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**Perceived Everyday Discrimination, Social Support, and Post-Traumatic Growth of
Breast Cancer Survivors**

1. **Qurat ul Ain Javed**
2. **Dr Afsheen Gul**

MS Clinical Psychology, Kinnaird College for Women Lahore
Department of Applied Psychology Kinnaird College for Women Lahore



Abstract

Objective: Different studies highlighted the stressful impact on breast cancer survivors while functioning in everyday life. The purpose of the current research is to explore the relationship of everyday discrimination, and post traumatic growth among breast cancer survivors from perspective of social support. The study supports exploring everyday discrimination associated with the individual's social support, and become the cause of Post-traumatic growth among individuals suffered with breast cancer in their life. Methodology: The current study has been conducted with patients who survived Breast cancer (N=80) from Lahore, Pakistan. Different Psychological instrument has been used to access the perceived everyday discrimination aspect, social support, and post-traumatic growth among individuals who survived breast cancer. Results: The results of the research indicated that a negative association is found between social support and its subscales such as family and friends among breast cancer survivors. The social support becomes the cause of post-traumatic growth and has positive association with the current study participants. Furthermore, it has been indicated in the current study that social support is a predictor of the development of post-traumatic growth in the perspective of associated features such as; a form of possibilities, personal strength, and appreciation of life among breast cancer survivors.

Keywords: Cancer, Support System, Psychological Problem, Physical Association, Discrimination, Survivors

Introduction

The prevalence of Breast cancer (BC) is to be ranked among one of the growing cancer type and it is indicated that with an estimation of 1.97 million cases has been reported in the last few years and breast cancer is the significantly prevailing among women (Waks & Winner., 2019). Different studies highlighted that according to the surveys, approximately 508,000 females died in 2011 as a result of breast cancer across the world (Britt et al., 2020). Due to high prevalence of breast cancer across the world, the burden of the disease has been indicated among the top three types of cancer with the greatest impact of approximately \$98 billion (Nahvijou et al., 2022). Research indicated that in low and middle income countries the chance of survival of breast cancer patients is very low which is estimated around 40%, compared to High-Income Countries (HICs) (Han et al., 2019). Due to the high prevalence of death, different psychiatric disorders such as Depression and stress have been expected to be the highest cause of disability among breast cancer survivors by the year 2020 (Atanasijvic & Sentocnik., 2020)

Research has proven that there are different mental health problems and physical problems that have been associated the co-morbidity with breast cancer and re-occurrence chances among the survivors such as; diabetes, heart failure, trauma, and hepatitis (Carmassi et al., 2020; Zhu., 2019). Studies highlighted that approximately 52% of the individuals who survived breast cancer had a chance to develop any mental health-related problems and the main reason is considered to be less family and social support (Webster et al., 2021). Furthermore, worldwide breast cancer has been diagnosing a treatment associated with high stress that had effects after survival as well. Post Traumatic Growth has been reported in the survivors of cancer spousal bereavement and natural disaster. Cancer is a traumatic event which not only affects physical but psychological well-being and it takes long duration to get out of it even after the successful therapy and being a survivor it becomes challenge to live a life with positivity and forget about what happened hence, PTG is reported in

advance cancer survivor's relationships with their families, spouses and surroundings and enhanced appreciations of life. (Cianconi, Betro & Janiri., 2020).

A study has been conducted on low-income, ethnic minority women with breast cancer indicated that approximately 45% of the females (Mansoor et al., 2020) have a stress-related disorders with other problems after the survival of breast cancer (Ahmed et al., 2021). Another study reported that about 26% of the females the survived breast cancer were experiencing depressive symptoms as well as post-traumatic stress disorder that affects their daily functioning and adaptive skills (Oliveri et al., 2019). In Pakistan, every ninth female or girl has an equal chance of developing breast cancer, and in Asia it is found to be the highest rate (Mubarik et al., 2020). It is estimated that 50/ per 100,00 individuals have chance of getting breast cancer in Pakistan (Hussain et al., 2019). A study indicated that in Pakistan females with breast cancer experienced emotional chaos in the form of distress, fear and apprehensions, feelings of isolation, and concern about the financial burden of the treatment that has a long-lasting effect on their life (Saeed et al., 2021). In Pakistan low socioeconomic issues, lack of basic facilities and social problems are exaggerating the problem of breast cancer in the country (Islam et al., 2021; Agha et al., 2019). Despite of high association of distress with breast cancer, there has been limited data on the prevalence and social support not only in Pakistan but also in developing countries as well (Bibi & Khalid., 2020).

