

Spectrum of Unnatural Deaths in Hyderabad: An Autopsy Based Study

Ghulam Mustafa Yousfani and Muhammad Umar Memon

ABSTRACT

Objective: To determine the spectrum of unnatural deaths, focusing on gender vulnerability, manners of death, inhabitant, weaponry and seasonal prevalence for criminal episodes.

Study Design: Prospective study.

Duration and setting: Medicolegal Section of Liaquat University Hospital Hyderabad from January 2006 to December 2008.

Methods: Six hundred and ninety seven cases of unnatural deaths referred by police for autopsy were included. Those who died in hospital due to natural causes or complications of surgery were excluded. The variables considered were gender, manners of death, weaponry, inhabitant and seasonal variations in criminal deaths. Findings were expressed in numbers and percentages.

Results: Out of total 697 medicolegal autopsies conducted males were (595) 85.4% and females (102) 14.6%. Accidental deaths (471) 67.58% outnumbered homicidal (219) 31.42% and suicidal (7) 01% manners of death. Weaponry for assault preferred was firearms followed by hard blunt weapons. Peri-urban inhabitant victims of unnatural deaths were (314) 45% followed by those belonging to rural areas (209) 30% and urban dwellers (174) 25%. Unnatural deaths occurred more in summer than in winter season.

Conclusion: Majority of the victims of unnatural deaths were males dying due to accidental manner of deaths. Peri-urban victims out numbered the rural and urban dwellers. The fatalities were found in summer season more than in winter.

Key words: Unnatural deaths, Autopsy, Forensic Medicine.

INTRODUCTION

Nobody likes death inspite of the fact that death is an undeniable eventuality of life. Every living object has to taste the death.¹ Death investigation is a feature of modern day's civilized system of society. The causes and factors responsible for bringing about the fatal outcome require thorough investigation. To observe the failure of the medical treatment offered to the deceased or to rule out the factor of negligence of the caring team and to see the role of violence if any, autopsy remains the most appropriate medical tool of investigation. The former is a matter of interest to medical researchers, whereas later is matter of concern for the State.

Globally, the homicide accounts for 1.6 million deaths² and at least 1 million people are estimated to die from suicide world wide.³ Nearly 1.2 million road traffic accidents deaths occur globally each year as reported by WHO.⁴ There is no precise Registry based statistical data

representing Pakistan's scenario about prevalence of unnatural deaths, but studies done by various authors at different centers that represent data of a limited experience only, which has cumulative value.

If death is caused as a result of any terminal illness in the hospital or bedroom in peace and solace, everybody accepts it considering as a wish of God and mourns for the departed soul. On the contrary, if death, results as a consequence of violence, may it be self suffered by the deliberate act or negligence of others or as a corollary of an accident or misadventure, society displays resentment, cry for punishment to the responsible (s) and demand for future prevention from such incidents to happen. State apparatus, entrusted for receiving such information and investigations, instantly take cognizance of the happening and take appropriate actions accordingly. Such cases fall under the category of unnatural deaths.

Medico-legal autopsy acts as one of the investigative tool that helps the investigators in many ways.⁵ Positive identification of the deceased, determination of cause of death, time since death, manner of death, time between injury and death, and to discover and recover any clue(s) from the body within or without, that can possibly connect the crime with criminal or unearth the role of negligent act or omission in bringing about the fatality are some of the resultant beneficial outcomes of a medicolegal autopsy.⁶ Periodical publication of statistical data of unnatural deaths

Department of Forensic Medicine and Toxicology, Dow University of Health Sciences, Karachi, Pakistan.

Correspondence: Dr. Ghulam Mustafa Yousfani, Department of Forensic Medicine and Toxicology, Dow University of Health Sciences, Karachi, Pakistan.

E-mail: drgmy@hotmail.com

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provide an insight about the trends of society and any change on either side in the attitude of people also gives an opportunity for social scientists and planners to formulate a strategy to combat crime to prevent it in order to extricate or minimize the loss of precious lives. This study is aimed to collect the data of unnatural deaths both criminal and non criminal in nature that occurred in the district of Hyderabad comprising of urban, peri-urban and rural areas and to compare it with the pattern of unnatural deaths occurring in other areas of Pakistan.

SUBJECT AND METHODS

This prospective study was conducted at the medicolegal section of Liaquat University Hyderabad for a period of three years, commencing from January 2006 to December 2008. This study included all the cases of death due to any form of violence and submitted for autopsy in the mortuary of Civil Hospital Hyderabad. Cases died of apparently natural causes in the Liaquat University Hospital and cases of infanticide, feticide and maternal deaths were excluded. As per rules medicolegal autopsies are conducted by authorized medical officers in the mortuary designated by the provincial government.^{7,8} The dead bodies were examined in a definite prescribed order viz examination of clothes, external body examination, dissection of the body to find out the cause, mode, time of death, the weapon/means responsible for bringing about the fatality and the survival time period between injury and death. If following this procedure, anatomical cause of death could not be ascertained, suspected tissues and body fluids were collected and submitted for detailed, histological and toxicological diagnosis.

