

Original Research Paper

Psychological Autopsy Study of Suicides among Elderly

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Abstract

A great deal of research has been focused on the suicide in young, but surprisingly limited research has been under taken in the area of suicide in elderly accomplished by under reporting. Since the proportion of older people in population is rising worldwide, indeed the increase in developing countries like India is even greater than the developed countries. This prospective and descriptive study among elder people has been carried out in the Department of Forensic Medicine, Victoria Hospital, Bangalore Medical College and Research Institute, Bangalore during the period November 2005 to April 2007 (18 months). All the cases aged 60 years and above brought to the department for medico-legal autopsy with alleged history of suicide and or detected as suicide by the circumstantial evidences and autopsy findings were selected. A sum total of 70 cases were studied during the study period.

Key Words: Elderly suicide, Reasons for suicide, Depression, Psychological autopsy

Introduction:

The term "suicide" comes from two words-sui (of oneself) and cide (killing of) and is used to denote self-planned and deliberate termination of one's life. It is distinctly a human affair. The phenomenon of suicide is old as mankind, but still remains an unsolved giant puzzle. From the time immemorial, suicidal feelings and hopelessness have been considered part of ageing and understandable in the context of being elderly and having physical disabilities.

The ancient Greeks tolerated these attitudes in extreme and gave elderly people the option of 'assisted suicide'; if they could plead convincingly that they had no useful role in the society. Although the number of young people who commit suicide is larger, suicide among elderly also forms a significant group.

It is even more crucial to take seriously, any threats of suicide on the part of older individuals, because of their efforts to take their own lives so often to have a fatal outcome- older people tend to be more "successful" when they try to kill themselves.

Materials and Methods:

The present psychological autopsy study among elder people has been carried out in the Department of Forensic Medicine over a period of 18 months. All the cases aged 60 years and above brought to the department for medico-legal autopsy with alleged history of suicide and or detected as suicide by the circumstantial evidences and autopsy findings were selected. A sum total of 70 cases were studied for this prospective and descriptive study during above mentioned period.

Detailed information regarding the deceased particulars including suicidal Intent scale [1], presumptive stressful life events [2] and the circumstances of death were collected from the relatives and police. In some cases this information was supplemented by either visit to the scene of crime, the photographs of scene of crime and also by suicide notes, if any. The Suicide Intent Scale [1] applied to assess seriousness of the intent to commit suicide.

The Gurmeet Singh PSLE Scale [2] was used to estimate the effect of various psychosocial stressful events and Socioeconomic status used was Modified B G Prasad and Kumar classification of socioeconomic status [3], based on AICPI (All India Consumer Price Index), March 2005 was used. [4]

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Result and Discussion:

During the study period 5565 autopsies were conducted in the Department of Forensic Medicine. Among 5566 cases, 93% (5165 cases) were aged less than 60 years and 7% (404 cases) were aged more than 60 years.

Of these 404 cases of elderly deaths which were brought to the mortuary as unnatural deaths after autopsy, 39% were diagnosed as natural deaths, 41% accidents, 18% suicides, and 2% homicides. Suicide was the third leading cause of unnatural deaths among elderly.

It is in contrast with the collaborative study by SAMHSA, CDC, NIH, HRSA, and HIS [5], in which suicide was the 16th leading cause of death among elderly.

In this study suicide among elderly constitutes 4% (70 cases) of all the suicides (1801 cases) and suicide rate was higher among those aged 15-29 years and 30-44 years. [Table 1] This is in contrast to the WHO estimation in 2002, [6] in which elderly suicides accounted for 8.043% of all the suicides and a study by Nambudri VMD [7] found that 18.46% of elderly suicides. It has been found that suicide among elderly was common among individuals aged 60-64 years (40%) followed by 65-69 years (27%), 70-79 years (20%) and was least among those is 80+ years (13%).

The similar findings were observed by Vikram Palimar [8], who found suicide among aged 61-65 years, was 48.4%. This is possibly due to beginning of dependency and stressful life following their retirements. In contrast to this in a collaborative study [5] suicide rates increased with increasing age.

It was observed in the present study that the elderly males (73%) were more prone for suicide than their counterparts (27%), with a male: female ratio 2.7:1. The similar high rate of suicide among males was reported by others. [9-12, 5] and very high rate of 9.3:1 was reported by Vikram Palimar. [8]

This high rate among males may be due to declining health, depleting wealth and depending tendency on alcohol and drugs. Even though more than 70% of the informants were first degree relatives, most of them were unaware of their parent's suicidal intentions.

It was in disagree with Chiu et al [13] who found 70% of the informants had noted some form of suicidal communication in the year preceding death. In the current study it has been observed that more than half of the victims were from urban area, this is in contrast to the study by Hude Quan et al [12] who reported highest rate of suicide in rural population (46.7%).

