



The Impact of Resilience on Perceived Stress among Cancer Patients: The Mediating Role of Social Support

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ABSTRACT

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The present study aimed to investigate the impact of resilience on perceived stress and the mediating role of social support. It was conducted on cancer patients using a quantitative approach and a correlational research design. Participants (N = 100) were selected through convenient sampling from the cancer ward of Nishtar Hospital Multan, with prior permission from the hospital administration. Assessment involved administering a questionnaire comprising three scales: a Brief Resilience Scale, a Multidimensional Scale of Social Support, and a Perceived Stress Scale, along with a demographic sheet and informed consent. Data were organized and analyzed using SPSS and Amos. The results revealed a significant correlation among resilience, perceived stress, and social support. Resilience and social support exhibited a significant positive correlation, whereas perceived stress showed a negative correlation with resilience. Additionally, the study found a negative impact of resilience on perceived stress, partially mediated by social support. The study concluded that cancer patients face multiple physiological changes leading to perceived stress, and resilience and social support play crucial roles in coping with these challenges. The research underscores the importance of resilience and social support in mitigating additional perceived stress among cancer patients, suggesting interventions tailored to promote these resilience factors.

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1.0 Introduction

Cancer, with its unchecked cell proliferation and alarmingly high rates of reported mortality and diagnosed cases, is a major public health concern. According to forecasts, there will be over 28.4 million cancer cases worldwide by 2040. Worldwide, there were around 19.3 million new cancer diagnoses in 2020, with 18.1 million excluding non-melanoma skin cancer. Around 10.0 million people lost their lives to cancer that year. Cancers of the breast, lungs, stomach, liver, and colon have all shown increases of 2.26 million, 2.21 million, 1.089 million, 0.96 million, and 1.93 million cases, respectively. With an estimated 19 million new cases in 2020 alone, cancer is becoming more common in Pakistan. Major risk factors for cancer in this country include food contamination, gutkha consumption, paan chewing habits, and dietary deficiencies that interact with the development of cancerous conditions (Ali et al., 2022).

Research emphasizes the cultivation and practice of resilience, highlighting the significance of traits, environmental factors, and learned experiences in shaping one's resilience. Resilience is not just about bouncing back but also about remaining flexible in thoughts, feelings, and behaviours during tough times to emerge stronger and wiser. According to Sutton (2019), resilience is not just about recovering but also about personal growth and adaptation.

Resilience has been critical in terms of cancer patients' recovery during their treatment process. Other factors, such as financial resources, education level, length of treatment, and most importantly, the patient's resilience and specific stages of their cancer ailment, also play a significant role in this process. As a result, it depicts the vital role of resilience in cancer treatment and healing. In addition to this, some factors that affect the patient's resilience are income, education, and the longevity of treatment. However, the passage of time may lead to a reduction in resilience. Similarly, those who battle cancer and manage to stay resilient often report high levels of self-efficacy, emotional stability, and happiness. Resilient people can cope well with cancer therapy, which improves their quality of life. Critical components of cancer treatment that promote patient outcomes include identifying high-risk individuals, stabilising their health, and improving their resilience. Correspondingly, such patients can improve their resilience with the help of psychological support services that teach them self-awareness, problem-solving skills, and positive thinking (Festerling et al., 2023).

In order to improve mental health and treatment outcomes, resilience is crucial for cancer patients. It may offer protection against the harmful effects of stress by absorbing or minimising the shock of receiving a cancer diagnosis, the impact of adversity, and related life adjustments. After undergoing cancer treatment, those who are resilient tend to have a better quality of life because they employ adaptive coping mechanisms. Macía et al. (2020) illustrate that there is a high tendency for unpleasant emotions in cancer patients, but the high resilience level can mitigate the depression risks in those patients. People who are resilient often utilize strategies such as positive refocusing and positive appraisal, which are intriguingly associated with the application of adaptive coping mechanisms. Cancer patients are better able to deal with the difficulties they face during diagnosis and treatment thanks to these adaptive approaches. According to Maca et al. (2020), cancer patients who are resilient are less likely to develop depression and are better able to control the negative emotions brought on by the disease. Conversely, there is a significant correlation between excellent resilience and a reduction in emotional pain. Resilience is essential for maintaining mental health while receiving cancer treatment. Among cancer patients, Macía et al. (2020) found a positive relationship between several factors, including resilience, self-efficacy, sense of coherence, and overall life satisfaction. This demonstrates

the critical role of resilience in improving these individuals' overall quality of life. Resilience has a key role in determining the outcomes for emotional, physical, social, and spiritual well-being in the case of moving from active treatment to survivorship. To better adapt to treatment and predict how survivors' well-being will evolve over time, it is essential to view resilience as a process (Park et al., 2021).

