RESEARCH

Sociodemographic and clinical correlates of attempted suicide

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Abstract

Background: Attempted suicides have been used for research into the causes and motives of suicide on the assumption that they are failed cases of suicide. By interpreting the attempt being the "cry for help," timely intervention can save many valuable lives.

Material and methods: Hundred consecutive cases of attempted suicide admitted to a tertiary care teaching hospital were studied by interviewing them during their hospital stay.

Results: Males slightly outnumber females. Subjects were mostly below 30 years. Organophosphorus compounds were most commonly used means. Second common agent was oleander seeds. About 70% had secondary or higher education. About one fourth were unemployed and more than one fifth were students. Psychological reason was the commonest reason reported by both men and women. Financial reason was observed to play a significant part especially in men. Among students about half were due to academic reason. Twenty three subjects with chronic or painful physical illness were encountered, among them epilepsy outnumbered others. Forty three cases were psychiatrically ill of which commonest diagnosis was depressive disorder. Psychiatric patients and males took more violent method. Thirty seven percent were clear in their intent of "wanting to die," 35% were serious in nature and in 94% this was first attempt.

Conclusion: The differences in the profile of the suicidal attempters and the causation of the suicidal attempt in our country in comparison with what has been reported in Western literature are highlighted. The implications of the findings are examined in detail.

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Introduction

The term attempted suicide encompasses a variety of self-destructive behaviour, ranging from serious life threatening acts to relatively minor gestures primarily aimed at attracting attention. Attempted suicides have been used for research into the causes and motives of suicide on the assumption that they are failed cases of suicide. Kreitman[1] summarised attempted suicide as serving "relief function" and "appeal function" or "aggression function" which are understandable and lastly the "ordeal function" which means a person is ambivalent about death and leaves it to fate to decide whether he lives or dies. The ambiguity about intention and outcome had led to a number of alternative terms for attempts not resulting in death. The terminologies used are 'pseudocide,'[2] attempted suicide,[3] self-injury,[4] 'deliberate self-poisoning,'[5] 'parasuicide,'[6] 'non-fatal deliberate self-harm'[7] and many others.

It would be a useful approach to try to prevent completed suicide by considering attempted suicide as the starting point. Analogous to the traditional public health concepts of primary, secondary and tertiary prevention, as has been rightly pointed out by Katsching,[8] one can speak of actions taken before attempted suicide as 'prevention,' during treatment as 'intervention' and subsequent steps as 'postvention.' By interpreting the attempt being the "cry for help," timely intervention by experts in this field in the forms of counseling, self-help, group therapy and crisis intervention, many valuable lives can be saved. So this study – 'sociodemographic and clinical correlates of attempted suicide' – had been undertaken to identify clinically useful "intervention variables" and its relation to associated psychiatric illness and precipitating factors in an attempt to formulate method of early detection of attempted suicide or progression to suicide.

Aims and objectives

1. To examine the reasons that accounts for suicidal attempts, the objective is to delineate the role of sociodemographic and psychological factors in the aetiology of suicidal attempts.

2. To explore the contribution of physical and mental ill health in the causation of suicidal attempt.

3. To evaluate the high risk groups from this study population.

4. To understand the suicidal act in terms of the time, place, agents, mode of attempt, method of discovery etc.

This would provide useful guide in planning suicide prevention activities in the communities. Since the study was descriptive and exploratory in nature no specific hypothesis was put forward.

Methods and materials

Sample: One hundred patients who were admitted as "attempted suicide" into the various medical wards of Gauhati Medical College Hospital (GMCH) during the period of 1st February 1988 to 1st February 1989 had formed the materials for this study.

Description of the study subjects: A suicidal attempt is defined as any act of self-damage inflicted with self-destructive intention however vague and ambiguous and its intention is inferred from the candidate's behaviour.[3] A wider definition includes all classes of self-inflicted overdoses, gassing and injuries.[9]

Operational procedure: The patients were either contacted in the emergency ward or in the other medical wards as soon as they were fit to be interviewed. Most of the cases were interviewed on the day of admission itself and in some cases on the second and third day of hospitalisation. The interview was conducted at the bed side or in the side room of the ward depending on the medical condition of the patients.

