Research Article

Prevalence of suicide ideation and its pattern among college students of the tribal region of Central India

Ruchi Pradeep Agrawal[1], Manoj Rajanna Talapalliwar[2]

[1]MBBS Student, Government Medical College, Gondia, Maharashtra, India, [2]Department of Community Medicine, Government Medical College, Gondia, Maharashtra, India

Correspondence to: Manoj Rajanna Talapalliwar, E-mail: manojtalapalliwar@yahoo.com

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ABSTRACT

Background: Globally, suicide is the second leading cause of death among adolescents. Suicide evolves from suicide ideation (SI) to planning of suicide and finally attempting suicide. Understanding the pattern of suicidal ideation is crucial for preventing suicidal acts. **Objective:** The objective of the study was to study the prevalence of SI and its pattern among college students of Gondia city in tribal region of central India. **Materials and Methods:** A descriptive cross-sectional study was conducted after approval from the Institutional Ethics Committee. Respondents were students of colleges in Gondia city in tribal areas of Maharashtra. A total of 214 students responded. The questionnaire was developed by contextual modification of SI scale. All categorical variables were expressed in percentage with 95% confidence interval. Quantitative variables were expressed in mean and standard deviation. **Results:** The majority of participants were undergraduate with mean age of 18.6 (±2) years, female and Hindu. The prevalence of SI was ranging from 3.74% to 13.08%. "I feel life is not just worth living" was the most common thought reported. Among those who had SIs, 13 (46.43%) had SI at least once a year and 15 (53.57%) had expressed that they do not have control over their suicidal ideations. There were 5 (17.86%) out of the study participants having SI who have made attempt to suicide. None of the participants had approached for any professional help for SI. **Conclusion:** SI is significantly prevalent among college students. They have varied frequencies of thought with no control over them. Self-perceived depression being the most common cause of SI reported by participants.

KEY WORDS: Suicidal Ideation; Suicidal Thoughts; Prevalence of Suicidal Ideation; Pattern of Suicidal Ideation

INTRODUCTION

Globally, suicide is the second leading cause of death among 15–29 age groups. Almost 800,000 people die because of suicide every year, which accounts for one person every 40 s.[1] Studies revealed that suicide is a global phenomenon. In 2016, about 79% of suicides have occurred in low- and middle-income countries.[2] Furthermore, 1.4% of all deaths worldwide were suicides, which made it the 17th leading cause of death in 2015.[1] As per the WHO data of 2016, the estimated rate of suicide in India was 16.3/100,000 population with India having one of the highest rates of suicide in South East Asia.[3]

Suicide is a major preventable cause of mortality. Suicidal behaviors being complex occurs as a result of psychological, psychosocial, environmental and genetic risk factors. As the college students are more exposed to academic and social pressure, suicide ideation (SI) among them may have a unique etiology.[4] Suicidal behavior is observed in the condition of many mental disorders such as bipolar disorder, antisocial personality disorder, anxiety disorders, substance use disorders, major depressive disorder and schizophrenia.[5]

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Suicide evolves from suicidal ideation (SI) to planning of suicide and finally attempting suicide.[6] The presence of SI and suicide plan significantly increases the risk of a suicide attempt.[7] Adolescents experiencing SI are approximately 12 times more likely to have attempted suicide by the age of 30 years.[8] According to a study conducted by Goyal *et al*., a significant association was found between SI and overburden of work or studies.[9]

For every death by suicide, there may have been more than 20 others attempting suicide.[1] A high risk of transition from ideation to a plan and an attempt was found during the 1st year after ideation onset.[10] Thus, identifying the risk factors for SI is important for preventing attempts. Adolescents are susceptible to suicide and it is one of the leading causes of death among them.[1] Adolescents form an important part of the progress of the nation; hence, suicidal behavior among them is a great matter of concern. There is scarcity of studies on suicidal ideation in Indian context. The suicidal ideations are not studied as extensively in India as in other parts of the world. Therefore, this study was designed to study the prevalence and pattern of SI among college students of Gondia city in Maharashtra.

