

## Profile Of Unnatural Deaths In Bhuj (Gujarat): A Retrospective Study

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**Abstracts:** Background and Objectives: After the earthquake in Bhuj, Gujarat, there is great development in this region. At the same time the Unnatural deaths are also increased. We have studied the pattern of unnatural deaths and tried to find out the various causes of death according to the cause of death. We also suggested the probable reasons and remedies for this. Method: The paper presents the retrospective study of 1110 post-mortem cases in New G.K. General Hospital, Bhuj during the span of three years (1st January 2008 to 31st December 2010). Results: We concluded that out of total 1110 cases of post-mortems total 1021(91.99%) cases were found of unnatural deaths. We found the pattern of unnatural deaths and among all unnatural deaths; the commonest cause was burns (358 cases, 35.25%). Rest of cases was of head injury, poisoning, regional injury, drowning, hanging, etc in descending order. We also found that majority of victims were males, young adults (21-30 years) and from rural areas. Conclusion: Majority of male deaths were due to injuries, probably accidental in nature and majority of females deaths were due to burns. We have also shown the probable reasons and future plans for this. [ Vaghela P NJIRM 2012; 3(2) : 110-112]

**Key words:** unnatural death, burns, injuries, accidents

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**Introduction:** Death is unnatural when caused prematurely against the order of nature due to injury, accident, poison or other means<sup>1</sup>. Many cultural and socio-economic factors of a country are usually related to the causation of unnatural deaths<sup>1</sup>. The burn fatalities in India go beyond the meaning implied in the term 'accident' and the impact they cause, no longer remains confined to the family but spreads far wide to be aptly termed as a 'Social Calamity'<sup>2</sup>. The prevailing system of dowry, which is mainly responsible for all such deaths, is a product of emerging capitalist ethos - the offshoot of an unequal society, a result of rampant consumerism, aided and abetted by the black market economy<sup>[2]</sup>. Rural population was more prone to poisoning whereas the urban became victim of road-traffic accidents<sup>2</sup>. Its increasing incidence is symbolic of continuing erosion and devaluation of women's status in independent India<sup>2</sup>. The other means of unnatural deaths -include hanging, drowning, jumping from height, etc for suicidal purposes<sup>2</sup>.

### Aims and objectives

- To ascertain various aspects of unnatural deaths.
- To analyse the data of unnatural deaths.
- To find out age wise, sex wise, month wise distribution
- To analyse the probable reason for the same.

- To find out remedial measures to bring down the incidence of unnatural deaths.

**Material and Methods :** The present 3 years retrospective study is done in Gujarat Adani Institute of Medical Sciences, and G.K. General Hospital, Bhuj. The material of the study consist of 1110 medico legal post mortems performed in G.K. General Hospital , Bhuj, Gujarat during the period of last 3 calendar years (1<sup>st</sup> January. 2008 to 31<sup>st</sup> December. 2010). Out of total 1110 medico legal post mortems, 1021 cases were of unnatural deaths (91.98%). The information regarding cause of death, age, sex, marital status, socio economic status, area wise distribution and other details were taken from medical record section G.K. General Hospital, Bhuj and concerned investigating authorities. All the data thus collected and analysed systemically and statistically. We have taken permission from the Institutional Ethical Committee for this entire study.

**Result:** While detail observation and analysis of retrospective study of last three years post-mortem cases done in G.K. General Hospital, Bhuj and vicinity areas around Bhuj that gives result shown in following tables.

Out of total 1110 cases of post-mortems during the period of 2008-2010 in Bhuj, Gujarat, total

1021(91.99%) cases were found of unnatural deaths. It shows number of unnatural cases are

more than natural cases, giving the ratio of unnatural cases: natural cases= 12: 1

**Table 1: Natural and Unnatural deaths**

Deaths	2008		2009		2010		Total	
	cases	%	cases	%	Cases	%	Cases	%
Natural	16	4.51	29	7.51	44	11.89	89	8.01
Unnatural	338	95.49	357	92.49	326	88.11	1021	91.99
Total	354	100	386	100	370	100	1110	100

Table 2 shows cause of death wise pattern among total unnatural death cases. 358 cases (35.25%) were found of burns and 223 cases were of head injury while 97 cases were of regional injuries. Least numbers of cases were 20 in which cause of death is septicaemia. Which also includes Electrocutation (29 cases), Hanging (54 cases), Drowning (65 cases), Poisoning (128 cases), others (47 cases).

**Table 2 : Cause of death wise distribution**

COD*	Male Cases	Female Cases	Total Cases (%)
Head injury	181	42	223(22.13)
Regional injury	76	21	97(9.4)
Burns	88	270	358(35.25)
Electrocutation	24	5	29(2.86)
Hanging	29	25	54(5.28)
Drowning	49	16	65(6.18)
Poisoning	74	54	128(12.24)
Septicaemia	9	11	20(1.87)
Others	35	12	47(4.79)
Total	565	456	1021(100)

Table 3 shows age wise pattern of unnatural deaths in which maximum victims were from age group 21 to 30 years (344 cases). Age group 0 to 10 years shows least number of cases (42 cases).