The patients were first explained the purpose of the study and assured of the confidentiality of the information. At initial contact some patients were not forthcoming and it was only after rapport was established that the date could be collected in subsequent interviews. With all patients a supportive psychotherapeutic relationship was maintained till they got discharged. All cases were given the option of consulting the authors subsequently.

Description of tools used:

A. A semistructured proforma is prepared to document the following data—

i) Sociodemographic data

ii) Suicidal attempt data including

a) suicidal plan, method, intent and nature of discovery

b) help sought before attempt, agency and duration

c) details of expected effect following attempt.

B. Methods used for assessment of the seriousness of attempt

C. A full psychiatric clinical interview with the aid of

i) Brief psychiatric rating scale (BPRS)[10]

ii) Post Graduate Institute of Medical Education and Research Health Questionnaire N-2 (PGIHQN-2)[11]

The final diagnosis is made according to the ninth edition of the International Statistical Classification of Diseases and Related Health Problems (ICD-9)[12] in consultation between the authors. The BPRS is widely used for descriptive measurement and classification of manifest psychopathology. PGIHQN-2 is a questionnaire measure of personality.

Analysis of data: The descriptive data regarding attempted suicides and sociodemographic data were arranged in rank order in terms of percentage.

Results and observations

One hundred cases showed almost equal distribution of sex which consisted of 52 males and 48 females. Seventy six percent cases belonged to 16-30 years age group which was quite significant. Thirty five percent males and 41 percent females belonged to the same age i.e. less than 30 years. Female patients were younger. Twelve was the minimum age and 62 the maximum age seen in the series. There was slight preponderance in single male and married females.

The attempted suicide was high in literate persons and 70% of cases had education of high school or above level. Twenty five percent cases were unemployed and students form almost one fourth (23%) of the whole series. Seventy five percent were from lower and lower middle socioeconomic classes. Thirty nine percent cases were from urban and 61% were from rural area. Incidence in urban area was much more compared to the rural area if we considered our population pattern of distribution in rural and urban area. Hindus (89%) outnumbered all other religions. Poisoning was the most common method (80%) used in this series (table 1). Organophosphorus compound was the most common (58.75%) agent used. Another significant finding was the use of oleander seeds (12.5%).

Table 1. Methods of attempted suicide

Method	Number
Poisoning	80
Hanging	6
Cut throat	4
Jumping from a height	3
Burn	2
Drowning	2
Self-mutilation	2
Electrocution	1

Regarding nature of attempt, 30 were planned and 59 were impulsive while it was not clear in 11. As per nature of discovery was considered, spontaneous communication by patient in 31, patient confessed after accidental

discovery in 52, patient denied after accidental discovery in eight and unknown to relatives until admission in nine. The percentage of serious cases increased with age. Motivational factors were described in terms of expected (expressed) effect/change and expected (expressed) outcome of the act (figures 1 and 2).

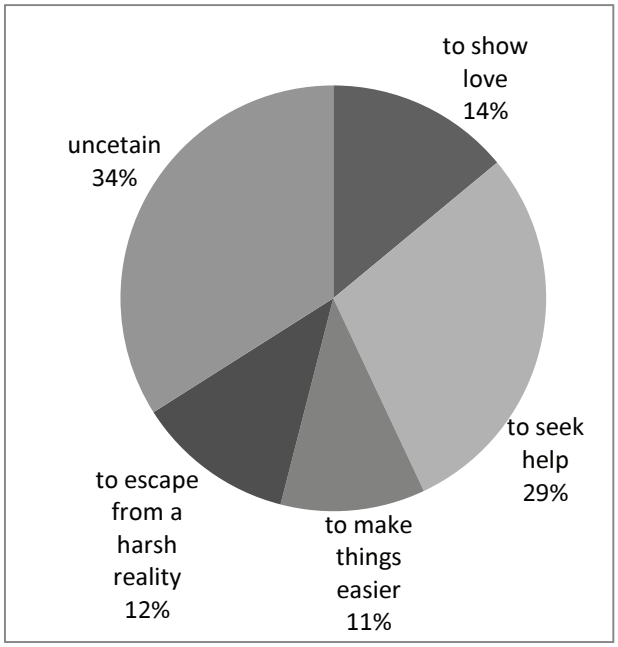

Figure 1 Motivational factors: expected (expressed) effect/change.

