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Analysis of Accidental Deaths in Female & Its Prevention : 2 Yr Study

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ABSTRACT

Background: As a result of urbanization, accidental deaths have been an increasing during the recent past years. Injuries and accidents are one of the most predictable issues that constitute a major social and economical burden amongst communities, particularly in developing countries like India. Accidental death constitutes the most common unnatural deaths in Human being.

Objective: To investigate the socio-demographic profile, causes of Accidental death.

Materials and Methods: It was a prospective study conducted in the Department of Forensic Medicine & Toxicology, Lokmanya Tilak Municipal Medical College & Hospital, Sion, Mumbai during August 2012 to July 2014. A total of 300 cases were examined and recorded.

Results: Most common victims belonged to age group of 21-30 years, Hindu, middle school educated housewives in middle class, from Mumbai region. Most of them were accidental burns.

Conclusion: Most of the Accidental deaths are due to burns injuries.

KEYWORDS : urbanization, accidents, unnatural deaths, burns.

INTRODUCTION:-

Currently motor vehicle accidents rank ninth in order of disease burden and are projected to be ranked third in the year 2020. Worldwide the number of people killed in road traffic crashes each tear is estimated at almost 1.2 million, while the number injured could be as high as 50 million[1].

Accidental deaths consist of Road traffic and railway accidents, burns injuries, poisoning, fall from height, electrocution etc. Modernization and fast life of metropolitan city like Mumbai where accidents by local train and road traffic accident are very common even though accidental burns injuries at domestic level are not lagged behind them.
The most obvious reason behind such deaths is stepping out of female for job work to sustain a normal family life in city like Mumbai where high density of population is observed and rushed in crowd at same office hours.
In this study we aimed to find out the socio-economic condition of the victims, the frequency of accidental deaths with different causes of death and its prevention.

MATERIAL AND METHODS:-

The accidental deaths were categorized on the basis of cause and manner of accidents. Detail history from police & relatives with consent were taken and meticulous post-mortem examination were conducted in the Department of Forensic Medicine & Toxicology, Lokmanya Tilak Municipal Medical College & Lokmanya Tilak Municipal General Hospital, Sion, Mumbai. Accidental death in female is most commonly occurred in reproductive age hence female in age group 14- 40 yr have been included in this study.
For the study, detailed information about accidental death were extracted from Medicolegal Post-mortems examination in 2 years of duration from 1 August 2012 to 31 July 2014 and the data related to socio-demographic profile, months wise distribution, causes of deaths were recorded and tabulated. Ethical clearance was taken from Institutional Ethic committee.

OBSERVATION & RESULTS:-

Total 5033 autopsies were conducted in this 2 year duration, out of which 1017 were unnatural female deaths. 300 cases (29.49%) included in this study of accidental death.

In this study **Table No. 1** shows that most common age group affected from 26-30 yr i.e. 77 cases (25.67%) followed by 21-25 yr i.e. 74 cases (24.67%).

This study showed that younger female victim suffered more for accidental death.

In this study most of female were housewives i.e. 211 (70.33%) followed by employed 44 (14.67%).

This may be due to housewives who started families in age 21-30 yr have less experience in working at kitchen where accidental burns are common.

Table no 2 denotes religion, Hindu female 223 (74.33%) were most commonly affected followed by Muslims 70 (23.33%).

Victims from Mumbai & Non-Mumbai region were more or less affected same in 51% & 49% respectively.

Table No. 3 denotes educational status of women, that most commonly affected females had educated up to middle school 74 (24.67 %) followed by high school 69 (23%) then illiterate females 68 (22.67%).

According to Socioeconomic status most of victims belonged to middle class (61.67%) followed by lower class (36%).

Table No.3 shows that most common victims died duet o accidental burns injury i.e. 198 cases (66%) followed by mechanical trauma (26.66%) which includes head injury, polytrauma and vital organ injury.

By studying period of survival most of victims survived more than 7 days i.e. 81 (27%) followed by 4-7 days 73 (24.33%).

DISCUSSION:-

Accidental death among female is the indicators of social, physical and mental health of society. A responsibility for prevention of accidental death does not rest on only on law enforcement but also on

raising education status of female.

