DOI: https://doi.org/10.54393/pbmj.v7i01.999

PAKISTAN BIOMEDICAL JOURNAL

https://www.pakistanbmj.com/journal/index.php/pbmj/index

ISSN (P): 2709-2798, (E): 2709-278X

Volume 7, Issue 1 (January 2024)

Original Article

Factors Associated with Perceived Insecurity in Burn Injuries: An Exploratory Study of Burn Survivors in Lahore

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ARTICLE INFO

Key Words:
Burn Injury, Psychological Difficulties, Perceived Insecurity, Burn Survivors

How to Cite:
Nazim, A., Alvi, K., Schwaiger, E., Nazim, T., Samuel, I. S., & Ishfaq, K. (2024). Factors Associated with Perceived Insecurity in Burn Injuries: An Exploratory Study of Burn Survivors in Lahore : Perceived Insecurity in Burn Injuries . Pakistan BioMedical Journal, 7(01). https://doi.org/10.54393/pbmj.v7i01.999

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Received Date: 19th December. 2023
Acceptance Date: 19th January, 2024
Published Date: 31st January, 2024

ABSTRACT

Burn injuries identified as a serious public health concern with high morbidity and mortality rate every year. Burn injuries are usually linked with heightened economic, social and psychological burden for causing functional impairments, social stigma, rejection and decreased social integration along with high morbidity of psychological disorders. Researchers have found various psychological phenomena impacting the recovery and effectiveness of rehabilitation of burn survivors including perceived insecurity in burn survivors. **Objective:** Present study was extracted from a larger study and aimed to explore the perceived insecurity of burn survivors seeking treatment in Lahore and to identify factors associated with it. **Methods:** The study followed a cross sectional research design to study 150 burn survivors with mean age of 36 years and including both men (39%) and women (61%). **Results:** The results revealed that female gender, single relationship status, age and education were significantly correlated with perception of insecurity in burn injury survivors. Gender and burn injury type were associated with significantly different levels of perceived insecurity in the present sample of burn survivors. The findings were discussed in light of broader research context. **Conclusions:** Demographic variables and type of burn injury relate differently with perceived insecurity among burn survivors.

INTRODUCTION

Burn injury is a common type of trauma which destroys organic tissues of skin through heat, chemicals, freezing, radiation, friction etc. [1]. Burn injury is a serious global public health issue recognized as one of the leading causes of mortality and morbidity across the world [2]. Burn injury often leaves victims vulnerable to stigmatization and social rejection for having visible scars which adversely affects their mental wellbeing [3]. Burn injuries are responsible for 180000 deaths annually and two thirds of these deaths reported in African and Southeast Asian countries [1]. Incident rate of burn injuries in low and middle income countries cumulatively makes more than 90 % of all burn injuries in the world [4]. In Southeast Asian countries burn injuries are often seen as means of assault particularly in the form of burning and acid throwing and in most of the cases the victims are females [5]. In Pakistan, there is no national burn registration program even the burn treatment centers are only established in main cities which results in lack of reliable data on exact incident rate of burn injuries in the country, however, the studies have reported it to be 147 in per one hundred thousand with mortality rate ranging from 6.5 percent to 41 percent [6]. Burn injuries are found across all age groups and socioeconomic classes and are commonly associated with various physical, social and psychological problems. Disfiguration, scarring, impaired physical functioning, economic losses, social

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stigma, social rejection, loss of self-esteem, isolation, depression and traumatic reactions are most common predicaments frequently observed in burn injury patients [7, 8]. The cost of burn injury treatment varies significantly across countries but is undoubtedly expansive. The total hospital care cost is reported to range from 10.58 US dollars to 125,597.86 US dollars per patient which is very expansive and barely affordable for most patients, particularly those living in low and middle income countries [9]. Despite getting treatment for burn injuries, the pain, social discrimination, aesthetic and functional impairments and heightened psychological distress experienced after burn injury adversely impact the self-image of the patients and become instrumental to lower quality of life and inculcate strong sense of insecurity in them [10, 11]. Emotional and somatic traumatic reactions in burn patients grabbed attention of medical health professionals and demand rehabilitative efforts to reinstate functional behaviors of burn patients [12]. Various researches have already linked emotional difficulties and physical dissatisfaction of burn with significantly reduced social functional effectiveness of burn patients [13]. Most burn survivors are seen to have heightened insecurity about their social environments which refrains joining social activities and resuming social participation [12].

