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Socio-demographic correlates and psychosocial stressors among suicide attempters attending a tertiary care general hospital

Sabbella Chandana[1*], Medikonduri Vijaya Lakshmi[2], Neredumilli Prasanna Kumar[3]

[1]Junior Resident, Department of Psychiatry, Andhra Medical College, Visakhapatnam
[2]Associate Professor, Department of Psychiatry, Andhra Medical College, Visakhapatnam
[3]Professor, Department of Psychiatry, Andhra Medical College, Visakhapatnam

[*]*Corresponding Author:*
Sabbella Chandana, Junior Resident, Department of Psychiatry, Andhra Medical College, Visakhapatnam
E-MAIL: chandanasabbella@gmail.com

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ABSTRACT

Introduction: Suicide is a rapidly growing and critical public health concern in India and around the world. Interpersonal, social, familial, psychological along with genetic vulnerabilities were important risk factors for suicidal attempts.

Methods: This was a hospital-based cross-sectional study done at King George Hospital, Visakhapatnam. All the suicide attempters admitted to the General Medicine department were evaluated at the psychiatric department. A total of 117 patients were included in our study with convenient sampling. Beck's suicide intent scale, Presumptive stressful life event scale, and semi-structured proforma for sociodemographic and clinical variables were used to assess the study participants.

Results: Financial struggles (19.6%) and conflict with family members (14.5%) were the stressful life events among most of the suicide attempts. Most of the study sample used pesticide consumption (20.5%) as the commonest mode of suicidal attempt. The majority of the suicide attempters (53%) had medium suicidal intent. There was a significant association between marriage and stressful life event score (p=0.001). The use of pesticides was significantly higher among men than women (p=0.002) and the use of household agents was significantly high among women than men (p=0.013).

Conclusion: Psychosocial stressors also play an important role in attempting suicide and hence to prevent suicidal attempts, there is a need for the development of innovative strategies to decrease the stigma, to improve coping skills and to promote help-seeking from mental health services.

KEYWORDS: Suicidal attempt, Suicidal Intent, Stressful life events., psychosocial stressors

INTRODUCTION

The majority of people in the world deal with significant hardships in their daily lives and the majority of these difficulties are regarded as major stressors. Each person will, however, have a different strategy for dealing with the downfall of things. Some people use coping skills to find a way out, while others resort to drastic measures, such as suicide, in an attempt to get away from the issue. Suicidal behaviour can be a component of an impulsive act during a crisis [1] with a breakdown in the ability to deal with life stressors like financial issues, unemployment, relationship issues, chronic illnesses, marital discord, violence, abuse, the death of a loved one, loneliness or lack of children. A suicidal attempt in the past is the biggest risk factor for subsequent attempts or completed suicide. [2]

Suicide can be defined as a self-inflicted death with explicit or implicit evidence that the person intended to die [3] It is a significant public health issue in India and throughout the world. A suicidal attempt is defined as "Self-injurious behaviour with a non-fatal outcome accompanied by explicit or implicit evidence that the person intended to die" [3] There are substantially more suicidal attempts than there are suicides. In India, the 15-29 yrs age group is the most vulnerable for suicide. [4] The three most common methods of suicide around the world are hanging, pesticide poisoning, and firearm use. 2013–2030 WHO Mental Health Action Plan's goal is to reduce global suicide rates by one-third". [5]

In India, the suicide rate has risen steadily throughout the years. "According to the National Mental Health Survey, 1% of the population reported having a high risk of suicide." [6] the important contributing factors to suicide include genetic vulnerability, psychosocial, familial causes, personality traits and psychiatric illness. "In the National Crime Records Bureau's (NCRB) 2020 report on Annual Accidental Deaths and Suicides (ADSI), it was found that students (21.2%) and professionals (16.5%) were the groups most likely to die by suicide, followed by daily wage earners (15.7%)". [7]

The formulation of suicide prevention techniques will be facilitated by knowledge of the factors that influence suicide. There was less recent data in India relating to sociodemographic profile and psychosocial stressors among suicide attempters and hence the present study was done to evaluate the socio-demographic factors and psycho

social stresses among suicidal attempters attending King George Hospital which is a tertiary care general hospital in Visakhapatnam, Andhra Pradesh.

