

Relationship between suicide intent lethality and risk correlates for suicide attempters in Pondicherry, the suicide Capital of India

Anand Lingeswaran

Professor & HOD, Dept. of Psychiatry, Melmaruvathur Adhiparasakthi Institute of Medical Sciences & Research, Melmaruvathur, Tamil Nadu

Email: anafonix@gmail.com

Abstract

Background: Pondicherry has recorded the highest suicide prevalence rate in the last 4 years, yet not much of evidence based research have been undertaken to address it.

Objectives: We planned to study the socio-demographic and clinical profile of suicide attempters in relation to the degree of suicidal intent and lethality of the attempt.

Methods: We conducted an observational, hospital based study of 12 months duration. The WHO SUPREMISS was used to record socio-demographic data, and suicide related data. ICD-10 was used for clinical diagnosis. Beck's depression inventory for measuring depression, suicide intent scale, lethality of suicide attempt rating scale, Presumptive stressful life events scale was used to record recent life events and depression. SPSS version 13 was used for descriptive analysis and to compare between high intent and low intent groups based on mean lethality scores for each of the variables. Regression analysis was done to identify risk correlates. ($p < 0.05$)

Results: Our total sample was 62, out of which 50% were in 15-25 age groups with more males than females (36/26: 1.03:1), more rural (64.5%), and majority were married (75%). Pesticide ingestion (48%) was the commonest method of the suicide attempt made in this sample. Higher depression scores ($BDI = 13.50 \pm 6.4$) and more lethal attempts in high intent group was noticed. A significant correlation was found between the degree of the suicidal intent and the lethality of the attempt.

Conclusions: Although our sample was low, our findings matched national data with higher young age suicide attempters but with distinct socio-demographic and clinical profiles shows the need for sensitive risk assessment and focus on primary prevention of suicide.

Keywords: Depression, Suicide, Lethality, Pesticide

Key Messages:

1. Our sample showed higher young age suicide attempters with a distinct socio-demographic and clinical profile.
2. People who had higher suicidal intention were found to choose highly lethal attempts methods of suicide attempt.

Introduction

The Accidents and Suicidal Deaths in India (ASDI) report of National Crime Records Bureau (NCRB, 2014) has reported that Union Territory of Pondicherry has the highest suicide rate of 40.4 per 1, 00, 000 population in India, as against the national rate of 10.6.⁽¹⁾ Notably, Pondicherry had second highest suicide rate in India of 36.8 /100000 in 2012 next to Sikkim and first highest of 35.6/100000 in 2013. In the last two decades the suicide rate has increased from 7.9 per lakh in 1985 to 10.3 per lakh in 2005 (NCRB, 2006). In comparison to the rest of India, Pondicherry's population appears to be four times more suicide prone than any other region in the country. Suicide recently has been growingly highlighted as a public health burden in Pondicherry.⁽²⁾ But researchers commenting on 'suicides in Pondicherry' have critiqued that there has been an underlying erroneous assumption that suicide rate from NCRB reports accurately reflect the actual suicide morbidity. But while this seems far from the exact number and such data were collected by NCRB from police and hospital records alone, wide regional variations in such rate have been reported from 8 to 95.⁽¹⁾

Debate has always prevailed on a perfect explanatory model to why suicide has been high in

Pondicherry. Alcoholism which disrupts the family system economically and the society at large, was identified in 30 -50% of male suicides in an all India study and was suggested as a possible sole reason for higher suicides in Pondicherry among males, spouses and children of alcoholic fathers.⁽³⁾ Wide economic divide was noted as a factor for 83% of completed suicides.⁽³⁾ Anecdotal reports on social media about educational stress among students in a competitive environment were also frequent.

While a multitude of factors might be contributing in a chronological fashion, directly or indirectly to a person's intention to attempt suicide, understanding the level of suicide intent might still be the best way to explain the multifactorial influences on completed suicides. This intent has been defined as the degree to which the individual wished to die at the time of the attempt⁽⁴⁾ and in addition to being a powerful predictor of completed suicide, has yielded itself for assessment in routine clinical settings. Lethality or seriousness of the suicide attempt has been another indicator with different correlates. Studies that examined the relationship of suicidal intent with lethality, and the relationship of both to patient characteristics found that lethality was strongly associated with high intent. Both lethality and intent were associated with male gender.

