IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Study Of Modes Of Suicide Attempt And Suicidal Intent Among Hospitalized Adolescents In A Tertiary Care Hospital.

Sudhanshu Chandel

Assistant Professor,

Department of Psychiatry,

MRA Medical College, Ambedkarnagar

Abstract

Suicide and suicide attempts are important causes of morbidity and mortality in adolescents. Literature on adolescent suicide lacks information from north eastern region of India. The study aims to examine the various modes of suicide attempt and evaluate the suicidal intent among adolescents. This study was done in Assam Medical College, Dibrugarh over a period of 1 year (May 2016- June 2017). Patients were interviewed using Assamese version of modified beck suicidal intent scale, statistical analysis of data was done using SPSS and Microsoft Excel. The study reveals that Organophosphate poisoning was the most common mode adopted by adolescents. Adolescents had low to moderate suicidal intent (based on mean BSIS score 12.13 ± 3.87) except the married ones who rated significantly higher on suicidal intent scale. The study concludes that Integrated pest management especially in rural areas is very important in preventing such incidents and early marriage poses greater risk of suicide. Suicidal intent score may have some correlation with the kind of method adopted for the suicidal act in terms of violence.

Keywords: Suicidal intent, Adolescent suicide.

Introduction: Suicide, the word is derived from Latin suicidium, or suicaedere, means ‘to kill oneself. It is expected that the most dramatic increase in suicide mortality will be observed in third world countries because of socioeconomic and behavioural factors [1]. In India, the suicide rate has increased from 7.9 to 10.3 per 100,000 in last two decades.[2]

According to the National Crime Records Bureau (NCRB); state of Tamil Nadu, West Bengal, Andhra Pradesh, Maharashtra and Karnataka have registered a consistently higher number of suicide deaths during the last few years and together accounted for 56.2% of the total suicides reported in the country. Uttar Pradesh, the most populous state has reported a comparatively lower percentage of suicidal deaths, accounting for only 3.6% of the total suicides reported in this country but these may be due to underestimation of suicide cases in this region. In addition, the features of deaths due to suicide are changing constantly, revealing complex social and cultural developments [3]. Suicide attempt rates are found to be 10–40 times higher than rates for completed suicides [4].

Adolescents account for more than one-fifth of the world's population [5] &India has the largest national population of adolescents (243 million), followed by China (207 million), United States (44 million), Indonesia and Pakistan (both 41 million) [6].

In many settings, suicide has been found among the leading cause of death in young people [7]. It has been among the three leading causes of death among people aged 15–44 years in some countries and the second-leading cause of death among those aged 10–24 years; these figures do not include the suicide attempts, which are up to 20 times more frequent than completed suicide[8]. It is the leading cause of death among teenagers and adults under 35 years of age. [9,10].

RELATED DEFINITIONS

- Suicide—self-inflicted death with evidence of intent to die(either explicit or implicit). The term suicide is reserved for those cases in which a suicide attempt results in death of that person with evidence (either explicit or implicit) that the person intended to die.
- Suicide attempt—self-injurious behavior with a nonfatal outcome accompanied by evidence (either explicit or implicit) that the person intended to die. Suicide attempts possess the following qualities: 1) self-initiated, potentially injurious behavior; 2) presence of intent to die; 3) non-fatal outcome.

- Suicidal ideation—thoughts of serving as the agent of one's own death. Suicidal ideation may vary in seriousness depending on the specificity of suicide plans and the degree of suicidal intent.
- Suicidal intent—subjective expectation and desire for a self-destructive act to end in death. [11]

- Adolescent: According to National Institute of Health, Adolescence begins with the onset of physiologically normal puberty, & ends when an adult identity & behaviours are accepted. This period of development corresponds roughly to the period between 10 & 19 years, consistent with the WHO's definition of adolescence.[12]

It is relevant to mention here that in India, in the year 2011 alone, 2381 children, or more than six children per day committed suicide because of failure in examinations [13]. Failure in examinations has been associated with suicidal behaviour. As the outcome of examinations virtually decides an individual's future, failures become extremely stressful.

