(RESEARCH ARTICLE)

Role of family communication and satisfaction on post-traumatic growth in women with cancer

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Abstract

Background- Recent studies have shown that traumatic events can also lead to positive changes termed post-traumatic growth (PTG). Cancer is one of the most traumatic illnesses and has a higher incidence rate in women who face numerous challenges in all spheres. Family plays an important role in cancer treatment. The patient's family can have a positive impact on the patient's emotional adaptation to cancer, or they can impede it by reinforcing the denial of the cancer diagnosis. Exploring the role of family dynamics in post-traumatic growth becomes essential.

Aims and Objectives- This study focuses on family communication and satisfaction in PTG among women with cancer.

Methods and materials- The study was cross-sectional in nature. A sample of 50 women with cancer were selected from a government hospital in Odisha using purposive sampling. Then they were assessed using the FACES-IV Scale, and PTGI-X scale. Correlation and regression analysis were used to interpret the results.

Results- Results indicated a significant positive relationship between family communication and PTG (r=.773, P<0.01), as well as family satisfaction and PTG (r=.811, P<0.01). Further, results indicate a substantial relationship between the two predictor variables and PTG (R square= .722, P<0.01); family satisfaction is a better predictor of PTG (β=.528).

Conclusion- The study findings indicate that family communication and satisfaction are positive predictors of PTG, with family satisfaction being a better predictor of PTG.

Keywords: Family communication; Family satisfaction; Post-traumatic Growth; Cancer

1. Introduction

Cancer significantly affects individuals, families, and societies globally and is a major public health issue in India. Studies indicate a rise in the cancer burden in India, with Disability-Adjusted Life Years (DALYs) expected to increase from 26.7 million in 2021 to 29.8 million by 2025[1]. The disease exhibits a gender disparity in India, affecting more women than men, affecting approximately 7.2 lakh women compared to 6.9 lakh men (IARC Report).

Women diagnosed with cancer in India face numerous challenges beyond physical health. Psychologically, they often experience anxiety, depression, and fear of stigma, affecting their mental well-being. "Walking the illness journey with a loved one can contribute to many reactions, including feelings of loss of control, disrupted family organization, and altered relationships"[2]. Thus, necessitating comprehensive support addressing not just the medical but also the emotional, relational, and professional needs of women battling cancer.

A substantial amount of research indicates that traumatic events can lead to not only distress but also positive personal transformations. These positive life changes have been observed in individuals dealing with a diverse array of traumas. Specifically, the experience of being diagnosed with and treated for cancer, while highly stressful both psychologically and physically, has been shown to lay the groundwork for what is termed posttraumatic growth (PTG)[3], which is referred to a positive psychological change experienced as a result of the struggle with highly challenging life circumstances. This change often involves significantly improved interpersonal relationships, a greater appreciation for life, increased personal strength, and a more profound spiritual development [4] [5].

While research indicates that some individuals experience growth after trauma, it is important to note that not everyone does. Research in the field of trauma and stress has found various factors including age, gender, the nature of the traumatic event, personality characteristics, coping mechanisms, and the level of social support can influence the likelihood and extent of PTG.

Research has indicated that social characteristics like having a family or being married did not explain variations in the recovery from trauma on their own. Instead, variables like communication and family relationship satisfaction are involved in PTG in breast cancer patients [6].

The pivotal role of family communication in promoting PTG has been documented in recent literature. As defined by Koerner and Fitzpatrick in 2002, "family communications are the ways how a family interacts". Open and empathetic family communication is identified as a key facilitator of PTG, as it allows women to express vulnerability and share their traumatic experiences openly, crucial for psychological adaptation and growth following a cancer diagnosis. This form of communication supports emotional regulation, aiding individuals in navigating their emotional responses to cancer effectively[7] [6] [8].

Family satisfaction significantly influences PTG, leading to increased personal strength, greater appreciation of life, and deeper life meanings and values. It helps maintain a positive family atmosphere, crucial for facilitating collective resilience and supporting the patient's psychological well-being[9].