In our study 300 cases (29.49%) of accidental death occurred out of all unnatural female deaths.
Similar finding were noted in study of Pawar CK et al[2] most common Burns were accidental i.e. 30 (53%), Omoniyi Esan O et al[3] studied accidental traumatic Injury were 123 (57.2%). Sharma BR et al[4] & Santosh CS et al[5] observed that Road traffic accidents were most common i.e. 1028 (36.26%) and 74 (61.67%) respectively.

This study of accidental death showed that most common age group affected from 26-30 yr i.e. 77 cases (25.67%) followed by 21-25 yr i.e. 74 cases (24.67%).

These findings and reasoning concurs with that of Vaghela[6] most common vulnerable group was 21-30 yr i.e. 344 (33.7%), in study of Zine et al[7] 20-29 yr group were 215 (41.5%), Pathak and Sharma[8] 20-29 yr victim i.e. 168 (35.0%), and Buchade et al[9] 21-30 yr age group people were 97 (40.93%). Kulshreshtha et al[10] observed that most vulnerable age group was 21-25 years (55.55%). Sharma BR et al[4] noted that higher incidence of unnatural female deaths in the age group of 21 - 25 years was due to burns. Srivastava et al[11] found that maximum number of cases belonged to 21-22 years (33.57%). As per Dere and Rajoo[12] most common age group involved was 26-30 years (24.53%) followed by 21-25 years (21.93%). Pawar CK et al[2] noted that most common age group involved was 18-30 years (68%).

This study showed that younger female victim suffered more for accidental death. This may be due to affected victims were reproductive age group when they are out of home for either education in early period and job in later while other would be married and being housewives.

Considering educational status of women, that most commonly affected females had educated up to middle school 74 (24.67 %) followed by high school 69 (23%) then illiterate females 68 (22.67%).

Similar findings observed with study by Pawar CK et al[2] who observed that most of females were educated up to matriculation i.e. 68 (68%), Gadge et al[14] observed 98 (31.6%) cases had middle school education, Zine et al[7] noted 152 (29.2%) females were middle school educated and Mori et al[13] observed 111 (36.27%) females were educated upto higher secondary school, Pawar V et al[18] found that 238 (25.78%), Varma et al[17] observed illiterate 75 (52.44%), Kulshreshtha et al[10] 59 (50.42%) female were illiterate

This may be due to place like Mumbai where education is easily accessible most of victims have achieved level literacy.

According to religion wise distribution, Hindu female 223 (74.33%) were most commonly affected followed by Muslims 70 (23.33%).

Similar results i.e. Hindu were most commonly involved and concurs in studies of Pathak A et al[8] (82.91%), Zaheer M et al[14] (63.5%), Kulshreshta et al[10] (88.03%), Varma N et al[17] (90.20%), Mori R et al[13] (91.83%).

In this study most of female were study most of female were housewives i.e. 211 (70.33%) followed by employed 44 (14.67%).

These findings are in agreement with Pawar CK et al[2] who noted most of female were housewife i.e. 62(62%), and housewives were most common in studies of Gadge et al[15] 179 (57.6%), Kulshreshtha et al[10] 90 (76.92%), Zine et al[7] 311 (59.8%) and Chawla et al[16] 28 (56%), Mori et al[13] 114 (37.25%), Pawar V et al[18] 238 (25.78%)

This may be due to housewives are used stay at home all the time and could get opportunity to die at home when there is no one with them.

According to Socioeconomic status, in our study most of victims belonged to middle class (61.67%) followed by lower class (36%).

Similar findings were observed in study of Mori et al[13] found that most of the females belonged to lower middle socio-economic status i.e. 145 (47.38%). Also Zine et al[7] noted that maximum cases were from Lower middle class socioeconomic status 346 (66.5%) followed by lower class i.e. 87 (16%).

In this study most common victims died duet o accidental burns injury i.e. 198 cases (66%) followed by mechanical trauma (26.66%) which includes head injury, polytrauma and vital organ injury.