METHDOLOGY

This hospital-based cross-sectional study was done from 1^{st} September to 15^{th}November 2022 at King George Hospital, Visakhapatnam. All the suicide attempters who were referred from the Department of General Medicine to the psychiatric OPD for evaluation and who gave informed consent were included in the study. Consent of parents/-guardians was taken if the study subject was below 18 years of age. Patients whose suicidal attempt was accidental in origin with no intention of self-harm were excluded from the study. Subjects were selected through convenient sampling that fulfilled the inclusion and exclusion criteria during the study period of 10 weeks. A total of 117 study participants were included in the study after excluding 4 participants who had accidentally consumed substances with no intention of self-harm. Study participants and their family members were educated regarding the study and confidentiality was assured. The study was started after approval from the Institutional Ethics Committee, AMC, Visakhapatnam.

Close family members of each patient were interviewed with the patient's consent for additional information. The study tools utilized in this study were

Semi-structured proforma

It is used to obtain information about sociodemographic and psych-osocial variables.

Suicide Intent Scale (Beck et al 1974) [8]

The scale consisted of two segments with a total of 20 items. Items 1 to 8 detail the objective circumstances of the suicidal attempt. The patient's intent and thoughts during the attempt were reported retrospectively using items 9 to 15 i.e., the self-report version, the rest of the items of the scale were not included for scoring. Interrater reliability for the scale was 0.95. Internal consistency was reported to be r=0.82.

Presumptive Stressful Life Events Scale (PSLES (Singh and Kaur, 1984) [9]

The PSLES was employed to measure stress levels and life events from one year before the suicidal attempt in this study. It was standardised in Indian populations and consists of 51 life events. The scale enables the computation of weighted stress scores for the period before the attempt. The Presumptive Stressful Life Event scale's reliability in the Indian population was evaluated and found to be satisfactory (0.8)

Modified Kuppuswamy scale [10]

This scale was used to measure the Socioeconomic status of the study participants.

Statistical analysis

The data was analyzed using SPSS version 26. Demographic, clinical, and psychosocial variables were analyzed using descriptive statistics. Means and SD were done using M. S. Excel. The chi-square test/Fisher Exact test and independent-sample t-test were used to find the association between psychosocial stressors and socio-demographic variables.

RESULTS

Among the 117 study participants, males accounted for 55% (n=65) whereas females accounted for 45% (n=52). The mean age of the sample was 32 ± 12.4 for males which was similar to the mean age of females 31.9 ± 12.3. Most suicidal attempts were reported by the 20–29-year age group (44%). Most of the study participants were married 57% (n=67) and a majority of them 57%(n=67) were from rural areas. Most of the study sample were housewives 28% (n=33) followed by skilled labour 18%(n=21), See Table 1.

The majority belonged to upper lower socio-economic status 56% (n=66) followed by lower middle socio-economic status 21%(n=24) and had completed secondary education 38%(n=44) and most of them were Hindus 91 %(n=106).

Medical illness was reported by 20% (n=23) of the sample; the majority of them suffered from hypertension followed by diabetes. Other medical illnesses observed in the study were pleural effusion, epilepsy, asthma, varicose veins, hepatitis and aspiration pneumonitis. A family history of mental illness was reported by 2%(n=2) of the study participants whereas a family history of suicide was present in 1%(n=1) of the sample. Suicidal attempt in the past was reported by 5% of the sample. Alcohol abuse was reported in 19% of the study sample.

Psychiatric Diagnosis among Suicide Attempters: Psychiatric diagnoses were present in 22% of the study sample. Psychiatric diagnosis was made based on ICD-10 criteria. The majority 17.9%(n=21) of the study subjects were diagnosed to be having Depression. Among them, 13 were diagnosed to be having mild depression followed by moderate depression in 6 subjects and severe depression in 2 study subjects. Others were Mental and behavioural disorders due to the use of alcohol-psychotic disorder in 2.6% (n=3), Schizophrenia (n=1) and Emotionally Unstable personality disorder(n=1). SeeTable 2.

Stressful life events among suicide attempters : Stressful life events reported by most of the study subjects were mainly financial struggle 19.6%(n=23) followed by conflict with family members 14.5%(n=17) followed by mental abuse from a partner 11%(n=13)Figure 1.

