



FORENSIC ANALYSIS OF BURN CASES AT PMCH WITH FEMALE CONTEXT

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ABSTRACT

Burns of skin or other tissue are caused by fire, radiant heat, radiation, chemical, or electrical contact. Burns are a critical public health problem, causing deaths, disability and disfigurement. Most of the victims belonged to lower middle class and Hindu in religion, married, housewives, affected more commonly from urban area. Most common victims are female & belonged to Age group 20–40 years. Most of the victims was married since more than 7 years. This study denotes that most of the victims, suffer maximum in months of October to November usually in morning time Flame burn were most common cause of burns, followed by kerosene. Most of the victims affected by burns by an Accident, followed by suspicious mode. Most of the victims sustained 51–100% burns over body surface area & survived for period of 2–7 days, while Septicemia were most common cause of death

KEYWORDS : Female, Dowry Death, Accident, Tbsa, Burn

INTRODUCTION:

According to the National Burns Programme, 91,000 of these deaths are women; a figure higher than that for maternal mortality. Deaths due to burns are four times higher amongst women aged 18-35 yrs. Deaths occur due to accidents such as gas stove burn, bursting of kerosene stoves or kerosene spilling and clothes catching fire, self-immolation or suicides; and homicides related to domestic violence. Burns on head & neck, trunk or anterior abdominal wall are more dangerous. The percentage of the TBSA burnt in a patient was the most important predictor of mortality which is calculated by, RULE OF NINE that is 9% for Head and neck Each for upper limb Front of chest Back of chest Front of abdomen Back of chest Front of lower limb Back of lower limb & 1 % for perineum. Mortality among the patients with history of suicidal burns was higher than that in homicidal and accidental burns

MEDICAL LITERATURE ON BURNS

Burns are the fourth leading traumatic event in the world after traffic accidents, falls and violence among individuals. Globally, there are about 300,000 deaths due to burns every year. Of these, 95% take place in developing countries with Southeast Asia recording nearly 57% of deaths due to burns. According to WHO (2000) report, 238,000 individuals died of fire related deaths and 95% of these deaths occurred in low and middle income countries. There are an estimated 7 million burn injuries in India annually, of which 700,000 require hospital admission and 140,000 are fatal, 2.4 lakh people suffer with disability. The NCRB records show 122,877 cases of violence by husband or relatives, 8,455 dowry deaths and 2,233 suicides among women due to dowry harassment in 2014.

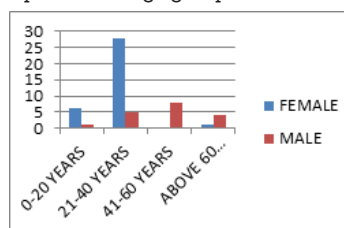
METHOD AND MATERIAL

A total of 53 cases of death due to burns were brought for autopsy at a tertiary care centre in PMCH, India during the period June 2018 to May 2019, were studied. A specially prepared proforma containing medico-legal aspects of death due to burns was filled. It was analysed by using Microsoft excel and tabulated for better understanding.

OBSERVATION AND DISCUSSION

Out of the total unnatural female deaths and autopsies conducted during this study period, 53 cases of death due to burns were collected. Out of which 46 cases were of females

which were died by burns injury, their data analyzed and tabulated. 13.20 % were male, and 46 (86.79 %; n=53) were females. 28 (52.83%) females were from 21-40 age groups, which is most productive age groups. TABLE -1



Most common victim were Hindu i.e. 43 (93.4%, n=46). Pathak and Sharma (2010) showed that most common religion was Hindu consisted 398 (82.91%). In present study Most of the victims (65.8%) belonged to lower middle class followed by upper lower class (21.88%). Memchoubi & Nabachandra (2007) (53.84%), Vaghela et al. (2012) (46.58%) showed that most of cases were in low socio economic status. In this study Most of the females were married i.e. 43 (93.47%; n=46), and unmarried were 6.5 %, only. The findings were in accordance with the studies of Vaghela et al (2012). Buchade et al. (2011) Pathak & Sharma (2010), Pandey & Chaurasia (2014). Urban females were common i.e. 29 (63.04%; n=46), followed by Suburban residential victims involved i.e. 17 (36.95%; n=46)