Recent empirical research has revealed the bidirectional nature of family communication and satisfaction, showing that effective communication not only leads to increased family satisfaction but also significantly contributes to PTG[10]. Effective communication within the family enhances emotional understanding and support, which are critical during the stressful periods associated with a cancer diagnosis. This supportive dynamic fosters a stronger, more positive family environment, enhancing PTG outcomes by facilitating better coping mechanisms and psychological resilience [11].

Cancer is a disease that significantly involves the family, and in Indian families, they play a crucial part in cancer care. They are commonly engaged in making decisions about the patient's treatment, and a family member may choose whether to inform the patient about the diagnosis and prognosis of the disease. The patient's family can have a positive impact on the patient's emotional adaptation to cancer, or they can impede it by reinforcing denial of the cancer diagnosis. Despite the crucial role that family plays, there is limited knowledge about the specific aspects, processes, and outcomes within the family system that can predict PTG, especially in the Indian context.

Aims and Objectives

The primary objective of this study is to investigate whether family dynamics and outcomes such as family communication and satisfaction play a significant role in predicting PTG in women with cancer. The study specifically aims to determine the contribution of these factors to PTG.

2. Material and methods

A cross-sectional research design was selected for this study, where female participants diagnosed with cancer were selected from a Government Hospital in the Cuttack district of Odisha using a purposive sampling method. The participants were then screened based on the inclusion and exclusion criteria. Upon meeting the inclusion criteria they were selected into the study, participants who refused to give consent were included in the exclusion criteria. Of the

189 participants who were screened for the study, 132 met the inclusion criteria. 82 participants did not give consent, following a total of 50 female participants were selected for the study.

Following this socio-demographic details were collected using the socio-demographic detail sheet and clinical characteristics were collected by the clinical characteristics sheet. They were then administered the FACES-IV questionnaire for assessing family communication and family satisfaction. Lastly, they were administered the PTGI-X scale to assess their post-traumatic growth. The analysis of data was conducted using the SPSS program (Version 250). The study was approved by the Institutional Ethical Committee.

Inclusion criteria

- Female gender
- Belonging to the age group of 30-50 years
- Having stage I, II, or III of any cancer
- Able to read, write, and understand English, and have an educational qualification of at least 12th standard.

Exclusion criteria

Patients having a history of

- Significant trauma
- Psychiatric illness,
- Neuro-cognitive impairment
- Not willing to give informed consent

2.1. Tools used

A Semi-structured form was used to collect the individuals' Socio-demographic details and Clinical characteristic details.

FACES-IV: Developed by Olsen et. al., in 2007, a self-reported questionnaire was used to assess the family communication and satisfaction domains. The scale consists of 62 items out of which 20 items assess both family communication and satisfaction. All items are presented on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of FACES IV, as measured by Cronbach's coefficients is medium to high, 0.84 for cohesion, 0.73 for flexibility, 0.92 for communication, and 0.93 for satisfaction[12].

Post-Traumatic Growth Inventory- Expanded (PTGI-X): Developed by Tedeschi and Calhoun in 2017[13], a 25-item self-reported questionnaire scored with a 6-point Likert-type 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 as a result of my crisis) was used to assess the post-traumatic growth of the individuals with cancer. After averaging all the responses the average score was found to be 40. The scores lying below the cut-off point were considered to be below average, whereas those lying above 40 were considered to be having above-average post-traumatic growth.

2.2. Statistical Analysis

The data was analyzed using SPSS Statistic 25.0. Descriptive statistics were performed to explain the sociodemographic details and clinical characteristics. The normality of the data was examined by the Shapiro-Wilks test. Spearman Correlation was used to find the correlation between family communication, and family satisfaction with PTG. Regression was used to examine which of the independent variables predicted PTG.

