УДК: 616.89-008.444 DOI: 10.18699/SSMJ20220409
Оригинальное исследование / Research article

# A prospective study on clinical profile and trend in suicide attempters

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**Abstract**

There is a high risk of suicidal attempts in patients with psychiatric problems. This risk varies according to the sociodemographic status and clinical presentation. Periodic systematic profiling of suicidal risk factors in developing countries is an established need. **Objectives**. The objective was to study the sociodemographic data, psychiatric disorder, precipitating events, mode of attempt, and intent of attempt in suicide attempted patients. **Material and methods.** During the 1.5 years, 150 referrals were screened for the presence of suicide attempters in consultation-liaison services. Those who fulfilled the criteria for suicide attempters were evaluated by using semistructured pro forma containing sociodemographic data, precipitating events, mode of attempt, psychiatric diagnosis by using ICD-10 and intent of the attempt. **Results.** Adult age, rural background, housewives and students, unemployed, below matriculation educated were more represented in this study. Gender wise more females are represented. More than 80 % of all attempters had a psychiatric disorder. The majority had a precipitating event before the suicide attempt. The most common method of attempt was by use of insecticide poison. Many have moderate intent in the attempt. **Conclusions.** The majority of suicide attempt patients had a mental illness. Early identification and treatment of these disorders would have prevented morbidity and mortality associated with this.

**Key words:** consultation-liaison services, suicide attempt, intent.

**Conflict of interest.** The author declares no conflict of interest.
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**Citation:** Jahagirdar R. A prospective study on clinical profile and trend in suicide attempters. *Sibirskiy nauchnyy meditsinskiy zhurnal = Siberian Scientific Medical Journal.* 2022;42(4):96–101. [In Russian]. doi: 10.18699/SSMJ20220409

# Проспективное исследование клинического профиля и склонностей у лиц, совершивших суицидальную попытку

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**Резюме**

У пациентов с психиатрическими проблемами существует высокий риск суицидальных попыток. Этот риск варьируется в зависимости от социально-демографического статуса и клинической картины. Периодическое систематическое профилирование факторов суицидального риска в развивающихся странах является насущной необходимостью. **Задачи.** Целью исследования было изучение социально-демографических данных, психиатрических расстройств, провоцирующих событий, способа попытки и намерения попытки у пациентов с суицидальными попытками. **Материал и методы.** В течение 1,5 года 150 обращений были проверены на наличие суицидальных попыток в консультативно-междисциплинарной службе. Те, кто соответствовал критериям лиц, с высокой вероятностью совершить попытку самоубийства, были оценены с помощью полуструктурированной анкеты, содержащей социально-демографические данные, события, способ попытки, психиатрический диагноз по МКБ-10 и намерение попытки. **Результаты**. В данном исследовании были обследованы пациенты пожилого

возраста, из сельской местности, домохозяйки и студенты, безработные, с образованием ниже среднего. По гендерному признаку больше представлены женщины. Более 80 % всех совершивших попытку имели психиатрические расстройства. У большинства перед попыткой суицида произошло событие, послужившее поводом для самоубийства. Наиболее распространенным методом попытки было использование инсектицидов в качестве яда. У многих были умеренные намерения попытки суицида. **Выводы.** Большинство пациентов, совершивших попытку самоубийства, страдали психическими заболеваниями. Раннее выявление и лечение этих расстройств позволило бы предотвратить заболеваемость и смертность.

**Ключевые слова:** консультативно-междисциплинарная помощь, попытка самоубийства, намерение.

**Конфликт интересов.** Автор заявляет об отсутствии конфликта интересов.

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**Для цитирования:** Джахагирдар Р. Проспективное исследование клинического профиля и склонностей у лиц, совершивших суицидальную попытку. *Сибирский научный медицинский журнал.* 2022;42(4):96–101. doi: 10.18699/SSMJ20220409