In accordance with our observations, Kulshreshtha et al[10] 72 (61.53%), Zine et al[7] 257 (49.5%), Dere and Rajoo[12] 155 (50%) , Pathak and Sharma[8] 216 (45.0%), Srivastava and Arora[11] reported burns as most common cause of death which is consistent with present study. Buchade et al[9] also observed burns was most common cause of death in accidental manner.

By studying period of survival most of victims survived more than 7 days i.e. 81 (27%) followed by 4-7 days 73 (24.33%).

In accordance with our findings, Varma and Kalele[17] noted that maximum deaths occurred within 1-6 hours 64 (44.75%) while 121 (84.6%) victims died within 3 days. Pawar V et al[18] also reported that 520 (56.34%) victims died within 2-3 days and Gadge et al[15] reported 93 (29.9%) cases died in 4-7 days.

CONCLUSION:-

The present work was undertaken with a view to investigate accidental death from all possible aspect such as socio-demographic factors, cause of death, pattern of injuries in the causation of accidents.

The incidence of accidental deaths in urban area was 29.49% among unnatural death of female. Majority of the female victims were in age group of 21-30 years. Hindu, middle school educated housewives in middle class, from Mumbai region. Most of them were accidental burns in Oct to Dec months.

PREVENTIVE MEASURES:-

Public health, government services, non government organization in India should assist on prevention of accidental death in females by upliftment of social status of females in which raising education, nutrition and social dignity of female in Indian society.

1. Education about stress management for women like meditation, exercise, yoga, counseling and group therapy to counteract stress and depression.
2. To promote road safety measures such as following traffic rules, to wear a helmet or seat belt while riding a vehicle to prevent road traffic accidents.
3. To use standard electrical equipments and kitchen appliances with care to prevent domestic accidents like burns, electrocution and gas geyser accidents.
4. Promoting literacy & professional courses and encouraging employment among girls to make them economically independent at the time of marriage.

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Conflict of Interest: None

Table No.1 DISTRIBUTION OF AGE WITH OCCUPATION OF VICTIMS.

AGE	OCCUPATION				TOTAL
	HOUSEWIFE	STUDENT	EMPLOYED	UNEMPLOYED	
14-20 YR	20	30	9	7	66 (22)
21-25 YR	64	0	7	3	74 (24.67)
26-30 YR	62	0	11	4	77(25.67)

31-35 YR	31	0	11	0	42 (14)
36-40 YR	34	0	6	1	41(13. 67)
TOTAL	211 (70.33)	30 (10)	44 (14.67)	15 (5)	300 (100)

(* Numbers in parenthesis represents percentage)

Table No.2 DISTRIBUTION OF REGION WITH RELIGION OF VICTIMS

RELIGION	REGION		TOTAL
	MUMBAI	NONMUMBAI	
HINDU	107	116	223 (74.33)
MUSLIM	40	30	70 (23.33)
CHRISTIAN	3	0	3 (1.00)
SHIKH	1	1	2 (0.67)
BAUDH	2	0	2 (0.67)
TOTAL	153 (51)	147 (49)	300 (100)

(* Numbers in parenthesis represents percentage)

Table No.3 EDUCATION & SOCIOECONOMIC STATUS OF VICTIMS WITH THEIR CAUSE OF DEATH AND PERIOD OF SURVIVAL

	CHARACTERS	n=300	PERCENTAGE
EDUCATION	ILLITERATE	68	22.67
	PRIMARY	52	17.33
	MIDDLE SCHOOL	74	24.67
	HIGH SCHOOL	69	23.00
	HSC	26	8.67
	GRADUATION	10	3.33
	POST GRADUATION	1	0.33
SOCIOECONOMIC STATUS	UPPER	7	2.33
	MIDDLE	185	61.67
	LOWER	108	36.00
CAUSE OF DEATH	BURNS	198	66
	HEAD INJURY	37	12.33
	ELECTROCUTION	4	1.33
	POISONING	11	3.67
	POLYTRAUMA	31	10.33
	VITAL ORGAN INJURY	12	4
	OTHER	7	2.33
PERIOD OF SURVIVAL	< 6 HR	59	19.67
	6-24 HR	21	7.00
	1-2 DAY	25	8.33
	2-4 DAY	41	13.67
	4-7 DAY	73	24.33
	> 7 DAY	81	27

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