

A Study of Demography of Medico Legal Autopsies in Bijapur

Gannur Dayanand G¹, Nuchhi U C², Yoganarasimha K³

¹Associate Professor, ²Assistant Professor, ³Professor & Head, Dept. of Forensic Medicine, Shri B M Patil Medical College & Research centre Bijapur. Karnataka

ABSTRACT

An 3-year study was carried out on the cases of unnatural deaths subjected to Medico-legal autopsies from 2006 to 2008. The main objectives of the study were:

- a) To ascertain the various aspects of unnatural deaths,
- b) To analyze the probable reasons for the same &
- c) To find remedial measures to bring down the incidence.

The incidence of unnatural deaths was found to be persistently increasing. Maximum number of such deaths 266 (29%) belonged to the age group of 21 - 30 years. Male: female ratio was 1.1: 1. Rural population was more prone to poisoning whereas the urban became victim of road-traffic accidents. Males preferred poisoning and hanging whereas females preferred self-immolation (burns) to end their own lives. Suggestions relating to road safety, decreasing the stress of the modern mechanical life-style, educating the public in general and regarding the availability, use and storage of poisonous substances in particular have been put forward, while highlighting the social evil of dowry system prevailing in India.

Keywords: *Unnatural Deaths, Dowry Deaths, Road traffic accidents.*

INTRODUCTION

Unnatural deaths are known to claim a substantial number of lives, the world over, with the vehicular accidents accounting for a lion's share. The vehicular accident rate per thousand vehicles is greater in developing countries than in the developed. In India, one person dies in less than every five minutes due to vehicular accidents¹ and the accident rate i.e. number of accidents per hundred thousand populations is 24.3. The increased pace of mechanization, increasing number of fast moving vehicles, unskilled or semi skilled drivers, drunken drivers and the woefully inadequate road system have ushered in this man made epidemic in India. Ignorance and intentional violation of traffic rules, encroachment of the roads by shopkeepers, hawkers and stray animals play an important role in contributing to the increase of vehicular accidents².

Poisoning is a major problem all over the world, though the type of poison and the associated morbidity

and mortality varies from place to place and changes over a period of time. The use of poisons for suicidal and homicidal purposes dates back to the Vedic era in India. The exact incidence of this problem in India remains uncertain, but, it is reported that 1 to 1.5 million cases of poisoning occur every year, of which nearly 50,000 die³. The last quarter of the century has seen tremendous advances in the fields of agriculture, industrial technologies and medical pharmacology. These advances have been paralleled with remarkable changes in the trends of acute poisoning in developing countries, including India⁴. Fire and its searing/ cleansing powers have been held in great reverence and fear in the Indian psyche. This extended to cleansing and blessing of human bonds and relationships over it. Even Shushruta's ancient medical treatise gave it the final sterilizing/cleaning authority. From this background, setting oneself on fire may have been arrived at, as an Indian means of honorable suicide⁵. 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'⁶. 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. Its increasing incidence is symbolic of continuing erosion and devaluation of women's status in independent India⁷. The other means of unnatural deaths - include hanging, drowning, jumping from height, etc for suicidal purposes. This is so because methods used by individuals bent on self-destruction depend upon the availability of the lethal instruments⁸⁻¹⁵. Snake bites, electrocution, anaphylactic deaths, etc. categorized under "others" constitute a substantial number of unnatural deaths in this part of the world because of the lack of infrastructural facilities for timely management of such patients. Undiagnosed and sudden deaths are registered to be under suspicious circumstances and inquest proceedings initiated by the police, only to find on postmortem examination, that in most of such cases a disease process was responsible for the death. Crime rate in a community is directly linked with the rate of poverty and illiteracy¹⁶. India being a poor country with a high unemployment and illiteracy rate, the crime rate though disproportionate, still contributes its bit towards unnatural deaths.

MATERIAL & METHODS

The present study was carried out from January 2006 to December 2008 in the Department of Forensic Medicine and Toxicology at Shri. B. M. Patil Medical College and hospital, Bijapur, Karnataka India. The materials of study comprised 266 cases of unnatural deaths subjected to medico legal autopsy. The information regarding age, sex, socioeconomic background, marital status and the circumstances leading to such deaths was obtained from the relatives/friends of the deceased, hospital records and the concerned investigating agencies. The reports of the relevant samples/viscera subjected to chemical analysis on autopsy to establish the poison consumed in suspected cases of poisoning and to establish/rule out any intoxication in other cases were thoroughly scrutinized. The use of kerosene oil was also subject to confirmation from the reports of chemical analysis in cases of burns. The reports of relevant samples preserved during autopsy and subjected to histopathological examination to arrive at a conclusion regarding the cause of death due to a disease process, but under suspicious circumstances were also taken into consideration.

RESULTS

Out of total number of 266 cases of unnatural deaths/deaths under suspicious circumstances autopsied during the period study from Jan 2006 to Dec 2008.