## Introduction

Suicidal attempts are a challenging public health issue. A high suicide rate in any society is an index of social disorganization. Suicide is a complex, multidimensional phenomenon that has been studied from a philosophical, sociological, and clinical perspective. Suicidal behavior and suicidality can be conceptualized as a continuum ranging from suicidal ideation to suicide attempts and completed suicide. Attempted suicide is defined as a potentially self-injurious action with a nonfatal outcome for which there is evidence, either explicit or implicit that the individual intended to kill himself or herself. The action may or may not result in injuries. The majority of suicides (85 %) in the world occur in low- and middle-income countries. Over 100,000 people die by suicide in India every year. The National Crime Records Bureau's report on the number of suicides in the country is to be believed, during the five years (2016–2020), increased to 11.3 per 100 000 population in 2020 from 10.3 in 2016). The highest incidents of 19.909 suicides were reported in Maharashtra followed by 16,883 suicides in Tamil Nadu and 14,578 suicides in Madhya Pradesh accounting for 13.0, 11.0 and 9.5 % respectively of total suicides in 2020 [1–4].

Suicide attempts range from 10 to 40 times and are more frequent than completed suicide. In a large WHO multicenter study on incidences of attempted suicide in Europe it was found that the highest frequencies were among young adults between 24 and 34 years. In India, suicide attempts are more common in females, the majority were Hindus, married, and the suicide rate is three times higher in rural areas than the overall national rate. The majority were staying in a nuclear family and they were unemployed [1, 5–9]. Poisoning (36.6 %), hanging (32.1 %), and self-immolation (7.9 %) were the common methods used to commit suicide and poisoning is the commonest mode of the attempt by the Indian population [9, 10].

In India and elsewhere, acts of suicide are heterogeneous concerning the level of suicide intent. Signs and symptoms that indicate suicide risk may be displayed for weeks before high-intent acts are committed, and strategies that seek to identify individuals at risk (e.g., depression screening) [6, 7] may be required. Low-intent acts of suicide may happen quickly, which leaves little time for risk recognition.6 One strategy for reducing suicidal behavior is to reduce access to methods of suicide [8].

Suicide intent is a complicated construct that comprises 2 major elements: 1) the level of planning and forethought preceding an act of suicide (objective planning), and 2) the intended outcome and perceived lethality of the act (perceived intent) [10–12]. Although objective planning and perceived intent are related variables, they are not redundant. For example, less-planned acts of suicide may be accompanied by high perceived intent, as documented in a case series of individuals in London who attempted suicide by jumping in front of a railway train. Interviews with survivors of the attempts determined that the acts were preceded by little planning yet there was a high perceived intent to die. It has been argued that the study of planning in particular can inform suicide prevention policy. Supporting this viewpoint, an investigation of suicide in India showed less-planned suicides were especially likely to be carried out by individuals who ingested pesticides stored in the home, which suggests that measures to restrict home storage of pesticides in India may have the largest effect on suicides carried out impulsively. The primary purpose of our study was to identify correlates of the level of intent of suicide attempts among individuals who lived in rural areas of India and attempted suicide. We also sought to examine correlates of planning and perceived intent among

individuals who lived in rural India and attempted suicide.

## Material and methods

This investigation was a prospective study and was carried out for 1.5 years. It was carried out in Dr. Vithalrao Vikhe Patil Foundation's Medical College and Hospital (Ahmednagar, India) from January 2015 to June 2016. All the referred cases are initially evaluated by a senior resident and subsequently reviewed by a consultant psychiatrist. The cases are evaluated for psychiatric illness and diagnoses are made as per the ICD-10 and appropriate treatment plans are formulated and carried out (WHO 1992) [12]. The semi-structured pro forma was made to document the information regarding sociodemographic data, source of referral, diagnosis of the physical condition, assessment of intent of the attempt, the reason for psychiatry referrals, psychiatric diagnosis, and management done.

The specialized semi-structured pro forma was made for patients who were admitted with deliberate self-harm. This pro forma contained the documentation of a sociodemographic profile, a detailed psychiatric evaluation for psychiatric illness, immediate precipitating event before self-harm (within a week), the method used, family history of psychiatric disorders including suicide or deliberate self-harm, current mental status examination, etc. Daily all the referrals were screened for the presence of any case with suicide attempters and this specialized semistructured pro forma was applied to gain more information related to suicide attempters.

