more successfully (Taylor, 2006). Research on coping has also drawn comparisons between avoidant and active coping strategies. Avoidant coping strategies can lead people to engage in behaviors like drinking or mental states (like withdrawal) that prevent them from dealing

with stressful situations head-on. Active coping strategies, on the other hand, include any behavioral or psychological responses intended to change the nature of the stressor itself or how one thinks about it. Avoidant coping techniques appear to be a psychological risk factor for negative reactions to stressful life situations, while active coping strategies, whether behavioral or emotional, are generally regarded to be better ways to deal with stressful circumstances (Holahan & Moos, 1987).

The Study's Purpose

The physical and psychological effects of living with cancer have received the most attention in the literature on cancer survivorship. The majority of this field's study has been on the distress, depression, anxiety, and posttraumatic stress disorder symptoms that might result after a cancer diagnosis. Facilitating individual attempts to decrease the long-term negative effects of loss and trauma while also enhancing the long-term good effects of such events and experiences is a challenge for assisting professionals in the study. To do so, helping professionals need to better understand the nature of the post-traumatic Phase and its determinants. The present research will study the role of Coping in the experience of the Post-Traumatic Phase in cancer survivors.

The Study's Objectives

In addition to defining the study's purpose, the following research objectives have been developed:

1. To evaluate cancer survivors' post-traumatic phase and coping.
2. To research how cancer survivors' coping and the post-traumatic phase interact.
3. To examine how gender, marital status, place of residence, and kind of therapy affect the coping

and post-traumatic phases in cancer patients.es of the Study.

Area under Investigation (PIMS)

The Government of Punjab (GoP) envisioned the Punjab Institute of Medical Sciences (PIMS), Jalandhar, with a land size of more than 55 acres, as the first medical college and teaching hospital in the Doaba region, in 1999. The Public Private Partnership (PPP) model was used to conceptualize PIMS as a tertiary care teaching hospital by the PIMS Society, PIMS Medical and Education Charitable Society, Department of Medical Education & Research, and GOP (Wikipedia).

Patients who Participated

The current study's sample of 100 cancer patients was randomly chosen from the radiation oncology department at the Punjab Institute of Medical Sciences in Jalandhar. For the sample group, the following criteria were used for inclusion and exclusion:

Criteria for Inclusion

- A) Patients with a confirmed cancer diagnosis.
- B) At least six months had passed since the condition was diagnosed.
- C) Informed consent from patients

Criteria for Exclusion

- A) Patients who also have other medical or mental issues.
- B) Patients in serious condition.
- C) Patients whose diagnoses were unclear.
- D) Patient declines to take part in the experiment.

Exemplary Description

The following table includes a thorough description of the sample and its 100-person sample size.

Table 1: Displaying an Illustration

Demographics	N	Demographics	N
Gender	32	Surgery	17
Male	68	No surgery	83
Female			
Residential Status	69	Metastasis	97
Rural		Nonmetastatic	3
Urban	31		
Marital Status		Time since diagnosis	
Married	82	6 months	6
Unmarried	3	1-7 years	89
Widowed	15	8-13 years	5
Education		Therapy	
Illiterate	76	Chemotherapy	52
5th-9th	9	Radiotherapy	3
10th-12th	12	Both	38
Graduation	1	None	7

Post-graduation	2		
Family Type			
Joint	46		
Nuclear	54		

Tools that are used

The following list of tools was used for the research.

A questionnaire on demographic variables was created to collect data on gender, age, marital status, income, educational background, type of cancer, time since diagnosis, and other diagnosis-related information.

1. The PTGI-SF, or Post-traumatic Phase Inventory-Short Form, was developed by Cann, Calhoun, Tedeschi, Taku, Vishnevsky, Triplett, and Danhauer in 2010.

