

UNDERSTANDING POST-TRAUMATIC GROWTH: THE ROLE OF BODY IMAGE, SELF-ESTEEM, AND QUALITY OF LIFE AMONG LOWER LIMB AMPUTEE PATIENTS

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ABSTRAK

Studi ini menyelidiki faktor-faktor psikologis yang terkait dengan pertumbuhan pascatrauma (PTG) pada orang-orang yang telah diamputasi anggota tubuh bagian bawah di Pakistan, dengan memberikan perhatian khusus pada citra tubuh, harga diri, dan kualitas hidup (QOL). Desain *cross-sectional* digunakan untuk merekrut 101 orang dari rumah sakit rehabilitasi di Islamabad dan Rawalpindi. Instrumen pengujian adalah *Post-Traumatic Growth Inventory* (PTGI), *Amputee Body Image Scale* (ABIS), *Rosenberg Self-Esteem Scale* (RSES) dan *SF-36 Health Survey*. Dengan menerapkan analisis statistik, SPSS menemukan bahwa ada hubungan negatif yang signifikan antara ketidakpuasan citra tubuh dan PTG ($r = -0,47$, $p < 0,01$) dan citra tubuh ditemukan sebagai satu-satunya prediktor signifikan dalam model ($R^2 = 0,265$, $p < 0,01$). Studi ini menemukan bahwa tidak ada hubungan yang signifikan antara harga diri dan domain QOL dan PTG. Peserta laki-laki menunjukkan peningkatan yang lebih besar setelah trauma dan lebih sedikit ketidakpuasan dengan citra tubuh mereka yang menunjukkan bagaimana peran gender memengaruhi individu di Pakistan. Ditunjukkan bahwa memperhatikan citra tubuh adalah yang paling penting untuk pemulihan psikologis setelah amputasi dan dapat menghasilkan peningkatan yang lebih besar dalam PTG. Karena temuan ini, disarankan untuk menambahkan terapi psikologis yang menghargai budaya dan membantu orang mengatasi citra tubuh, setelah amputasi. Bekerja untuk membangun kembali identitas dan interaksi sosial dapat membantu orang-orang dari populasi ini mendapatkan manfaat yang lebih baik dari PTG mereka.

Kata kunci : amputasi tungkai bawah, citra tubuh, harga diri, kualitas hidup, pertumbuhan pasca trauma, rehabilitasi psikologis

ABSTRACT

This study investigates the psychological factors linked to post-traumatic growth (PTG) in people who have had lower limbs amputated in Pakistan, paying special attention to body image, self-esteem, and quality of life (QOL). A cross-sectional design was used to recruit 101 persons from rehabilitation hospitals in Islamabad and Rawalpindi. The test instruments were the Post-Traumatic Growth Inventory (PTGI), Amputee Body Image Scale (ABIS), Rosenberg Self-Esteem Scale (RSES), and SF-36 Health Survey. Applying statistical analysis, SPSS found a significant negative correlation between body image dissatisfaction and PTG ($r = -0.47$, $p < 0.01$), with body image being the only significant predictor in the model ($R^2 = 0.265$, $p < 0.01$). This study found no significant link between self-esteem and QOL domains and PTG. Male participants showed greater improvements after trauma and less dissatisfaction with their body image, which demonstrates how gender roles affect individuals in Pakistan. It is shown that paying attention to body image is most important for psychological recovery after an amputation and may lead to greater gains in PTG. Because of these findings, it is advisable to add psychological therapies that respect culture and help people deal with body image after amputation. Working on rebuilding identity and social interaction could help people from this population benefit better from their PTG.

Keywords : post-traumatic growth, body image, self-esteem, quality of life, lower limb amputation, psychological rehabilitation

INTRODUCTION

The loss of a lower limb through amputation disables a person, makes them anxious or upset, and hinders their independence, sense of wholeness, active social life, and self-esteem.

Trauma, diseases affecting blood vessels, infections, or malignancy are the most common reasons for stroke, which is still a major problem for public health all over the world. It is estimated by global sources that there are over one million major limb amputations every year, and these are mostly experienced by citizens of low- and middle-income nations (Moxey et al., 2011). The number of lower limb amputations in Pakistan keeps increasing because of many accidents on the roads, severe diabetic foot complications, late treatment, and insufficient rehabilitation services (Irfan Fayaz, 2023). Even so, limb loss leads to major problems with emotions and everyday life, which are unfortunate because they are usually overlooked during post-amputation care, particularly in developing parts of the world (Khan et al., 2024).