In countries like Pakistan there is a strong need to assess the psychosocial burdens attached with burn injuries in order to design effective treatment programs to facilitate emotional recovery besides physical treatment and reinforce functional role of burn survivors. This is much relevant to assist burn survivors gain confidence to normalize their injury and resume active lives after burn injuries. The present study was part of a larger project conceptualized to investigate the emotional insecurities related to burn injuries and identify differences attributed to gender and type of injury in burn survivors seeking treatment in Lahore.

METHODS

The present research was based on descriptive cross sectional research design to explore the study aims. This article is extracted from a larger study conducted in Lahore during December 2020 and April 2021. The study designed was approved from ERC and IRB of Forman Christian College University Lahore through letter number IRB-231/06-2020 issued on June 16, 2020. The study sample comprised of 150 individuals receiving treatment for burn injuries from Mayo and Jinnah Hospital Lahore. Sample size was determined through g-power analysis with medium effect size and purposive sampling technique was employed to select 83 individuals with unintentional and 67 with intentional burn injuries. Individuals below 18 and above 65 years of age, those went through surgery a week before data collection, and those diagnosed with other significant physical or psychological disorders were excluded in the initial screening. The data were collected using detailed demographic sheet and perceived insecurity scale. *Demographic form* - A demographic sheet was specially designed for this study to note detailed personal and social information of study participants like gender, age, education, family income marital status, type of injury etc. *Perceived Insecurity Scale* (PIS) - To explore perceived insecurity in burn injury victims, Perceived Insecurity questionnaire developed by Valera (2010) was employed. This 29-item questionnaire assesses the level of insecurity in a respondents. This questionnaire has 5 subscales namely previous threat experiences , perception of insecurity , personal control and coping skills, social representations of insecurity and potential aggressors that record responses on a 4-point Likert scale ranging from 1 to 4 (strongly agree) and the scale's reliability calculated through Cronbach alpha was reported to be 0.85. As a first step internal consistency of scores of perceived insecurity scale and its subscales for the present study sample was assessed and for composite score observed to have an alpha value of 0.82 falling in above average range. Perception of insecurity subscale had a=0.63, previous threat experience a=0.72, social representations of insecurity a=0.65, potential aggressors a=0.75 and personal control and coping skills a=0.79. Cronbach alpha values for all the subscales noted to fall in the acceptable range. The study design was approved by ERC and IRB of Forman Christian College University and permission was sorted from author of the perceived insecurity questionnaire to use it and concerned officials for data collection. A pilot study was completed on individuals seeking out patient services from Punjab institute of mental health and Jinnah hospital Lahore to test the comprehension of data collection measures, time taken to fill measures and quality of the print. Font size of the measures was adjusted in light of the feedback of pilot study participants. The data were collected between December 2020 and April 2021. Actual study participants first received a detailed informed consent form which included information about research, participants' ethical rights etc. Then they were given demographic sheet and perceived insecurity questionnaire to fill and all participants received these data collection forms in the same sequence. After completion of research instruments all participants were thanked for their participation. The data were analyzed through Statistical package for social sciences version 22.0 (SPSS), both descriptive and inferential statistical procedures were used to process the data. The study data were analyzed through SPSS and used a range of descriptive analysis to summarize the data.

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Pearson product correlation and independent sample t-test were carried out to assess association among study variables and group differences attributable to different factors.

RESULTS

The study data were analyzed through SPSS and used a range of descriptive analysis to summarize the data (Table 1).

