

# Comparison of Suicide Related Factors between Adolescents and Adults

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## ABSTRACT

**Introduction:** Suicide attempts are common among adolescents than other age group. This study explores the characteristics of suicide attempts in adolescents in comparison with adults.

**Material and methods:** The present study was conducted at a tertiary care teaching institute. We investigated a total of 100 consented cases of suicidal attempt through serial sampling between August 2018 and July 2019. Data was collected and diagnosis was made using MINI-PLUS and International Personality Disorder Examination (IPDE-ICD-10 module). The SPSS version 16.0.2 statistical package (SPSS Inc., Chicago, IL., 2008) was used for the entire analysis. We examined the differences between adolescents and adults, using Pearson's chi-square test. We used a significance level of  $p < 0.05$  and two-sided probability. Descriptive statistics and chi-square tests were used to identify the factors associated with suicidal behaviours.

**Results:** N=24 adolescent and N=76 adults were included. The commonest diagnosis was MDD in adults (24%) and adjustment disorder (16.6%) in adolescents. 91.6% adolescent used non-violent Methods Compared to (69.7%) in adults. Common precipitating factor among adolescent was relational Difficulties (66.7%) whereas among adults physical problem & psychotic symptoms (27.6%) were more common.

**Conclusions:** Suicidal behaviour among Adolescents has different psychosocial factor when compared to Adults and underlying psychiatric illness are also different. The suicide prevention strategies in this population have to be tailored to these factors.

**Keywords:** Suicide Attempt, Adolescent, Adult.

## INTRODUCTION

The term 'attempted suicide' grids a variety of self-destructive behaviour which ranges from nonfatal, minor gestures which is mainly aimed just to attract attention to serious life threatening attempts.<sup>1</sup> The World Health Organization (WHO) estimates, in the year 2000, that nearly one million people commit suicide worldwide every year, which represents a global mortality rate of 16 people per 100,000. Suicide attempts are up to 20 times more frequent than completed suicides. 30% of all suicides worldwide occur in India and China, according to WHO data.<sup>2</sup> Among these, India accounts for about one-tenth of suicides in the world. The incidence of suicide attempts reaches a peak during the mid-adolescent years.<sup>3</sup> As per the union health ministry of India it has been estimated that over 4 lakh people attempt suicide every year and among them 1.2 lakh are completed.<sup>4</sup>

Youth are at a higher risk for attempted suicide. According to the Centres for Disease Control and Prevention (CDC) 2007 Youth Risk Behaviour Survey (YRBS), 14.5 percent of adolescents have seriously considered attempted suicide. On comparison, 18.7 percent of girls acknowledged that they had seriously thought about making a suicide attempt in comparison to 10.3 percent of boys.<sup>5</sup>

Regarding methods of attempting suicide in adolescents, availability of the means to attempt suicide e.g., poison, sharp object, hanging, firearms seems important.<sup>6</sup>

Suicide risk has been reported to be associated with psychiatric disorders.<sup>7</sup> Suicidal behaviour among adolescents occurs in different contexts from older individuals.<sup>8</sup> Adolescent suicidal behaviour often occurs in the context of psychosocial factors such as family conflict, strivings for autonomy, academic and disciplinary difficulties, consequence of disruptions in peer relationships etc.

Although many studies have assessed the characteristics of suicide attempts in adults and adolescents, and some epidemiological studies have recorded data on age at attempted suicide and method used, very few studies have directly compared the two age groups using the same methodology. This study was designed to compare the socio-demographic variables, psychiatric diagnosis, precipitating factor and mode of suicide attempters between adolescents and adults.

## MATERIAL AND METHODS

The present study was conducted at a tertiary care teaching institution after taking ethical clearance from the institute. Subjects admitted in the departments of Medicine, Surgery, ENT, and Surgery with history of attempted suicide were approached.<sup>9</sup> The patients who gave an informed consent were included in the study. A total of 100 subjects were included through serial sampling. Exclusion criteria were Mental retardation, Chronic and debilitating medical illness, serious illness, and age outside 13-65 years range.

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### Tools used for the Study

Semi-structured Performa specially designed for the study was used to collect information on various demographic and psychosocial variables, information on suicide attempt and circumstances related to the attempts.

Mini Plus (Mini International Neuropsychiatric Interview, English version 5.0.0):<sup>10</sup>

This brief structured diagnostic interview, aimed at the identification of a set of DSM-IV and ICD-10 mental disorders. It includes modules for 23 disorders.