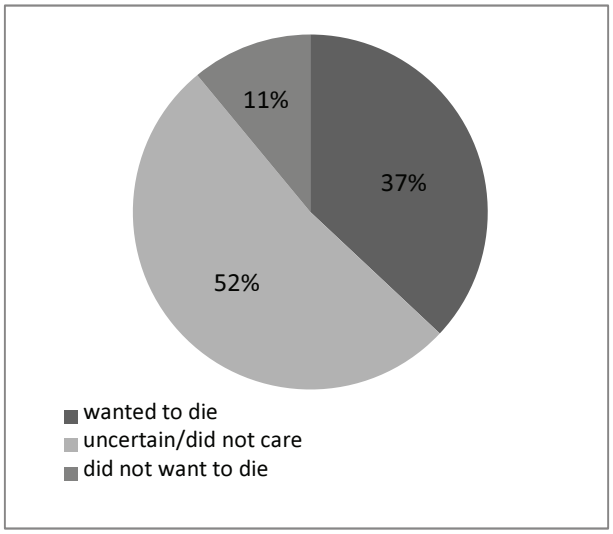

Figure 2 Motivational factors: expected (expressed) outcome of the act.

In both men and women psychological reasons for attempted suicide predominated but they were more frequent in women (34.61% and 62.5% respectively). Financial reasons accounted for 23.07% of male suicide attempts but only 8.33% of female attempts. The psychological reasons for suicidal attempt were more frequent among married in either sex but in married women it accounted for more than two-thirds (69.23%) of attempts. More than 57% of attempts in married women were due to marital problem when in males only 21.05% of attempts were made due to that reason. In single females, about one-third (33.3%) of attempts were related to love affairs.

Out of 100 cases 43 were psychiatrically ill. Depressive illness (48.83%) and schizophrenia (23.25%) were the common psychiatric illness in this study (figure 3). Endogenous depression, schizophrenia and epileptic psychosis had made serious attempts. The percentage of serious suicidal attempts by subjects with other disorders also was higher than non psychiatric cases.

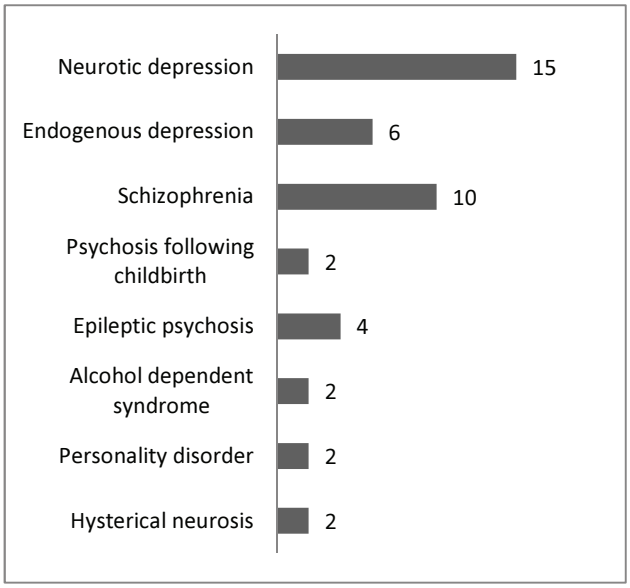

Figure 3 Psychiatric diagnosis.

Associated physical illnesses were epilepsy (five), dysmenorrhoea (four), essential hypertension (three), peptic ulcer syndrome (three), pulmonary tuberculosis (two), bronchial asthma (two), menorrhagia (two), anaemia (one) and leprosy (one). Six percent of cases had past history of attempted suicide, of which four were male and two were female. It has been observed that depressive disorders were associated with more physical illness than other disorders. Sixty five percent attempts occured during the nine hours from 15 hours to midnight. Twenty four percent of attempts occured during the three hours period from 21 hours to midnight. Six percent of cases had past history of attempted suicide of which four were male and two were female. Family psychopathology of suicide and major psychiatric illness came out prominently (14 cases out of 24 [58.7%]) in this series of cases.

