

January - June 2023

Volume 32

Issue 1

PRINT ISSN: 2277-1867

ONLINE ISSN: 2277-8853



# JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

Official Publication of Medicolegal Association of Maharashtra

**Editor-in-chief**

Dr Ravindra Deokar

**Associate Editors**

Dr Sadanand Bhise

Dr Sachin Patil

**MULTISPECIALITY, MULTIDISCIPLINARY, NATIONAL  
PEER REVIEWED, OPEN ACCESS, MLAM (SOCIETY) JOURNAL  
Indexed with Scopus (Elsevier) & Index Copernicus (Poland)**

**Editorial Office Address**

Department of Forensic Medicine & Toxicology, Third Floor, Library Building, Seth G S Medical College & KEM Hospital, Parel, Mumbai, Maharashtra, India. Pin-400 012. Email id: [mlameditor@gmail.com](mailto:mlameditor@gmail.com) Phone: 022-24107620 Mobile No. +91-9423016325.



# JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

(Official Publication of Medicolegal Association of Maharashtra)

Email.id: [mlameditor@gmail.com](mailto:mlameditor@gmail.com)

PRINT ISSN:

2277-1867

ONLINE ISSN:

2277-8853

## Original Research Article

### **Socio-Demographics at no par in Culling Out Hanging as the Mode for Self- Killing.**

Alok Kumar Arya<sup>a</sup>, Anurima Singh<sup>b</sup>, Anju Singh<sup>c</sup>, Mukesh Kumar Bansal<sup>d\*</sup>

<sup>a</sup>Assistant Professor, <sup>c</sup>Professor & Head, Department of Forensic Medicine & Toxicology, RDASMC, Ayodhya, U.P. <sup>b</sup>Demonstrator cum Mortuary Assistant, Department of Forensic Medicine & Toxicology, Hind Institute of Medical Sciences, Safedabad, Barabanki, UP. <sup>d\*</sup>Assistant Professor, Department of Forensic Medicine & Toxicology, Rani Durgavati Medical College Banda U.P, India.

#### Article Info

**Received on:** 04.12.2022

**Accepted on:** 11.02.2023

#### Key words

Self-Killing,  
Asphyxia,  
Asphyxial Death,  
Socio-Demographic  
Variables.

#### Abstract

**Introduction:** The quantitative study focused on the meta-analysis performed in order to examine the relation of socio-demographic variables to understand the difference for choosing different suicidal methods. **Materials & methods:** The data of 441 cases of Asphyxial deaths were taken into consideration which were then compiled and analyzed for the present treatise. The variables taken into consideration for said socio-demographics were age, sex, socioeconomic status, marital status, and literacy. **Discussion & conclusion:** Marginal insignificant differences were found between the 441 autopsies resulting into asphyxia death, studied, of which 342 deceased chosen hanging for self-killing. For all socio-demographic characteristics, the distribution of correlations was insignificantly homogeneous, and statistical contrasts revealed the operation of several moderating variables. The pattern of overall variables studied rendering homogeneity in results and their relation to earlier reviews is thereby discussed.

#### 1. Introduction

In early 18th century, the term 'asphyxia' by modern Latin (in the sense 'stopping of the pulse') came into being from Greek term 'asphuxia' [from a-'without' + sphuxis 'pulse']. According to the Definition of asphyxia as noun from the Oxford Advanced Learner's Dictionary, it is "the state of being unable to breathe, causing death or loss of consciousness".

Thereby, an asphyxia death is the death resultant due to asphyxiation. There are various forms of asphyxiation such as caused by hanging, throttling, strangulation, smothering, choking,

drowning and also those caused by trauma.<sup>1-3</sup> The aim of present study is to throw light that the socio-demographic characteristics do not add up in the choosing the method to commit self-killing. No matter the literacy or the socioeconomic status or the driving motive force behind such grotesque decision, it all comesto the understanding to achieve it instantaneously with least possible means at hand. Thereby, hanging oneself proves out to be the most convenient and most chosen form of self-killing. Mostly the common understanding rules in the favor of typical form of hanging rather than the

**How to cite this article:** Arya AK, Singh A, Singh A, Bansal MK. Socio-Demographics at no par in Culling Out Hanging as the Mode for Self- Killing. J For Med Sci Law 2023;32(1):10-14.

