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THE RELATIONSHIP OF BURN INJURIES, SELF-ESTEEM AND TRAUMA SYMPTOMS IN FEMALE BURN VICTIMS.

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ABSTRACT

Objectives: *This study focuses to determine the psychological problems of a victim after burn injuries. It also aimed to understand the severity of burn injuries and post burn psychological issues.*
Design: *Cross sectional*
Place and Duration of the study: *department of Psychology, University of Karachi, from July –Dec, 2017*
Subjects and Method: *In present study, 62 females burn victims were selected from Smile again Foundation (Karachi and Lahore) and Panah shelter home, (Karachi) during the period of July 2017 to December 2017 through purposive sampling technique. Their age ranged between 18 to 47 years, (* $\bar{x} = 29.34, SD = 9.188$*). The translated version of the Rosenberg Self-Esteem Scale, and Trauma Symptom checklist-40, were used to measure the self-esteem and PTSD of a burn victim respectively.*
Results and Conclusion: *The findings of the current study suggested that statistically significant difference exists between the severities of the burn injuries in increasing PTSD symptoms along with the negative impact on self-esteem. The results further suggested that symptoms of PTSD negatively predict self-esteem in female burn victims.*

Keywords*: Burn victim; Severity of burn injury; PTSD, self-esteem.*

INTRODUCTION

Burn Injuries (BIs) are one of the most dreadful, horrific injuries and the unforeseeable traumatic form which adversely affect the victims both bodily and psychologically (Peck, 2011). Fire disasters have immense health, social and environmental costs that affects more than 1% of the global burden of disease (Leistikow et al., 2000). BIs are serious, unpredictable and distressing forms of trauma which affect the victims' health both physically and psychologically (Wiechman, & Patterson, 2004). BI are critical concerning health problems in the world. As per global statistics, more than 300,000 deaths take place due to fire and burns and nearly 11million people seek burn-related medical attention (Peck, 2011). For any individual BIs are considered a traumatic experience as it involves prolonged hospitalization and treatment. As a consequence, may significantly affect the physical and psychological condition of the victim (Panjeshahin Lari, Talei, Shamsnia, & Alaghehbandan, 2001). BI are a chief issue in low-income and middle-income countries (Othman & Kendrick, 2010). BIs cause death, disabilities, and disfigurement. In addition to that, they also cause social, economic, and psychological effects on the victims (World Health Organization Burns: Fact Sheet, 2014).

Rovatti and Brennan (1959), classified burns by their thickness. For that, there are three various classifications of degrees of burn that are known. The outer layer of skin known as Epidermis is damaged in the first-degree burn. In second degree burns the dermis is damaged but not the complete skin as burn is not severe enough but they form the hypertrophic scars. In third degree burns epidermis, dermis, subcutaneous tissue layer, and deep hair follicles is affected. In short, these burns damage entire element (Bogtsberger & Taylor , 1987).

In Pakistan, unfortunately many women are beaten and tortured for bringing inadequate dowry which is many times highlighted in Pakistani newspapers and newspapers are full of these terrible stories. Dowry-related forms of violence include the marital rape, bride burning in which women are burnt alive by kersosene oil and wife-beating (Al-Hawari & Banna, 2017). While considering the Pakistan scenario, the most common causes of BIs. BIs in Pakistan are hot surfaces or liquid and burns due to fire, with deaths occurring more frequently among patients with fire-related burn injuries as stated by Siddiqui et al. (2015). During the period 1999 to 2002 in Islamabad around 4000 women are burnt alive through kerosene oil by closed family members, spouses or in-laws in which less than 4 percent survived. Age range of most of the

women was 18 to 35 as well as 30 percent women were pregnant at a time of death (Terzieff, 2002).

BIs are acute, destructive, and capricious forms of trauma that affect the physical and mental health of the patient (Davydow, Katon, & Zatzick, 2009). Due to improved medical care, victims often survive the acute stage of recovery and are left to face the long-term mental effects of burns that are intricate and differ from victim to victim (Wisely, Wilson, Duncan &Trainer, 2010). The most frequent psychological issues faced by burn patients include anxiety, pain, depression, PTSD, worries about bodily disfigurement, financial burdens that result due to longer stay at hospitals, and social isolation (Lawrence, Mason, & Schomer, 2012). Burn injury pain during surgical procedure and rehabilitation is linked with anxiety, and various researches have pointed out that such type of anxiety increases with the progress of the therapy (Rubab & Kulsoom , 2018). Anxiety, distress, and pain are linked to PTSD in burn patients, while victims with greater rates of anxiety report extreme pain during subjective assessments (Mason, Corry, Gould etal., 2010). Also, various underlying factors like grief, social isolation throughout hospitalization, pain, and pre-burn depression are linked with afterburn depression (King et al., 2010).