Higher suicidal intent but lesser lethality was associated with the presence of psychiatric disorder and depression.⁽⁴⁻⁷⁾

In this background, given the high rate of suicide in Pondicherry, along with the paucity of previous work, we aimed to study the sociodemographic and clinical characteristics of suicide attempters in relation to the intent and lethality in our setting to possibly develop better understanding of higher suicides in Pondicherry.

Subjects and Methods

Setting & Design: All suicide attempt survivors who had attended the Emergency services of Sri Manakula Vinayagar Medical College and Hospital, Pondicherry, were studied using an observational analytical design, over a 12 month duration.

Sample (n): A sample size of at least above 100 was planned based on the number of suicide attempt cases visiting and getting treated at our hospital in a week. Due to the presence of 3 other tertiary health facility located not too far from each other, it was expected to see patients choosing to visit the nearest facility for emergency care.

Inclusion criteria

- All patients, aged 15 - 65 years, referred for psychiatric evaluation following admission in other departments for a suicidal attempt.
- Availability of informed consent.

Exclusion criteria

- Patients below the age of 15 or above the age of 65 years
- Death following the attempt

Method of selection of subjects: The study protocol was approved by the Institutional Human Ethics Committee. All the patients referred for psychiatric evaluation following admission in other departments for a suicidal attempt, who fulfilled the inclusion criteria, constituted the study sample. These patients were initially assessed in the emergency department and admitted to the medical or surgical wards for treatment. In keeping with the hospital practice, all patients were assessed by the psychiatrists when physical condition had been stabilized. Informed consent was taken prior to being enrolled into the study.

Assessment tools

1. **WHO Supremiss:** A semi-structured proforma [a modified version of the SUPREMISS (*Suicide Prevention Multisite Intervention Study on Suicidal behaviour*) questionnaire, WHO 2008] was used to collect the socio-demographic/ socio-cultural information, details of the index suicide attempt, history of suicidal behavior, family history of suicide & attempted suicide, physical health and contact with health services, information related to social support and legal and offending history/ anti-social behavior. The assessment also included a comprehensive clinical interview to make a

psychiatric diagnosis based on ICD-10 Clinical Description and Diagnostic Guidelines.⁽⁸⁾

2. **Beck Depression Inventory:** The Beck Depression Inventory, BDI⁽⁹⁾ is a self-rated scale used to measure the severity of depression. The BDI has 21 items with an item score of 0 -3 (0=least, 3=most), giving a score range of 0-63. The BDI evaluates key symptoms of depression including pessimism, guilt and suicidal ideas.
3. **Suicide Intent Scale:**⁽¹⁰⁾ The Beck's Suicide Intent Scale, (SIS) was used to measure the intent of the suicidal attempt. The SIS has 15-items, with an item score of 0-2, giving a total score range of 0-30. The questionnaire is divided into two sections: the first 8 items constitute the 'circumstances' section (part 1) and are concerned with the objective circumstances of the act of self-harm; the remaining 7 items, the 'self-report' section (part 2), are based on patients' own reconstruction of their feelings and thoughts at the time of the act. A score of 11 on the scale was used as a cut-off to divide the sample into high and low intent suicide attempts.^(7,11)
4. **Lethality of Suicide Attempt Rating Scale:** The Lethality of Suicide Attempt Rating Scale, LSARS,⁽¹²⁾ is an 11-point scale (0.0 = death is an impossible result, to 10.0 = death is almost a certainty). Each point of the scale has comprehensive descriptive anchors that incorporate both lethality of the means, and the context or circumstances of the event. LSARS also offers an appendix listing drugs and chemicals and lethal ranges of ingestion by body weight.
5. **Presumptive Stressful Life Events Scale:** Life events and the levels of stress in the one year period leading to the episode were measured using the clinician rated, Presumptive Stressful Life Events Scale, PSLES, designed by Singh et al.⁽¹³⁾ This scale comprises of 51 life events and has been standardized in Indian populations. It consists of open-ended questionnaire of a list of 51 commonly encountered stressors/life events relevant to Indian conditions, ranging in severity from death of a spouse to going on a pleasure trip/pilgrimage. Scale items are classified into desirable, undesirable, or ambiguous; and personal or impersonal. The stress associated with each event was rated on a 4-pointscale with rating of 1 denoting not at all, a rating of 2 denoting slight degree of stress, a rating of 3 denoting moderate degree of stress, and a rating of 4 denoting a great deal of stress.