Comorbidity of psychiatric disorders, particularly of mood, disruptive, and substance abuse disorders, significantly increases the risk for youth suicide and suicidal behaviour. Young people are now the group at highest risk for suicidal behaviour in one third of countries & majority of the adolescent suicide attempters are of the age 17-19 years. [14]

Majority of the adolescent cases are unemployed, less educated & only up to high school, belonged to lower socio-economic status and nuclear families Majority have psychiatric disorders in which adjustment disorder rank first, followed by depressive disorder, borderline personality, conduct disorder with alcohol abuse, alcohol dependence syndrome and psychosis. Most common method employed for suicide attempt is pesticide consumption, followed by drug over dosage, slashed wrist and hanging. Other methods by attempters included drowning, burns, and consumption of unknown substance. The life events in adolescents are mostly failure in examinations and minor violations of discipline with anticipation of negative repercussions. It appears that attempts in adults were mostly secondary to psychiatric illness and were serious, in contrast to those of adolescents and young adults which were mostly impulsive and secondary to anomalous life conditions. Recent stressful life events shows highly significant difference between cases and controls with more life events in cases.[15].

Adolescents were distinct from other age groups as most of them attempted impulsively and only small percentage have impulse of high potential. Poisoning was used more frequently by adolescents, first-time attempters, depressives, and attempters without psychiatric disorders. Physical methods are more frequently used by those with unequivocal intent to die, those from extended families, repeaters, substance abusers, and psychiatric patients other than depressives. [16].

A study on Stress and suicidal ideas in adolescent students in Chandigarh (class 7th to 9th) reports high rate of academic decline among students, and this decline is significantly correlated with the feeling of life as burden and also with suicidal ideations. The students with suicidal attempt appear to be a separate category requiring detailed assessment of psychological problems. Also, the study highlights the fact that relationship with peers and parents is a significant determinant of psychological health. Taken together, the findings strongly highlight the need of regular assessment of mental health of students in order to identify psychological, behavioural and relationship-related issues among students and design effective interventional strategies.[17]

Different risk factors associated with adolescent suicide attempts have been identified including those of socio-demographic and clinical variables but relatively little study has been done in the north eastern region of India. Hence this is an attempt to examine these factors in detail.

Henceforth, the present study is a sincere effort to see and analyze the sociodemographic profile of adolescents attempting suicide, their mode of attempt and suicidal intent.

Objective of the study: To examine the sociodemographic profile of adolescent suicide attempts, various modes adopted for suicide attempt and to quantify the suicidal intent using a tool.

Method: It was an in-patient hospital-based study done over a period of one year. After getting informed consent from family members and once the patients were clinically stable, they were interviewed using the modified beck suicidal intent scale translated in Assamese language. Relevant data was collected in especially designed semi structured proforma, documenting socio demographic variables. The statistical analysis of data was performed using SPSS and Microsoft Excel. For analyses, the statistical significance was fixed at 5% level (p value <0.05).The study included all consecutive cases of suicide attempts by adolescents in an year fulfilling the inclusion criteria. Patients irrespective of gender, aged between 10 to 19 years and giving informed consent were included while those having mental retardation were excluded.

Tools Used in the Study:

- Informed Consent form: An informed consent form explaining the nature of the study, the contents of which were explained in vernacular language, was read out to the subjects of study.
- Semi-structured Proforma for socio-demographic data: It was developed and used in Department of Psychiatry, Assam Medical College & Hospital, Dibrugarh. This contained the personal identification data of the patients.
- Kuppuswamy's Socioeconomic Status Scale: This scale has been used to measure the socioeconomic status of patients. The latest update applicable in the studies ongoing in 2014 was used.
- Assamese version of 15 item Beck Suicidal Intent Scale.

