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Research Article

**ASSESSMENT OF PATTERN OF BURN CASES REPORTED AT
TERTIARY CARE HOSPITAL**¹Dr. Syed Hamid Anwer, ²Dr. Aftab Ahmed, ³Dr. Hira Munir¹Assistant Professor, Department of Forensic Medicine and Toxicology, Quaid-e-Azam Medical College, Bahawalpur²Senior Demonstrator, Department of Forensic Medicine and Toxicology, Quaid-e-Azam Medical College, Bahawalpur³Demonstrator, Department of Forensic Medicine and Toxicology, Quaid-e-Azam Medical College, Bahawalpur**Article Received:** November 2020**Accepted:** December 2020**Published:** January 2021**Abstract:****Objective:** To assess the burn pattern in cases presenting at tertiary care hospital.**Materials & Methods:** This cross-sectional study was conducted at Department of Forensic Medicine Quaid-e-Azam Medical College/Bahawal Victoria Hospital Bahawalpur from March 2019 to December April 2020. Total 100 burn injury cases either male or female of any age group were selected for this study. Pattern of burn was assessed.

Out of 100 burn cases, 30 (30%) cases were male and 70 (70%) cases were female. Age group 1-20 years consisted on 70 (70%) cases followed by age group 21-40 years on 15 (15%) cases, age group 41-60 years on 10 (10%) cases and age group >60 years consisted on 5 (5%) cases. Total 50 (50%) cases were reported in winter, 33 (33%) cases in summer and 17 (17%) cases were reported in rainy season. Among 78 (78%) cases type of burn was thermal, electrical burns were 15 (15%), chemical burns were 2 (2%) and scalds were 5 (5%)

Conclusion: Results of present study showed that most of the burn cases were male as compared to female. Most of the cases reported in 2nd decade. In winter season, burns cases were common. Thermal burn was common type of burn. Head, Face & Neck was common burnt area.**Key words:** Burn, thermal, thermal, body surface area**Corresponding author:****Dr Syed Hamid Anwer,**Assistant Professor, Department of Forensic Medicine and Toxicology,
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INTRODUCTION:

Burns are injuries produced by application of dry heat such as flame, radiant heat or some heated solid substance like metal or glass to the body.¹ Local injury to the body by heat may result from dry heat, application of hot bodies, licking by flames resulting in simple burns, moist heat leading to scalds, and corrosive poisons resulting corrosive burns.² Burns are a global public health problem, accounting for an estimated 1,95,000 deaths annually. Burns are an important cause of injury to young children, and married woman, being the third most frequent cause of injury resulting in death.³

The term burn is restricted to the local effects of dry heat, by law all dry heat lesions have been designated as burns and substantially affecting every population and mostly every developing country.⁴⁻⁶ Burns are the fourth most common type of trauma worldwide and have tremendous medico-legal importance as they may be considered to be the commonest cause of unnatural deaths causing considerable morbidity and mortality⁷⁻⁸. Burns have always been considered as one of the most destructive injuries, causing not only deaths but also major economic and psychological impacts and long-term somatic sequelae as well.⁹

MATERIALS & METHODS:

This cross-sectional study was conducted at Department of Forensic Medicine Quaid-e-Azam Medical College/Bahawal Victoria Hospital Bahawalpur from March 2019 to December April 2020. Total 100 burn injury cases either male or female of any age group were selected for this study.

Details of the cases were collected in a Proforma from patients, accompanied persons, interview of friends, relatives and letters left over by the victims, hospital records, inquest reports, police papers and the autopsy reports. Pattern of burn injuries were assessed and

findings were entered in pre-designed proforma along with demographic profile of the cases.

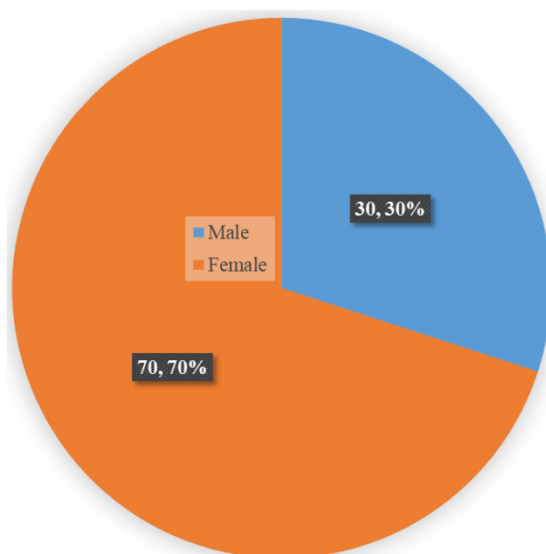
All the collected data was analyzed by using SPSS version 20. Mean and SD was calculated for numerical data. Frequencies and percentages were calculated for categorical data.

