Available online at www.journalijmrr.com

INTERNATIONAL JOURNAL OF MODERN RESEARCH AND REVIEWS

Int. J. Modn. Res. Revs.
Volume 3, Issue 10, pp 914-918, October, 2015

ISSN: 2347-8314

A STUDY OF PSYCHIATRIC COMORBIDITY IN ADULTS WHO ATTEMPTED SUICIDE

[*1]Dr. R.Karthikkumar, [2]Dr. M. Asokkumar, [3]Dr. R.Gandhibabu and [4]Dr. Vinoth

[*1]Post Graduate, Department of Psychiatry, Rajah Muthiah Medical College & Hospital, Annamalai University, Annamalai Nagar, Chidambaram, TN, India.
[2]Professor, Department of Psychiatry, Rajah Muthiah Medical College & Hospital, Annamalai University, Annamalai Nagar, Chidambaram, TN, India.
[3]Professor and Head of the Department, Department of Psychiatry, Rajah Muthiah Medical College & Hospital, Annamalai University, Annamalai Nagar, Chidambaram, TN, India.
[4]Lecturer, Department of Psychiatry, Rajah Muthiah Medical College & Hospital, Annamalai University, Annamalai Nagar, Chidambaram, TN, India.

Article History: *Received 15th October,2015, Accepted 23rd October, 2015, Published 24th October,2015*

ABSTRACT

Background: Every year, almost one million people die from suicide and 20 times more people attempt suicide; a global mortality rate of 16 per 100,000, or one death every 40 seconds and one attempt every 3 seconds, on average according to a WHO report. There is wide disparity in the rates of suicide across different countries. Suicide is the third leading cause of death among those aged 15-44 years, and the second leading cause of death in the 10-24 years age group in some countries and presence of psychiatric co-morbidity is well established in various studies.**Aim:** The present study was conducted to identify prevalence of Psychiatric co-morbidity in adults who attempted suicide and to identify the severity of intent and severity of the co-morbid psychiatric illness in suicide attempters. **Materials and Methods:** This descriptive study was conducted in Rajah Muthiah Medical College and Hospital, Annamalai Nagar, Chidambaram, a tertiary care hospital situated in an economically backward district. One hundred consecutive cases aged 20 and above belonging to both sexes who attempted suicide were taken as sample. **Discussion:** The present study showed that majority of the suicide attempters were below 30 years, and of male gender. Most of them were from rural background with lower middle socio economic status. Nuclear family, unemployment, education played significant role in suicide attempt. Most of them experienced stressful life events prior to their attempt. Poisoning being the commonest method of suicide attempt and some of them expressed their suicidal intent before the attempt. Considerable number of attempters had psychiatric morbidity, especially Adjustment disorder. The present study was compared with other studies related to suicide. Need for early intervention by identifying risk factors is discussed.

Keywords: Attempted suicide – psychiatric morbidity – risk factors – life events – intent-*Primary author – Post Graduate in M.D. Psychiatry

1.INTRODUCTION

Suicide is derived from the Latin word self-murder. It is a fatal act that represents the person's wish to die. The World Health Organization defines suicide act as "the injury with varying degrees of lethal intent" and that suicide may be defined as a "suicidal act with fatal outcome."

Suicide is a complex phenomenon that has to be perceived from the philosophical, sociological, and clinical dimensions. Suicide has grown as a silent epidemic, resulting in psychological distress & financial burden among the relatives of the victims at the family level, as well as great economic problems for the whole society in a statistical sense.

Corresponding author:* ***Dr. R.Karthikkumar,* *Post Graduate, Department of Psychiatry, Rajah Muthiah Medical College & Hospital, Annamalai University, Annamalai Nagar, Chidambaram, TN, India.*

India ranks 43rd in descending order of rates of suicide with a rate of 11.4/100,000 reported in 2010 (WHO suicide rates). The number of suicide cases in India has been consistently on the rise every year. During the decade 2001–2010, the number of suicides in the country has recorded an increase of 23.9% as against the population, which had a growth rate of only 18.3%.

An increasing trend in the suicide rate is observed during the period from 2006 to 2010. The problem continues to increase in size and the situation has to be monitored regularly in order to detect possible changes in its main characteristics.

Aim:

This study was undertaken to identify the Psychiatric co-morbidity in adults who attempted suicide and to assess the

severity of intent and severity of the co-morbid psychiatric illness in suicide attempters.

