

Prevalence of suicidality among the adolescents of a rural municipality of Eastern Terai of Nepal

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ABSTRACT

Introduction: Suicidality is a mental health condition that includes suicidal ideation, plan, and attempt. Prevalence of Suicidality from the pilot study conducted in 2018 in Nepal shows 8.7% among adolescents aged 13 to 17years. The study aimed to determine the prevalence of suicidality among adolescents of a rural municipality of eastern Terai of Nepal.

Method: A cross-sectional study was conducted among 443 adolescents from the randomly selected households of a rural municipality of Eastern Terai of Nepal. Validated self-administered tools; suicidal action and plan tools were used to assess the prevalence of suicidality.

Result: The study revealed that 30.93% of the adolescent's respondents had developed suicidal thought in the last one year. Similarly, 22.12% of them had made suicidal plan and 12.42% had attempted suicide.

Conclusion: High prevalence of suicidality among adolescents indicates need for scaling of mental health awareness programs and services in the rural municipality. Concerned authorities should take an intervention to decrease preventable death among adolescents.

Keywords: adolescents, eastern terai of Nepal, suicidality

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INTRODUCTION

Suicide is the third leading cause of death in 15 – 19 years-old adolescents in the world.¹ Many mental health disorders emerge in late childhood and early adolescence and may continue into adulthood.² World Health Organization (WHO) region-wise data shows that the prevalence of suicide death is 15.4 per 100000 populations in Europe as highest rate followed by 13.2 in the South East Asia.¹

Suicide is a significant cause of death worldwide and is a critical public health concern in Nepal. A global school-based student health survey 2015, conducted in Nepal, has shown that 13.59% of the adolescents had considered suicide while 10.33% had attempted it.³ The lack of systematic documentation processes to characterize the prevalence and risk factors is striking and urgent for public health and international agencies.⁴ Thus, the study aimed to determine the prevalence of suicidality among adolescents of a rural municipality of eastern Terai of Nepal.

METHOD

A community-based cross-sectional survey was carried out to collect data from 13 to 19 years adolescents. The study's approval was taken from Patan Academy of Health Science's institutional review committee, PAHS. The administrative permission was taken from the health office of a selected rural municipality. Written informed consent from respondents' parents and assent from respondents were taken before data collection, ensuring voluntary participation, privacy, and confidentiality.

A two-stage cluster sampling technique was used. The four wards from the rural municipality were selected in the first stage, and households from the selected wards were listed by systematic random sampling technique. The calculated sample size was 472 taking the prevalence of 8.73% from Nepal's national mental health survey pilot study.⁵ The Z value of 2.58 at 0.01 alpha and 99% confidence interval, design effect two, margin of error of 5 % and non-response rate of 10 percent was used to calculate the sample size and rounding to nearest ten was done to adjust the sample size for proportional allocation in the selected four wards. Data was collected from 443 respondents using self-administered questionnaires. The validated tools were collated for data collection. Socio-demographic variables were adopted from a pilot study of a national mental health survey.⁵ Socio-economic status was

measured using the modified version of the Kappuswamy scale in Nepal's context.⁶ The validated tools used were suicidal action and plan tool, global school-based student health questionnaires, patient's health questionnaire modified for teens, and Rosenberg self-esteem scale.^{3,7-9} Pilot study was conducted to validate the tools in the target population.¹⁰

The collected data were entered in Epi-info version 7 software, exported and cleaned in Excel and analyzed using STATA MP Version 13 software. Descriptive analysis was done by computing row percentage of outcome variables, and inferential statistics were computed using Pearson's chi-square test.

RESULT

The prevalence of suicidality among adolescents were; suicidal thoughts in 137 (30.93%) of the respondents, a suicidal plan made by 98 (22.12%) of the respondents, and suicide attempted by 55 (12.42%) of respondents (Table 1).

Out of 137 respondents having suicidal thoughts, distribution by gender revealed seven out of twenty respondents having suicidal thoughts were female, and the gender difference was shown statistically significant by the analysis. The ethnic distribution showed that seven out of twenty respondents from the upper caste and one in three respondents from advantaged Janjati had suicidal thoughts. Similarly, eight out of twenty-five respondents from the Hindu religion and one in three respondents from the Kirat religion had suicidal thoughts. One out of three respondents having suicidal thoughts were from a nuclear family, whereas eight out of twenty-five respondents were from a joint family. The socio-economic status revealed that one in three respondents with suicidal thoughts were from upper-lower-class families. However, two out of five respondents having suicidal thoughts belonged to an upper-middle-class family. The sex-wise distribution of the respondents revealed that seven out of fifty female respondents had made suicidal attempts. The educational status distribution revealed that one out of three suicidal attempts was made by the respondents receiving informal education. In contrast, seven out of fifty respondents receiving higher secondary and above had made suicidal attempts (Table 2)

Table 1. Prevalence of Suicidality among adolescents

Variables	Frequency	Percentage
Total	443	100
Suicidal thought		
No	306	69.07
Yes	137	30.93
Suicidal plan		
No	345	77.88
Yes	98	22.12
Suicidal attempt		
No	388	87.58
Yes	55	12.42

