

Observational Study of Sociodemographic Profile on Female Autopsy Cases of J.L.N Medical College, Ajmer

Nirjhar Mathur¹, Sumer Singh², R K Mathur³

¹Intern Student J.L.N. Medical College, Ajmer; ²Assistant Professor (FM) J.L.N. Medical College, Ajmer; ³Sr. Professor & HOD (FM) J.L.N. Medical College, Ajmer

Abstract

Introduction:- Unnatural deaths of females in a particular geographic area is the reflection of its law and order situation. Lower incidences indicate presence of peace, harmony and security in the society. Present study is designed to determined unnatural deaths of females in Ajmer city. This study includes the various socio-etiological aspects of un-natural female death. The findings of our study is useful in planning of prevention polices.

Aims & objectives:- -To collect the statistical data of Autopsy cases of unnatural female death cases brought to J.L.N. Hospital, Ajmer mortuary

Objectives:- To study the various socio demographic data of autopsy cases of un-natural deaths of females.

Material and Method:- Population Universe:-

All Medico-legal Autopsies conducted in Department of Forensic Medicine and Toxicology at J.L.N. Medical College and Associated Group of Hospitals, Ajmer. These were total 953 medico-legal autopsies in number

Case Study:- As present study comprised 170 autopsy cases of unnatural female deaths

Study period:- 1st April 2019 to 31st March 2020

Method:- Performa for study was prepared on the basis of information obtained from Autopsy, Panchnama, questionnaire of relatives and all collected data were put into the master-chart, which was prepared and then feed into the computer in Excel worksheet and then analyzed.

Observation & Results:- More than half of victims were married (69.41%) Among the married women, maximum cases (61.86%) were of more than 7 years of marriage life. Highest number of cases (40%) was seen in Summer. Literate women comprise of about 66.47% of total cases. Highest number of cases (50.58%) was of accidental in nature. Suicidal deaths constituted more than half of deaths which occurred within in seven year of married life. Burns (30.58%) was most common cause of death. It was also same in road traffic accidental deaths (30.58%). Most common poison which causes 66.66% deaths is OPC while Second most common was ALP (13.88%).

Recommendations:-our target group for prevention of unnatural deaths should be married woman of first two year of married life of age segment of middle economic literate Hindu group

Key Words:- woman, ruler, married, accidents, age

Corresponding Author:-

Dr. Sumer Singh

Assistant Professor, J.L.N medical College, Ajmer

Email. anupamjohry@gmail.com

Introduction

Women have a special value in the Indian Society. Respected Dr. Baba Saheb Ambedkar had quoted as “I measure the progress of a community by the degree of

progress which women have achieved.” Similarly our 1st prime Minister Jawahar Lal Nehru also stated as “You can tell the condition of a nation by looking at the status of its women.” Therefore death of woman especially under un-natural condition should be thoroughly studied and investigated. Un natural death of female may be associated with several factors such as occupational problems, lack of emotional and financial support, inability to bear a child, sexual jealousy and marital infidelity, failure in love and scolding by patients of unmarried girls to disharmony among husband and wife or other family members extending up to dowry death¹

More and more women in this part of the country are now coming out of the safe territory of their homes for education and employment and thus exposing themselves newer causes of death, like road traffic accidents and occupational deaths.

The cause of death profile is an important cornerstone of public health information. At provincial level it is needed for health planning and deciding on intervention strategies. Data on unnatural deaths in a particular geographic area can give the reflection of its law and order situation. Lower incidences reflect presence of peace, harmony and security to human life and property.

Ajmer is a district of Rajasthan in western India. Ajmer is having majority of population of middle class and lower middle class socioeconomic strata. Although Ajmer city has population of 542,321;(Census 2011)² out of which male and female are 278,545 and 263,776 respectively Hindu 453,013 (83.53 %), Muslims 62,825 11.58 % Jain 13,583 (2.50 %) Christian 6,813 1.26 %, Ajmer has a sex ratio of 947 females for every 1000 males and literacy rate is of 86.37%³

Present study is designed to determined unnatural deaths of females in Ajmer city. By this study, we can know the various socio-etiological aspects of unnatural causes of female death which will be useful for awareness of society and improve the situation.

Aims and Objectives:-

Aims:-

- To collect the statistical data of unnatural female death cases brought to J.L.N. Hospital, Ajmer mortuary

Objectives

Primary Objectives:-

1. To study the various demographic data (Age, Sex, Marital status, Rural / Urban, Religion Education status etc.) in un-natural deaths of females.
2. To understand the magnitude and pattern of different aspects of unnatural deaths of females.

Secondary Objectives:-

1. To analyze the various reason for unnatural deaths of females.
2. To study the different epidemiological and medico-legal aspects of un-natural deaths of females.
3. To suggest measures to prevent unnatural deaths in females.