Statistical Analysis: Statistical Package for the Social Sciences (SPSS) version 13 was used for all analysis. Descriptive analysis of sociodemographic data of overall sample was done first, followed by comparison of the same between high intent and low intent group

using students' 't' test, Chi-square test (Pearson) and Fisher's Exact test. Significant variables were analyzed further using multiple logistic regression model to study their association with the high intent suicidal attempts. Next, the LSARS scores was taken as a continuous variable and difference in the scores with regard to each socio-demographic and clinical variable was analysed using 't' test. Differences in the mean lethality scores between the various psychiatric diagnoses was analyzed using ANOVA (Analysis of variance). Correlation analysis was used to study the possible association between the LSARS scores and the BDI, PSLES and the SIS scores. Significant variables were analyzed using multiple linear regression model to study their association with the lethality of the suicidal attempt. Statistical significance (p value) was set at a level of <0.05.

Results

Total sample was 62 at the end of 12 months. Mean age of the sample was 23.2 years. Male to female ratio was 36: 26. Majority 50% (31) belonged to the 15 to 25 years age group. Only 14 were single and 45.2% had a

lower to middle class background. 64.5% (40) out of 62 hailed from a rural background. Exposure to pesticides was the commonest method of suicide attempt (48%), followed by hanging (16%), other chemicals (13%), prescribed medications (3%), and minor deliberate self-harm (13%). A large proportion (n = 46,74.2%) of the study sample did not have a past history of attempted suicide. Only sixteen patients (25.1%) had made a suicidal attempt in the past (Table 4). In those 16 patients with a history of previous suicidal attempt, 12 (75%) had made one attempt in the past, 2 (12.5%) had made two attempts in the past and 2 (12.5%) subjects had made three attempts in the past. Approximately 10% of the study population had a family history of suicide. All these subjects had a positive family history of suicide in one of their parents (Table 5). No patient had a family history of suicide in siblings, offsprings or grandparents. Ten subjects (16.1%) had a family history of suicidal attempt.

Mean BDI score of overall sample was 11.21 (± 7.01), SIS was 12.11 (± 6.56), LSARS was 5.73 (± 2.34) and PSLES was 93.13 (± 49.61).

Table 1: Psychiatric diagnoses of the entire sample (n= 62)

Disorders	Overall n (%)	Suicide Intent		p
		Low Intent (n=24)	High Intent (n=32)	
Substance use disorders (F10-Alcohol)	24 (24%)	10 (28.6%)	12 (21.4%)	0.774
Alcohol harmful use (F10.1)	8 (8%)			
Alcohol dependence (F10.2)	16 (16%)			
Substance use disorders (F11-19-Drugs)	13 (13%)	5 (14.3%)	6 (10.7%)	
Sedative or hypnotics dependence (F13)	4 (4%)			
Tobacco dependence (F17)	9 (9%)			
Affective Disorders (F30-39)	28 (28%)	10 (28.6%)	16 (28.6%)	
Depressive episode (F32)	16 (16%)			
Recurrent depressive disorder (F33)	4 (4%)			
Dysthymia (F34)	8 (8%)			
Neurotic stress-related and somatoform disorders (F40-48)	15 (15%)	4 (11.4%)	10 (17.9%)	
Adjustment disorder (F 43.2)	13 (13%)			
Somatoform disorder (F 45)	2 (2%)			
Disorder of adult personality and behavior (F 60-61)	18 (18%)	6 (17.1%)	10 (17.9%)	
Dissocial personality disorder (F60.2)	2 (2%)			
Emotionally unstable personality disorder (F60.3)	12 (12%)			
Anankastic personality disorder (F60.5)	1 (1%)			
Personality disorder, unspecified (F60.9)	2 (2%)			
Mixed personality disorder (F61)	1 (1%)			
Conduct disorders (F91)	2 (2%)			

* $p < 0.05$

Comparison of variables based on Suicide intent:

There was no difference ($p = 0.331$) in mean age of the two groups were as follows: low intent was 27.83 years (± 10.51) and the high intent was 30.34 years (± 8.62). Twenty four patients (43%) scored ≤ 10 on SIS and were included in the low intent group, and 32 (57%) patients who scored ≥ 11 on SIS were included in the high intent group. Psychiatric diagnoses, previous history of suicide attempt, family history of suicide and suicide attempt, physical health history, legal/offending history and history of anti-social behaviour were not significantly different between the two groups.

