

**Social Appearance Anxiety, Psychological Distress and Quality of Life among Patients with Burn Injuries**Mureed Hussain<sup>1\*</sup>, Muhammad Tariq<sup>2</sup>, Mubashir Hussain<sup>3</sup>**Abstract**

This study was aimed to investigate the relationship between social appearance anxiety, psychological distress and quality of life among patients with burn injuries. This cross-sectional study was conducted at public sector hospitals of Multan during February 2021 to November 2022. The sample of this study was consisted of 200 burn patients (90 males and 110 females) with upper limb injuries which were selected through purposive sampling. The age range of the participants was 16-40 years ( $M= 28$ ,  $SD= 7.91$ ). Social Appearance Anxiety Scale, Kessler Psychological Distress Scale and Health Related Quality of Life scales were used as data collection tools. The findings of this study revealed significant positive correlation between social appearance anxiety and psychological distress and negative correlation between these variables and health related quality of life. Results established that high ratio of social appearance anxiety and psychological distress leads towards lower quality of life. Similarly, female patients with upper limbs burn injuries showed higher level of social appearance anxiety and psychological distress and lower level of quality of life as compared to male burn patients with upper limbs burn injuries.

**Key Words:** Burn Injuries, Psychological Distress, Quality of Life, Social Appearance Anxiety, Upper Limbs Burn Injuries

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**Introduction**

A burn is injury to skin or organ which results from heat, electricity, friction, radiations or due to any contact with chemicals (Herndon, 2012). Most burns occur due to heat radiated from solids, fire or hot liquids (Smith et al., 2017). In many areas of world, females are more prone to suffer from burn injuries due to open cooking fires and alcohol and smoking are also considered as risk factor for burn injuries (Malik et al., 2012).

Patients, their loved ones, and our collective economy all bear the brunt of the world's burn injury epidemic (Peck et al., 2009). Burn injuries account for almost 90% of all injuries in lower middle income countries (LMICs). Burns account for between 5 and 12 percent of all injuries globally, with an estimated 11 million people requiring medical attention (Peck, 2011). This is behind only car accidents, falls, and interpersonal violence. According to the World Health Organization (WHO), some 265,000 individuals per year lose their lives as a result of burn injuries. The poor and the vulnerable bear a disproportionate share of the existing burn injury burden (Forjuoh, 2006).

In Pakistan, burn injury is a serious but little-studied problem. Deaths from exposure to fire, heat, or hot chemicals are responsible for 5.8 deaths per 100,000 people in Pakistan, according to the Global Burden of Disease research (Global Burden of Disease, 2008).

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Burn-related deaths in individuals aged 15–55 were reported to be 10.2 per 100,000 in a research conducted at burn centers in Karachi (Hashmi & Kamal, 2013). Female gender, age >50, fire burn, inhalational injury, and TBSA >40% have all been documented as risk variables related with admission and mortality (Khaliq et al., 2013). Most of what is known about burn injuries in Pakistan, however, comes from isolated studies conducted in the country's largest cities' specialized burn hospitals (Iqbal et al., 2013). Social appearance anxiety is common in people who have a low body image (Cleary et al., 2020). Anxiety and stress about how other people perceive one's physical appearance is what makes up social appearance anxiety, according to the literature (Ajoudani, et al., 2018). In other words, it's how people feel about how other people perceive them based on how they look. People who suffer from social appearance anxiety and low body image are stereotyped as being more introverted, less confident in themselves, less competent in social situations, more pessimistic, and constantly seeking the approval of others. All of these are thought to contribute to the development of depression in these people (Shepherd et al., 2019). Patients who have had physical changes due to burn injuries are more likely to engage in avoidance behavior, such as avoiding eye contact, employing closed body language, covering scars, and abruptly concluding talks (Martin et al., 2017). One study also indicated that high levels of appearance concern made it harder to accept the injury. Therefore, it is crucial to work towards alleviating concerns about how one looks in social situations. Demographic factors, physical and treatment-related issues, psychological factors, coping skills, exposure to the media, and social and family support can all play a role in how much social appearance anxiety an individual has (Sinha et al., 2019).

Patients who have suffered burns often have poor quality of life after being released from the hospital due to their diminished physical and mental health (Tirumala et al., 2013). Quality of life after a burn injury is affected by the location of the burn and increases with time, according to an Iranian study (Pishnamazi et al., 2012). Joint contracture has been shown to negatively affect quality of life in burn patients (Leblebici et al., 2006). This condition affects 50% of burn patients. A Korean study found that scar formation significantly decreased quality of life, and that scar management had the potential to increase quality of life (Oh & Boo, 2017). Quality of life in burn damage patients was found to be negatively affected by psychological stress, according to another study (Fauerbach et al., 2007).

