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Original Article

PSYCHOSOCIAL ASPECTS OF ATTEMPTED SUICIDE: STUDY FROM A MEDICAL INTENSIVE CARE UNIT

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Abstract

50 consecutive suicide attempters admitted in the medical intensive care unit of Christian Medical College Hospital during the period Dec. 1991 - Dec. 1992 were evaluated in detail with respect to all psychosociodemographic profile. Instrument used included a specially designed proforma documenting the details, Gurmeet Singh's presumptive stressful event scale and D. S. M.-III-R Criteria. Younger age group and males constituted the major part of the study sample. Organophosphorous poisoning was the common mode of attempt. More than 90% had a current psychiatric diagnosis. Analysis of risk factors associated with suicidal behaviour showed significant correlation with old age, stressful life events and major psychiatric diagnosis. The implication of these findings are discussed in the context of prevention and further management strategies.

Introduction

Suicide and deliberate self harm are major issues in health care all

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over the world accounting for 0.4 to 0.9% of all deaths (Roy A, 1986). It is a significant problem in India with its reported suicide rate of 6.8 per 100,000 (WHO 1984). The magnitude of the problems related to suicide and attempted suicide demands a systematic investigation into the nature of such behavior. The complexity of this phenomenon, with different facets involving medical,psychiatric, social, religious and other considerations, necessitates a multidisciplinary inquiry. This investigation attempted to study some psychosocial aspects of individuals who attemped suicide. The specific objectives of this study were :

1) To evaluate the socio-demographic variables including family history, physical illness, psychiatric diagnosis, past attempts, intensity of attempt, mode of attempt, life events, and outcome.

2) To study correlations between these variables.

Materials and Methods

50 consecutive suicidal attempters admitted to the medical intensive care unit of Christian Medical College Hospital, Vellore between December 1991 to May 1992 were included in the study. Detailed interviews were conducted with the patients and their relatives within the few days of admission. Patients whose physical condition prevented detailed evalution were interviewed when their condition improved. First degree relatives were interviewed when available. The instruments used included a specially designed case history proforma documenting the sociodemographic profile, mode of suicide attempt, family history of psychiatric morbidity, physical illness, past history of psychiatric morbidity, past suicidal attempts, current psychiatric diagnosis, mode of attempt, intensity of attempt and outcome. The Presumptive stressful event scale formulated by Gurmeet Singh (1981) was employed to evaluate life events. The psychiatric diagnoses were made in accordance with Diagnostic and Statistical Manual III Revised (APA 1987). The data was analyzed using the SPSS PC software. Statistical significance was assessed using the Student and the Chi square test, multiple linear regression and logistic regression.

Results

63 Individuals who attempted suicide were brought to the casualty during the study period. Of these 2 were admitted to the Neurological I.C.U., one was brought dead and the remaining 10 were mild attempts and hence were discharged from the casualty. Thus socio-demographic profile of this group did not differ significantly from the study sample. These

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patients were excluded from further analysis.

The sociodemographic data (Table 1) shows that majority were within the age group 21 to 30 yrs and males. Half of the sample were married. Major proportion were from rural background, with income less than Rs. 500 per month, educated, Hindus and employed.

A positive family history of psychiatric morbidity was obtained in 68% with alcoholism, suicide and depression as the common diagnoses. 42% reported physical ailments of which abdominal pain without any demonstrable cause and epilepsy were more common. Among the past psychiatric morbidity (42%) depression and alcohol abuse were the frequent diagnoses. 22% of the sample reported past suicidal attempts. Consuming organophosphorous poisons and drug over dose were the commonest modes of attempting suicide. The attempts were judged to be of moderate intensity in 60%, severe in 30% and mild in 10% of patients. A vast majority had current psychiatric diagnosis (90%) with adjustment disorder with depressed mood being the most frequent one followed by major depression and alcohol abuse (Table 2).

Bivariate analysis of all psychosocial factors in different age groups showed significant correlation with past psychiatric morbidity, intensity of attempt, life event score and current psychiatric diagnosis in older age group (Table 3). Females had significantly high rate of past suicidal attempts. They also had more history of drug over dose and native poisoning compared to males (Table 4).

