

## Original Article

# Gender Disparity in Autopsy Findings: How Much is It?

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### Abstract

Bangladesh is densely populated country where male and female ratio is closer to each other. This descriptive study investigates the gender disparity of postmortem examination findings among 7 districts in the Rajshahi division of Bangladesh. Postmortem (PM) examination stations were located in Rajshahi, Rangpur, Bogra and Dinajpur Medical Colleges & Pabna, Natore and Chapai Nawabganj Sadar Hospitals. The findings of the autopsy reports (Total 3164) over the two years (2004 & 2005) were collected retrospectively from the register book of the authority. In this study we wanted to find out gender disparity - if exists in PM examination findings and, to what extent. Manually verified data were analyzed employing SPSS/WIN V-11.5. An obvious gender disparity existed in overall occurrence of unnatural deaths, male predominate female victims (M: F ratio = 1.51:1). A significant association existed in death circumstances & gender ( $p < 0.0001$ ); male (634) outnumbered female (250) in homicidal deaths, in suicidal deaths female (612) outnumbered male (364) and in accidental deaths male (583) outnumbered female (135). This classical gender difference in death circumstances remains similar to our national context. Findings of this study revealed an obvious gender difference in the overall numbers of cadaveric PM examination. Males were more victimized than females in majority of medico-legal aspects analyzed, except in suicidal cases.

**Key words:** Gender, Disparity, Medicolegal, Postmortem (PM) examination, Homicidal, Suicidal, Death.

### Introduction :

Autopsy (autos=self; opsis=view) literally means to see for one self. A medicolegal autopsy (necropsy, necros=dead, opsis=view) or post mortem examination (post=after, mortem=death) means an autopsy that is performed by an authorized medical officer to meet with specific requirements of law<sup>1</sup>. A medicolegal autopsy is defined as to establish the cause of death and to decide whether it is due to natural or unnatural cause<sup>2</sup>.

In Bangladesh nothing much is known on gender disparity in autopsy findings. Gender difference remains a major factor in a wide range of public health issues particularly for lower socioeconomic countries like Bangladesh. Since a computerized literature search could not reveal any report from Bangladesh in these important areas, we wanted to find out gender disparity-

if exists in post mortem (PM) examination findings and, to what extent. In this paper, we presented preliminary findings of homicidal, suicidal and accidental deaths in seven districts of Rajshahi division (Rajshahi, Rangpur, Bogra and Dinajpur Medical Colleges & Pabna, Natore and Chapai Nawabganj Sadar Hospitals) during the period of January 2004 to December 2005. We look at the pattern, trend, and incidence along with the differences of gender disparity of the northern part of the Bangladesh which is more valuable part of the country in respect of socioeconomic condition.

### Materials and methods:

This study was carried out to find out gender differences in autopsy reports using various medico-legal hints/points. Two years data (Total 3164 on PM examination from January 2004 to December 2005) collected retrospectively from government register book in 7 different PM examination stations located in countries northern belt (Rajshahi, Rangpur, Bogra and Dinajpur Medical Colleges & Pabna, Natore and Chapai Nawabganj Sadar Hospitals). In our country we follow the continental system with some modification. In our country where medical college is present the post mortem examination is done in Forensic Medicine

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department of that medical college and the whole district is concerned. But the district where no medical college is present there the post mortem examination is done by the medical officers of the district sadar hospital on behalf of the civil surgeon. To view the total picture of Rajshahi division we target four district containing medical college and three districts without medical college. Manually verified data were analyzed employing SPSS/WIN V.11.5.

### Results:

On an average 452 PM examinations were carried out per stations, the highest 851 (26.9%) was done in Rajshahi and the lowest 112 (3.5%) in Chapai Nawabganj. Table-I.

**Table I:** Name and location of morgue

Name and location of morgue where PM were done	Frequency (%)
Rajshahi Medical College, Rajshahi	851 (26.9)
Rangpur Medical College, Rangpur	691 (21.8)
Pabna District Sadar Hospital, Pabna	440 (13.9)
Natore District Sadar Hospital, Natore	348 (11.0)
Dinajpur Medical College, Dinajpur	381 (12.0)
Shaheed Ziaur Rahman Medical College, Bogra	341 (10.8)
Chapai Nawabganj District Sadar Hospital, Chapai Nawabganj	112 (3.5)
Total post mortem performed	3164 (100)

Among total victims 3164, the 20-39 years age group is the highest 1747 (55.2%) and less than 5 years age group is the lowest 59 (1.9%). Here 77 (2.4%) PM examined bodies could not find the age on the records (Illegible). Table-II.

