## **Original Research Article**

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# A survey availability of kerosene is the leading cause of suicidal burns-death of females in Salem district, Tamil Nadu, India

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#### **ABSTRACT**

**Background:** Kerosene is the main culprit for the Burns, occupy 90% remaining 10% burns from other cause that to availability of kerosene at home /working place is the leading provocating cause for suicidal burns, For the past 7 years, we have followed 2645 burns admission (total) that too female burns, almost 98% of them are due to kerosene. In most of the case, suicide is due to some family problem. The remaining 10% burns are accidental burns to assess the burns due to kerosene usage and to analysis the mortality and morbidity among patients.

**Methods:** This survey was conducted from 2010 to 2017. The number of burns patient admitted at our hospital is 2645/ female burns. cause of suicide attempting by self-immolation during 7 years 2010-2017 analyzed. A record sheet designed to extract data such as age, education, occupation, gender, residence, marital status, drug abuse, and extent of the burn injuries as a percent of burned total body surface area (TBSA).

**Results:** A detailed survey conducted for the past 7 years female Burns are almost 90%. Due to suicide remaining 10% accidental. Accidental burns are minor/ moderate. We are able to save the life and reduce the mortality. But suicidal burns almost extensive/ major burns. We are not able to save the life with modern availability of treatment.

**Conclusions:** Finding of the current study manifested a high rate of suicide by self-immolation among young, married, and low educated women in south India. It implies a social problem, and need to an arrangement of a cultural program aimed at improving health, psychological habits, and educational level.

Keywords: Availability of kerosene, Prevent suicidal burns, Psychological problems, Reduce morbidity

## **INTRODUCTION**

Suicide is one of the major psychological health issues in the different parts of the world. Methods and means of deliberate self-injury are depended to the geographical region, social factors, gender, and cause availability. According to the latest World Health Organization reports, around 1 million people die cause of suicide with a global mortality rate of 16/100,000/annum. Suicide is among the three leading causes of death among those aged 15-44 years in some countries and the second-leading cause of death in the 10-24 year age group. Fire is an easy and dangerous weapon in the kitchen to be used

for suicide for females in developing country like India.<sup>3</sup> Females in India are suffering from torture since birth in every way for gender discrimination to career and partner choosing an option and it continues at their in-law's families too. Females at home can find a fire a weapon to end their lives instead of suffering in male-dominated societies.<sup>4</sup> In India, Burns deaths are more common in females though accidental are leading (as per history was given by investigating agencies) but suicide by burns in females should also be taken into consideration.<sup>5</sup> Nonaccidental deaths of young women—dowry deaths, bride burning - have long been a concern in India. Self-inflicted burns remain a socio-medical problem of global

reach and significance.<sup>6</sup> Intentional burns are still common in India Studies that have investigated patient characteristics and outcomes related to self- inflicted burn injuries generally have been limited by small number of patients from single burn centers and with no reviewed evidence of self-burning death which occurred at scene of incident. Since self-inflicted burn is a major health and public problem, we considered it of some interest to analyze all such deaths over a period of 5 years which were referred to the Legal Medicine Organization (LMO) India in order to confirm the tendency to use fire for suicide and to analyze the descriptive data of these victims.<sup>7</sup>

#### **METHODS**

This survey was conducted from 2010 to 2017. The number of burns patient admitted at our hospital is 2645/ female burns. Cause of suicide attempting by selfimmolation during 7 years 2010-2017 analyzed. A record sheet designed to extract data such as Age, education, occupation, gender, residence, marital status, drug abuse, and extent of the burn injuries as a percent of burned total body surface area (TBSA). All the data are used for the complete survey of the mode of Suicide and intention of suicide among women. The annual incidence rates of suicide by self-burning were estimated by relating the numbers of deaths due to deliberate self-burning to the number of general population-years of observation, as estimated from the 2017 population census. To examine variations in the different categories of suicide incidents, it is necessary to account for the variations in the denominator populations. Data collection 2645 females who had clearly and unequivocally committed suicide by self-burning were identified. Inclusion criteria were based on the judiciary reports identifying deliberate selfburning or a testimony of a reliable witness. Victims whose manner of death seemed suspicious or dubious and victims who were resident of other areas were excluded from the study.

