Original Research

Spectrum of Medicolegal Autopsies at Dr. B.R. Ambedkar Medical College, Bengaluru, South India

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Abstract

This study helps to ascertain the facts pertaining to death. This will provide an insight to the policymakers, law custodians and the community to look into the specific aspects of the cases and to take appropriate measures for the benefit of people of this place. This cross-sectional study was conducted in the department of Forensic Medicine, Dr.B.R.Ambedkar Medical College, Bengaluru for a period of one year from January to December 2018. Out of 792 autopsies, maximum number of cases were in the age group of 21 - 30 years (29.7%). Males outnumbered the females with male to female ratio of 2.9:1. Maximum number of autopsies were conducted during February (73cases). The manner of death was natural in 293 cases(37%), whereas in 499 cases(63%), it was unnatural. Suicide, accidents and homicidal deaths were 340(42.9%), 124(15.7%) and 35(4.4%) respectively. Hanging was the leading cause of death (34.7%).

Key words: Autopsy, natural deaths, unnatural deaths, suicide, cause of death, hanging

Introduction:

The word autopsy is derived from ancient Greek and literally means to "view for oneself". In common usage, it means postmortem examination of a body. It includes external examination and dissection of internal organs to find out the pathological changes. "Dead men tell tales" - this axiom will be found true, if a postmortem examination is carefully carried out. The main objectives of a medicolegal autopsy are - Identifying an unknown body, to find out the cause of death, to find out time since death, to determine manner of death, to find out intrauterine age of a foetus and to determine whether it was live born/still born/dead born.[1] The first autopsy is said to have been performed in the year 1559, when King Henry II suffered a fatal injury and died; eleven days later Dr. Ambrose Pare, a celebrated French surgeon, dissected the body and discovered a subdural haematoma. Though necropsy is the most accurate term for the investigative dissection of a dead body, the term autopsy is used more frequently.[2] Autopsies allow doctors to correct, clarify and confirm the antemortem clinical diagnosis; this way, physicians may improve their medical knowledge, can train their ability for diagnosis and apply this knowledge into future practice.[3] This study aims to describe the age and gender distribution, month wise distribution of cases, manner of death and to analyze the causes of deaths certified after autopsies in order to facilitate improved and more reliable certification of the cause of death.

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Material and Methods:

This is a cross-sectional study conducted in the Department of Forensic Medicine, Dr.B.R. Ambedkar Medical College, Bengaluru for a period of one year from January 2018 to December 2018. All dead bodies which were subjected to medicolegal autopsy at the mortuary during the study period were included in the study. The following parameters were taken into consideration - total number of autopsies, month wise distribution of cases, age and gender wise distribution, cause and manner of death. The data was collected using a pre-designed format. The collected data were tabulated and the frequency and proportion of these fatalities were determined and the results obtained were expressed in terms of percentages and these results were compared with similar type of work carried out by other authors.

Results and Discussion:

The most important tool of a forensic autopsy is to identify the cause of death and confirm or exclude violent death. This information is particularly important for investigating each suspicious case.[4] A total of 792 medicolegal autopsies were conducted during the period of one year, out of which 588 cases (74.2%) were males and 204 (25.8%) were females, as shown in Table 3 with male to female ratio of 2.9:1. In our study majority of the victims were males (74.2%), similar findings were seen in studies done by other authors. Bhabhor R et al[5] studied 1057 cases, out of which 749(70.9%) were males and 308(29.1%) were females. Radha Krishna KV et al[6] studied 1328 cases with 991(74.62%) males and 337(25.37%) females. Ramalingam S et al[7] and Khanna K et al[3] found 82.5% males and 82.96% males respectively in their study. The male predominance may be explained by the fact that males usually go out of the house for earnings as they are bread earners and hence are more vulnerable to mental stress, violence and road traffic accidents. Also males indulge more in smoking and alcoholism which makes them more susceptible to accidents and early natural deaths.

Table 1: Month wise distribution of cases

Month	Sex	No.	Total case (%)
January	Male	43	60 (7.6%)
	Female	17	
February	Male	45	73(9.2%)
	Female	28	
March	Male	53	66(8.3%)
	Female	13	
April	Male	47	66(8.3%)
	Female	19	
May	Male	52	68(8.6%)
	Female	16	
June	Male	53	65(8.2%)
	Female	12	
July	Male	44	67(8.5%)
	Female	23	
August	Male	50	62(7.8%)
	Female	12	
September	Male	54	66(8.3%)
	Female	12	
October	Male	44	65(8.2%)
	Female	21	
November	Male	52	70(8.8%)
	Female	18	
December	Male	51	64(8.08%)
	Female	13	

The number of medicolegal autopsies conducted per month during the study period demonstrated certain variations which are presented in Table 1. Maximum number of autopsies were done during the month of February - 73 cases (9.2%), whereas January (7.6%) showed the lowest number of autopsies. In a study done by Dekov DP et al,[4] the highest number of autopsies was documented for June, July, January and March. But in Bhabhor R et al [5] study, maximum autopsies were conducted in May and October.