### International Personality Disorder Examination (IPDE - ICD-10 Module)

IPDE ICD-10 module designed by Loranger et al in 1994, has a screening questionnaire consisting of 59 true / false items.<sup>13</sup> If 3 or more items from a disorder are circled the patient has failed the screen for that disorder and has to be subsequently interviewed. The diagnosis of personality disorder was arrived at by consensus.

### Methods of Suicide

Suicide methods were classified according to the international self-harm section (X60-X84) of the ICD-10 codes<sup>14</sup> self-poisoning (X60-X69), hanging (X70), drowning (X71), firearms (X72-X74), burning (X75-X77), self-harm by sharp object (X78), self-harm by blunt objects (X79), jumping from a height (X80), and others (X81-X84). If the Patient is using two (or more) methods of suicide, both methods were counted separately.

### Precipitating Factor of Suicide

The precipitating factors for suicide attempt determined according to the International Classification of External Causes of Injury (ICECI) system<sup>32</sup><sup>15</sup> As per, the definition of 'proximal risk factor' of the ICECI, various factors that is precipitating suicide attempt, the most recent crisis that have led to the self-harm, was the precipitating factor considered

in this study.

### Interview Procedure

Suicide attempters were assessed once their medical condition became stable. Written informed consent was taken from all the subjects prior to the detailed assessment. The complete assessment was done in sessions. The demographic data, details of suicide attempt in all cases was recorded.<sup>16</sup> MINI-Plus was used for assessment of axis-I disorders.<sup>10</sup> IPDE-ICD-10 module<sup>13</sup> was administered to all cases to evaluate for the presence of any personality disorder.

### STATISTICAL ANALYSIS

The SPSS version 16.0.2 statistical package (SPSS Inc., Chicago, IL., 2008) was used for the entire analysis. We examined the differences between adolescents and adults, using Pearson's chi-square test. We used a significance level of  $p < 0.05$  and two-sided probability.

### RESULTS

A total of 116 patients were approached of which 16 declined consent and were excluded. The 100 patients who consented were included in the study and were further divided into Adolescent and Adult groups as represented in Table-1 and Table-2.

Total number of subjects in the adolescent group was 24 and adult group was 76. Female were overrepresented in the adolescent group (75%) with mean age of  $17.5 \pm 1.5$  years range 13-19 years. On the other hand, men predominated (59%) in the adult group, with mean age of  $32 \pm 11$  years range 20-65 years.

### DISCUSSION

In the present study, Socio-demographic characteristics of the subjects, a significant difference between the genders ratios of adolescents and adults was seen. Female preponderance

Personality Disorder	Adolescent (N=24)	Adult (N=76)	Chi-square with Yates correction
Cluster A (Paranoid, Schizoid, Schizotypal)	0	5(6.6)	Chi-squared = 0.57, P value = 0.45
Cluster B (Antisocial, Narcissistic, Borderline, Histrionic)	9(37.5)	17(22.4)	Chi squared = 1.45, P value = 0.23
Cluster C (Avoidant, Dependent, Anakastic) 3	(12.5)	12(15.8)	Chi squared = 0.004, P value = 0.95
No Disorder	12(50)	42(55.3)	Chi squared = 0.05, P value = 0.83
Psychiatric Diagnosis			
Major Depressive Disorder	1(4.2)	18(24)	Chi squared = 3.34, P value = 0.06
Adjustment Disorder	4(16.6)	3(3.9)	Chi squared = 2.79, P value = 0.09
Psychotic Disorder	1(4.2)	16(21)	Chi squared = 2.58, P value = 0.10
Substance related disorder	3(12.5)	5(6.6)	Chi squared = 0.25, P value = 0.61
No Axis I Diagnosis	15(62.5)	26(34.2)	Chi squared = 4.92, P value = 0.026

**Table-1:** Comparison of diagnosis between adolescent and adult.

Mode of Suicidal Attempt	Adolescent (N=24)	Adult(N=76)	Chi-square with Yates correction
Non-Violent Method(Poisoning)	22(91.6)	53(69.7)	Chi squared = 3.58, P value =0.058
Violent Method (Hanging, Drowning, Fire & Flame, Sharp Object)	2(8.3)	23(30.3)	
Precipitating cause of suicidal attempts			
Relational difficulties	16(66.7)	28(36.8)	Chi squared = 5.43 , P value = 0.012
Physical problem & Psychotic symptoms	2(8.3)	21(27.6)	Chi squared = 2.82, P value = 0.093
Financial Difficulties	1(4.2)	8(10.5)	Chi squared = 0.29, P value = 0.59
Does not give any explanation	5(20.8)	19(25)	Chi squared = 0.02 , P value = 0.89
P < 0.05			
<b>Table-2:</b> Methods and Precipitating cause of Suicide Attempts among Adolescent and Adult.			

among adolescent attempters was noted which is similar to previous studies in adolescents.<sup>17,5</sup> In adults suicidal attempt was almost equally distributed in both the sexes.