**Corresponding author:** Dr. Mukesh Kumar Bansal, Assistant Professor, Forensic Medicine, Rani Durgavati Medical College, Banda, UP, India. Pin: 210001. Email- [drmukesh1987@gmail.com](mailto:drmukesh1987@gmail.com) (M): +91-8826603773.

atypical hanging. Hanging is suspending oneself through a ligature material constricting around the neck which compresses the airway externally. The weight of the suspending body provides the constricting force in the typical form of hanging. In case of atypical form of hanging, the body is not completely suspended in free gravity wherein, the body is in adherent to some of the external body surface or ground, and the neck is constricted with the ligature material where the compression is due to the weight of the head suspending outwardly in order to provide the force.

Among the arrays of asphyxial death, drowning oneself is volition for self-killing. The incidences of self-killing via drowning are also considered in the present treatise but the phenomenon has been proven to be more accidental in manner than the suicidal in occurrence. The focused group of deceased encountered in the present meta-analysis showed the rarest percentage towards suicidal drowning. Apart from hanging and drowning, other assortment of asphyxia were predominantly homicidal in manner and least, accidental. The purview of the current exposition is laid over the pattern of analysis of socio-demographic sort through the meticulous analysis of numerous autopsies occurred in the Kanpur district.

## 2. Material and Methods

Present study was conducted in the department of forensic medicine of a medical college and tertiary care hospital in Kanpur district during the period of one year from January 2018 to December 2018. During that time stretch, 3667 bodies were brought in for medico-legal autopsy in the mortuary of tertiary care hospital, Kanpur district, Uttar Pradesh. The data of 441 cases of Asphyxial deaths were taken into consideration which were then compiled and analyzed for the present treatise.

The criteria for such bracket were inclusive of all ages reported during the said span ascertained to affirmative of asphyxial causation of death, irrespective of the gender. The bracket excluded those deceased whose bodies were in advanced decomposed state to wither off any possibility other than that of asphyxia.

### Method of data collection:

Socio-demographic variables taken into account were age, sex, socioeconomic status, marital status and literacy. The summation of tally of said

attributes were jot down from the detailed history appropriated from the police & the relatives along with the pretested questionnaire with traits mentioned. The questionnaire was prepared in simple English language with Hindi language translated version also included in it. The interview was done in local dialect.

## 3. Observation and Results

In the study, total 3667 cases were included out of which in 441 cases (12.02%), cause of death was asphyxia while 3226 cases (87.98%), cause of death was other than asphyxia. Among asphyxia, maximum cases (78.00%) were of hanging followed by strangulation (12.01%) (**table no. 1**).

**Table 1: Description of autopsies conducted during study period**

| S. No. | Cause of death      | No. of Cases | % of Cases |
|--------|---------------------|--------------|------------|
| 1      | Asphyxia            | 441          | 12.02%     |
| 1a     | Hanging             | 344          | 78.00%     |
| 1b     | Drowning            | 22           | 4.98%      |
| 1c     | Throttling          | 13           | 2.94%      |
| 1d     | Smothering          | 09           | 2.04%      |
| 1e     | Strangulation       | 53           | 12.01%     |
| 2      | Other than asphyxia | 3226         | 87.98%     |
| Total  |                     | 3667         | 100.00%    |

**Table No. 2: Demographic Profile of Cases included in Study**

| Criteria              | Demographic Profile | No. of Cases | % of Cases |
|-----------------------|---------------------|--------------|------------|
| Gender                | Male                | 283          | 64.17%     |
|                       | Female              | 158          | 35.83%     |
| Religion              | Hindu               | 364          | 82.53%     |
|                       | Muslim              | 63           | 14.28%     |
|                       | Other               | 14           | 3.17%      |
| Marital Status        | Married             | 287          | 65.07%     |
|                       | Unmarried           | 141          | 31.98%     |
|                       | Unknown             | 13           | 2.94%      |
| Residence             | Rural               | 175          | 39.68%     |
|                       | Urban               | 253          | 57.36%     |
|                       | Unknown             | 13           | 2.94%      |
| Socio-economic status | Upper SES           | 10           | 2.26%      |
|                       | Middle SES          | 207          | 46.94%     |
|                       | Lower SES           | 146          | 33.1%      |
|                       | BPL Status          | 65           | 14.8%      |
|                       | Unknown             | 13           | 2.94%      |

