

Effectiveness of an Educational Intervention on Suicide Prevention among School Students

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Abstract

Introduction: Suicide is the third leading cause of death among individuals aged 15 to 24, but it is largely preventable through school-based programs. Multiple factors such as lack of parental support, negative teacher attitudes, bullying, academic pressure, and substance use are associated with suicidal thoughts and behaviors in adolescents.

Methods: This study utilized a pre-experimental one-group pre-test and post-test design to assess the effect of an educational intervention on students' knowledge regarding suicide prevention. Conducted at Shree Chandi Bhairav Secondary School in Chandragiri-2, Chisapani, Kathmandu. The study included 65 students from grades 8, 9, and 10. A non-probability purposive sampling method with a census approach was used to select participants. Data were collected using a semi-structured, self-administered questionnaire comprising two sections. The study was implemented in three phases: a pre-test was first conducted, followed by a 60-minute educational session, and a post-test was administered one week later using the same tool. Ethical clearance was obtained from the IRC of phect Nepal, with informed consent from parents and assent from students. Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired t-test) were applied for data analysis.

Results: Before the intervention, 90.8% of students showed low knowledge, with only 9.2% demonstrating adequate understanding. Post-intervention, 69.2% achieved an adequate level of knowledge. The statistical analysis confirmed a significant improvement in knowledge scores after the educational session.

Conclusion: Educational interventions effectively enhanced students' understanding of suicide prevention.

Keywords: Educational intervention, Knowledge, Suicide prevention

Introduction

Psychosocial problems are common among adolescents and can significantly affect their daily functioning. Suicide often associated with mental illness, chronic conditions, and substance abuse is a major public health issue and a leading cause of death among youth globally.^{1,2} Between 2011 and 2020, it ranked as the second leading cause of death for individuals aged 10–24 and remains the second leading cause for adolescents aged 10–19 in the USA.^{2,3} In Nepal, rising suicide rates among adolescents highlight a growing mental health crisis, further worsened by underreporting of suicide attempts.⁴ Contributing factors include psychological distress, social isolation, stigma, and the influence of digital media.⁵⁻⁸ Alarming, only 47.7% of adolescents in Chitwan were found to have sufficient knowledge of suicide prevention.¹ Educational interventions in schools have proven effective in raising awareness, encouraging help-seeking, and reducing stigma.⁹ This study aimed to evaluate the effectiveness of such an intervention among Nepalese adolescents.

Methods

This study used a pre-experimental one-group pre-test and post-test design to assess

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the effect of an educational intervention on students' knowledge of suicide prevention. The research was conducted at Shree Chandi Bhairav Secondary School, Chandragiri-2, Chisapani, Kathmandu. The study population included all 65 students from grades 8, 9, and 10, who were selected through purposive non-probability sampling using a census method.

A Nepali version of questionnaire was used to collect the data. Pretesting of the questionnaire was conducted among seven students at Jana Sewa Secondary School, Kirtipur. Data were collected using a self-administered questionnaire comprising two sections: socio-demographic information and knowledge regarding suicide prevention. The data collection process occurred in three phases: a pre-test, a 60-minute educational session using various teaching aids, and a post-test conducted one week later using the same questionnaire.

Ethical approval was obtained from the IRC of phect-NEPAL. Parental consent and student assent were secured. Confidentiality and anonymity were maintained throughout the study. Data were collected from April 22 to April 29, 2025 and analyzed using SPSS version 20, applying descriptive statistics and paired t-tests to assess the effectiveness of the intervention.

Results

Table 1 reveals the socio-demographic characteristics of the respondents. All participants were aged between 13 and 17 years. Less than half (43.1%) of the respondents were female. A majority (55.4%) identified as belonging to the Janajati ethnic group. Only 23.1% of the respondents came from nuclear families, while a significant majority (83.1%) reported following the Hindu religion.

