

SUICIDE IN JHANSI CITY

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SUMMARY

The 187 suicides occurring in the city of Jhansi, over a period of two years (1986-87), gave an annual incidence rate of 29 per lakh population. The rate was higher for females (34 per lakh) than for males (24 per lakh). The commonest age group was the third decade (51.3%), followed by the second (28.4%); the average age of males being significantly higher. The married committed suicide more often. Domestic strife (38.3%) and mental illness (23.5%) were the common causes while no causative factor could be discerned in 38.5% of the cases.

The two sexes differed significantly with respect to burning and getting run over by train as the preferred method of suicide. Burning was largely a female preserve while getting run over by train was used almost exclusively by males. Poisoning and hanging were used slightly more often by males while drowning was used a bit more frequently by females.

Even under most adverse and painful circumstances, man clings to life—be it just for few hours or even minutes. Hence, suicide, i.e., taking away one's own life, is extremely paradoxical and baffling. The phenomenon has therefore been attracting the attention of a wide variety of medical and social disciplines including philosophy, theology, history, psychology, sociology, psychiatry, anthropology and criminology (Thakur, 1963 and Venkoba Rao, 1977).

There have been very few studies on completed suicides from India (Satyavathi and Murthy Rao, 1961; Ganapathi and Venkoba Rao, 1966; Nandi et al., 1978, 1979; Ponnudurai and Jayakar, 1980 and Hegde, 1980). These have reported the annual incidence of suicide to vary from as low as 5.3 per lakh (Nandi et al., 1979) to as high as 43 per lakh (Ganapathi and Venkoba Rao, 1966). The national figure is 6.8 per lakh with a state-to-state variation from 0.8 per lakh (Bihar) to 20.8 per lakh (Kerala) (Government of India, 1988). Similarly, varying and, at times, contradictory findings have been reported regarding the sociodemographic correlates of suicide. The present study was there-

fore undertaken with the objectives of finding out the incidence of suicide in the city of Jhansi and to elucidate some of its sociodemographic and aetiological aspects.

MATERIAL AND METHODS

The study pertains to the suicides occurring over a period two years (1986 and 1987), in the population residing in the Jhansi city, situated in the State of Uttar Pradesh. There were two sources of information which were cross-checked with each other. All the successful suicides in the city, reported in the two leading local daily news papers were noted down. In addition, the local police authorities were requested to provide detailed records of all the suicides registered with them during the above period. The information gathered from these two sources were collated to cross-validate the informations regarding the individual cases. Thereafter, the investigators (GDS and/or DNM) visited the families and interviewed the relatives of the deceased so as to complete the details and to elucidate the circumstances in which the suicide had occurred. This could be done in all the cases as all of them were from within

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the rather small city and the investigators were already known to most of the families or friends. The details thus obtained were recorded on a pre-designed schedule and analysed statistically.

In absence of study's own baseline, population figures available in the official publications of the State Government (Government of U. P., 1981, 1985) and Government of India (1981), were utilised for the purpose of comparison. Annual incidence rates of suicide were estimated after making suitable adjustments to the available population figures. Percentage distribution of suicide by sex and educational status were compared with the official figures of Government of India (1981) for Jhansi city. However, for such distribution by age and marital status, the figures for population of Jhansi city were not available and, alternatively, they were compared with the population data for the Jhansi District.

RESULTS

Incidence and socio-demographic correlates:

One hundred and eighty seven (187) suicides were recorded in the population under study over the period of two years. The city of Jhansi, in 1981, had a population of 2,76,637 (Government of India, 1981). It has shown decennial growth rate of 30.2% during 1971-81 (Government of U. P., 1981). Considering that the same growth rate continued even after 1981, the population of Jhansi city in 1987 was estimated to be 3,26,791. Thus, the annual incidence rate of suicide worked out to be 29 per lakh. It was higher for females (34 per lakh) as compared to males (24 per lakh). Of the 187 suicides, 103 (55.1%) were by females as against 84 (44.9%) by males. This difference acquired even greater significance when viewed in the light of the fact that, in the population, females (47.2%) were slightly outnumbered by males (52.8%) (Government of India, 1981).

