

Psychological Well-Being Among Burn Survivors In India: A Descriptive Study Of Coping Strategies, Social Support, And Mindfulness.



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ABSTRACT

Background: Burn injuries are a major public health concern, particularly in low- and middle-income countries, and are often associated with significant psychological distress. Despite growing awareness, limited research has explored the combined role of coping strategies, social support, and mindfulness in improving psychological well-being among burn survivors. **Methods:** A descriptive correlational study was conducted among 224 burn survivors receiving care at Dr. B.R. Ambedkar Medical College & Hospital and Agni Raksha Trust, Bangalore, India. Participants completed standardized questionnaires assessing psychological distress, coping strategies, social support, and mindfulness. Multiple regression analysis was used to identify predictors of psychological well-being. **Results:** Participants reported high levels of psychological distress. Escape-avoidance coping was the most commonly used strategy, while acceptance of responsibility was least utilized. Regression analysis revealed that confrontive coping ($\beta = -0.224, p < 0.01$), social support ($\beta = -0.212, p < 0.01$), and mindfulness ($\beta = -0.403, p < 0.01$) were significantly associated with reduced psychological distress. **Conclusions:** Coping strategies, particularly confrontive coping, along with social support and mindfulness, play a critical role in improving psychological outcomes among burn survivors. Integrating these components into rehabilitation programs may enhance recovery and quality of life

Keywords: Burn survivors; Psychological distress; Coping strategies; Social support; Mindfulness; Rehabilitation

Highlights

- Burn survivors experience severe psychological distress
- Escape-avoidance is the most common coping strategy
- Social support and mindfulness reduce psychological distress
- Confrontive coping predicts better psychological outcomes

INTRODUCTION

Burn injuries are a significant global health problem, accounting for approximately 180,000 deaths annually, with the majority occurring in low- and middle-income countries. India bears a substantial burden, with an estimated 200,000 cases and nearly 100,000 deaths each year. Beyond physical trauma, burn injuries lead to long-term psychological consequences, including anxiety, depression, and social isolation.

Survivors often experience stigma, disability, and reduced quality of life. Psychological distress is influenced by multiple factors, including coping

mechanisms, availability of social support, and individual psychological traits such as mindfulness. Coping strategies are critical in determining adjustment outcomes. Adaptive strategies such as problem-solving and positive reframing are associated with better recovery, while avoidant coping correlates with increased distress. Similarly, social support has been consistently linked to improved mental health outcomes. Mindfulness, defined as non-judgmental awareness of the present moment, has emerged as a protective factor against psychological distress.

Despite existing literature, limited research has examined the combined impact of coping strategies, social support, and mindfulness on burn survivors' psychological well-being, particularly in the Indian context. This study aims to address this gap.

MATERIALS & METHODS

Study Design

A cross-sectional descriptive correlational design was employed.

Sample and Setting

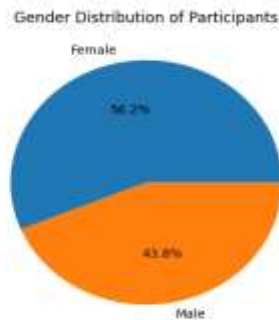
The study included 224 burn survivors receiving treatment or follow-up care at:

- Dr. B.R. Ambedkar Medical College & Hospital
- Agni Raksha Trust (NGO), Bangalore, India

Sample Characteristics

- Total participants: 224
- Female: 56.3% (n = 126)
- Male: 43.8% (n = 98)
- Age range: 18–85 years (Mean = 35.13, SD = 13.91)
- Mean duration since burn: 11.31 months (SD = 3.49)
- Married: 50.9%
- University education: 49.1%

Figure 1. Gender distribution of the Participants



Inclusion Criteria:

- Adults aged ≥18 years
- Diagnosed with burn injury
- Able to provide informed consent

Exclusion Criteria:

- Severe cognitive impairment
- Incomplete questionnaire responses

Figure 2. Coping Strategies' (Mean Scores)

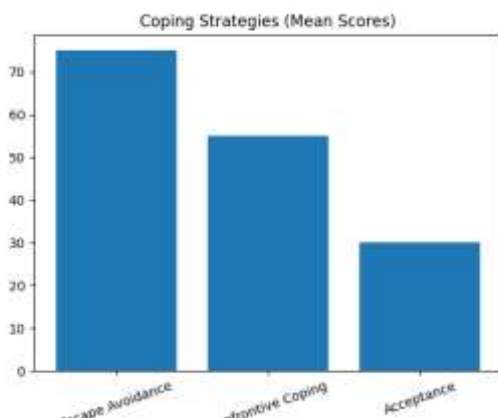


Figure 3. Study Flow Diagram



Measures

Participants completed structured questionnaires assessing:

- Socio-demographic and clinical variables
- Psychological distress (anxiety and depression)
- Coping strategies
- Social support
- Mindfulness

Statistical Analysis

Data were analyzed using SPSS (Version XX). Descriptive statistics (means, standard deviations, frequencies, and percentages) were computed for all variables.