## Statistical analysis

Data analysis was performed by using SPSS 13 software. Associations between categorical variables within the sample were tested for statistical significance using Pearson's chi-square test.

## **RESULTS**

A detailed survey conducted for the past 7 years female Burns are almost 90%. Due to suicide remaining 10% accidental. Accidental burns are minor/ moderate. Authors are able to save the life and reduce the mortality. But suicidal Burns almost extensive/ major burns. Authors are not able to save the life with the modern availability of treatment. A place for suicide burns is the home. Due to family Problem, they are prone to suicide. When stimuli, starts they are searching for a weapon for suicide. Due to the availability of the kerosene, they use

the kerosene as a weapon for suicide. If the kerosene is not available at that time either suicide came to be postponed to some time. Other measures like hanging produce less damage than the kerosene, and able to save the life of females.

Table 1: Female suicide burns-deaths.

Year	Total deaths	Kerosene	Petrol	Gas
2010	122	120	1	1
2011	135	130	3	2
2012	126	120	4	2
2013	190	189	1	0
2014	77	75	1	1
2015	199	198	1	0
2016	116	115	1	0
2017	59	57	2	0

#### **DISCUSSION**

With the belief that age of marriage in most of the urban, metropolitan and sub-urban societies had certainly gone up to somewhere near twenty, the married female if falling prey to this social devil would in all probability lie in age group of 21-30 years if the incidence occurs in the initial few years of her married life. The cases were less after 30 years, probably as the age advances, the girls become mature and handle the situation in many efficient manners in life.8 Rahim et al in their study had, however, show that age group most vulnerable was 30-39, which was slightly in disagreement with those of, present study. There were more cases seen in urban region (68.84%) than rural (31.16%). Sharma et al, most cases were from the rural region, which was totally in disagreement with those of, present study. Occupation wise distribution: Housewives constituted the largest single category amounting nearly 71.74%. This finding was consistent with the findings of others and statistics of NCBI 200815. Majority of victims were housewives that were dependant on their husbands or in-laws. Most of the females were literate (89.13%) who become victims in such deaths in which 30.44% studied up to secondary school, 25.36% up to higher secondary, 25.36% up to graduation and only 7.97% were primary education. Rest victims were illiterate (10.87%).<sup>10</sup> This finding was inconsistent with the statistics of NCBI 200815 in which the maximum number of suicide victims was educated up to Primary level (25.3%). Illiterate and middle educated persons accounted for 20.7% of suicide victims and 23.7% respectively. Only 2.6% of suicide victims were graduates and postgraduates. 11 In the total 138 suicidal cases, most common motive for suicidal deaths was mental stress due to unknown reasons (51.45%) followed by family quarrel (10.87%), mental illness (10.15%), chronic illness (7.97%), failure in love (7.25%), maladjustment in marriage life (6.52%). 12 Singh et al, in their study had, however, shown that ill-treatment by the inlaws, excessive pressure for dowry and negligent behavior of husband were the main reasons behind

suicidal deaths, which was slightly in disagreement with those of, present study.<sup>13</sup> According to Srivastava et al, studied the depression, insecurity and excess workload responsible for the high incidence of suicidal deaths.<sup>14</sup>

## **CONCLUSION**

Most of the victims survived for a period of 1-7 days and sustained burns injuries by self and unidentified reason. Most of the victims sustained 51-100% burns over body surface area while septicaemia was the most common cause of death. Though high urbanization in a metropolitan city like Mumbai, rural population especially married females in the reproductive age group are still at risk of stress leading to suicide burns injuries at their home. The lower middle class is more likely to suffer suicidal burns injury. Steps should be taken not only to minimize burn mortality but also to prevent and reduce their incidence at least in cases where human error and human greed plays a role. The result of this study indicates that, by not only a strong legal support network but also opportunities for economic independence, essential education and awareness, alternative accommodation and a change in attitude and mindset of society, judiciary, legislature, executive, men and the most importantly woman herself can lower or prevents the such suicidal deaths.

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