



PREDICTING ROLE OF EMOTIONAL AND BEHAVIORAL PROBLEMS ON  
POST-TRAUMATIC STRESS SYMPTOMS AMONG WOMEN WITH  
UNINTENTIONAL BURN INJURY

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Abstract

The present study examine the predictive role of emotional and behavioral problems on post-traumatic stress symptoms among women with unintentional burn injury. Here emotional problems include depression, and anxiety whereas behavioral problems include conduct issues. 200 women burn survivors age above 19 years were examined. The demographic form along with Adjustment Problem Scale for Adults (to measure depression, anxiety and conduct problems) and Post-Traumatic Stress Disorder Checklist-Civilian Version (to measure post-traumatic stress symptoms). In SPSS version 24, descriptive statistics and multiple regression were employed for data analysis. The findings showed that depression, anxiety and conduct problems significantly predict post-traumatic stress symptoms among women with unintentional burn injury  $F(3,196) = 58.94, p < .001$ ). Further, anxiety, depression, and conduct problems explained 47.4% variance in post-traumatic stress symptoms ( $R^2 = .474$ ). Among the predictive variables, anxiety ( $\beta = .27, p = .003$ ), depression ( $\beta = .28, p = .001$ ), and conduct issues ( $\beta = .23, p = .001$ ) made significant positive influence on post-traumatic stress symptoms. These finding indicated that if anxiety, depression, and conduct problems were high the post-traumatic stress symptoms also elevate. It was concluded that anxiety, depression, and conduct problems were significantly predicting the post-traumatic stress symptoms among women with unintentional burn injury.

**Keywords:** Anxiety, Depression, Conduct Problems, Post-Traumatic Stress Symptoms, Women with Unintentional Burn Injury.

Article Details:

Received on 30 Sept 2025

Accepted on 27 Oct 2025

Published on 29 Oct 2025

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## INTRODUCTION

A burn injury is characterized as an injury resulting in damage to the skin or another body part mostly due to heat, chemicals, electricity, radiation, friction, or contact with chemicals (Peck, 2011; Rybarczyk et al., 2017). A severe burn is more than just a physical injury; it is an intense psychological experience resulting in a difficult process of recovery that includes acute care, pain management, a range of different procedures, and rehabilitation, all of which contribute to the inevitable psychological distress (Wiechman & Patterson, 2004). The literature consistently shows that a burn injury can lead to numerous mental health problems, with post-traumatic stress being one of the most common and difficult complications to endure (Giannoni-Pastor et al., 2016).

### **Burn Injury from a Woman's Perspective**

Post-burn psychopathology affects all survivors; however, women may face unique obstacles in the recovery course. The literature suggests that females may be more at risk for developing specific psychological issues, primarily when the injury results in visible scarring or facial disfigurement. The pressure that society places on female body image, social roles, and appearance can significantly exacerbate the psychological consequences of visible injuries. Often, this leads to further complications in the woman's psychological state and engender a greater sense of loss, social isolation, and psychological distress (Van Loey & Van Son, 2003; Wiechman & Patterson, 2004). Following a burn injury, Psychological Factors are commonly reported in survivors. Wiechman and Patterson (2004) and Lodha et al. (2020) report that there is a high prevalence of mental health concerns, such as depression, anxiety, and Post-Traumatic Stress Disorder (PTSD), and Conduct problems in burn survivors.

The current study will check the emotional and behavioral problems. Emotional problems include depression, and anxiety while behavioral problems include conduct issues

### **Depression and Burn Injury**

Depression, as a psychological factor, represents by period of sadness, impairment in interest, and feelings of guilt (Wiechman & Patterson, 2004).

**Association between Burn Injury and Depression:** the burn injury is a major stressor that can prompt depression

**Pain:** The severity of depression is often positively correlated with a patient level of resting pain (Wiechman & Patterson, 2004).

**Disfigurement and Body Image:** Changes in physical appearance and function, can drastically interfere with self-image and social interactions, particularly with women who often find these losses incredibly difficult and end up exhibiting depression (Mobach et al., 2023). It would seem that the magnitude loss associated with burn injury—the loss of appearance, function, and independence—is key elements that contribute to depression (Mobach et al., 2023).

**Loss of Function/Independence:** The grief and isolation that stem from long-term effects obtain physical limitation in role assumption (e.g. social roles prior to injury) appears to be a source of significant affective distress (Wiechman & Patterson, 2004)

### **Anxiety and Burn Injury**

One of the most immediate and commonly reported psychological factors is anxiety, which often presents in the acute phase of a burn injury (Wiechman & Patterson, 2004).