MATERIALS AND METHODS

The study was conducted in Gondia city which is located in Central India in the state of Maharashtra comprising rural and tribal population. There is sizable number of college students coming to this place for different professional and other courses. A descriptive cross-sectional study was conducted. The study population comprised the college-going students (age: 15–25 years) of Gondia district.

Study Subject, Sampling, and Sample Size

There are about ten colleges in Gondia city. Randomly two colleges were selected by a simple random sampling method using random number table. The colleges were located in Gondia city and had students coming from various parts of the district to pursue higher secondary school in science and some professional courses. The colleges consisted a total of 600 students. We could collect information from 214 students in three visits for 2 months from the selected colleges. The attendees were less because many students went for the university sports meet and others were unwilling to participate.

Data Collection

Data were collected using a pre-designed and pre-tested questionnaire developed to assess suicidal ideations among college students. The questionnaire was developed by contextual modification of SI scale.[11] SI was defined as a continuum of thoughts about death ranging from mild to severe, hurting oneself or planning, conduct, and outcome of one's own suicide.[12] The pattern of individual suicidal ideation in terms of frequency, self-ability to control SIs, perceived causes of SIs, and ways of attempting suicide were explored. An Institutional Ethics Committee approval was sorted before commencing the study. A permission for conducting this study in selected colleges was taken from the respective college management/principal. A written informed consent was taken from each study subject before data collection. The subjects were given a brief about the questionnaire and then it was distributed among them. It was collected on the same day. The study subjects found to have suicidal ideations were counseled and referred to psychiatrist for further evaluation.

Data Analysis

Data were entered into EpiData software and were analyzed using Epi Info 7.2.2 software.[13] SI question was rated on the Likert scale for 1–5 where 1 – being never, 2 – almost never, 3 – sometimes, 4 – fairly often, and 5 – very often. For labeling the presence of SI, 3 (sometimes), 4 (fairly often), and 5 (very often) were clubbed, and for the absence of SI, 1 (never) and 2 (almost never) were clubbed. The magnitude of suicidal ideation was expressed in percentages with 95% confidence interval (CI). The pattern of suicidal ideation was again expressed in percentages with 95% CI.

RESULTS

A total of 214 students consented to participate in the study. The mean age of respondents was 18.63 ± 2 years. Most of the respondents were female 150 (70.09%), Hindu 196 (91.59%), and undergraduate students 144 (67.29%). The majority of the students' father were in job/service 102 (47.67%) and mother were housewives 199 (92.99%) [Table 1].

For suicidal thoughts, ten questions were asked to the subjects. The prevalence of SI was roughly ranging from 3.74% to 13.08%. The rating for question number five had the highest number of subjects', i.e., 28 (13.08%) who felt that life is not just worth living, followed by question number one, 24 (11.21%) subjects have been thinking of ways to kill themselves. As indicated by question number eight, 23 (10.75%) subjects felt that "it would be better for everyone involved I was to die" [Table 2].

When asked about the frequency of suicidal ideation, majority, i.e., 13 (46.43%) of the subjects responded that they had SI at least once a year; however, 6 (21.43%) had SI once a month followed by 5 (17.86%) who thought of suicide more than once a month. There were 3 (10.71%) who had SI once a week and 1 (3.57%) had SI more than once a week [Figure 1].

