



## UNDERSTANDING MEDICOLEGAL IMPLICATIONS OF DOMESTIC BURNS: TREATMENT MODALITIES, HOSPITAL STAY AND OUTCOMES

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### ABSTRACT

**Background:** Domestic violence, including incidents of burns, poses significant challenges to healthcare and law and justice departments globally, with profound implications for physical and psychological well-being of victims of domestic violence. Understanding the treatment modalities, hospitalization durations, and outcomes among individuals affected by domestic burns is crucial for informing effective interventions and support services.

**Subjects and Methods:** Data were collected from 250 individuals involved in domestic violence incidents and seeking medical assistance. Information on treatment modalities, LoS, and terminal outcomes was collected through structured interviews, medical records, and consultations with healthcare professionals. Descriptive statistics, including frequency distributions and percentages, were employed to analyze the data.

**Results:** The majority of individuals opted for hospitalization in public sector healthcare facilities, with a significant proportion experiencing prolonged LoS exceeding two weeks. Despite survival prospects, a notable proportion of victims succumbed to their injuries, highlighting the severity and impact of domestic burns on mortality rates.

**Conclusion:** The findings underscore the multifaceted nature of domestic burns and emphasize the need for comprehensive interventions addressing treatment accessibility, healthcare delivery, and psychosocial support to mitigate the adverse effects of domestic violence on individuals and communities.

**Keywords:** Domestic Burns, Treatment Modalities, Hospitalization Duration, Terminal outcomes, Domestic violence.

## INTRODUCTION

Domestic violence ensues and ends up with physical and emotional abuse within the society of complex relationships, remains a global issue worth of attention with profound consequences for individuals and societies<sup>1</sup>. It is a heavy burden on the spines of medicolegal forensic experts, healthcare system and justice delivery avenues. Among its various manifestations, domestic burns represent a particularly severe form of injury, often resulting in significant physical and psychological trauma, long-term disabilities, and in some cases, fatalities<sup>2</sup>. Despite increasing awareness and efforts to address domestic violence, the prevalence and impact of domestic burns persist, necessitating comprehensive research and interventions to mitigate its effects<sup>3</sup>.

In the current study we specifically aim to investigate three pivotal aspects concerning victims involved in domestic burns: Mode of Treatment<sup>4</sup>, Length of Hospital Stay (LoS)<sup>5</sup>, and Terminal Outcome<sup>6</sup>. Understanding these dimensions is crucial for elucidating the experiences, challenges, and outcomes faced by individuals affected by domestic burns, as well as for informing targeted interventions and support services. The legal framework of law and justice department on one hand and the medicolegal services in a forensic medicine department needs to shaped accordingly<sup>6</sup>.

The mode of treatment received by burn victims reflects the initial response and healthcare pathways following the incident<sup>7</sup>. By analyzing the utilization patterns of outpatient care, hospitalization in private or public sectors, or alternative therapies such as traditional medicine, this study seeks to discern the accessibility, effectiveness and disparities in healthcare services available to burn victims within the domestic setting<sup>8</sup>.

Furthermore, the length of hospital stay (LoS) serves as a proxy for the severity of burn injuries and the complexity of medical care required. Longer LoS may indicate more extensive injuries, complications, or the need for specialized treatments, highlighting the challenges and resource allocations necessary for the management of severe burn cases. Conversely, shorter LoS may suggest milder injuries or prompt recovery, underscoring the importance of timely and effective medical interventions in improving outcomes for burn victims<sup>4-6</sup>.

Lastly, the terminal outcome, whether survival or fatality, epitomizes the ultimate impact of domestic burns on individuals' lives. Understanding the distribution of terminal outcomes is critical for assessing mortality rates, identifying risk factors associated with adverse outcomes, and informing preventive strategies and support systems for burn victims and their families<sup>9</sup>.

Through a comprehensive examination of these three dimensions, this study seeks to contribute to the existing literature on domestic burns, providing insights into the prevalence, treatment modalities, healthcare utilization patterns, and outcomes associated with this form of domestic violence<sup>10</sup>. By shedding light on the multifaceted nature of domestic burns, this research endeavors to inform evidence-based interventions, policies, and support services aimed at addressing the needs and vulnerabilities of individuals affected by this devastating form of violence<sup>11</sup>.