Most research after amputation used to be concerned with regaining physical abilities, fitting a prosthetic, re-learning walking, and dealing with pain. The mental and emotional problems following limb loss can be just as overwhelming or even more so. Experiencing amputation is a type of trauma that comes with a loss of function, a noticeable change to appearance, and judgment by society (often in cultures where physical disability is related to a person's social worth, their ability to marry, and gender roles) (Madsen et al., 2018). Individuals who have lost a limb typically experience grief, depression, anxiety, pain that seems to come from a missing limb, post-traumatic stress, and a disturbed body image (Demirdel & Ülger, 2021). Amputation can cause emotional stress, grief, depression, anxiety, reduced self-esteem, and disturbances in how someone sees their body (Mishra et al., 2021; Demirdel & Ülger, 2021).

Such events can be viewed as traumatic, since losing a body part changes someone's identity, abilities, looks, and how others see them. Although traditionally, rehabilitation focused on regaining physical strength and learning to use prosthetics, researchers recognize that feeling good emotionally is important as well (Ostler et al., 2022). A major idea in this field is called post-traumatic growth (PTG), which refers to positive changes in a person's mindset after facing substantial hardship (Tedeschi & Calhoun, 2004). Among the main psychological aspects that impact PTG, how someone perceives their own body has become important. The term body image means how a person thinks, feels, and perceives their body. Altered self-awareness of the body and how prosthetics affect how people see themselves can bring about major discontent and distance from their bodies for amputees (Sarrocá et al., 2021). It has been found that unhappiness with one's body is related to unhappiness with one's mind, less willingness to socialize, sexual dysfunction, and avoidant behaviors (Yeung & Lu, 2018; National Library of Medicine, 2021). An important factor is that people with more body image distress may struggle to rebuild their self-confidence after a trauma, which can stop PTG (Demirdel & Ülger, 2021).

In Pakistan and many other South Asian communities, the way a person looks can determine their honor, family reputation, gender responsibilities, and type of marriage—reasons why stigma around appearance and body dissatisfaction mostly affects women (Vajravelu et al., 2022). Researchers consider self-esteem, which means how someone remembers their worth, as another important element in PTG. Many studies link high self-esteem to healthier coping styles, stronger psychological strength, and less stress (Orth & Robins, 2014). While some studies suggest global self-esteem matters for adapting to trauma, others do not consider it a factor when looking at the meanings attached to a trauma, accepting it, and forming a new self-identity (Li et al., 2023). In addition, because self-esteem may come from meeting family or societal goals instead of personal achievement, it becomes unreliable in such cultures (Kruithof et al., 2020). Quality of life (QOL) is measured by physical well-being, mental wellness, the state of relationships, and features of the environment. Much research in amputation studies uses MSI as a key measurement (Naz et al., 2023). Although a higher quality of life usually results in stronger mental health, it is uncertain what role post-traumatic growth plays. Although several studies point out that better QOL encourages PTG

by increasing optimism and independence, various researchers argue that some aspects of PTG, focusing on spirituality and existence, may be missing in QOL assessments (Liu et al., 2020).

Pakistan's social environment, gender norms, and disability issues lead to distinctive psychosocial problems. Many individuals, mainly women, suffer from being judged morally or religiously and being left out and not given enough access to mental and social care (Shaw et al., 2005). Some women experiencing limb loss can face social devaluation after being seen as weaker by men, which can be another challenge (Qahraman Kakar, n.d). Therefore, the current research is designed to find out if body image, self-esteem, and QOL can predict PTG in lower limb amputees in Pakistan. The research endeavors to promote developing rehabilitation plans that include support for emotional, thinking, and spiritual well-being beyond physical health.

METHOD

A cross-sectional research method was used to investigate how body image, self-esteem, quality of life, and PTG are linked for lower limb amputees. Data for this study were collected for six months at NIRM, PIMS, and Fauji Foundation Hospital in Islamabad and Rawalpindi. Individuals (N = 101) for this study were selected using convenience sampling, as they consented and were available. Participants were chosen if they: adult amputees aged 18 to 40 years old. Had a limb or both limbs amputated. Used a prosthesis for at least 6 months. Did not have any impaired mental or psychiatric abilities. On the Other hand, our study did not include people with a history of problems like psychiatric illness or neurological disorders, with major movement problems or complications, who do not use prosthetics regularly.