Ten items on this scale measure each of the five positive Phase aspects. The items are Appreciation of life (items, 1 & 2), New possibilities (items, 3 & 6), Personal strength (items, 7 & 9), Spiritual changes (items, 4 & 8), and Relating to others (items, 5 & 10). The response categories on the 6-point Likert scale range from 0 to 5. The higher ratings indicate a posttraumatic Phase that is more strongly felt. Relating to others (.82), New Possibilities (.59), Personal Strength (.93), Spiritual Changes (.79), and Life Filled with Appreciation (.52) are the areas in which the PTGI-SF Urdu version is most reliable in the current sample. The overall scale (.75) and the scale for reliability are also high.

COPE in brief (Carver, 1997)

28 items make up this scale, which is graded from 1 (I haven't been doing this at all) to 4 (I have been doing this a lot), on a 4-point Likert scale. There are fourteen sub-scales created from these things. Behavioral disengagement (Items 6 and 16), venting (Items 9 and 21), positive reframing (Items 12 and 17), planning (Items 14 and 25), humor (Items 18 and 28), acceptance (Items 20 and 24), religion (Items 22 and 27), and self-blame (Items 13 and 26). Increased use of each subscale's coping method is indicated by higher scores on that subscale. For the current sample, the reliability of the Brief Cope Urdu version is as follows: Self-distraction (.52), Active Coping (.65), Denial (.91), Substance Use (.91), Emotional Support is used (.56), Instrumental Support are used (.85), Behavioural Disengagement (.69), Venting (.59),

Positive Reframing (.77), Planning (.66), Humour (.08), Acceptance (.37), Religion (. The subscales of active coping, positive reframing, planning, acceptance, seeking emotional support, and seeking instrumental support were added to calculate approach coping. The subscales of denial, substance use, venting, behavioral disengagement, self-distraction, and self-blame were added to calculate avoidant coping. 2012 (Eisenberg, Shen, & Schwarz).

Methods(Procedure)

For permission to gather data, the researcher got in touch with the head of the oncology department at the Punjab Institute of Medical Sciences in Jalandhar. Following approval, the study's objective was explained to patients who met the inclusion criteria, and their verbal consent to participate in the trial was obtained. Each person received a questionnaire, and all required assistance was given to complete it. Both the OPD and IPD provided data, which was gathered. The confidentiality of their questionnaire responses was also guaranteed by the researcher. Data were gathered independently.

PTG AND SOCIO-DEMOGRAPHIC VARIABLES IN RELATION

The correlations between PTG and socio-demographic factors (gender, age, marital status, education level, income level, and ethnicity) have been the subject of several studies in psycho-oncology. In the majority of them (Dunn et al. 2011, Jaarsma et al. 2006, Shand et al. 2015, Tanyi et al. 2015, Zwahlen et al. 2010), women tended to report much higher PTG than men (see Table 4). Helgeson et al. (2006) demonstrated this connection outside of the oncology literature in a meta-analytic evaluation. The idea that females are more able or ready to express their sense of personal Phase is one of several explanations for this occurrence (Zwahlen et al. 2010). Another possibility is that women are more inclined than males to see an occurrence as threatening. As a result of such a perception, they may rewrite their schemata about the world and themselves in a substantially more extreme manner, which may increase their PTG (Vishnevsky et al., 2010).

RESULTS

The tables that follow reflect the findings.

Table 3: Patients' coping and PTG frequency dispersion

Levels						
Variables	Low		Average		High	
	f	%	F	%	f	%
Approaching coping	16	16	70	70	14	17
Avoidant coping	20	20	63	63	17	14
PTG	19	19	67	67	14	14

Table 4: PTG and Coping Pearson Correlations in Brief

Coping	Relating to New Possibilities	Personal Strength changes in life	Other	Spiritual Appreciation	Total PTG	
Approach. Coping	53*	22*		21*	22**	
Avoidant Coping	003.	11.		18 -.	06.	05. 09

*P ≤ 0.05; **P ≤ 0.01

While avoidant coping exhibited a negligible correlation with PTG (r =.09, p =.33), correlation values demonstrate a positive and significant

correlation between all of the categories and total PTG and adaptive coping (r =.45, p =.001).

