



"I Can Beat this Cancer": Role of Grit, Social Support and Post-traumatic Growth in the Quality of Life of Cancer Patients in Pakistan

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Abstract: Being diagnosed with cancer is the most challenging time for the patient as well as for the family. Past research evidence has shown that cancer patients experience a poor quality of life. Therefore, the present study assessed whether grit, social support and post-traumatic growth had a protective effect on the quality of life of cancer patients in Pakistan. A correlational research design was used for the study. 150 Participants from various hospitals and labs have been approached to collect data, including 70 men and 80 women with an age range of 21–75 who were selected through purposive sampling while the sample size was finalized through G Power analysis with 95 % confidence intervals. The Grit Scale, Post Traumatic Growth Inventory, Multidimensional Scale for Perceived Social Support and Quality of Life Scale was used for data collection. Data analysis for the study was executed through Pearson Correlation Analysis, Stepwise Regression and mediation analysis via the process. Results were indicative of a significant positive predictive association between grit, social support, socioeconomic status as well as time since diagnosis on the overall quality of life. The results of the mediation analysis indicated that social support mediated the relationship between Grit and Quality of life. The study recommends the need to enhance psychosocial care measures and interventions aimed at enhancing the quality of life outcomes for cancer patients.

Background

The incidence of cancer in Pakistan has been increasing in recent years (Rashid et al., 2021). Cancer, which is the unchecked growth of cells in the body, can have a significant negative impact on the psychological health of patients (Brown et al., 2021). Its severity depends on the size and spread of the abnormal cells (Ottesen et al., 2020). In its final stages, cancer can spread rapidly and affect other organs (Li et al., 2020). This has been linked to a poorer quality of life and mental health issues (Li et al., 2020). Grit, which is the tenacity to persist towards long-term goals, can be a helpful trait for cancer

patients when dealing with the hardships and difficulties that accompany the disease (Duckworth et al., 2021). Social support, too, has been linked to improved quality of life in cancer patients, with research indicating that it can provide a protective effect against cancer (Liang et al., 2019).

According to the theories of growth, resilience, instinct, and tenacity (Duckworth et al., 2007), it is in humans' best interest to face hardships in order to achieve something. The need for achievement theory suggests that

humans have an innate potential to achieve something and receive rewards, as well as a strong desire to be praised by society for their accomplishments (Urdan & Kaplan, 2020). The self-determination theory states that humans have an inherent drive to achieve something and to use their energy in the most beneficial manner (Vasconcellos et al., 2020). Moreover, there is evidence to suggest that post-traumatic growth can help patients reduce the negative psychological and physical impacts of cancer diagnosis and/or chemotherapy (Marziliano et al., 2020).

Results of a recent study into the quality of life of cancer patients suggested that those who received radiotherapy experienced a significantly lower quality of life than those who did not (Liu et al., 2020). Those who did receive radiotherapy were found to be more likely to suffer from physical dysfunction, as well as psychological issues. However, social support was found to act as a mediator, providing a way to improve the quality of life (Nouzari et al., 2019). Furthermore, research has revealed a strong, positive correlation between the quality of life and social support; the more support provided, the greater the patient's quality of life. Conversely, depression, anxiety, and social support were all negatively correlated with quality of life (Sorensen et al., 2021).

Previous research has highlighted the importance of social support in the adjustment of cancer patients and reducing the effects of stress (Zhai et al., 2019). Roohi et al. (2020) found that emotional support was particularly helpful in the adjustment of patients, while other types of support were also beneficial. Williams et al. (2018) identified how enhancing the level of social support leads to improvements in the quality of life for cancer patients. Similarly, they showed that enhancing the level of post-traumatic growth in cancer patients leads to improvements in the self-reported quality of life in cancer patients. Shang et al. (2020) identified correlations between post traumatic growth and a variety of factors, including income, perceived

life threat, time since diagnosis and distress (Sauer et al., 2019). Zukauskaitė et al. (2021) conducted a study in China which revealed a positive association between grit, social support and quality of life in cancer patients. Furthermore, increased social support through social interactions, family counselling, mental health interventions such as cognitive behavior therapies, spirituality, mindfulness and person-centred counselling has been found to be beneficial in improving the quality of life for cancer patients (Han et al., 2019). This evidence is not restricted to one particular type of cancer, as various studies have verified the positive effects of enhanced grit, social support and post-traumatic growth on the quality of life of patients suffering from palliative cancer, breast cancer, liver cancer and other associated diseases.