The bodies were dissected by Robert Virshow's technique.⁹ All the body cavities were dissected, cranium, thoracic and abdominal cavities in that order and organs were examined grossly both in situ and after taking out of the body.

A Proforma was designed depicting deceased's gender, causative agent of death, manner of death and the area from where the bodies were brought and the calendar months indicating season, summer or winter.

RESULTS

Total unnatural deaths submitted for autopsy in three years period were 697, ranging from 212 to 250 cases in a year, whereas year 2007 saw the maximum number of cases that is 250. Male 595/697 (85.4%) remained the victim of unnatural deaths as compared to female 102/697 (14.6%) (Table: I). The ratio remained 6:1. Amongst the deaths attributed to suicide, homicide or accident, the accidental cases predominated rest of the unnatural deaths. Accidental deaths were more than double the number of homicide, 471/697 (67.5%) versus 219/697 (31.4%). Suicide remained a rarity 7/697 (1.0%). (Table: II) Percentage of urban dwellers was at lower ebb 174 (25%) as compared to inhabitants of peri-urban 314 (45%) and rural areas 209 (30%) ratio remained 5:9:6 (Fig: I). Amongst the total number of accidental deaths (471), 351 persons lost their

lives in road accidents followed by drowning (48) and train track related accidents (42). Road traffic accidents remained the predominant cause 351/471 (74.5%) of accidental fatalities (Table: III). Vehicle occupants (commuters) were found to be victims in 90% of cases and pedestrian's proportion remained low (10%). Amongst homicidal deaths (219) cases, firearm weapons were preferred by the assailants as weapon of assault in 109 (50%) cases followed by traditional conservative weapons, i.e. hard blunt substance 88 (40%) and sharp edged and pointed weapon responsible for killing 22 (10%) cases. The majority of unnatural deaths occurred during summer (April-October) than winter (November to March) ratio being 1.7:1 (Table: IV) The seasonal pattern in this geographical area is hot climate remains for more time (7 months the least) in a year than the relatively cooler months.

Table 1: Gender distribution of unnatural deaths

Year	Males	Females	Total
2006	198 (84.3%)	37 (15.7%)	235 (100.0%)
2007	217 (86.8%)	33 (13.2%)	250 (100.0%)
2008	180 (84.9%)	32 (15.1%)	212 (100.0%)
Total	595 (85.4%)	102 (14.6%)	697 (100.0%)

P-value of Pearson chi-square test is 0.712 > 0.05

Table 2: Manners of Death in the series

Year	Accidents	Homicides	Suicides	Total
2006	166 (70.6%)	69 (29.4%)	00 (.0%)	235 (100.0%)
2007	178 (71.2%)	69 (27.6%)	03 (1.2%)	250 (100.0%)
2008	127 (59.9%)	81 (38.2%)	04 (1.9%)	212 (100.0%)
Total	471 (67.6%)	219 (31.4%)	07 (1.0%)	697 (100.0%)

P-value of Pearson chi-square test is 0.023 < 0.05

Table 3: Causes of accidental deaths

Year	Road	Train track	Drowning	Poisoning	Electrocution	Incineration	Total
2006	118 (71.1%)	20 (12.0%)	15 (9.0%)	02 (1.2%)	00 (.0%)	11 (6.6%)	166 (100.0%)
2007	142 (79.8%)	10 (5.6%)	20 (11.2%)	01 (.6%)	05 (2.8%)	00 (.0%)	178 (100.0%)
2008	91 (71.7%)	12 (9.4%)	13 (10.2%)	05 (3.9%)	04 (3.1%)	02 (1.6%)	127 (100.0%)
Total	351 (74.5%)	42 (8.9%)	48 (10.2%)	08 (1.7%)	09 (1.9%)	13 (2.8%)	471 (100.0%)

Table 4: seasonal variation of unnatural deaths

Year	Summer (April-October)	Winter (Nov.-March)	Total
2006	135 (57.4%)	100 (42.6%)	235 (100.0%)
2007	154 (61.6%)	96 (38.4%)	250 (100.0%)
2008	150 (70.8%)	62 (29.2%)	212 (100.0%)
Total	439 (63.0%)	258 (37.0%)	697 (100.0%)