2.MATERIALS AND METHODS

This descriptive Study was conducted in Rajah Muthiah Medical College and Hospital, Annamalai Nagar, Chidambaram. Adults of the age group between 20 and 60 who attempted suicide were recruited from medical and surgical wards of Rajah Muthiah Medical College and Hospital for this study. Interview was done on suicide attempters whose physical condition is stable and could undergo detailed assessment. Persons who were disoriented and confused, without reliable informant and not consenting to participate in the study were excluded

A semi-structured proforma was used for recording the socio-demographic profile, methods and the place at which the suicide was attempted, suicide intent and expressions, and the clinical profile of the patient. ICD-10: Classification of Mental and Behavioural disorders (WHO 1992) - Clinical descriptions and diagnostic guidelines was used to diagnose the psychiatric morbidity. Suicide intent was assessed by administering Beck Suicide Intent Scale (Beck et al, 1979). Presumptive stressful life events scale (PSLES), (Gurmeet Singh *et al*, 1983), Hamilton Psychiatric Rating Scale for Depression (Ham-D) (Max Hamilton et al 1960), Socio Economic Status Scale (SES) of S. E. Gupta & B. P. Sethi (1978) were also administered

3.RESULTS:

Table: I Socio-demographic data: N: 100

	Number	Percentage
Age		
<30	66	66
30-40	18	18
40-50	9	9
>50	7	7
Sex		
Male	56	56
Female	44	44
Habitat		
Rural	75	75
Sub-Urban	22	22
Urban	3	3
Education		
Illiterate	4	4
Primary	12	12
Middle	34	34
High School	31	31
Degree	19	19
Occupation		
Employed	40	40
Self Employed	10	10
Student	4	4
Unemployed	46	46
Family Type		
Joint	34	34
Nuclear	66	66
Marital Status		
Married	61	61
Single	39	39
Socio-economic Status		
Low	15	15
Low middle	42	42
Middle	37	37
Upper middle	6	6
Upper	0	0

Males (56%) were more than females (44%). Majority of the subjects were married (61%), belonged to lower middle socio economic status (42%), had educational qualification 8th grade and above (84%), unemployed (46%), from nuclear family (66%), and came from rural background (75%). When the age at suicide attempt was analyzed in terms of groups, nearly two-third of subjects (66%) were in the age group 20 -- 30 years and one-sixth (18%) were aged between 30 and 40 years.

Table: 2

	Number (100)	Percentage
H/O substance abuse		
Yes	20	20
No	80	80
Place of Attempt		
Home	77	77
Remote	17	17
Work Place	6	6
Method Used		
Self immolation	1	1
Hanging	14	14
Poison	83	83
Self Injuries	2	2
Reason for Attempt		
Physical	1	1
Psychosocial problems	84	84
Psychological	9	9
Psychological + Physical	1	1
Psychological + Psychosocial	5	5
Suicide wish expressed		
Yes	11	11
No	89	89

Twenty percent of the suicide attempters had a history of substance abuse. Majority (77%) of the suicide attempts happened at home. Poisoning is the most common method used by suicide attempters, followed by hanging (14%), self injury (2%), self immolation (1%). Organophosphorus compound (58%) was the most common type of poison used. Psychosocial problems were present in majority (89%) of suicide attempters. psychological problems was present in 14%. Suicide wish was expressed by only 11% of suicide attempters.

Table: 3

	Number (100)	Percentage
Type of poison used		
Abrus seeds	1	1
Ant Killer	8	8
Datura	2	2
Drug-overdose	6	6
Kerosene	4	4
Kurunai	2	2
Matchstick	1	1
Mosquito Repellent	3	3
Oleander	4	4
OPC	58	58
Rat Killer	10	10
Varnish	1	1
Pre-morbid Personality		
Extravert/ Emotionally Stable	38	38
Extravert/ Emotionally Unstable	14	14
Introvert/ Emotionally Stable	44	44
Introvert/ Emotionally Unstable	4	4
Suicide Intent Score		
Mild	8	8
Moderate	57	57
Severe	35	35
Presumptive Stressful Life Event Score (PSLES)		
<100	46	46
100-200	43	43
200-300	9	9
>300	2	2

Majority of suicide attempters were found to be emotionally stable. Fifty two percent were extroverts and 48% were introverts. Fifty seven percent had moderate levels of suicide

intent, 35% severe levels and 8% showed mild intent. Forty six percent had stressful life event score of < 100 and 43% had scores between 100 and 200.

