

Clinical Correlates of Patients Attempting Suicide in North India: A Hospital based Retrospective Study

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ABSTRACT

Introduction: Suicide has become one of major challenging health problem in developing country like India. It is one of the leading causes of mortality in young adults. There is complex interplay of multiple factors influencing the outcome of suicide. Additionally, there is significant variability in prevalence and pattern of suicide attempts across different parts of India. Study aimed to assess the sociodemographic and clinical profile of patients attempting suicide.

Material and Methods: The study included retrospective file review of around 150 survivors of suicide attempts registered over a period of 1 Year (July 2016 to July 2017) at Uttar Pradesh University of Medical Sciences (UPUMS), Saifai, Etawah. These patients were referred from emergency and medicine department for psychiatric assessment.

Results: Most of the survivors were of female gender (72%), most common mode of attempt was by ingestion of pesticides (82%), followed by overdose of medications (9%), and followed by hanging (8%). Psychiatric morbidity was diagnosed in 70% of the cases. Most common diagnosis was adjustment disorders and mood disorders.

Conclusions: This study reiterated the fact that majority of suicide attempts were carried out by young females, predominantly by poisoning and overwhelming number of such patients had underlying psychiatric morbidity.

Keywords: Suicide, Mortality, India, Psychiatric Morbidity, Poisoning

INTRODUCTION

Suicide is one of the leading causes of mortality in young adults worldwide. Suicide has become one of major challenging health problem in developing country like India. Suicide rates have been gradually increasing in young adults in developing countries.¹ Worldwide majority of the suicides are accounted by developing countries. Around 49% of the global suicides are reported in India and China.² According to World Health Organization (WHO), around 900,000 people die from suicide worldwide annually.³ India's National Crime Records Bureau (NCRB) reported 135,000 suicides in 2011.⁴ This underwhelming number of suicides in India reported by NCRB could be due to underreporting of suicides in India. In 2015, suicide rate of 13.27 per 100000 population by the World Health Organization South-East Asia region, relatively higher than the global average (10.67).⁵ Outcome of suicide is determined by complex interplay of multiple factors like biological, genetic, psychosocial and environmental factors.⁶ Moreover, significant variation is observed in prevalence, pattern of suicide attempts across different parts of the country.⁷ General Hospital Psychiatry Unit (GHPU) in India

have played major role in providing psychiatric services. Individuals with suicide attempts are often referred to Psychiatry department for detail assessment and evaluation. Therefore, this study was carried out to assess the clinical profile of patients attempting suicide in a GHPU setting. This study was carried out to assess the sociodemographic profile and clinical correlates among patients attempting suicides and presenting to emergency and medicine department of UPUMS, Saifai, Etawah.

MATERIAL AND METHODS

The study included retrospective file review of around 150 survivors of suicide attempts registered over a period of 1 Year (July 2016 to July 2017) at Uttar Pradesh University of Medical Sciences (UPUMS), Saifai, Etawah. The data regarding socio-demographic characteristics of the individuals, details of the attempts, psychiatric diagnosis, psychosocial stressors and personality factors were extracted from the records. These patients were referred from emergency and medicine department for psychiatric assessment. These patients were thoroughly evaluated by a consultant Psychiatrist. These patients were assessed on a structured format and psychiatric morbidity was diagnosed as per the DSM-IV-TR criteria.

Inclusion criteria

1. All the suicide attempt cases attending emergency/medicine departments and referred to the department of psychiatry for evaluation between 1st July, 2016 to 31st August, 2017.
2. Detail psychiatric assessment was performed by at least one psychiatrist and clinical information was collected by reliable family members.

Exclusion criteria

1. Deaths due to suicide.
2. Patients in delirium or suffering from debilitating medical conditions.

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3. Uncooperative patients/ Absence of reliable informants.

STATISTICAL ANALYSIS

The data was analysed with the help of parametric and non-parametric tests. Data was analysed and statistical analysis was done using these tests with the help of SPSS software.

RESULTS

In our study majority of the patients attempting suicide (73.33%) were females, while males constituted 26.66% of the sample. These attempts were most commonly observed in young adults (50%) followed by adolescents (40%).