Discussion

This study included consecutive cases of suicidal attempts by various methods admitted to the GMCH from 1st February 1988. The College Hospital set up is more or less same as any other general hospital. The general hospital cases presumably provides the best source of information with regard to suicidal attempts except the most trivial ones which do not need any medical intervention and the most lethal ones leading to successful suicides before any therapeutic intervention. Although

hospital statistics are likely to underestimate the incidence of attempted suicides,[13] it tends to be representative of the suicidal attempts in the general population in terms of age, sex and the area in which they occur.[14]

Age and sex distribution

Of the 100 patients examined, 52 were male and 48 were female. This was in contrast to Western literature where a female excess was reported.[15-19] However other investigators in India had reported higher percentage of males.[20-25] Little less incidence of female compared to Western literature might be due to prevalence of attempted suicide in female was less or there was an under reporting of female attempted suicide in this country.

This study was in agreement with most other Indian studies on attempted suicide where it was shown that highest incidence of attempted suicide was in the age group of below 30 years. The finding that 73% in this study were between 15 and 30 years was consistent with the observation elsewhere.[22,23,25] The same was held true for Western literature also.[16,17,26-28] Another feature in the study was the low incidence in the age group beyond 40 years. Only six individuals were above the age of 46 and only two above the age of 60. The reasons might be that Indian society was characterised by its strong family ties and the elderly people were respected and being looked after by their family which was not seen in Western countries. Also it might be related to the fact that Indians died younger than Western people.

Marriage and suicidal attempt

Fifty three percent subjects being single were similar to earlier reports.[22-25] Men and women differed in marital status; highest rates were found among single men (61.5%) and married female (54.16%). This was in keeping with the study of Bancroft *et al*.[16] and Holding *et al*.[17] No preponderance of divorced male and female was found as reported by Western investigators. Again it might be stated that in India, divorce rate was quite low compared to the Western countries. Suicidal attempt was attributed to marital problems by 57.69% of married women and 21.05% of married men. Among the marital problems, alleged infidelity of the spouse predominated and it was usually complained by women. Thirty eight (84.4%) marriages were arranged and there were no disparity in terms of religion/caste or economic status between the spouses.

Although there was increased awareness in the society of the probable attempted suicide among young married Indian women because of dowry system, we had not found a single case in our study. The explanation probably lies in the Assamese tradition where dowry is not that prevalent.

Educational status

The percentage of illiterates in this study was 12% which strikingly contrasted with their percentage in the general population. Forty percent cases were having secondary education and 30% had higher secondary or above. This was similar to the findings of Kumar,[22] Seshadri *et al*.[23] and Babu.[25] With high educational status, aspiration for a better job and a better life in general tends to be high. An occupation which is financially and psychologically satisfying is a very important aspect of a men's self-esteem. His position in society is defined by it. When frustrated in that people may lose their interest to live on and hence is the attempt to kill himself. Another explanation could be the low mean age of the sample, as the present (current) increasing trend of literacy rate shows that the new generation is becoming more literate.

Occupational status

Unemployment emerged as a distinct variable (25%) in accordance with Kumar,[22] Morgan *et al*.,[7] Holding *et al*.,[17] Ponnudurai *et al*.[24] and Babu.[25] The issue of unemployment in female is difficult to ascertain because a housewife engaged in domestic work is considered employed by some researchers both in Western and Eastern community. But in some studies housewife is not considered as employed thereby the dichotomy of employed versus unemployed is difficult. Another important finding in this study was student comprised 23% of the total samples. Failure in examination, high expectation of the parents, disruption of interpersonal relationship like staying away from parents, broken love affairs etc. were related to be quite common factors leading to suicidal attempts.