2.3. Ethical consideration

Approval for the research was secured from the Institutional Ethics Committee. Before requesting an individual's consent to participate in research, the investigator provided the individual with the information in the language she was able to understand, which was not only scientifically accurate but also sensitive and adaptive to their social and cultural context. Written informed consent was obtained after explaining the purpose, aim, and objectives of the study. All participant-related information was kept on a digital device with password protection and was only used for report writing or publication in scientific journals.

3. Results

Table 1 Socio-demographic details

		Count	N %
Age in years	30-40	23	46.0%
	40-50	27	54.0%
Religion	Hindu	47	94.0%
	Muslim	3	6.0%
Education	12th	25	50.0%
	Graduation	22	44.0%
	Masters	3	6.0%
Socio-economic status	Low	18	36.0%
	Middle	32	64.0%
	High	0	0.0%
Occupation	Housewife	36	72.0%
	Teacher	10	20.0%
	Lawyer	1	2.0%
	Nursing Officer	2	4.0%
	Engineer	1	2.0%
Marital status	Married	46	92.0%
	Unmarried	3	6.0%
	Widow	1	2.0%

The above table shows that in terms of age 23 people belonged to the age group of 30-40 years old, and 27 participants belonged to the age group of 40-50 years. The entire sample was dominated by Hindu participants with them accounting for 94 % (n=47), and 6 % of participants were Muslims (n=3). 50% of the population (n=25) had an educational qualification of 12th, 22 people had the educational qualification of graduation, and only 3 had the educational qualification of postgraduation. In terms of socioeconomic status, 18 people belonged to the lower socioeconomic status, whereas 32 belonged to the middle socioeconomic status. In terms of occupation, it was observed that 72 % of the population were housewives (n=36), 20 were teachers (n=10), 2% were lawyers (n=1), 39% were nursing officers (n=2) and 2 % were engineers (n=1). In the sample 92% were married women (n=46), 6% constituted unmarried women (n=3) and 2 % constituted women who were widowed (n=1).

Table 2 Clinical characteristics

		Count	N%
Type of Cancer	Breast	28	56.0%
	Ovary	22	44.0%
Stage of Cancer	2	34	68.0%
	3	16	32.0%
Duration since the diagnosis (in years)	less than 6 months	21	42.0%
	more than 6months	29	58.0%

In terms of clinical characteristics, it was observed that out of the total sample, 56% (n=28) had breast cancer whereas 44 % (n=22) had ovarian cancer. In terms of stage of cancer, 68% (n=34) belonged to stage II and 32% (n=16) belonged to stage III. Out of 50 participants, 42% (n=21) received their diagnosis wherein their duration of receiving their diagnosis was less than 6 months, whereas 58% (n=29) belonged to the criteria of having received their diagnosis for more than 6 months.

Table 3 Normality of the data found using Shapiro-Wilks test

	Statistic	Df	Sig.
Family Communication	0.91	50	0.001
Family Satisfaction	0.89	50	0.000
Post-traumatic growth	0.91	50	0.001

The Shapiro-Wilks test was used to check the normality of the data. It shows that all three variables had a significance level of <0.05 indicating that the data is not normally distributed.

Table 4 Correlation between lower Family Communication and scores of PTG

			Lower Family communication	Below Average PTG
Spearman's rho	Lower Family communication	Correlation Coefficient	1.000	.555**
		Sig. (2-tailed)	.	0.003
		N	26	26
	Below Average PTG	Correlation Coefficient	.555**	1.000
		Sig. (2-tailed)	0.003	.
		N	26	26

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient value of .55, indicates there is positive association between lower family communication and below average PTG, i.e., a decrease in family communication associates with below average PTG

Table 5 Correlation between Lower Family Satisfaction and Scores of PTG

			Below Average PTG	Lower Family Satisfaction
Spearman's rho	Below Average PTG	Correlation Coefficient	1.000	.720**
		Sig. (2-tailed)	.	0.001
		N	26	26
	Lower Family Satisfaction	Correlation Coefficient	.720**	1.000
		Sig. (2-tailed)	0.001	.
		N	26	26

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient value of .720 indicates a positive relationship between lower family satisfaction and below-average PTG. A decrease in family satisfaction is associated with decrease in PTG.