Our study showed that Female victims of Age group 10–20 yr is, 6 (13.04%; n=46), 41-60 yrs, 8 (17.39%; n=46) & more than 60 yr 4 (8.6%; n=46) were almost equally affected. Higher incidence is noted in age group 21-40 years, 28 (63.04%; n=46). This is the productive age and they are generally active and exposed to stress related to carrier, workplace and also at in laws families. Gadage et al. (2014), found that 68% cases were in age 21–40 years. These findings and reasoning were consistent with that of Pathak & Sharma (2010), and Buchade et al. (2011). Out of all married females most of victims were married since more than 7 years i.e. 19 (41.30%; n=46). Amongst more than 7 years marriage group maximum belongs to 40-60 age groups i.e., 8 (42.10%, n=19), followed by 21-40 age groups i.e. 31.57%. Housewives 33 (71.73%; n=46) suffered most common victims of suicidal burns injury while Gadage et al. (2014), and Chawla et al., concluded that most common victims were housewives i.e. 179 (57.6%) and 28

(56%) respectively. Out of total victims one (2.17%) was pregnant at time of death by burns.

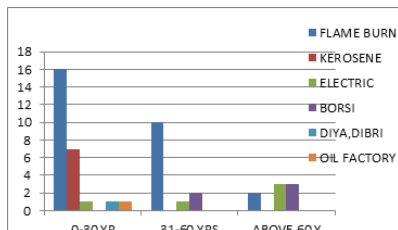
This study denotes that most of the victims, suffer maximum in months of October to November, i.e. 23(50%; n=46), followed by April to June (19.56%). It was concluded that, In the winter season, old ladies were big sufferer, who were intended to keep warm to herself by using, Borsi, Ghura, etc.

We find in our study, that 27 victims were involved in morning time ;4 to 10 a.m .i.e maximum (58.69%; n=46), followed by 14 (30.43%; n=46), in evening time ; 17 to 22 p.m. 23 p.m to 3 a.m ,time interval saw zero incidence.

This study denotes that most of the victims survived for period of 2-7 days i.e. (54.34%), Followed by one to 24 hr and more than 7 days i.e. (32.6%) in combination. This finding consistent with studies of Zanzad & Godbole (2007) found that most of victim survived upto 1-2 weeks after the sustaining the burns injury (21.7%).

We found flame burn were most common cause of burns. 28 (60.86%; n=46) females were burnt due to this , followed by kerosene 7(15%), borsi, electric current, dibri, and in oil factory. The study of Ghaffar et al. (2008) found that kerosene stove burns were most common (32.3%).

TABLE-2



In present study most of the victims sustained 51-75% burns 30 (65.21%) and followed by 76-100% burns i.e., 12 (26%). , 2 cases died on the spot while most common victims were died because of Septicemia (68.75%) followed by Shock (17.19%). Buchade et al.(2011), showed most of victims sustained 51 to 75% burns (56.12%). Scalp hair singeing (47.8%) is seen commonly, scalp hair and pubic hair singeing in combination is second most common finding, i.e. 21.73%.

In present study most of the victims affected by burns by an Accident, i.e., 33(71.73%), followed by suspicious mode (19.56%);3 victims died due to homicide and 1 died due to suicide. Suicide and homicide commonly seen in young age groups and accidental deaths were common in productive age groups .Verbal autopsies, which have been used successfully to identify the, Issues such as the role of family members when such accidents take place, in terms of extinguishing the fire, pouring water, providing first aid, and immediate medical care, remain unexplored, and as a result a large number of women continue to die from burn injuries and are silenced forever.

CONCLUSIONS & RECOMMENDATIONS

- Young and newly married females with household responsibilities are prone to sustain burn injuries. Safety measures should be followed while cooking.
- Social awareness is required to enroot the customs like dowry. More stringent laws should be implemented to stop torture of housewives by their husbands and In-laws.
- In most of the cases of death due to burn injury, accident is the alleged manner of death. Administrative management and political will are required to increase the Rate of recording of dying declaration in deaths due to burns number and improve the quality of statement recorded. The similarities between accident and intention cluster so

tightly as to make them challenging to distinguish, The emphasis should be on improving documentation, communication between service providers, and public understanding of the risks of burns

- Smell of kerosene perceived on autopsy should be carefully noted as it serves an important evidence in court-of-law.
- Shock and septicemia are the causes of death following burn injuries. Proper rehydration and prevention of hospital acquired infection is the key to prevent deaths in burn cases

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