## Subjects and Methodology

The study utilized a cross-sectional research design to examine the prevalence and characteristics of domestic violence incidents among participants. Participants were selected through convenience sampling from the Accident & Emergency Department of Mayo Hospital Lahore. The sample comprised 250 individuals involved in domestic violence incidents who sought medicolegal assistance in Medicolegal Clinic of King Edward Medical University Lahore presenting between December 2017 and July 2018. Ethical approval was obtained from the IRB.

Descriptive statistics were employed to summarize the demographic characteristics of the participants. Prevalence rates of domestic violence were calculated for both genders. Chi-square tests were conducted to explore the associations between demographic variables and domestic violence.

Confidentiality and anonymity of participants were strictly maintained throughout the research process.

## RESULTS:

### 1. Mode of Treatment

The table 01 below presents the distribution of participants based on the mode of treatment availed following domestic violence incidents. Data were collected from a sample of 250 individuals involved in domestic violence incidents and seeking medical assistance.

**Table 01: Mode of Treatment**

Treatment Availed	Frequency	Percent
OPD Treatment	44	17.6
Hospitalized (Private Sector)	53	21.2
Hospitalized (Public Sector)	130	52.0
Hakeem or Homeopathic Centre	23	9.2
Total	250	100.0

**OPD Treatment:** Out of the total sample, 44 participants (17.6%) opted for outpatient department (OPD) treatment, indicating that they received medical attention without the need for hospitalization.

**Hospitalized (Private Sector):** A total of 53 participants (21.2%) were hospitalized in private sector healthcare facilities, suggesting that they required intensive medical care following the domestic violence incidents.

**Hospitalized (Public Sector):** The majority of participants, 130 individuals (52.0%), were hospitalized in public sector healthcare facilities, indicating a significant reliance on government-run medical services for addressing the consequences of domestic violence.

**Hakeem or Homeopathic Centre:** A smaller proportion of participants, 23 individuals (9.2%), sought treatment from alternative healthcare providers such as Hakeems or Homeopathic centers.

### 2. Length of Hospital Stay (LOS)

The table 02 below presents the frequency distribution of the duration or length of hospital stay (LOS) among participants who were hospitalized following domestic violence incidents. Data were collected from a sample of 250 individuals seeking medical assistance.

**Table 02: Frequency Distribution of Duration or Length of Hospital Stay (LOS)**

Duration of Hospital Stay (LOS)	Frequency	Percent
Up to 20 days	59	24
More than 20 days	191	76
Total	250	100.0

**Up to 20 days:** A total of 59 participants (24%) had a hospital stay duration of up to 20 days, indicating relatively shorter periods of hospitalization following the domestic violence incidents.

**More than 20 days:** The majority of participants, 191 individuals (76%), had a hospital stay duration exceeding 20 days suggesting longer periods of hospitalization and potentially more severe injuries or complications resulting from the domestic violence incidents.

This is a simple overview of the distribution of hospital stay durations among individuals hospitalized due to domestic violence, offering insights into the varying lengths of medical care required by victims of such incidents which in turn determines final outcome deciding legal remedies that could be offered as compensation or punishment by law courts in cases of trial.

### 3. Terminal Outcome

The table 03 below displays the frequency distribution of terminal outcomes among participants involved in domestic violence incidents who were brought in the medicolegal clinic. The data were collected from a sample of 250 individuals.

**Table 03: Frequency of Terminal Outcome**

Terminal Outcome	Frequency	Percent
Survived	155	62
Expired	95	38

**Survived:** Out of the total sample, 155 participants (62%) survived the domestic violence incidents, indicating that they recovered from their injuries or received medical intervention in time to prevent fatalities.

**Expired:** Ninety-five individuals (38%) involved in domestic violence incidents succumbed to their injuries or complications, resulting in fatalities.