Table 6 Correlation between higher Family Communication and scores of PTG

			Higher Family communication	Above Average PTG
Spearman's rho	Higher Family communication	Correlation Coefficient	1.000	.361
		Sig. (2-tailed)	.	.083
		N	24	24
	Above Average PTG	Correlation Coefficient	.361	1.000
		Sig. (2-tailed)	.083	.
		N	24	24

The correlation coefficient of .361 indicates a positive correlation between higher family communication and above-average PTG. An increase in family communication is associated with an increase in PTG. However, the p-value for the correlation is 0.083, which is above the standard significance threshold of 0.05. This indicates that the correlation is not statistically significant at the 95% confidence level, meaning the observed relationship could be due to chance.

Table 7 Correlation between higher Family Satisfaction and scores of PTG

			Higher Family Satisfaction	Above Average PTG
Spearman's rho	Higher Family Satisfaction	Correlation Coefficient	1.000	.554**
		Sig. (2-tailed)	.	0.005
		N	24	24
	Above Average PTG	Correlation Coefficient	.554**	1.000
		Sig. (2-tailed)	0.005	.
		N	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient of .554 indicates a positive correlation between higher family satisfaction and above-average PTG. An increase in family satisfaction is associated with an increase in PTG.

Table below from 8a to 8c shows the regression analysis between Family communication, Family satisfaction, and PTG.

Table 8a Correlation between Family Communication, Family Satisfaction and PTG

		Post-Traumatic Growth
Spearman's rho	Post-Traumatic Growth	1.000
	Family Communication	.773
	Family Satisfaction	.811
Sig. (1-tailed)	Post-Traumatic Growth	.
	Family Communication	<0.01
	Family Satisfaction	<0.01
N	Post-Traumatic Growth	50
	Family Communication	50
	Family Satisfaction	50

The correlation table shows that there is a positive correlation (r=.773) between family communication and PTG. Further, a positive correlation also exists between (r = .811) between family satisfaction and PTG.

Table 8b Regression table of both predictor variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Significant F Change
1	.850a	.722	.711	15.656	<0.01

The R-squared value is .722, which indicates that 72% of the variance in the PTG is explained by family communication and family satisfaction.

Table 8c Regression table comparing the contribution of both the predictor variables on PTG.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-69.164	10.890		-6.351	0.00
	Family Communication	1.190	.359	.381	3.316	<0.01
	Family Satisfaction	1.964	.427	.528	4.602	<0.01

In the above table both the independent variables, family communication and family satisfaction have a significance level of <0.01 indicating both a significant relationship with PTG. The Beta value for family communication indicates that .381 variance in PTG is explained by family communication, whereas .528 variance in PTG is explained by family satisfaction.

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4. Discussion

The findings of the current study show that there exists a significant positive relationship between family communication and posttraumatic growth. The moderate correlation coefficient shows a good positive relationship, while regression analysis shows that the predictor (family communication) contributes meaningfully to the model. This is in line with previous studies, which state that bereaved mothers tend to experience the most post-traumatic growth which is often influenced by reconstruction and effective communication with supportive partners. Essentially, the reconstruction process and supportive communication from partners play a crucial role in moderating this association[14]. According to research, communication is a powerful predictor of PTG[15]. Supportive communication with a partner can moderate the relationship between interpersonal relationships and psychological growth.

Upon analysis of family satisfaction and post-traumatic growth, it was found that family satisfaction has a significant positive impact on post-traumatic growth. With .528 of the variance in posttraumatic growth explained by family satisfaction alone, this predictor is a powerful factor in the model.