Material and Method

Study Universe:-

All Medico-legal Autopsies conducted in Department of Forensic Medicine and Toxicology at J.L.N. Medical College and Associated Group of Hospitals, Ajmer. These were total 953 medico-legal autopsies in number

Case Study

Inclusion criteria:-

-All autopsy cases conducted on females with un natural deaths, those had given consent for study

Exclusion criteria:-

-Autopsy cases considered as obscure and negative autopsy

-Autopsy cases of female skeleton\ segmented body

As present study comprised 170 autopsy cases of unnatural female deaths, which were done in the mortuary of Department of Forensic Medicine and Toxicology at J.L.N. Medical College and Associated Group of Hospitals, Ajmer

Study period:- 1st April 2019 to 31st March 2020

Method

A detailed history from police and relatives regarding socio economical status, marital status, habits, illness (mental / other disease / deformity), previous attempted suicides, suicide note if any etc. were taken. Detailed history from police regarding scene of crime, position of body etc were taken. post mortem findings were analysed. The reports of the relevant samples and viscera, subjected to chemical analysis, histopathological examination and other investigations during autopsy were used to conclude the final cause of death. Performa for study was prepared and all collected data were put into the master-chart, which was prepared and then feed into the computer in Excel worksheet and then analysed.

Observation :-

The present study comprised 953 autopsy cases of unnatural death case out of them female deaths were 170 (17.83%) during the period from 1st April 2019 to 31st March 2020. In the present study, maximum cases (28.23%) were seen in age group of 21-30 years followed by 21.76% cases in age group of 31-40 years and 17.64% cases in age group of 11-20 years. Minimum cases (2.94%) were seen in >60 years of age. In this study high number of cases was seen in April, May, June 2019 & March 2020. Lowest number of cases is seen in September 2019 and February 2020. According to season wise distribution, there were maximum cases (40%) seen in summer, followed by winter and in monsoon (30%). There were more cases seen in rural region (56.47%) than urban region (43.52%). Housewives (73) constituted the largest single occupation category amounting 42.94%. There were about 8.2% student, 11.76 % labourers while 11 victim (6.4%) of total had engaged with different type of employment. 5.29% were not applicable which included children < 5 years and unknown, while non-worker (old age) were comprised 8.82% c.

Single largest class was found to be those of literate women (primary Education) who comprised of about 66.47% of total cases. 29.41% were illiterate. 4.11% were not applicable due to below 5 yrs age.

Highest number of cases 48.82% were seen in medium socioeconomic group followed by 35.88% cases in low economic population i.e. BPL. Interestingly

high economic group (Income Tax Payers) have only 15.29% of total unnatural deaths.

There was more number of cases seen in nuclear family (61.17%) than joint family (38.82%). Maximum number of cases 25.29% is observed in those who have 5 members in the family followed by 17.64% cases seen in those who have 4 or 6 family members. Lowest number of cases (2.34%) was seen in family of 2 (2.94%) members.

Hindus 149 cases (87.64%) comprised the single largest category followed by 18 cases of Muslims (10.58%). 3 cases (1.76%) were belonging to the Christianity religion. This is because of the India have higher population of Hindus.

Out of total number of cases, more than half of victims were married 69.41%, while 21.64% victims were unmarried. 5.88% victims were widow, divorcee cases were 2.94%

Out of 118 married cases, maximum cases 61.86 % were seen above 7 years of married life while rest cases 38.13% seen within 7 years of married life.

Maximum cases 28.88% were seen within 1st year of married life. About (44.43%) cases were seen in within two years of married life. Highest number of cases 50.58% was of accidental in nature while 37.05% cases were of suicidal. Homicidal cases constituted only 2.94% cases.

Suicidal deaths 57.77% were occurred within seven years of married life. After those Accidental deaths 33.33% were common. Homicidal deaths were present only in 2.22% cases

In most of age group, accidental deaths (50.58%) were most common. Maximum accidental deaths 45.34% were present in age group of 11 to 30 years. Highest suicidal deaths 39.68% were seen in age group of 21-30 years followed by 25.39% in age group of 31-40 years. In age group of 21-30 years, both accidental and suicidal deaths were more. No suicides seen in the age group of 0-10 years.

In this study, highest number of suicidal deaths (39.68%) was seen in age group of 21-30 years followed by 25.39% in age group of 31-40 years.

Burns (30.58%) was most common cause of death in the total 170 cases. Out of burns, septicemia due to burns and shock due to burns constitute 10.00% and 20.58% respectively. After that multiple injuries in road traffic accidents (30.58%), hanging (4.70%), poisoning (20.58%), were main cause of death. Drowning cases were seen in 2.94%. Strangulation and throttling were seen in 1.17% and 0.58% cases respectively.