After the initial evaluation, these patients were subsequently followed up in the in-patient setting till they are physically stable. After this, depending on the mental status examination and risk of future attempt, these patients are either transferred to the psychiatry ward or are followed up in psychiatry OPD. Psychiatry management usually involves treatment of axis I and axis II diagnosis either by pharmacotherapy or psychotherapy or both. The degree of suicide intent was assessed using total scores on the Beck Suicide Intent Scale (SIS). Terciles were used on total scores to divide case patients into subgroups according to low intent (SIS < 10, $n$ = 85, 31 %), intermediate intent (SIS 10–15, $n$ = 98, 35 %), and high intent (SIS > 15, $n$ = 94, 34 %). Terciles were also used to divide case patients into 3 levels of objective planning (< 3, 3–6, > 6) and into 3 levels of perceived intent (< 7, 7–10, > 10).

## Results

During the study period (2012–2014) of 2 years duration, we totally received a referral of 150 cases from various departments for evaluation of attempted suicide and self or brought by relatives. The majority of the study sample was not referred by various professionals (40 patients).

Sociodemographic details are displayed in Table 1. The mean age at suicide attempt was 26.5 years (standard deviation 11.6), with a range of 10–60 years.

When the subjects were assessed for psychiatric illness, 70 % of them were diagnosed to have some psychiatric disorder, with emotionally unstable/impulsive personality traits/disorder (51 %) being the most common and next to that were depression-related disorders and other psychotic-related disorders (Table 2).

The most common method of self-harm was the consumption of pesticide poisoning (46 %) followed

***Table 1.*** *Sociodemographic data*

| Variable | *n* | % |
|---|---|---|
| Age | | |
| 10–20 | 36 | 24.0 |
| 21–30 | 39 | 26.0 |
| 31–40 | 57 | 38.0 |
| 41–50 | 18 | 12.0 |
| Gender: | | |
| Male | 57 | 38.0 |
| Female | 93 | 62.0 |
| Education: | | |
| Below 10th class | 57 | 38.0 |
| 10th class and above | 93 | 62.0 |
| Marital status: | | |
| Married | 84 | 56.0 |
| Unmarried | 60 | 40.0 |
| Divorced | 6 | 4.0 |
| Family Status: | | |
| Nuclear | 15 | 10.0 |
| Joint | 72 | 48.0 |
| Extended | 63 | 42.0 |
| Occupation: | | 0.0 |
| Student | 38 | 25.3 |
| Housewife | 48 | 32.0 |
| Labourer | 36 | 24.0 |
| Teacher | 6 | 4.0 |
| Professional | 7 | 4.7 |
| Farmer | 15 | 10.0 |
| Religion: | | |
| Hindu | 136 | 90.7 |
| Muslim | 8 | 5.3 |
| Christian | 6 | 4.0 |
| Residence: | | |
| Rural | 114 | 76.0 |
| Urban | 36 | 24.0 |
| Past history of suicide attempts | 51 | 34.0 |

***Table 2.*** *Clinical features*

| Provisional/current psychiatric diagnosis | *n* | % |
|---|---|---|
| Impulsive/emotionally unstable personality traits or disorder | 51 | 34.0 |
| Depression (unipolar/bipolar disorder) | 36 | 24.0 |
| Schizophrenia and other psychotic disorders | 18 | 12.0 |
| Adjustment disorder | 18 | 12.0 |
| Intentional self-injury | 12 | 8.0 |
| Other psychiatric disorder | 15 | 10.0 |

***Table 3.*** *Mode of attempt*

| Mode of attempt | *n* | % |
|---|---|---|
| Poison consumption | 46 | 30.7 |
| Sleeping pills | 39 | 26.0 |
| Hanging | 21 | 14.0 |
| Fall from height | 12 | 8.0 |
| Cut throat | 7 | 4.7 |
| Drowning | 8 | 5.3 |
| Self-immolation | 6 | 4.0 |
| Facing opposite to moving vehicle | 6 | 4.0 |
| Forced starvation | 4 | 2.7 |

by the use of sleeping pills consumption (39 %), and the hanging method (21 %) (Table 3). Use of poisoning was more in the female gender (65 % for females and 35 % for males).

Further analysis showed that 51 % of individuals having the intent to commit suicide is moderate only. Nearly one-fourth (25 %) had high intent, one-fifth (21 %) had low intent to commit suicide with a casual parasuicidal attempt.

