

Suicidal hanging in Manipal

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Abstract

Hanging is one of the most commonly used methods for suicide worldwide. A retrospective autopsy study of suicidal hanging was undertaken in the Department of Forensic Medicine, Kasturba Medical College, Manipal, South India, over a period of 15 years (1992 to 2007). Suicidal hanging constituted 3.5% of the total autopsied unnatural deaths at our mortuary. Adults in the third decade of life and male sex predominated. Deaths occurred more during the day time and in the winter months. Psychological stress in life was the most common motive responsible for committing suicide.

Key words: Fatality, hanging, suicide.

Introduction

Hanging is a form of violent asphyxial death where victim dies of constriction of neck, required force being provided by weight of the body.¹ Majority of hanging cases are suicidal in nature though occasional accidental and homicidal cases have been reported in literature.^{2,3} Death and characteristic post mortem findings are due either to obstruction of air passages or compression of neck vasculature.⁴ Its popularity as a means of suicide dates back to medieval times at least, when it accounted for around half of all suicides.⁵ The last 30 years have seen an increase in hanging suicides, particularly amongst young males, in Australia,⁶ New Zealand,⁷ and elsewhere. Hanging is a particularly lethal method of suicide with an estimated fatality rate of over 70%.⁸ In contrast to overdose there is little opportunity to change one's mind as death generally occurs rapidly after suspension. Present study was undertaken at dept. of forensic medicine, KMC Manipal to study the epidemiologic profile of suicidal hanging in this coastal town of Karnataka, India.

Materials and Method

The present autopsy based retrospective research was carried out at the Department of Forensic Medicine, Kasturba Medical College, Manipal, India. The information regarding age, sex,

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diurnal and seasonal variation, and motive were noted from postmortem reports, inquest reports from the police and hospital case sheet. The data obtained was tabulated and analysed.

Results

Total number of autopsies conducted at the mortuary of Kasturba Medical College, Manipal during the period (1992-2007) was 2396, of which 513 were suicides, out of which, 84 cases were suicidal deaths due to hanging accounting for 3.5% of all unnatural deaths. Thirty Eight victims belonged to 21-40 years of age (Table 1). Forty eight victims (57.1%) were males and the remaining victims were females (42.9%). The incident occurred more during day time (Fig.1). Hanging deaths were more common during the winter months (Fig.2). Psychological stress was the predominant motive responsible for suicide (Table 2).

Table 1 : Age of the victims

Age (Yrs)	No (n=84)	%
0- 10	3	3.6
11-20	8	9.5
21-30	22	26.2
31-40	16	19.1
41-50	15	17.8
51-60	12	14.3
Above 60	8	9.5

Table 2: Motive for suicide

Motive	No (n=84)	%
Physical illness	14	16.7
Mental illness	12	14.3
Financial problem	18	21.4
Psychological stress	28	33.3
Not known	12	14.3