Age of the cases ranged from 10 years to 75 years with an average of 26.6 ± 11.7 years (Table I). In both the sexes, third decade was the commonest age group (51.3%), followed by the second (28.4%). As against this commonest age group in the population was the first decade (27.0%), closely followed by the second (23.5%). The average age of males (28.9 ± 12.6 years) was significantly higher than that of the females (24.6 ± 10.5 years) ($t = 2.53$; $d.f. = 185$; $p < 0.02$).

TABLE I. *Age-sex distribution of the cases**

Age (Years)	Males (N=84)	Females (N=103)
Upto 10	1 (1.2)	—
11-20	14 (16.7)	39 (37.8)
21-30	49 (58.3)	47 (45.6)
31-40	6 (7.1)	10 (9.7)
41-50	7 (8.3)	4 (3.9)
51-60	3 (3.6)	1 (1.0)
61-70	4 (4.8)	1 (1.0)
71 or more	—	1 (1.0)

Mean \pm S.D. : 28.9 \pm 1.26 24.6 \pm 10.5
 $t = 2.53$; $d.f. = 185$; $p < 0.02$

*Figures in parentheses denote percentages.

Suicide occurred most commonly in the married (Table II); 70.2% of males and 77.7% of females belonged to this category against only 43.9% and 49.5% married males and females respectively, in the population. The frequency of suicide was least among the single. Fifty four per cent of unmarried males and 43% of unmarried females in the population contributed 21% and 17% cases

TABLE II. *Marital status of the cases*

Marital status	Males (N=84)	Females (N=103)
Single	18 (21.4)	17 (16.5)
Married	59 (70.2)	80 (77.7)
Widowed/Separated	7 (8.4)	6 (5.8)

$\chi^2 = 1.40$; $d.f. = 2$; $N.S.$

of suicide respectively. In the widowed/separated group, pattern of suicide vis-a-vis the population was different in the two sexes. Males of this category committed suicide much more often than females; 2.5% of such males in the population contributing 8.4% of suicides by that sex. The corresponding figures for females were 7.1% and 5.8% respectively. Statistically, there was no difference in the marital status of males and females committing suicide ($X^2 = 1.40$; d.f. = 2; N.S.).

Over one-third (36.4%) of the cases were uneducated (Table III). The next group was educated upto the secondary school level

TABLE III. Educational status of the cases

Education	Males (N=84)	Females (N=103)
Illiterate*	20 (23.8)	48 (46.6)
Primary	18 (21.4)	23 (22.3)
Secondary	32 (38.1)	27 (27.2)
College/University	14 (16.7)	5 (4.9)

$$X^2 = 14.96; \text{d.f.} = 3; p < 0.005$$

*Also includes just literates.

(31.5%). A fifth (21.9%) had education upto primary school level while just one-tenth (10.2%) had attended college or university. Females were significantly less educated compared to males ($X^2 = 14.96$; d.f. = 3; $p < 0.005$), 46.6% of the former being uneducated as against 23.8% of the latter. The proportion of females with secondary education and of those having attended college or university was very much less as compared to males. This trend, however, was in keeping with a generally lower education in the females in the population. Nearly two-thirds (65.6%) of males in the population were literate as against less than half (43.8%) of females (Government of India, 1981).

METHOD OF SUICIDE

Analysing the two sexes together, poisoning (22.6%), burning (21.4%) and drown-

ing (20.3%) were the commonly employed methods for killing oneself, accounting among themselves for nearly two-thirds of the total suicides (Table IV). Hanging (18.7%) and getting run over by train (13.3%) were other preferred methods. Shooting (3.2%) and

TABLE IV. Methods of committing suicide.