**The relationship between burn injury and anxiety:** Anxiety is involved with both the trauma and the highly stressful medical process:

Pain and procedures. Both the anticipation of and experience of having to go through a painful procedure (e.g., care of the burn wound) can lead to acute anxiety, which often leads to a cycle of increasing anxiety that increases the experienced pain (Zaboli Mahdiabadi et al., 2024).

**Uncertainty and Fear:** Patients frequently worry about the outcomes of their injury, potential future procedures, long-term level of function, and acceptance of their injury from others, which perpetuates a high degree of anxiety (Wiechman & Patterson, 2004).

**Acute stress disorder (ASD) and PTSD:** The early signs of anxiety can become ASD (occurring within the first month after the injury) and then can become PTSD (Wiechman & Patterson, 2004).

### **Conduct Problems and Burn Injury**

Conduct problems usually include defiant, impulsive, or rule-breaking behaviors (Wisely et al., 2010). Most of the discussion is in children, but many of the same problem behaviors can be seen in adults with burn injuries, such as irritability, anger, and aggression and are frequently described in the hyperarousal component of PTSD (Vahia, 2013).

### **Burn Injury and Conduct Problems/Disruptive Behaviors**

The trauma associated with a burn injury may be so overwhelming and lead to emotion dysregulation, thus to one's disruption or oppositional behaviors, which are unproductive coping mechanisms (Vahia, 2013). Those with histories of behavioral issues are likely to have diminished coping strategies. This may add to the emotional toll of the trauma and/or chronic PTSD symptoms (Wisely et al., 2010). Impulsive behavior, controllable anger, and/or frustration could acute treatment and physical therapy (Ter Smitten et al., 2011), leading to less physical outcomes (i.e. severe scarring) which then perpetuate body image dissatisfaction and increased social anxiety which are considered antecedents to PTSD.

The depression, anxiety and conduct problems among women with unintentional burn injury may lead to post-traumatic stress symptoms.

### **Post-Traumatic Stress Disorder (PTSD)**

Post-Traumatic Stress Disorder (PTSD) is a psychiatric disorder that may follow exposure to a traumatic event (Bryant, 2019). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) categorizes PTSD as a disorder occurring due to traumatic events that shall include but are not limited to direct experience of the traumatic event, witnessing the traumatic event and/or exposure to the extreme aspects of the traumatic event (Vahia, 2013). The event of being severely burned meets a diagnostic category for a psychological trauma which leads to among the highest rates of PTSD in survivors of such injuries (Wiechman & Patterson, 2004).

### **Impact and Comorbidity with PTSD**

Comorbid depression, anxiety, and disruptive behaviors (irritability and anger) can increase or intensify the symptoms of PTSD. For instance, a person who experiences high levels of anxiety will overlap and exacerbate hyperarousal and avoidance symptoms of PTSD.

**PTSD Relationships to Anxiety, Depression, and Conduct Disorder (Comorbidity):** Having PTSD along with one, two, or three other diagnoses or disorders is the expectation rather than the exception, and co-occurrence occurs in more than 78% of cases.

**Anxiety and Depression:** Substantial symptoms of depression and anxiety, particularly in the acute phase, are often predictors of chronic PTSD in the future. Higher levels of anxiety can enhance perceptions of vulnerability and the impact of depression can lead to

avoidance behaviors that impede effective trauma processing (Giannoni-Pastor et al., 2016; Mobach et al., 2023).

**Comorbid Effects:** The presence of these co-occurring conditions exacerbate the severity of all symptoms, complicate the diagnostic process, and are associated with poorer outcomes in treatment relative to PTSD alone (Elliott et al., 2015; Flory & Yehuda, 2015).

## Objective

The main objective of the study was to inspect the predicting role of emotional and behavioral problems in relation to post-traumatic stress symptoms among women with unintentional burn injury.

Precisely, the study purposes was to identify how emotional and behavioral difficulties contribute to the overall level of post-traumatic stress symptoms experienced by women with unintentional burn injury. Understanding the predictors of post-traumatic stress symptoms among women with unintentional burn injury clutches noteworthy psychological and social worth. Women role frequently face numerous emotive and environmental stressors that directly trigger their psychological well-being and daily routine. By recognizing how depression, anxiety, and conduct difficulties contribute to post-traumatic stress symptoms among women with unintentional burn injury, this study can help in various ways. It can enhance the literature on women with burn injury as what psychological difficulties they encounter. Further, it assist mental health specialists in planning gender-based approaches for the prevention of post-traumatic stress symptoms and associated psychological problems among women with burn injury. Finally, the study will enable the expansion of directed psychotherapy and counseling services to manage the problems more efficiently.