Interview Procedure: Following approval from institutional ethics committee, patients and their relatives were explained about the study procedure in vernacular language and consent was taken. Sociodemographic information was collected in the semi-structured proforma. Suicidal Intent for every patient was quantified using the specified scale.

Statistical Analysis: The obtained data was analyzed using Statistical Package for Social Sciences (SPSS) (version 19.0; IBM). Demographics were reported using descriptive statistics like mean and standard deviation. T-test and analysis of variance (ANOVA) test were used for comparing means of two or more groups respectively. Differences were considered to be significant if $p<0.05$. For evaluating correlation, Pearson correlation test was performed.

Findings of the study:

Subject characteristics of the sample: During the study period of one year, consecutive adolescent cases of suicide attempt were taken up from various departments mainly, Medicine, Surgery, ENT, Paediatrics. In 1 year, a total of 112 cases were collected.

Age characteristics of the sample: Age distribution of all cases have been tabulated in Table –5.1 and graphically represented in Fig-5.1. It was found that majority of the patients (97.3 %) belonged to late adolescent group i.e. 15-19 years age group whereas only 2.7 % in early adolescent group i.e 10-14 years

age group, thus early adolescents were not properly represented in the study sample. Mean age of the study sample was 18.12 ± 1.30 years.

Mean suicidal intent score was 12.13 ± 3.87 (low to medium risk). When early and late adolescents were compared for suicidal intent using unpaired t- test (Table-5.1b), no significant difference was found. (p value 0.16 i.e. >0.05) suggesting that no statistically significant difference exists between the two age groups i.e. they can be taken as statistically equal and comparable for further analysis.

Sex characteristics of the sample: Sex distribution of the study sample had been tabulated in Table below. It was found that majority of adolescent suicide attempters were female 60.7% whereas males contributed to 39.3 % of study sample. Mean age of male and female patients was 18.32 and 17.99 years respectively. When male and female patients were compared for suicidal intent using unpaired t- test, no significant difference was found. (p value 0.76) suggesting that no statistically significant difference was found, thus they can be taken as statistically equal and comparable for further analysis.

Sociodemographic parameters: Various socio-demographic parameters of the study sample have been tabulated in the Table–5.3 and graphically represented in Fig-5.3. Their correlation with suicide intent is measured using t-test or AANOVA as applicable.

1. Most of the participants were Hindu by religion (92.8 %), followed by 6.25 % patients belonging to Islam and only 0.89% belonged to Christian religion. ANNOVA test revealed that there is no significant difference of suicidal intent (p value 0.60 > 0.05) among various religions suggesting that they can be taken as statistically equal and comparable for further analysis.
2. 74% cases were unmarried while 26% were married. Unpaired t- test revealed significant difference in suicidal intent [p value 0.045 (<0.05)] suggesting that there is statistically significant difference existing between married and unmarried adolescents and they can be taken as statistically unequal and comparable for further analysis.
3. 76% cases were from nuclear family, while 24% belonged to joint family. Statistically no significant difference in suicidal intent [p value 0.83 (>0.05)] was found between the two groups thus, they can be taken as statistically equal and comparable for further analysis.
4. Majority of cases (85%) were from rural background whereas 15% belonged to urban locality. Statistically no significant difference in suicidal intent [p value 0.17 (>0.05)] was found between patients of rural and urban locality, thus they can be taken as statistically equal and comparable for further analysis.
5. Most of the patients (87.5%) were from Upper Lower (IV) socioeconomic status and 11.6% belonged to Lower Middle (III) socioeconomic status whereas only 0.89 % were from lower (V) socioeconomic status. About 50% adolescents were educated upto 10th standard. Based on ANNOVA test, statistically no significant difference in suicidal intent (p value 0.55 i.e. >0.05) among three different socioeconomic class was found. Thus, they can be taken as statistically equal and comparable for further analysis.