As depicted in Figure 2, among the respondents, who had suicidal ideations, 15 (53.57%) and 13 (46.43%) of study

Table 1: Background characteristics of study subjects

Character	Number (*n*=214)	Percentage	95% CI
Age (years)			
15	06	2.80	1.04–6.00
16	33	15.42	10.86–20.97
17	31	14.49	10.06–19.93
18	19	8.88	5.43–13.52
19	39	18.22	13.29–24.06
20	65	30.37	24.21–36.53
≥21	21	9.82	5.83–13.81
Gender			
Male	64	29.91	23.86–36.52
Female	150	70.09	63.48–76.14
Religion			
Hindu	196	91.59	87.03–94.94
Muslim	06	2.80	1.04–6.00
Buddhist	09	4.21	1.94–7.83
Sikh	03	1.40	0.29–4.04
Education			
Higher secondary school (11–12)	70	32.71	26.42–39.00
College (undergraduate)	144	67.29	61.00–73.58
Father's occupation			
Businessman	51	23.83	18.12–29.54
Service	102	47.67	40.98–54.36
Farmer	61	28.50	22.45–34.55
Mother's occupation			
Housewife	199	92.99	89.57–96.41
Working	15	7.01	3.59–10.43

CI: Confidence interval

subjects had no control or were not sure if they had control over SI, respectively.

In the exploration of perceived causes of SI, most of the study subjects 10 (35.71%) responded that they were feeling depressed which was forcing them to have suicidal thoughts followed by "I don't fit in" 5 (17.86%), problems in relation with friends 5 (17.86%), family and parents 3 (10.71%), studies 3 (10.71%), and other reasons 2 (7.14%). Participants were asked to specify and elaborate their cause of worry, which they reported as family issues such as conflict in families, extramarital affair of either of the parent, parents getting divorced, and parents not supporting family socioeconomically. Pressure from parents to excel academically, to pursue a particular career were also some of the few statements given by the students. Some subjects also mentioned that they have made suicide attempts to seek attention from parents, friends, or some other people. Extensive course, too much to study, high competition, and low performance were some of the major perceived causes for adolescent participants to have SI [Figure 3].