## METHOD

The main objective of the study was to identify depression, anxiety and conduct problems as the predictor of post-traumatic stress symptoms among women with unintentional burn injury.

## Design

The current study employed a cross-sectional research design to collect data from women with unintentional burn injury.

## Participants

The study's sample of 200 female burn survivors was carefully selected to meet certain inclusion and exclusion criteria. Participants were adult females aged 19 years or older who had incidental burn injuries six months to two years before to the study's initiation.

A number of exclusion criteria were also finalized. To ensure that post-burn cognitive functioning could be more reliably attributed to the burn experience itself, rather than to unrelated medical or psychological conditions, participants with physical impairments, diagnosed mental health conditions, or pre-existing physical illnesses were excluded from the study. In order to preserve a distinct and focused focus on women who suffered accidental burn trauma, cases involving intentional burn injuries (such as self-harm or violence) and male burn survivors were also disregarded. In order to guarantee that the sample represented adult psychosocial experiences—which can differ significantly from those of adolescents—women under the age of 19 were also excluded.

## Sampling Technique

Purposive sampling, which is frequently used in psychological and medical research where particular participant traits are crucial to the study's goals, was used to choose the participants. Age, gender, and the existence of burn injuries of different severity were

among the predetermined inclusion criteria that purposefully served as a guide for the selection procedure. Participants were only invited if they satisfied these requirements and could give their full consent. By carefully choosing people with relevant experiences, the researcher was able to guarantee that the sample accurately reflected the target population of women burn survivors. In order to guarantee the gathering of rich, pertinent, and significant data in line with the goals of the study and to enable a thorough analysis of the psychological effects of burn severity, purposeful sampling was selected.

## Measures

The following instruments were used to collect data from respondents. A sociodemographic data collection form was developed. Age, education, marital status, family structure, employment status, type of residence, burn type, burn severity, affected body part, first aid, time since burn, length of hospital stay, health issues, satisfaction with treatment, and the person who brought the patient to the hospital are taken into consideration. The emotional (depression, anxiety) and behavioral problems (conduct problems) of female burn victims were measured using Adjustment Problem Scale for Adults (Naz et al., 2018). There were three subscales (depression, anxiety and conduct problems) with 48 items. The 3-point Likert scale ranging from 1 to 3 was used as response categories. The minimum and maximum scores range from 48 to 144. The scale shows high reliability (.929) and validity (Naz et al., 2022). The post-traumatic stress symptoms were assessed using the Post-Traumatic Stress Disorder scale that was Civilian Version (Lang et al., 2012). The scale was on 5-point Likert scale and have 6 items. The scale shows specificity and sensitivity of .72 and .92 respectively with the cutoff of 14. The reliability of the scale was .78. The scale was translated into Urdu for the current research with the permission of the author.

## Procedure

The study's sample was selected through the use of purposive sampling. The sample consisted of female responders who were unintentionally burned. The injury must also occur between the ages of six months and two years. The minimum age requirement for participation is nineteen. The sample was sourced from local communities and non-governmental organizations, as well as numerous burn centers in Lahore, Gujrat, Islamabad, and Rawalpindi. For the aim of gathering data, the hospital and non-governmental organizations were given the scale brochure, written consent, and permission letter. With official permission from the appropriate authorities, the respondents were contacted. The researcher secured the respondents' signed agreement and gave them guarantees of anonymity, such as that their identity would remain confidential, in order to guarantee that only willing participants were included in the survey. By introducing themselves, their affiliation with the organization, and the goal of the study, the researcher built rapport with the respondents before distributing the scales. In order to choose the answers that best suited their replies and mental states, the participants were enticed to carefully review the items. All of the scales used in this study were approved by the authors via email. The researcher thanked the responders for their assistance in finishing the study after data collecting was finished.

## Data Analysis

Descriptive statistics and multiple regression analysis were used to evaluate the data using SPSS (v-24).



RESULTS

The majority of the women with unintentional burn injury had a bachelor's degree and were unemployed. Majority ages range from of 19 to 35. The majority of women with unintentional burn injury were married and had children range from 1-3. The majority have 3-5 sibling and belong to family income group of 15,000–35,000. Majority lives in urban setting. Hot or Scald fluid was the most common cause of burns, with 1-3 body parts suffered. Most had 2-3 health problems and were satisfied with the treatment they received. Majority had short hospital stays and get immediate first aid after the injury. Majority were taken to the hospital by their parents.