Sociodemographic Characteristics		Males (n=65)	Females (n=52)	Total No. (%)
Age	≤19 years	6 (9.2%)	7 (13.5%)	13 (11%)
	20-29 years	23 (35.4%)	28 (53.8%)	51 (44%)
	30-39 years	14 (21.5%)	8 (15.4%)	22 (19%)
	40-49 years	12 (18.5%)	6 (11.5%)	18 (15%)
	50-59 years	8 (12.3%)	2 (3.8%)	10 (9%)
	≥60 years	2 (3.1%)	1 (2%)	3 (3%)
Marital status	Married	34 (52.3%)	33 (63.5%)	67 (57%)
	Unmarried	29 (44.6%)	14 (26.9%)	43 (37%)
	Widow	2 (3.1%)	4 (7.7%)	6 (5%)
	Divorcee	0	1(1.9%)	1 (1%)
Domicile	Urban	24 (36.9%)	26 (50%)	50 (43%)
	Rural	41 (63.1%)	26 (50%)	67 (57%)
Occupation	Employed	16 (24.6%)	4 (7.7%)	20 (17%)
	Unemployed	10 (15.4%)	6 (11.5%)	16 (14%)
	Skilled	21 (32.3%)	0	21 (18%)
	Student	7 (10.8%)	8 (15.4%)	15 (13%)
	Semiskilled	11 (16.9%)	1 (1.9%)	12 (10%)
	House-wife	0	33 (63.5%)	33 (28%)

Table 1: Socio-demographic profile of suicide attempters

Psychiatric diagnosis	Male No. (%)	Female No.(%)	Significance*
Depression	8 (12.3%)	13 (25%)	p=0.07
Schizophrenia	1 (1.5%)	0	p=0.36
Mental and behavioural disorders due to the use of Alcohol	3 (4.6%)	0	p=0.11
Emotionally unstable personality disorder	1 (1.5%)	0	p=0.36
Total (N=26)	13	13	

* Fisher Exact test used

Table 2: Psychiatric diagnosis (n=26) among Suicide Attempters

Figure 1: Stressful life events among suicide attempters

Chart 1: Stressful life events among suicide attempters

Modes of suicidal attempt s: Most of the study sample used pesticide consumption (20.5%) as the commonest mode of suicidal attempt followed by drug overdose (19.7%) and household agents (18.8%). Other modes of suicidal attempts observed in the study were consumption of insecticides (15.4%), rodenticide (8.5%), herbicide(1.7%), crushed glass pieces(1.7%), cyanide(0.9%), poisonous plant seeds/leaf extract(5.1%) and the suicidal attempt by hanging(6.8%) and jumping(0.9%).Figure 2

Chart 2: Various modes of suicidal attempts observed in the study

Gender Differences in Mode of suicidal attempt : The association between gender differences in the mode of suicidal attempt was calculated using a chi-square test. For statistical analysis, crushed glass pieces, cyanide poisoning, rodenticide poisoning, hanging, herbicide poisoning, jumping, and consuming poisonous plants/seeds extract were grouped into the 'others' category. The use of pesticides was significantly higher among men than women (p=0.002). The use of household agents was significantly higher among women than men (p=0.013), SeeTable 3 .

Suicidal intent : Concerning Suicidal intent among the study subjects, the majority 53%(n=62) of the sample had medium suicidal intent, while 32%(n=37) had low intent and 15%(n=18) had high intent. The association of gender differences with suicidal intent was estimated using a chi-square test which revealed men had high suicidal intent when compared to women in this study.Table 4

Association of PSLE Score with demographic variables : The association of PSLE stress scores with demographic variables was established using an independent sample t-test. Independent t-test results showed no significant association between psychosocial stressors and demographic variables except marriage which meant the PSLE score was significantly higher(p=0.001) among married than unmarried ones.Table 5

DISCUSSION

This study was conducted among patients who were admitted to Casualty and the Department of General Medicine and later evaluated by the Psychiatry team. The majority of the suicidal attempters in this study were males which was similar to a study done in South India (Latha et al. 1996 [11] and C.T. Sudhir Kumar et al. 2006 [12]. This finding might be explained by the fact that in India, men were still the major contributors in handling finances at home and also unemployment, financial struggles along with a higher propensity of alcohol abuse leading to conflicts in the family making them more vulnerable to stress.