Sociodemographic variable	N	%	Suicidal intent score (mean)
Religion			
Hindu	104	92.86	12.13 ±3.87
Islam	7	6.25	13.57± 4.31
Christian	1	0.89	11
p value			0.60
Marital status			
Married	29	25.89	**13.52±4.39**
Unmarried	83	74.11	**11.65± 3.57**
p value			**0.04**
Locality			
Rural	85	84.82	**12.09 ± 4.03**
Urban	27	15.18	**12.26 ± 3.37**
p value			0.17
Type of family			
Nuclear	95	75.89	**12.09 ± 4.03**
Joint	17	24.11	**12.26 ± 3.37**
p value			0.83
Socioeconomic status			
Lower middle	13		**12.00± 3.54**
Upper Lower	98		**12.19± 3.92**
Lower	1		8
p value			0.55

DISTRIBUTION ON THE BASIS OF MODE OF SUICIDE ATTEMPT

Following table shows the distribution of cases on the basis of mode of suicide attempt adopted by the adolescents. The most common method of attempting suicide was intentional self-poisoning by organophosphate (60.71 %), followed by corrosive poisoning (8.03%) hanging and burn (7.14 % each), wrist slash (4.46%).

MODE OF SUICIDE ATTEMPT	N	%
Corrosive Poisoning	9	8.04
Organophosphate Poisoning	68	60.71
Drug Overdose	3	2.68
Drowning	2	1.79
Hanging	8	7.14
Burn	8	7.14
Wrist Slash	5	4.46
Cut Throat	1	0.89
Mushroom	3	2.6
Kerosene	2	1.7
Others (Unknown Substances)	3	2.6
TOTAL	112	100

COMPARISON OF MODE OF SUICIDE ATTEMPT WITH SOCIODEMOGRAPHIC PARAMETERS

Out of 112 cases found, 68 (60.71%) were females while 44 (39.29%) were males. 68.18% males & 57.35 % females had adopted organophosphate poisoning. Other mode of suicide attempt in girls corrosive poisoning by mostly phenyl ingestion, hanging, burn & wrist slashes. In terms of the gender distribution, statistically no significant difference in gender was found in the method of attempting suicide.

MODE OF SUICIDE ATTEMPT	MALE		FEMALE		X^2 value d.f.=1	p value
	N	%	N	%		
Corrosive Poisoning	1	2.27	8	11.7	3.257	0.0711
Organophosphate Poisoning	29	68.18	39	57.35	0.8199	0.3652
Drug Overdose	1	2.27	2	2.94	0.0458	0.8305
Drowning	1	2.27	1	1.47	0.098	0.7542
Hanging	2	4.55	6	8.82	0.7371	0.3905
Burn	3	6.82	5	7.35	0.0115	0.9145
Wrist Slash	2	4.55	3	4.41	0.0011	0.9733
Cut Throat	1	2.27	0	0.0	-	-
Mushroom	1	2.27	2	2.94	0.0458	0.8305
Kerosene	1	2.27	1	1.47	0.098	0.7542
Others (Unknown Substance)	2	4.55	1	1.47	0.9689	0.3249
Total	44	100	68	100		

Comparison between early and late adolescent cases:

The youngest adolescent who attempted suicide was a 13 year female by hanging (psychotic pt). Most of late adolescents adopted self-poisoning (61.46%) by organophosphate followed by corrosive poisoning, burn, hanging and wrist slash. There was statistically no significant difference in mode of suicide attempt between early & late adolescent groups and they can be taken as statistically unequal and comparable for further analysis. :

MODE OF SUICIDE ATTEMPT	EARLY ADOLESCENT		LATE ADOLESCENT		X^2 value d.f.= 1	p value
	NO.	%	NO.	%		
Corrosive Poisoning	1	33.33	8	7.33	2.669	0.102
Organophosphate Poisoning	1	33.33	67	61.46	0.9689	0.3249
Drug Overdose	0	0	3	2.75	-	-
Drowning	0	0	2	1.83	-	-