After a burn injury, psychological discomfort is one of the most common and debilitating aftereffects. A third of patients with major burns ( $n = 162$ ) were found to have clinically significant psychological distress at the time of discharge, according to preliminary reports using the Burn Management System (BMS) dataset, and the mean level of psychological distress in the BMS sample was significantly higher than that reflected in published data from a normative sample. Furthermore, emotional distress during hospitalization was associated with a significantly higher risk of physical impairment at least a year after a burn injury (Fauerbach et al., 2005). Severe variation in quality of life at 58, 68, and 51 months post-burn injury was also attributed to clinically severe psychological suffering (Cromes et al., 2002). A prominent secondary complication of large burn injuries is severe psychological distress, which can have long-lasting effects.

There is mounting evidence that the presence of psychological distress symptoms negatively affects health, functioning, and quality of life. Subsyndromal PTSD (Ehde et

al., 2000), depression, body image dissatisfaction (Fauerbach et al., 2000), and syndrome PTSD (Difede et al., 2002) have all been linked to long-term functional impairment. Given the many sources of strain on burn patients, it is not surprising to find a wide variety of symptoms and syndromes. This study was aimed to investigate the presence of social appearance anxiety and psychological distress among patients with burn injuries and their effect on quality of life of such patients. This study aimed to explore the psychological impact of burn injuries on patients' social appearance anxiety, psychological distress, and quality of life. Burn injuries can be a traumatic experience that not only result in physical pain and disfigurement but can also impact an individual's psychological and emotional well-being.

This study will help to enhance the understanding of the consequences of burn injuries on mental health, its psychological effects and its impact on the attitude of social appearance among individuals with burn injuries. This study was conducted under the objective of how burn injuries affect the individual's mental health, quality of life and attitude towards social appearance. It was hypothesized that the social appearance anxiety affects the individual's mental health and quality of life and social appearance anxiety has gender difference among individuals with burn injuries.

## Method

### Research Design and Sample

Data of this cross-sectional study was collected through purposive sampling from sample of 200 burn patients from government hospitals of Multan from which 90 were males (45%) and 110 were females (55%). The age range of the participants was 16-40 years ( $M= 28$ ,  $SD= 7.91$ ). The full demographics are given in Table 1. This study was conducted during February 2021 to

November 2022. Patients with upper limbs burn injuries were included in this study and the patients with lower limbs burn injuries were excluded from this study and children with burn injuries were not included in this study.

### Measures

#### Social Appearance Anxiety Scale (SAAS)

This scale was developed by Hart et al. (2008). This is 16 item scale which measure the anxiety about the appearance in social context at 5 point likert scale. It has been shown to have good internal consistency, test-retest reliability, and construct validity. The SAAS has good internal consistency, with Cronbach's alpha coefficients ranging from .88 to .93 in different studies. This scale also has good test-retest reliability, with correlation coefficients ranging from .76 to .89 in different studies. The SAAS has good construct validity, as it has been shown to correlate with other measures of social anxiety, body image dissatisfaction, and depression. The SAAS has also been shown to be sensitive to the effects of treatments for social anxiety.

#### Kessler Psychological Distress Scale (K10)

This scale was developed by Kessler et al. (2003) which is a 10 item scale that measures the intensity of the psychological distress at 5 point likert scale. The K10 has high internal consistency, with Cronbach's alpha coefficients typically ranging from .80 to .90. This means that the items on the K10 are measuring the same thing. The K10 also has good test-retest reliability, with correlation coefficients typically ranging from .70 to .80. This means that scores on the K10 are consistent over time. The K10 has good construct validity, as it has been shown to correlate with other measures of psychological distress, such as the Beck Depression Inventory and the State-Trait Anxiety Inventory. The K10 has also been shown to be sensitive to change over time,

and to be able to distinguish between people with and without mental disorders.

**Health related Quality of Life (HRQOL)**  
HRQoL, developed by Centers for Disease Control and Prevention (2003) was used. This is a 14 item scale which measures the physical health, mental health and social well-being of the individuals. Most HRQOL scales have Cronbach's alpha coefficients above 0.70, which is considered to be good reliability. The HRQOL scales showed

evidence of good concurrent validity. The scales were moderately correlated with MADRS scores ( $r = 0.30-0.62$ ).

#### **Ethical Considerations**

After taking the institutional approval, informed consent was taken from all participants of research and they were briefed about the purpose of the study and all other ethical standards were considered as much as possible.