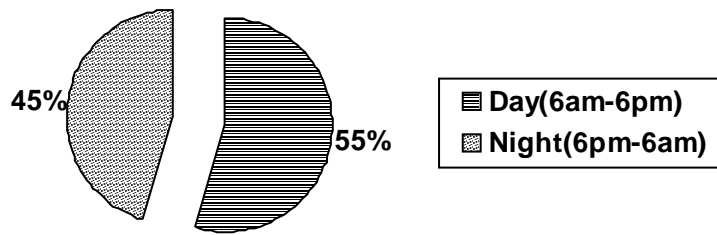


Figure 1. Diurnal variation

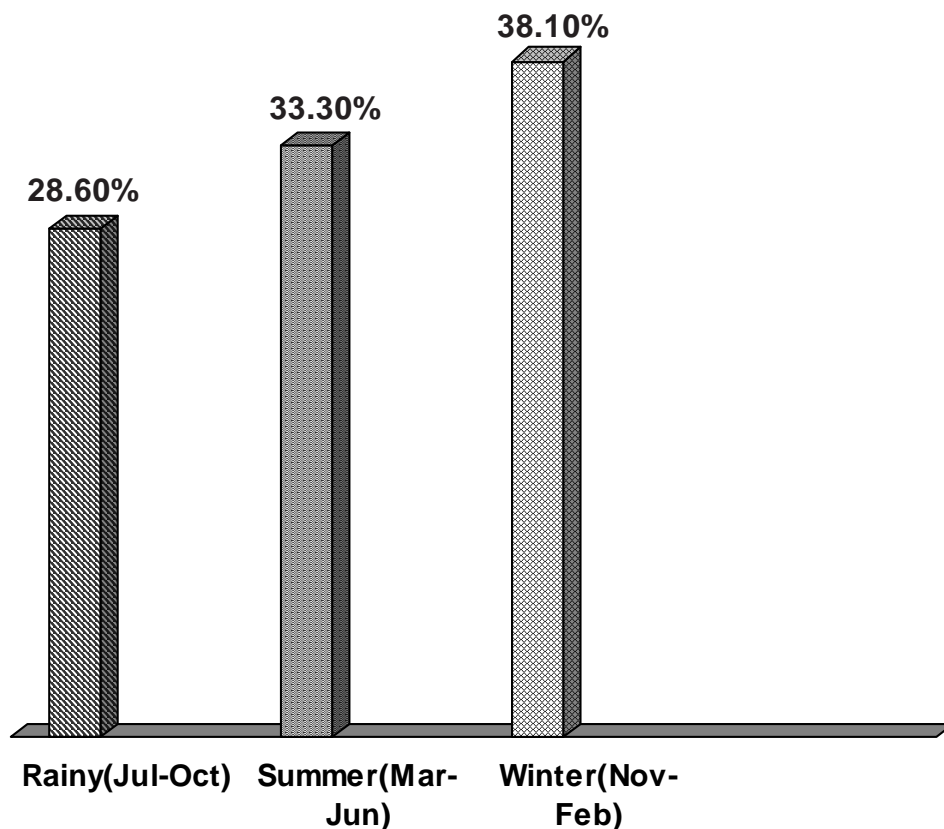


Figure 2. Seasonal variation

Discussion

Hanging is a common method for committing suicide. The materials necessary for suicide by hanging are easily available to the average person, compared with firearms or lethal poison. It is a deceptively simple yet highly effective suicide method. Full suspension is not required, a type of hanging comparable to full suspension hanging may be obtained by self-strangulation using a ligature of the neck and only partial weight of the body (partial suspension). Immediate death following attempted suicide by hanging may occur in one of three ways: Mechanical constriction of the neck structures (asphyxia; venous occlusion or arterial occlusion). Only 2 kg of pressure is needed to block the jugular veins, carotid arterial occlusion requires 5 kg. About 15 kg of

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pressure is required to obstruct the trachea and 30 kgs to block the vertebral arteries. Cardiac arrest, by pressure on the carotid sinus and its effects on vasoactive centres. Injury of spinal cord and brain stem. Fractures of the cervical spine common in judicial hanging, however, very rare in suicidal hanging because the drop before tension on the noose is achieved is usually minimal. 9,10

Results of present study are in concurrence with the available literature. Male predominance as shown in our study is comparable to studies from Denmark, Norway, London, Ireland and Cardiff.¹¹⁻¹⁵ In the present study maximum number of hanging cases were seen between 21-40 years of age possibly because it is at this age that a person is exposed to maximum amount of stress at work place as well as in personal life. This argument also holds good for male predominance at this age as in our Indian system males are the bread earners in large proportion of families and if unable to meet the demands of family are more likely to commit suicide. And as the age advances further, incidence goes on decreasing. Elfawal et al also reports 77% cases of hanging between 21-39 years,¹⁶ and Cooke et al from Australia observes 56% cases of hanging cases in the range of 15-35 years of age.¹⁷

The circumstances for committing suicide in the present series of study are variable like sufferings from physical illness, mental illness, financial problem and psychological stress, out of which the psychological stress tops the list, similar views are shared by studies of Elfawal and Davison.^{13,16}

Results from the present study can help to identify the population susceptible for suicide in our setup. Extending psychiatric services to the community to help these high risk individuals should be the need of hour.

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