Table 1. Age Wise Distribution of Cases

Age	Number of cases	Percentage (%)
1-10	08	3.00
11-20	49	18.42
21-30	79	29.70
31-40	59	22.18
41-50	48	18.04
51-60	10	3.76
>60	13	4.88
Total	266	100%

Table 2. Sex Wise Distribution

Sex	Number of cases	Percentage (%)
Male	156	58.65
Female	116	41.35
Total	266	100%

Table 3. Manner of Unnatural Death

Year wise	2006	2007	2008	%
Suicidal	30	31	35	36.10%
Accidental	50	59	59	63.15%
Homicidal	1	-	01	0.75%
Total	81	90	91	100%

Table 4. Distribution of cases according to the incidence

Incidence	Number of cases	%
Poisoning	124	46.61
Burns	71	26.69
Road traffic accidents	60	22.56
Asphyxial deaths	12	4.5
	266	100

Table 5. Area wise distribution

Area	Number of cases	%
Urban	96	36.09
Rural	170	63.90
Total	266	100

DISCUSSION

Unnatural death is one of the indicators of the level of social and mental health. Responsibility for prevention of violence in our society does not rest only on the law-enforcement personnel. Public health 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 poisoning was the commonest method employed for suicides and there was an appreciable increase in the percentage of suicide from 24.68% in 1994 to 51.9 % in 2003. Different reports published from time to time have reported a suicide rate in India as 43 per 100,000¹⁷, 28.57 per 100,000¹⁸, 38 per 100,000¹⁹, 29 per 100,000²⁰ & 22.83 per 100,000²¹. The age group, 16-30 years, was most prone to suicide, accounting for 73 % suicidal deaths. This is in conformity with the various studies conducted at different places²²⁻²⁵. The high suicide rate among the adolescents and young maybe attributed to various socio-economic factors viz. lack of employment opportunities, urbanization, break-up in the family support system, economic instability etc. Different agrochemicals especially Aluminum Phosphide marketed as tablets, has emerged as a dangerous weapon to human lives on account of its easy availability, non availability of an effective antidote, being cheap, efficacious and easy to use and is now the single most frequent suicidal method in Northern India²⁶.

In the present study, the poisoning accounted for 124 (46.61%), whereas burns claimed 71 (26.69%) lives, road traffic accidents were 60(22.56%) and mechanical asphyxial death 12(4.5%). 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'⁷. 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 include drowning for suicidal purposes and constituted about 35 (36.10%) of the total suicidal deaths. This is so because methods used by individuals bent on self

destruction depend upon the availability of the lethal instrument that varies from place to place and community to community. Major part of India having rural population with agriculture as the main employment, agrochemical poisoning is more prevalent.

The ongoing revolution of evolving faster and better means of transport, the world over, has brought along with it an important and unwelcome guest - road traffic accidents. These have taken an almost epidemic form in the recent past. This is particularly true of our country where one person becomes victim of this man made dragon in less than every five minutes⁸. The decrease in the number of road-traffic fatalities, from 14% in 1994 to 8% in 2003, observed in our study is in contrast to the reports from other parts of India that have registered a regular increase²⁷⁻²⁹. The main reason for this welcome improvement in Bijapur is perhaps the strict implementation of the traffic rules by the authorities, and the citizens abiding-by the rules imposed on them. Wide and well-maintained roads have also played an important role in bringing down the accident rate in the city.

Conclusion and Suggestions

Unfortunately but realistically, there is little that the autopsy surgeon can contribute to the elucidation of factors leading to the unnatural deaths. The most energetic efforts of physicians, other members of the health team, families, friends, social organizations and the authorities may never eliminate such deaths. However, in an attempt to at least try to decrease its toll the following suggestions are made:

- 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 and 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. Media, particularly, can play a more active role in this area.
- Encroachment of roads by shopkeepers and hawkers should be dealt with strictly. Parking at unauthorized places should be penalized heavily. Stray animals should be removed from the roads and placed in govt. cattle sheds.

- Properly planned and maintained wide roads can go a long way in preventing accidents
- Various socio-economic factors responsible for the high incidence of suicidal poisoning need a practical and early redressal on the Govt.-front, by properly and honestly framing the policies and implementing the same in such a manner that their benefits reach the needy. The prevailing evil of dowry system in this part of the world, despite the existing stringent laws (Sec. 498A, 304B Indian Penal Code) to curb the menace, has shown an upward trend. There has also been some feminist movement in the society and at present, one finds women's organizations struggling for their rights and protesting against the atrocities on them. But the movement has not yet been much successful in correcting the wrongs at the grass root level and needs to be further strengthened.
- Marriage counseling, discouraging costly and ostentatious marriage rituals, strict implementation of anti-dowry laws may help in decreasing or preventing the tensions of day to day married life.
- Most common victims of suicidal deaths were the adolescents and the young adults of the age group of 16-30 years. Serious deliberations and thought should be put into the various reasons cited above and ways and means to decrease the burden of stress related to the modern life need to be evolved.
- The NGOs and Social Organizations can contribute their bit by building a satisfactory interpersonal relationship between the young and the elders in the society.
- The storage and sale of commonly used agrochemicals should be controlled through strict regulations passed and implemented by the concerned authorities.
- Popularizing vocational courses as per the caliber of the individuals will go a long way in decreasing the insecurity of the unemployed, thereby boosting their self-confidence and will power.

