

Pattern of Burns Cases Brought to Mortuary, Basaveshwara Medical College and, District Government Hospital, Chitradurga

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Abstract

The present study was carried out in the Department of Forensic Medicine, Basaveshwara Medical College and in District Government Hospital, Chitradurga. Total 79 cases were collected in this study. Females were most commonly affected as compared to male victims. The age group of 21-30 years 32 (40.50%) was most commonly affected age group followed by age group of 31-40 years 18 (22.78%). Thermal burns 61(77.21%) was most commonly noted followed by electrical burns 8 (10.12%). Married females 38 (76%) were the most common victims. Most of victims survived for a period of 12 to 24 Hours 20 (25.31%). Head, face & neck 68 (86.07%) region of body was most commonly affected followed by Chest 58 (73.41%) region of body. The most of victims sustained 51 to 75% burns 45 (56.96%) and most common manner of death was accidental burns 49 (62.02%).

Keywords: Burns;thermal burns; married females.

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Introduction:

Burns injuries have been a major cause of concern since prehistoric time to the present era of modern medicine. Burns injuries were most important as they were commonest cause of unnatural death in India. Dowry deaths by burns was most common in India & at the same time accidental burns in females also occur often while cooking food in their kitchen. The higher incidences of burns in the Chitradurga region and high mortality rates in these cases motivated us to undertake this study.

Aim and Objectives:

The present study was undertaken with following aim and objectives:

a) To study the pattern of burns injuries in relation to age and sex.

- b) To study the pattern of burns injuries in relation to marital status and types of burns.
- c) To study the pattern of burns injuries in relation to manner of death and period of survival.
- d) To study the pattern of burns injuries in relation to area of body burnt and total percentage of burns sustained.

Material and Methods:

The present study was carried out in the Forensic Medicine Department of Basaveshwara Medical College and District Government Hospital, Chitradurga and few Primary health centres of the district.

Total of 79 cases were collected from 1st Jan 2017 to 31st Dec 2019 from post mortem reports, statements of relatives and police inquests. The data was collected in a predetermined proforma and it was analyzed and presented for the discussion using Statistical Package for Social Sciences (SPSS). The cases where data was incomplete were excluded.

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Observations & Results:

Present study demonstrated preponderance of female 50 (63.29%) victims over male 29 (36.70%) victims with male/female ratio of 1:1.72. (Table 1) Age group, 21-30yrs [40.50%] was most commonly affected followed by 31-40yrs [22.73%]. (Table 1)

Table1: Distribution of Cases Age-Sex wise

Age group (years)	Male (%)	Female (%)	Total (%)
1-10	1 (3.44%)	2 (4.00%)	3 (3.79%)
11-20	5 (17.24%)	7 (14.00%)	12 (15.18%)
21-30	11 (37.93%)	21 (42.00%)	32 (40.50%)
31-40	6 (20.68%)	12 (24.00%)	18 (22.78%)
41-50	3 (10.34%)	4 (8.00%)	7 (8.86%)
51-60	2 (6.89%)	3 (6.00%)	5 (6.32%)
61-70	1 (3.44%)	1 (2.00%)	2 (2.53%)
Total	29 (100%)	50 (100%)	79 (100%)

Table 2: Type of Burns

Type of burns	No of cases	Percentage (%)
Thermal	61	77.21%
Electrical	8	10.12%
Chemical	6	7.59%
Scalds	4	5.06%
Total	79	100%

Table 3: Cases according to Marital Status

Marital status	Male (%)	Female (%)	Total (%)
Married	21 (72.4%)	38 (76%)	59 (74.68%)
Unmarried	8 (27.5%)	12 (24%)	20 (25.31%)
Total	29 (100%)	50 (100%)	79 (100%)

Thermal burns 61 (77.21%) was most common, followed by electrical burns 8 (10.12%). (Table 2) Married females 38 (76%) were the most common victims followed by married males 21 (72.4%). (Table 3) The most of the victims survived for period of 12 to 24 Hours 20 (25.31%).