Table: 4

Clinical Diagnosis		
Adjustment Disorder (AD)	26	26
Alcohol Dependence Syndrome (ADS)	12	12
Alcohol Dependence Syndrome with Adjustment Disorder (ADS with AD)	4	4
Alcohol + Tobacco Dependence	1	1
Deliberate Self Harm (DSH)	42	42
Emotionally Unstable Personality (EUP)	1	1
Mild Depression (Mild Dep)	4	4
Mild Depression with Adjustment Disorder (Mild Dep with AD)	2	2
Moderate Depression (Mod Dep)	7	7
Severe Depression (Severe Dep)	1	1

Psychiatric morbidity among the adult suicide attempters was 58%. In this study the most common psychiatric disorder is adjustment disorders (32%) followed by alcohol dependence (17%), depression (14%), emotionally unstable personality (1%).

Table: V Comparison of suicide intent scores (SIS) of suicide attempters with and without psychiatric morbidity:

	PSYCHIATRIC MORBIDIITY						
	YES		NO		t	df	P
SIS	Mean	SD	Mean	SD			
	13.71	3.76	7.85	3.75	7.680	98	0.000

Table: VI Comparison of Presumptive Stressful Life Event Scale (PSLES) score of suicide attempters with and without psychiatric morbidity:

	PSYCHIATRIC MORBIDIITY						
	YES		NO		t	df	P
PSLES	Mean	SD	Mean	SD			
	143.48	59.26	93.66	60.31	4.118	98	0.000

The number of life events and suicide intent was found to be more among attempters with psychiatric co-morbidity compared to those without co-morbidity. The difference in scores was found to be statistically significant.

4.DISCUSSION

Age

In our study, out of the 100 cases of adult suicide attempters 66% of adults were below 30 years. This is also in concordance with other studies in India which also indicate that young adults are at increased risk, with ages 20-24 years followed by 25-29 years showing the highest rates of suicide in a psychological autopsy study by *Khan et al* (2005) and another study by *Vijayakumar et al* (1999) which identified the 15-39 age group as the most vulnerable to attempt suicide. In India the high rate of suicide in young adults may be due to the increased socioeconomic stressors after the liberalization of the economy and the lack of job security, higher disparities in income and not being able to meet the role obligation in the new environment.

Gender

Out of 100 cases of survivors of adult suicide attempts 44% were females and 56% were males in this study and males out-numbered females. The male: female ratio is 1.27:1 in line with 1.3:1 in the study by *Mayer et al* (2002) and 1.13:1 in *Das et al* (2008) but in contrast with a study in Kerala by *Sureshkumar et al* (2004) which showed a female preponderance. These differences may be due to the social changes in India, with a shift toward nuclear families and the cultural emphasis on males which they try to fulfill in vain.

Habitat

Majority of cases were from rural background (75%). This is similar to the study by *Nilamadhab Kar et al* in Orissa which reported that 72.8% were from rural background. As this study was done in Rajah Muthiah Medical College and Hospital in Chidambaram which is situated in a place which is surrounded by rural villages, the predominance of rural population is expected.

Family Structure

In this study 66% were from nuclear family and 34% were from joint family This suggests that factors specific to nuclear families might be involved in many attempts. Since the traditional joint family system in India is grossly changing to nuclear units, the risk might be involved is also changing.

Educational Status

Majority of the cases, 34% and 32%, had middle school and high school education respectively. Twelve percent had primary education and 19% had a degree. This study also showed only 3% was uneducated in contrast to the study by *Srivastava et al* (2004) which showed 55.5% were uneducated. This reduced number of uneducated suicide attempters may be due to the demographic mix and trend of increasing literacy in India particularly in Tamil Nadu.

Socioeconomic Status

In our study 42% were from lower middle socio economic section, which are similar to findings of *White (1974)*, *Morgan* (1975) 37% from middle socio economic section, 15% from lower socio economic section and 6% from upper middle socio economic section, none were from upper socio economic status. This is also similar to study by *Nilamadhab Kar et al* which reported most of the attempters had a middle socioeconomic status (SES), amongst which the majority (86.8%) were lower-middle.