Conflict of interest

The authors wish to state that they have no conflict of interest that might improperly influence this work. This study was unfunded

REFERENCES

1. Banerjee K.K. Study of thoraco-abdominal injuries in fatal road traffic accidents in northeast Delhi JFMT 1997; XIV (1): 40-43.
2. Sharma BR, Harish D, Sharma V et al. Road Traffic Accidents- a demographic and topographic analysis; Med. Sci Law 2001, 41 (3): 266-274.
3. Aggarwal P, Handa R, Wali J.P. Common Poisoning in India. Proceedings of National Workshop on Practical and Emergency Toxicology; 1998; (1): 25-31.
4. Singh D, Jit I. Changing Trends of acute Poisoning in Chandigarh Zone. Am J Forensic Med. Patho. 1999; 20 (2): 203-210.
5. Murty O.P, George Paul. Bride burning and burns - certain differentiating aspects thereof; JFMT 1995; XII (3 & 4): 13 - 26.
6. Sharma BR, Naik RS, Anjankar AJ. Epidemiology of burnt females. The Antiseptic 1991; 88 (11): 570-572.
7. Sharma BR, Harish D, Sharma V et al. Kitchen Accidents Vis-à-vis Dowry deaths. Burns 2002; 28 (3): 250 - 253.
8. Avis SP, Archibald JF. Asphyxial Suicide by Propane inhalation & plastic Bag suffocation. Journal of Forensic Sciences JFSCA 1994; 39 (1): 253-256.
9. Harruff RC, Llewellyn AL, Clark MA et al. Firearm Suicides during Confrontation with Police Journal of Forensic Science JFSCA; 1994; 39 (2): 402-411.
10. Gupta BD, Jani CB, Patel BJ, Shah PH. Homicide - Suicide Deaths (Dyadic) Two Case reports. JFMT 2000; 17 (1): 31-37.
11. Bullock MJ and Diniz D. Suffocation Using Plastic Bags A Retrospective Study of Suicide in Ontario, Canada, Journal of Forensic Sciences, JFSA 2000; 45 (3): 608-613.
12. Campman SC, Springer FA, Henrikson DM. The chain Saw: An Uncommon means of committing Suicide. J. Forensic Sci. 2000; 45 (2): 471-473.
13. Siciliano C, Costantinides F, Bernasconi P. Suicide using a Hand Grenade J. Forensic Sci. 2000; 45 (1): 208-210.
14. Marc B, Bandry F, Douceron H et al. Suicide by Electrocutation with Low-Voltage Current. J. Forensic Sci. 2000; 45 (1): 216-222.
15. Cooper PN & Milroy CM. Violent Suicide in South Yorkshire, England. Journal of Forensic Sciences, JFSA 1994; 39 (3): 657-667.
16. Aryappan A and Jayadev CJ. Society in India; Social Science Publication; 1985.
17. Rao Venkoba. Suicide attempters in Madurai, JIMA 1971; 57: 278.
18. Nandi DN, Banerjee G and Boral GC. Suicide in West Bengal, A Century apart. Indian Journal of Psychiatry 1978; 28: 59-62.

19. Sharma SK. Current Scenario of poisoning in India JFMT 1998; XV (1): 89-94.
20. Shukla GD, Verma BL and Mishra DN. Subde in Jhansi City. Indian Journal of Psychiatry 1990; 32: 44-51.
21. Sharma PG and Sawang DG. Suicide in rural areas of Warangal district, Indian Journal of Psychiatry 1993; 3: 79-84.
22. World Health Organization; Suicide and attempted suicide in young people, Geneva: WHO; 1974.
23. McClure GMG Recent Trends in Suicides amongst the young; British Journal of Psychiatry 1984; 144: 134-138.
24. Bhullar DS, Oberoi SS, Aggarwal OP et al. Profile of Unnatural deaths (between 18-30 years of age) in GMCH Patiala, (India) JFMT 1996; XIII (3): 5-8.
25. Sharma BR. Trends of Poisons and Drugs used in Jammu JFMT 1996; XIII (2): 7-9.
26. Sharma BR, Harish D, Sharma V et al. Poisoning in Northern India - Changing trends, Causes and Prevention thereof; Med. Sci. Law 2002; 42(3): 251-257.
27. Singh Prabjot. Alarming rise in fatalities THE TRIBUNE, August 19 2000: 1 & 22.
28. Singh Prabjot. More vehicles than Licenses THE TRIBUNE, August 20: 2000 1 & 22.
29. Singh Prabjot. Deaths up by 500% in 20 years THE TRIBUNE, August 21 2000: 1 & 16.