An immense number of studies examine resilience as a trait and as a dynamic process in cancer survivorship. While resilience evaluated as a characteristic may not directly predict changes in mental or physical well-being, viewing resilience as a dynamic process shows substantial resilience in multiple aspects of well-being among survivors (Park et al., 2021).

However, the rigorous level of resilience as a dynamic process permits tailored interventions that promote healthier survival outcomes and enhance adaptation post-treatment. Support mechanisms that focus on spiritual well-being, social functioning, and transitions can improve survivors' overall quality of life and well-being by increasing resilience (Seiler & Jenewein, 2019).

Conversely, there is variation in perceived stress among individuals as they encounter stress at different points in time, including their emotions about their level of stress and their ability to come out of it. The emphasis is on individuals' subjective perceptions of their capability to handle stress rather than the specific types or occurrences of stressful situations they encounter (Health Assured Team, 2019).

Furthermore, studies have found that the well-being and quality of life of patients influence the level of stress. As a result, the high level of stress yields more psychological problems and lessens the quality of life (Mushtaque et al., 2024). Then, healthcare providers must evaluate patients' stated stress levels and identify those who are at risk of experiencing severe psychological distress. This aids in the personalization of treatments to meet the needs of individuals with varying degrees of stress (Jan et al., 2021). Therefore, it infers that stress has an effect on not only the mental health but also the coping strategies of individuals who may resort to ineffective coping mechanisms and suffer from despair if they feel overwhelmed. In such cases, healthcare providers help their cancer patients manage stress. Healthcare providers should study the association between quality of life, coping strategies, and feelings of dismay (Ravindran et al. 2019).

Objectives

Mainly there were two objectives of the study

- To examine the relationship between resilience social support and perceived stress.
- To investigate the impact of resilience on perceived stress and the mediating role of social support

2.0 Literature Review

Studies have indicated that cancer patients' resilience is crucial in mitigating the negative effects of stress. Higher resilience makes people more able to handle the difficulties of receiving a cancer diagnosis and treatment, which reduces perceived stress (Smith et al., 2018).

Over the past few decades, resilience has emerged as a significant factor in mental health theory and research (Walsh, 2003). Ahmed (2007) defines resilience as the capacity to maintain normal equilibrium in the face of extremely adverse circumstances. According to Bonanno (2004) and Seligman & Csikszentmihalyi (2000), resilience can also be defined as the capacity to thrive in the face of life's normal fluctuations.

There has been plenty of studies on this realm of resilience and the cancer patients, but Seiler and Jenewein (2019) conducting the study that carves out the importance of resilience in coping with the emotional and mental difficulties of a cancer diagnosis and treatment. This has become the multifaceted issue as its quite intricate to identify high risk patients, escalating their level of resilience and eliminating those factors that lessen their resilience. A study conducted by Ravindran et al. (2019) compared the coping strategies, perceived stress, hopelessness and, quality of life (QOL) within survivors and cancer patients. The findings revealed that cancer patients exhibited higher distress levels and reduced QOL compared to survivors. The study underscores the need to address psychological distress effectively in both patient groups to enhance their well-being during and after cancer treatment. (Javed et al. 2020)

Social support has been found to be an important moderator in the relationship between cancer patients' perceived stress and resilience. Research has indicated that social support from friends, family, medical professionals, and support organizations can assist cancer patients in managing their condition and lessening their sense of stress (Stanton et al., 2000).

Festerling et al. (2023) has put forward the underscoring the resilience levels of cancer patients at eleven German oncology centers. It concluded that various factors like education, income, time period, feelings of coherence and overall happiness and the resilience is related to the level of resilience. This study conceived that sorting out the patients with the high risks and helping them develop healthier coping mechanisms are two key components of improving cancer patients' quality of life as they undergo treatment. Jan et al. (2021) reported that cancer patients have been prone towards high risks of stress at various stages of their diagnosis and treatment. These mandatory psychological challenges are necessary to be solved at the initial, mid-level and the end level of diagnosis. It has been found that the level of stress is lowered in terms of medical treatment along with various psychological interventions, cognitive therapy and relaxing methods. Mazor et al. (2019) identified that those who have survived from cancer mostly experience stress, which can worsen their symptoms. Overall, the study purposely focuses to map out the impact of stress on the cancer patient survivors. However, this also reveals the association between the symptom load and the perceived stress of the cancer patients.

Another study on women's perceptions of global stress after breast cancer surgery was conducted by Golden-Kreutz et al. (2004). Through factor analysis, the results revealed that there was a two-factor solution to the participants' high levels of perceived stress. In order to comprehend how stress affects quality and psychological well-being of life in cancer patients, the study emphasizes the significance of measuring perceived stress (Hussain et al. 2021).