Table 2. Prevalence of suicidality by socio-demographic variables (N=443)

Variables	Suicidal thoughts		p-value	Suicidal attempts		p-value
	Yes (%)	No (%)		Yes (%)	No (%)	
Total	137 (30.9)	306 (69.1)		55 (12.4)	388 (87.6)	
Gender						
Male	51 (22.7)	164 (76.3)	0.01*	22 (10.2)	193 (89.8)	0.17
Female	86 (37.7)	142 (62.3)		33 (14.5)	195 (85.5)	
Education						
Informal	1 (33.3)	2 (66.7)	0.96	1 (33.3)	2 (66.7)	0.19
Primary level	3 (42.9)	4 (57.1)		1 (14.3)	6 (85.7)	
Lower secondary	20 (30.3)	46 (69.7)		3 (4.5)	63 (95.5)	
Secondary	57 (31.7)	123 (68.3)		22 (12.2)	158 (87.8)	
Higher secondary and above	56 (29.9)	131 (70.1)		28 (14.9)	159 (85.1)	
Ethnicity						
Dalit	5 (21.7)	18 (78.3)	0.40	2 (8.7)	21 (91.3)	0.37
Disadvantaged Janjati	1 (20.0)	4 (80.0)		0 (0.0)	5 (100.0)	
Disadvantaged non-Dalit Terai caste	1 (11.1)	8 (88.9)		0 (0.0)	9 (100.0)	
Religious minorities	1 (50.0)	1 (50.0)		1 (50.0)	1 (50.0)	
Advantaged Janjati	54 (28.7)	134 (71.3)		22 (11.7)	166 (88.3)	
Upper caste	75 (34.7)	141 (65.3)		30 (13.9)	186 (86.1)	
Marital status						
Unmarried	133 (30.5)	303 (69.5)	0.13	52 (11.9)	384 (88.1)	0.01*
Married	4 (57.1)	3 (42.9)		3 (42.9)	4 (57.1)	
Religion						
Hindu	100 (32.1)	212 (67.9)	0.78	40 (12.8)	272 (87.2)	0.40
Buddhist	6 (30.0)	14 (70.0)		1 (5.0)	19 (95.0)	
Kirat	27 (29.7)	64 (70.3)		14 (15.4)	77 (84.6)	
Christian	3 (17.7)	14 (82.3)		0 (0.0)	17 (100.0)	
Muslim	1 (50.0)	1 (50.0)		0 (0.0)	2 (100.0)	
Others	0 (0.0)	1 (100.0)		0 (0.0)	1 (100.0)	
Occupation						
Student	132 (30.3)	303 (69.7)	0.22	52 (11.9)	383 (88.1)	0.11
Agriculture	3 (75.0)	1 (25.0)		1 (25.0)	3 (75.0)	
Business	1 (50.0)	1 (50.0)		1 (50.0)	1 (50.0)	
Others	1 (50.0)	1 (50.0)		1 (50.0)	1 (50.0)	
Type of family						
Nuclear	89 (30.3)	205 (69.7)	0.67	35 (11.9)	259 (88.1)	0.64
Joint	48 (32.2)	101 (67.8)		20 (13.4)	129 (86.6)	
Socio economic status						
Upper middle class	30 (41.1)	43 (58.9)	0.08	11 (15.1)	62 (84.9)	0.58
Lower middle class	68 (26.7)	186 (73.3)		27 (10.6)	227 (89.4)	
Upper lower class	39 (33.9)	76 (66.1)		17 (14.8)	98 (85.2)	
Lower class	0 (0.0)	1 (100.0)		0 (0.0)	1 (100.0)	

*p-value less than 0.05, Pearson's chi-square test used to compute p-value

Table 2. Prevalence of suicidality by mediating variables

Variables	Suicidal thoughts		p-value	Suicidal attempts		p-value
	Yes (%)	No (%)		Yes (%)	No (%)	
	137 (30.9)	306 (69.1)		55 (12.4)	388 (87.6)	
Depression						
No	66 (18.7)	28 (81.3)	0.00*	12 (3.4)	341 (96.6)	0.00*
Yes	71 (78.9)	19 (21.1)		43 (47.8)	47 (52.2)	
Bullying						
No	85 (25.8)	244 (74.2)	0.00*	29 (8.8)	300 (91.2)	0.00*
Yes	52 (45.6)	62 (54.4)		26 (22.9)	88 (77.2)	
Self-esteem						
Low	1 (100.0)	0 (0.0)	0.02*	1 (100.0)	0 (0.0)	0.00*
Moderate	33 (47.1)	37 (52.9)		16 (22.9)	54 (77.1)	
High	103 (27.7)	269 (72.3)		38 (10.2)	334 (89.8)	
Alcohol use						
No	87 (25.5)	254 (74.5)	0.00*	33 (9.7)	308 (90.3)	0.01*
Yes	50 (49.1)	52 (50.9)		22 (21.6)	80 (78.4)	
Cigarette smoking						
No	110 (29.7)	261 (70.3)	0.18	44 (11.9)	327 (88.1)	0.42
Yes	27 (37.5)	45 (62.5)		11 (15.3)	61 (84.7)	
Drug use						
No	97 (26.9)	263 (73.1)	0.00*	35 (9.7)	325 (90.3)	0.00*
Yes	40 (48.2)	43 (51.9)		20 (24.1)	63 (75.9)	
Loneliness						
No	46 (14.8)	265 (85.2)	0.00*	14 (4.5)	297 (95.5)	0.00*
Yes	91 (68.9)	41 (31.1)		9 (31.9)	91 (68.1)	
Parental support						
No parental support	15 (45.5)	18 (54.5)	0.16	12 (36.7)	21 (63.3)	0.00*
Medium parental support	32 (28.6)	80 (71.4)		12 (10.7)	100 (89.3)	
High parental support	90 (30.2)	208 (69.8)		31 (10.4)	267 (89.6)	
History of chronic illness						
No	96 (26.5)	266 (73.5)	0.00*	31 (8.6)	331 (91.4)	0.00*
Yes	41 (50.6)	40 (49.4)		24 (29.6)	57 (70.4)	
Family history of suicide						
No	116 (29.3)	280 (70.7)	0.03*	43 (10.9)	353 (89.1)	0.04*
Yes	21 (44.7)	26 (55.3)		12 (25.5)	35 (74.5)	