More patients wanted moral support than practical support especially from family members. A large group in the study population also reported of not getting any moral support from family members or friends. The majority of the study population also reported of not needing practical support from, either family members or friends.

The mean BDI scores was significantly higher in the high intent group ($p = 0.023$). It was observed that patients from the high intent group had made significantly more lethal attempts compared to the low intent group ($p = 0.004$). Though the high intent group had higher stress scores than the low intent group, the difference in the mean stress scores between the two groups did not reach statistical significance (**Table 2**).

Table 2: Differences in depression, lethality & stress scores between high & low intent group

Rating Scales	Low Intent (n=24)	High Intent (n=32)	p-value
Beck's depression inventory			
Mean	9.17	13.50	0.023*
SD	7.317	6.496	
Lethality of suicide attempt rating scale			
Mean	4.46	6.25	0.004*
SD	2.418	1.976	
Presumptive stressful life events scale			
Mean	79.58	103.94	0.073
SD	40.205	55.047	

In the multivariate model, family history of attempted suicide, BDI scores, and LSARS scores were significantly associated with high intent suicidal attempters. Having a family history of attempted suicide was significantly associated ($p = 0.002$) with high intent suicidal attempts, after controlling for other factors such as sex, history of visits to a general practitioner, BDI scores, LSARS scores and PSLES scores. For a unit increase in the BDI scores, the odds of having a high intent suicidal attempt was 1.40 ($p = 0.004$), after controlling for the other variables chosen for the analysis. For a unit increase in LSARS scores the odds of having a high intent suicidal attempt was 3.71 ($p = 0.003$) after controlling for the other variables chosen for the analysis (**Table 3**).

Table 3: Multi-variate analysis

Variables	Coeff.	Std. Error	p-value	O.R.	95% CI
Gender					
Male				1	
Female	2.82	1.46	0.053	16.8	0.97-291.99
Family h/o attempted suicide	-7.85	2.58	0.002*	0.00	0.00-0.06
H/o visit to a general practitioner	-1.66	1.04	0.109	0.19	0.025-1.45
BDI	0.33	0.12	0.004*	1.40	1.11-1.75
LSARS	1.31	0.45	0.003*	3.71	1.55-8.87
PSLES	0.01	0.01	0.607	1.01	0.98-1.03
Sex					
Male					-2.36 - -0.60
Female	-1.48	.0434	0.001*		
Family h/o attempted suicide	3.05	0.69	0.000*		1.66 - 4.43
H/o visit to a general practitioner	-0.76	0.48	0.122		-1.73 - 0.21
BDI	-0.05	0.05	0.302		-0.14 - 0.04
SIS	2.40	0.52	0.000*		1.36 - 3.43
PSLES	-0.008	0.01	0.142		-0.19 - 0.00

* $p < 0.05$

Differences in lethality scores with regard to socio-demographic and clinical variables (Table 4): Males made significantly more lethal attempts, those with family history of attempted suicide and had not visited a general practitioner in the last year made significantly more lethal attempts.

Table 4: Influence of socio-demographic & Clinical factors on the lethality scores

Socio-demographic factor	(n)	Mean LSRS score	SD	p
Age				
< 25 years	32	5.56	2.29	0.575
> 25 years	30	5.90	2.42	
Gender				
Male	36	6.42	2.07	0.005*
Female	26	4.77	2.40	
Marital Status				
Single	14	5.86	2.67	0.814
Married	48	5.69	2.26	
Socio-economic class				
Middle class	34	5.62	2.40	0.692
Lower class	28	5.86	2.98	
Living situation				
Living with partner	34	6.32	1.75	0.090
Living with others	26	5.38	2.47	
Rural vs. Urban				
Rural	40	6.05	2.29	0.143
Urban	22	5.14	2.37	
Previous suicide attempt history				
Yes	16	6.00	2.52	0.590
No	46	5.63	2.23	
Family history of suicide				
No	56	5.73	2.31	0.949
Yes	6	5.67	2.86	
Family history of attempted suicide				
No	52	5.40	2.35	0.012*
Yes	10	7.40	1.43	

* $p < 0.05$

Correlation with depression, stress & suicide intent scores (Table 3): There was no significant correlation between LSARS and BDI nor was there any significant correlation between LSARS and PSLES ($r = -0.17$, $p = 0.198$). However, there was a moderate level of correlation between LSARS and SIS scores ($r = 0.57$, $p = 0.000$). In other words, this study shows a direct correlation between lethality of the attempt and the level of suicidal intent.