Methods of suicide were classified into violent and Non-violent methods. Non-violent methods include consumption of prescribed drug, pesticide, phenyl, and other house-hold locally available poisons. Whereas violent methods include hanging, drowning, fire & flame, sharp object.<sup>18</sup> Non-violent methods are the most commonly used methods for suicidal attempts in both adolescent and adult. In comparison to adult, adolescent predominantly female uses non-violent methods. The reason may be the easy availability of poisonous compounds and due to impulsivity in adolescent. This is in accordance with the observations made in prior studies.<sup>19</sup> Contrary to present finding, Firearms have traditionally been the leading suicide method among U.S. youth, followed by hanging/suffocation, and self-poisoning.<sup>2</sup> This may be due to ease of availability of firearms in U.S. as compared to India. However in adult, violent method of suicidal attempt was more commonly used. The difference found between these two groups could be explained by gender distribution in this group. Adolescent population comprises of more female compared to adults. This is supported by the previous study wherein men use violent methods more for completed suicide.<sup>21</sup> among violent methods, hanging is the most commonly used mode in our setting followed by sharp object, and drowning. Various factors come to play to predict the choice of violent methods like, Diagnosis (such as schizophrenia, Male gender, poor mental health within the last 3 months etc.<sup>22</sup>

Very few studies have focused on the presence of personality disorders among adolescents who engage in attempted suicide. In our study 50% of the adolescents had personality disorder compared to 45 % of adults. Adolescents were predominantly having cluster B personality disorder (Antisocial 4.2%, Narcissistic 0%, Borderline 4.2%, Histrionic 12.5%), as compared to adult in whom cluster A (Paranoid 1.3%, Schizoid 5.3%, Schizotypal 0%) is more common. A large proportion of people those who attempted suicide<sup>23</sup> suffer from some kind of personality disorder.

In the present study our observation on adolescents with attempted suicide having psychiatric diagnosis is 79% as compare to adult in which it is 83%. This is similar to the prior observation.<sup>20</sup> When looking at individual co morbid Axis I disorders our study had a higher proportion of adults with a diagnosis of Depressive disorders, as compare to adolescents who have predominantly had adjustment disorders.<sup>26</sup> In the present study, Psychotic Disorder was also more common among adult in comparison to adolescent which is supported by previous study.<sup>27</sup>

In precipitating factor, interpersonal difficulties had higher incidence in adolescents then adult. The findings are similar to previous studies.<sup>8</sup> In Adults, suicidal attempt due to physical problem and Psychotic symptoms are more common then adolescent. Chronic illness can affect the ability to participate in work or leisure activities leading to social isolation, and is associated with increased rates of anxiety and depression.

Some female adolescents may attempt suicide without any psychiatric symptoms and prior indications of emotional or behavioural problems. It has been pointed out that adolescents may be more impulsive<sup>[24]</sup> than adults, and they may tend to focus on proximal consequences of behaviour.<sup>25</sup> Therefore, we have to pay attention to impulses among female adolescents. The present study also has some limitations. First, because the study was conducted in a single university hospital, the findings may not be representative of whole region. Second, Adolescent sample size is small. During our study, we did not divide the subjects into subgroups according to age, such as younger adolescents or elderly adults, as the sample size was small and this made it difficult to compare the different age generations in detail.

Despite these limitations, the present observations highlight the role of specific psychosocial factor (e.g., relational problems) and psychiatric disorders in the suicide attempts of both adolescents and adult. In terms of clinical implications, our results indicate that preventive work should be directed toward solving relational issues, both at home and at school, and active treatment of psychiatric disorders. Future studies on a larger population size to compare the suicidal behaviour in different age groups may be necessary for this.