2.1 Rationale

There is lesser academic breath of the studies that underlined that association between the cultural factors, resilience and levels of stress encountered by the cancer patients. The study has significant impact on the cancer patients in Pakistan who can take advantage from personal treatment plans if researchers have a better grasp of the ways in which cultural norms, social support networks and attitudes have impact on the resilience. Various levels of studies reflect that healthcare inequities have been correlated with perceived stress, resilience, and cancer; hence it must be unveiled in the various studies. Similarly, there is need to conduct more research to comprehend the healthcare access, care and quality, treatment costs and the opportunities escalate the overall health and the patient support (Festerling et al., 2023). Somehow, the gap is persisting to understand the effective role of psychological assistance to heal the cancer survivors in context of Pakistan. Nevertheless, the mental health of cancer

patients can be better understood by soughing out the role of social support groups, mental health treatments and the counseling services.

2.2 Hypothesis

There were two main hypothesis of the study is given.

1. There will be significant positive correlation between resilience, social support and negative correlation with perceived stress.
2. There will be an impact of resilience on perceived stress and it will be mediated by social support

3.0 Methodology

The study is qualitative in nature and correlational research design was used to examining the relationship between variables. The variables of the study were Resilience, social support and perceived stress operationally defined by the scores on the Scale. The second variable is resilience and the third variable is perceived stress. Participants of this study were cancer patients. Sample participants N=100 was selected from Nishter Hospital Multan. Patients were identified as acceptable participants for this research because, they demonstrate a range of problem, stress and social support needs. participants consisted of males and females ranging from ages 18 to 60 years and from the different family systems. Three instruments were used to assess the three variables resilience, social support and perceived stress. A self-rating instrument, the Brief Resilience Scale (BRS) was developed by Smith (2008). survey pointed toward estimating a individual's capacity to "Bounce back from stress". Although it has not been used in clinical settings, it may provide important insights for health-related stress sufferers. (Smith et al., 2008). The Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al., (1988), This is a brief and short tool of research which is designed to asses' perceptions of support from 3 sources: Friends, Family and significant others. This scale is comprised of 12 items and it has 7 rating points. The Perceived Stress Scale (PSS) which is developed by Cohen et al. (1983). It is a tool which measure the level or degree to one's life situations appraised as stressful. All items of this tool are designed to tap that how uncontrollable, unpredictable and overloaded respondents feel their lives. This scale consisted of many queries about the experienced stress on current level. The data was collected through a questionnaire by using convenient sampling technique, a booklet consisted of three scales along with demographic sheet and inform consent was administered to the participants with prior permission of the hospital administration. Data was organized and analyzed by using SPSS and Amos.

4.0 Findings and Results

Table No. 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	100	1	2	1.52	.502
Family System	100	1	3	1.50	.541
Marital status	100	1	3	1.35	.539
Valid N	100				

Table 1 displays descriptive statistics for three key variables: Gender, Family System, and Marital Status. These numbers give a picture of the spread and mean of each variable across the sample of 100 participants. The data reveals a slight skew to the data for Gender with a mean of 1.52 and a standard deviation of 0.502. The hint is that the sample could be suffering from a little bit of imbalance as far as gender representation is concerned, but further analysis would have to be undertaken to explore this discrepancy. Moving to Family System, the mean of 1.50 suggests a relatively balanced distribution among the three categories (1: Nuclear, 2: Joint, 3: Extended), with some variability represented by the standard deviation of 0.541. In the same way, Marital Status has a mean of 1.35, which suggests that most participants are single or in another marital status, with a similar level of variability reflected by the standard deviation of 0.539.

Table No. 2 Pearson Correlation between Resilience, Perceived Stress and Social Support

	k	α	N	Resilience	Perceived Stress	Social Support
Resilience	12	.73	100	1	-.328**	.266**
Perceived Stress	10	.65	100		-	-.119
Social Support	12	.77	100			-.1

Correlation is significant at the 0.01 level (2-tailed). Resilience positively correlated with social support and resilience also have negative correlation with perceived stress. A value is showing the reliability of the data and value shows that data was reliable

4.1 Analysis by Amos

Table No. 3 Index Category and Level of Acceptance for Every Index

Name of category	Name of index	Level of acceptance	Result & Comments
<i>Absolute Fit</i>	Chisq	P > 0.05	.05.
	RMSEA	RMSEA < 0.08	.364
	GFI	GFI > 0.90	The root mean square error is is not equal to approximation GFI=.86
<i>Incremental Fit</i>	AGFI	AGFI > 0.90	GFI value is low than the standard value. .76
	CFI	CFI > 0.90	AGFI value is less than standard value. CFI=1.000
	TLI	TLI > 0.90	The value of CFI is according to the standard value TLI=.000
<i>Parsimonious Fit</i>	Chisq/df	Chi square df < 5.0	TLI value is according to the standard value 4.0

