

## ORIGINAL ARTICLE

### Epidemiological study of burnt patients admitted in a Hospital in a Tertiary Hospital

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#### ABSTRACT:

**Background:** Burn is a worldwide general medical issue related with critical horribleness and mortality, for the most part in low-and center salary nations. We played out a fundamental audit to analyze the epidemiological attributes of burn harms in a hospital in North India. **Materials and Methods:** Prospective information was gathered after educated assent from all burn patients admitted to the Hospital amid the investigation period. Information about patients socio-statistic profile, mode of burn, material of garments worn by the victim at the time of the occurrence and result were recorded on a pre-outlined and pre-tried poll from the patients themselves on the off chance that they were all around ok or from their guardians. **Result:** Out of 140 burn patients conceded amid the examination time frame, 78 were females. Greater part were in the vicinity of 20 and 39 years old. Fire/ flame related burn and scalds represented more than 52% of burn as a rule, and were the most well-known sorts of wounds saw among kids and ladies with most burns happening in the home. Greatest number of females were wearing synthetic garments who experienced fire wounds. Electrical burns occurred for the most part among men. **Conclusion:** Burn wounds can be lessened by achieving directions to create more secure cooking machines, elevating less inflammable textures to be exhausted at home and teaching the group particularly ladies.

**Keywords:** Burns; Epidemiology; Risk factors; Accidental, Flame Injuries.

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#### Introduction:

Burn injuries are a noteworthy reason for dismalness and mortality all through the world. Burn injuries maybe speak to the most stretched out range of any type of injury.<sup>1</sup> Burns happen in all age gatherings and may go in severity from exceptionally minor requiring no treatment to amazingly extreme requiring most abnormal amount of escalated treatment. Burn is a general medical issue, representing an expected 250,000 passings yearly all through the world.<sup>2</sup> The weight of burn is unevenly conveyed all through the world. The majority share of these passings happen in low-and center wage nations.<sup>3</sup> The high weight of burn wounds and absence of satisfactory epidemiological information makes it trying for the arrangement producers to execute an appropriate vital arrangement for burn counteractive action. Burn wounds for the most part happen because of warmth exchange from hot fluids (burning), cooking flares, and in some cases because of presentation to chemicals, power, and ionizing radiation.<sup>4</sup> Methodical surveys abridging examines directed in the South East Asian subcontinent have recognized youthful age, female sex, poor financial status and low instructive

level as significant hazard factors for burn related wounds and passing. The epidemiological investigation is essential for arranging and executing anticipation program in the group. High pay nations can lessen the burn rate and mortality through appropriate epidemiological research and using the data for arranging preventive methodologies.<sup>5</sup> In any case, extraordinary vital arranging is required in view of the social and financial status of the area.<sup>6</sup> Free or combustible apparel was viewed as a hazard factor when the examination distinguished the pretended by garments in either beginning or quickening the fire. The seriousness list was reflected by the level of aggregate body surface region consumed. In India more than 1,000,000 individuals are tolerably or seriously burned each year.<sup>7</sup> Due to burn wounds passings are just piece of the issue, for each individual who kicks the bucket because of their burns; numerous more are left with deep rooted incapacities and deformations. For some this implies living with incapacity and deformation. The reason for burn wounds vary in different groups and understanding this is important before preventive activity can be arranged and executed.

An exact gauge of the frequency of burns is hard to get in a gigantic and differently made populace out of the country. The goal of this investigation was to record and to assess the study of disease transmission of burn cases as they change broadly in various locales and in this way an effective preventive program ought to be composed by the necessities of every district.

**Materials and Methods:**

Burn injuries was characterized as body injuries because of an outer reason coming about because of electrical, warm, compound or brilliant warmth. Forthcoming information with respect to patients age, sexual orientation, method of burn, material of dress worn by the casualty at the time of the incident, kind of housing and result were gathered after educated assent from the patients themselves in the event that they were sufficiently capable or from their specialists on a pre-planned and pre-tried poll.

The general statistic data on all individual from a family and in addition any record of damage in the previous a half year and deaths in the previous one year. If an individual reported a particular injury mortality or morbidity event

during the first round of data collection, an injury specific form was used to obtain detailed information about the injury and death in a second round of data collection . All records of lethal and non-deadly burn wounds were recovered from the essential database for current investigation. All information was de-distinguished. Lethal and non-deadly burn wounds were examined independently. Clear investigations were led for statistic and financial qualities. Moral leeway was acquired from Institutional audit board. 140 burn patients were admitted to the Hospital burns ward in North India.