## Discussion

The study obtained data on the sociodemographic and clinical profile of subjects with suicide attempters presenting to a tertiary care hospital and referred to psychiatry consultation-liaison services for psychiatric evaluation. The sociodemographic profile of our sample was similar to that in other studies from India [3]. Majority of our sample comprised adults (mean age 28.5 years) suggesting that they constitute a vulnerable group. This observation is identical to previous literature from India and the West [13–15]. There are reports of both male and female predominance in suicide attempters in hospital-based studies. The gap between male and female suicide rates in India is relatively small and our study also shows similar findings [14]. However, this is at variance with Western literature wherein the majority of attempters were females [15]. However, in Indian studies, it is common to find a higher proportion of attempters being married, as observed in this study. A considerable proportion of attempters had Life Events related to relationships and marriage. Similar results are shared by the multinational study by Fleischmann et al. in which subjects from an Indian center who attempted suicide/indulged in self-harm were more frequently married than single [16]. In India, the joint family concept still exists and people are living in joint rather than in the nuclear family setups. The fact that predominant cases were from rural backgrounds also perhaps reflects the enmeshment living relations with relatives and neighbors which makes them an early presentation to our department. Though another pragmatic reason for the predominance of rural subjects could be accessibility to the hospital leading to greater treatment-seeking behavior.

The common method employed to execute self-harm was insecticide poisoning. Similar findings have been reported from elsewhere in India and other low- and middle-income countries [14–16]. Unrestricted availability of organophosphorus poisons in Indian households for agricultural purposes is the probable cause. Easy availability of sleeping pills from pharmacies without a prescription from doctors. Restriction of access to the methods of suicide has received some attention as a possible way of preventing suicidal death. However, it has been observed in an Indian study that when the use of pesticides was restricted, the mode of suicide changed while the total number of suicides remained static. Nevertheless, as poisoning was the most common method of suicide attempt, and pesticides were used most frequently, restricting the availability of organophosphorus compounds, banning the more toxic ones, as well as efforts to decrease the period between the ingestion and initiation of treatment by having poisoning treatment facilities in primary healthcare centers, may help prevent or lower the rate of suicidal attempts [17].

Siwach and Gupta reported marital disharmony, economic hardships, and scolding/disagreement with other family members as the major precipitating factors [16]. Interpersonal problems and academic-related problems found in our study are in line with the same.

A variation in the type and frequency of the psychiatric disorders is noted in suicide attempters in India, although depressive disorders are common [14–16]. In this study, the diagnosis of emotionally unstable/impulsive personality traits/disorders being commonest constituting 34 % subjects nearly matches the existing literature in the world. Patients with a mood disorder were more vulnerable than others considering planned attempts of high potential, even though most of them used chemical methods. It is to be noted that 82 % of our subjects had a diagnosable

psychiatric illness, but most of them had not sought treatment for the same (70 %). This implies that there is an urgent need to promote education regarding the nature of psychiatric disorders and their treatability across the community to allow their early detection and timely treatment thereby minimizing suicide attempts. Stigma reduction programs, effective skills on the part of primary care and family physicians for identification and management of potential suicidal persons, coverage of unreached areas in terms of better accessibility of mental healthcare should be promoted. Suicide prevention must form an integral part of community-based mental healthcare activities. The commonest site for treatment being sought was medicine and surgery where they land up with various complications related to suicide attempters. So consultation-liaison services are very important in these departments and timely referral will prevent them from a subsequent suicide attempt, its related morbidity and mortality.

## Conclusions

The young age group represents the most vulnerable group nearly more than three fourth in need. Four-fifth of the patients were diagnosed with psychiatric illness at presentation, which clearly argues for the need of early, prompt diagnosis and treatment of such cases to prevent such attempts. Public education for early identification and help-seeking for mental disorders, awareness regarding this in the healthcare staff, and facilities for the management of common mental disorders in rural and urban areas would probably help.

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*Поступила в редакцию 04.04.2022*
*После доработки 18.05.2022*
*Принята к публикации 17.06.2022*

*Received 04.04.2022*
*Revision received 18.05.2022*
*Accepted 17.06.2022*