**Table 2** shows demographic profile of cases in present study. Male (64.17%) outnumbered female (35.83%) cases. In present study, maximum cases (82.53%) belong to Hindu community and majority cases (65.07%) were married. In this study,

maximum cases (57.36%) were residence of urban middle socio-economic status followed by lower area. About half of the cases (46.94%) belong to the socio-economic status (33.1% cases).

**Table No. 3: Age wise Distribution of Asphyxial Death Cases**

| S. No.       | Age group (Yrs) | Asphyxial Deaths |           |              | Total                |
|--------------|-----------------|------------------|-----------|--------------|----------------------|
|              |                 | Hanging          | Drowning  | Other deaths |                      |
| 1            | 1-10            | 0                | 0         | 01           | 01 (0.22%)           |
| 2            | 11-20           | 85               | 01        | 03           | 89 (20.18%)          |
| 3            | 21-30           | 130              | 07        | 16           | 153 (34.69%)         |
| 4            | 31-40           | 77               | 02        | 39           | 118 (26.75%)         |
| 5            | 41-50           | 39               | 04        | 04           | 47 (10.65%)          |
| 6            | 51-60           | 04               | 01        | 00           | 05 (1.13%)           |
| 7            | >60             | 09               | 07        | 12           | 28 (6.34%)           |
| <b>Total</b> |                 | <b>344</b>       | <b>22</b> | <b>75</b>    | <b>441 (100.00%)</b> |

**Table No. 4: Literacy wise Distribution of Asphyxial Death Cases**

| S. No.       | Literacy Status | Asphyxial Deaths |           |              | Total        |
|--------------|-----------------|------------------|-----------|--------------|--------------|
|              |                 | Hanging          | Drowning  | Other deaths |              |
| 1            | Illiterate      | 46               | 01        | 02           | 49 (11.1%)   |
| 2            | Primary         | 32               | 00        | 03           | 35 (7.93%)   |
| 3            | High School     | 76               | 03        | 11           | 90 (20.4%)   |
| 4            | Intermediate    | 52               | 08        | 26           | 86 (19.5%)   |
| 5            | Graduate        | 105              | 05        | 14           | 124 (28.11%) |
| 6            | Postgraduate    | 21               | 01        | 09           | 31 (7.02%)   |
| 7            | Well employed   | 12               | 04        | 10           | 26 (5.89%)   |
| <b>Total</b> |                 | <b>344</b>       | <b>22</b> | <b>75</b>    | <b>441</b>   |

**Table 3** shows age wise distribution of asphyxial death cases. Maximum number of cases (153 cases, 34.69%) belongs to age group 21-30 years followed by age group 31-40 years (26.75%) and 11-20 years (20.18%). Maximum hanging cases (130 cases) was reported in 21-30 years age group while maximum number of drowning cases (7 cases each) was reported in age group 21-30 years and > 60 years age cases. **Table 4** shows literacy wise distribution of asphyxial death cases. Maximum number of cases (124 cases, 28.11%) belongs to Graduate class followed by high school (90 cases, 20.4%). Maximum cases of hanging (105) have graduate literacy status while in drowning; it was seen in intermediate class.