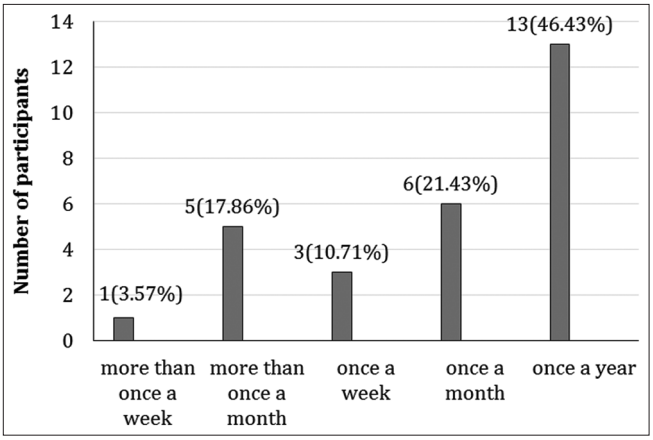

Figure 1: Frequency of suicide ideation

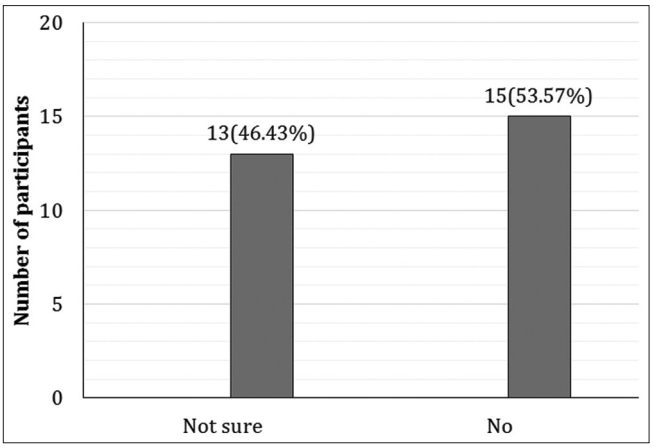

Figure 2: Control over suicide ideation

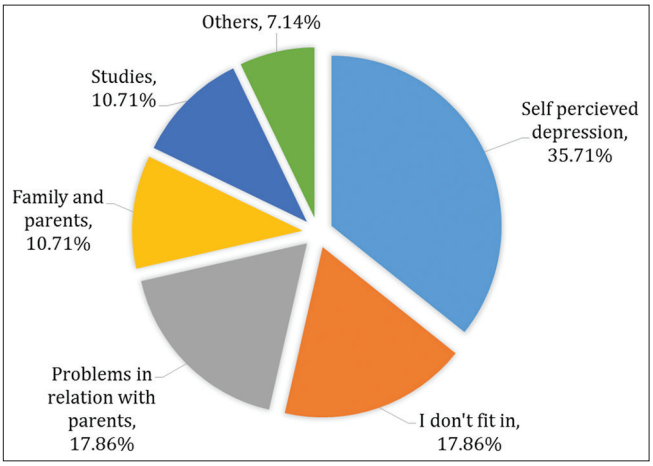

Figure 3: Perceived causes of suicide ideation

Out of the participants having SIs, 5 (17.87%) have made attempts to suicide in the past 12 months. They were also asked about the frequency of suicide attempts. Out of the five participants, one subject had made an attempt to suicide more than once. These subjects were also asked about the way of attempting suicide of which majority responded they have done self-harm by slitting the wrists.

Table 2: Suicide ideation among study subjects

Questions	SI present	
	Number	% (95% CI)
I have been thinking of ways to kill myself	24	11.21 (6.98–15.44)
I have told someone I want to kill myself	12	5.61 (2.53–8.69)
I believe my life will end in suicide	9	4.21 (1.52–6.9)
I have made attempts to kill myself	8	3.74 (1.2–6.28)
I feel life is not just worth living	28	13.08 (8.56–17.60)
Life is so bad I feel like giving up	22	10.28 (6.21–14.35)
I just wish my life would end	20	9.35 (5.45–13.25)
It would be better for everyone involved I were to die	23	10.75 (6.60–14.90)
I feel there is no solution to my problems other than taking my own life	14	6.54 (3.23–9.85)
I have come close to taking my own life	13	6.07 (2.87–9.27)

CI: Confidence interval, SI: Suicide ideation

Participants were also asked "what do they do to control SI?" For which majority of people responded that they motivate themselves by watching various inspirational videos online, by reading positive and inspiring books, by learning about the hardships their idol had to face while going through life. They also mentioned that talking to the people going through the same situation as they have helped them a lot. Indulging in social activities and diverting mind temporarily from problems by playing sports, doing exercise has been reported to be of great benefit. Students have also mentioned that when they have the urge to end themselves, they think about their parents or their dear ones and that prevents them from doing the act. Talking to people who actually understand them, their problems, and care about them has also helped the subjects to control suicidal thoughts.

Subjects having SI were questioned about "the planned method of suicide" of which most of them mentioned slitting the wrists followed by drinking poison, intentional overdose of drugs, hanging, and planning an accidental death (lying on rail tracks/roads).

The participants were asked about treatment-seeking behavior for SI, and it was found that none of the study subjects even the suicide attempters have obtained professional help.

DISCUSSION

SI has a major impact on individual life, family, society, and nation as a whole. Peak risk for suicide attempts is in late adolescence and young adults.[4] Adolescent forms a major part of the nation and will be the biggest contributor to the progress of nation. Good mental health among them is of great importance.[14] This study has explored the prevalence and pattern of SI among students in tribal region of Central India. There is a lack of research on SI in this region. The majority of study population were adolescents; hence, the risk factors closely linked to SI such as relation with friends, peer pressure, family conflicts, and societal pressure could be identified.

It was observed that the prevalence of SI in this study was less than that identified in various studies across India. The studies conducted by Sharma *et al*., Goyal *et al.,* and Sidhartha and Jena in various urban regions of Delhi had a prevalence more than that in the present study.[9,15,16] The results from a study by Thakur *et al*. in Shimla showed a prevalence of 30.9% which was more than found in the present study.[17] The studies conducted by Johal and Sharma *et al.* in Amritsar and Jain *et al*. in South India were 14.08% and 20%, respectively, which were more than observed in the present study.[18,19] However, the prevalence of SI in the present study was more than the studies conducted in rural regions of India. A study conducted by Jonas *et al.* in rural areas of Central India showed a prevalence of 5.1%, while another study in rural Pondicherry had a prevalence of 11.5%.[20,21] This may be due to differences in study settings.

