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Socio-Demographic profile of Asphyxial deaths in Female : 2 yr study

Forensic Medicine

KEYWORDS : Asphyxia, cyanosis, petechial haemorrhage, Hanging.

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ABSTRACT

Background: Asphyxial deaths of women have been an increasing trend in Indian society during the recent past years. Its increasing incidence is symbolic of continuing erosion and devaluation of women's status in independent India. The cardinal signs of asphyxia are cyanosis, congestion and petechial haemorrhage.

Objective: To investigate the socio-demographic profile, causes and manner of asphyxial 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 55 cases were examined and recorded.

Results: most common victims belonged to 14-25 yr of age group, Hindu, middle school educated, housewives in lower middle class, married within 6-10 yr of marriage. Most of them were suicide by Hanging in Oct to Dec months. Conclusion: Most of the asphyxia deaths are Suicide due to hanging.

INTRODUCTION:

Asphyxia is a condition caused by interference with respiration or due to lack of oxygen in inspired air due to which the organs and tissues are deprived of oxygen causing unconsciousness or death. Term Asphyxia may also be defined as a state in which the body lacks oxygen because of some mechanical interference with the process of breathing.[1]

Hanging is a form of death produced by suspension of the body by a ligature round the neck, constricting force being the weight of the body (or apart of the body weight).[2]

Violent asphyxial deaths are more common and have contributed considerably to unnatural

Suicidal, accidental and homicidal deaths.[3] Hanging is always considered suicidal except accidental hanging in sexual perverts, homicidal in lynching and justifiable suicidal hanging.[4]

Due to population explosion, poverty and increasing stress and strain in our daily life, we frequently come across cases of suicides, homicides and accidents.[5] In India hanging is among the top 5 methods of choice for committing suicide.[6]

Corroboration of suicidal hanging may be gathered from the facts like presence of a suicide note in the handwriting of the deceased, place of occurrence being a secluded place, easily approachable point of suspension and easily accessible ligature material, usually some household articles or belongings of the victim himself / herself.[7]

Asphyxia due to hanging is considered painless death as far as suicide is concern and that can be very easily achieved by person like housewives who could get time aloof from their relatives and privacy at home to suicide at impulse moments. But asphyxia by strangulation is not uncommon in female where her near relative catches her neck by ligature or throttle her because of comparative weak power for defence by her.

The most obvious reason behind such deaths is unending demands of dowry (cash / kinds) by the husbands and / or in-laws, for which they torture the bride in such a way that she commits suicide, either by burning, poisoning, hanging, jumping from terrace or by some other means. Besides this, family quarrels due to ill-treatment by in-laws, rash and negligent behaviour or extra-marital affairs of husband and mal-adjustment and infertility in wives are other reasons behind such deaths.

It has been found that the number of asphyxia deaths has been increasing continually in our country and asphyxial deaths are more common in middle age group and in those who are lagging behind socio-economically.

In this study we aimed to find out the frequency of asphyxial deaths with their types and the socio-economic condition of the victims.[8]

MATERIAL AND METHODS:

The asphyxial deaths were categorized on the basis of inquest reports and pattern of ligature marks. 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. Asphyxial death in female is most commonly occurred in young age hence female in age group 14- 40 yr have been included in this study.

For the study, detailed information about asphyxial 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, duration since marriage, months wise distribution, manner 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. 55 cases (5.41%) included in this study of asphyxial death.

In this study **Table No. 1** shows that most common age group affected from 14-25 yr i.e. 34 cases (61.81%) followed by 26-30 yr 10 cases (18.18%).

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

Table No. 1 denotes educational status of women, that most commonly affected females had educated up to middle school (23.64%) followed by high school (21.82%) then up to higher secondary school(20%).

According to religion, Hindu female 39 (70.91%) were most commonly affected followed by Muslims 15 (27.27%).

In this study most of female were housewives i.e. 29 (52.73%) followed by students (25.45%).

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 most of victims belonged to lower middle class (41.82%) followed by upper lower class (30.91%).

In **Table No.2**, it was observed that married females (58.18%) were more suffered to asphyxia death followed by unmarried girls (40%).

Amongst married females most common death occurred during 6-10 yr after marriage (43.75%) followed by women died within 6 yr of marriage were (31.26%) and then death occurred after 10yr of marriage (25.01%).

Under Cr.P.C 176, out of these married females, 7 cases (21.87%) were related to Dowry death.

