J Indian Acad Forensic Med. 2021 Jul-Sep; 43(3): 232-234
doi:10.5958/0974-0848.2021.00058.0

ORIGINAL ARTICLE

An analysis of medicolegal autopsies in a tertiary care centre in West Bengal - A morgue-based study

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Abstract
Medico legal autopsy is a statutory requirement in all cases of sudden, suspicious and unnatural deaths. Profiling of these autopsies helps one to understand the pattern seen among them and guide the investigating authorities and the health promotion & prevention programmes to direct their measures in this respect. The present study is a retrospective, cross-sectional, record-based study carried out in a mortuary under Dept. of Forensic Medicine & Toxicology at Purulia GMCH. Out of the total 1137 medicolegal autopsies, 225 cases were of brought-dead cases. Among the unnatural deaths, the most frequent cases were due to hanging (282 cases, 24.8%) followed by road traffic accidents (176 cases, 15.47%) and burns (99 cases, 8.7%). According to the gender, 761 cases (66.93%) were of males, 368 cases (32.36%) were females and in 8 cases (0.7%) the gender could not be ascertained (foetuses) on autopsy examination alone. Majority of the cases belonged to the age group of 21-30 years (261 cases, 22.95%) followed by 31-40 years (216 cases,18.99%) and 41-50 years (165 cases, 14.51%). Death due to road traffic injuries is a preventable occurrence and proper safety riding measures should be observed by all. Although legislation is in place for sale and purchase of poisonous substances, but still it has to be well implemented.

Keywords
Autopsy profile; Hanging; Medico legal autopsy; Road traffic injuries

Introduction

Medico legal autopsy is a statutory requirement in all cases of sudden, suspicious and unnatural deaths. Profiling of these autopsies helps one to understand the pattern seen among them and guide the investigating authorities and the health promotion & prevention programmes to direct their measures in this respect. The study will also help to find out the profile at current place of study and compare it with the rest of the states and in the country. The present study is a humble attempt to provide information regarding the type of causes of unnatural deaths and their respective epidemiology in this central district of West Bengal.

Materials and Methods

The present study is a retrospective, cross-sectional, record-based study carried out in a mortuary under Dept. of Forensic Medicine & Toxicology at Purulia GMCH. All the medicolegal autopsies that have presented to the above said department during the period 1st Jan'19 to 31st Dec'19 were included in this study. The study parameters are age, sex and type of cases. The data thus collected is analysed in the form of tables and frequency distribution and compared with other similar studies.

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Article History
Received: 30th November, 2020; Revision received on: 30th July, 2021
Accepted: 03rd August, 2021

Results

A total of 1137 medicolegal autopsies were conducted at morgue attached to Dept. of Forensic Medicine and Toxicology, Purulia GMCH during the period of 01 Jan'19 to 31 Dec'19. Out of these, 225 cases were brought-dead cases. Among the unnatural deaths, the most frequent cases were due to hanging (282 cases, 24.8%) followed by road traffic accidents (176 cases, 15.47%) and burns (99 cases, 8.7%). The other cases of unnatural deaths in decreasing order of frequency are railway injuries (96 cases, 8.44%), poisonings (63 cases,5.54%), drowning (61 cases, 5.36%), assault/trauma (37 cases, 3.25%) lightning strokes (31 cases,2.72%), electrocution (26 cases, 2.28%), snake bites (25 cases, 2.19%), foetal autopsies (13 cases, 1.14% cases) and skeleton examinations (3 cases, 0.26%). According to the gender, 761 cases (66.93%) were of males, 368 cases (32.36%) were females and in 8 cases (0.7%) the gender could not be ascertained (foetuses) on autopsy examination alone.

Majority of the cases belonged to the age group of 21-30 years (261 cases, 22.95%) followed by 31-40 years (216 cases,18.99%) and 41-50 years (165 cases, 14.51%). Among the rest of the cases, the age-wise incidence in decreasing order of frequency is as follows: - 51-60 years (153 cases,13.45%), 11-20 years (149 cases, 13.10%) 61-70 years (81 cases, 7.12%), 1-10 years (39 cases,3.43%), 71-80 years (35 cases, 3.07%),

below 1 year (21 cases, 1.84%) and 81-90 years (17 cases, 1.49%). Majority of the cases were of heart disease (92 cases, 40.89%). This was followed by cases of Heart and Lung Disease (45 cases, 20%), lung disease (34 cases, 15.11%), Liver Disease (23 cases, 10.22%), Septicaemia (12 cases, 5.33%), Brain disease (4.89%) and Pregnancy complications (8 cases, 3.56%). Based on the position of knot, out of 282 cases, 273 cases (96.8%) were of atypical hanging and 9 cases (3.2%) were of typical hanging. On the basis of degree of suspension, 275 cases (97.5% were of complete hanging and 7 cases (2.5%) were of partial hanging.