Burn	0	0	8	7.33	-	-
Hanging	1	33.33	7	6.42	3.188	0.07
Wrist Slash	0	0	5	4.58	-	-
Cut Throat	0	0	1	0.89	-	-
Mushroom	0	0	3	2.75	-	-
Kerosene	0	0	2	1.83	-	-
Others (Unknown Substance)	0	0	3	2.75	-	-
Total	3	100	109	100		

Comparison between urban and rural background:

Majority of patients were from rural locality (84.82%). Most of them adopted self-poisoning by organophosphate (63.16%) followed by burn, hanging, phenyl. In terms of locality distribution, **statistically significant difference was found in the method of attempting suicide as self-poisoning by corrosive (x^2= 6.5104, d.f. = p value =0.010 ,<0.05) was more common in urban locality than in rural locality**. Hanging was more common in rural locality than urban locality but the difference was not significant.

MODE OF SUICIDE ATTEMPT	**URBAN**		**RURAL**		**X^2 value d.f.=1**	**P value**
	NO.	**%**	**NO.**	**%**		
Corrosive Poisoning	**4**	**23.52**	**5**	**5.26**	**6.5104**	**0.010**
Organophosphate Poisoning	8	47.06	60	63.16	1.5669	0.2106
Drug Overdose	1	5.88	2	2.11	0.7891	0.3743
Drowning	0	0.0	2	2.11	-	-
Hanging	1	5.88	7	7.37	0.048	0.82656
Burn	0	0.0	8	8.42	-	-
Wrist Slash	2	11.76	3	3.16	2.5045	0.1135
Cut Throat	0	0.0	1	1.05	-	-
Mushroom	0	0.0	3	3.16	-	-
Kerosene	0	0.0	2	2.11	-	-

Others (Unknown Substance)	1	5.88	2	2.11	0.7891	0.3743
TOTAL	17	100	95	100		

Comparison between nuclear and joint family: 74.89% cases belonged to nuclear family, while 25.11% belonged to joint family. Most of them adopted self-poisoning by organophosphate (57.56%) followed by burn, hanging, wrist slash, phenyl ingestion. In terms of family distribution, **no statistically significant difference in type of family** was found and thus they can be taken as equal for further analysis.

MODE OF SUICIDE ATTEMPT	**JOINT**		**NUCLEAR**		**X^2 value d.f.=1**	**P value**
	NO.	**%**	**NO.**	**%**		
Corrosive Poisoning	3	11.11	6	7.05	0.4553	0.4998
Organophosphate Poisoning	19	70.37	49	57.56	1.3907	0.2382
Drug Overdose	0	0.0	3	3.53	-	-
Drowning	0	0.0	2	2.35	-	-
Hanging	2	7.41	6	7.06	1.5201	0.2176
Burn	1	3.70	7	8.35	0.6344	0.4257
Wrist Slash	1	3.70	4	4.71	0.0483	0.8261
Cut Throat	0	0.0	1	1.18	-	-
Mushroom	0	0.0	3	3.53	-	-
Kerosine	1	3.70	1	1.18	0.7462	0.3876
Others (Unknown Substance)	0	0.0	3	3.53	-	-
Total	27	100	85	100		

Comparison between married and unmarried cases:

Majority of patients were unmarried (74.11%). Most of them adopted self poisoning by organophosphate (57.56%) followed by hanging and wrist slash. Statistically significant difference was found in mode of suicide attempt (x2= 4.6582; df=1; p=0.0309) as self poisoning by organophosphate was significantly more common in unmarried adolescents. Similarly burn was significantly more common in married adolescents. X^2 = 10.827, p value= 0.001) Above differences are statistically significant and can be taken as unequal for further analysis.