Aim of the Study: Thus, the current study aims to explore the effect of everyday discrimination, individuals faced after survival of breast cancer from the perspective of social support. The study supports exploring everyday discrimination, Post-traumatic growth, and societal support of breast cancer patient survivors in Lahore, Pakistan.

Hypotheses

- There is a significant relationship between perceived discrimination, and post-traumatic growth and support system among survivors from breast cancer.
- Perceived discrimination and their support system are predictors of post-traumatic growth among survivors of breast cancer.

Methodology

The correlational research design has been conducted in the recent research to find out discrimination faced on daily basis, support system and the growth of post traumatic event after their survival from the breast cancer.

Settings: The sample was selected through purposive sampling technique from two hospitals in Lahore including Jinnah Hospital and Mayo Hospital. A total of (N=80) patients were recruited who fulfilled the criteria of the current study.

Selection criteria: The following criteria have been followed for recruiting the participants in the current study;

- The females aged 35 or above included in the study
- The participants who survived either the first or second stages of breast cancer included.
- The females who were on the follow-up of their medical treatment.
- The participants who survived at least 6 months after the treatment.
- Any kind of psychological or physical disorder other than breast cancer has been excluded

Psychological Assessments:

The following instruments have been used to measure the variables these are;

- **Demographic and information questionnaire**

The demographic information questionnaire consisted of age, marital status, duration of treatment ended, and gender was designed for the detailed information of the participant.

- **Perceived Everyday Discrimination Scale (Williams, Jackson, & Anderson,1997)**

The scale has been developed by Williams, Jackson, & Anderson (1997). The instrument has been translated into Urdu which has been already used in another research study (Sadiq and Bashir, 2014). The scale is based on 9 items and it assesses how often people are treated badly or unfairly by others based on gender, race, religion, ethnicity age, physiognomy, sexual orientation, and other social factors the discrimination is assessed in different social settings including schools, workplace, and neighborhood. The Likert scale assessed in the four levels of severity started from often to never. The alpha reliability coefficient of the scale was 0.87.

- **Multidimensional Scale for Perceived Social Support (MSPSS) (Zimet et al., 1998)**
 MSPSS is the multidimensional process used to assess the level of support system among individuals who survived cancer. The psychological instrument has been used to assess the severity of the problem while using the Likert scale value divided into seven points mentioning the different levels such as agree, disagree. The MPSS scale used to access the support system from the social circle such as friends and close members etc. The reliability of the scale was reported 0.85 to 0.91 and the test-retest method that was 0.72 to 0.85.

- **Post-traumatic growth inventory (PTGI) (Tedeschi & Calhoun., 1995)**
 The assessment tool measured the growth of the individuals about the element that survived from cancer of breast. The inventory included multiple factors such as their growth system, the level of change and their motivation level and relation to the others as well. Optimism and Extraversion are the major factors of Post Traumatic Growth Inventory. The scale is considered to an effective tool to determine the individual’s abilities to reconstruct or re-strengthen his/her perception of self, others and what their perception of event is and how one cope up with the aftermath of trauma. The scale has good internal consistency ($\alpha = 0.91$) and its subscales, ranging from $\alpha = 0.74$ to $\alpha = 0.86$. The Likert assessment tool has been used that measures from the different assessment level such as from 0 to 5 according to the severity about the symptoms.