Bivariate analysis of mean life event score in relation to all the psychosocial factors showed significantly high rates in the elderly, those with income above Rs. 1500 per month and those reported physical ailments. The same factors when analysed through multiple linear regression with mean life event score as the dependent variable showed only older age and physical ailments as the significant risk factors. We reclassified psychiatric diagnoses into major and no major based on the presence of major depression, Bipolar illness and alcohol/drug abuse. The major diagnoses were compared through bivariate analysis in relation to all psychosocial factors. It was common in older age, Hindus, those with family history and past history of psychiatric morbidity and those with prior suicidal attempts. However multiple regression analysis showed only past history of psychiatric morbidity and past suicidal attempts as significant factors associated with major psychiatric

diagnoses. Analysis of outcome through bivariate and logistic regression did not show any significant correlation with the psychosocial factors.

Discussion

The investigation of trends in suicidal attempt has revealed considerable variations in age, sex and associated psychosocial factors (Moen 1989). Sainsbery (1988), analyzing the changes in the incidence of suicide between 1922 and 1953, reported an increasing incidence with age. Recent studies however reported two peaks, one in late adolescence and early adulthood and the other in the elderly (Resnik 1975, Surtree 1989).

In India many studies have been done with regard to attempted suicides (Venkoba Rao 1965, 1971, 1975, 1977, Sathyavathy 1971, Bagadia et al 1976, Ponnudurai 1986). This preliminary investigation shows that suicidal behaviour is most frequent in younger age group especially in males, which has been reported in recent studies from India and West (Diekstra 1989, D. W. Black 1990, Venkoba Rao 1965, Sathyavathy 1971, Ponnudurai 1986). Studies have reported a preponderance of unmarried persons attempting suicide (Ponnudurai 1986, Gupta and Singh 1981), which was not confirmed in cur study. There was an over representation of rural people contrary to the previous reports (Grad de Alcarn 1976, Gupta and Singh 1981) which can be a biased reporting or a true differential vulnerability. Unemployment and low education was not prevalent in our sample. Many of the attempters were low income group and Hindus. However, some of these sociodemographic correlations (e. g. low income, Hindu etc.) could be a reflection of the catchment population of the hospital.

Alcoholism, depression and suicide are reported as risk factors for suicide in literature (Roy 1982, Reiner 1984, Bronisch 1987, Gupta & Singh 1981). Family history of alcoholism, suicide and depression were common in our sample especially in older age group which also had high rate of past psychiatric morbidity and past suicidal attempts. Their intensity of attempt also was serious and had a significantly high life event score. The stress of significant life events and other risk factors may be the reason for serious attempts and repeated attempts in this group. Females also had a high rate of past suicidal attempt but we were not able to identify any other risk factors. The over all low figure of past suicide attempts may be due to over representation of young people with first suicide attempt in our sample.

Majority of our patients had a current psychiatric diagnosis with

adjustment disorder with depressed mood as the most frequent diagnosis followed by major depression and alcohol abuse. Studies from India and abroad reported a high incidence of psychiatric illness in suicide attempters with a reasonable estimate of depression accounting for 75%, alcoholism 15%, miscellaneous psychiatric conditions 8% and 7% with no psychiatric diagnosis (Berroclough 1974, Gupta 1981).

The risk of suicide is reported to be high in individuals who are physically ill (Resnik 1975, Margon 1982, Berroclough 1987). Abdominal pain and epilepsy ranked highest in our sample which has been listed among the cause of attempted suicide in India and West (Sathyavathy and Murthi Rao 1961, Vassilas 1988). One possible link between pain and suicidal behavior in that it can be a manifestation of subclinical depression or it can lead to secondary depression.

Organophosphorous poisoning was the most frequent method employed for attempting suicide which has been repeatedly confirmed by many studies (Nandi 1979, Ponnudurai and Jayakar 1980, Ponnudurai 1986). A significant difference was among males the common mode of attempt being organophosphorous while in females it was medicine overdose or native poison, which may be due to the following reason-in India agricultural workers are mainly males and have an easy accessibility to these compounds. Even though the intensity of attempt was moderately severe the good outcome with only 10% mortality may be due to early detection and effective treatment. We have also analyzed the significance of life events and tried to find out the possible risk factors. Older patients, high economic group and those with physical symptoms had significantly high life event score but multiple regression analysis showed only old age and physical symptoms as the risk factors.

Another attempt was to find out the risk factors in people having major psychiatric diagnosis which showed old age, Hindus, high income group those with positive family history, past history or past suicidal attempt as high risk factors. Logistic regression analysis also revealed the same factors except the high income groups and Hindus the risk factors for attempting suicide.