MODE OF SUICIDE ATTEMPT	MARRIED		UNMARRIED		X^2 value d.f.=1	P value
	NO.	%	NO.	%		
Corrosive Poisoning	3	10.3	6	7.22	0.2823	0.5951
Organophosphate Poisoning	**13**	**44.83**	**56**	**67.47**	**4.6582**	**0.0309**
Drug Overdose	1	3.45	2	2.41	0.0889	0.7655
Drowning	1	3.45	1	1.20	0.6167	0.4322
Hanging	3	10.34	5	6.02	0.6049	0.4367
Burn	**6**	**20.69**	**2**	**2.41**	**10.827**	**0.001**
Wrist Slash	2	6.90	3	3.61	0.5428	0.4612
Cut Throat	0	0.0	1	1.20	-	-
Mushroom	0	0.0	3	3.61	-	-
Kerosine	0	0.0	2	2.41	-	-
Others (Unknown Substance)	0	0.0	3	3.61	-	-
Total	29	100	83	100		

Comparison among different Socio-economic class:

Majority of patients belonged to upper lower (88.40%) socioeconomic status, followed by lower middle socioeconomic status (11.60%). Most common mode in both the classes was by self-poisoning using organophosphate. Other common modes in upper lower class was corrosive poisoning , burn, hanging, wrist slash. While in lower middle, other modes were drug overdose and hanging. It is to be noted that for proper comparison, the only one case from V class was merged into IV, then chi square test was done. Drug overdose was significantly higher in lower middle class than upper lower class. (X^2 = 9.1083, d.f.= p value = 0.002) and this difference can be taken for further analysis.

SOCIOECONOMIC STATUS	Lower middle III		Upper lower IV		x^2 value d.f.=1	p value
Mode Of Suicide Attempt	**NO.**	**%**	**NO.**	**%**		
Corrosive Poisoning	1	7.69	8	8.79	0.0023	0.961
Organophosphate Poisoning	5	38.46	63	63.27	3.0533	0.080
Drug Overdose	**2**	**15.38**	**1**	**1.02**	**9.1083**	**0.002**
Drowning	1	7.69	1	1.02	2.9256	0.087
Hanging	2	15.38	6	6.12	1.5062	0.219
Burn	0	0.0	8	8.16	-	-
Wrist Slash	0	0.0	5	5.10	-	-
Cut Throat	0	0.0	1	1.02	-	-
Mushroom	0	0.0	3	3.06	-	-
Kerosene	1	7.69	1	1.02	2.9256	0.087
Others (Unknown Substance)	1	7.69	2	2.17	1.4182	0.2337
Total	13	100	99	100		

Discussion:

According to this study, mean suicidal intent score was 12.13 ± 3.87 i.e low to moderate suicide risk. This finding has been consistent with findings of Anju Mathew et al. (2013). Majority of adolescent attempts are impulsive in nature & thus the intent of the suicide attempt fall under low to moderate suicide risk. There was no significant difference in suicidal intent in boys & girls which was consistent with findings of Manani & sharma et al-2011.

It was found that majority (97.3%) of the patients belonged to late adolescents 15-19 years age group. This finding was consistent with findings of Scottey J. cash et al. (2009) and Anju Mathew et al. (2013). This increase in number of cases in later adolescence may be due to greater psychopathology, more cognitive ability to plan and act, more autonomy and less supervision.

Most of adolescent suicide attempters were females (60.7%). This finding has been reflected in various studies as given by Sachil kr et al. (2012), sheikh shoeb et al. (2012) , Anju Mathew et al (2013) , B sharma et al.(2015) , Ana kesic et al. (2016) . Nearly, all studies on adolescent suicide attempts have reported higher representation of females. [18,19] Waldrop et al. (2007) examined factors associated with suicidal ideation and suicide attempts among a national probability sample of adolescents. They found that suicidal ideation was positively associated with female gender, age, family alcohol and drug problems.[20] . Laghi , Baiocco , D'Alessio , and Gurrieri (2009) found that female adolescents were

more likely to report severe suicidal ideation when compared to males.[21]

Suicidal intent was significantly high among married adolescents than the unmarried ones. (p value = 0.045). This was consistent with findings of Nilamadhab kar et al. (2010). Hence this study shows that marriage in adolescence increases suicidal risk unlike studies on adult suicide in which marriage is a protective factor against suicide.