Method	Males (N=84)	Females (N=103)
Poisoning	21 (25.0)	21 (20.5)
Burning	4 (4.8)	36 (34.9)
Drowning	15 (17.8)	23 (22.3)
Hanging	19 (22.6)	16 (15.5)
Getting run over by train	22 (26.2)	3 (2.9)
Shooting	2 (2.4)	4 (3.9)
Jumping from height	1 (1.2)	—

$$X^2 = 36.4; \text{d.f.} = 4; p < 0.001$$

jumping from a height (0.5%) were used less often. As would be apparent from the table, there was a significant difference between the two sexes as regards the method of suicide ($X^2 = 36.4$; d.f. = 4; $p < 0.001$). This difference was mainly on account of burning and getting run over by train. Burning was the most commonly employed method by females (34.9%) while merely 4.8% of males used this method. On the other hand, getting run over by train was a male preserve, one-fourth (26.2%) of them utilising this method compared to just 2.9% of females. Poisoning (25.0% of males and 20.5% of females) and hanging (22.6% of males and 15.5% of females) were resorted to by males slightly more often while drowning (22.3% of females and 17.8% of males) was somewhat more commonly employed by females.

Of the 38 cases who drowned themselves, 32 jumped into wells, 3 in ponds, 2 in rivers and the remaining one in a canal. Thirty of the 35 who died through hanging, did so inside a room while the remaining five (4 males and 1 female) hanged themselves from trees.

The commonest poison used for suicide was in the form of sleeping pills (13 cases) followed by insecticides (10 cases), "rat poison" (8 cases) and dhatura (4 cases). The exact nature of the poison could not be ascertained in the remaining 7 cases.

CAUSE OF SUICIDE

Cause, i.e., the immediate and the most significant factor that might be held responsible for the suicidal act, could not be determined in 72 cases (38.5%). In the remaining 115 cases (Table V), *domestic strife*, in one form or another, was the most probable cause in around two-fifths (44 cases, 38.3%). This was in the form of harrassment, beating or torture from in-laws and/or husband (27 cases)—at times for extorting dowry (3 cases). Problems with father (8 cases), brothers (4 cases), wife (2 cases), mother (2 cases) or step-mother (1 case) were linked with the suicidal act in the remaining 17 instances.

TABLE V. Causes (%) of suicide in 115 cases*

Causes	No.	%
Domestic strife	44	38.3
Mental illness	27	23.5
Chronic physical illness	11	9.6
Financial stress	9	7.8
Bereavement	7	6.1
Failure to marry or to live with a person of one's choice	6	5.2
Failure to get children	5	4.3
Failure in examination	3	2.6
Pregnancy before marriage	2	1.7
Father's arrest	1	0.9

*Percentages are based on only 115 cases as the cause of suicide could not be established in 72 cases (38.5%).

A 19-year-old single girl wrote that she was drowning herself because of harrassment from her step-mother while a 17-year-old married female drowned herself alongwith her 7-day-old child because her husband had expressed doubts regarding her character

saying that the child was not his. On the other hand, a 30-year-old male hanged himself because his wife used to "move around freely with his friends". Such a trivial incident as refusal from her husband to take her to the village fair led a 20-year-old female to set herself on fire while a 24-year-old male burnt himself because his wife did not come back from her parents on the promised date.

The next important cause was *mental illness* (27 cases, 23.5%). Of these, 17 probably had schizophrenia and the remaining 10 were depressed. Of these, 6 cases—4 schizophrenics and two depressives—had received psychiatric treatment. Eleven cases (9.6%) were suffering from *chronic physical illnesses* such as pulmonary tuberculosis (4), bronchial asthma (4), cancer (2) and epilepsy (1).

Financial problems were at the root in nine cases (7.8%). These were in the form of poverty (5), heavy domestic responsibilities (2), dismissal from job (1) and loss incurred in gambling (1). *Bereavement* led to suicide in 7 (6.1%) instances. These followed the death of husband (3), wife (1), son (1), beloved (1) and friend (1). *Failure to marry or to live with a person of one's choice* was responsible for suicide in six cases (5.2%). A boy aged 22 and a girl of 20 committed suicide because their parents did not agree upon their marriage, the girl being the *nanad* of his sister (her husband's sister). The girl poisoned herself to death at her home. The boy followed suit after 2 days—at his home. In another case, two neighbours in love, aged 27 and 20, both already married to others, eloped and were found, a week later, hanging from the same branch of a tree on the outskirts of the city. Another case, a 16-year-old girl, burnt herself to death because her parents were against her marrying a boy of her choice and, instead, had settled her marriage elsewhere. The last case, a 23-year-old female, who had entered into court marriage with a man from a lower caste, was not being

allowed by her parents to live with her husband. She set herself ablaze and died.