Multi-variate Linear regression analysis (Table 3): Males, those with a family history of attempted suicide and those with high suicidal intent scores (SIS scores) were found to have significantly higher lethality scores.

Men were found to have a significantly higher lethality score by about 1.48 units ($p = 0.001$), and those with a family history of attempted suicide were found to have significantly higher lethality scores by about 3.05 units ($p = 0.000$), after controlling for the other variables chosen for the analysis. A one-unit increase in the SIS score was associated with a 2.40 unit increase the lethality score, holding gender, family history of suicide attempt, history of a visit to a general practitioner, BDI scores and PSLES scores as a constant. This implies that patients with a high intent score have significantly higher lethality score ($p = 0.000$) on average, by about 2.40 units.

Discussion

Sociodemographic factors: A predominantly lower socio-economic class sample, consistent with previous literature in terms of more male,⁽¹⁴⁾ although other studies differed.^(15,16) Interestingly, more young age suicide attempters were observed similar to other studies.⁽¹⁴⁻¹⁸⁾ More married individuals attempting suicide was consistent with one study.⁽¹⁶⁾

Clinical factors

1. **Method of attempt:** Similar to many other previous studies,^(14,15,17,18) 71% of our sample used self-poisoning, namely ingestion or exposure to pesticides (48.4%) was the most common method of suicide attempt, followed by hanging, strangulation or suffocation (16.1%). Pesticide use was the most common method observed in a few multi-national studies⁽¹⁵⁾ and other studies which were based in India,^(14,18) while ingestion of medications was the most common method noted in studies based outside India.^(15,17)
2. **(ii) Previous suicide attempt & family history of suicide and attempted suicide:** Approximately one-fourth of our subjects (26%) had a previous history of suicide attempt. This figure is very similar to the observation made by Nojomi et al (2008),⁽¹⁹⁾ who found that 28% of their subjects had attempted suicide earlier. Aghanwa (2000)⁽¹⁷⁾ and Srivatsava et al (2004)⁽¹⁶⁾ observed lower rates (7.7% and 1.5% respectively) of past suicide attempt history in their samples. Ten percent of our study population had a family history of suicide and 16.1% had a family history of attempted suicide. These findings are similar to the observations made by Nojomi et al (2008), who found 15.4% had a family history of suicide, and Nakagawa et al (2009)⁽²⁰⁾ who found that 14.9% had a family history of suicide attempt. Other studies,^(16,17) however, have reported lower rates (5.1% and 1.5% respectively) of family history of suicide in their study samples.
3. **Physical health & contact with health services:** In our study, 16.1% of the subjects reported a long

standing physical illness or disability. More than 85% of the subjects reported their overall physical health over the previous 3 months to be 'good' or 'fair'. Only 9.7% reported it to be 'poor'. Nojomi et al (2008) reported higher rates of long standing physical illness or disability (25.5%) and a higher percentage of his sample reported poor physical health (23.7%), over the last 3 months before the attempt. Srivatsava et al (2004) also found higher rates of physical illness (19.7%) in his sample of suicide attempters. The majority of our subjects (61.3%) had never visited a general practitioner in the last one year. Those who visited a general practitioner in the preceding year (39.7%), did so for solely physical problems. Ninety-two percent of those who visited a general practitioner in the preceding year were prescribed medications. Amongst those who were prescribed medications, only 9.1% of them used the medications for their suicide attempt while the remaining did not. Unlike our study, Suominen et al (2002)⁽²¹⁾ found that the vast majority of the suicide attempters had contact with health care during the 12 months before and after the index attempt. Nojomia et al (2008) found that in those who visited a general practitioner in the preceding year, 8.5% did so for a psychological problem and in those who were prescribed medications, about 17% of them used the medications for their suicidal attempt.