Socioeconomic status

Most of the subjects (75%) belonged to lower and lower middle socioeconomic class. Similar findings had been reported by Bancroft *et al*.,[16] Holding *et al*.,[17] Morgan *et al*.,[7] Kumar,[22] Seshadri *et al*.[23] and Babu.[25] Although 61% cases belonged to rural and 39% to urban area, it was a statistical illusion. Incidence in urban area was much more compared to rural area if we considered our population pattern of distribution in rural and urban areas. High distribution of cases in the urban area might be attributed to the rapid urbanisation, industrialisation of the society or it might be due to easy availability of the hospital facility.

Religion and attempted suicide

A high number of Hindus in the study group could be explained as they formed the majority in general population. Again it might be due to the fact that traditionally Hindu religion had taken a very tolerant view of suicide unlike Muslim, Christianity and Judaism. Under

Brahmic influence, the Hindus had been traditionally inclined to self-destruction purely for the joy of sacrifice. The "Brahamapurana," one of the important Hindu scripture, reported suicides as justifiable and accepted way of life. According to Durkheim,[29] India was a classic example for both obligatory and optional altruistic suicides.

Methods adopted in suicidal attempts

Ingestion of a lethal substance was the most common method used in attempted suicide (80%) which was also reported by most of the workers in this field. Other methods included hanging (six percent), cut throat (four percent), jumping from height (three percent), burn (two percent), drowning (two percent), self-mutilation (two percent) and electrocution (one percent). Unlike in Western literature, organophosphorus insecticides were used as the commonest mode of poisoning (55.75%) in this study. This was in keeping with other Indian reports.[22-24] This was explained on the basis of easy availability of organophosphorus compounds for agricultural purpose. It was also likely that psychiatric consultations being less frequent than in the West, the accessibility to prescription compounds was less. Among the vegetative poisons, the yellow oleander seeds needed special mention. Oleander seeds as a mode of poisoning were taken by 12.5% cases. It might be again due to easy availability of the oleander tree (*as. n. karabi*) in Assam's villages. Ponnudurai *et al*.[24] reported 8.14%. Both the cases of burn were females. Among the other violent methods, two cases self-mutilated their penis on the belief that life was centred on the genitalia.

Motivation

The motives for attempted suicide were usually mixed and difficult to identify for certain. Even if the patient knew own motives, he might try to hide them from other people. In one study, amongst patients who said they had intended to die, only about half were judged by psychiatrists to have had true suicidal intentions.[30] Conversely, someone who truly intended to kill himself might deny it completely.

Investigation into motivation had shown that the nature of attempted suicide was characterised by complex interactions between intent, severity of attempt and outcome. Kreitman[1] observed that severity did not correlate with intent and the act was impulsive in 70% of cases. Similarly in this study, 59% were impulsive and 35% were medically serious at the time of hospitalisation. Only a minority (31%) communicated directly which facilitated discovery of attempt.

Despite these motivational differences, 37% were clear in their intent of "wanting to die." On examining the expected effects after attempted suicide (as perceived by the patient because it had bearing on the motivational variables), the highest number (52%) reported uncertain effects which was in keeping with findings of Bancroft *et al*.[30,31] and Williams.[32] These findings further emphasised the observation that motivation in suicide was mediated by many variables and hence difficult to ascertain.

Alcohol use before attempt

It was interesting that three percent were intoxicated with alcohol prior to the attempt. Such a trend had also been reported by Morgan *et al*.,[7] Ghodse[33] and Ponnudurai *et al*.[24] Probably it was consumed to gather courage for the act once the person had decided to attempt suicide.

Communication after the attempt

Communication directly after the suicidal attempt was made by 31% of subjects. Interestingly none of the patients had left suicidal note. Most of the above subjects had made a non-serious attempt. In contrast all of the eight subjects except one who had denied of having made an attempt after having been discovered had made serious suicidal attempts. Nature of discovery was one of the five items based on which the cases were typed into serious or non-serious but that alone could not account for the striking contrast.

Reasons for suicidal attempts

Psychological, financial, academic and health reasons were the major reasons given for suicidal attempts. Other reasons included those individuals who refused to give any reason or who felt an unexplained disgust in life which prompted them to the self-destructive attempt.