## **Results**

**Table 1**

*Demographical Characteristics of the Sample (N=200)*

<b>Variables</b>	<b>Values</b>	<b>f</b>	<b>%</b>
<b>Age</b>	16-20	36	18
	21-25	48	24
	26-30	43	21.5
	31-35	46	23
	36-40	27	13.5
<b>Education</b>	Uneducated	72	36
	Primary to Matric	53	26.5
	Intermediate	34	17
	Graduate	29	14.5
	Postgraduate	12	6
<b>Gender</b>	Male	90	45
	Female	110	55
<b>Residence</b>	Rural	120	60
	Urban	80	40

**Table 2**

*Correlation between Variables (N=200)*

<b>Variables</b>	<b>M</b>	<b>SD</b>	<b>SAA</b>	<b>PD</b>	<b>HRQoL</b>
SAA	31.39	2.24	-	-0.62**	-0.72**
PD	40.29	3.22		-	-0.56**
HRQoL	71.68	4.42			-

\*\* $p < 0.01$

Note. SAA= Social Appearance Anxiety, PD= Psychological Distress, HRQoL= Health Related Quality of Life

According to the findings of the correlation between variables it is concluded that SAA and PD have a correlation coefficient of -0.62\*\*. This negative correlation suggests that as social appearance anxiety increases, psychological distress tends to decrease, and vice versa. The coefficient value of -0.62\*\* indicates a moderate to strong negative relationship between these two variables. PD and HRQoL have a correlation coefficient of 0.56\*\*. This positive correlation suggests that as psychological distress increases,

health-related quality of life tends to decrease, and vice versa. The coefficient value of 0.56\*\* indicates a moderate positive relationship between these two variables. SAA and HRQoL have a correlation coefficient of -0.72\*\*. This negative correlation suggests that as social appearance anxiety increases, health-related quality of life tends to decrease, and vice versa. The coefficient value of -0.72\*\* indicates a strong negative relationship between these two variables.

**Table 3**

*Multiple Regression of the Effects of Social Appearance Anxiety and Psychological Distress on Health related Quality of Life (N=200)*

Variable	B	SE	HRQOL	95% CI	
				LL	UL
Constant		1.64			
SAA	.59***	.03		.17	.26
PD	.11	.06		-.03	.12
R <sup>2</sup>			.59		
F			45.10		

According to the findings, the constant is 0.59. It indicates the expected value of HRQoL when both SAA and PD are zero. The regression coefficient estimates the change in the dependent variable (HRQoL) associated with a one-unit increase in the independent variable. For SAA, the coefficient is 0.11, indicating that a one-unit increase in SAA is associated with a 0.11 increase in HRQoL, holding other variables constant. Similarly, for PD, the coefficient is

0.03, suggesting that a one-unit increase in PD is associated with a 0.03 increase in HRQoL. For the constant, the CI is between 0.17 and 0.26. For SAA, the CI is between -0.03 and 0.12. R<sup>2</sup> is 0.17, indicating that about 17% of the variability in HRQoL can be explained by SAA and PD. the beta value predicts the effect in the dependent variable social appearance anxiety predicts 59 % of the variance in the dependent variable.

**Table 4**

*Mean Difference of Gender on SAA, PD and HRQoL (N=200)*

Variables	Male		Female		t	p	95% CI		Cohen's d
	N=90		N=110				LL	UL	
	M	SD	M	SD					
SAA	33.2	11.0	42.6	14.7	4.7***	.00	-11.9	-5.1	.63
PD	21.3	8.5	28.9	9.4	7.6	.06	-11.6	-7.1	-
HRQoL	5.9	3.7	8.9	6.5	5.3***	.00	-5.1	-2.2	.74

The statistical analysis includes the *t*-value, *p*-value, and 95% confidence interval (CI) for each variable. For SAA, the *t*-value is 4.7, indicating a significant difference between the Male and Female groups. The *p*-value is denoted as \*\*\*( $p < .001$ ), suggesting a highly

### Discussion

Many persons who have survived burn injuries and undergone a physical transformation worry about how the general public will respond to them once they return to their normal routines. Some of the social difficulties faced by burn survivors upon returning home from the hospital include: Blank looks or a second look. Concerns and inquiries concerning their wound. Teasing and bullying. People's responses (both verbal and nonverbal) might undermine one's sense of self-assurance in social situations. Some burn survivors are unfazed by the judgements of others. Those who have suffered burns are more likely to experience anxiety, loneliness, mental discomfort, and depression (Blakeney et al., 2007).