Discussion

In the present study, hanging has been found as the most common form of unnatural death seen. A study has reported hanging as the second most common cause in their study whereas in other authors, have found hanging as the third most common unnatural cause of death in their respective studies. [1-3] The reason for higher incidence of hanging cases was found to be mental depression. The cause of the depression could not be substantiated in the present study. The number of hanging cases is substantial also because the place of study happens to be a referral centre for the nearby regions and hence, all cases from nearby centres are referred here. The cases of Road Traffic Injuries were found to be the second most common in the study. Many research studies, and have reported death due to the effects of R.T.I.s as the most common cause of unnatural death. [3-7] The proximity of the present institute to state and national highways and also the institute being a referral centre for the region (district headquarter), a higher incidence of road traffic injuries cases is seen. Poisoning cases constitute the third most common finding in the present study. Committing suicide by poison is still a prevalent problem in our country and globally also, as it is one of easiest methods to execute. Some authors have reported poisoning as the first most common finding in their study whereas others have reported poisoning cases as the second most common finding in their respective studies. [5-7,8,9]

In our search for the literature on the present topic, all the studies have found a higher incidence in males as compared to females. [1-9] The higher incidence in males can be attributed to the fact that male are the bread-earners in most of the families and hence for that they have to go out for work. Therefore, they are more vulnerable to the outside forces in play which can be fatal. The stress of earning a livelihood and providing to the dependents is also a burden carried by them. All the other studies in our search have reported the highest incidence in the age group of 21-30 years. [1-9] The reason for this higher incidence in this age group could be because this age group is the most economically productive age-group and also this age-group is more prone to high-risk taking due to biological hormones. They are also more prone to stress due to adapting to the responsibilities of life.

In our study, it is seen that all the brought dead cases had died due to natural causes. In another study, it has been reported that in 67.74% of the brought dead cases, history of major past illness was present. [10] In one research on brought dead cases to hospital, 51.5% cases were due to unnatural deaths. [11] In the present study, 97.5% cases were of complete hanging and 96.8% cases were of atypical hanging. In another study, the authors have reported hanging was complete in 75.00% cases and was atypical in 68.75% cases. [12]

Conclusion

The highest incidence of unnatural deaths is seen in the age group of 21-30 years and hence the preventive strategies and measures should be directed towards this age group. The preventive strategies include programmes directed towards awareness about mental health. Death due to road traffic injuries is a preventable occurrence and proper safety riding measures should be observed by all and the condition of roadways should also be improved. Although legislation is in place for sale and purchase of poisonous substances, but still it has to be well implemented.

Ethical clearance: A prior approval was obtained from the Institutional Ethics Committee

Conflict of interest: None to declare

Source of funding: None to declare

References

1. Bodupally RK, Sheikh N. Comprehensive and Analytical Study of Medico Legal Autopsies at Tertiary Care Center. Indian J. Forensic Med. Toxicol. 2019;13(1):139
2. Bhabhor R, Parmar A. Profile of medicolegal autopsies at a tertiary centre in bhavnagar region. J. Indian Acad Forensic Med. 2018; 40(4): 383-386.
3. Kumar P, Singh R, Buri S, Pal C, Saini O, Kumar S. Profile of medicolegal autopsy cases conducted at a tertiary care centre in Bikaner, Rajasthan: A one-year retrospective study. Int J Med Biomed Studies [Internet]. 2020Aug.25 [cited 2021Sep.29];4(8). Available from: https://www.ijmbs.info/index.php/ ijmbs/ article/view/1363
4. Radhakrishna KV et al. Profile of medicolegal autopsies conducted at tertiary medicolegal centre in southwestern India. Int J Health Biomed Res. 2015; 3 (2): 70-75
5. Murali MCM, Yadukul S, Kiran J. Profile of Medico-legal Autopsies Done at Sri Devaraj URS Medical College, Kolar for a Period of 3 Years. Med. Leg. 2017; 17 (2) : 197
6. Junaidi KA, Pujar SS, Honnungar RS, Jirli PS, Koulapur VV, Ali K, Pushpa MG. Profile of Medicolegal Autopsy Cases at Tertiary

Care Centre in Belagavi, Karnataka. A One Year Retrospective Study. Med. Leg.2020; 20(1): 170-174

7. Manish K, Junaidi KA , Deepak S, Umesh SR. Profile of Medicolegal Autopsy Cases Conducted at Tertiary Care Centre, Kalaburagi, Karnataka. J. Forensic Med. Toxicol. 2020 :14(3), 269-274.
8. Batra AK, Dongre AP. A preliminary analysis of medicolegal autopsies performed over five years in a rural health district of Maharashtra state of India. J. Forensic Med. Toxicol. 2003. 20(1): 41-46.
9. Gannur DG, Nuchhi UC, Yoganarasimha K. A Study of Demography of Medico Legal Autopsies in Bijapur. J. Forensic Med. Toxicol. 2013; 7(1): 37-41.
10. Saiyed MZG, Jani RC, Jani CB. Brought dead cases at a tertiary care hospital in Ahmedabad with reference to dispensing with the need of medico legal post-mortem examination: Provisions, Protocol & Procedure. J Indian Acad Forensic Med. 2021;43(1): 60-64.
11. Noone P, Khan F. An Approach to Brought Dead Cases To Hospital-An Autopsy Based Study. J Indian Acad Forensic Med. 2017;39(3): 255-260
12. Guntheti BH, Sheikh K, Singh UP. Profile and Pattern of Hanging Cases at a Tertiary Care Hospital, Khammam; Telangana. J Indian Acad Forensic Med. 2016; 38(1): 67-71.