In our study, the peak age of the female homicide victim was 2nd, 3rd and 4th decade. Maximum cases

(34.61%) in which body surface area of burns was 80-89%, while in 13.46% in 50-59% & 70-79% surface area, Less than 30% burns found only in 3.84% cases.

Most common substance of poisoning is Organo phosphorus poison which caused 66.66% deaths. Aluminium phosphide was present in 13.88% poisoning deaths, Zinc phosphide (11.11%), 2.77% cases were of corrosive poisoning followed by snake bite poisoning & Chloroquine poisoning (2.77%) separately.

TABLE NO. 1: DISTRIBUTION OF CASES ACCORDING TO CAUSE OF DEATH IN DIFFERENT AGE GROUPS

Cause of death		Age groups (years)														Total	
		0-10		11-20		21-30		31-40		41-50		51-60		>60			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Burns	Septicemia	1	7.69	1	3.33	5	10.42	5	13.51	3	12.50	2	15.38	0	0	17	10.00
	Shock	2	15.38	5	16.67	12	25.00	8	21.62	4	16.67	3	23.08	1	20	35	20.59
Poisoning		5	38.46	8	26.67	13	27.08	5	13.51	1	4.17	3	23.08	0	0	35	20.59
Road Traffic Accident		4	30.77	12	40.00	13	27.08	12	32.43	7	29.17	2	15.38	1	20	51	30.00
Hanging		0	0.00	2	6.67	3	6.25	1	2.70	1	4.17	1	7.69	0	0	8	4.71
Drowning		1	7.69	2	6.67	1	2.08	0	0.00	0	0.00	1	7.69	0	0	5	2.94
Strangulation		0	0.00	0	0.00	1	2.08	1	2.70	0	0.00	0	0.00	0	0	2	1.18
Throttling		0	0.00	0	0.00	0	0.00	0	0.00	1	4.17	0	0.00	0	0	1	0.59
Natural		0	0.00	0	0.00	0	0.00	5	13.51	7	29.17	1	7.69	3	60	16	9.41
Total		13	100	30	100	48	100	37	100	24	100	13	100	5	100	170	100

TABLE NO. 2: DISTRIBUTION OF CASES ACCORDING TO MANNER OF DEATH IN DIFFERENT AGE GROUPS

Age group (years)	Accidental		Suicidal		Homicidal		Natural		Total	
	No. of Cases	%	No. of Cases	%	No. of Cases	%	No. of Cases	%	No. of Cases	%
0-10	10	11.63	0	0.00	2	40.00	1	6.25	13	7.65
11-20	19	22.09	9	14.29	1	20.00	1	6.25	30	17.65
21-30	20	23.26	25	39.68	1	20.00	2	12.5	48	28.24
31-40	15	17.44	16	25.40	0	0.00	6	37.5	37	21.76
41-50	14	16.28	7	11.11	1	20.00	2	12.5	24	14.12
51-60	6	6.98	4	6.35	0	0.00	3	18.75	13	7.65
61-70	2	2.33	2	3.17	0	0.00	0	0	4	2.35
>70	0	0.00	0	0.00	0	0.00	1	6.25	1	0.59
Total	86	100.00	63	100.00	5	100.00	16	100	170	100.00

Summary and Conclusions

1. Maximum cases (28.23%) were seen in age group of 21-30 years while minimum cases (2.94%) were seen in age group of >60 years.

2. According to season wise distribution, there were maximum cases (40%) seen in Summer, followed by Winter and Monsoon (30%)

According to Statistics of NCBI 2018⁴, majority of accidental deaths in India were occurred in summer (April to June), which was also correlated with those of, present study.

3. Highest number of cases seen in rural region (56.47%) as compared to Urban region (43.52%).

4. Housewives constituted the largest single occupation category amounting nearly 42.94%.

5. Single largest class was found to be those of literate women (Primary Education) which comprise of

about 66.47% of total cases while 29.41% are illiterate.

6. As per Socio-economic status, highest number of cases (48.82%) was seen in middle class.

7. More number of cases was seen in nuclear family (61.17%) as compared to joint family (38.82%). This might be attributable to changing socio-cultural and family patterns in metropolitan and sub-urban regions⁶.

8. Hindus (87.64%) comprised the single largest category Hindus 149 cases (87.64%) comprised the single largest category followed by Muslims (10.58%).. This is because, India have higher population of Hindus⁶.

9. More than half of victims were married (69.41%) while (21.64%) victims are unmarried.

10. Among the married women, maximum cases (61.86%) were seen above 7 years of marriage life while rest cases (38.13%) seen within 7 years of married life.