Due to severe burn injury the victims are at greater risk of everlasting and visible changes. In superficial burns, surgery and skin embedding are not compulsory in which permanent changes can occur in the skin's appearance and quality and this remains the same forever in the deeper burns case (Shahidul & Mahmud, 2002). These scars entirely changed one's physical appearance that is usually taken as a defacement by the burn victim. Perception and thoughts about physical appearance what they look like can adversely affect the self -esteem of burn victims. Burn victims usually experienced the low confidence and self-esteem, poor life quality and isolation. Emotional stress, feelings of uncertainly, anxiety, avoidance, and social isolation often increase in the burn victim that has low self-esteem (Papini, 1997).

Furthermore burn victims experiences the various psychological symptoms including moderate ones such as distress, low or no self-confidence, grief and fear to the intense ones like post-traumatic stress disorder, delirium, depression and anxiety (Kleve & Robinson, 1999). The physical, psychological, and social effects of the burn start from the incident and spread through the better part of the victims' life. The BI have a potentially significant influence on the burn-survivors and their families and include a whole range of problems ranging from protracted hospital stays to loss of income, from post-burning disfiguring to

bodily complications, from contractures to keloids and scarring; and, an unpredictable phase of psychological compilations (Nthumba ,Oliech, Ziegenthaler, & Schwarzer 2005).

According to the study of Cho, Jeon, Hong etal. (2014) the acid attacks are among the worst forms of violence that can be experienced by women. It is usually done for the torture, killing and destroying the lives of women due to different defined and undefined reasons. The attacks by the perpetrator are usually done using sulphuric, hydrochloric, or nitric acid that causes skin harshness and serious damages to the victim. The wounds remain on the skin for a longer period and skin layers are greatly damaged as reported by Attoe and Pounds-Cornish (2015).

According to the study conducted by Udayraj, Talukdar, Das and Alagirusamy (2017), acid attacks cause everlasting scars on skin leading burn victims to isolation for the rest of lives. The victim faces high anxiety and depression, low self-esteem, lack of body image satisfaction, greater level of self-isolation and different Post Traumatic Stress Disorders (PTSD). These all factors adversely affect the burn victim's life (Herman & Herman, 2015). The literature concludes that acid burning or any burning has severe impacts not only on the physical or biological features of an individual but also on the mental and psychological functioning. Stress, anxiety, eating disorder, isolation and sense of deprivation are few of the consequences of such incidents. The current study involves the post burn incident psychosocial problems of a victim. The chief objectives of this study linked to examine relationship between the degree of burn, self-esteem, and PTSD in women after burn injury. The following hypotheses formulated after a detailed literature review, 1)The burn victims who have severe BI would have score high PTSD symptoms as compare to burn victims who have with minor burn injuries. 2) There would be a negative relationship between self-esteem and PTSD in burn victims.3) High level of PTSD will predict low levels of self-esteem in the burn victims

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METHOD

Participants

The sample of the current study was consisting of 62 burn victim women with age range 18- 45 years ($\bar{x} = 29.34, SD = 9.188$). The purposive sampling

technique was used to collect the sample from Smile again foundation (Lahore and Karachi), and Panah Shelter Home in Karachi from July 2017 to December 2017.

Following Inclusion and exclusion criteria was established for this study:

For the data collection, participant at least 2 months before must have experienced the burn victimization. In terms of victimization of participants having minor burns, participants must have endured one burn victimization event and <10% Total Body Surface Area (TBSA) (already calculated by burn centres) due to burn incident/ accident. For major burns, the victim has ≥10% TBSA (already calculated by burn centres) in terms burn incident/ accident and must have gone through at least one event of burn victimization. They could understand language Urdu/English. All participant who are mentally well-oriented becoming the part of this study. All male participants were excluded in present study.

Measures

Informed consent form

First, the Informed consent form to educate the participants about the purpose and the duration of the study. Through this form, participants were brief that they have the right to leave if it is needed. Lastly, when the participants agreed to the conditions, they were requested to become part of the study.

Demographic Sheet

A structured demographic sheet was used to gather the demographic information of the participants comprising of personal information like name, age, gender, marital status, education, finical resources, province, profession, financial status, place of accident/ incident, season, the reason of burn injury, burn category, degree of burn, social meeting frequency, presence/absence of scars on body parts, stresses and anxiety of participants while talking about scars during interaction with others. This form provided necessary background information about the participants resulted in contributing to a context for the results.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

This scale was created by Rosenberg, later Sardar (1998) had translated the scale into the Urdu language which was further improved by Rizwan (2010).