Purpose of the Study

The present study aimed to evaluate the predictive impact of grit, social support, and post-traumatic growth on the quality of life of cancer patients. Additionally, the study sought to explore the relationship between these factors and to determine the extent to which social support mediates the effect they have on the quality of life. By investigating the protective role of social support, grit, and post-traumatic growth, this research hopes to show how these factors can positively impact the quality of life. This research is also noteworthy for attempting to fill the gap in the literature on this topic in Pakistan, as cancer patients in the region are often overlooked in research.

Hypotheses

- There is likely to be a significant positive association among grit, level of social support, post-traumatic growth and quality of life for cancer patients
- Higher scores on grit, PTG, social support and type of cancer would predict the quality of life.

- Socioeconomic status, time since diagnosis, and stage of cancer would predict the quality of life of cancer patients.
- PTG and social support would mediate the association between grit and quality of life

Methodology

Design and Participants

A correlational research design was adopted for the present investigation. The data were collected from cancer patients of different hospitals and labs in Lahore. 150 cancer patients were asked to fill out the forms. The sample consisted of 70 men and 80 women selected through purposive sampling. The age ranged from 21- 70 years of age. Moreover, the sample size of 150 was justified as per G Power Analysis which was done using a confidence interval of 95 % and an effect size of 0.7.

Measures

Grit Scale

Angela Duckworth (2021) developed a measure to evaluate the level of grit in cancer patients, consisting of 8 items that use a 1-5 Likert-type scale, where participants are asked to select the option that best reflects their current situation. The psychometric properties of this scale have been established, and its Cronbach Alpha value of .77 has been reported in the literature.

Post Traumatic Growth Inventory (PTGI)

The scale was developed by Hallam & Morris (2014). It consists of 21 items and 5 subscales. The alpha reliability of .99 has been reported.

Multidimensional Scale of Perceived Social Support (MSPSS)

It consists of 12 items and 3 subscales. The scaling format is Likert type, ranging from 1- 7 points. An alpha reliability of .91 has been reported (Zimet al., 2012).

Quality of life scale (QOLs)

Developed by Falanagan to access the QOL of patients. The scale consists of 15 items which lie under 5 subscales. It is a type of self-report measure. The scaling format of likert type ranges from 1-7. The latest version of this scale has 16 items which were used in the current study and have a reliability of .82 (Flanagan, 1978).

Procedure

Ethical Approval for the topic had been attained through the Institutional Ethical Review Board of GC University, Lahore. The participants were contacted via inpatient and outpatient facilities which mainly included various hospitals in Lahore, such as Meu Hospital, Sir Ganga Ram Hospital, Jinnah Hospital and Sheikh Zayed Hospital. Informed consent, assessment of ethical risks along with other related measures were analyzed. Following data collection, data analysis was done using established statistical measures.

Ethical Considerations

Informed consent was sought from all participants. Their right to confidentiality was ensured, and they were further assured about their right to no harm. Moreover, a clinical psychologist was available in case any participant reported any adverse psychological effects. Moreover, all relevant ethical harms were assessed by the ethics review board, and no such harm was identified.