Given this robust relationship, interventions aimed at enhancing family satisfaction might be beneficial for fostering posttraumatic growth in individuals. These findings underscore the importance of family satisfaction in psychological recovery and growth following trauma. On one hand, the findings of the study contradict some previous research that found that even though family satisfaction plays a role in post-traumatic growth, it has to be mediated by family communication in order to achieve post-traumatic growth[10]. It has been suggested by previous research that an individual's potential to successfully handle distress may be hindered by satisfaction within their family. This is because the person may find comfort in their perceived subjective well-being within the family rather than actively engaging their own resources to cope with the situation. Several studies have supported this idea[16][17][4].

On the other hand, this finding seems to be supported by some studies that state that family satisfaction predicts life satisfaction after traumatic brain injury[18]. The findings could be explained as, strong family support and cohesion can provide a sense of stability and security, which is essential for individuals to cope with post-traumatic stress. When family members are satisfied, supportive, and empathetic, individuals are more likely to experience positive changes in their perspectives and personal growth following a traumatic event. Additionally, a satisfying family environment can promote open communication and the sharing of experiences. This allows individuals to process their emotions and thoughts, which is crucial for the development of post-traumatic growth

By doing the analysis of both family communication and satisfaction on post-traumatic growth among women with cancer, the findings suggest that there exists a significant relationship, as these family dynamics improve, posttraumatic growth tends to increase. This model expands upon earlier models by including an additional predictor, family communication, alongside family satisfaction.

The strong and significant results suggest that both family satisfaction and communication are important predictors of posttraumatic growth. These findings are in line with the previous studies. Research has shown that positive family dynamics, such as good communication, support, satisfaction, and cohesion, can lead to post-traumatic growth[19]. Additionally, providing support to patients can function as a distraction and increase their levels of self-esteem and independence, which is positively related to their overall well-being[20][21]. A study supports the idea that positive family dynamics can lead to a positive stress mindset, which in turn can result in post-traumatic growth[22].

The study highlights the crucial role of family dynamics, specifically communication and satisfaction, in promoting post-traumatic growth in the face of trauma. Cancer is one of the most traumatic life events that a person can experience, especially for women, as its debilitating effects can often lead to depression, anxiety, PTSD, and other psychological complications. However, by addressing the family dynamics of each individual, can help foster a positive change or growth, thereby promoting holistic treatment of the individual. Enhancements in these areas could lead to higher levels of posttraumatic growth. The positive correlation indicates that improvements in these family dynamics could be beneficial for individuals experiencing posttraumatic growth.

Limitations and future direction

The study involved a sample of women who had at least higher education, so it cannot be generalized to women from lower educational backgrounds. In addition, the study had a small sample size, which needs to be taken into account while interpreting the results. The sample was selected using non-probability sampling and without any randomization, so randomized controlled trials need to be conducted to assess the role that positive family dynamics play in post-traumatic growth among women with cancer.

Future studies will be conducted by using a randomized controlled trial, a comparison group, and exploring the role the socio-demographic details play in mediating PTG to make the study findings more robust and generalizable.

5. Conclusion

The study investigated the influence of family communication and satisfaction on post-traumatic growth (PTG) among women with cancer. The results demonstrated significant positive correlations between these family dynamics and PTG. Specifically, family communication alone accounted for approximately 38% of the variance in PTG, whereas family satisfaction explained about 52%. When both factors were considered together, they explained 71% of the variance in PTG, underscoring the combined importance of these elements in facilitating psychological recovery and growth following a cancer diagnosis. The findings suggest that interventions aimed at improving family communication and enhancing family satisfaction can significantly contribute to the post-traumatic growth of women with cancer. These interventions should be integrated into comprehensive cancer care programs to support not only the patients but also the family unit, optimizing therapeutic outcomes and promoting resilience and growth amidst the challenges posed by cancer.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of ethical approval

Approval for the research was secured from the Institutional Ethics Committee.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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