Table 1: Socio-demographic Information of the Respondents (n=65)

Variables	Number	Percentage (%)
Gender		
Male	37	56.9
Female	28	43.1
Ethnicity		
Brahmin/chhetri	25	38.5
Janajati	36	55.4
Other	4	6.2
Family Structure		
Nuclear	15	23.1
Joint	50	76.9
Religion		
Hindu	54	83.1
Non-Hindu	11	16.9

Table 2: Pre-Test and Post-Test Knowledge regarding Suicide Prevention (n=65)

Level of knowledge	Pre test		Post test	
	Number	Percent	Number	Percent
Low level of knowledge	59	90.8%	20	30.8%
Adequate knowledge	6	9.2%	45	69.2%

Table 2 shows the pre-test and post-test knowledge regarding suicide prevention, majority (90.8%) of the respondents have low level of knowledge and only (9.2%) of them have adequate level of knowledge in pre-test whereas (30.8%) of the respondents have poor level of knowledge and majority of them (69.2%) have adequate level knowledge in post-test.

Table 3: Comparison of Pre-Test and Post-Test Knowledge regarding Suicide Prevention

Measure	Mean Difference	Standard Deviation (SD)	Standard Error Mean (SEM)	95% Confidence Interval	t-value	df	p-value
Pre-test – Post-test	-25.60	11.95	1.05	-27.67 to -23.53	-24.43	129	< .001

Table 3 presents the comparison between pre-test and post-test knowledge scores related to suicide prevention. A paired samples correlation analysis was conducted to examine the relationship between students' knowledge before and after the educational intervention. The results indicated a statistically significant and moderately strong positive correlation ($r = 0.622$, $p < .001$), suggesting that students who performed well in the pre-test also tended to score higher in the post-test. This reflects a consistent pattern in individual performance across both assessments.

To evaluate the effectiveness of the intervention, a paired samples t-test was conducted. The analysis revealed a statistically significant improvement in knowledge following the educational session, with a mean difference of -25.60 ($SD = 11.95$), $t(129) = -24.43$, $p < .001$. The 95% confidence interval for the mean difference ranged from -27.67 to -23.53, indicating a substantial increase in knowledge levels. These results provide strong evidence supporting the effectiveness of the educational intervention in enhancing students' understanding of suicide prevention.

Discussion

In this study, all participants were within the 13–17-year age range. This is in line with findings from a study conducted in India, which showed that the majority of adolescents (85%) fell within the 15–18-year age group.¹⁰

In terms of family structure, only 15 participants (23.1%) came from nuclear families, while the majority, 50 participants (76.9%), were from joint families. This finding differs from the Indian study, where 51% of adolescents belonged to joint families and 49% to nuclear families.¹⁰ With regard to knowledge on suicide prevention, the pre-test results revealed that 90.8% of participants had a low level of knowledge, while only 9.2% demonstrated an adequate understanding. Following the educational intervention, there was a marked improvement in the post-test scores, with just 30.8% showing poor knowledge and 69.2% achieving an adequate level of knowledge. These results are supported by the study conducted by Marbaniang et al, which reported that only 5% of respondents had good

knowledge in the pre-test, compared to 50% in the post-test.¹¹

Similarly, another study showed that the number of students scoring 80% or higher on the assessment increased significantly from pre-test to post-test (701 to 2,180), highlighting the effectiveness of the ADAP curriculum.¹²

Further evidence comes from a systematic review and meta-analysis which concluded that school-based educational interventions significantly reduced suicidal ideation and suicide attempts among youths.¹³ These findings are also aligned with the results from a study which reported significantly lower rates of suicide attempts and increased knowledge about depression and suicide among students who received the intervention.¹⁴

In the present study, the comparison of pre- and post-test knowledge scores revealed a statistically significant improvement following the educational intervention. The mean difference was -25.60 (SD = 11.95), with $t(129) = -24.43$, $p < .001$. The 95% confidence interval for the mean difference ranged from -27.67 to -23.53, confirming a substantial enhancement in knowledge levels. Moreover, a statistically significant and moderately strong positive correlation was observed ($r = 0.622$, $p < .001$), suggesting that students who performed better in the pre-test also tended to perform better in the post-test.¹⁵

These findings are comparable to those of a study conducted among 137 adolescents in both urban and rural schools, where life skills training was implemented. A follow-up assessment conducted six months post-intervention using the Life Skills Assessment Scale revealed a statistically significant increase in life skills scores ($p < 0.001$).¹⁵

Conclusion

This study concludes the effectiveness of targeted educational interventions in improving students' knowledge about suicide prevention. Such programs play a crucial role in increasing awareness and promoting the adoption of preventive measures among school-aged youth. It is further recommended that school health initiatives, such as mental health talk desks, be implemented across both rural and urban areas to enhance outreach and awareness on suicide prevention.

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