Table 2 depicts the gender wise cause of death among the deceased. Hanging was the most common cause of death in both males (23.5%) and females (11.2%), followed by coronary artery disease involving 112 males (14.1%) and 21 females (2.7%). Injuries sustained due to fall from height was the third most common cause of death with male preponderance (5.3%). Other causes of deaths included road traffic accidents - 47(5.9%), multiorgan failure - 45(5.7%), poisoning - 33(4.2%), chronic lung disease - 29(3.7%), drowning - 26(3.3%). Contrary to our study, road traffic accidents(42.22%) were the leading cause of death in study done by Khanna K et al.[3] Whereas in a study by Mirza FH et al[8] firearm injuries was leading cause of death followed by road traffic accidents (27.8%) and stab wounds(3.2%).

In accordance with Table 3, majority of the subjects of medicolegal autopsy, 235 out of 792 amounting to 29.7% were in the age group of 21 - 30 years, followed by 177 cases (22.3%) in 21 - 40 years, 135 cases(17%) in 41 - 50 years and least cases (2.6%) being in the age group of 0 - 10 years. This observation is consistent with the study done by other authors. Khanna K et al,[3] Bhabhor R et al,[5] Radha Krishna KV et al[6] and Ramalingam S. et al[7] observed respectively that 28.9%, 24.3%, 25.6% and 18.6% cases were in the age group of 21 - 30 years. This is because persons belong to this age group are active, mobile and energetic. The young individuals are short tempered and quickly become emotional, which results in violence. Youn ger individuals also have a risk taking behaviour and thus engage in activities which are otherwise dangerous.[3] Our findings differ from the study done by Dekov DP et al[4] in which the highest death rates by age was observed in the age group between 51 - 60 years.

A total of 792 autopsies were conducted, out of which in 499 cases (63%), the manner of death was unnatural and in 293 cases (37%), it was natural. Suicides, accidents and homicidal deaths were 340(42.9%),

Table 3: Age and sex wise distribution of cases

Age group (years)	Male	Female	Total (%)
0-10	12	9	21(2.7)
11-20	46	30	76(9.6)
21-30	164	71	235(29.7)
31-40	144	33	177(22.3)
41-50	113	22	135(17.01)
51-60	69	18	87(10.9)
61-70	21	11	32(4.04)
>70 years	19	10	29(3.7)
Total	588 (74.2%)	204 (25.8%)	792 (100%)

Table 4: Distribution of cases based on manner of death

Manner of death	Number of cases	Percentage
Natural	293	37%
Suicide	340	42.9%
Accident	124	15.7%
Homicide	35	4.4%
Total	792	100%

124(15.7%) and 35(4.4%) respectively (Table 4). Among the natural causes, deaths due to coronary artery disease was significant (16.8%) followed by respiratory system involvement in 64 cases (8%). In a study done by Radha Krishna KV et al,[6] manner of death was unnatural in 816 cases(61.44%) and natural in 29.21% cases. Accidental deaths were predominant, 577(70.71%). Homicides were the most common manner of death (54%) in study by Mirza FH et al[8] followed by accidents (39.3%).

Conclusion:

This study was conducted at Dr.B.R. Ambedkar Medical College, Bengaluru to know the spectrum of medicolegal autopsies during a period of one year from January to December 2018. A total of 792 medicolegal autopsies were included in the study. Our results demonstrated that majority of the

Table 2: Sex wise distribution of cause of death

Cause of death	Male(%)	Female(%)	Total(%)
Hanging	186 (23.5)	89(11.2)	275(34.7)
Poisoning	21(2.7)	12(1.5)	33(4.2)
Chronic lung disease	24(3.03)	5(0.6)	29(3.7)
Electrocution	14(1.8)	1(0.12)	15(1.9)
Coronary artery disease	112(14.1)	21(2.7)	133(16.8)
RTA	35(4.4)	12(1.5)	47(5.9)
Drowning	19(2.4)	7(0.9)	26(3.3)
Burns	6(0.8)	4(0.5)	10(1.3)
Fall from height	42(5.3)	6(0.6)	48(6.06)
Pulmonary Tuberculosis	18(2.3)	8(1.01)	26(3.3)
Multiorgan failure	36(4.5)	9(1.1)	45(5.7)
Pulmonary thrombo-embolism	1(0.12)	1(0.12)	2(0.2)
Throttling	00	5(0.6)	5(0.6)
Traumatic Asphyxia	4(0.5)	2(0.3)	6(0.7)
Chronic liver disease	13(1.6)	1(0.12)	14(1.8)
Ligature strangulation	7(0.9)	3(0.4)	10(1.3)
Murder-blunt force injuries	3(0.4)	2(0.3)	5(0.6)
Murder-sharp force injuries	8(1.01)	2(0.3)	10(1.3)
Smothering	1(0.12)	3(0.4)	4(0.5)
ARDS	7(0.9)	2(0.3)	9(1.1)
Snake bite	1(0.12)	2(0.3)	3(0.4)
Gunshot injury	1(0.12)	00	1(0.12)
Railway accident	1(0.12)	00	1(0.12)
Aspiration of gastric contents	20(2.5)	5(0.6)	25(3.2)
Dead born foetus	8(1.01)	2(0.3)	10(1.3)
Total	588(74.2%)	204(25.8%)	792(100%)

deceased were in the age group of 21 - 30 years, males constituted more in number as compared to females, maximum autopsies were conducted in the month of February, Suicides were the most common manner of death and Hanging was the leading cause of death.

Conflict of interest: None

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Ethical clearance: Obtained

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