P-value of Pearson chi-square test is 0.012 > 0.05

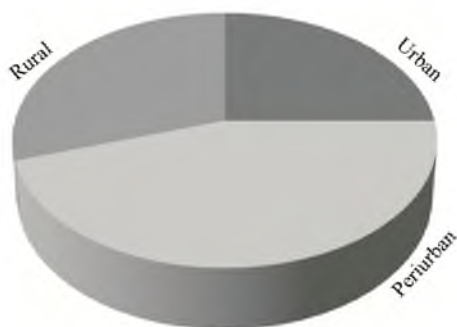


Figure 1: Chart representing the inhabitants of the deceased

DISCUSSION

Catalogue of unnatural deaths includes fatalities caused due to the criminal intent of a perpetrator or result of negligent act or deliberate omission of some person and also those where there is no malafide intent at all but death occurred due to some accident or misadventure.¹⁰

According to census report of 2005, Hyderabad is the 7th populous city of the country inhabiting about 1.4 millions of people.¹¹

Hyderabad is an ideal blend of Urban, peri-urban and rural areas, located at cross roads of three main communicating arteries of the country i.e. Super Highway, National Highway and Indus Highway, on one side it is bounded by River Indus whereas three main water channels of river Indus crosses the city and the suburbs for about 20km distance.

Numbers of unnatural deaths submitted for autopsy each year is low as on the average 232 cases / year are reported. This finding is in contrast to other cities of Pakistan where nearly 600 cases are autopsied per year.¹²

This low number of unnatural deaths can be attributed to comparatively better law and order situation and better intra personal conduct and harmonious relationship amongst the communities in this part of the country. This impression is further strengthened when it is observed that the percentage of homicidal deaths is only 31.4% only in comparison to what has been reported by the other researchers which show a higher rate of homicidal deaths.

Male remained more vulnerable to unnatural death. This observation is in agreement to other authors' findings.¹³ This is because of his work activities, movements, more exposure to outside environments and contacts with other members of society. Over confidence, physical strength, anger, egotism, mindset for revenge are other factors which finally lead him to be the victim or assailant.

Accidents remained predominant cause of unnatural deaths, this finding is also in contrast to the findings of other observers where homicidal deaths occupy more space in the yard stick of unnatural deaths¹⁴ but in agreement with an observer from Karachi who reported that homicidal and accidental deaths are placed evenly.¹⁵

Amongst the accidents, road appeared more dangerous than other means of death because the city is placed at the junction of 3 main roads communicating the economical hub of Karachi with up country. Cargo transportation as well as passengers prefers to travel by roads in Pakistan and vehicular density on the roads leads to fatal accidents, though visibility of roads remains clear throughout the years because of clear weather in this part of the country.

In road related accidents vehicular occupants are the victims in most of the cases than the pedestrians. Majority of the cases die in a vehicular collision or over turning accidents especially the buses and cars. Usually over speeding is reported to be responsible for the casualties.

Majority of the victims are brought from the peri-urban & urban area this is because of the fact that road accidents when occur in the highways, the injured and dead are rushed to the hospital. Liaquat University Hospital being a tertiary care hospital becomes the ultimate choice of the volunteers as well as police to bring the injured / dead to this hospital.

It is not necessary that the dead due to highway accident actually is the inhabitant of that area, but generally recorded in the documents, belonging to the area of the police stations in whose jurisdiction the eventuality occurred.

Rail tract accidents also require further investigations to establish the causes of the incidents whether it is the attributed to the negligence on the part of locomotive drivers, watchman managing the railway crossing or public apathy.

Cases of drowning occupy the 2nd place in the list of the unnatural deaths. This fact is not reported by any other author. The water canals emerging from the nearby barrage traverse the city. People especially teenagers are seen swimming and bathing in the canals especially in the days of summer. There is no restriction to their play and no safety measures are provided for any eventuality, fatality can occur and the funfair ends into funeral.

Suicide remained a rarity like other parts of the country. Shooting for suicide is not seen in any of the case. This is in contrast to the suicidal pattern noticed in USA where suicide by self shooting by males is more common than other means.¹⁶

Hanging remained means of committing suicide in all the cases autopsied amongst the suicidal victim, 5 were males compared to 2 female. This observation is in conformity with gender dominance reported by Indian observers.¹⁷

Gun as a weapon of assault (50%) has outnumbered all other weapons. This fact has become an internationally known fact. In USA more than twenty five thousand people die due to fire arm injury every year.^{18,19} Locally it is documented by various authors that the number of firearms fatalities is of 100% in Dera Ismail Khan and 85.96% in Peshawar.²⁰

CONCLUSION

Majority of victims of un-natural deaths were males dying due to accidental manner of death. peri-urban victims outnumbered rural and urban dwellers. Fatalities were found more in summer season than in winter.

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