Conclusion

The present findings suggest that there are considerable differences in the profile of those who attempt suicide in the different age groups which has important implications in prevention and management. This study has identified many of the previously described risk factors in the older age group. However, this investigation shows that these risk factors do not appear to operate in younger individuals. The high occurrence of attempted suicide in the younger age group would demand more research in this area in order that prevention strategies can be worked out.

TABLE I

Sociodemographic Characteristics

	Number	Percentage (%)
Age (Yrs)		
< 20	11	22
21 - 30	28	56
31 - 40	4	8
> 40	7	14
Sex		
Male	36	78
Female	14	22
Marital Status		
Married	27	54
Unmarried	23	46
Domicile		
Rural	33	66
Urban	17	34
Income (Rs/Month)		
< 500	29	58
Occupational Status		
Employed	31	62
Unemployed	19	38
Religion		
Hindu	44	88
Christian	5	10
Muslim	1	2
Education		
Nil & Primary	21	42
High School & Above	29	58

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TABLE II

Psychosocial Characteristics of Suicide Attempters

	Percentage (%)
Family History (68%)	
Alcoholism	16
Suicide	8
Depression	6
Others	6
Physical Ailments (58%)	
Abdominal Pain	24
Epilepsy	10
Others	21
Past Psychiatric Morbidity (42%)	
Depression	16
Alcohol Abuse	12
Others	18
Past Suicidal Attempts	22
Type of Attempt	
Organophosphorous	52
Drug Over Dose	26
Native Poison	12
Other Methods	10
Intensity of Attempt	
Mild	10
Moderate	60
Severe	30
Current Psychiatric Diagnosis (90%)	
Adjustment Disorder with Depressed Mood	82
Major Depression	28
Alcohol Abuse	8
Others	22
Outcome	
Alive	90
Dead	10

TABLE III

Age Vs Psychosocial Variables

	Less Than 20 No. (%)	21-30 No. (%)	31-40 No. (%)	Above 40 (No. %)	Significance (P)
Family History	1 (9)	12 (43)	0 (0)	3 (43)	N.S.
Phy. nIllcss/Symptoms	4 (36)	12 (43)	3 (75)	2 (28.6)	N.S.
Past Psych. Morbidity	3 (27)	10 (36)	2 (50)	6 (86)	< 0.05
Past Suicid. Attempt	2 (18)	6 (21)	0 (0)	3 (43)	< 0.05
Intensity of Attempt	7 (63)	14 (50)	3 (75)	6 (86)	< 0.05
Current Psych. Diagno.	8 (73)	26 (93)	4(100)	7 (100)	< 0.01
Mode of Attempt - Op	6 (55)	15 (53)	1 (25)	4 (57)	N.S.
Other Methods	5 (45)	13 (46)	3 (75)	3 (43)	N.S.
Outcome - Dead	0	3 (11)	1 (25)	1 (14)	N.S.
Life Events	151.82	165.79	222.00	233.14	< 0.01

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TABLE IV

Sex Vs Psychosocial Variables

		Male No. (%)	Female No. (%)	Significance
Past Suicidal Attempt	Yes	03 (08)	08 (57)	P > 0.05
	No	33 (92)	06 (43)	
Mode of Attempt	Organophosphoprous Poisoning	22 (61)	06 (43)	P > 0.05
	Other Methods	14 (39)	10 (71)	
Family History	Yes	10 (28)	04 (29)	NS
	No	26 (72)	08 (47)	
Physical Ailments	Yes	13 (36)	08 (57)	NS
	No	23 (64)	06 (43)	
Past Psychiatric Morbidity	Yes	16 (44)	07 (50)	NS
	No	20 (56)	07 (50)	
Intensity of Attempt	Mild+Moderate	33 (92)	12 (86)	
	Service	03 (08)	02 (14)	
Current Psychiatric Diagnosis	Present	32 (89)	13 (93)	NS
	Absent	04 (11)	01 (07)	
Outcome	Alive	33 (92)	12 (86)	NS
	Dead	03 (08)	02 (14)	

References

1 Bagadia V N, Ghadiala H H, Sharof K K, Shah (1976). Unemployment and attempted suicide. Indian Journal of Psychiatry, 18; 131-133.