11. Maximum cases (28.88%) were seen in 1st year of marriage life. About (68.86%) cases were present in within four year of marriage life among the considering total cases of within 7 years of married life.

12. Highest number of cases (50.58%) was of accidental in nature while 37.05% cases were of suicidal. Homicidal cases constituted only 2.94% cases.

13. Suicidal deaths (57.77%) constituted more than half of deaths which occurred within in seven year of married life. After that, Accidental deaths (33.33%) were common. Homicidal deaths were present only in 2.22% cases.

14. In most of age group, accidental deaths (50.58%) were most common. Maximum accidental deaths 45.34% were present in age group of 11 to 30 years. Highest suicidal deaths 39.68% were seen in age group of 21-30 years followed by 25.39% in age group of 31-40 years. In age group of 21-30 years, both accidental and suicidal deaths were more. No suicides seen in the age group of 0-10 years. Suicide cases were quiet less after 40 years, probably as the age advances, the girls become mature and handle the situation in much efficient manners in life⁵.

According to statistics of NCBI (2018)⁴, around 35.7% suicide victims were youths in the age group of 15-29 years and 34.8% were middle aged persons in the age group 30-44 years.

15 Burns (30.58%) was most common cause of death. It was also same in road traffic accidental deaths (30.%) poisoning (20.59%) and natural (9.41%). Most common poison which causes 66.66% deaths is OPC while Second most common was ALP (13.88%). According to statistics of NCBI (2018)⁴, the accidental deaths due to un-natural Cause were mainly on account of Road Accidents (37.1%), Railway Accidental and Rail-Road accidents (8.3%), Drowning (8.5%), Poisoning (7.6%), Burns (6.6%), Electrocution (2.4%) and others (13.2%) in India.

Recommendation

a) Social measures

1. There is a need to educate females particularly from poor families, so That they can become independent.

2. Females should be encouraged to marry at an appropriate age.

b) Counseling

Centers shall be developed to provide free counseling to the families and newly wedded couple about their expected problems and their solutions in initial years of their interaction and formative years of new social and familial relationship so that story of their rest of the life in their new role is nicely scripted.

(c) Strong legislation and its co-ordinate implementation

1. Registration of marriages shall be made popular and compulsory with proper disclosure of list of items gifted to newlywed from either side or declaring women as having all rights over these.

2. Anti-dowry cell and women protection cell concepts shall be brought up more. Besides police personals, these cells shall also includes of social workers, psychiatrist, counsellors and other trained staff in effective dealing with the crisis and also preventing and controlling such crimes.

3. An effective coordination should be sought between the non-government voluntary and law enforcing agencies to prevent and contour crime against women.

(d) Preventive measures

1. Risk factors of suicides among women should be identified and should be minimized accordingly.

2. A change in attitude and mindset of society to make home/workplace a safer and happier place for a woman.

3. Traffic awareness regarding safety measures amongst women should be promoted.

Source of funding:- expenses beard by own

Ethical Approval:- taken appropriately

Point of conflict:- No help is taken from related beneficiaries.

References

1. Crime against women. (Chapter 5). Crime in India 2019. National Crime Records Bureau. Ministry of Home affairs, India.. P 205. <http://ncrb.nic.in/CD-CII2018/cii-2019>: [Cited on 19/09/2019, time-03:00 PM] Available from: accessed on 01/02/2020
2. Provisional Population, 2011. Office of Registrar General and Census Commissioner, India. http://www.censusindia.gov.in/2011-prov_results_paper1_india.html. [Cited on 18/09/12, time-07:00 PM]. Available from: accessed on 13/04/2019
3. Ministry of Statistics and Programme Implementation, http://www.mospi.nic.in/Mospi_New/site/home.aspxDecember-2015. Accessed on 19 August 2019,
4. Accidental and Suicidal deaths in India 2018. National Crime Bureau of India. http://ncrb.nic.in/JADSI_2018/accidental-deaths-08.pdf and [Suicidal-deaths18.pdf](http://ncrb.nic.in/JADSI_2018/Suicidal-deaths18.pdf). accessed on 12/07/2019
5. Woman's Health in India. Woman of world, U.S. Census Bureau, the Official Statistics, December 10, 2018 <https://www.census.gov/content/dam/Census/library/publications/1998/demo/wid98-3.pdf>. accessed on 03/01/2020
6. Fertility and Mortality Indicators 1919, New Delhi. India Registrar General.2019http://censusindia.gov.in/vital_statistics/SRS_Bulletins/SRS_Bulletin-Rate-2019-May_2019.pdf. accessed on 15/03/2020
7. International Institute for Population Sciences. India National Family Health Survey, 2018 -2019 <http://rchiips.org/NFHS/nfhs2.shtml>. accessed on 12/01/2020