When compared to the studies in different parts of the world, SI in the present study was found to be higher than the studies conducted in the adolescent population in North America and Scotland.[4,22] This may be due to sociocultural differences in different countries.

The results from the present study have highlighted the frequency of suicidal thoughts in the past 12 months. The recurrence or persistence of suicidal thoughts may help us in assessing the risk factors related to it.

This study has also highlighted whether the subjects have control over suicidal thoughts or not. It was found that the majority of subjects have no control or are not sure if they have control over SI. Having no control over suicidal thoughts can pose to be a major problem as it can lead to the progression of suicidal thoughts into attempts which will further lead to committing suicide.[7]

The findings of the present study show that the majority of the subjects reported self-perceived depression as the cause of SI. The results from other studies have reported depression as a major determinant of suicide.[23-25] In the present study, depression has not been clinically diagnosed but is self-reported by the participants. Poor communication between parents and children, family conflicts, low perceived support, and low parental approval was found to be important causes in SI in the present study. An association between SI and

these causes has been found in other studies.[23,24,26] To seek attention of parents or friends, pressure of academics were some of the other causes mentioned by the participants in the present study. These causes have been found to have significant association with SI as per results from other studies.[9,27] For effective interventional programs, it is very necessary to know about the common causes of suicidal thoughts among adolescents; present study has captured such perceived causes of SI.

A suicide attempt is considered as the strongest risk factor completed suicide.[28] In the present study, the subjects found to have attempted suicide in the past 12 months were less than that reported by Sharma *et al*. in their study.[15] However, it was more than that in the study conducted by O'Connor *et al*. in Scotland.[22]

Bearman and Moody have mentioned that it is expected that SI is more prevalent as compared to actual suicide attempts.[25] This statement was confirmed by the findings of the present study.

In this study, efforts were given to know what helps in controlling SI and having friends to share problems with have been reported as a way to control SI. A study conducted among American adolescents have shown that being part of social groups and high density of friendship ties have been associated with decrease in suicidal thoughts and attempts.[25] According to study by Casey *et al*., concern shown by others has been considered as a factor that decreases the risk of SI.[29]

Although only 1 in 200 suicide attempts result in death, more than one-third of all attempts result in injuries serious enough to require professional treatment.[25] Suicide attempts among participants and their way of attempting suicide have been highlighted by this study. Self-inflicted harm such as slitting wrists was found to be a more common way of attempting suicide as well as planning to attempt suicide among the participants followed by consuming poison, intentional overdose of drugs, etc. It is important to identify the elements that lead to SI and attempt as it is related to the possible actions that can be performed in its prevention.[30]

This was matter of concern that none of the study participant in this study, even the suicide attempters have not obtained professional help. The reason why they have not accessed professional help could not be explored. The known reasons by other studies are this is due to stigma associated with suicide and also no proper access to professional sources.[14,27] Professional help in such cases is of immense importance to prevent progression of the thoughts.[14] Hence, further studies are required in this context to know the actual reasons behind people not seeking professional sources.

The limitation of this study is that it was a descriptive cross-sectional study with small sample size; hence, it could not have been assessed analytically. Effective interventional studies with adequate sample size and robust study designs are further required. Due to availability of various measurement scales and definitions of SI, the prevalence may differ. Hence, there may be a need for standard definition and diagnostic tools for SI.

CONCLUSION

Suicidal ideation (SI)is a major problem among adolescents and findings from this study have highlighted the areas of intervention and prevention. Talking about suicide in public has been considered a taboo in society which increases the gravity of this problem.[14] Thus, more studies are required on this subject in this region to create awareness about the problem and to encourage people to talk about it so that it could be prevented at the initial stages.

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