Table 2 represents the negative correlation between social appearance anxiety, psychological distress and health related quality of life. Burn injuries can result in significant alterations to an individual's physical appearance which can trigger social appearance anxiety. Social appearance anxiety refers to the excessive worry, distress or avoidance behavior caused by concerns about one's physical appearance or body image in social situations. Burn survivors may feel ashamed, embarrassed or self-conscious about their altered appearance, and worry about how others perceive them (Radix et al., 2019). This can lead to avoidance of social situations or activities that they previously enjoyed. Social appearance anxiety can impact different aspects of a burn survivor's life, including their relationships, career, and mental health. (Sahin & Topkaya, 2015).

significant difference. The 95% CI for the mean difference ranges from -11.9 to -5.1. Additionally, the effect size (Cohen's *d*) is .63, indicating a moderate effect size for this comparison.

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Findings of the Table 3 showed that the social appearance anxiety play role in the decrease and increase of the psychological distress and health related quality of life. The regression coefficient estimates the change in the dependent variable (HRQoL) associated with a one-unit increase in the independent variable. For SAA, the coefficient is 0.11, indicating that a one-unit increase in SAA is associated with a 0.11 increase in HRQoL, holding other variables constant. Similarly, for PD, the coefficient is 0.03, suggesting that a one-unit increase in PD is associated with a 0.03 increase in HRQoL (Duke et al., 2018). The findings of this study also indicated higher level of social appearance anxiety among burn survivors but most of the studies especially in Pakistan did not consider the gender difference regarding the social appearance anxiety among burn survivors, the findings of this study indicated higher level of social appearance anxiety among females as compared to male patients with burn injuries as mentioned in Table 4.

In conclusion, social appearance anxiety is a significant challenge faced by burn survivors, and the impact of this phenomenon should not be underestimated. Burn patients require extensive psychological support to overcome the emotional and social challenges related to their injuries. Healthcare providers, family members, and friends play an essential role in helping burn survivors rebuild their sense of self-worth and integrate back into society. By addressing the psychological and social aspects of burn recovery, we can help burn survivors live fulfilling lives and thrive despite their injuries (Parslow et al., 2006).

Burn injuries are traumatic events that can result in significant physical and psychological distress (Mason et al., 2010). Psychological distress among patients with burn injuries is common and can have a significant impact on the patient's quality of life. For instance, studies have shown that up to 40% of burn victims experience symptoms of depression and anxiety, which can interfere with their ability to cope with the injury, engage in social activities, and maintain employment (Mahendraraj et al., 2016). Findings of this study also indicate higher level of psychological distress in burn survivors especially in females as mentioned in Table 4.

One factor that contributes to psychological distress among burn patients is the nature of the injury itself. Burns are often sudden and unexpected, resulting in a loss of control over one's circumstances (Hudson et al., 2017). These emotional responses can trigger symptoms of PTSD and anxiety, including flashbacks, nightmares, and persistent thoughts about the event. Another factor that contributes to psychological distress is the social stigma associated with burns (Logsetty et al., 2016).

Burn injuries can have a significant impact on a patient's quality of life. In addition to the physical pain and trauma associated with burns, patients often experience psychological, social, and economic challenges that can persist long after the injuries have healed. Quality of life refers to the extent to which an individual is able to enjoy their life, including their physical health, mental well-being, and overall satisfaction with life (Jasper et al., 2013). Physical health is one of the most critical components of quality of life among burn patients. Burn injuries can cause significant physical impairments such as scarring, loss of mobility, and chronic pain. These impairments can lead to functional limitations that impact daily activities and

reduce the patient's ability to engage in activities they enjoy (Yoder et al., 2010).

### **Limitations and Recommendations**

This study, like all other studies, has some limitations too like this study was conducted only in one city. Patients with suicidal attempts and mental disorder were not included in this study and this study was conducted only with patients who were above 15 years of age. In the light of these limitations, it is recommended to conduct such studies on large scale level like provincial or national level to that the provincial or national level database could be made. Such studies should be conducted with children between 6 to 15 years of age. Similarly, such studies should be conducted with patients with mental disorders or with individuals with suicidal attempts.

### **Conclusion**

This study was aimed to investigate the presence of social appearance anxiety, psychological distress and health related quality of life among patients with burn injuries. The findings of this study indicated the significant positive correlation between social appearance anxiety and psychological distress and negative correlation with health related quality of life. The findings of this study also indicated that female patients with burn injuries have higher level of social appearance anxiety and psychological distress and lower level of quality of life as compared to male burn patients. There is need to focus on the mental health issues of burn patients along with their physical health and there is need to make policies about the mental health of burn patients.

### **Contribution of Authors**

Mureed Hussain: Conceptualization, Methodology, Writing - Reviewing & Editing

Muhammad Tariq: Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft

Mubashir Hussain: Formal Analysis, Writing – Original Draft, Writing - Reviewing & Editing

### Conflict of Interest

There is no conflict of interest declared by the authors.

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The authors declared no source of funding.

### Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [M.H.] upon the reasonable request.

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