#### 4. Discussion

Self-killing is considered a final destination to a pathway of severe antecedent incidences which may be in addition to unclear mechanism of some mental illness. Self-killing ideation is mostly considered and understood generally on a basis of having thoughts to terminate one's own life. Traditionally reviewing medical practitioners follow the ideation of self-killing to be along a continuum, which may either range between ideating alone or with a plan. Later of

which is considered to be more significant risk factors. Self-killing attempts leading to not completion signifies the ideation of self-killing and in the spur of moment, mostly the hanging with the ligature material most common as the Dupatta or Saree has been found in several cases studied. Those occurring according to the ideation with the plan were mostly apart from hanging and resulted in mostly drowning or more heinous form such as Road Traffic Accidents or falling from a high sourced heightened building. Though most cases demonstrated the group of ideation and completion within spur of the moment and were chosen hanging in a very large studied group of cases. Thereby, Socio-demographic variables taken into account have extensively showed no significant impact over culling out hanging as the most preferred method for asphyxial self-killing. Hanging is considered as suicidal manner of death in almost 99.9% of the cases without any doubt; hence, manner of death was exclusively self-killing.

Speaking of socio-demographics, the data has been taken from the yearlong autopsies done enumerative of 3667 cases, of which our essentiality

was chased down to 441 asphyxial deaths. Out of 441 asphyxial deaths categorized for asphyxial deaths, 283 deceased were males and 158 were females. Thereby, it can be easily fractionalized to ratio rendering insignificant value dependency upon the desired result of the treatise which is to check whether different characteristics taken into account, reflects in culling out hanging as the prime factor of self-killing. Here, gender distinction does not play any role in such reflection, that is to say, whether male or female, the decision to prime hanging for self-killing remains unaffected by the said variable. Studies done by Bhagora LR et al.<sup>4</sup>, Patel AP et al.<sup>5</sup> and Singh A.<sup>6</sup> also observed similar results.

Off the list, next variable amounted to the deceased age which would have made a deep impact while in the moment of such plight, wherein adult brain function with maturity in personality may have hit off differently than those of young mind with hot boiling blood. But as the traits were analyzed within the purview of the study, this yet again proved insignificant as in othersto have been reflecting any significance. Results of present study coincides with the study done by Singh A.<sup>6</sup> and Rawat V et al.<sup>7</sup>

Since the aim of the treatise is to focus on the manner of death which concluded to be suicidal in manner, those cases which were culpable to suicide are only fixated for the purpose, which are inclusive of hanging and drowning as the other are exclusive to be the suicidal manner and are rather homicidal or accidental, thus not pertaining to the purview of this meta-analysis.

Stepping forward we determined with careful evaluation based on police information and the proforma survey about the socio-economic status of all the deceased who died by hanging or drowning in completed attempts towards self-killing. The data interpretation showed that most of the deceased in majority belonged to middle class followed by lower class. Of the whole aimed group of deceased, 13 deceased were unknown with no police information and thereby their socio-demographics could not be studied. The marital status and literacy of these group were also the part pertaining to the discussion, whereby the statistics showed us that majority were married as a large group irrespective of gender was married because the local tradition dictates the early marriage of female as soon as they attain majority and males were too not spared of this tradition where they are

supposed to get married as soon as they start earning their bread and is capable to pursue married life in the district of Kanpur. Thereby, one can say that the unmarried group were mostly either in due of education in case of females or were not the bread-earners in case of females. Similar results were observed by studies done by Singh TK et al.<sup>8</sup>, Waghmare PB et al.<sup>9</sup> and Vadgama DK et al.<sup>10</sup>

Majorly deceased were among the age group of 21 – 30 years which represents the class of educational group who attains graduation and either leans towards self-employment or employment in multinational companies as per the statistical records of Kanpur districts. A few get their majors after their grads. The literacy status representing the category of well-employed implies to those who were in a well-pay off business or employment with self-turnover of nearly lacs per month. Biddle L et al.<sup>11</sup> and Vijaynath V et al.<sup>12</sup> coincides with the present study.