RESULTS:

Out of 100 burn cases, 30 (30%) cases were male and 70 (70%) cases were female. (Fig. 1)

Selected burn cases were divided into four age groups i.e. age group 1-20 years, age group 21-40 years, age group 41-60 years and age group >60 years. Age group 1-20 years consisted on 70 (70%) cases followed by age group 21-40 years on 15 (15%) cases, age group 41-60 years on 10 (10%) cases and age group >60 years consisted on 5 (5%) cases. (Table 1) Total 50 (50%) cases were reported in winter, 33 (33%) cases in summer and 17 (17%) cases were reported in rainy season. (Table 2) Among 78 (78%) cases type of burn was thermal, electrical burns were 15 (15%), chemical burns were 2 (2%) and scalds were 5 (5%). (Table 3) In 73 (73%) cases, head, face and neck was burnt while chest was burnt in 8 (8%) cases followed by abdomen in 5 (5%) cases, back in 3 (3%) cases, upper limb in 5 (5%) cases. (Table 4)

Causes of burn deaths were burn shock in 48 (48%) cases, toxemia in 9 (9%) cases, septic shock in 26 (26%) cases, acute tubular necrosis in 8 (8%) cases, complications in 4 (4%) cases and smoke suffocation in 5 (5%) cases. (Table 5) Among 9 (9%) cases, upto 25% body surface area was involved followed by 50 (50%) cases 25-50% body surface area, among 28 (28%) cases 51-75% body surface area and 13 (13%) cases 76-100% body surface area was involved. (Table 6).

Table no.1: Age & Gender wise distribution**Table 1: Age distribution of cases**

Age group (Years)	N	Percentage
1-20	70	70
21-40	15	15
41-60	10	10
>60	5	5
Total	100	100

Table.no.2: Seasonal variation

Season	No. of Cases	Percentage
Winter	50	50
Summer	33	33
Rainy	17	17
Total	100	100

Table no.3: Type of burns distribution

Type of burn	N	Percentage
Thermal	78	78
Electrical	15	15
Chemical	2	2
Scalds	5	5
Total	100	100

Table no.4: Surface area burnt

Area of body burnt	No. of Cases	%
Head, Face & Neck	73	73
Chest	8	8
Abdomen	5	5
Back	3	3
Upper Limbs	6	6
Lower Limbs	5	5
Genitals	0	00
Total	100	100

Table no 5. Causes of burn deaths

Cause	No. of Cases	%
Burn Shock	48	48
Toxemia	9	9
Septic Shock	26	26
Acute Tubular Necrosis	8	8
Complications	4	4
Smoke Suffocation	5	5

Table No. 6 Body surface area involved

% of burn	No. of cases	%
Upto 25	9	9
25 – 50	50	50
51 – 75	28	28
76 – 100	13	13
Total	100	100

DISCUSSION:

In the present study most of the victims were between 1-20 years of age. These are consistent with other studies.¹⁻⁷ This age group is young active group and which are commonly involved in fatal burn accidents due to lack of adequate safety measures and awareness while working. Out of 100 burn cases, 30 (30%) cases were male and 70 (70%) cases were female. Similar findings are observed by authors.⁵⁻⁹ This female predominance may be due to gender difference, sociocultural factors and dowry problem. As per educational status, majority of victims were illiterates. These are consistent with authors.^{5,6,9} High incidence of burn injuries in illiterate people than literate because illiteracy is usually associated with ignorance, poor socioeconomic status and lack of knowledge about preventive measures. Majority of 78.57% victims were belonging to middle socio-economic class. Similar findings are made by authors.^{6-9,18} The middle socioeconomic group usually follows the

modernization of living styles making persons more prone for burn injuries.

In this study total 50 (50%) cases were reported in winter, 33 (33%) cases in summer and 17 (17%) cases were reported in rainy season. These findings are similar to authors finding.^{12,17} This might be due to the fact that in winter, there is more need for hot water for bathing and people come in contact with warm items. Regarding place of accident, majority accidents 92.20% occurred in houses. Similar findings are made by authors.^{11,17} Majority of burns occur at home it may be because of majority of victims were house wives less work sources, poor housing conditions, not taking safety measures at home. As per manner, most of the burn injuries were accidental in nature [85.71%] followed by suicidal 7.79% and homicidal burns 5.19%. Similar findings were made by authors.⁶⁻¹⁸ Suicide cases are common in female while accidental is common in male. As per degree of burns, most of the victims showed dermo-

epidermal burns. This was consistent with authors.⁵⁻⁸ As per pattern of burns, the flame burns was most common major cause of burns followed by electrical burns and scalds and chemical burns. Similar results are observed by authors.²⁻¹⁸ As per survival period, the majority 63.63% of deaths due to burns occurred within a week of the incident. During this period the maximum 42.20% number of deaths occurred within 24 hours. 11.68% deaths occurred in more than 2 weeks after the incident. There is positive correlation between percentage of TBSA and duration to survive. Similar findings are observed by authors.¹⁵⁻¹⁸ Neurogenic shock was the most common cause of death in cases followed by septicemia, asphyxia and inhalation injury. Hypovolemic shock and toxemia and multi organ failure were other causes. These are consistent with other authors.^{12,14,15}

In 73 (73%) cases, head, face and neck was burnt while chest was burnt in 8 (8%) cases followed by abdomen in 5 (5%) cases, back in 3 (3%) cases, upper limb in 5 (5%) cases. These are consistent with other authors.^{16,17,18} In present study Among 9 (9%) cases, upto 25% body surface area was involved followed by 50 (50%) cases 25-50% body surface area, among 28 (28%) cases 51-75% body surface area and 13 (13%) cases 76-100% body surface area was involved. These are similar to authors.⁶⁻¹⁹

CONCLUSION:

Results of present study showed that most of the burn cases were male as compared to female. Most of the cases reported in 2nd decade. In winter season, burns cases were common. Thermal burn was common type of burn. Head, Face & Neck was common burnt area.

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