Sociodemographic variables	Number of subjects
Sex	
Male	40 (26.66%)
Females	110 (73.33%)
Age group (Years)	
Adolescents (13-19)	60 (40%)
Young Adults (20-35)	75 (50%)
Middle age/Late Adulthood (36-59)	12 (8%)
Geriatric age group (>60)	3 (2%)
Religion	
Hindu	125 (83.33%)
Muslim	15 (10%)
Sikhs	8 (5%)
Christians	2 (1%)
Marital status	
Married	90 (60%)
Single	60 (40%)
Occupation	
Students	55 (36.66%)
Homemakers	50 (33.33%)
Self employed	2 (1.3%)
Agriculture	30 (20%)
Labourer	5 (3%)
Unemployed	8 (5.3%)
Socioeconomic status	
Lower socioeconomic status (LSES)	30 (20%)
Lower middle socioeconomic status (LMSES)	60 (40%)
Middle socioeconomic status (MSES)	40 (26.66%)
Upper socioeconomic status (USES)	20 (13.33%)
Domicile	
Rural	130 (86.66%)
Urban	20 (13.33%)

Table-1: Sociodemographic characteristics of patients attempting suicide

Methods	Number of subjects
Self poisoning	110 (73.33%)
Hanging	18 (12%)
Medication overdose	5 (3.33%)
Cut injury	15 (10%)
Drowning	2 (1.3%)

Table-2: Mode of suicide attempt

Suicide attempts were relatively uncommon in geriatric age group (2%). Most of the patients were Hindus (83.33%), followed by Muslims (10%). Sikhs represented about 5% of the sample followed by Christians (1%). Around 60 % of the patients were married, while 40 % were unmarried. Most of the patients were students by occupation (36.66%), followed by homemakers (33.33%), farmers (20%). Patients who were unemployed constituted about 5.3% of the sample. About 40% of the patients were from lower middle socioeconomic status, followed by middle socioeconomic status (26.66%). Lower socioeconomic status represented 20% of the sample, while upper socioeconomic status constituted only 13.33% of the sample. Most of the patients were of rural background (86.66%), while 13.33% were from urban background.

Most common mode of suicide attempt was by ingestion of poison (73.33%), followed by hanging (12%), cut injury (10%), medication overuse (3.33%).

Approximately, 80% of the patients were diagnosed with Axis I psychiatric disorders. Most common diagnosis was adjustment disorders (54.16%), followed by mood disorders (30%), schizophrenia (14.16%), and substance abuse (10%). Psychosocial stressors were present in 93.33% of the patients, while 6.6% of the patients denied having any psychosocial stressor.

Psychiatric diagnosis	Number of Subjects
Present	120 (80%)
Absent	30 (20%)

Table-3: Psychiatric Diagnosis

Nature of Psychiatric diagnosis	Number of Subjects
Mood disorders	36/120 (30%)
Moderate/Severe depressive episode	25 (20.83%)
Postpartum depressive episode	5 (4.1%)
Bipolar disorder, current episode severe depression	10 (8.3%)
Adjustment disorders	55/120 (54.16%)
Substance abuse	12/120 (10%)
Alcohol dependence syndrome	10 (8.3%)
Opioid dependence syndrome	2 (1.6%)
Schizophrenia	17/120 (14.16%)

Table-4: Nature of psychiatric diagnosis

Psychosocial stressors	Number of Subjects
Present	140 (93.33%)
Absent	10 (6.6%)

Table-5: Psychosocial stressors

Types of psychosocial stressors	Number of Subjects
Academic	40/140 (28.57%)
Interpersonal issues	60/140 (42.85%)
Financial	20/140 (14.28%)
Failure of romantic relationships	14/140 (10%)
Serious medical illnesses (Cancer/HIV/TB)	6/140 (4.2%)

Table-6: Types of psychosocial stressors

Most common psychosocial stressors were interpersonal issues (42.85%), followed by academic stressors (28.57%), financial issues (14.28%) and failure of romantic relationships (10%). Suicide attempts due to serious medical illnesses constituted only 4.2 % of the sample.

DISCUSSION

There was predominance of females among patients attempting suicide in our study (73.33%). This observation concurs with findings reported in other studies. Universally, suicide attempts are more common in females, whereas rate of completed suicides is higher in males. This can be explained by the fact that men plan meticulously for suicide and are known to use lethal modes for the same. In females, such acts are generally impulsive and they use less lethal modes. Less lethal modes employed by females can be because of relative inaccessibility to lethal modes in India.⁸⁻¹¹ However many Indian studies have reported higher incidence of completed suicide rates in females.¹²⁻¹⁴ This can be due to their subservient status in Indian society, domestic violence, harassment due to dowry related demands.

Majority of our sample was represented by young adults (50%) and adolescents (40%). Many studies have shown that 41% - 62% of suicides occur in third decade of life.¹⁵⁻¹⁸ Suicide is one of the important causes of unnatural death among youth in India. Risk of suicidal behavior in children increases with age, and highest risk is observed in adolescents. Psychiatric illnesses, academic failures, relationship issues, sexual abuse, physical violence are important risk factors that contribute to suicidal behavior in this age group.