Since the study was conducted in Bangalore, an urban area, the high rate of suicide in urban residents is expected, owing to the urbanization, industrialization and increase in size of population. Nearly half of the study cases were widow/widower, one female was unmarried, one male was remarried, and another three were separated. Similar findings of loss of spouse (35%) were reported by other authors. [9, 5]

An opposite findings were observed by Chiu et al [13] who reported married women had higher risk than single and widowed women. The high rate of suicide among widow/widower in present study could be due to loss of partner, loneliness and stressful life.

In this study 67% of the individuals were not educated and another 17% had less than mandatory education. Similar findings of high level of low educational status (75%) among elderly suicides were reported by Rubelowitz et al. [14] It was also found that 90% of the elderly individuals belonged to the Hindu religion, 7% Muslims and 3% Christians. [8] In this part of the world majority of the population follows Hinduism as religion and there is no strong injunction against suicide in the same religion.

The study showed that more than half (52%) of our study population were unemployed /households and were dependent (male 29% and females 23%), 20% of the males were agriculturist and 28% were non-agriculturists.

Nearly half of the study group belonged to lower middle (47%) and quarter of the population belonged to upper lower class (26%) of the socioeconomic groups. Only 6% belonged to upper class. The high rate of suicide among lower class could be due to financial and health problems which are more prevalent in them. More than half of the individuals were dependent on their children and spouse.

In this study 60% of the individuals were from joint family, 24% from nuclear and 16% were living alone. [9, 12] The reason for high rate of suicide in joint family in this study could be due to social and cultural differences in this part of the world, where majority of the families are joint families, in contrast to living alone and nuclear families which are common in western countries.

In present study death due to poisoning (50%) predominated in both males (36%) and females (14%). [Table 2] Hanging was common among males (19%) compared to females (3%).

Burns was used as method of suicide by 11% of the males and 7% of females. Other methods included drowning (4% males, 3% females), one of the male was jumped from 2nd

floor and another male consumed sleeping pills and then drowned in a tank of water.

Similar findings were observed in the study by Vikram Palimar [8] in which poisoning accounted for 84% and hanging 16%. But it is in disagreement with Abraham VJ [10], who found hanging (52%) as the common method and poisoning as the second most common.

In many of the studies [5, 11, 12, 14, 15, 16] gunshot injuries were common. Fall from the height (86.3%) was the most predominant in the study by Abrams RC [17] and suicide by over dose of drugs was common in study by Rubenowitz et al. [14] Poisoning as common suicidal method used by victims in this study could be due to lack rules and regulations regarding use of pesticides and easy accessibility. Hanging was common among males and poisoning was common among females indicating that males used violent method and females used painless method to end their lives. Fire arms were not reported due to strict legislation regarding their use.

Among the poisons Organophosphorus compounds formed the majority group (86%). (Table 3) [8] Other poisons were sulphuric acid, cyanide, and drug over dose, the later was common in their study. [16] In our study 61% individuals committed suicide in their home and the bed room was the most common place (24%). [11] Another 39% committed suicide outside the home. [Table 4]

The reason may be that they did not want to give trouble to their family members or fear of being noticed by the family members. More than 1/3rd of study population committed suicide during 4-8 pm and another 3rd ended their lives during late night and morning hours.

This is in contrast to Vikram Palimar [8] who observed maximum rate of suicide between 6 am -6 pm. The increased rate of suicide after later part of the day was due to increased stresses as the day advances and reaching the peak in evening.

Previous suicidal attempt was present in only 11% of the victims and one in every 8 victims had attempted suicide in the past. This is in contrast with the findings of others. 10-12]

This could be due to the reason that when elderly attempt suicide, most of the time they were successful, because of strong suicidal intention. Family history of suicide was present in only 3% of the suicide victims [11] and it is in contrast with Rubenowitz et al [14] which may be because of lack of knowledge about family history of suicide in the informants.

It has been observed in this study that the elderly suicide has got multi-factorial

causation. [Table 5] Among them family conflicts (57%), chronic physical pain (51%), chronic illness (51%), psychiatric disorders (46%), financial problems (33%) and addiction to the substance of abuse (34%) were the common factors. In 20% of the cases the individuals experienced social isolation/loneliness and only 3% had personality disorders.

These findings were supported by other workers also. [11, 12, 15] It is in contrast with Rubenowitz et al study [14] in which psychiatric illness and mental illness were common, while in other study financial problem as a main precipitating factor for suicide. [10]

The elderly suicide phenomenon is a social problem that is not going to cure by itself; it is a challenge to raise our collective consciousness, to develop innovative interventions to address the needs of our senior citizens.