**Table II:** Age of PM examination victims when died

Age group	Frequency (%)
Under 5 years	59 (1.9)
6-14 years	175 (5.5)
15-19 years	270 (8.5)
20-39 years	1747 (55.2)
40-57 years	629 (19.9)
58-98 years	207 (6.5)
Illegible	77 (2.4)
Total	3164 (100)

An obvious gender disparity existed in overall occurrence of unnatural deaths. Out of 3164 unnatural deaths 1897 (59.95%) were male and 1260 (39.82%) were female (Male: Female ratio = 1.51:1) in PM examination ( $p < 0.001$ ). A significant association existed in death circumstances & gender ( $p < 0.0001$ ); male (634) out-numbered female (250) in homicidal deaths, in suicidal deaths female (612) outnumbered male (364) and in accidental deaths male (583) outnumbered female (135). Table-III.

**Table III:** Gender specific PM examination status by death circumstances

Death circumstances	Gender of victimized person			
	unrecognizable	Male	Female	Total
Homicidal	2	634	250	886
Suicidal	1	364	612	977
Accidental	0	583	135	718
Undecided	1	119	100	220
Natural death	1	32	5	38
Not detected yet	2	127	113	242
Illegible	0	38	45	83
Total	7	1897	1260	3164

Death due to cardiovascular failure are 3.8 times more in male than female (Male 1016, Female 266) with male female ratio are 3.81:1. Death due to respiratory failure are 1.5 times more in females than male (Female 737, Male 488) with male female ration is 1:1.51. Cause of death were crossed with gender an obvious gender difference also came out ( $p < 0.0001$ ). Table-IV.

**Table IV:** Gender specific cause of death among victims

Cause of death	Gender of victimized person			
	Unrecognizable	Male	Female	Total
Respiratory Failure	3	488	737	1228
Cardiovascular Failure	2	1016	266	1284
CNS Failure	0	34	6	40
Mixed causes	2	316	197	515
Illegible	0	43	54	97
Total	7	1897	1260	3164

Nature of injury revealed a significant difference between male and female victims ( $p < 0.000$ ); multiple injuries/head injury/ RTAs (Male 928 vs. Female 264), stab/cut injury (Male 192 vs. Female 58) and firearm/bullet injury (Male 59 vs. Female 5). Table-V.

**Table V:** Gender specific nature of injury among PM examination victims

Nature of injuries	Gender of victimized person			
	Unrecognizable	Male	Female	Total
Multiple injuries/Head injuries/RTAs	1	928	264	1193
Cut/Stab injuries	0	192	58	250
Hanging/Strangulation	1	187	321	509
Firearm/bullet injury	0	59	5	64
Poisoning	1	218	320	539
Burn	0	33	24	57
Natural death	1	18	5	24
Miscellaneous (Illegible/ No injury/Drowning/ Rape/Heart and or kidney injury etc)	3	262	263	528
Total	7	1897	1260	3164

### Discussion:

Unnatural death is one of the indicators of the level of social and mental health. Crime has never been free from any human society since their emergence on this earth<sup>3</sup>. Total post mortem examinations were done on those stations 3164; among them male victims were 1897 (59.95%) and female victims were 1260 (39.82%). Only 7 (0.22%) victims were unable to determine their sex. It is due to highly decomposed body or due to mutilated body. An obvious gender disparity existed in overall occurrence of unnatural deaths leading to PM examination where male predominate female. A significant association also existed in death circumstances & gender. This classical gender difference in death circumstances remains similar to our national context. The fact is that the rate of growth of homicide far exceeds the population growth rate and also the fact that the number of homicide has been steadily increasing in recent years. We can attribute this due to increasing political instability, unrest social conditions and urbanization that leads to increase number of violent unnatural deaths. This trend is also seen in America<sup>4</sup>.

The said finding has the following basis of logical explanation. Firstly, males go out for work other much more than their females' counterpart. Secondly, men are mostly indulged with both socio-political rows (rivalry, revenging, killing, leadership crisis) & crimes acts (robbery, looting, drug abusing etc) than women and thirdly, psychologically, suicidal tendency/prevalence rank highest among females more than males, in our study areas. More over some of their ill-motivated husbands, boy-friends, fiancé & relatives often forces these ill-fated females either to commit suicide or killed and then turn those homicidal acts into suicides. Locally available Organophosphorus compounds (OPC) in most of our rural households assists in committing suicides. So, reports given as ingestion of OPC poison by a doctor needs more careful attention on the basis of viscera reports to be evaluated more cautiously on reaching any conclusive evidence on such poisoning cases. However, our existing mass trend that almost all poisoning cases leads to suicidal, needs careful verification/clarification if it is truly suicidal or, homicidal or accidental - as the national demands. Highest numbers of unnatural death leading to post mortem were among 20-49 years age groups while children were the least victims followed adolescents/teen aged-showing an obvious gender disparity<sup>5</sup>.

### Conclusion:

Findings of this study revealed an obvious gender difference in the overall numbers of cadaveric post mortem examination. Males were more victimized than females in majority of medico-legal aspects analyzed, except in suicidal cases. This was true not only in total numbers of unnatural death in PM examination, and also in its injury types and cause of death including poisoning.

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