Hindus constituted 83.33% of our sample. This can be due to the demography of Saifai and Etawah is Hindu predominant. Additionally, low rate of suicidal behavior in Muslims and Christians can be explained by the fact that there is strong condemnation of suicide in Muslim and Catholic religions.

In our study, 60% of the patients were married. In western countries, divorced, widowed, and single people are more likely to exhibit suicidal behavior. Marriage confers protection from suicide.²² However, in developing countries like India, increased rates of suicidal behavior is observed in married individuals especially females.²³⁻²⁶ This phenomenon can be explained by the fact that Indian society is patriarchal in nature, and females are repressed in our society. They are often subjected to domestic violence because of dowry and are forced to stay in abusive marriages.²⁷

In our study, 36.66% of the suicide attempters were students. This shows that the rate of scoring good marks in board exams, burden of cracking competitive professional examinations is taking a heavy toll on children and adolescent's mental health. They were followed by homemakers (33.33%). Homemakers accounted for 18.6% of total persons committing suicides and for 52.8% of the total female victims.²⁸ Persons working in agriculture constituted about 20% of the sample. This can be explained by the fact that Saifai is predominantly a rural area and our country often experiences agrarian distress. Hence, lots of farmers commit suicide, when faced with drought. According to NCRB data, around 182,936 farmers

have to have committed suicide between 1997 and 2007.²⁹ Risk of suicide increases with unemployment.³⁰ However, in our study only 5.3% of the suicide attempters were unemployed. In our study around 60% of the patients were from Lower socioeconomic status. Higher suicide rates have been reported in persons of low SES.³¹⁻³⁴

In our study, ingestion of pesticides was the most common mode of attempting suicide. In developing countries like India, most common mode of suicide of attempting suicide are pesticide ingestion, hanging, self immolation.^{34,35} The use of organophosphorus pesticide and plant poisons for attempting suicide is very common in India.^{36,37} This can be explained by the fact that India is predominantly agricultural economy and easy accessibility of pesticides at home. However, in contrast firearms are the most common mode of attempting suicide in western countries. Hanging is the second most common method in India.^{38,39}

Around 80% of the patients, were diagnosed with some form of axis I psychiatric disorders in our study. Psychiatric disorders as high as 46.7% - 93% have been reported among suicide attempters. (40,41). Most of the patients in our study were diagnosed with adjustment disorders (54.16%) and mood disorders (30%). Around 10% of the patients were of substance abuse and 14.16% were known to be suffering from schizophrenia. Mood disorders, especially depressive disorders, have been the most common diagnosis reported followed by substance abuse in various studies.^{41,44} Several studies have documented that presence of a current psychiatric disorder increased the risk of suicide.⁴⁴⁻⁴⁶

The association between suicide and negative life events, stress, object loss can be ignored.⁴⁷ In our study psychosocial stressors were present in 93.33% of the subjects attempting suicide. Most common psychosocial stressor was interpersonal issues (42.85%) like marital discord, familial conflicts. Different studies have shown that most common stressors associated with suicide are interpersonal issues like marital discord, familial conflicts.⁴⁸⁻⁴⁹ This can be explained by the fact that in our country family is supreme and very often individual aspirations and needs are subjugated for the larger interests of the family. However, with rapid industrialization and transition from joint families to nuclear families has changed the family dynamics altogether. These changes have become breeding ground for interpersonal conflicts. This was followed by academic stressors (28.57%), which reiterate the fact that students of present generation face immense pressure to excel in academics. However, this has serious ramifications on their mental health.

Limitations of the study

Since it was a hospital based retrospective study, long-term outcome could not be assessed. Our study had small sample size and it was restricted to small rural area of Saifai. Hence, findings of the study can't be generalized. Additionally, absence of control group was also a major limitation of the study. A more detailed exploration of the psychosocial issues, personality factors in prospective design based study is the need of the hour.

CONCLUSION

Most of the suicide attempters were females and belonging to younger age group especially, adolescents. Most common mode of attempt was by ingestion of pesticide and overwhelming number of such patients had underlying psychiatric morbidity. Attempted suicide has been found to be the strongest predictor of suicide. Hence, appropriate interventions should be targeted towards suicide attempters to reduce the suicide rates. A prospective study design to assess the clinical correlates of suicide attempters will be beneficial in formulating effective strategies. Since most of suicide attempters have underlying mental illnesses, early diagnosis and treatment of psychiatric disorders should be an integral component in prevention of suicide.

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