This study reflects the majority of suicidal attempts were from the age group 20-29 years which accounts for 44%(n=51) followed by 30-39 years which accounts for 19%(n=22) which was similar to a study done in south India (Kar N 2010) [13] and also studies done internationally

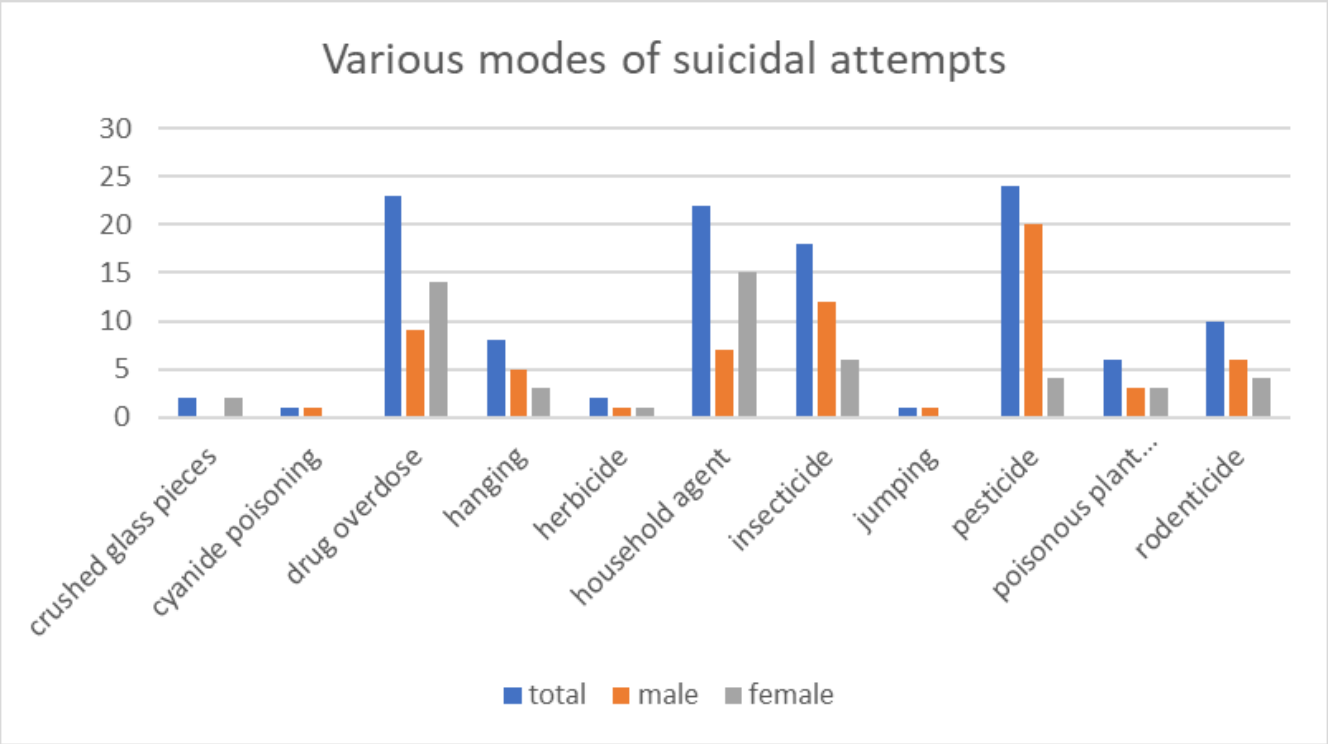

Figure 2: Various modes of suicidal attempts observed in the study

Modes of Suicide Attempt	Male No. (%)	Female No. (%)	Total No. (%)	p-value*
Drug overdose	9 (13.8)	14 (27)	23 (19.7	0.077
Pesticide	20 (30.8)	4 (7.7)	24 (20.5)	0.002
Insecticide	12 (18.5)	6 (11.5)	18 (15.4)	0.302
Household agents	7 (10.8)	15 (28.8)	22 (18.8)	0.013
Others	17 (26.1)	13 (25)	30 (25.6)	0.887
Total	65 (100)	52 (100)	117 (100)	

*Chi-Square test and/or Fisher Exact test used wherever appropriate.

Table 3: Gender Differences in Mode of suicidal attempt

Suicidal Intent	Male No. (%)	Female No. (%)	Total No. (%)	p-value*
High	14 (21.5)	4 (7.7)	18 (15.4)	0.039
Medium	33 (50.8)	29 (55.8)	62 (53.0)	0.590
Low	18 (27.7)	19 (36.5)	37 (31.6)	0.307

* Chi-Square test applied.