Table No.3 shows that detail study of triggering factors, most common victims performed suicide i.e. 54 cases out of which (3.64%) had psychiatric illness, (3.64%) victims died due to torture by in Law relatives and (3.64%) females had marriage related issues like engaged without her consent & quarrels in inter caste marriage. 1case of Homicide by Throttling was observed i.e. (1.82%).

Fig 01, showed that number of deaths goes on increasing towards winter season i.e. most of victims died in October to December months (34.55%) followed by July to September (25.45%).

DISCUSSION:

In our study 55 cases (5.41%) of asphyxial death occurred out of all unnatural female deaths.

This is similar to the finding of Gargi et al[11] and is at variance from the study conducted by Chormunge et al[10] (7.42%), Gary P et al[12], Salachin[13] (9.3%) and Momanchand et al[15] (7%).

This study of asphyxial death showed that most common age group affected from 14-25 yr i.e. 34 cases (61.81%) followed by 26-30 yr 10 cases (18.18%).

This consistent finding also noted by Dere et al[9] i.e. most common age group 11 to 20 years, 21(26.25%), followed by 21 to 30 years, 18 (22.5%). This was similar to findings of the study done by Sayed ZAT et al[3], Chormunge et al[10], Dattarwal JK et al[16] and Srinivasa Reddy P et al[21].

This study showed that younger female victim suffered more for asphyxial death. This may be due to affected victims were reproductive age group where more important decisions like marriage & career of life has been taken place at this turning period of life.

Considering educational status of women, that most commonly affected females had educated up to middle school (23.64%) followed by high school (21.82%) then up to higher secondary school (20%).

Study by Vanraj N. Parmar et al[22] observed that (51.33%) were illiterate, (44.23%) were undergraduates in case of brought dead female in mortuary. This may be due to place like Mumbai where education is easily accessible most of victims have achieved level literacy.

According to religion, Hindu female 39 (70.91%) were most commonly affected followed by Muslims 15 (27.27%).

Similar finding were observed in study by Kadu and Asawa[23] states that most of the suicidal deaths were Hindu (87%), followed by Muslim (5%). Study by R. Sukhdeve et al [24] also showed Hindu (87.89%) in trend of Suicide.

In this study most of female were housewives i.e.29 (52.73%) followed by students (25.45%). This finding was similar with study by R. Sukhdeve et al[24] who observed housewife (20.38%). 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 lower middle class (41.82%) followed by upper lower class (30.91%).

Similar finding were observed by R.Sukhdeve et al[24] where (44.58%) were belonged to class 4 of Prasad scale while 50 % were in lower class observed by Vanraj N.Parmar et all[22].

In this study it was observed that married females (58.18%) were more suffered to asphyxial death followed by unmarried girls (40%).

These finding were consistent with study by R.Sukhdeve et al[24] where married (65.60%).

This might be due to the fact that in our study most of the victims are younger one (21-40) and it is most common age for marriage in our region.

Similar study by Shinde et al[25] states that majority of suicidal deaths were married (80%). As per Kadu and Asawa[23] study states most of the suicidal deaths were married (74.68%). Also survey by Dais et al[26] states most of the suicidal deaths were seen married (54.5%) and 44% were married by Awdhesh Kumar et al[27].

In present study amongst married females most common death occurred during 6-10 yr after marriage (43.75%) followed by women died within 6 yr of marriage were (31.26%) and then death occurred after 10yr of marriage (25.01%). Under Cr.P.C.176, out of these married females, 7 cases (21.87%) were related to Dowry death.

Study of Rajesh Sukhadeve et al[24] observed (3.38%) dowry cases, Zine et al[28] states that most common reason behind suicides in females were dowry (44.5%), Shinde et al[25] states that most common reason behind suicides in females were dowry (47.29%), while (10.7%) cases of dowry by Harnam Singh et al[29].

This study shows that, most common victims performed suicide i.e. 54 cases (98.18%) which is similar to study by Dere et al[9] where (91.3%) suicidal death.

Similar findings are also noted by Chormunge et al[10], Patel et al[17], Gargi et al[11], Sahoo et al[18] and Fimate et al[19]. Majority of people follow this mode of intentional self killing for being one of the means of painless death, their acceptability and by sociocultural norms.

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Most common cause of death were observed was Hanging (98.18%) in this study of asphyxial deaths.