Table 1: Multiple Regression Analysis Predicting PTSD

Predictor	B	SE B	$\beta$	t	p
Constant	1.63	1.58	—	1.03	.302
Anxiety	0.17	0.055	.27	3.03	.003
Depression	0.22	0.064	.28	3.49	.001
Conduct Problems	0.25	0.070	.23	3.51	.001

Note.  $R = .689$ ,  $R^2 = .474$ , Adjusted  $R^2 = .466$ ,  $F(3,196) = 58.94$ ,  $p < .001$

Dependent variable: Post-Traumatic Stress Symptoms

Multiple regression analysis was used to explore whether anxiety, depression, and conduct problems significantly predicted post-traumatic stress symptoms. The results shown that anxiety, depression, and conduct problems was significant predictor of post-traumatic stress symptoms  $F(3,196) = 58.94$ ,  $p < .001$  ). Further, 47.4% of the explained variance in post-traumatic stress symptoms was due to anxiety, depression, and conduct problems ( $R^2 = .474$ ). Among the predictive variables, anxiety problems ( $\beta = .27$ ,  $p = .003$ ), depression problems ( $\beta = .28$ ,  $p = .001$ ), and conduct problems ( $\beta = .23$ ,  $p = .001$ ) each made significant positive influence to post-traumatic stress symptoms. These finding indicated that if anxiety, depression, and conduct problems were high it leads to higher post-traumatic stress symptoms. Overall, the findings suggest that anxiety, depression, and conduct problems were significant predictors of post-traumatic stress symptoms among women with unintentional burn injury.

DISCUSSION

The results suggest that depression, anxiety, and conduct issues are important predictors of post-traumatic stress symptoms experienced by women with unintentional burn injury  $F(3,196) = 58.94$ ,  $p < .001$  ). The significance of predicting post-traumatic stress symptoms with respect to these emotional and behavioral problems suggest notable urgent clinical implications. All three predictors represented valuable psychological constructs to identify early risk of post-traumatic stress symptoms (Zugbur et al., 2025); thus, it is important to understand the acute nature of these concerns when observed post-trauma and make allowances in our therapeutic approach to delivery. The significance of conduct issues with respect to the greater understood measures of psychological constructs is another consideration for therapeutic delivery. Since all three issues have the potential to predict post-traumatic stress symptoms, managing all three of these issues in acute outpatient care may prevent serious acute and long-term consequences. Therefore, the reduction of acute anxiety and depression, or improving compliance with undertaking behavioral tasks to appropriately manage conduct issues, may be an effective pathway to ameliorate the acute severity and chronic course of post-traumatic stress symptoms (Kerbage, et al., 2022). In summary, the findings offer support for a broad based, psychological vulnerability model following severe trauma whereby each individual risk factor adds to the overall

psychological vulnerability risk that can be observed in extreme traumatic stress following burn injury. As an example, high anxiety can serve to build on an anxious cognitive behavioral pattern of increasing vigilance and a heightened perception of threat that keep the individual psychologically blocked in a reactive cognitive dilemma, "danger is still present", which is fundamental to post-traumatic stress symptoms symptoms like hypervigilance and prolonged fear response behavioral re-experiencing (Kimble et al., 2014; Kessler et al., 2017). Depressive symptoms may result in withdrawing socially and functionally, which cultivates behaviors that inhibit effective processing and integration of traumatic memories, which is a hallmark of the maintenance of post-traumatic stress symptoms. In addition, behavioral concerns, impulsivity, and noncompliant medical behaviors may yield subsequent poorer physical outcomes (e.g., more scarring or more pain). Increased physical distress and negative body image are possible continued triggers exacerbating and reinforcing post-traumatic stress symptoms (Center for Substance Abuse Treatment, 2014). Strong p-values across all three factors suggest that women burn survivors experience multiple vulnerabilities. To predict outcomes, mood disorders cannot be isolated from behaviors and behavioral control. The studies were specifically aimed at women, further an implication of gender-specific care (Zaman et al., 2023). As noted, being female is independently associated with increased risk of anxiety and depressive symptoms after a burn (Paggiaro et al., 2022; Ter Smitten et al., 2011). The implications suggest that increased vulnerabilities co-occur with traumatic events to create chronic PTSS, and indicate the value of gender sensitive screening and psychosocial support.

## CONCLUSION

It was concluded that anxiety, depression, and conduct problems were significantly predicting the post-traumatic stress symptoms among women with unintentional burn injury.

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