Table No. 4 Regression Weights: (Default model)

			Estimate	S.E.	C.R.
Social Support	<---	Resilience	1.114	.405	2.751
Perceived Stress	<---	Resilience	-.343	.106	-3.231
Perceived Stress	<---	Social Support	-.010	.025	-.409

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Perceived Stress	<---	Resilience	-.343	.106	-3.231
Perceived Stress	<---	Social Support	-.010	.025	-.409

Table No. 5 Total Effects (Default model)

	Resilience	Social Support
Social Support	1.114	.000
Perceived Stress	-.355	-.010
Social Support	1.114	.000

Table No. 6 Direct Effects (Default model)

	Resilience	Social Support
Social Support	1.114	.000
Psychological Stress	-.343	-.010

Table No. 3 describes the model fit index values, demonstrating the level of acceptance for each index. The Absolute Fit category indicates that the chi-square test does not reject the null hypothesis because the p-value exceeds 0.05, indicating a good fit. Nevertheless, the RMSEA value goes beyond the recommended range of 0.08, which can have poor consequences as a result of the approximation's root mean square error. Likewise, the GFI score is below 0.90, which implies it is not the desired fit. In the Incremental Fit category, the AGFI value also falls below the norm; however, the CFI is above the benchmark. Meanwhile, the TLI statistic is zero, which signifies that the model does not fit well. Moreover, under the category of parsimonious fit, the ratio of chi-square to degrees of freedom is within the normal limit.

The coefficients in Table No. 4 indicate the strength and direction of the relationship between the variables in our standard model. Researchers have found that social support significantly contributes to resilience, as evidenced by its positive and critical values. Conversely, there is a negative correlation between resilience and perceived stress, indicating that a higher level of resilience is associated with lower levels of perceived stress. Furthermore, the negative coefficient for social support versus perceived stress implies that greater levels of social support tend to cause lower levels of perceived stress.

Tables No. The following numbers, 5 and 6, describe the total and direct effects of the default model. In Table No. 5, the cumulative effects indicate that resilience exerts a substantial positive influence on social support with no direct impact on perceived stress. In contrast, stress perception shows a negative total effect on both resilience and social support. Table No. 6 focuses on the direct impacts, establishing a positive correlation between resilience and social support. Furthermore, it discerns the immediate effect of perceived stress on not only resilience but also social support, thus indicating a direct negative relationship with this variable.

5.0 Discussion and Conclusion

The goal of this study was to look into the impact of resilience on cancer patients' perceptions of stress, with a particular emphasis on the mediating role of social support. The results show a robust and positive link between resilience and social support. It paralleled or reflected previous research. The positive association shows that those with greater resilience scores are more likely to provide more social assistance during tough times of illness, and vice versa (Li M., Wang L., 2015). The findings revealed a significant negative association between resilience and perceived stress. A study on resilience found that minors who encounter stress have a higher level of resilience in their daily lives (Dimitrovska GR et al., 2015). The CFA study discovered that social support largely mediates the significant influence of resilience on perceived stress. A previous study has shown that social support acts as a buffer or protective barrier against stress, aiding in recovery and reducing the burden of stress-related repercussions. This results in a shorter length of trauma recovery (Waqas A, Turk M, et al. 2018).

5.1 Conclusion

Patients with cancer are susceptible to the dilemma of perceived stress due to a variety of physiological changes. Resilience and social support from others enable patients to endure these adversities. The study's goal is to evaluate the association between resilience, social support, and

perceived stress in cancer patients. The findings show that resilience has a considerable impact on perceived stress, which is influenced by social support.

5.2 Limitations

Although the research reached its aims, there were some limitations:

1. Sample size was not large enough to make generalization significant.
2. Data was collected from just one hospital.
3. Next research should be conducted by using random sampling technique as convenient sampling is the threat to internal validity of the research.

5.3 Suggestions

1. A high sample size is required to establish broad generalizations about the total population.
2. Using probability sampling techniques improves external validity while collecting data.
3. Future researchers can use the large sample size to make generalizations about the results.

Muhammad Saqib Shabir: Problem Identification and Theoretical Framework

Arfa Mubeen: Data Analysis, Supervision and Drafting

Noreeta Suleman: Literature search, Rationale and Methodology

Conflict of Interests/Disclosures

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