Data Analysis

Data collected through the questionnaires were analyzed using SPSS 21.0 software. We calculated Pearson's Product Moment correlation, Regression analysis, and mediation analysis for the data, along with descriptive analysis. The result of the correlation was as follows:

Table 1. Correlation among Grit, PTG, SS and QOL

Variables	1	2	3	4
1 Grit	—	-.04	.18*	.35**
2 Post-traumatic growth		—	.20*	.01
3 Social support			—	.49**
4 Quality of life				—

Note: $p < .05$, ** $p < .01$

Table 2. Regression to Assess the Predictive Effect on Quality of Life of Cancer Patients

	Model 1		Model 2			Model 3			Model 4			95 % CI		
Predictors	B	SE	B	B	SE	β	B	SE	B	B	SE	B	LL	UL
Constant	34.45	5.92		30.16	5.7		57.74	9.70		43.53	10.41		[22.75, 46.16]	
SS	7.88	1.14	.49	7.08	1.10	.44	6.49	1.07	.406	5.89	1.06	.36	[5.60,10.13]	
Time since diagnosed				4.19	.99	.28	3.65	.97	.25	3.81	.94	.26	[18.89,41.44]	
Grit							1.02	.29	-.23	1.04	.28	.23	[38.59,76.95]	
SES										8.98	2.80	.20	[22.93,64.08]	
R			.491			.568			.612			.645		
F			47.13			35.04			29.07			25.76		
R ²			.236			.314			.361			.415		

Note. $p < .001$, $p < .001$, CI=Confidence Interval

Table 2 indicates the level of contribution of grit, social support and socioeconomic status, time since diagnosed in the prediction of QOL. The results of regression indicate the Four predictors explained 41 % of the variance ($R^2 = .41$, $F(4, 145) = 25.76$, $p < .001$). It was found that SS significantly predicted the QOL ($B = 7.88$, $p < .001$), as did time

since diagnosed ($B = 4.19$, $p < .001$), grit ($B = 1.02$, $p < .001$), and socioeconomic status ($B = 8.98$, $p < .001$). However, age, education of patients, family system, type of cancer, stage of cancer, post-traumatic growth, gender and marital status have no contribution to the prediction of quality of life.

Table 3. Mediating Effect of Social Support with regard to the Effect of Grit on Quality of Life (N=150)

Measures	B	SE	P
Step 1 (Path c)			
Outcome: QOL			
Grit	-1.2	.30	.000
Step 2 (Path a)			
Outcome: SS			
Grit	.05	.022	.029

Step 3 (Path b)			
Outcome: QOL			
Social Support	7.0	1.1	.000
(Path c')			
Mediator: social support			
Predictor: Grit	.36	.17	.000

Note. SS=Social Support, QOL=Quality of life, B=standardized coefficient.

* $p < .05$, ** $p < .01$, *** $p < .001$

Mediation analysis was performed via the process. Moreover, results had shown that social support had a significant mediating effect on the association between grit and quality of life ($B = -.36$, $p = .000$). It is also critical to note that social support had a significant positive predictive mediating effect on the association between grit and quality of life.

Discussion

The purpose of this study was to investigate the association between grit, post-traumatic growth (PTG), self-efficacy (SS), and quality of life (QOL). It aimed to determine how these variables interact with each other and how they can predict QOL. While previous research has already established the connection between SS and QOL, the impact of grit and PTG on QOL has been largely unexplored.

First, it had been hypothesized that there would be a significant and positive association among the various study variables that, included grit, social support, post-traumatic growth, and quality of life. The findings have confirmed the hypothesis, as the results showed that post-traumatic growth had a significant and positive association with social support along with the quality of life. Furthermore, grit was found to have a significant and positive correlation with social support. This is the first study to examine the direction of the relationship between grit, post-traumatic growth, and social support, making these results novel and unique. This

hypothesis was further supported by the findings of Han et al. (2019) offered support for aforementioned findings by showing a significant and positive predictive association for post-traumatic growth, social support, and quality of life in cancer patients. Additionally, Wu et al. (2019) reported how higher degrees of social support leads to beneficial influences on the quality of life of cancer patients. The findings further showed how enhancing social support and grit in cancer patients could lead to improved healthcare outcomes.

The hypothesis that grit, post-traumatic growth, social support, and type of cancer could predict the quality of life was partially confirmed in the current study. It was found that both grit and social support a contribution to predicting quality of life, which is consistent with literature showing how social support and the type of cancer could have a predictive effect on the quality of life of medical care patients (Levi-Belz, 2019). These results also align with previous research evidence.

