Original Article

Cross-sectional Study of Unnatural Deaths in BTGH KALABURGI.

[1]Santosh S Garampalli, [2]Basawraj Patil

[1]Professor & HOD Dept. of Forensic Medicine. M R. Medical College Kalaburgi. Karnataka,
[2]Professor Dept of Forensic Medicine. M R. Medical College Kalaburgi. Karnataka

How to cite this article: Santosh S Garampalli, Basawraj Patil. Cross-sectional Study of Unnatural Deaths in BTGH KALABURGI. Indian Journal of Forensic Medicine & Toxicology / Vol 20 No. 1, January - March 2026

Abstract

This study was conducted in department of forensic medicine and toxicology,Basaweshwar teaching and general hospital attached to M R Medical College Kalaburgi to determine the incidence,pattern, modes and manner of unnatural deaths. Total number of unnatural deaths studied were 230. There were 144(62.6%)cases of unnatural deaths in case of males and 86(37.39%) in females.Maximum no. of unnatural deaths was seen in the age group of 21-30yrs(38.2%), followed by 31-40yrs(18.69%).Majority of the cases were accidental 123(53.4%) cases followed by suicidal 79(34.34%)cases and homicidal 28(12.17%) cases. There were 109(47.39%)cases of road traffic accidents, 54(23.47%) cases of burns &47(20.43%) cases of poisoning. Unnatural deaths in females were mainly suicidal, where as in case of males deaths were accidental. Majority of unnatural death victims were from rural area (57.82%).

Keywords: unnatural deaths, Road traffic accidents, burns, poisoning.

Introduction

As the incidence of unnatural deaths have increased, but the modes and manner of deaths have changed. Unnatural deaths are those deaths which are not due to disease conditions or aging process, but due to accidents, suicides & homicides[1]. It has been observed among all unnatural deaths, accidents top the list followed by suicides and homicide. The increased number of fast-moving vehicles, unskilled and drunken drivers, contribute to increase in number of road traffic accidents[2]. Even though accidents top the list it is suicide and homicides, which pose more challenges to the investigations.The important objectives of present study were to determine the epidemiology of unnatural deaths. This study attempts to know the incidence, causes, patterns & to suggest the legal & preventive measures of unnatural deaths.

Materials and Methods

Study of medico-legal autopsies for 5 years from 2018 to 2022conducted by Department of Forensic Medicine, M.R. Medical College. Total number of cases studied were 230. Detailed information and data pertaining to cases were collected from following sources (1). Inquest Report (2). BriefHistory (3).Postmortem Report.After receiving all the details, the PME was conducted. Case-sheet

Corresponding Author: Santosh S Garampalli. Professor & HOD. Dept of Forensic Medicine.M. R. Medical College. Sedam road, GULBARGA

E-mail: santosh.garampalli@gmail.com

Submission: Sep 10, 2025 **Revision:** October 4, 2025 **Published date:** January 29,2026

summary was obtained to know the details. All the external injuries were noted from head to toe. All the three cavities – cranial, thoracic and abdomen were opened to study the injuries to the organs. Findings tabulated in Proforma.

Ethics Committee Approval: Approval was taken from institutional Ethics committee with reference no: HKES/MRMCK/IEC 190303 (RPA201847).

Observation and Results: Total number of cases of unnatural deaths studied was 230.

Table No. 1. Yearwise distribution of cases of unnatural deaths.

Year	Total no. of victims	Male	Female
2018	56	35	21
2019	57	37	20
2020	51	33	18
2021	28	19	09
2022	38	20	18
Total	230	144(62.6%)	86(37.39%)

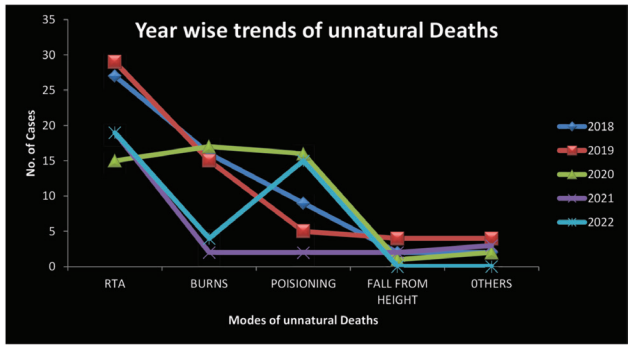

Figure No. 1

Table-2. Age&sex- wise Distribution of unnatural deaths.