Marital status

In this study 61% were married and 39 % were single, none of them were divorced or separated. This is similar to the findings of the studies of *Srivastava et al* (2004) and *Latha et al* (1996) which showed a higher rate among those who are married, but in contrast to *Narang et al (* 2000) and *Sharma et al* (1998) which showed higher attempted suicides among unmarried men and women. This is also in line with the finding that marriage is not a strong protective factor for suicide attempts in developing countries by World Report on Violence and Health. Geneva: WHO (2002)

Premorbid Personality

Most of the suicide attempters (82%) were emotionally stable, only 18 % were emotionally unstable. Among them

52% were extroverts while 48% were introverts suggesting there not much significance in relation to suicide attempts.

Reason for Attempt

Majority of the suicide attempters (89%) had psychosocial problems, 15% had psychological problems and 2% had physical problems. Among the psychosocial problems family conflicts and financial issues topped the list accounting for 32% and 29% respectively.

Method Used

Most common method used by attempters in the sample is poisoning (83%) followed by hanging (14%), Self injuries (2%) and self immolation (1%). This is similar to the trend in India, (WHO, 2009) in which consumption of a poison (33.6%), hanging (31.5%), self immolation (9.2%), and drowning (6.1%) were the commonest modes of suicide. The common methods of poisoning were OPC poisoning (58%), rat killer poisoning (10%) and ant killer poisoning (8%).

Increase in the use of OPC poisoning is in line with studies by *Sharma et al* (1998), *Banerjee et al* (1990) and *Srivastava et al* (2004). This may be due to the easy availability of agricultural pesticides in the rural areas. Suicide by hanging is the second most common method (14%). This is in line with the studies by *Khan et al* (2005) and *Bhatia et al* (2006)

Place of attempt

Majority of the cases (77) had made their attempt in their house, 6 in their work spot and 17 in remote place. This is similar to the trend in study by *Bhatia et al* (2006) which showed home to be the most common site of attempt.

Expression of suicide wish

Eleven persons (11%) had expressed their suicide wish before the attempt, but *Hawton et al*. (1982) reported in his study that 50% had sought advice. Twenty five percent had sought advice in a study done by *Stenager and Jensen* (1994) and a more recent study of communication of suicidal intent among suicide attempters by *Srivastava* **et al**. (2000) reported that the majority of the sample (73.3%) communicated suicidal intent.

Psychiatric morbidity

Psychiatric morbidity among the adult suicide attempters was 58%. Two case control studies using psychological autopsy technique have been conducted in Chennai (*Vijayakumar et al*., 1999) and in Bangalore (*Gururaj et al*., 2004) in India. Among those who died by suicide, 88% in Chennai study and 43% in Bangalore were found to have a diagnosable mental disorder. In this study the two most common psychiatric disorder is adjustment disorder (32%) followed by alcohol dependence(17%), which is in contradiction to the study by *Manoranjitham et al*.(2010) in which alcohol dependence was the most common followed by adjustment disorder.

Among those with depression 50% had moderate depression and 42% had mild depression and 7% of them had severe disorder. Twenty percent of the attempters reported history of substance abuse and none of them were using psychiatric drugs for any kind of illness.

Life events

The number of life events was found to be more among attempters with psychiatric co-morbidity compared to those without co-morbidity.the difference in scores was found to be statistically significant (P-value is 0.0001). This may be due to stressful life events predisposing to both mental illness and suicide ideation. Presumptive stressful life events and scores correlated significantly with suicide intent. This finding points to the need for early intervention following major life changes.

Suicide intent

Majority of the suicide attempters (57%) had moderate levels of suicide intent, 35% had severe levels and 7% had mild levels. The mean of suicide intent among suicide attempters was 11.25 and standard deviation 4.73. The comparison of suicide intent among those with and without psychiatric morbidity showed higher suicide scores in those with morbidity (mean -13.75) than without morbidity (mean – 7.85) and the difference was statistically significant.

LIMITATIONS

This study has some limitations. This sample may not be the true representation of the population as all cases who present with suicide attempts are not referred to tertiary care centre for treatment and psychiatric consultations and in some cases families do not disclose the facts to the treating agencies due to legal consequences. The numbers of attempters who died was not collected. This being a cross sectional study, we have not followed up the cases.

5.CONCLUSIONS

Life events and total score in preceding one year were more in persons with psychiatric morbidity than those without morbidity and were significantly associated with attempted suicide. In suicide attempters, family conflict, financial loss or problem and broken love affair were the main stressors. Suicide intent was more among persons with psychiatric morbidity. Suicidal intent significantly correlated with high levels of stress score, life events, and depression.