References:

1. Beck AT, Weissman A. The measurement of pessimism-The hopelessness scale. Journal of consulting and clinical psychology 1974; 42(1): 861-865.
2. Gurmeet Singh. Presumptive stressful life events scale (PSLES)-a new stressful life events scale for use in India, Indian J Psychiat. 1984; 26(2):107-114.
3. Gupta MC, Mahajan BK. "Textbook of Preventive and Social Medicine" 3rd ed., Jaypee Brothers Medical Publishers 2003; 117-118.
4. Consumer price Index of Metros 2005, available at URL: des.delhigovt.nic.in/pcu/metromonth.
5. National strategy for suicide prevention. A collaborative effort of SAMHSA, CDC, NIH, HRSA, HIS available at URL: <http://www.mentalhealth.samhsa.gov/suicide/prevention/elderly.asp>.
6. World health organization, Geneva 2006. Available at <http://www.who.int/mentalhealth>.
7. Nambudri VMD. "Suicide and Parasuicide"- Concise Textbook of Psychiatry. Elsevier publication, 2nd ed: 297-298.
8. Vikram Palimar, Arun M, Prashanth Bhagavanth, Y. P. Raghavendra Babu, Manoj Kumar Mohanty. Fatal Deliberate Self Harm in Geriatrics. JIAFM Oct-Dec, 2006; 28(4), 177-179.
9. Ronald WM, Allan LB, Morton MS. "Elderly Suicides". New Age international publishers, 2006 comprehensive textbook of Suicidology: 142-148.
10. Abraham VJ. "Suicide in the elderly in Kaniyambadi block, Tamilnadu, South India International Journal of Geriatric Psychiatry 01 Oct 2005; 953-5
11. Bennet, Allan T, Collins, Kim A. Elderly suicide: A 10-year old Retrospective study: The American Journal of Forensic Medicine, June 2001; 22(2): 169-172.
12. Hude Quan, Julio AF. Elderly suicide in Alberta: Difference by gender- Canadian Journal of Psychiatry 1999; 44: 762-768.
13. Chiu, Helen FK, Chan, Sandra SM, Linda CW. 'Suicide in elderly' @2001 Lippincott Williams and Wilkins, Inc. Vol.14 (4); July 2001:395-399.
14. Rubenowitz, Waern, Wilhelmson, Allebeck. "Life events and psychosocial factors in elderly suicides- a case control study". Cambridge University Press 2001, Psychological Medicine, vol. 31(7), Oct 2001; 1193-2002.
15. Howard Catell. Suicide in elderly, Advances in Psychiatric Treatment (2000)6:102-108, available at <http://apt.rcpsych.org/cgi/content/full/6/2/102>.
16. Katalin Szanto. "Suicidal behavior in the Elderly". Psychiatric Times Dec 2003, 20(13), available at <http://www.pdychistrictimes.com/po31252.html>.

17. **Abrams RC.** Elderly suicide victims more likely to have fallen to their deaths, published: Thursday, 26-may 2005 available at <http://www.news-medical.net/?id=10445>.

Table 1: Age wise Distribution of Suicides during Study Period

Age Group (Yrs)	Male (%)	Female (%)	Total (%)
0-14 years	10(1)	18(1)	28(2)
15-29 years	413(23)	564(31)	977(54)
30-44 years	369(20)	171(9)	540(30)
45-59 years	155(9)	31(2)	186(10)
>60 years	51(3)	19(1)	70(4)
Total	998(55)	803(45)	1801(100)

Table 2: Method of Suicide employed to End their Lives

Method used	Male	%	Female	%	Total
O.P Poisoning	20	29	9	13	29
Burns	8	11	5	7	13
Hanging	13	19	2	3	15
Drowning	3	4	2	3	5
Other poisons*	5	7	1	1	6
Fall	1	1	0	0	1
Total	51	73	19	27	70

*Other poisons include sulphuric acid, cyanide, sleeping pills and over dose drugs

Table 3: Type of Poison used

Type of Poison	Cases	%
Organophosphorus	29	86
Sulphuric acid	2	6
Cyanide	1	3
Drug over dose	1	3
Unknown poison	1	3
Total	35	100

Table 4: Place of Incidence

Place	Cases	%	
In Home	Bed room	17	24
	Kitchen	7	10
	Bath room	2	3
	Toilet	3	4
	Hall	11	16
Outside Home	Terrace	3	4
	Road	3	4
	Field/Park	6	9
	Hotel/Lodge	2	3
	Inside compound	3	4
	Water tank	5	7
	Hospital	1	1
	Others*	7	10
Total	70	100	

*Include Bus stand (2cases), Shed (1case), Garage (1case), Ashram (1 case), Music house (1case) and office compound (1 case)

Table 5: Causative Factors for Suicide

Causes	Cases	%
Chronic physical pain	36	51
Psychiatric disorder	32	46
Financial problem	23	33
Chronic illness	36	51
Isolation/Loneliness	14	20
Personality disorder	2	3
Addiction to substance of abuse	24	34
Family conflicts	40	57