A 21-item Post-Traumatic Growth Inventory (PTGI) looks at five aspects of PTG (Cronbach's $\alpha = 0.934$). Also, ABIS is a scale of 20 questions that assesses how amputees feel about their bodies (Cronbach's $\alpha = 0.662$). The Rosenberg Self-Esteem Scale (RSES) is a worldwide questionnaire of 10 questions that measures self-worth (Cronbach's $\alpha = 0.534$). The study was approved by the Ethics Review Committee of the Virtual University of Pakistan. All the participants who took part gave their informed consent to the study. I used version 26 of SPSS to analyze the data. Summary statistics were created to show the main demographic and clinical factors. These tests consisted of independent sample t-tests to compare men and women. Pearson correlation is a good approach to studying bivariate relationships. I used multiple linear regression to determine what predicts PTG.

RESULTS

A total of 101 people were analyzed for the study. The mean age of participants was 34.36 years (SD = 4.57), and 64% of them were men, compared to 36% women. The vast majority of participants were married (80.2%), and a little more than half (55.4%) had an educational background. Just over half the participants had their amputation within 5 years, but others had it after waiting around 15 years. They show that a large part of this group is relatively young, physically active, and needs to get used to living without a limb for a long time after the procedure.

Table 1. Psychometric Outcomes

Variable	Mean (M)	Standard Deviation	Minimum	Maximum
Body image (ABIS)	50.82	7.97	29	69
Self-Esteem (RSES)	23.87	3.62	13	31
Post-Traumatic Growth (PTGI)	52.13	16.56	31	105

Vitality (SF-36 domain)	15.23	5.11	—	—
Social Functioning	7.02	1.59	—	—
Role of Physical Functioning	6.09	1.99	—	—
Role of Emotional Functioning	4.68	1.49	—	—
Physical Functioning	22.42	7.49	-----	-----
Mental Health	21.08	4.97	-----	-----
General Health	16.54	4.87	-----	-----
Bodily Pain	8.06	2.30	-----	-----

As shown in Table 1, people in this study report a moderate sense of dissatisfaction with their bodies, an average level of self-esteem, and both moderate and high levels of PTG. Self-Esteem Levels: The proportion was very small: 3.0% (from a sample of 3). Ninety-seven percent of the overall sample are medium animals ($n = 98$), while High: 0%. PTG Levels confirm that around 34.7% of participants (35 of the full sample) were considered None to Low PTG, while over half of the people I worked with had Very High PTG (65.3%). Gender-wise, PTG shows almost 6 out of 4 males (81.5%) said PTG was high for them. And just 36.1% of the women said they had high post-traumatic growth. This means males and females see and experience post-traumatic growth differently.

Table 2. Reliability Analysis

Scale	No. of items(k)	Cronbach's α
Body Image (ABIS)	32	0.662
Self-Esteem (RSES)	10	0.534
Post Traumatic Growth	21	0.934
SF-36 Quality of Life	36	0.982

The reliability of the tests was supported by their strong internal consistency. These results suggest that there may be differences in the measures, ABIS and RSES, linked to cultural or sample characteristics.

Table 3. Correlation analysis

Variable Pair	Pearson's r	p-value
PTG & Body Image (ABIS)	-0.47	0.000*
PTG & Self-Esteem	-0.16	0.233
PTG & QOL Domains	<	0.1

A moderate, significant link was found between lower body image and higher amounts of PTG. The more people were dissatisfied with their bodies, the less progress they made in PTG. There were no significant relationships found between self-esteem, QOL, and PTG. So, it confirms that after amputation, body image affects people's mental health more than general self-esteem or life satisfaction.

Table 4. Gender Differences (T-test)

Variable	Male(M \pm SD)	Female (M \pm SD)	t	p-value
PTG	55.03 \pm 8.74	46.89 \pm 24.50	2.42	0.000
Body Image (ABIS)	53.91 \pm 6.16	45.25 \pm 7.93	6.09	0.102
Self-Esteem	22.95 \pm 3.52	22.53 \pm 3.22	-3.62	0.246

The increase in post-traumatic growth was greater for males than for females. There was only a slight difference in how dissatisfied females felt about their bodies compared to the rest of the group. There was no important difference in self-esteem between men and women. Many of these concerns appear to be related to the role expectations, stigmas, and beliefs surrounding a person's gender and role in society.