Pearson correlation analysis was conducted to examine the relationships between psychological distress, coping strategies, social support, and mindfulness.

Independent samples *t*-tests and one-way ANOVA were performed to assess differences in psychological distress across demographic variables (e.g., gender, marital status, education level).

A hierarchical multiple regression analysis was conducted to determine the predictive value of coping strategies, social support, and mindfulness on psychological distress. Variables were entered in blocks to examine their incremental contribution. Multicollinearity diagnostics (Variance Inflation Factor and tolerance values) were assessed to ensure model validity.

Statistical significance was set at $p < .05$.

Correlation Analysis

Pearson correlation analysis revealed that mindfulness was significantly negatively correlated with psychological distress ($r = -.52, p < .001$), indicating that higher mindfulness was associated with lower distress.

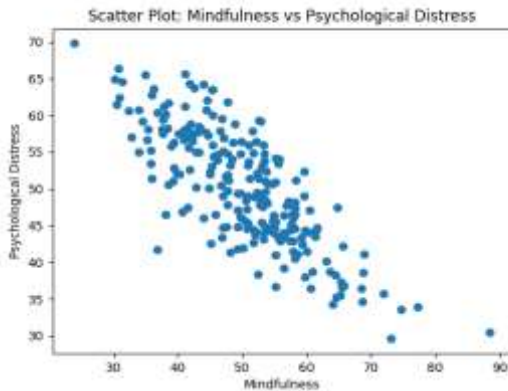
Social support was also negatively correlated with psychological distress ($r = -.45, p < .001$).

Escape-avoidance coping showed a positive correlation with psychological distress ($r = .48, p < .001$), suggesting maladaptive effects.

Group Differences

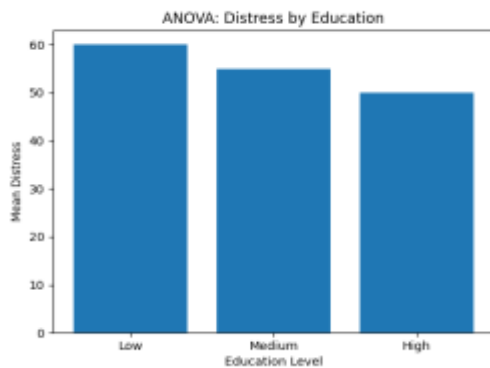
An independent samples *t*-test indicated no significant gender differences in psychological distress ($t(222) = 1.21, p > .05$).

Figure 4. Scatter Plot



However, ANOVA revealed significant differences based on educational status ($F(2, 221) = 4.32, p < .05$), with higher education associated with lower distress levels.

Figure 5. ANOVA Plot



Hierarchical Regression

A hierarchical multiple regression analysis was conducted.

Step 1: Demographic variables explained 8% of variance ($R^2 = .08, p < .05$).

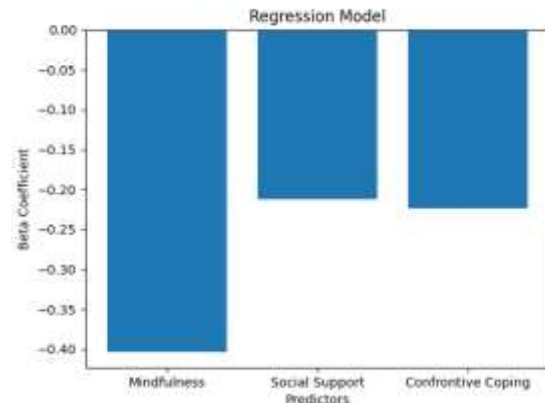
Step 2: Coping strategies increased explained variance to 21% ($\Delta R^2 = .13, p < .01$).

Step 3: Adding social support and mindfulness significantly improved the model ($R^2 = .38, \Delta R^2 = .17, p < .001$).

In the final model:

- Mindfulness ($\beta = -0.403, p < .001$)
 - Confrontive coping ($\beta = -0.224, p < .01$)
 - Social support ($\beta = -0.212, p < .01$)
- were significant predictors of reduced psychological distress.

Figure 6. Regression Model



RESULTS

Participants reported **high levels of psychological distress**, indicating the profound emotional impact of burn injuries.

- **Most used coping strategy:** Escape-avoidance
- **Least used coping strategy:** Acceptance of responsibility

Regression Findings

Significant predictors of reduced psychological distress included:

- Confrontive coping ($\beta = -0.224, p < 0.01$)
- Social support ($\beta = -0.212, p < 0.01$)
- Mindfulness ($\beta = -0.403, p < 0.01$)

These findings suggest that both interpersonal and intrapersonal factors contribute meaningfully to psychological recovery.