Age group	Males	Females	Total
0-10	05	6	11(4.7%)
10-20	08	16	24(10.4%)
21-30	57	31	88(38.2%)
31-40	31	12	43(18.69%)
41-50	28	5	33(14.3%)
51-60	09	7	16(6.9%)
>60	06	7	13(5.6%)
Total	144	86	230

Age-wise analysis of victims of victims of unnatural deaths showed a maximum number of deaths in age group of 21-30 years(38.2%), 31-40 (18.69%) and 41-50 (14.3%) with minimum deaths in age group of 0-10 and >60 years.

Table 3. Manner of unnatural deaths.

Manner	No. of victims	Percentage
Suicide	79	34.34%
Homicide	28	12.17%
Accidental	123	53.4%
Total	230	

In the distribution of manner of unnatural deaths, it was observed that maximum number of victims died due to accidents followed by suicides and homicide

Table 4. Modes of unnatural deaths.

Modes of unnaturaldeaths	Total no.	Percentage
RoadTraffic accidents	109	47.39%
Burns	54	23.47%
Poisoning.	47	20.43%
Fall From Height	9	3.91%
Others (snake bite, railway, assault (etc)	11	4.78%
Total	230	

There were maximum no. of deaths due to RTA109 (47.39%), mainly in males. Other causes of unnatural deaths was due to burns(23.43%), poisoning, fall from height and snake bite etc.

Table 5. Distribution of unnatural deaths according to domicile.

Domicile	Total (percent)
Urban	97(42.17%)
Rural	133(57.82%)

Discussion

Depending upon sex, there was a male preponderance with males constituting 144 (62.6%) cases and females 86 (37.39%) cases. Our findings were similar to the study conducted in Dhaka

Medical College, Dhaka, Bangladesh, where 73.32% were males and 26.68% of the cases were females[2]. This finding is similar to the findings of Kumar Awdhesh- male (68.6%) female (31.4%)[3].Anjanamma T C et al.found male (64.4%) and female (35.6%)[4]. This finding is due to males being more exposed to the environment and having a more physically active lifestyle than females. Males accept more difficult tasks and may be involved in violent acts.

In our study, unnatural deaths due to accidents were 53.4%, suicide 34.34% and homicide 12.17%. Ourfindings are similar to the study conductedat PGIMER, Chandigarh, where 79.3% of deathswere due to accidents, 13.9% due to suicide and6% of deaths were due to homicide [5].

There were a maximum number of deaths due to RTA 109 (47.39%), mainly in males. Other causes of unnatural deaths were due to burns (23.43%), poisoning, fall from height, and snake bite, etc. This finding is quite similar to the studies of Yousufani G. M., Memon Muhammad[6], Rathod S. N., Bharatwaj R. S.[7], and Kumar Awdhesh[8]. Apart from this, congested and overcrowded roads and the increase in the number of vehicles have resulted in more accidents even within the city.

This study reveals that the leading cause of unnatural deaths is from rural areas, accounting for 57.82% of cases. Rural India, home to 65% of the population, often suffers from limited access to healthcare, insufficient mental health services, and economic challenges, all of which are known risk factors for unnatural deaths.[9] This finding is consistent with the studies of Verma A. that highlight the high rate of suicide in rural India.[10]

When we see the trend of unnatural deaths over time and compare the findings with earlier studies that reported higher proportions of burns and poisoning, in earlier Indian studies, burns and poisoning constituted a larger share of unnatural deaths, particularly among women, due to kerosene stove explosions, dowry-related violence, and pesticide ingestion. For instance, Sharma et al. (2004)[11] reported burns at 36% and poisoning at 27% of unnatural deaths, surpassing RTAs. Similarly, Santosh et al. (2013)[12] found suicidal burns as the predominant mode in rural Karnataka.

However, the present study from Kalaburagi demonstrates a clear epidemiological shift, with RTAs contributing nearly half (47.4%) of unnatural deaths, surpassing burns (23.5%) and poisoning (20.4%). Year-wise trend analysis (2018–2022) reinforces this observation, showing accidents consistently outnumbering other causes (Fig 1). This reflects increased motorization, congested roads, poor enforcement of traffic rules, and risk-taking driving behaviors. But in the year 2020 there was reduction of RTA cases due to lockdown.