Table 5. Model Summary

R	0.515
R ²	0.265
F (df = 3, 97)	7.322
p-value	0.002

Results showed the PTG model was 26.5% explained by the three chosen predictor variables, and body image alone was the significant predictor ($p < 0.01$).

DISCUSSION

The research examined what affects post-traumatic growth (PTG) among lower limb amputees in Pakistan, mainly focusing on body image dissatisfaction, self-esteem, and the quality of life. Findings report that body image dissatisfaction alone was a strong predictor of posttraumatic growth, while self-esteem and quality of life did not predict it significantly. Similar to other studies, these results stress that body image is very important for the mental health of amputees and reveal that PTG can be affected by cultural and gender factors in the South Asian region. The study's findings showing that body image dissatisfaction reduces PTG are supported by Kumar et al.'s (2023) observation that when people have body image problems, they develop lower self-acceptance and far less ability to think about their experience in new ways (Kumar et al., 2023). Additionally, researchers (Roşca et al., 2021) noted that suffering from altered body image was related to loss of identity and weakened drive to integrate socially. It appears that people with body image disruptions may find it difficult to make sense of their trauma, which is important for PTG (Roşca et al., 2021).

Other studies, such as those by (Steinberg et al., 2023) and (Senra et al., 2011), indicate that focusing on body acceptance and changing identity can help individuals experience PTG despite the visible outcomes of burn trauma (Steinberg et al., 2023) (Senra et al., 2011). This research recommends bringing body-focused psychotherapy into rehabilitation. Two articles by (N et al., 2021) and (Silván-Ferrero et al., 2020) look deeper at the influence of cultural stigma, pointing out that individuals in collectivist cultures usually isolate themselves more due to worries that their visible impairment makes them unvalued in society. (N et al., 2021) (Silván-Ferrero et al., 2020) Intriguingly, how much people trusted themselves didn't act as a major factor in PTG. This goes against research done by Zhou et al. (2017) and Berger & Weiss (2009), indicating that self-esteem influences PTG after trauma by helping people adapt their minds, but the disagreement could be due to cultural influences. Because values are often set by the community and family in Pakistan, young people may not experience self-esteem in the same way as Westerners, which explains the weak link with PTG. (Zhou et al., 2017) (Berger & Weiss, 2009).

The lack of a significant link between QOL and PTG is also seen in the research of (Landi et al., 2022) and (Bai & Lazenby, 2015), who suggested that regular tools for QOL tend to omit existential improvements such as a deeper sense of life or spiritual gains. This shows that assessments focusing on quality of life can capture physical and emotional recovery, but might miss how much PTG can change a person's psychology. (Bai & Lazenby, 2015) (Landi et al., 2022) Also, similar to Koliouli & Canellopoulos (2021) and Stutts & Stanaland (2016), male amputees in this study showed higher PTG, pointing to how social support and reduced

disability stigma may benefit men. (Koliouli & Canellopoulos, 2021) (Stutts & Stanaland, 2016).

Lost or reduced social roles can cause secondary trauma in many women in patriarchal societies, as claimed by Holliday et al. (2018), pointing to the importance of gender-sensitive rehabilitation methods. Modern studies by Watkins et al. (2022) suggest using trauma-informed care to change how body loss and social adjustment are discussed (Holliday et al., 2018). In addition, KABLAN & TATAR (2020) argue that peer systems are important for boosting PTG by making using a prosthesis feel usual and showing fellow amputees as regular people (KABLAN & TATAR, 2020). Besides, although several Western studies, for instance, (Gil-González et al., 2022) see PTG as a consequence of how individuals cope, the results here suggest that community attitude, cultural habits, and the importance placed on body image are key factors. (Gil-González et al., 2022)

CONCLUSION

This research adds new knowledge to our understanding of post-traumatic growth because it points to body image dissatisfaction as the main adjustable psychological factor that predicts it among lower limb amputees. Since how the body looks matters a great deal in Pakistan, rehabilitation focuses heavily on helping patients accept their changed body image. Unlike traditional beliefs, in my sample, self-esteem and how people felt in general did not strongly affect PTG. The significance of psychological features that depend on specific situations and trauma is underlined by this result.

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