(Table 4) Head, face & neck 68 (86.07%) region of body was most commonly affected followed by Chest 58 (73.41%) region of body. (Table 5) The most of victims sustained 51 to 75% burns 45 (56.96%). (Table 6) Most common manner of death was accidental burns 49 (62.02%). Out of total 9 cases of spot death of burns, in 6 (66.67%) cases black coloured soot particles were found in trachea during post mortem examination. In the present study, total 6 (7.59%) victims found under the influence alcohol and 8 (10.12%) victims were found to be used kerosene as an inflammable material for suicidal purpose. (Table 7)

Table 4: Cases according to Period of Survival

Period of survival	No of cases	Percentage (%)
Spot Death	9	11.39
Up to 6 hours	12	15.18
6 to 12 hours	17	21.51
12 to 24 hours	20	25.31
24 to 36 hours	6	7.59
36 to 72 hours	7	8.86
3 to 7 days	3	3.79
>7 days	5	6.32
Total	79	100%

Table 5: Cases based on area of body burnt

Area of body burnt	No of cases	Percentage (%)
Head, face and neck	68	86.07%
Chest	58	73.41%
Abdomen	45	56.96%
Back	49	62.02%
Upper limbs (Right and Left)	33	41.77%
Lower limbs (Right and Left)	25	31.64%
Genital	9	11.39%

Discussion:

The present study demonstrated preponderance of female 50 (63.29%) victims over male 29 (36.70%) victims which also reported by other researchers.^{1,2,4,8,12,14} The age group of 21-30

years 32 (40.50%) was most commonly affected in the present study which was consistent with the studies of other researchers.^{1,4,12}

Table 6: Cases according to percentage of area of burns

Percentage of body burned (%)	Male (%)	Female (%)	Total (%)
Up to 25	1 (3.44%)	1 (2.00%)	2 (2.53%)
26 to 50	8 (27.58%)	6 (12.00%)	14 (17.72%)
51 to 75	14 (48.27%)	31 (62.00%)	45 (56.96%)
76 to 100	6 (20.68%)	12 (24.00%)	18 (22.78%)
Total	29 (100%)	50 (100%)	79 (100%)

Table 7: Cases according to Manner of Death

Sl no.	Manner of death	No of cases	Percentage (%)
1	Accidental	49	62.02%
2	Suicidal	21	26.58%
3	Homicidal	9	11.39%

The thermal burns 61 (77.21%) was most commonly noted which was consistent with study of HM Mangal and Akhilesh Pathak. Married females 38 (76%) were most common victims of present study followed by married males 21 (72.4%) which was consistent with studies of HM Mangal and Usama et al.^{2,13} The most of the victims survived for period of 12 to 24 Hours 20 (25.31%) which was also reported in the study of HM Mangal and it was not consistent with the study of Memchoubi, H Nabachandra where period of survival of less than 1 Hour 32 (49.23%) was most common. The most of victims sustained 51 to 75% burns 45 (56.96%) which was consistent with H.M. Mangal et al but it was not consistent with the study of Usama et al. Most common manner of death was accidental burns 49(62.02%) which was consistent with other studies.^{1,2,4,11,14}

Conclusion:

The accidental deaths by flame burns are common scenario in a young female as flammables like kerosene and cooking gas are available easily at home. However, in many cases the history may be false especially in dowry deaths. Deaths due to burns are more common in married women, which could be mainly due to indulging themselves in household works majorly in cooking. The never ending harassment and torture by husband and in-laws for dowry also contributes to the increased deaths among married women. Various factors like young age at the time of marriage combined with inability to cope with the physical and psychological stress of marriage, harassment from in-laws are blamed for suicidal burns. Socio-economic factors like use of fire woods for cooking in rural areas, huts with thatched roofs, inadequate precautions during cooking and wearing of cloths made of polyester contribute to the high rate of accidental burns. Usually victims of burns die due to hypovolemic shock, toxemia or septicaemia. But in many cases it may not be possible to assess the actual cause of death from autopsy findings only. In these situations, depending on the duration of survival of the victim the changes that are noticed on histopathological examination of various vital organs like lungs, liver, kidneys, stomach and duodenum will help in concluding the final cause of death.

Conflict of interest: Nil

Ethical clearance: Obtained

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