The decline in burn-related fatalities can be attributed to improved access to LPG and decreased reliance on kerosene, reducing domestic stove explosions. Similarly, greater awareness and regulation of pesticides may explain the slight decline in poisoning deaths.

The numbers of deaths due to poisoning and burns are influenced by a number of factors like the geographic area of study and the cultural and traditional background of the people.

Conclusion & Suggestions

Among all deaths, the cases of unnatural deaths are increasing. Maximum number of unnatural deaths was seen in the age group of 21–30 years, followed by 31–40 years. Majority of the cases were accidental cases followed by suicidal and homicidal cases. Majority of the cases were of road traffic accidents, followed by burns and poisoning. Unnatural deaths in females were mainly suicidal, whereas in case of males, deaths were accidental. Majority of unnatural death victims were from rural areas. 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 semi-skilled drivers, use of mobile phones and smoking while driving, use of high beam lights and music systems at high volume while driving within the city limits, reckless and rash driving, etc.

- Encroachment of roads by shopkeepers and hawkers should be dealt with strictly. Parking at unauthorized places should be penalized heavily.

This study reinforces the need for targeted interventions to reduce unnatural deaths, including the implementation of mental health awareness campaigns, improved access to healthcare, and enhanced road and workplace safety programs.

Conflict of Interest: Nil.

Source of Funding: nil.

References

1. Rahim M, Das TC.Mortuary Profile for Unnatural Deaths at Forensic Medicine Department of Dhaka Medical College; Bangladesh Medical Journal. 2009;38(2):44-7.
2. Julian waller et at, 1966; alcoholism and traffic deaths, the new England jr. of med, vol 275,no.10; p. 532-535.
3. KumarAwdhesh. Epidemiological Study of Unnatural Death Pattern in Varanasi, India; 2009-2013. International Journal of Science and Research ISSN (Online): 2319- 7064 Impact Factor (2012):3.358 Volume 3 Issue 11, November 2014.
4. Anjanamma T C, Vijaya N M, Vijayanath V, Athani Praveen. A study of Unnatural death at MVJ Medical College and Research Hospital, Karnataka; Indian Journal of Forensic and Community Medicine, AprilJune 2016; 3(2)p:138-141.
5. Singh D, Dewan I, Pandey AN, Tyagi S. Spectrum of unnatural fatalities in the Chandigarh zone of North-West India – A 25 yearautopsy study from a tertiary care hospital. Journal of Clinical Forensic Medicine 2003; 10(3):145-152.
6. YousfaniGhulam Mustafa, Memon Muhammad Umar. Spectrum of Unnatural Deaths in Hyderabad: An Autopsy Based Study; 2006-2008. International Journal of the Dow University of Health Sciences,2010, Vol.4(2): p: 54-7. 7.
7. RathodSitalal Narayan, Bharatwaj R S. One Year Profile of Unnatural Deaths in Pondicherry- A Retrospective Study, 2009; International Journal of Pharma Research and Health Sciences Volume 3 (1), 2015, CODEN (USA)- IJPRURp-533-7 10.
8. Kumar Awdhesh, Kumar PondeySurender, Singh, T B. A Descriptive Study on Trend OfUnnatural Deaths In Varanasi, India; 2009-2013. International Journal of Current ResearchVol.7, Issue, 03, p.14041-4, March, 2015.
9. Chandra P, DesaiG, KapoorS, et al. Rural health care in India: Problems and perspectives. Indian J Public Health. 2017;61(3):165-170.
10. Verma A, MalhotraR, SinghB, et al. Road traffic accidents in rural India: A community-based study. J TraumaAcute Care Surg. 2017;82(2):189-193..
11. Sharma B.R.,Virendar Pal Singh et al. Unnatural deaths in Northern India A profile; Journal of 5. Indian Academy of Forensic Medicine. 2004; 26(4): 971- 4.
12. Santosh C.S, Bande Nawaz. Pattern Of Suicidal Deaths At District Hospital DavangereCross-Sectional Study; 2008. Journal Indian Academy of Forensic Med. JulySeptember 2013,Vol.35,No.3p0971-3.