Table 1: Descriptive of Personal Demographic Variables

Variables	F (%)
Gender	
Male	58 (39)
Female	92 (61)
Marital Status	
Married	64 (43)
Unmarried	59 (39)
Widowed	9 (6)
Divorced	18 (12)
Socioeconomic Status	
Lower	45 (30)
Middle	80 (53)
Upper	23 (15)

The mean age of the participants was 36 (SD= 0.94) years. Females outnumbered male patients significantly with most participants being married. Majority of the burn victims belonged to middle socio-economic statuses (Table 2).

Table 2: Descriptive of Burn Injury Characteristics

Variables	F (%)
Burn injury source	
Fire	67 (45)
Chemicals	32 (21)
Hot water	33 (22)
Motorbike Silencer	5 (3)
Hot coal	6 (4)
Hot iron	7 (5)
Type of burn injury	
Unintentional	83 (55.3)
Intentional	67 (44.7)

The frequency and percentages of variables such as source of burn injury and type of burn injury was assessed and the incident rate of unintentional or accidental burn injuries were found to be significantly higher than intentional burn. The most common source of burn injury was observed to be fire (45 %) and motor bike silencer was the least frequent cause of burn injury (3%) in the present study participants (Table 3).

Table 3: Mean Scores of Perceived Insecurity across Groups

Variables	Mean ± SD
Gender	
Male	67.14 ±10.79
Female	79.52±9.87
Marital Status	
Married	72.62±11.86
Unmarried	83.67±6.95
Widowed	73.44±12.82
Divorced	74.49±11.91
Socioeconomic Status	
Lower	76.09±10.86
Middle	75.15±11.61
Upper	68.78±12.25
Burn injury source	
Unintentional	71.99±11.30
Intentional	78.13±10.86

The findings reveal that female burn survivors scored higher on perceived insecurity. Burn survivors who were single scored significantly higher compared to any those with any other relationship status. Burn survivors belonging to upper socioeconomic class had significantly lower perceived score than burn survivors from lower and middle socioeconomic levels. Survivors of accidental burn injuries had a lower average perceived insecurity score compared to those in intentional burn injuries (Table 4).

Table 4: Correlation between Perceived Insecurity and Demographic Variables (N=150)

Variables	1	2	3	4	5	6	Cohen's d
PI	1	-	-	-	-	-	0.52
Age	-.23**	1	-	-	-	-	0.84
Gender	.51**	-.28**	1	-	-	-	2.15
SESa	-.18*	.02	.09	1	-	-	1.33
Marital Status	.26**	-.11	.21*	-.23**	1	-	0.95
Education.	.19*	.06	-.18*	-.13	.05	1	0.42

a. Socioeconomic Status. *p<.05, **p<.01

The results revealed that perceived insecurity shared a significant inverse association with increasing age (p<.01) and socioeconomic status (p<.05). Interestingly, unintentional/accidental burn injuries also had negative association with perceived insecurity scores. However, perceived insecurity was positively associated with female gender (p<.01), being single (p<.01) and higher educational level (p<.05).

Table 5: Mean, Standard deviation, t-values, and Cohen's d values of Perceived Insecurity (N=150)

Variables	M	SD	T	P	95 % CI	
					UL	LL
Gender						
Men (n=58)	67.14	10.79	-7.07	<.001	-15.85	-8.91
Women (n=92)	79.52	9.87				

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Type of Injury						
Accidental (n=83)	71.98	11.30	-3.24	<.001	-9.89	-2.39
Non-Accidental (n=67)	78.13	11.73				

Note. Df = 148. CI=Confidence Interval. UL= upper limit, LL=lower limit

An independent sample t-test was also used to analyze and compare the perceived insecurity among unintentional and intentional burn victims. There was a significant difference in scores for unintentional burn victims and intentional burn victims (p=.001) as participants with intentional burn injury had higher score on perceived insecurity. The magnitude of the differences in the means was moderate (eta squared=.07). The findings also reveal that both groups showed significant differences in previous threat experience (p=.006), social representations of insecurity (p=.004), potential aggressors (p=.00), personal control and coping skills (p=.001). No significant difference was found in perception of insecurity (p=.32). In general, these results showed that the patients with unintentional and intentional burn injuries perceived dimension of insecurity differently from one another, but their overall subjective experience of perceiving insecurity was similar.