*p-value less than 0.05, Pearson's chi-square test used to compute p-value.

The distribution of suicidal attempts according to ethnic group revealed that seven out of fifty respondents attempting suicide belonged to the upper-caste, and three out of twenty-five were from the advantaged Janjati group. Out of fifty-five suicidal attempts made by respondents, three out of twenty-five were from the Hindu religion, and three out of twenty belonged to the Kirat religion. The difference in suicidal attempts according to the marital status was statistically significant. (Table 2)

The analysis revealed that among 137 respondents having suicidal thoughts, four out of five respondents had depressive symptoms. One in twenty respondents had experienced bullying, and the difference is significant, as revealed by the p-value less than 0.05. Regarding substance use, one out of two alcohol users and drug users, and two out of five current smokers had suicidal thoughts. However, one out of three non-smoker

respondents and one out of four alcohol nonuser respondents also had suicidal thoughts which is statistically significant. One out of two respondents with a history of chronic illness had suicidal thoughts, and nine out of twenty respondents with a family history of suicide had experienced suicidal thoughts which is significant as shown by the result.

The analysis revealed that twelve out of twenty-five respondents attempting suicide had depressive symptoms, and one in five respondents attempting suicide had been bullied in the past. Similarly, eleven out of twenty respondents and one out of ten respondents attempting suicide had moderate and high self-esteem, respectively. One out of five respondents attempting suicide were alcohol users, and three in five were cigarette smokers. Nine in twenty-five respondents attempting suicide did not have parental support. However, one in ten respondents having high

parental support had also attempted suicide. Almost one out of three respondents attempting suicide had experienced loneliness, which is statistically significant. (Table 3)

DISCUSSION

The current study has identified the high burden of suicidal thought, plan, and attempt among adolescents in the rural municipality of Eastern Nepal. The study has reported the prevalence of suicidal thoughts as 30.93%, suicidal plans as 22.12%, and suicidal attempts among adolescents as 12.42%. Our study revealed the high prevalence of suicide among adolescents, which is different from the findings revealed by a global school health survey conducted in Nepal.³ This current finding is similar to Zambia's results, which showed 31.3% of suicidal thoughts among adolescents and Europe with 30.8%.^{11,12} The prevalence of suicidal plans revealed by the current study is 22.12 %, which is consistent with the pooled analysis of 59 low and middle-income countries, which had revealed a 23.7% prevalence of suicidal planning in the African region.¹³ Similarly, the current study's findings contradict the study conducted in Morocco, which revealed most suicidal plans among adolescents with 6.3%.¹⁴ The prevalence of suicidal attempts in the current study is 12.42 %, which is similar to the findings from a global school health survey conducted in Nepal.³ Similarly, the prevalence of suicidal attempts revealed in our study is consistent with the global school health survey conducted in Thailand with 13.3%, Maldives with 12.7%, and Bhutan with 11.3%.² The findings from a pooled analysis of 59 low and middle-income countries had a higher prevalence of suicidal attempts with 16.9%.¹³ The differences in suicidal ideation and suicidal attempts in different countries might be due to access to various means of committing suicide.

The study cannot be generalized to other age groups since only the adolescents were included. The COVID-19 pandemic effect might have influenced the study's result since it was conducted in the pandemic period.

CONCLUSION

Adolescence is a vulnerable stage in which they are exposed to heightened risk and challenges. The current study results suggest that adolescents are facing significant mental health problems leading to suicidal behavior. The study revealed the high prevalence of suicidal thought as 30.93 %, suicidal plan as 22.12 %, and suicidal attempt as 12.42 % among the rural municipality adolescents. Early detection of a problem is essential for timely

management, and results identified from the study play an important role in preventing the mental health problem among adolescents. Access to mental health services must be scaled up in the rural municipality for appropriate screening, management, and referral of mental health problems to prevent suicidality among adolescents.

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