This scale helps to determine an individual's feeling of self-worth as it mainly evaluates the positive and negative feelings about the self. It is a self-report scale consists of 10 items which are widely used by the Social science researches. All items in the scale are answered on a four-point Likert scale. Each item from ten items has four possible responses including Strongly Agree (3), Agree, (2) Disagree (1), and Strongly Disagree (0). In which five items are based on positively stated and the rest of five items negatively stated. The scores range from "0 to 30" with higher scores related to higher levels of self-esteem and lower scores related to lower levels of self-esteem. It has an internal consistency of .70 and the test-retest reliability correlation coefficient was .71. Cronbach's alpha of the current study was .68. For the current research Urdu version of the Rosenberg Self-Esteem Scale (Rizwan, 2010) was used.

Trauma Symptom Checklist- 40 (TSC-40) (Briere & Runtza, 1989)

Briere and Runtza originally created the TSC-40. Afterwards the sacle was translated by the Qudsia Babar in 2007 (Baber, 2007). It is simply used to calculate medical conditions and symptoms shown by an adult linked with childhood or adult traumatic experiences. The scale consists of six sub scales Anxiety, Depression, Dissociation, Sexual Abuse Trauma index (SATI), Sexual problem and Sleep Disturbance, as well as a total score which indicative of Post-Traumatic Stress Disorder (PTSD). Each item is rated according to its frequency of occurrence over the prior two months. Responses were recorded on a four-point scale ranging from "0 = never" to "3 = often". It is a relatively reliable measure i.e. its subscale alpha typically ranges from .66 to .77, with alphas for the full-scale averaging between .89 and .91. The Cronbach's alpha of the Urdu version of TSC-40 was 0.8. TSC-40 Urdu version was used in the present study.

Procedure

Initially, the permission was taken from the respective authorities of Smile again foundation, burn centres and shelter homes in Lahore and Karachi, Pakistan. In the first stage, the researchers explained the aim of the study and confidentiality. The consent forms were filled by the participants who agreed to participate in the study. In the second stage a small interview session was conducted to form a rapport to fill the demographic form and develop the understanding of the victim's psychological wellbeing .Then lastly the Rosenberg Self-Esteem Scale and Trauma symptoms checklist were administered on the participants.

For the questionnaires scoring keys were evaluated while 22.0 SPSS version was used to execute the statistical analysis. Independent Sample t-test was implemented to determine the difference between intensity of burns and its relations to levels of self-esteem, and PTSD, in the burn victims.

Regression analysis for PTSD as predictor and low self-esteem, as the dependent variable was also conducted.

Minor burn

burn victims experienced minimum one burn victimization event and <10% TBSA (already calculated by burn centres) with injuries on the outer skin i.e epidermis. In minor burns, painful, dry, red wounds usually occurred having no blisters due to traumatic event (such as an assault) with or without scars.

Severe burn

Burn victims experienced at least one burn victimization event and ≥10%TBSA (already calculated by burn centres) occurred due to traumatic event (such as an assault) consisting of scars on outer and underlying layer of skin.

PTSD

As per TSC-40 scale, evaluation of participant's were calculated by their responses that defined their symptoms. The greater the score on scale, the higher the PTSDlevel experienced by victim.

Self-Esteem

Rosenberg's self-esteem scale was used to assess the self-esteem in order to form research's benchmark. It consists of 10 statements that involves general feeling of self-acceptance and self-worth.

The 10 statements involve the individual's satisfaction or self-perception about themselves compare to the others.

RESULT

Table 1
Demographic information of participants (N=62)

Variables	*F*	*%*
Marital status		
Married	32	51.6
Unmarried	30	48.4
Education		
Uneducated	08	12.9
Primary	12	19.35
Middle	16	25.8
Matriculation	15	24.19
Intermediate	08	12.96
Graduate	03	4.8
Financial Status		
Fine	22	35.5
Satisfied	20	33.9
Not Satisfied	19	30.6
Place of Accident		
House	44	71.0
Work Place	10	16.1
Road	8	12.9
Reason of Accident		
Chemical	19	30.6
Hot object	14	22.6
Contact with acid	09	14.5
Thermal	08	12.9
Explosive	12	19.4
Burn. Categories		

Minor Burn	19	30.6
Moderate Burn	31	50
Sever Burn	12	19.4
Location of burn on body		
Upper part of the body	14	22.6
Middle part of body	25	40.3
TBSA		
<10%	19	30.64
10-20%	31	50
21-30%	12	19.35

Table 2

T-Test Showing the Mean comparison of the severity of burn for level of PTSD and Self-esteem