Table 5: Analysis of multiple regression (ANOVA Summary)

	The sum of squares	Df	Mean square	F
Regression	3805.713	1	3805.713	26.138
Residual	14269.037	98	145.602	
Total	18074.750	99		

Predictor: (constant); approach coping; Dependent variable: PTG; R square = .21

Table 6: Summary of Predictor Variables from Regression Analysis

Model	Unstandardized Coefficients		Standardized coefficients	t
	B	Std. Error	Beta	
(Constant)	12.940	9.041 -		1.43 (p=.15)
Approach coping	1.312	257.	4 59	5.11 (p=.001)

Table 7: Coping and PTG variations according to patients' gender

Variable	demography	N	M	SD	DF	t-value
Coping	Male	32	127.37	13.25	98	1.30 ^{NS}
	Female	68	131.47	15.20		
PTG	Male	32	58.53	12.71	98	.11 ^{NS}
	Female	68	58.85	13.96		

NS= Not Significant

Table 8: Coping and PTG about Patients' Homes: Differences

Variable	Demographics	N	M	SD	DF	t-value
Coping	Rural	69	129.56	13.58	98	.60 ^{NS}
	Urban	31	131.48	16.99		
PTG	Rural	69	57.37	13.73	98	1.52 ^{NS}
	Urban	31	61.80	12.67		

NS= Not Significant

The data demonstrates that there are minimal differences in coping and PTG between rural and urban populations.

Table 9: Using a one-way ANOVA, we may compare how patients who are married, single, or widowed fare in Coping and PTG.

Variables		Sum of squares	df	Mean square	F	Sig
Coping	Between groups	1.88	2	841.87	4.16	.018
	Within groups	216.26	97	202.14		
	Total	218.15	99			
PTG	Between groups	22235.46	2	1117.73	6.84	.002
	Within groups	15839.46	97	163.29		
	Total	18074.75	99			

Table 10:[Displaying posthoc PTG and coping summary]

Variables	(i)marital status	(j)marital status	(i-j)	Sig
Coping	Married	Unmarried	2.97	.93
		Widowed	11.50*	.01
	Unmarried	Widowed	8.53	.61
PTG	Married	Unmarried	13.29	.18
		Widowed	12.09*	.003
	Unmarried	Widowed	1.2	.98

*P ≤ 0.05

Table 11: Comparison of Coping and PTG about therapy (chemotherapy, radiation, both, and none) using one-way ANOVA.

Variables	(i)marital status	Df	Mean square	F	Sig
Coping	Between groups	514.76	3	171.58	
	Within groups	20776.67	96	216.42	.79
	Total	21291.44	99		
PTG	Between groups	1133.47	3	377.82	
	Within groups	16941.27	96	176.47	2.14
	Total	18074.75	99		

NS= Not Significant

Although it appears from the prior tables that there aren't many differences between coping and PTG in terms of gender or place of residence, post hoc analysis using ANOVA has shown that there are differences between married and widowed individuals in both coping and PTG. It is also clear from Table 11 that there are no appreciable differences between cancer patients in terms of Coping and PTG about the treatment.

Analysis

This study looked at how coping can predict the posttraumatic Phase. Every PTGI domain and the overall PTGI score were correlated with the adoption of active-adaptive coping mechanisms. Avoidant coping, however, exhibited a negligible connection with PTG. Many earlier findings for cancer survivors (e.g., Sears, Sharon, Stanton, and Danoff-Burg, 2003; Urcuyo et al., 2005) were validated by the findings of the current study. Approach coping techniques were found to be associated with better adjustment, according to Holland and Holahan (2003). It is not surprising that adaptive coping mechanisms are connected to

the posttraumatic Phase given that they have long been linked to improved psychological outcomes (e.g., Kershaw, Northouse, Kritpracha, Schafenacker & Mood, 2004). The current study sample's high rate of active coping may be explained by the length of time from a cancer diagnosis. 2.6 years have passed on average since diagnosis. Regression analysis results revealed that only approach coping style may significantly predict PTG. Accordingly, Bakhshayesh and Dehghani (2014) came to the conclusion that problem- and emotion-focused techniques have, respectively, a negative and positive relationship with coping with medical difficulties and psychiatric disorders. They contend that problem-focused approaches are rational and can reduce or eliminate stressors, but emotion-focused approaches are only beneficial in the short term and have no long-term effects.