These findings were consistent with Dere et al[9] hanging (91.25%) was most frequent method of asphyxiation. Similar pattern of Hanging were also noted in study by Md. Mizanur Rahman et al[8], Chormunge et al[10], Azmak D et al[14], and Santosh CS et al[20], hanging (43.31%) by R Sukhdeve[24].

As per Dais et al[26] states that most common cause of death was hanging (39%). This might be due to the fact that easy availability hanging methods.

Out of total suicidal death of asphyxia, we found (3.64%) had psychiatric illness, (3.64%) victims died due to torture by in Law relatives and (3.64%) females had marriage related issues like engaged without her consent & quarrels in inter caste marriage.

Study of Rajesh Sukhadeve et al[24] found quarrel (35.59%), Zine et al[28], states that most common reason behind suicides in females were dowry (44.5%) followed by torture by in laws (16.7%). Another study by Shinde et al[25] states that most common reason behind suicides in females were dowry (47.29%), followed by insanity (24.32%).

This might be due to in Metropolitan city like Mumbai most of victims could be in touched with their relatives who used walk out from home most of the time and could unable to understand the stress and cause behind suicide.

The statistical analysis showed that number of deaths goes on increasing towards winter season i.e. most of victims died in October to December months (34.55%) followed by July to September (25.45%).

CONCLUSION:
The incidence of asphyxial deaths in urban area was 5.41% among unnatural deaths. Majority of the female victims were in age group of 14-25 years. Hindu, middle school educated housewives in lower middle class, married within 6-10 yr of marriage. Most of them were suicide by Hanging in Oct to Dec months.

A proper counselling centre should be established in hospitals in suicidal attempts to prevent further suicidal deaths.

Most common victims of suicidal deaths were adolescents and young adults. Serious deliberations and thought should be put in to the various reasons cited above and ways and means to deceases the burden of stress related to modern life needed to beevolved.

The Non Governmental Organizations and social organizations can contribute by establishing counselling centres.

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Ethical Clearance:
Yes (Taken from Institutional Ethics committee)

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Conflict of Interest: None

TABLE NO.1 Socio-demographic profile of Females in asphyxial death

CHARACTERS		No. of cases (n=55)	PERCENTAGE
AGE IN YEARS	14-20 yr	20	36.36
	21-25 yr	14	25.45
	26-30 yr	10	18.18
	31-35 yr	9	16.36
	36-40 yr	2	3.64
EDUCATION	Illiterate	9	16.36
	Primary	7	12.73
	Middle School	13	23.64
	High School	12	21.82
	HSC	11	20.00
	Graduation	3	5.45
RELIGION	Hindu	39	70.91
	Muslim	15	27.27
	Christian	1	1.82
OCCUPATION	Employed	7	12.73
	Housewife	29	52.73
	Students	14	25.45
	Unemployed	5	9.09
SOCIOECONOMIC CLASS	Upper	4	7.27
	Upper Middle	7	12.73
	Lower Middle	23	41.82
	Upper Lower	17	30.91
	Lower	4	7.27

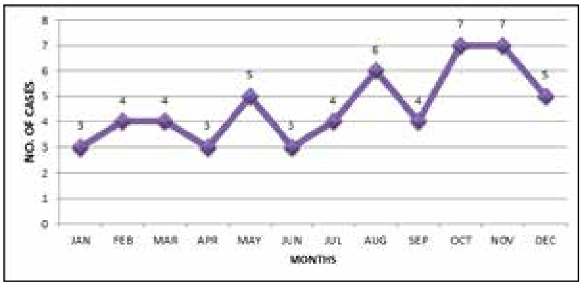
TABLE NO.2 Marrietal Status and Duration

CHARACTER		No. of cases	PERCENTAGE
MARRIETAL STATUS	Married	32	58.18
	Unmarried	22	40.00
	Widow	1	1.82
Total		55	100.00
DURATION SINCE MARRIAGE	< 1 yr	3	9.38
	1-3 yr	4	12.50
	4-5 yr	3	9.38
	6-10 yr	14	43.75
	11-15 yr	5	15.63
	16-22 yr	3	9.38
Total		32	100.00

TABLE NO. 3 Manner and Reason of Death

TRIGGER FACTORS	No. of cases	PERCENTAGE
Marriage Related	2	3.64
Psychiatric Illness	2	3.64
Torture By Law Relatives	2	3.64
Homicide	1	1.82
Suicide	48	87.27
Total	55	100.00

Fig No. 1 Month-wise distribution of Asphyxial deaths



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