Psychological reasons included marital difficulties, interpersonal problem in the family, disturbances related to love affairs and guilt or shame over some particular incident. Psychological reasons taken as a whole predominated among both men and women but of greater magnitude in the later (18% and 30%). This was also reported by Kumar.[22] In relation to marital reasons, in married women its percentage was far higher than male. The marital and interpersonal difficulties accounted for 65.2% of attempts. Among them 57.69% of attempts were directly related to marital disturbances whereas only 21.05% of suicidal attempts among married men resulted from marital reasons. In single females about one third (33.3%) of attempts resulted from disturbances in love affair, much higher than the corresponding incidence in men (9.37%). Thus having disturbances in relation with spouse or lover, a heterosexual partner in life seemed to account for many suicidal attempts by women.

Financial reasons which were given by about one sixth of the suicidal attempters were significantly more

common in men than women (12% and four percent respectively). Unemployment, underemployment or heavy financial commitments in the family were responsible for these difficulties.

Psychiatric diagnosis

Studies on attempted suicide had consistently reported a lower incidence of major psychoses and a higher incidence of neurotic and personality disorder.[1] Although it was generally agreed that there was no such thing as suicidal personality, personality traits had been regularly reported.[15,22,34] Most of them received an antisocial, histrionic and borderline personality disorder fulfilling the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III)[35] criteria.[36] This variability was related to differences in diagnostic criteria and the theoretical orientations of the investigators.

Amongst patients of attempted suicide, many had affective symptoms falling short of a full psychiatric syndrome[37,38] but few had severe or sustained psychiatric disorder. Depression was by far the commonest diagnosis with incidence among attempted suicide varying from 35-79%[15] and depressive neurosis being the most common presentation. In this study also, depressive neurosis accounted for the single largest diagnosis in 15% of which seven were males and eight females. Indian reports had ranged from 13% to 30.8%.[25,39]

Another important feature was that in almost all cases of depressive neurosis (except three cases), the attempt occured within the first three years after onset of illness. Similar finding had been reported by Black *et al*.[40] and Babu[25] where the relative risk for suicide was higher early in the course of depressive illness. Endogenous depression constituted six percent which was keeping with the previous study.[23]

In recent years schizophrenia and personality disorders had been recognised as contributory to many suicidal attempt especially those by young people.[41] There were ten patients with schizophrenia in this series and two personality disorders keeping with previous study.[22]

The relationship with alcohol was difficult to determine because some might use alcohol as a method to attempt suicides while some might use alcohol to induce dissociative amnestic state.[42] However the fact that alcohol abuse was a major theme in attempted suicide group had been repeatedly stressed.[23-26] In this study, three percent had used alcohol sometime in the past; two percent had developed tolerance thereby receiving diagnosis as alcohol dependent syndrome. One percent had used alcohol daily as traditional manner.

Two percent had hysterical neurosis manifesting as pseudoseizure and four percent had epilepsy with psychosis. This emphasised the role of epilepsy as a contributor to attempted suicide behaviour.[43] Another interesting finding was that two percent cases attempted suicide by second week following childbirth psychosis.

Physical illness

A background of poor physical health was common.[16,22] This applied particularly to epileptics who were found in attempted suicide population about six times more frequently than would be expected.[44] Epilepsy associated with attempted suicide had been repeatedly observed and reported by Mackay.[43] In this study epilepsy was found in five percent cases.

Of the three hypertension cases, one person had been suffering from hypertension for 20 years. Among the other chronic illnesses, two cases of bronchial asthma, two cases of pulmonary tuberculosis and three cases of peptic ulcer syndrome had been found. One of the patients had been suffering from leprosy for six years. The contribution of such serious and chronic physical illness in the aetiology of completed suicide especially among elderly had already been commented.[45] The suicidal reasons given by the suicidal attempters probably belonged to different category.

