



ORIGINAL RESEARCH PAPER

Medicine

PROFILE OF MEDICOLEGAL AUTOPSIES OF FEMALE SUBJECTS AT A BORDER DISTRICT TERTIARY CARE CENTRE OF WEST BENGAL - A PILOT STUDY

KEY WORDS: Medicolegal, Unnatural Deaths, Female subjects, Hanging, Burn, Poison, Autopsy.

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ABSTRACT

Present study has been conducted at Department of Forensic Medicine and Toxicology, Malda Medical College, located at Malda District of West Bengal state that covers both international and state border and having a different socio economic scenario than rest of the country which is often reflected at the pattern of medicolegal cases reported here. On the other hand, death of a female subject of medicolegal category bears definite implication on such aspects. In view of this one year autopsy based study has been conducted where out of 1685 autopsies, 562 cases were of female subjects. It has been seen that majority of unnatural deaths of females were due to effects of Hanging (26.87%), followed by Burn (19.93%) and intake of Poison (15.12%). As per the age group is concerned, commonest age group affected was 16- 20 yrs (23.13%), followed by 21- 25 yr (14.95%). Highest incidence of such deaths took place in the month of October (11.21%) followed closely by August and September. Besides implementing mass awareness program on it, a collaborative research team comprising of Medicos, Judiciary and Police Authority is required to minimize such fatal outcomes of females.

INTRODUCTION

It has been observed that unnatural deaths claim a considerable loss of lives in a developing country and India is also no exception⁽¹⁾. Often a violent, mutilating or destructive offence, which is generally an external cause, result in an unnatural death⁽²⁾. Such types of deaths are great loss for a family, society, and for any nation.⁽³⁾ Females, considered to be fulcrum of a society, when suffer through any violence or unnatural deaths, it reflects the actual broken structure of that society. Thus studies on female subjects has definite implication to get an estimation of the burden on socioeconomic or related strata of a nation. But such studies, mainly on traumatic injuries among females are scarce and under-reported.⁽⁴⁾

However available previous studies though observed different aspects on the subject, but studies on female population at any location close to National or International border of any country is lacking causing a research gap. Socioeconomic, law and order situations of such border areas generally do not match with other parts. Besides other crimes, tortures or domestic violence, often the female population of these areas are exposed to human trafficking and related offences also. All these facts are reflected through medicolegal cases, more specifically the so called unnatural deaths and an autopsy based study is generally fruitful to unfold it. Autopsy is often, the only procedure by which not only the identity of deceased is established, but along with cause of death, the possible manner of death may also be determined.⁽⁵⁾

Unnatural deaths indicate a negative image of any society⁽⁶⁾. Now a days, in the era of dominance of social media we talk on women empowerment liberalization but on the other hand unfortunately side by side we find crime against women has also increased⁽⁷⁾.

In view of all these aspects, present observational small scale Pilot study is an endeavour to explore the scenario of such unnatural female deaths at an Institute covering primarily a rural population, more importantly, at its location by the side of International Border of State and Country. Besides this,

another motto is to establish the effectiveness of the sampling frame and research technique.

The study has been conducted at Department of Forensic Medicine and Toxicology, Malda Medical College in the State of West Bengal. The Institute is located close to both International border of India and Bengal state border with Bihar and Jharkhand



- Malda and it's borders:
- Bangladesh : to the East
 - Murshidabad District : to the South
 - North Dinajpur : to the North
 - Bihar and Jharkhand : to the West

Objectives

1. To find out the incidences of unnatural deaths of females of different age groups
2. To find out the occurrences of unnatural deaths as per the months
3. To find out the causes of deaths

Materials and Methods

Present descriptive epidemiological study was conducted at the Department of Forensic Medicine & Toxicology, Malda Medical College, Malda, West Bengal with prior Ethical clearance from Institutional Ethical Committee. The sample consisted of all the fatal cases of Female sex with range of 0 to 100 year age that were brought to the mortuary for medico legal autopsy during the study period of July 2019 to June 2020 excluding i) the dead fetuses prior to age of viability and ii) bodies in a state of advanced decomposition. Data collection on variables were from inquest papers, hospital records (for hospital deaths), informations from nearest of kin, post- mortem reports and related departmental records as per pretested and predesigned proforma and accordingly data entry was done. For analysis, data were transcribed to a MS Excel database and analyzed using SPSS V:20 (IBM Inc.) and displayed through tables.