DISCUSSION

The rationale of the present study was to assess the personal and injury related factors that link significantly with perceived insecurity in burn victims, after having surgery. For this purpose a sample of 150 burn victims was studied from the burn units of Lahore, Pakistan. Most of the burn victims are likely to experience various psychological problems after burn injury from which emotional insecurity and problems related to it are common [13, 14]. The findings of the present study also confirmed that majority of the burn survivor scored significantly higher on insecurity and its related problems which aligned with findings of other studies reporting dissatisfaction and psychological disturbances after burn injuries [14, 15]. Perceived insecurity in the present study was observed to get lower with age and high income which aligns with findings of many other studies [16]. Young individuals are most likely to place more attention on physical attractiveness thus remain more conscious of their own physical appearance than their older counterparts. Physical scarring after burn might have made the younger patients more conscious of losing physical appeal to others which consequently must have increased their insecurity [16]. Better income levels usually provide easy access to better resources, therefore, the higher income might developed this awareness of availability of better treatment even cosmetic procedures to treat the scars or at least camouflage to improve the body aesthetics. This finding can be supported by inferences drawn in previous studies that utilization of advanced treatment improved body image and social participation of burn victims [15]. The findings were also consistent with conclusions of the previous studies reporting that burn patients from disadvantaged backgrounds generally show more psychological difficulties and lower participation in socially integrated activities even after recovery [17, 18]. In present study, females showed significantly higher levels of insecurity. Women are generally observed to be more conscious of their physical attractiveness as they face harsh social judgment on physical appearance compared to males, and likely to pay a lot more attention to body aesthetics than males. This must have contributed to the higher levels of insecurity among female participants in present sample. This finding can be supported by findings of previous studies [14] reporting that visible burn scars result in lower social integration particularly in female burn survivors [13]. Insecurity was higher among those who were single and had higher educational levels, these findings are supported by other researches that recorded higher levels of appearance anxiety and related psychological distress in single and highly educated burn patients [19]. Physical attractiveness plays an instrumental role in social acceptance and rejection and single burn survivors might be fearful of losing attraction particularly for potential relationship partners and also getting social rejections otherwise. Higher insecurity might reflect that education makes individuals more insightful and aware of their problems, education is also likely to develop better understanding of social judgmental biases making the individuals more aware of their physical appearance which many at times actively manipulates social acceptability. Specific type of burn injuries can lead to different kind psychological distress, this also supports the current findings which noted that individuals in intentional burn group scored significantly high on perceived insecurity [20, 21]. Some studies have concluded that kind of burn injury does not influence the feeling of insecurity of going back to social situations or environments where the burn injury took place or social settings where they are likely to get judged on their scars [22]. However, most of the previous studies reported higher levels of insecurity and psychological distress among intentional burn injury survivors compared to unintentional burn injury cases [23]. Despite the limitation that data were only collected from one city, current findings will help to fill in the research gap. As the perceived insecurity was not studied in burn survivors in Pakistan earlier. This research can also help future researchers to explore this significant area more to facilitate the rehabilitation of burn survivors.

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CONCLUSIONS

This study was conducted to investigate significant differences in perceived insecurity attributed to various demographic factors among burn survivors. Findings of the present research revealed that the demographic factors are associated with significantly different levels of perceived insecurity in burn survivors.

Authors Contribution

Conceptualization: AN, KA, TN
Methodology: AN, KA, ES, ISS, KI
Formal analysis: AN, KA, ES, TN
Writing-review and editing: AN, ES, TN, ISS, KI

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

The author received no financial support for the research, authorship and/or publication of this article.

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