4. **Psychiatric treatment history:** In our study population, 3.2% had received in-patient psychiatric treatment in the past, 9.7% had received out-patient psychiatric treatment in the past, and 3.2% had received treatment for alcohol and drug-related problems in the past. It was observed that 3.2% had taken psychopharmacological drugs in the last month, while a similar number (3.2%) reported ongoing psychiatric and psychological treatment. Nojomi et al (2008) observed a higher rate of past treatment for emotional problems from a psychologist or psychiatrist.
5. **Mental disorders:** The majority (88.7%) of our subjects had a psychiatric diagnosis. The most common psychiatric disorders were affective disorder (28%), alcohol use disorders (24%), personality disorders (18%), and neurotic, stress-related and somatoform disorders (15%). Most of the previous studies also showed a high prevalence of psychiatric disorders in suicide attempters,^(17,22-24) although a few Indian studies showed a lower prevalence of psychiatric disorders.^(14,16) Affective disorders were the most common psychiatric disorders in a few previous studies as well.^(14,22,23) Aghanwa (2000) reported acute stress reaction/adjustment disorder as the most common psychiatric disorder, while Srivatsava et al (2004) found alcohol use disorders to be the most common psychiatric disorder, in their respective studies.

Although Haw et al (2001) and Hawton et al (2003) reported high rates of personality disorders (46%), in our study only 18% of the suicide attempters had a personality disorder. Emotionally unstable personality disorder was the most commonly diagnosed personality disorder in our sample (12%). This finding was similar to that observed by Suominen et al (1996), but differed from that observed by Haw et al (2001), who found borderline personality disorder to be less common than anxious avoidant, anankastic and paranoid personality disorders. In those with a psychiatric diagnosis from our sample, 54.5% had a single psychiatric diagnosis, 23.6% had two psychiatric diagnoses, 10.9% had three psychiatric diagnoses, and 10.9% had four psychiatric diagnoses. A similar distribution was also observed by Haw et al (2001), who found a single psychiatric disorder in 45.3% of the sample, two disorders in 36.7% and three or more in 10% of the sample.

6. **Social support & life events:** More patients wanted moral support than practical support (especially from family members) and a large proportion of our study population reported a lack of moral support from family members or friends. These findings are similar to those observed by Veiel et al (1988),⁽²⁵⁾ who found that attempters had significantly fewer friends with whom the subjects had agreeable everyday interactions, and lesser number of kin that provided crisis support, both psychological and instrumental.

Comparison of socio-demographic and clinical factors between the high intent and low intent groups

1. **Socio-demographic factors:** A significantly higher proportion of people were from a rural background in the high intent group in comparison with the low intent group. However, there were no differences between the two groups with regards to various other socio-demographic factors (age, gender, marital status, living situation, and socio-economic class). Unlike our study, Haw et al (2003), Kumar et al (2006), and Harris et al (2005), found a male preponderance in those with high intent suicidal attempts. As in our study, Kumar et al (2006) found no significant difference in the mean age between the two groups (high intent and low intent). However, Harris et al (2005) found that the suicide intent scores increase with age. Differing from our finding with regard to marital status, Kumar et al (2006) noted a significantly higher proportion of single persons in the high intent group in comparison with the low intent group. The finding of the socio-economic class not being significantly different between the two groups in our study was corroborated by Kumar et al (2006) in his study. Unlike our finding, Kumar et

al (2006) found the proportion of people from rural areas was also similar between the two groups. A small sample size might have been the reason for our findings not corroborating with those of the above mentioned studies.