**Result:**

Out of 140 burn patients conceded amid the examination time frame, 78 were females. Greater part were in the vicinity of 20 and 39 years old (table 1). Fire/ flame related burn and scalds represented more than 52 % of burn as a rule, and were the most well-known sorts of wounds saw among kids and ladies with most burns happening in the home. Greatest number of female were wearing synthetic garments who experienced fire wounds. Electrical burns occurred for the most part among men.

**Table 1:** Age and sex distribution of burn patients

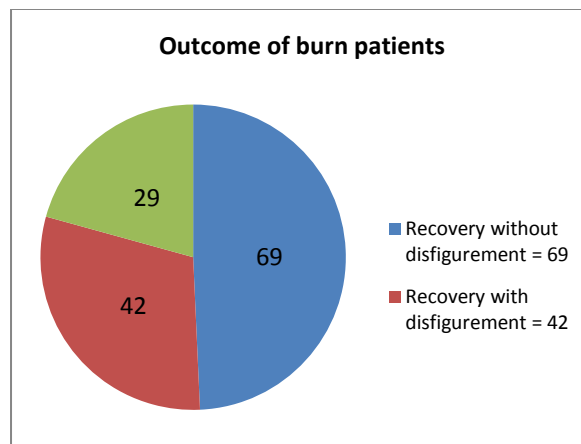
Age in years	Male (62)	Females (n=78)
<20	11	17
20-39	39	42
40-59	7	11
>60	5	8

**Table 2:** Type and Source of Burn Injury

Type of burn	Female	Male
<b>Flame</b>		
Cooking appliances	10	1
Kerosene oil and matches	28	3
Petrol/ Diesel explosion	7	2
Gobar gas	6	1
Candle	3	0
Kerosene Lamp	4	2
Fire works	3	3
<b>Scald</b>		
Hot water	4	7
Hot oil	3	3
Milk/ Tea	6	4
<b>Electrical</b>		
Short circuit	1	26
<b>Misc</b>		
Chemical/Mechanical/Thunder	2	11

**Table 3:** Clothing worn at the time of burn

Material of clothing	Female	Male
Cotton	28	12
Synthetic	36	21
Mixed	14	29



**Graph 1:** Outcome of burn patients

Most of burn patients in this study recovered without any disfigurement, 42 recovered with disfigurement and total number of deaths reported were 29.

**Discussion:**

Burn injuries are among the main sources of wounds in India.<sup>8</sup> Fire burns were the most widely recognized reason for burn wounds, trailed by single burns. Two fundamental surveys of the study of disease transmission of burn wounds in South Asia and East Mediterranean area have additionally announced fire burn being the most widely recognized reason for burn damage. Fire burns were related with impressively higher body surface area burn, and more females were found to manage fire burns contrasted with guys. Females are in charge of day by day family exercises like cooking. This is the reason that more females maintain fire burn contrasted with guys.<sup>9</sup>

Moreover, numerous family unit utilize conventional start shooting for cooking reason which additionally increment the danger of burn wounds. Despite the fact that house is thought to be a sheltered place, most burn wounds happened inside the house itself, for the most part happening in kitchen.<sup>10</sup> The utilization of start shooting for cooking, wearing synthetic materials like saree, and ineffectively controlled LPG (condensed oil gas) chambers increment the danger of burn wounds.<sup>11</sup> The aftereffects of this examination demonstrated that females will probably be in danger of burn wounds particularly in the vicinity of 21 and 40 years old because of their household tasks and perpetually utilizing dangerous hardware's because of their low financial status and this is equivalent with other studies.<sup>12-14</sup>

Most open air or modern mishances happened among men. Most mishaps were fire related or burns, predictable with the finding that most mishances happened in the kitchen. Electrical burns, while uncommon, seem, by all accounts, to be expanding in frequency, in all likelihood because of the developing system of electrical associations and more noteworthy chance to interact with free electrical wires. The

burden of burn damage happens prevalently among those with low financial status. Specifically, congestion and lack of education were related with a higher danger of burns. Groups of lower financial classes tend to utilize lamp oil stoves which supposedly was a factor in numerous wounds. This findings like different examinations led in India.<sup>15,16</sup>

It is additionally noticed that majority of Indian females loose flowing synthetic garments which indicates caution needed when using equipment causing burns. Flame was the most widely recognized operator in the greater part of the female synthetic, long and loose traditional Indian clothes at home which can flare up easily when it catches fire patients and comparable outcomes have been seen in different studies.<sup>17,18</sup> These discoveries demonstrates that lady ought to be guided appropriately for safe utilization of cooking appliances.