Neurotic depression (five out of 15 [33.33%]) gave the highest incidence of these physical complaints. In depressive, the mood lifted considerably after suicidal attempt as had been recognised by previous workers. No subjects had active suicidal ideas when interviewed and were subjectively much better after the suicidal attempt. It was interesting to note that among these depressives who had physical complaints, both the mood and physical complaints improved simultaneously. The higher incidence of these physical complaints in the neurotic depressions and their amelioration along with the lifting of mood later strongly indicated that these physical complaints were somatic manifestation of a neurotic depressive disorder.

Sixty five percent of the suicidal attempts occured during the hours three pm to midnight and there was a steady increase from three pm to midnight. Depressive disorder, schizophrenia and epilepsy with psychosis tended to make serious suicidal attempt compared to people with other disorder as well as non psychiatric cases. It was also observed that the psychiatric patient preferred violent method e.g. hanging, cut throat, jumping from height, self-mutilation.

Family psychopathology

In 24% cases family history of some type of psychopathology was evident. The list of disorders was heterogeneous which indicated that any particular

psychiatric disorder was not directly related to suicidal attempt. Suicides, major psychiatric disorders and alcoholism led the list. It should be mentioned that the diagnostic level which was attached to a particular psychiatric disorder in a family member might not be correct in all cases. Alcoholism or suicides did not suffer from this diagnostic difficulty. The methods used for suicides were various. The suicides were committed by first, second and third order relatives. None of the subjects expressed that their decision to make suicidal attempt was in any way influenced by the history of suicides in the family.

Three out of seven in these suicides, the available evidence suggested that a depressive disorder existed at the time of suicidal attempt. The incidence of alcoholism and sociopathy had been found to be high in the families of affective illness.[46,47] This might explain for the relatively high incidence of alcoholism and suicides in the families of suicidal attempters.

Repeated attempt

Six persons had given history of suicidal attempt in the past. Such history was given by 7.69% of men as opposed to 4.16% women. There was no apparent relation among education, marital status and repeated suicidal attempt. These suicidal attempts might have been environment directed where the individuals tried to ameliorate the distressful human environment about them by means of the suicidal attempt. After a suicidal attempt, there was a change for the better in the human relations about the individual.[3] When the person felt that the environment had become once more distressing a further suicidal attempt resulted. In this respect suicidal attempts were in the nature learnt responses to adverse environment. Due to small sample size in repeated attempter, no relation between psychiatrically ill and attempted suicide could be found.

Seriousness of attempt

The suicidal attempts were evaluated for their degree of seriousness. The presence and strength of self-destructive intent or the premeditation or preparation for the act was not used as criteria for this assessment. It was based on the following five items which could be objectively elicited:

1. The lethality of the agent used
2. Situation at the time of attempt (presence/absence of other person)
3. Time interval between attempt and discovery
4. Nature of discovery
5. The seriousness of the physical condition when brought to the hospital.

Considering the above criteria, 35% cases were found to be serious. The rate of seriousness increased with increasing age. Four persons died afterwards during hospitalisation following the act. The impression gained from the study was that most of the suicidal attempts did not have an appeal character in general but on the contrary were genuine self-destructive acts. However it could not be denied that there was a group in which the suicidal attempt was more of an appeal character to modify the environment. It was possible that there were two distinct population involved in the suicidal attempt. The former comprised of genuine self-destructive acts of serious nature and the latter non serious attempts of appeal character.

Conclusions

Number of males was slightly more than females. Most commonly used means were organophosphorus compounds and second common was oleander seeds. Most of the subjects were below 30 years, from urban area as well as lower and lower middle socioeconomic classes. About 70% had secondary or higher education. About one fourth were unemployed and more than one fifth were students. Psychological reason was the commonest reason reported by both men and women. Financial reason was observed to play a significant part especially in men. Among students about half were due to academic reason. Twenty three subjects with chronic or painful physical illness were encountered, among them epilepsy outnumbered others. Forty three cases were psychiatrically ill of which commonest diagnosis was depressive disorder. Psychiatric patients and males took more violent method. Two cases of burn had been found and both were female. Thirty seven percent were clear in their intent of “wanting to die,” 35% were serious in nature and in 94% this was first attempt.

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