Conclusively, we can summarize here that the effect of socio-demographic variable did not play any significant adherence to the self-killing method. The knowledge and the severity of pain infliction on self were beyond the understanding of the deceased when one came across the suicidal ideation and attempted such ideation into action which rendered the desired result. As the present treatise of work is majorly inclined towards the meta-analysis, it did not produce any observation out of the bloom as the earlier literary review produce. Divergent literature review inclined towards convergence of our observation were of Rawat V et al.<sup>7</sup>, Bhosle S H et al.<sup>2</sup>, Patel A P et al.<sup>5</sup>, Vadgama D K et al.<sup>10</sup>, Waghmare P B et al.<sup>9</sup>

## 5. Conclusion:

In the vicious cycle of life, many comes across the hindrance to an extent which pushes one over the edges to determine that the life isn't worthwhile and they couldn't handle the pressure anymore and have had the mean mode of self-killing ideation which spurs into their mind from time to time on repetitive occurrence of such prime causation force. Many a do, those causation factors summarize to categorize itself into poverty, property, career failures, defamation, extortion, dowry traditions, ill-treatment by in-laws, rash and negative behavior from husband, extramarital affairs, intoxicating behavior, infertility. Upon the comprehensive meta-analysis of the gathered data, the motive behind such self-killing distributed among these causation factors

as mentioned.

When these behavioral patterns came to express itself in the tormentors moments, the deceased felt disparate urges towards self-killing and the ideation took the actionable form leading to completion of such ideal attempts and as the focal point of the study determined the major ideation led to one self-terminating their life by hanging themselves from the point of suspension causing the typical hanging establishing suicidal manner of death. Thereby, no matter what age group one belongs to, what marital status caused the prime factor to be motive, literal status of one, do not define one's understanding to be different from other in the characteristic traits while culling out hanging to be mode for self-killing, it all comes to means, most accessible one!

**Ethical Clearance:** IEC approval is taken from the Institutional Ethical committee.

**Contributor ship of Author:** All authors equally contributed.

**Conflict of interest:** None to declare.

**Source of funding:** None to declare.

### References:

1. Pawar VG, Karad VS, Kachare RV, Waghmare SS. Socio-demographic profile of hanging cases in Rural region of Maharashtra: An Autopsy based Retrospective Study. *IP International Journal of Forensic Medicine and Toxicological Sciences*. 2020;5(2):52-6.
2. Bhosle SH, Batra AK, Kuchewar SV. Violent asphyxial deaths due to hanging: A Prospective study. *J Forensic Med Sci Law*. 2014; 23 (1):1-8.
3. Azmak D. Asphyxial deaths: A Retrospective study and review of the literature. *Am J Forensic Med Pathol*. 2006; 27 (2): 134–44.
4. Bhagora LR, Parmar AP, Patel TC, Bhagora RV. Recent trends of Asphyxial Death in Bhavnagar Region. *Int J Res Med*. 2015; 4(1):109-12.
5. Patel AP, Bansal A, Shah JV, Shah KA. Study of Hanging Cases at Ahmedabad Region. *J Indian Acad Forensic Med*. 2012; 34(4):342-5.
6. Singh A. A study of demographic variables of violent asphyxial death: *J Punjab Acad Forensic Med Toxicol* 2003; 3: 32–4.
7. Rawat V, Rodrigues EJ. Medicolegal Study of Hanging Cases in North Goa. *Int J Forensic Sci Pathol*. 2015;3(5):110-8.
8. Singh TK, Agarwal A, Gupta R, Sharma V. A study of demographic variables of violent asphyxial deaths in Agra region. *Ind J Forensic Comm Med*. 2018; 5(4): 223-6.
9. Waghmare PB, Chikhalkar BG, Nanandkar SD. Analysis of Asphyxial Deaths Due to Hanging. *J Indian Acad Forensic Med*. 2014;36(4): 343-5.
10. Vadgama DK, Manvar PJ, Varu PR, Vaghela RD, Mashru RK. Study of violent asphyxial deaths in Rajkot Region. *Ind J Forensic Comm Med*. 2016;3(4):254-6.
11. Biddle L, Donovan J, Smith AO, Potokar J, Longson D, Hawton K et al. Factors influencing the decision to use hanging as a method of suicide: qualitative study. *Br J Psychiatry*. 2010;197(4):320-5.
12. Vijaynath V, Anitha MR, Rajan K. A study of autopsy profile in cases of hanging. *J Forensic Med Toxicol*. 2009;26(1):34-6.