Variable	***Burn Categories***	***N***	***M***	***SD***	***df***	***T***	***Sig. (2-tailed)***
PTSD	Minor Burn	19	25.47	13.30	60	-3.38	.001**
	Severe Burn	43	40.09	2.52			
Self-esteem	Minor Burn	19	26.78	3.67	60	10.44	.000**
	Severe Burn	43	15.83	3.86			

*Note: **p < 0.01*

Table 3
Linear Regression analysis for PTSD as predictor of low self-esteem, in Burn Victims

Variable		***Self-esteem***	
	B	***S. E***	***B***
PTSD	-.149	.044	-.399*
R2		.159	
F		11.353**	

Victims

The results in table 4 represents that PTSD accounted for 15 % variance in self-esteem (F [1, 60] = 11.353, $p < .001$) which indicates significant prediction (β = -.399, t [1]= -3.369, p=.001*).

DISCUSSION

BI are followed by instant pain and extreme discomfort. Most of the pain and suffering result during the physical recovery process of the injury. However, it is not only physical pain that burn victims had to endure but the psychological pain as well. The emotional recovery challenges faced by the burn victims are more painful than the physical ones. Over time, the physical pain of the burn patient dissipates but the emotional pain may last long, even years. The pain victim has as a result of a burn is immense, so are its repercussions. It is appropriate to say the pain is not over but begins after the first phase of the recovery of burn injury is completed. And the most serious effects of BI psychological, which are plentiful (De Sousa Kalra, Sonavane, & Shah, 2012). The burn victims may face several psychological challenges during their recovery phase. They may experience different psychological distresses in the aftermath of their burn.

Results revealed that significant difference in between PTSD and severity of BIs exists. Self-esteem of burn victims is adversely affected by the

severe burn injuries. BIs are very distressing leading to posttraumatic stress disorder which is often triggered by the seeing or in undergoing the alarming situation. Therefore "avoidance" symptom of post-traumatic stress disorder is commonly present in burn victims who participated in the study. They refrain themselves for the places, or objects that trigger the traumatic incident. As a result, the current study highlighted that victims of severe burns have PTSD symptom other than anxiety and depression compare to minor burn victims.

According to the Kornhaber, Kornhaber, Wilson, Abu-Qamar, and Mclean, (2013); Baillie, Sellwood and Wisely (2014); Rosenbach and Renneberg (2006), post traumatic growth may be a viable result of severe burn injury. In the initial stages the victim experiences pain while in the later stages the deep burns scars reminds the victim of traumatic event leading to hopelessness, fearful and sometimes numbness. Pain, discomfort and anxiety are mainly linked to PTSD in burn victims as per Corry and Klick (2010). Further, victims those showed high PTSD symptoms have low level of self-esteem as compare to victims those showed level of PTSD symptoms. This is why, Wiechman (2013) stated, mental health database recommended for routine measurement of outcomes by American Burn Association are depression and post-traumatic stress disorder. Such patients may experience a variety of psychological problems like anxiety, depression, low self-esteem and trauma related disorders.

The findings of current study also revealed statistically significant association between severity of burns and low self-esteem in female burn victims. The results of study are in line with literature. A study conducted by Smith and Rainey (2006) suggested that women have been reported more psychological issues especially decreased self-esteem due to their sheer disfigurement. This characteristic of women is also affirmed by numerous researchers (e-g Lawrence, Fauerbach, Heinberg & Doctor 2003; Zahid, Hussain, & Jawed, 2017), which stated that the self-esteem of these women is mainly affected their perception and sense of interdependence with others.

Victims experience a variety of psychological problems such as anxiety, depression, low self-esteem and trauma-related disorders. Factors like severity and site of burns and gender role of the patient in society, all plays major role in the development of negative thoughts, unfavorable feelings, pessimism which lead to the other psychosocial problems like loneliness and remoteness from their social circle. Emotional factors can have an effect on both concepts of self and behavioral disturbances while interacting socially.

Conclusion

The burn victim undergoes the many unstable physical and psychological conditions. The intensity of damage of self-confidence, self-esteem and PTSD condition after the burn incident/accident differs from individual to individual, time and the trauma they experienced. However, the two primary psychological symptoms that are face by the victims are depression and low self-esteem. Therefore, BI are considered as the most harmful and damaging forms of trauma that totally alters an individual personality, perception and physical appearance that also exhibits its importance to be taken as a research topic for the study.

Limitation and Recommendations

The results of current study confirmed the available literature, but this study has some shortcoming. The sample of current study was restricted group, that is only females and they belonged to only two cities of Pakistan namely Karachi and Lahore thus it has low generalizability. In future the researchers could take sample from males and transgenders as well and sample could take from all over Pakistan, so findings can be generalized to whole population of Pakistan.

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