Procedure and Ethical Considerations

The study protocol has been developed under the supervision and presented to the Ethical Board of Kinnaird College for Women, Lahore Pakistan. After getting permission from the ethical board of the university, the demographic sheet has been developed with the informed consent and informational leaflet that would be necessary for the recruitment of the participants. The next step was to get permission from the authors of the instruments so an email has been sent to the primary authors for getting permission while mentioning the name, and purpose of the study. After getting permission from the primary authors, the permission request has been sent to those authors who adapted in Urdu for using the Urdu-translated version of the scale in the current study.

Furthermore, a requesting permission letter explaining the nature of the research was sought from Kinnaird College for Women, Lahore, Pakistan, and was presented by the authorities of hospitals. After getting permission from the authorities of hospitals, the researcher first selected participants through purposive sampling from the OPD of the two hospitals on the basis of inclusion and exclusion criteria. The information leaflet has been provided to the participants and their caregivers before getting the informed consent. Confidentiality and anonymity were assured to participants at every stage of the study and about their rights that they have the right to withdraw from the study at any time.

After getting permission and informed consent the instruments have been administered to the willing participants. Approximately 45 minutes have been taken to complete the questionnaire. The collected data were entered into the SPSS for further results and analysis.

Results

The quantitative data analysis reveals the current study variables

Table 1.1

Demographics characteristic Breast cancer survivors (N = 80)

Variables	M (SD)	f (%)
Age	1.687 (.466)	---
Participant’s Status	---	57 (71)
Married	---	23 (28.8)
Single		
Survival Stages		
Stage 1	---	40 (50)
Stage 2	---	40 (50)

Table 1.2

The table shows the elements measured in the study (N= 80)

Variables	K	M	SD	A	Range		Skewness	Kurtosis
					Potential	Actual		
1. Everyday Discrimination	9	18.7	5.6	.718	1-5	1-6	.126	-.440

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2.MPSS Social	4	15.2	3.57	.733	1-6	1-7	-.077	-.407
3.MPSS Family	4	18.02	4.65	.680	1-6.5	1-7	-.076	-.620
4.MPSS Friends	4	9.78	5.22	.737	1.5-5	1-7	.266	-1.149
5. Relating to Others	7	23.0	6.37	.772	0.7-5	0-5	4.83	35.8
6. New Possibilities	5	14.66	3.58	.759	0-4.5	0-5	.717	3.83
7. Personal Strength	4	12.40	2.27	.736	0-5	0-5	-.353	-.206
8. Spiritual Change	2	4.45	1.46	.707	0-4	0-5	.024	-.746
9. Appreciation of life	3	9.25	1.39	.702	0-4	0-5	.124	-.832

Note: N=152, k= number of items, a=Cronbach alpha, M=Mean, SD= Standard Deviation

The table shows that Post-Traumatic Growth (PTG) subscale naming Relating to others and new possibilities has the highest reliability. Everyday discrimination scales have good reliability. The Multidimensional social support scale (MPSS) subscales named MPSS (Social) and MPSS (Friends) show fair reliability.

Table 1.3

Correlation between Everyday discrimination, Multidimensional social support, and Post-traumatic growth among breast cancer survivors (N= 80)

Variables	1	2	3	4	5	6	7	8	9
1. Everyday Discrimination	—	-.236*	-.096	-.037	-.008	-.110	-.049	-.059	-.005
2. MPSS Social	—	—	.804**	.336**	.077	.187*	.247*	.224*	.199
3. MPSS Family	—	—	—	.677**	.046	.218*	.401**	.241*	.285**
4. MPSS Friends	—	—	—	—	.063	.289**	.412**	.222**	.301**
5. Relating to Others	—	—	—	—	—	.337**	.393**	.194*	.334**
6. New Possibilities	—	—	—	—	—	—	.587**	.463**	.422**
7. Personal Strength	—	—	—	—	—	—	—	.452**	.630**
8. Spiritual Change	—	—	—	—	—	—	—	—	.396**
9. Appreciation of Life	—	—	—	—	—	—	—	—	—
M	18.7	15.2	18.02	9.7	23.0	14.6	12.4	4.45	9.25
SD	5.6	3.5	4.6	5.2	6.37	3.58	2.27	1.46	1.4

* p < .05; ** p < .01.