2. **Details of index attempt:** There was a higher number of intentional self-poisoning by exposure to pesticides in the high intent group, and a higher number of intentional self-harm by sharp objects in the low-intent group. However, there was no significant difference, overall, in the methods used by the two groups. Kumar et al (2006) also found no differences between the two groups in the methods used for the suicidal attempt, except that a significantly higher proportion of patients in the high intent group had used self-immolation as the method of suicidal attempt. Another finding, not observed in previous studies, was that a significantly higher number of patients in the high intent group attempted suicide outside their homes when compared to low intent attempters. This finding is congruous with our basic understanding of a high intent suicidal attempt wherein the subjects usually takes precautions against discovery or intervention.
3. **Mental disorders:** Prevalence of specific mental disorders did not differ significantly between the two groups in our study. This finding was different from that observed by Kumar et al (2006), who found the high intent group had significantly more patients with depressive disorders and schizophrenia, and fewer patients with alcohol dependence. Hamdi et al (1991)⁽²⁶⁾ also found a higher prevalence of psychosis in high intent suicide attempters. Depression was found to be more common in the high intent in the previous studies.^(5,7)
4. **Social support:** In our sample, a significantly higher proportion in the high intent group needed practical support from their family and also received less practical support from their family members. Although social support systems of suicide attempters have been studied in the past, research literature on social support systems in relation to the level of suicide intent is quite scarce.
5. **Clinical factors:** High intent group had a significantly higher proportion of those receiving out-patient psychiatric treatment. The relationship between past history of receiving psychiatric treatment and the degree of suicidal intent has not been studied. Low intent group had a significantly higher proportion of those with thoughts of injuring or poisoning themselves during their last visit to a general practitioner.
6. **Lethality, depression and stress scores:** High intent group had significantly higher BDI scores, and made significantly more lethal attempts.^(4,7,22,26) Similar to our study, Kumar et al (2006) found

higher depression scores in the high intent group. Though the stress scores between the two groups in our study did not reach any statistical significance, it did so in the study conducted by Kumar et al (2006).

Differences in the lethality scores with regard to socio-demographic and clinical variables: Males made significantly more lethal suicidal attempts without any other significant sociodemographic attributes. Haw et al (2003). Family history of attempted suicide was significantly associated with higher lethality scores. (Mann, 2002), Our study found that patients who had not visited a general practitioner in the last year made significantly more lethal attempts in contrast to previous studies that have reported high rates of contact with health care services in the year before the index suicide attempt.^(19,21) Interestingly, lethality scores correlated significantly with the degree of intent.^(4,22,26)

Limitations of the study

Relatively small size, and hospital based study might restrict external validity of the findings of this study. Predictive utility of suicide intent measure could not be studied due to absence of follow-up of the sample. Future studies need to overcome these limitations.

Conclusion

With gross limitation in the robustness of our study due to its sample size, it has not been possible to draw extensive conclusions from the study. Still, it has been worth finding that the suicide attempters in Puducherry had made highly intentional and highly lethal suicide attempts. In addition their socio-demographic and clinical profiles were slightly different in comparison to national findings. Importantly, younger age suicide attempters explain the higher proportion of suicide deaths noted in the NCRB suicide report (2014) for Puducherry. With just one nongovernmental organization, 'Maitreyi' solely providing telephone helpline support for people with suicide ideas, the role played by the Department of Psychiatry in the seven tertiary care hospitals located in Puducherry has been highly inadequate to address this public health burden. The first step in this endeavor has to be first acknowledging suicide as a public health burden by the Health and Family welfare department of Puducherry and then conducting epidemiologically robust research studies to accurately estimate the prevalence and risk factors of suicide. Strong political will, funding and merging of all sectors of health has to occur to design evidence based preventive strategies, if suicide has to be controlled in Puducherry.