## REFERENCES

1. Kessel N. Self-poisoning. I. *Br Med J* 1965;2:1265–70.
2. World Health Organization. Facts and figures about suicide. Geneva World Health Organization Press 1999;
3. Shaffer D, Gould MS, Fisher P, Trautman P, Moreau D, Kleinman M, et al. Psychiatric diagnosis in child and adolescent suicide. *Arch Gen Psychiatry* 1996;53:339–48.
4. Reddy MS. Suicide incidence and epidemiology. *Indian J Psychol Med* 2010;32:77–82.
5. Youth Risk Behavior Surveillance --- United States, 2007 [Internet]. [cited 2015 Aug 24]; Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5704a1.htm>
6. Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. American Academy of Child and Adolescent Psychiatry. *J Am Acad Child Adolesc Psychiatry* 2001;40:24S – 51S.
7. Haukka J, Suominen K, Partonen T, Lönnqvist J. Determinants and outcomes of serious attempted suicide: A nationwide study in Finland, 1996-2003. *Am J Epidemiol* 2008;167:1155–63.
8. Daniel SS, Goldston DB. Interventions for suicidal youth: a review of the literature and developmental considerations. *Suicide Life Threat Behav* 2009;39:252–68.
9. Platt S, Bille-Brahe U, Kerkhof A, Schmidtke A, Bjerke T, Crepet P, et al. Parasuicide in Europe: the WHO/EURO multicentre study on parasuicide. I. Introduction and preliminary analysis for 1989. *Acta Psychiatr Scand* 1992;85:97–104.
10. Sheehan D V, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, et al. The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 1998;59 Suppl 2:22–33; quiz 34–57.
11. Goldberg DP. The detection of psychiatric illness by questionnaire: A technique for the identification and assessment of non-psychotic psychiatric illness.
12. Rao KN, Begum S, Siddappa K, Ravindra K. Validity of a 6-item version of general health questionnaire (g.h.q.) in the hands of a non - psychiatrist. *Indian J Psychiatry* 1992;34:145–7.
13. Loranger AW, Sartorius N, Andreoli A, Berger P, Buchheim P, Channabasavanna SM, et al. The International Personality Disorder Examination. The World Health Organization/Alcohol, Drug Abuse, and Mental Health Administration international pilot study of personality disorders. *Arch Gen Psychiatry* 1994;51:215–24.
14. WHO. International Statistical Classification of Diseases and Related Health Problems (International Classification of Diseases)(ICD) 10th Revision - Version: 2010. 2010.
15. Group IC and M. No Title International Classification of External Causes of Injuries (ICECI) Version 1.2le. AIHW National Injury Surveillance Unit Flinders University, Adelaide, Australia; 2004.
16. Weisman AD, Worden JW. Risk-rescue rating in suicide assessment. *Arch Gen Psychiatry* 1972;26:553–60.
17. Cash SJ, Bridge JA. Epidemiology of youth suicide and suicidal behavior. *Curr Opin Pediatr* 2009;21:613–9.
18. Jia C-X, Zhang J. Characteristics of young suicides by violent methods in rural China. *J Forensic Sci* 2011;56:674–8.
19. Eddleston M, Buckley NA, Gunnell D, Dawson AH, Konradsen F. Identification of strategies to prevent death after pesticide self-poisoning using a Haddon matrix. *Inj Prev* 2006;12:333–7.
20. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behavior. *J Child Psychol Psychiatry* 47:372–94.
21. Brådvik L. Violent and nonviolent methods of suicide: different patterns may be found in men and women with severe depression. *Arch Suicide Res* 2007;11:255–64.
22. Held T, Hawellek B, Dickopf-Kaschenbach K, Schneider-Axmann T, Schmidtke A, Möller HJ. Violent and non-violent methods of parasuicide: what determines the choice? *Fortschr Neurol Psychiatr*. 1998;66:505-11.
23. Suominen KH, Isometsa ET, Henriksson MM, Ostamo AI, Lönnqvist JK. Suicide attempts and personality disorder. *Acta Psychiatr Scand* 2000;102:118–25.
24. Klonsky ED, May A. Rethinking impulsivity in suicide. *Suicide Life Threat Behav* 2010;40:612–9.
25. Nurmi JE. Development of Orientation to the Future during Early Adolescence: A Four-Year Longitudinal Study and Two Cross-Sectional Comparisons. *Int J Psychol* 1989;24:195–214.
26. Rao KN, Kulkarni RR, Begum S. Comorbidity of psychiatric and personality disorders in first suicide attempters. *Indian J Psychol Med* 2013;35:75–9.
27. Palmer BA, Pankratz VS, Bostwick JM. The lifetime risk of suicide in schizophrenia: a reexamination. *Arch Gen Psychiatry* 2005;62:247–53.

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