The results depict a negative correlation of everyday discrimination and multidimensional social support (MPSS) including all subscales naming MPSS (Social), MPSS (family) and MPSS (friends). Results indicated a negative relationship between everyday discrimination and post-traumatic growth (PTG) subscales naming the life possibilities, about the relation from others and the appreciation aspect in life, etc. A significant negative correlation was found between everyday discrimination and multidimensional subscale MPSS (social) and PTG subscale appreciation of life. Moreover, results show a strong negative association between everyday discrimination and PTG subscale naming new possibilities. With the decrease in social support, everyday discrimination increases whereas, an increase in everyday discrimination decreases the new aspects in their life and who they appreciate their life. The findings of the PTG scale also indicated a significant positive correlation between MPSS (social) and PTG subscales measuring the different aspects of life that become the cause of direct or indirect motivation. With the increase in social support, PTG subscales, new possibilities, personal strength, and appreciation of life increase.

Table 1.4
 The table shows the hierarchical PTG and its subscales items.

Predictors	Relating to others		New Possibilities		Personal Strength		Spiritual Change		Appreciation of life	
	ΔR^2	β	ΔR^2	B	ΔR^2	B	ΔR^2	B	ΔR^2	B
Block 1	.00		.01		.00		.00		.01	
Everyday discrimination		.025		.175		-.03		-.01		.03
Block 2	.01		.12**		.20*		.07		.10*	
MPSS(So)		.20		.33		-.10		.18		.78
MPSS(Fam)		-.20		-.29		.33		-.03		.74*
MPSS(Fri)		.13		.38*		.22		.18		.19
Total R²	.01		0.13**		.20*		.07		.11*	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Five separate multiple hierarchical regressions were run to find predictors of different dimensions of PTG. The independent error in the assumption was tested by Durban Watson Value which was in the possible range i.e. 1-3. So, this assumption was met. The assumption of no perfect multicollinearity was tested by VIF Value and the VIF Value of all the predictors was 1.00 this assumption was also met. When the predictors were checked for five subscales of PTG, subscale naming new possibilities had significant results so in the first model for new possibilities, an independent variable such as everyday discrimination was added, $R^2 = .01$ which explained 1% variance for new possibilities, and the model was insignificant ($F(1, 78) = .963, p = .32$). In model 2, the effect of independent variable i.e., a subscale of MPSS which are SO, FAM and FRI were added $R^2 = .12, (F(3, 75) = 2.765, p = .033)$. Model 2 remained significant when the effect of the control variable was excluded from it, $R^2 = .11, (F(3, 75) = 3.33, p = .02)$. As far as the individual contribution of each predictor is concerned for new possibilities, FRI was a significant predictor of PTG subscale new possibilities.

When the predictors were checked for five subscales of PTG, Personal strength had the significant results so in the first model for personal strength, an independent variable such as everyday discrimination was added, $R^2 = .02$ which explained 2% variance for personal strength, and the model was insignificant ($F(1, 78) = .186, p = .68$). In model 2, the effect of independent variable i.e., subscale ale of MPSS which are SO, FAM and FRI were added $R^2 = .02, (F(3, 75) = 4.68, p = .02)$. Model 2 remained significant when the effect of control the variable was excluded from it, $R^2 = .20, (F(3, 75) = 6.1, p = .02)$. Hence, MPSS was a significant predictor of PTG subscale personal strength. Table show shows her result indicated when the predictors were checked for five of the subscales of PTG, naming appreciation of life had the significant results so in the first model for appreciation of life, an independent variable such as everyday discrimination was added, $R^2 = .01$ which explained 1% variance for appreciation of life and the model was insignificant ($F(1, 78) = .002, p = .96$). In model 2, the effect of independent variable i.e., a subscale of MPSS which are SO, FAM and FRI were added $R^2 = .02, (F(3, 75) = 2.19, p = .78)$. Model 2 remained significant when the effect of control variable was excluded from it, $R^2 = .11 (F(3, 75) = 2.9, p = .03)$. As far as the individual contribution of each predictor is concerned for new possibilities, FAM was a significant predictor of PTG subscale appreciation of life.