Table 4: Suicidal intent in the study population

Demographic variable		No.	Mean PSLE score(S.D)	Independent sample t-test
Gender	Male	65	181(88.7)	t=1.31 p=0.19
	Female	52	202(85.1)	
Marital status	Married	67	257.7(50.6)	t=19.6 p=0.01
	Unmarried	43	97.4(21.7)	
	Divorced/Widow	07	150.4(45.8)	
Education	Literate	103	186.8(90.1)	t=1.26 p=0.21
	Illiterate	14	218.6(89.8)	
Domicile	Urban	50	206.6(91.9)	t=1.7 p=0.09
	Rural	67	178.6(84.9)	
Religion	Hindu	106	193.6(89.2)	t=1.15 p=0.25
	Non-Hindu	11	161.4(81.7)	

Table 5: Association of PSLE Score with demographic variables

(Behmaneshsh et al. 2014) [14]. A preponderance of the younger age group attempting suicide was present in the current study which was in line with the previous studies (M. S. Bhatia et al. 2000) [15]. This might be because they were not able to cope with the stress and took decisions impulsively.

This study found that a considerable chunk of suicide attempters were housewives. Housewives accounted for over half of the diagnosed cases of depressive episodes. Stressful life events reported by them include conflict with in-laws, mental abuse from partners, and financial struggles due to alcohol abuse by their husbands similar to a Hungarian study where relationship issues and mental abuse outnumbered others (Peter Osvath et al. 2004) [16]A considerable proportion of suicide attempters were married similar to many Indian studies (Ansa M M, Kavitha R R et al.) [17]suggesting marriage is a significant risk factor for suicidal attempts as seen in this study the association between mean presumptive stressful life event score and marriage was found to be significant. In India and other developing countries, marriage was not so protective factor [18]. Most of the suicide attempters had life events related to marital conflicts, conflicts with in-laws, and mental and physical abuse from partners. The majority of women were married at a younger age group in India compared to Western countries due to cultural differences and most of them have attempted suicide impulsively unable to cope with the marital issues.

The most stressful life events in this study were financial struggles (19.6%) followed by conflicts with family members (14.5%) which was similar to a study done in Nepal (Sherchan Bhattachan et al. 2021) [19]. Some Indian studies report conflict/relationship problems as the most frequently reported stressful life event followed by financial struggle (Sabari Raja and Sashikiran, 2016) [20]. Economic struggle and insurmountable debts triggered suicidal thoughts in many people.

The majority of suicide attempters mentioned having easy access to means of suicide, which can be limited by restricting access to these resources. As the most prevalent pesticide used in underdeveloped nations was organophosphorus compounds (O.P.), efforts should be made to decrease access to O.P. compounds [21]Also, by restricting the availability of drugs without a prescription, certain suicide attempts can be decreased. According to research, access to resources may be more closely linked to the rates of particular suicide methods than to the general suicide rate, raising the question of whether limiting access to one method only encourages the use of another (L. Vijaya Kumar et al. 2005) [22].22.2% of the suicide attempters were diagnosed to be having psychiatric illness and the majority of them were having depression in both genders. This implies that many people who had attempted suicide might have an underlying undiagnosed mental illness. So, all suicide attempters should be thoroughly evaluated and appropriate treatment or cognitive behavioural therapy should be initiated. Depression was a risk factor for suicidal attempts in future also. One of the most successful suicide prevention and control techniques was the early identification of those who are prone to it.

Men had high suicidal Intent which was significantly more when compared to women in the current study which was similar to a study done by Freeman et al. [23]. Some studies have found that there is a relationship between the type of suicidal intent and the increased risk of having completed suicide [24] . suicidal intent might be used as a predictor for

the risk of suicide in the future.

Limitations of the study: The sampling technique used was convenient sampling in our study. This study reflects the psychosocial profile of the suicide attempters attending a tertiary care general hospital and may not be generalized to all the suicide attempters in the general population. Specific personality diagnostic questionnaires haven't been employed in this study. A longitudinal study would be more useful with follow-up in patients with psychiatric illness.

CONCLUSION

Suicide attempts were heavily influenced by a range of psychosocial stressors; thus, it was crucial to devise strategies to reduce stigma, increase awareness about the importance of mental health in the public, form suicide prevention organizations in society for immediate help and encourage people to seek help.

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