**Table 3 Age-wise distribution**

Age group (in years)	Cases	%
0 to 10	42	4.11
11 to 20	164	16.1
21 to 30	344	33.7
31 to 40	188	18.41
41 to 50	135	13.22
51 to 60	77	7.54
>61	71	6.92
Total	1021	100

Table 4 shows sex wise distribution of unnatural death cases shows the ratio of male: female=2:1.

**Table 4 : Sex-wise distribution**

Sex	Cases	%
Male	565	55.33
Female	456	44.67
Total	1021	100

From total 1021 unnatural death cases 711 cases were from rural areas and remaining 310 cases were from urban area.

**Discussion:** Unnatural death is one of the indicators of the level of social, physical and mental health. Responsibility for prevention of violence in our society does not rest only on the law enforcement personnel. Public health, government services, NGOs and other human service agencies must assist in preventing primary violence as they have done to prevent other major causes of morbidity and mortality. The present study reveals that burns 270 cases (75.42%) in females and injuries 257 cases (80.31 %) in males was the commonest cause of unnatural deaths. This is in conformity with the various studies conducted in India.<sup>3, 4, 5 and 6</sup> The high unnatural death rate among the adolescence in young and young may be attributed to various socio economic factors viz. Urbanization, break up in family support system, economic instability, etc. In the present study, the higher incidence of unnatural female deaths due to burns in the age group of 21 - 30 years, helps to emphasize the fact that the burn fatalities in India go beyond the meaning implied in the term 'accident' to be aptly termed as a 'Social Calamity'. These deaths in general and homicidal and suicidal burn deaths in particular have genuinely been termed as 'Bride Burning' or 'Dowry Deaths'.<sup>2</sup> This findings are also comparable with other studies also.<sup>2, 3, 4 and 5</sup> The

high incidence of burn deaths, especially among the young females is often attributed to cooking on open unguarded flames. Loose, voluminous, highly inflammable, synthetic garments / saris of the victims are alleged to catch fire suddenly while cooking. Kerosene oil, match sticks, and other cooking material, being easily available in houses, is usually preferred by Indian women to commit suicide, and as for killing, it helps to hide not only the torture and other means of violence but also helps to tamper with or even destroy the circumstantial evidence.

The other means of unnatural deaths includes injuries which constitute about (80.31 %) in males. Increased number of RTA (Road Traffic Accident) death with increased male occurrences. So males' vulnerability can contribute to the raised figure to certain extent<sup>1</sup>. The cause for unnatural deaths mainly in males is due to injuries, which is mainly due to RTA and homicidal accidents<sup>1</sup>. Many authors have found the similar results.<sup>3, 4, 5, and 6</sup> After earthquake in 2001, due to population migration, urbanisation, industrialisation, foreign money and development of Mundra and Kandla port the transportation is severely increased in Bhuj and vicinity areas around Bhuj.

As per study of Dr. B.R. Sharma et al<sup>2</sup>. done in Northern India total percentage of burn cases is 18.30%. While in Bhuj and other vicinity areas around Bhuj total percentage of burn cases is 35.25%, which is less comparing to Bhuj and other vicinity areas<sup>2</sup>. As per study of Dr B.R. Sharma and et al. done in Northern India total percentage of injury cases is 36.26% while in Bhuj and other vicinity areas total percentage of injury cases is 31.53 % which is more comparing to Bhuj and other vicinity areas<sup>2</sup>. Due to inadequate history and medical case papers and information from police we are not able to short out manner of death.

**Conclusion:** Unfortunately but realistically, very little data is available regarding post-mortems study of deaths from unnatural cases, An attempt is made to have an insight into various aspects related to unnatural deaths.

Burn cases are more in females. To decrease burn cases in females we should follow remedies given below:

- We should make people aware and try to increase literacy rate by educating people.
- We should make an attempt to decrease unemployment.
- We should try to prevent child marriage, bride burning, dowry and dowry deaths.

#### **Future Plans** to reduce male mortality

Injury cases are more in males. To decrease injury cases due to road traffic accidents in males we should follow remedies given below

Strict implementation of traffic rules, with special attention to be paid to:

- Drunken drivers
- Unskilled or semiskilled drivers
- Use of mobile phones and smoking while driving
- - Use of high beam lights & music system at high volume, while driving within the city limits.
- Reckless and rash driving, etc.
- Educating the general public about the road safety measures.
- Properly planned and maintained wide roads can go a long way in preventing accidents.

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