Results/observations

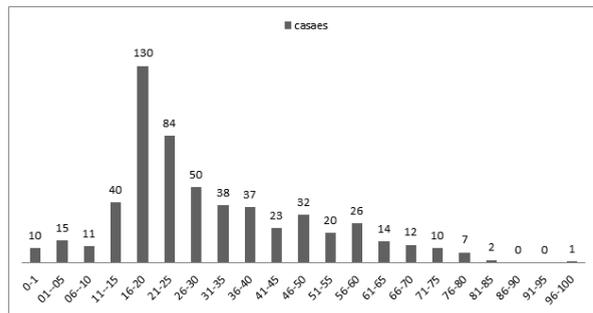
Present study shows that during the stipulated time period, out of 1685 medicolegal autopsies, 562 were of female subjects causing 33.35%.

Agewise distribution of cases:

As per the age group is concerned, present study shows highest mortality in 16- 20 yr group (23.13%) followed by 21-25yr (14.95%) and 26-30yr (8.96%). No death case was found for age group 86-90yr and 91 -95 yr. 10 cases (1.78%) were of age below 01 yr.

Table-1 Agewise distribution of cases N=562.

Sl no	age	cases	percentage
1	0-1	10	1.78
2	01--05	15	2.67
3	06--10	11	1.96
4	11--15	40	7.12
5	16-20	130	23.13
6	21-25	84	14.95
7	26-30	50	8.90
8	31-35	38	6.76
9	36-40	37	6.58
10	41-45	23	4.09
11	46-50	32	5.69
12	51-55	20	3.56
13	56-60	26	4.63
14	61-65	14	2.49
15	66-70	12	2.14
16	71-75	10	1.78
17	76-80	7	1.25
18	81-85	2	0.36
19	86-90	0	0.00
20	91-95	0	0.00
21	96-100	1	0.18
		562	



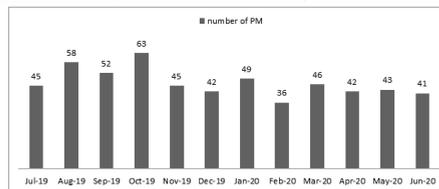
Monthwise Distribution of cases:

Monthwise distribution of present study shows that during August to October (03 months), the incidences of such post mortems were higher in comparison to rest of the year. In October total 63 cases (11.21%), followed by August- 58 cases (10.32%) and September 52 (9.25%) cases. While in the month of February cases were lowest- 36 cases (6.41%).

Table-2 Monthwise Distribution of cases N=562

month	number of PM	PERCENTAGE
Jul-19	45	8.01
Aug-19	58	10.32
Sep-19	52	9.25
Oct-19	63	11.21
Nov-19	45	8.01
Dec-19	42	7.47
Jan-20	49	8.72
Feb-20	36	6.41
Mar-20	46	8.19
Apr-20	42	7.47

May-20	43	7.65
Jun-20	41	7.30

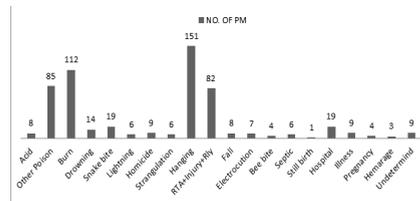


Distribution as per the causes of deaths:

In present study combined RTA, Rail Accidents and other Injury cases were 82 (14.59%) - being the 4th common cause; the commonest being hanging-151 cases (26.87%) followed by poisoning (excluding corrosives)- 85 cases (15.12%) cases of deaths due to intake of Acid/ Corrosive substance being 08(1.42%).

Table-3 Distribution as per the causes of deaths: N=562

SLNO	C/O/D	NO. OF PM	PER%
1	Acid/Corrosives	8	1.42
2	Other Poison	85	15.12
3	Burn	112	19.93
4	Drowning	14	2.49
5	Snake bite	19	3.38
6	Lightning	6	1.07
7	Homicide	9	1.60
8	Strangulation	6	1.07
9	Hanging	151	26.87
10	RTA+Injury+Rly	82	14.59
11	Fall	8	1.42
12	Electrocution	7	1.25
13	Bee bite	4	0.71
14	Septic	6	1.07
15	Still birth	1	0.18
16	From Hospital	19	3.38
17	Illness otherwise	9	1.60
18	Pregnancy related	4	0.71
19	Hmge(pregnancy)	3	0.53
20	Obscure	9	1.60
	Total	562	100.00



Distribution of the major causes of deaths as per the age groups:

In the distribution of some of the major causes of deaths according to age groups, present study shows Age group 16-20 year is affected by all the three common causes like Burn, Hanging and Poisoning. Burn, is seen to be common also for age group 21-25 yr, while RTA deaths are comparatively more in age group 36-40 yr. Both 86-90 yr and 96-100 yr age show 01 cases each died due to burn injury, while hanging and intake of poison is found even in age group 81-85 yr.