Most of patients belonged to nuclear family (75.89%). H. Singh et al. (1990), found increased level of stress in adolescents from nuclear family which might be a reason for such finding. Our findings were different from Nilamadhab Kar et al. (2010) in which Stress scores of attempters from extended families were higher.

Majority of patients were from rural locality (85%). Our finding is consistent those of Kyung et al, (2015) who found that suicide rate in the rural areas was higher than that in the urban areas in both genders. This finding may be due to location of the hospital which mainly caters to the rural population in vicinity. Contrary to our finding, Nilamadhab kar et al. (2010) found that significantly higher number of adolescents were from urban locality.

Regarding the mode of suicide attempt, self-ingestion of organophosphate poison was the most common mode (60.7%) followed by corrosive poisoning (8.03%) (mostly phenyl that is easily available in the house holds), burn and hanging (7.14% each), wrist slash (4.46%). This finding was consistent with the findings of Sachil kr et al. (2012), Sheikh shoeb et al. (2012), Anju Mathew et al.(2013), Nilamdhab kar et al. 2016, Ana kesic et al. 2016 in which organophosphate poisoning was the most common mode adopted by adolescents. This can also be explained due to easy availability in homes of abundant tea garden working population. As mentioned by Hawton et al. (2009), the availability of the means is one of the most important factors for suicidal behaviour [22]. Organophosphate poisoning was the preferred mode both among males and females. Also, organophosphate poisoning was significantly higher in unmarried adolescents than married adolescents.

It was found that 6 out of total 8 cases of burn were married adolescents. This was significantly higher when compared with unmarried adolescents. This can be explained with relatively higher suicidal intent score in married adolescents which might lead to adoption of a more violent method like burn. (BSIS of burn patients 14.13 ± 5.59 vs mean BSIS 12.13 ± 3.8). Hanging was higher in unmarried adolescents. (5 out of 8 cases). Although when compared with married adolescents, the difference was not significant.

Corrosive poisoning was significantly higher in adolescents belonging to urban locality which was consistent with findings of Kyung-Hwa et al. (2015) [23]. Drug overdose was significantly high in lower middle class (III) than the upper lower class (IV)

Conclusion

Alcohol abuse is very high in some of the North-eastern states of India. Adolescents start taking them quite early & they continue in tolerable doses. Substance abuse has been associated with impulsive behavior, affective dysregulation & contribute substantially to risk of suicide especially in older adolescents when co-occurring with mood disorder or disruptive disorders.

Our study suggests that suicide is a significant problem among adolescents. By analyzing suicide attempts, I have tried to identify the risk factors. It is important for early identification of youth at high risk for suicide behavior, as well as developing specific preventive programs. Public education for early identification and help-seeking for mental disorders, awareness regarding this in health care staff, and facilities for management of common mental disorders in rural areas would probably help.

Restriction of easy availability of highly toxic pesticides may decrease the lethality of many attempts. Supportive measures for various stressors and interventions for many modifiable risk factors like early marriage, substance abuse & psychiatric illness should be identified and given priority in local suicide prevention strategies. The findings of this exploratory study also identify areas for further focused research.