The distribution emphasizes both gross services and their outcome of medical aid available to the unfortunate survivors of domestic burns on one hand and legal implication on the other hand. The frequency of the distribution of terminal outcomes among individuals affected by domestic violence, highlighting the significant impact of such incidents on mortality rates and the need for effective interventions to prevent fatalities.

## DISCUSSION

The study offers worthwhile insights into the treatment modalities, length of hospital stay (LoS), and terminal outcomes among victims involved in domestic burns. This discussion synthesizes the results from these tables to provide a comprehensive understanding of the experiences and outcomes of individuals affected by domestic burns.

**Mode of Treatment:** The distribution of treatment modalities among burn victims highlights the diverse healthcare pathways pursued following domestic burn incidents. The predominance of hospitalization in the public sector (52.0%) underscores the significant reliance on government-run healthcare facilities for addressing the consequences of domestic burns. This finding may reflect the accessibility and affordability of public healthcare services for burn victims, particularly among socioeconomically disadvantaged populations. Moreover, the substantial proportion of individuals opting for outpatient department (OPD) treatment (17.6%) suggests the feasibility and effectiveness of non-hospital-based interventions in managing less severe burn cases<sup>4</sup>. However, the utilization of alternative therapies such as treatment from Hakeems or Homeopathic centers (9.2%) underscores the need for culturally sensitive and integrated healthcare approaches to cater to the diverse needs and preferences of burn victims within the domestic setting.

**Length of Hospital Stay (LoS) (Table 02):** The distribution of hospital stay durations reveals varying degrees of severity and complexity among burn cases. The prevalence of hospital stays exceeding two weeks (76%) indicates a substantial proportion of individuals experiencing severe injuries or complications requiring prolonged medical care and rehabilitation. This finding underscores the significant burden placed on healthcare systems and resources in managing complex burn cases and highlights the importance of specialized burn units and multidisciplinary care teams in ensuring optimal outcomes for burn victims<sup>5</sup>. Conversely, the proportion of individuals with hospital stays of Up to 20 days (24%) suggests the existence of milder burn cases or prompt recovery facilitated by timely and effective medical interventions<sup>12</sup>. Efforts to streamline healthcare delivery and optimize resource allocation are crucial for enhancing the efficiency and effectiveness of burn care services, particularly in resource-constrained settings<sup>13</sup>.

**Terminal Outcome (Table 03):** The distribution of terminal outcomes underscores the profound impact of domestic burns on individuals' lives, with a notable proportion of victims succumbing to their injuries (38%). This finding highlights the gravity of domestic burns as a potentially life-threatening form of violence and underscores the urgency of preventive measures, early intervention strategies, and improved access to quality healthcare services for burn victims. The predominance of survivors (62%) reflects the resilience and survival prospects of individuals affected by domestic

burns, emphasizing the importance of comprehensive rehabilitation and psychosocial support programs in facilitating recovery and promoting long-term well-being among burn survivors<sup>14</sup>.

The results in the study infer the multifaceted nature of domestic burns and highlight the complex interplay between treatment modalities, hospital stay durations, and terminal outcomes among burn victims<sup>15</sup>. Addressing the diverse needs and vulnerabilities of individuals affected by domestic burns requires a holistic and integrated approach encompassing prevention, early intervention, healthcare delivery, and psychosocial support. By elucidating the experiences and outcomes of burn victims within the domestic setting, this study contributes to the evidence base for informed policy development, healthcare planning, and community-based interventions aimed at mitigating the impact of domestic burns and promoting the health and safety of individuals and families<sup>16,17</sup>.

## CONCLUSION

The investigation into treatment modalities, length of hospital stay (LoS), and terminal outcomes among victims of domestic burns offers valuable insights into the multifaceted nature of this form of violence and its impact on lives of individuals. Several inferences can be drawn. Firstly, the predominance of hospitalization in the public sector underscores the significant reliance on government-run healthcare facilities for addressing the consequences of domestic burns. This highlights the importance of ensuring accessibility, affordability, and quality of care in public healthcare settings to cater to the diverse needs of burn victims.