Discussion

The purpose of the current study is to explore the relationship between perceived discrimination, social support, and post-traumatic growth (PTG) among breast cancer survivors in Lahore, Pakistan.

The results indicated that there is a significant correlation between perceived discrimination, social support, and PTG and it also revealed about the negative association among everyday discrimination and social support. Furthermore, different studies highlighted that there is discrimination that has been observed more in breast cancer survivors when it comes to the fact they have lack of support system from the environment (Lazard et al., 2021; Usman et al., 2020). A previous study that supports our results is that it was found that both the moderate and higher level of discrimination was associated with increased stress and psychological issues (Cheng., 2019) and social support is found to be helpful in lowering the effect of discrimination faced by survivors of breast cancer (Biancovili et al., 2022).

Although Perceived everyday discrimination lowers the morale and coping power of an individual to fight the problem hence, with the increase of everyday discrimination, post-traumatic growth of an individual is found to be lower hence, they both have a significant negative relationship whereas social support is an essential element to boost up the energy and morale of the individuals. Different studies highlighted that breast cancer survivors faced different discrimination on daily basis at early stages I and II more than that who were diagnosed with later stages and perceived discrimination is faced by even healthcare providers and health issues on the basis of skin color etc (Levin et al., 2021; Mansoor et al., 2020). These factors and associated social factors ultimately become the cause of lower down morale (Ward et al., 2020) and the coping capability of survivors, and hence, post-traumatic growth decreases among the patients (Kong et al., 2020).

The current study indicated that social support using multidimensional social support (MPSS) instrument has a significant positive correlation with post-traumatic growth in the survival of breast cancer. Although, it has been indicated in other studies that social support increases the post-traumatic of an individual. Social support could circle includes friend, family members, and close one (Feber et al., 2020). In research, it has been revealed that there is cognitive and emotional support from significant others can boost the post-traumatic growth of breast cancer survivors (Hennein et al., 2020). Social support from family help in boosting appreciation of life, making individual prepare for new possibilities coming their way, and showed significant relation with personal strength as well which also supported the current results of the study. In another study, the results showed significantly higher levels of post-traumatic growth specifically, personal strength and new possibilities in breast cancer survivors and this was linked with the higher level of support given to them by their family and friends (Thomson et al., 2022; Hennein et al., 2020).

Furthermore, perceived discrimination and social support have imp on the relationship of an individual with others, their strength, personal growth, religious beliefs, spiritual changings, and appreciation of one's own life, all the factors relating to PTG (Beighton et al., 2019). Hence, both are proven to be predictors of growth in the perspective of post-traumatic except for two subscale naming relating to others and spiritual change (Kalaitzaki et al., 2022). The findings of the current study indicated that social support is found to be a significant predictor of the post-traumatic growth of individuals. It was found in the current study where that social support from friends and significant others plays a significant role in lowering stress and hence, increases the PTG of breast cancer patients.

Thus, the purpose of the current research is to find out the relationship between perceived discrimination, support system from the environment, and the growth system among breast cancer survivors. There is always a relationship between daily discrimination and social support which then increases the PTG of breast cancer survivors. The findings of the research also revealed that there is a significant relationship between perceived discrimination, social support, and post-traumatic growth. Perceived discrimination has a negative impact on the PTG of breast cancer survivors whereas, social support from a social network such as environment and family decreases everyday discrimination.

Recommendations:

- Further studies would investigate a specific type of social support for boosting PTG and the effect of social support on PTG from several aspects with longitudinal studies.
- This study unfolds a potential mechanism exploring the linkage between perceived discrimination, social support, and PTG.

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