Practical Consequences

There are several crucial clinical implications of the current investigation. The data show that PTG can occur after cancer, and doctors should take this

into account while helping cancer patients. The results also show proof of the contribution of coping mechanisms to PTG and Clinicians should be knowledgeable about the various coping mechanisms and should inform patients about the distinctions between approach and avoidance coping. Clinicians caring for cancer patients should attempt to lessen discomfort and encourage adaptive coping techniques since they appear to be the most crucial factor in supporting PTG.

Limitations or Conditions

1. Because the study was cross-sectional, a causal link between coping and the posttraumatic Phase cannot be drawn. The associations between those factors might have a stronger explanatory value in longitudinal and/or experimental investigations.
2. Because the sample size for the current study was so small, it is important to proceed cautiously when extrapolating the results to the entire population.
3. Despite their objectivity and widespread replication, qualitative or mixed methodologies should be used to assess the individuals' subjective reports on how they see the Phase after trauma.

CONCLUSION

We concentrated on the relationships between the post-traumatic Phase and variables of socio-demographic, physiological, and psychological adjustment. Results from the review of forty-four publications showed that ethnicity, gender, and age were all consistently related to the posttraumatic Phase of cancer. The bulk of associations between illness-related variables and the experienced Phase and the subjective cancer severity was found to be favorable. The analysis showed erratic correlations between quality of life, emotional distress, and posttraumatic stress symptoms as indices of psychological adjustment in the context of cancer patients. The posttraumatic Phase offers benefits for later psychological adjustment, as previous research has already shown, and longitudinal studies may explain this contradiction.

REFERENCES

1. Bakhshayesh, A. R., & Dehghani, F. (2014). Surveying the relationship between personality type, coping styles, and general health. *Clinical Psychology & Personality*, 20(9), 43-52.
2. Bellizzi KM, Smith AW, Reeve BB, Alfano CM, Bernstein L, Meeske K, et al.: Posttraumatic Phase and health-related quality of life in a racially diverse cohort of breast

- cancer survivors. *J Health Psychol* 2009; 15:615-26
3. Brannon, L., & Feist, J. (2009). Personal coping strategies. *Health psychology: An Introduction to Behaviour and Health*, 121-123.
4. Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 68(6), 394-424.
5. Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishnevsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the Posttraumatic Phase Inventory. *Anxiety, Stress, & Coping*, 23(2), 127-137.
6. Casellas-Grau, A., Ochoa, C., and Ruini, C. (2017). Psychological and clinical correlates of posttraumatic Phase in cancer: a systematic and critical review. *Psychooncology* 26, 2007–2018. doi: 10.1002/pon.4426.
7. Carver, C. S. (1997). You want to measure coping but your protocol's long: Consider the brief cope. *International Journal of behavioral medicine*, 4(1), 92.
8. Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual Review of Psychology*, 61, 679-704.
9. Daisuke, H., and Ayumi, E. (2016). Characteristics of coping strategies and the relationships between coping strategies and stress reactions in physical therapy students during clinical practice. *J. Phys. Ther. Sci.* 28, 2867–2870. doi: 10.1589/jpts.28.2867
10. Dukes Holland, K., & Holahan, C. K. (2003). The relation of social support and coping to positive adaptation to breast cancer. *Psychology and health*, 18(1), 15-29.
11. Dunn J, Occhipinti S, Campbell A, Ferguson M, Chambers SK: Benefit finding after cancer. The role of optimism, intrusive thinking, and social environment. *J Health Psychol* 2011; 16:169-77.
12. Eisenberg, S. A., Shen, B. J., Schwarz, E. R., & Mallon, S. (2012). Avoidant coping moderates the association between anxiety and patient-rated physical functioning in heart failure patients. *Journal of behavioral medicine*, 35(3), 253- 261
13. Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behaviour*, 219-239.
14. Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping

- strategies. *Journal of Personality and Social Psychology*, 52(5), 946.
15. Jaarsma TA, Pool G, Sanderman R, Ranchor AV: Psychometric properties of the Dutch version of the Posttraumatic Phase Inventory among cancer patients. *Psycho-Oncol* 2006; 15:911-20
 16. Kershaw, T., Northouse, L., Kritpracha, C., Schafenacker, A., & Mood, D. (2004). Coping strategies and quality of life in women with advanced breast cancer and their family caregivers. *Psychology & Health*, 19(2), 139-155
 17. Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
 18. Lindstrom, C. M., Cann, A., Calhoun, L. G., & Tedeschi, R. G. (2013). The relationship of core belief challenge, rumination, disclosure, and sociocultural elements to the posttraumatic Phase. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(1), 50.
 19. Martin, L. L., & Kleiber, D. A. (2005). Letting go of the negative: Psychological Phase from a close brush with death. *Traumatology*, 11(4), 221-232.
 20. Nipp, R. D., El-Jawahri, A., Fishbein, J. N., Eusebio, J., Stagl, J. M., Gallagher, E. R., et al. (2016). The relationship between coping strategies, quality of life, and mood in patients with incurable cancer. *Cancer* 122, 2110–2116. doi 10.1002/cancer.30025
 21. Rajandram, R. K., Jenewein, J., McGrath, C., and Zwahlen, R. A. (2011). Coping processes relevant to posttraumatic Phase: an evidence-based review. *Support Care Cancer* 19, 583–589. doi 10.1007/s00520-011-1105-0.
 22. Sears, S. R., Stanton, A. L., & Danoff-Burg, S. (2003). The yellow brick road and the emerald city: benefit finding, positive reappraisal coping and posttraumatic Phase in Women with early-stage breast cancer. *Health Psychology*, 22(5), 487.
 23. Shand LK, Cowlshaw S, Brooker JE, Burney S, Ricciardelli LA: Correlates of post-traumatic stress symptoms and Phase in cancer patients: a systematic review and meta-analysis. *Psycho-Oncol* 2015; 24:624-34.
 24. Tanyi Zs, Szluha K, Nemes L, Kovács S, Bugán A: Positive consequences of cancer: Exploring relationships between posttraumatic Phase, adult attachment, and quality of life. *Tumori* 2015; 101:139-48
 25. Taylor, S. E. (2006). *Health Psychology*. Tata McGraw-Hill Education.
 26. Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Phase Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455- 471.
 27. Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic Phase: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1-18.
 28. Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic Phase: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1-18.
 29. Tomich, P. L., & Helgeson, V. S. (2004). Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology*, 23(1), 16.
 30. Urcuyo, K. R., Boyers, A. E., Carver, C. S., & Antoni, M. H. (2005). Finding benefit in breast cancer: Relations with personality, coping, and concurrent wellbeing. *Psychology & Health*, 20(2), 175-192.
 31. Vishnevsky T, Cann A, Calhoun LG, Tedeschi RG, Demakis GJ: Gender differences in self-reported posttraumatic Phase: A meta-analysis. *Psychol Women Quart* 2010; 34:110-20.
 32. Weiten, W., & Lloyd, M. A. (2006). *Psychology applied to modern life: Adjustment in the 21st Century*. Canada: Thomson Learning.
 33. Zwahlen D, Hagenbuch N, Carley MI, Jenewein J, Buchi S: Posttraumatic Phase in cancer patients and partner - effects of role, gender and the dyad on couples' posttraumatic Phase experience. *Psycho-Oncol* 2010; 19:12-20
 34. https://en.wikipedia.org/wiki/Punjab_Institute_of_Medical_Sciences