Secondly, the varying lengths of hospital stay reflect the severity and complexity of burn injuries, with a substantial proportion of individuals requiring prolonged medical care and rehabilitation. Efforts to enhance the efficiency and effectiveness of burn care services, particularly in resource-constrained settings, are crucial for optimizing outcomes for burn victims.

Lastly, the distribution of terminal outcomes underscores the profound impact of domestic burns on individuals' lives, with a notable proportion experiencing fatalities. This highlights the urgent need for preventive measures, early intervention strategies, and improved access to quality healthcare services to mitigate the adverse effects of domestic burns and promote the health and safety of individuals and families.

In conclusion, addressing the diverse needs and vulnerabilities of individuals affected by domestic burns requires a comprehensive and integrated approach encompassing prevention, healthcare delivery, rehabilitation, and psychosocial support. By shedding light on the experiences and outcomes of burn victims within the domestic setting, this study contributes to the evidence base for informed policy development, healthcare planning, and community-based interventions aimed at reducing the incidence and impact of domestic burns on individuals and communities.

## Conflict of Interest:

Authors declare no conflict of interest.

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## REFERENCES

1. Kornhaber, R., et al., Violence by burning against women and girls: An integrative review. 2023. 24(2): p. 1063-1077.
2. Das, P.K., K. Babu, and S.J.I.J.A.M.P. Kumar, A STUDY ON MEDICO LEGAL ASPECTS OF FEMALE BURN VICTIMS BROUGHT FOR AUTOPSY AT DARBHANGA MEDICAL COLLEGE, LAHERIASARAI, DARBHANGA, BIHAR. 2023. 5(3): p. 114-116.
3. Kaur, N., R.W.J.J.o.f. Byard, and I. medicine, Bride burning: A unique and ongoing form of gender-based violence. 2020. 75: p. 102035.
4. Stewart, B.T. and N.S. Gibran, Outpatient Burn Care, in Essential Burn Care for Non-Burn Specialists. 2023, Springer. p. 335-364.

5. Knol, R., et al., The psychosocial complexities of acute burn patients in an Australian trauma hospital. 2020. 46(2): p. 447-453.
6. Reeder, S., et al., Exploring clinicians' decision-making processes about end-of-life care after burns: A qualitative interview study. 2023. 49(3): p. 595-606.
7. Burns, A.J., C.J.J.o.S. Peters, and P. Relationships, Identity veiling: Theorizing identity gap negotiation post-intimate partner violence. 2023: p. 02654075231221079.
8. Sagah, G.A., et al., Medico-legal evaluation of burn trauma injuries. Epidemiological features and predictors of mortality and other adverse outcomes. 2024. 55(2): p. 111276.
9. Mohit, C., D.J.I.J.o.M.T. Harish, and L. Medicine, Medico-legal approach in elderly abuse and neglect. 2020. 23(3and4): p. 296-303.
10. Barchielli, B., et al., A medical-legal and psychological systematic review on vitriolage related to gender-based violence. 2023. 24(5): p. 2953-2965.
11. Harshitha, K., V. Raghava, and C.J.E.J.o.F.S. Mahesh, Social and psychological profile of pattern of female burn casualties. 2022. 12(1): p. 1-8.
12. Onah, C.N., et al., Surviving burn injury: drivers of length of hospital stay. 2021. 18(2): p. 761.
13. Peters, J., et al., The impact of race/ethnicity on the outcomes of burn patients: a systematic review of the literature. 2022. 43(2): p. 323-335.
14. Perry, T.L., et al., Outcomes in Ventilated Burn Patients With Acute Respiratory Distress Syndrome: An Evaluation of Early High-PEEP Strategy Using Berlin Criteria. 2022. 43(2): p. 287-292.
15. Buzdar, Z.A., et al., Role of Nursing Care in Recovery of Burn Injuries among the Victims of Domestic Violence. 2023. 17(05): p. 25-25.
16. Buzdar, Z.A., et al., Factors Influencing the Pursuit of Legal Rights by Burn Victims of Domestic Violence. 2023. 17(03): p. 113-113.
17. Sadasivam, S. and M.J.M.-L.U. Menon, Sociodemographic Profile of Burns Case for Autopsy: One Year Study. 2023. 23(1).