Failure to have children was responsible for suicide in five (4.3%) cases. A 22-year-old female, having remained issueless even after 6 years of married life, poisoned herself to death. A 24-year-old male got run over by train because his friends teased him over his not having children. A 20-year-old female burnt herself to death because her in-laws called her *Banjh* (barren) and advised her husband to get remarried. Lastly, an issueless couple, aged 41 and 37 years, shot themselves after writing a joint suicidal note.

Failure in examination led to suicide in three cases. All of them were males aged 18, 24 and 25 and hanging was the method employed by all of them. The last one had left a note describing his worthlessness since he had failed in Intermediate thrice while his wife had passed the examination much earlier and in the first attempt.

Pregnancy before marriage could be held as the cause for suicide in two young girls. Both of them died of drowning and the fact of their being pregnant came to light only on post-mortem examination. The remaining one case, a 18-year-old unmarried girl hanged herself after her *father's arrest* in a criminal case.

DISCUSSION

Ever since Durkheim's epoch making study around the turn of the century (Durkheim, 1951), suicide has remained the most outstanding example of a psychiatric phenomenon to which disturbances in social relationship make a direct contribution. Suicide has been found to be the sixth leading cause of death in Sweden, Denmark and Switzerland; seventh in France, Germany and Finland; and the tenth in U. S. A., Canada, Austria and Great Britain.

Despite a common feeling that mortality from suicide is frequent in India, there have been very few published reports from the

country (Satyavathi and Murthi Rao, 1961; Ganapathi and Venkoba Rao, 1966; Nandi et al., 1978, 1979; Ponnudurai and Jayakar, 1980 and Hegde, 1980). These studies have reported vastly different figures for the incidence of suicide—5.3 per lakh from a village near Calcutta (Nandi et al., 1978); 8.8 per lakh from Bangalore (Satyavathi and Murthi Rao, 1961); 9.3 per lakh from North Karnataka (Hegde, 1980) and an astounding figure of 43 per lakh from Madurai (Ganapathi and Venkoba Rao, 1966). The overall incidence of suicide in the country has been found to be 6.8 per lakh (Government of India, 1988). The variations in the reported figures could be because of the difference in the recognition rate of suicide. It has been pointed out that suicide is almost invariably under-reported (McCarthy and Walsh, 1975 and Monk, 1987). Even in countries where vital statistics are carefully recorded, the published suicide rates understate the truth, the real rate being probably higher by a quarter to one-third than that given out (Slater and Roth, 1986).

A marked male preponderance has been reported by all the western workers (Monk, 1987), where the rates for men have been found to be three or more times higher than those for women. Some studies from India too have found males to commit suicide more often than females. The difference however, has been less pronounced in these studies—3 males per 2 females in Madurai (Ganapathi and Venkoba Rao, 1966) and a ratio of 2:1 in Karnataka (Hegde, 1980). Our findings of a female preponderance is in keeping with the findings reported by some other Indian workers (Aiyappan and Jayadev, 1956; Satyavathi and Murthi Rao, 1961; Nandi et al., 1978 and Ponnudurai and Jayakar, 1980). This assumes even a greater significance when viewed in the light of the fact that, in the general population in India, male-female ratio is slightly in favour of males. The female preponderance among those committing suicide could

be due to the subordinate status accorded to women in the Indian culture. This view is supported by the fact that in Great Britain, in the first decade of the century, the rate for females was higher than that for males. The figures crossed in 1920s and the rate for women is now less than one-third of that for men (Slater and Roth, 1986).

The commonest age group in both the sexes, was the third decade to which around half of the cases belonged. The next age group was the second decade. Taken together, these two decades provided nearly 80% of the cases. Similar findings have been reported by most of the Indian workers (Satyavathi and Murthi Rao, 1961; Ganapathi and Venkoba Rao, 1966; Ponnudurai and Jayakar, 1980 and Hegde, 1980). On the other hand, western workers have consistently found suicide to be more common in the higher age groups. Among the Americans, the peak incidence comes after 45 in males and after 55 in females. A quarter of suicides are committed by those over 65 although they make up only 10% of the total population (Kaplan and Sadock, 1985 and Robins, 1985). Similar observations have been made in Great Britain where the peak incidence of 45 per lakh has been reported for those aged 70 or more (Slater and Roth, 1986).