Table-4 Distribution of the major causes of deaths as per the age groups

age	burn	hanging	Accdnt	Poison	drowning	RTA	Acid
01--05	2	0	0	3	0	1	0

06--10	3	0	0	1	1	0	0
11--15	5	13	0	9	3	0	0
16-20	24	54	0	23	2	0	0
21-25	22	29	1	12	1	2	0
26-30	11	18	0	9	1	0	2
31-35	10	6	0	5	0	1	2
36-40	6	7	1	6	0	9	1
41-45	2	4	1	5	1	1	0
46-50	6	5	1	5	0	2	1
51-55	4	3	0	1	1	3	1
56-60	6	3	2	2	2	2	0
61-65	2	3	1	2	1	1	0
66-70	3	2	2	0	0	2	0
71-75	2	2	0	1	1	0	0
76-80	3	1	0	0	0	0	1
81-85	0	1	0	1	0	0	0
86-90	1	0	0	0	0	0	0
91-95	0	0	0	0	0	0	0
96-100	1	0	0	0	0	0	0

Discussion

Present study shows that out of 1685 medicolegal autopsies, 562 were of female subjects causing 33.35%. Similar study conducted by Dere and Rajoo at Rural Medical College, Loni, shows 36% for the same.⁽⁸⁾

As per the age group is concerned, present study shows highest mortality in 16- 20 yr group ((23.13%) followed by 21- 25yr (14.95%) and 26-30yr(8.96%). In the study by Bhullar etal⁽⁹⁾ majority of victims were from age group 23-26yr. while it was 26-30 yr as shown in study by Dere and Rajoo. In a study at Latur District of Maharashtra, Bansude et al shows among the total post mortems of both the sexes, commonest age group affected were 21-30 yr⁽¹⁰⁾.

In present study 10 cases (01.78%) were of age below 01 yr. 01yr to 05 yr were 15 cases (2.67%) and 6-10 yr were 11 cases (1.96%). Mina et al at their study shows <1yr female cases were 75%, 1-5 yr was 41%, 6-10 yr was 315. The study was conducted on below 18 yr subjects, thus reflecting such results.⁽¹¹⁾ In another study by Punia et al 33.93% cases were of female sex and of pediatric age group⁽¹²⁾. It is also noteworthy that in present study 01 medicolegal post mortem was of age group 96-100yr and 02 cases were from age group 81-85 yr (0.36%).

Monthwise distribution of present study shows August to October (three months), the incidences of such post mortems were higher in comparison to rest of the year. This outcome of highest incidence in the month of October has definite implication as the month is considered as festive period at the locality.

Kitulwatty at al⁽¹³⁾ at a study at Srilanka shows commonest deaths were due to RTA(40%), and if suicides are considered commonest method was poisoning, followed by hanging. But in present study as a whole RTA is 14.59%, being the 4th common cause; the commonest being hanging (26.87%) followed by poisoning (excluding corrosives). Bansude et al⁽¹⁴⁾ at their study shows deaths due to thermal injury (18.28%) as the commonest, followed by poisoning.

In the distribution of some of the major causes of deaths according to age groups, present study shows Age group 16-20 year is affected by all the three common causes like Burn, Hanging and Poisoning. This means this young age group victims choose any of the available procedures to commit death. Burn, is seen to be common also for age group 21-25 yr, the DOWRY DEATH cases are implicated in this point., RTA deaths are comparatively more in age group 36-40 yr. Both

86-90 yr and 96-100 yr age show 01 cases each died due to burn injury must be accidental and related to geriatric group vulnerability, while hanging and intake of poison is found even in age group 81-85 yr. This shows that no age is bar from committing suicide as both Poison intake and hanging are generally considered as suicidal unless proved otherwise.

Conclusion

Autopsy based study on unnatural deaths of female subjects reflects the scenario of the actual burden as tip of iceberg. Besides the often seen Domestic violences, other crimes against women are alarming in our country⁽¹⁵⁾. Analysis of the facts and related suggestions emphasize on role of MEDIA on it besides other recommendations⁽¹⁶⁾. However more studies and researches in this arena are a definite requirement. Expecting precise and valid research outcomes, studies should be planned as a team of collaborative work involving medicos, judiciary and police department. Also studies should be planned on population units of similar border locations and objectives may be formed in such way so that the outcomes will reflect an influence of typical socioeconomic conditions in such areas which is different from other places. Such researches will help to form Government Strategies on protection of women on one hand and Implementations of stringent actions on perpetrators on the other side.

ETHICS CLEARANCE

The work was approved by IEC of Malda Medical College

CONFLICT OF INTEREST

No conflict of interest financial or otherwise

FUNDING

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