Wearing of synthetic, long and free customary Indian garments at home can erupt effortlessly when it finds fire prompting broad burns. The influenced populace had been cross examined about the texture being to blame and start of dress was observed to be the hazard factor in the greater part of burn damage patients.<sup>19</sup> It is related with obliviousness on the most proficient method to stifle the fire. Related garments start was recognized in dominant part of fire cases in another study.<sup>20</sup> Clothing start has been distinguished as a noteworthy reason for burns in both industrialized and creating nations. Be that as it may, in industrialized nations, a change to all the more firmly fitting styles of dressing, together with diminished texture combustibility has brought about a huge decline in deaths from attire start.<sup>21</sup>

Thus burn wounds can be lessened by realizing control to create more secure cooking apparatuses, elevating less inflammable texture to be worn at home and teaching the group for more secure medical aid rehearses in the wake of supporting burns.

**Conclusion:**

Females over all age bunches are more inclined to have a burn damage in their lives. The kitchen condition at homes

is most generally the place of a burn episode. Alterations in a kitchen setup, utilization of safe cook-stoves and warming sources, finish blockading of the cooking region to forestall contact with kids and burn damage anticipation instructive projects for ladies are some important intercessions that might be executed with inclusion from groups to lessen burn related mishaps and passings and accordingly decrease the loss of resulting school and work hours. Age-focused on intercessions, consciousness of medical aid conventions, and change of intense care administration would likewise be potential prompts check demise and handicap because of burn wounds.

#### References:

1. Forjuoh, S.N. Burns in low-and middle-income countries: A review of available literature on descriptive epidemiology, risk factors, treatment and prevention. *Burns* 2006, 32, 529–537.
2. Peck, M.D. Epidemiology of burns throughout the world. Part I: Distribution and risk factors. *Burns* 2011,37, 1087–1100.
3. Golshan, A.; Patel, C.; Hyder, A.A. A systematic review of the epidemiology of unintentional burn injuries in South Asia. *J. Public Health* 2013, 35, 384–396
4. Wolf, S.E.; Arnoldo, B.D. The year in burns 2011. *Burns* 2012, 38, 1096–1108
5. World Health Organization. The injury chartbook: a graphical overview of the global burden of injuries, 2002.
6. World Health Organization. A WHO plan for burn intervention and care, 2008
7. Keswani MH, Dhanaraj P, Kumar P et al. Then and now: burns in India. *Burns* 2000;26(1):63–81.
8. Davies JW, Gupta S, Wong EG, Nepal S, Shrestha S, Kushner AL, Nwomeh BC, et al. Injury prevalence and causality in developing nations: results from a countrywide population-based survey in Nepal. *Surgery*. 2015;157(5):843–9.
9. NB T. Report of injury survey in Bhumisthan Village Panchayat Dhadhing and in Bir Hospital Kathmandu. Stockholm: National Programmes on Accident and Injury Prevention National Board of Health and Welfare, Stockholm; 1989.
10. Singh D, Sing A, Sharma AK, Sodhi L. Burn mortality in Chandigarh zone: 25 years autopsy experience from a tertiary care hospital of India. *Burns* March 1998; 24 (2): 150-6.
11. Attia AF, Sherif AA, Mandil AM, Massoud NM, Arafa MA, Mervat W et al. Epidemiological and socio-cultural study of burn patients in Alexandria, Egypt. *Eastern Mediterranean Health Journal* 1997; 3(3): 452-61.
12. Ganesamoni S, Kate V, Sadasivan J. Epidemiology of hospitalized burn patients in a tertiary care hospital in South India. *Burns* 2010;36:422-9.
13. Jayaraman V, Ramakrishnan KM, Davies MR. Burns in Madras, India: An analysis of 1368 patients in 1 year. *Burns* 1993;19:339-44.
14. Subrahmanyam M. Epidemiology of burns in a district hospital in western India. *Burns* 1996;22:439-42.
15. Jaiswal AK, Aggarwal H, Solanki P, Lubana PS, Mathur RK, Odiya S. Epidemiological and socio-cultural study of burn patients in M. Y. Hospital, Indore, India. *Indian J Plast Surg* 2007;40:158-63.
16. Jha SS. Burns' mortality in Bombay. *Burns* 1981;8:118-22.
17. Singh D, Sing A, Sharma AK, Sodhi L. Burn mortality in Chandigarh zone: 25 years autopsy experience from a tertiary care hospital of India. *Burns*. 1998;24 (2):150-6.
18. Naralwar UW, Badge PS, Meshram FA. Epidemiological determinants of burns and its outcome in Nagpur, Maharashtra.
19. El-Sonbaty MA, el-Oteify M. Epidemiology of burns in Assiut province during the last two years. *Assiut Med J* 1990;14:106-9.
20. El-Muhtaseb H, Qaryoute S, Abu Ragheb S. Burn injuries in Jordan: University of Alexandria; 1987.
21. Byrom RR, Word EL, Tewksbury CG, Edlich RF. Epidemiology of flame burn injuries. *Burns Incl Therm Inj* 1984;11:1-10.

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