References:

1. Bertolote JM, Fleischmann A. Suicide and psychiatric diagnosis: a worldwide perspective. World Psychiatry 2002;1(3):pg 181–185.
2. Singh AR, Singh SA. Preface, towards a suicide free society: identify suicide prevention as public health policy. Mens Sana Monographs, II 2003;2, p. 0, 1 .
3. http://www.who.int/mental_health/prevention/suicide/suicideprevents/ en/>; 2009 [accessed on 04/04/16] World Health Organization Report on Suicide prevention.
4. National crime records Bureau, Accidental deaths and Suicides in India, Ministry of Home Affairs, Govt. of India, 2008.
5. Schmidtke, A., Bille-Brahe, U., De Leo, D., Attempted suicide in Europe: rates, trends and sociodemographic characteristics of suicide attempters during the period 1989–1992. Results of the WHO/EURO Multicentre Study on Parasuicide. Acta Psychiatrica Scandinavica, 1996; 93(5):pg 327– 338
6. United Nations (UN): Department of Economic and Social Affairs, World Population Prospects: The 2008 revision. Available from: URL: http://www.un.org/esa/population/publications/wpp2008/wpp2008_highlights.pdf., accessed on 04/04/2016].
7. United Nations (UN): Department of Economic and Social Affairs, World Population Prospects: The 2012 revision. Available from: URL: http://esa.un.org/wpp/. [accessed on 04/04/2016].
8. World Health Organization (WHO) meeting report (Geneva 2003): Caring for children and adolescents with mental illness, setting WHO directions. Pg 1-4.

9. World Health Organization Report 2009. Suicide prevention.<http:// www.who.int/mental_health/prevention/suicide/suicideprevents/ en/>; 2009 [accessed 04/04/16]http://www.ncbi.nlm.nih.gov/pmc/articles/2885157/Bridge,
10. Scottye J. Cash and Jeffrey A. Curr Opin Pediatr. 2009 Oct; 21(5): pg 613–619.[accessed on 04/04/2016].
11. Stengel E., Enquiries into attempted suicide. Proc. R Soc. Med 1952; 45 : pg 613-620.
12. Kessel N, Grossman G., Suicide in alcoholics. British Journal of Medicine 1965; ii : pg 1671-1672.
13. Morgan HG. Death wishes? The understanding and management of deliberate self-harm. Chichester: Wiley; 1979.http://www.ncbi.nlm.nih.gov/pmc/articles/2885157/
14. Bridge, Scottye J. Cash and Jeffrey A. Curr Opin Pediatr. 2009 Oct; 21(5): pg 613–619.
15. Mathew A. and Nanoo S., Psychosocial Stressors and Patterns of Coping in Adolescent Suicide Attempters, Indian Journal of Psychological Medicine. 2013 Jan-Mar; 35(1): pg. 39–46.
16. Kar N., Profile of risk factors associated with suicide attempts: A study from Orissa,India; Indian Journal of Psychiatry. 2010 Jan-Mar; 52(1): pg: 48–56.
17. Arun P., Chavan BS.,Stress & suicidal ideas in adolescent students in chandigarh; Indian Journal of Medical Sciences, Vol. 63, No. 7, July 2009, pg 281-287
18. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behavior. J Child Psychol Psychiatry. 2006;47:372–94. [PubMed]
19. Beautrais AL. Suicide and serious suicide attempts in youth: A multiple-group comparison study. Am J Psychiatry. 2003;160:1093– 9. [PubMed]
20. AE Waldrop et al.2007, Risk factors for suicidal behavior among a national sample of adolescents : implications for prevention; J Trauma Stress 20 (5), 869-879
21. Laghi F, Baiocco R, D'Alessio M, and Gurrieri G.; Suicidal ideation & time perspective in high school students; Eur Psychiatry, 2009, jan ; 24(1), 41-6.
22. Hawton K, van Heeringen K. Suicide. Lancet. 2009;373(9672):1372–81.
23. Kyung-Hwa Choi, Dong-Hyun Kim; Trend of Suicide Rates According to Urbanity among Adolescents by Gender and Suicide Method in Korea, 1997–2012: International Journal of Environmental Research and Public Health Article, 2015, 12, 5129-5142.