The most probable causes for the pronounced age difference between the orient and the occident are the differences in the role expectations from, the social support for and the feeling of belongingness prevailing amongst the aged in the former. In our culture, the aged continue to be well integrated and respected members of the family. Further, most of their children have settled and are ready to shoulder responsibilities thus making the life of the elderly rather free from the stresses and strains of an active earning life. Yet another factor could be the lower life-expectancy of our people compared to that of the western societies so that our

population itself is eschewed in favour of the younger age.

Several reasons could be offered for suicide being more common among the married in India—a finding that has been corroborated by several studies besides the present one (Satyavathi and Murthi Rao, 1961 and Ponnudurai and Jayakar, 1980). Here marriage is a social obligation and is performed by the elders irrespective of the individual's preparedness for it. Further, marriage is believed to be a part of the treatment for mental illnesses and the mentally ill are therefore, more likely to get married, that too sooner than the mentally healthy. Marital partners in India are virtually strangers to each other and so are the families. Hence, there are several adjustment problems. Divorce being socially frowned upon and difficult suicide provides the only escape. In the West, on the other hand, marriage is believed to be a measure of emotional stability and married people have a lower rate of mental illness (Slater and Roth, 1986). Conversely, single state is a consequence of the pre-existing personality problem, rendering the patient unable to find a marital partner. It is quite understandable that in such societies, mental illness as well as suicide would be more common in the unmarried.

Factors like feasibility, accessibility, credibility and rapidity of action could be behind the choice of the method for committing suicide (Ponnudurai and Jayakar, 1980 and Boor, 1981). A difficult question is whether availability of a method affects the number of total suicides or merely the way by which suicide is committed. Fashions change for suicide too and relative popularity of different methods have changed overtime (Monk, 1987). It is felt that the availability of a method is important when the suicidal act is impulsive in nature (Farmer, 1980). Keeping this in mind, Ganapathi and Venkoba Rao (1966) and Nandi et al. (1979) have pleaded for restriction in the sale of organo-

phosphorous compounds which are used as agricultural insecticides and are rather very freely available.

Domestic strife was the most frequent cause for suicide in our study. Similar observations have been made by several other workers. Nandi et al. (1979) found this factor in more than half of their cases. In their study, quarrel with parents was the most frequent immediate antecedent in males (33%) while in females it was with the husband (47%) or with the mother-in-law (9%). Hegde (1980) held domestic problems to be responsible for suicide in 37% of their cases. This was much more common in females (53%) than in males (29%). Satya-vathi and Murthi Rao (1961), Ganapathi and Venkoba Rao (1966) and Ponnudurai and Jayakar (1980) have also found domestic problems to be behind a substantial proportion of suicides.

Mental illness (23%) constituted the next most frequent cause of suicide in our study. This has been thought to be the most important cause by the western workers (Slater and Roth, 1986). The data since the Second World War seem to indicate that of those who commit suicide, nearly half suffer from depression, about a quarter from severe alcoholic problems and another but smaller number from schizophrenia (Venkoba Rao, 1986 and Monk, 1987). In the present series, schizophrenics outnumbered depressives. However, no cause could be found in 38.5% of the cases and several of these could very well have been depressed.

Besides directly causing suicide, mental illness could have contributed indirectly in the other aetiological groups. Domestic strife could, in many cases, have been related to mental illness, one aggravating the other and thus, leading to a vicious cycle, culminating in suicide of the subject because of his being more sensitive and vulnerable. Further, some causes like financial stress, failure in examination and pre-marital pregnancy

could have been the results of mental illness in the first place. Lastly, the remaining causes could have led to suicide because of their being perceived as "too much" by the subject due to his underlying mental state. Similar observations have been made by others who have found the proportion of victims with psychiatric illness to range from 73% to 100% (Dorpat and Ripley, 1960; Barraclough et al., 1974; Maris, 1981 and Robins, 1981).

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