It was hypothesized that factors such as grit, post-traumatic growth (PTG), social support, age, level of educational attainment, marital status, socioeconomic status (SES), type and stage of cancer diagnosed, and time since diagnosis would predict the quality of life (QOL). The results of the study confirmed that grit, social support, SES, and time since diagnosis indeed have a contribution to the prediction of QOL. However, PTG, age, educational attainment, marital status, type of cancer, and

stage of cancer do not seem to have any contribution to the prediction of QOL. Additionally, the results of the study showed that there was a decrease in the intensity of medical issues, but the time duration of the disease led to negative influences on the mental health of patients. Perpina-Galvan et al. (2019) conducted research to assess the predictive role of SES on quality of life. The results showed that SES does indeed have a role in predicting QOL. People with low SES, as shown in the study, scored low on QOL (Liu et al., 2020). Wang and colleagues have confirmed that patients with low SES reported more health-related problems and poor QOL compared to patients with high SES. Moreover, social support has a strong link with QOL (Perpina-Galvan et al., 2019).

It appears that grit and social support are important factors in PTG among cancer patients, as they provide a sense of hope and resilience which can help patients to cope with their illness and treatment. In addition, social support can provide practical help and emotional support, which can be invaluable to cancer patients. Given the importance of grit and social support to PTG among cancer patients, it is important for healthcare providers to consider these factors when caring for cancer patients. Healthcare providers can assess a patient's level of grit and social support and provide appropriate interventions to help the patient maximize their PTG. For example, healthcare providers can provide support and encouragement to help patients develop a sense of grit or provide resources and referrals to help patients' access social support.

Limitations

This study examined the associations between grit, post-traumatic growth, social support, and quality of life among cancer patients in different stages of the disease. Due to the sample being limited to government hospitals located in Lahore, the lack of inclusion of private hospitals may raise questions about the ecological validity of the results. Additionally, regional differences

such as family support may have a direct effect on the quality of life of these patients, which could not be accounted for due to the lack of country-wide data. This study was cross-sectional and descriptive in nature, and its results provide insight into the relationships between these factors in cancer patients.

Implications

The findings from the research have deepened our understanding of the protective effects of grit, post-traumatic growth, and social support on the quality of life of cancer patients. This knowledge can be applied in clinical settings, specifically by encouraging and creating awareness among patients and their caregivers on how to improve their grit and quality of life. Additionally, clinical psychologists can use these findings to create training programs for patients and their caregivers and to teach them how to fight this long-term illness.

Therapeutic interventions that are specifically tailored to patients who are struggling with poor post-traumatic growth (PTG) and have negative perceptions of their illness can help them better manage cancer while minimizing the psychological toll of radiation and chemotherapy. The media should also take a proactive approach to spread awareness of PTG by hosting talk shows and programs with mental health professionals. Additionally, seminars should be organized for caregivers to provide information about the benefits of social support for the psychological well-being of patients. This research has helped fill the gap in the literature on this subject in Pakistan and is likely to encourage more researchers and psychologists to explore the predictive role of grit, PTG, and social support in quality of life.

Conclusion

It has been determined that grit, social support, socioeconomic status and time since diagnosis have a significant impact on the quality of life for patients. Those with higher levels of social

support reported a higher quality of life scores, and those with lower socioeconomic status reported poorer quality of life scores. Furthermore, time since diagnosis was found to influence the quality of life, and post-traumatic growth was linked to increased quality of life.

Recommendations

- Studies should be conducted using samples from government and private sector hospitals.
- Larger and more representative sample sizes should be selected for future studies in order to establish more generalizable findings.
- Qualitative studies can be done using interviews and focus groups with patients and their caregivers in order to explore the association among grit, PTG, social support and QOL.
- Mixed method designs can be employed for gathering more valid and reliable findings that can be analyzed from qualitative and quantitative dimensions.
- The government, the media and other entities need to work together to provide more awareness to patients about the importance and role of grit in terms of influencing the quality of life and also for caregivers to educate them about the effect of support on the quality of life. Mental health experts and researchers need to develop interventions for patients in order to improve their relations and should aspire to promote research in this area.

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