2 Berraclough B M. (1987). The suicides in epilepsy. Acta Psychiatrica Scandinavica, 76; 339-345.

3 Berraclough B M, Bounch J, Nelson B. and Sainsbury P. (1974). A 100 cases of suicide-Clinical aspects. British Journal of Psychiatry, 125; 355-373.

4 Black D. W. (1990). Suicide and deliberate self harm. Current Opinion in Psychiatry, 13; 193-198.

5 Bronisch T; Hecht. H. (1987). Comparison of depressed patients with and without past suicidal attempts in their history. Acta Psychiatrica Scandinavica, 76; 438 – 449.

6 Diagnostic and Statistical Manual Mental for Disorders(1987). American Psychiatric Association, Washington, D C.

7 Diekstra R F W. (1989). Suicide and attempted suicide-an international perspective. Acta Psychiatrica Scandinavica, 8; 124.

8 Grade de Alcaron J. (1976). Social factors in mental illness-In Recent Advances in Clinical Psychiatry-2 (ed. Granville Grossman K) London, Churchill Livingstone.

9 Gupta S C; and Singh G; (1981). Psychiatric illness in suicide attempters. Indian Journal of Psychiatry, 23; 69–74.

10 Gurmeet Singh (1981). Presumptive stressful even scale, COMCO, Mental Health Research Monograph-No. 1.

11 Lal and Sethi B B. (1975). Demographic and Social variables of attempted suicide by poisoning. Indian Journal of Psychiatry, 17; 100-104.

12 Moen GFG., Loysch M J M., Hoggokoesomo S., et al(1989). Recent trends in the methods of suicide, Acta Psychiatrica Scandinavica. 79; 207-215.

13 Morgan H.G. (1982). Details of self harm-In Recent Advances in Clinical Psychiatry–4. (ed. Granville Grossman) Churchill Livingstone, London.

14 Nandi, Mukherjee, S V., Banerjee G., et al (1979). Is suicide preventable by restricting the availability of lethal agents ? A recent survey in West Bengal. Indian Journal of Psychiatry, 25; 251-255.

15 Ponnudurai R., Jayaker J; Saraswathy (1980). Attempted

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suicide in Madras. Indian Journal of Psychiaty, 28; 59-62.

16 Reneir J. (1984). Genetic factors in depression and suicide. American Journal of Psychiatry, 38; 329-340.

17 Renik H L P. (1975). Suicide - in Comprehensive Text book of Psychiatry III edition (ed. Kaplan H I., Freidman A.M. and Saddock B J.) Baltimore; Williams and Wilkins.

18 Robins E. (1980). Suicide-in Comprehensive Textbook of Psychiatry IV edition (ed. Kaplan H I. and Saddock B J.) Baltimore; Williams and Wilkins.

19 Roy A. (1982). Risk factors of suicide in psychiatric patients, Archives of General Psychiatry, 39; 1089-1095

20 Roy A. (1985). Suicide-in Comprehensive Textbook of Psychiatry V edition (ed. Kaplan H I., Benjamin J. and Saddock B J.) Baltimore: Williams and Wilkins.

21 Sainsbury P. (1968). Recent developments in affective disorder-a symposium (ed. Alec Coppen and Alexander Walk) Haldey Brother Ltd., Ashford, Kent.

22 Surtrees P G., Duffy J C. (1989). Suicide in England and Wales - An age period cohort analysis. Acta Psychiatrica Scandinavica, 79; 216-223.

23 Satyavathy K. (1971). Attempted suicide in psychiatric patients. Indian Journal of Psychiatry, 30; 37-40.

24 Satyavathy K.; Murti R. (1961). Trans All India Inst. of Mental Health, Bangalore 1961; 2; 1.

25 Vassilas C A. (1988). Para Suicide and Appendicectomy. British Journal of Psychiatry, 152; 706-709.

26 Venkoba Rao A. (1965). Attempted suicides in psychiatric patients, Indian Journal of Psychiatry, 7; 253.

27 Venkoba Rao A. (1971). Suicide attempters in Madurai. Journal of Indian Medical Association, 57; 278-284.

28 Venkoba Rao A. (1975). Suicides in India. In Suicide in different cultures (ed. Normal L. Farbureao University Park Press, London). Journal of Indian Medical Association, 57; 278-282.

29 Venkoba Rao A. (1977). Suicide. Journal of Indian Medical Association, 68; 250-252.

30 WHO (1984). Suicide and attempted suicide; Public Health-58, Geneva, WHO 1984.