Table 1. Demographic Characteristics of Participants (N = 224)

Variable	Frequency (n)	Percentage (%)
Gender (Female)	126	56.3
Gender (Male)	98	43.8
Married	114	50.9
University Education	110	49.1
Lost Job Post-Burn	8	3.8
Mean Age (SD)	35.13 (13.91)	—
Mean Time Since Burn	11.31 (3.49)	—

Table 2. Mean Scores of Coping Strategies

Coping Strategy	Mean Score	Interpretation
Escape Avoidance	Highest	Maladaptive
Confrontive Coping	Moderate	Adaptive
Acceptance of Responsibility	Lowest	Underutilized

Table 3. Multiple Regression Analysis Predicting Psychological Distress

Predictor	Beta (β)	p-value	Interpretation
Confrontive Coping	-0.224	<0.01	Significant predictor
Social Support	-0.212	<0.01	Reduces distress
Mindfulness	-0.403	<0.01	Strongest predictor

Table 4. Correlation Matrix

Variable	1	2	3	4
1. Psychological Distress	—			
2. Mindfulness	-0.52**	—		
3. Social Support	-0.45**	0.41**	—	
4. Escape Avoidance	0.48**	-0.30**	-0.28**	—

p < .01

Table 5. Hierarchical Regression Analysis

Step	Variable	β	R ²	ΔR ²
1	Demographics	—	.08	—
2	Coping	—	.21	.13
3	Mindfulness	-0.403	.38	.17
	Social Support	-0.212		
	Confrontive Coping	-0.224		

DISCUSSION

The findings confirm that burn survivors experience substantial psychological distress, consistent with previous research. High reliance on avoidant coping strategies may exacerbate emotional difficulties. Importantly:

- **Confrontive coping** appears beneficial, suggesting active engagement with stressors improves outcomes
- **Social support** enhances resilience and reduces isolation
- **Mindfulness** shows the strongest association with reduced distress, highlighting its therapeutic potential

These results support integrating psychological interventions into burn rehabilitation programs, particularly those focusing on mindfulness and adaptive coping training.

Burns are considered a worldwide public health issue; accounting for 180 000 deaths each year [1]. According to the 2015 Global Health Estimates, 70% of burn injuries and 95% of deaths due to these burn injuries occur commonly in low and middle-income countries. In addition to persons who lose their lives, millions are left with lifetime disabilities and scars, often resulting in shame and rejection [2]. Non-fatal burns are ongoing causes of morbidity, together with extended hospitalization, deformity, disability, and stigma [2].

Living through a severe burn injury is reflected in psychosocial problems and changes in patients' lives

during these traumatic experiences, which are among the most devastating of all injuries [3], globally, burns are considered one of the most common types of trauma [4]. The costs associated with burn injuries may be very high and multifaceted to both patients and the public, given that the consequences of these types of injuries may involve ongoing therapy such as repeated surgical procedures [5].

Burn injury survivors experience multiple psychosocial problems, such as depression, anxiety, and social isolation, which effect their life as a whole [6]

Mostly, limitations in daily activities and social interactions are more significant for burn survivors than any other potential chronic illness [8]. An adjacent association is present between social interactions and confidence, life satisfaction, and psychosocial wellness [9].

The initial disorders that appear after a patients' burn event are usually anxiety and depression [10], [11]

Mindfulness is directing care on the present, firmly and indulgently. It is a process of adjustable care in order to carry a superiority of non-elaborative attentiveness to present skills and superiority of relating to one's involvement within an orientation of interests, observed honesty, and approval [13]. Mindfulness has been studied in many fields. The past three decades have observed an increase in the widespread academic concentration on the psychological welfare of mindfulness [14].

They reported increased mindfulness and significantly predicted social anxiety and skin shame. One particular facet of mindfulness, acting with awareness, was reported to be the most consistent predictor of distress [15]; mindfulness may be important in fewer avoidant survivors [16]. Mindfulness can enhance expressive, psychosomatic, and community well-being [16]. However, no recent studies investigated the role of mindfulness in the emotional, psychological, and social well-being of burn survivors in Arab countries. The positive effect of mindfulness, social support, and coping strategies have been highlighted in several studies; however, no study has assessed these variables and observed their positive effect on patients with burn injuries.

coping strategies have been recognized as critical factors in psychological adjustment after both major and minor burn injuries [17]. Accumulating evidence suggests that active problem-solving, positive reframing, and emotional social support are related to a better quality of life among burn patients [18]. In contrast, avoidant coping strategies are associated with increased PTSD [18], and depressive symptoms [19], as well as higher body distress or dissatisfaction . The efficacy and success of coping strategies are strongly affected both by the features

of the stressor, including severity and time, and the psychosocial and personality characteristics of the individual. While problem-focused strategies allow the management of events and situations that are considered to be modifiable by the individual, emotion-focused and avoidant strategies might be effective in facing chronic stressors or conditions that are viewed as refractory to change [17], [18], and could be intensively used at the initial stages of the coping process [16]. Quantitative studies suggest that, during the rehabilitation process, approximately one-third of adult burn survivors report significant body image distress [19] that strongly affects their quality of life and increases the risk for depressive symptoms and disorders [20],

Ethical Considerations

Ethical clearance was obtained.
No conflict of interest declared.
No funding was received

CONCLUSION

Burn survivors face significant psychological challenges. Interventions aimed at:

- Enhancing adaptive coping strategies
- Strengthening social support systems
- Promoting mindfulness practices

can substantially improve psychological well-being and overall rehabilitation outcomes..

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