References

1. Accidental Deaths and suicides in India. National Crime Records Bureau. Ministry of Home Affairs. Government of India, 2006 & 2014.
2. Lingeswaran A. Suicide in Puducherry, India: A Public Health Burden. *Indian J Psychol Med* 2012;34:404-5.
3. Vijaykumar L. Suicide and its prevention: The urgent need in India. *Indian J Psychiatry* 2007;49:81-4.
4. Harriss, L., Hawton, K., & Zahl, D. Value of measuring suicidal intent in the assessment of people attending hospital following self-poisoning or self-injury. *British Journal of Psychiatry*, 2005,186:60-66.
5. Haw, C., Hawton, K., Houston, K., & Townsend, E. Correlates of relative lethality and suicidal intent among deliberate self-harm patients. *Suicide and Life-Threatening Behavior*, 2003,33:353-364.
6. Suominen, K., Isometsä, E., Ostamo, A., & Lönnqvist, J. Level of suicidal intent predicts overall mortality and suicide after attempted suicide: a 12-year follow-up study. *BMC Psychiatry*, 2004,4:33-37.
7. Kumar, S. C., Mohan, R., Ranjith, G., & Chandrasekhar, R. Characteristics of high intent suicide attempters admitted to a general hospital. *Journal of Affective Disorders*, 2006,91(1):77-81.
8. World Health Organization. The ICD-10 Classification of Mental and Behavioral Disorders. Clinical description and diagnostic guidelines. Geneva: WHO, 1992.
9. Beck, A., Steer, R., & Garbing, M. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, 1988,8:77-100.
10. Beck, A., Schuyler, D., & Herman, I. Development of suicidal intent scales. In (A. Beck, H. Resnick, & D. Lettieri, The prediction of suicide. Bowie, MD: Charles, 1974,45-46.
11. Baca-Garcia, E., Diaz-Sastre, C., Resa, E. G., Blasco, H. C., Saiz-Ruiz, J., & de Leon, J. Variables associated with hospitalization decisions by emergency psychiatrists after a patient's suicide attempt. *Psychiatric Services*, 2004,55(7):792-297.
12. Smith, K., Conroy, R., & Ehler, B. Lethality of Suicide Attempt Rating Scale. *Suicide and Life-Threatening Behaviour*, 1984,14(4):215-242.
13. Singh, G., & Kaur, D. Presumptive stressful life events scale (PSLES) - A new stressful life events scale for use in India. *Indian Journal of Psychiatry*, 1984,26(2):107-114.
14. Nagaraj, R., Mishra, B., & Mohan, N. Attempted suicide in Ludhiana. *Indian Journal of Psychiatry*, 2000,42(1):83-87.
15. Fleischmann, A., Bertolote, J. M., De Leo, D., Botega, N., Phillips, M., Sisask, M., et al. Characteristics of attempted suicides seen in emergency-care settings of general hospitals in eight low- and middle-income countries. *Psychological Medicine*, 2005,35(10):1467-1474.
16. Srivatsava, M., Sahoo, R., Ghotekar, L., Dutta, S., Danabalan, M., Dutta, D., et al. Risk factors associated with attempted suicide: A case control study. *Indian Journal of Psychiatry*, 2004,46(1):33-38.
17. Aghanwa, H. The characteristics of suicide attempters admitted to the main general hospital in Fiji Islands. *Journal of Psychosomatic Research*, 2000,49(6):439-445.
18. Logaraj, M., Ethirajan, N., Felix, J., & Roseline, F. Suicidal attempts reported at a medical college hospital in Tamilnadu. *Indian Journal of Community Medicine*, 2005,30(4):136-137.
19. Nojomia, M., Malakoutib, S. K., Bolharib, J., Hakimshooshtaric, M., Fleischmann, A., & Bertolote, J. M. Epidemiology of suicide attempters resorting to emergency departments in Karaj, Iran, 2003. *European Journal of Emergency Medicine*, 2008,221-223.
20. Nakagawa, M., Kawanishi, C., Yamada, T., Iwamoto, Y., Sato, R., Hasegawa, H., et al. Characteristics of suicide attempters with family history of suicide attempt: A retrospective chart review. *BMC Psychiatry*, 2009,9(32):51-57.
21. Suominen, K. H., Isometsä, E. T., Ostamo, A. I., & Lönnqvist, J. K. Health care contacts before and after attempted suicide. *Social Psychiatry and Psychiatric Epidemiology*, 2002,37(4):89-94.
22. Haw, C., Hawton, K., Houston, K., & Townsend, E. Psychiatric and personality disorders in deliberate self-harm patients. *British Journal of Psychiatry*, 2001,178(1):48-54.
23. Suominen, K. H., Henriksson, M., Soukas, J., Isometsä, E. T., Ostamo, A. I., & Lönnqvist, J. K. Mental disorders and co-morbidity in attempted suicide. *Acta Psychiatrica Scandinavica*, 1996,94:234-240.
24. Hawton, K., Houston, K., Haw, C., Townsend, E., & Harriss, L. (2003). Comorbidity of Axis I and Axis II disorders in patients who attempted suicide. *American Journal of Psychiatry*, 2003,160(8):1494-1500.
25. Veiel, H., Brill, G., Hafner, H., & Welz, R. (1988). The social supports of suicide attempters: the different roles of family and friends. *American Journal of Community Psychology*, 1988,839-844.
26. Hamdi, E., Amin, Y., & Mattar, T. Clinical correlates of intent in attempters of suicide. *Actapsychiatrica Scandinavica*, 1991,83(5):406-411.