Psychiatric morbidity should be taken into consideration when assessing adult suicide attempters, as they have more suicidal intent, more stressors in the fields of family conflict and interpersonal relationship. These findings point to the need of early intervention following major life changes. Persons experiencing higher rates of cumulative stressful life events will be the target population for separate monitoring to identify suicidal behaviour in the management of adult suicide attempters.

6.REFERENCES

1. Banerjee G, Nandi DN, Nandi S, Sarkar S, Boral GC, Ghosh A. The vulnerability of Indian women to suicide

a field-study. Indian J Psychiatry. 1990;32:305–8. [PMCID: PMC2990843] [PubMed: 21927481]

2. Bhatia MS, Verma SK, Murty OP. Suicide notes: Psychological and clinical profile. Int J Psychiatry Med. 2006;36:163–70. [PubMed: 17154146]
3. Das PP, Grover S, Avasthi A, Chakrabarti S, Malhotra S, Kumar S. Intentional self-harm seen in psychiatric referrals in a tertiary care hospital. Indian J Psychiatry. 2008;50:187–91. [PMCID: PMC2738363] [PubMed: 19742182]
4. Gururaj G, Isaac MK, Subbakrishna DK, Ranjani R. Risk factors for completed suicides: A case-control study from Bangalore, India. Inj Control Saf Promot. 2004;
5. Hawton, K. (1982). Attempted suicide in children and adolescents. Journal of Child psychology and Psychiatry, 23, 497-503.
6. Khan FA, Anand B, Devi MG, Murthy KK. Psychological autopsy of suicide-a cross-sectional study. Ind J Psy 2005;47:73–8. [PMCID: PMC2918303]
7. Latha KS, Bhat SM, D'Souza P. Suicide attempters in a general hospital unit in India: Their socio-demographic and clinical profile--emphasis on cross-cultural aspects. Acta Psychiatr Scand. 1996;94:26–30.
8. Manoranjitham SD, Rajkumar AP, Thangadurai P, Prasad J, Jayakaran R, Jacob KS. Risk factors for suicide in rural south India. Br J Psychiatry. 2010;196:26–30.
9. Mayer P, Ziaian T. Suicide, gender, and age variations in India. Are women in Indian society protected from suicide? Crisis. 2002;23:98–103. [PubMed: 12542106]
10. Morgan, M.G., Barton, J., Potle. S. (1975). The urban distribution of non-fatal deliberate self-harm, British Journal of Psychiatry, 126,319-328.
11. Narang RL, Mishra BP, Nitesh M. Attempted suicide in Ludhiana. Indian J Psychiatry. 2000;42:83–7. [PMCID: PMC2957009] [PubMed: 21407914]
12. Nilamadhab Kar. Profile of risk factors associated with suicide attempts: a study from Orissa, India. Ind. J Psy.52 (1) , Jan – Mar, 2010.
13. Sharma RC. Attempted suicide in Himachal Pradesh. Indian J Psychiatry. 1998;40:50–4. [PMCID: PMC2964818] [PubMed: 21494443]
14. Srivastava S, Kulshreshtha N. Expression of suicidal intent in depressives. Indian J Psychiatry. 2000;42:184–7
15. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, et al. Risk factors associated with attempted suicide: A case control study. Ind J Psy. 2004;46:33–8.
16. Stenager, E.N., Jensen, K. (1994). Attempted suicide, and contact with primary health authorities. Actapsychaitrica Scandinavia, 90(2), 109-113.
17. Suresh Kumar PN. An analysis of suicide attempters versus completers in Kerala. Indian J Psychiatry. 2004;46:144–9. [PMCID: PMC2949930] [PubMed: 21408041]
18. Vijayakumar L, Rajkumar S. Are risk factors for suicide universal? A case-control study in India. Acta Psychiatr Scand. 1999;99:407–11. [PubMed: 10408261]
19. White, H.C. (1974).Self-poisoning in adolescents. British Journ of Psy,124,24-35.
20. World Report on Violence and Health. Geneva: WHO; 2002. WHO
21. World Report on Violence and Health. Geneva: WHO; 2009. WHO
22. World Report on Violence and Health. Geneva: WHO; 2010. WHO

*****