



Effectiveness of a Structured Teaching Programme on Knowledge and Attitude Regarding Suicide and Its Prevention Among Pre-University Students in Bangalore: A Pre-Experimental Study

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ABSTRACT

Background: Suicide is a major public-health concern among adolescents and young adults. Pre-University (PU) students are exposed to academic, emotional and social pressures, and structured education may strengthen knowledge and attitudes related to suicide prevention. **Objective:** To assess knowledge and attitude regarding suicide and its prevention among PU students and to determine the effectiveness of a structured teaching programme. **Methods:** A quantitative, pre-experimental one-group pre-test–post-test design was employed among 85 PU students in a selected college in Bangalore. Participants were selected by non-probability convenience sampling. A structured knowledge questionnaire and attitude scale were administered before the intervention. The structured teaching programme was delivered in a single 30–45-minute lecture-cum-discussion session supported by audio-visual aids; post-test assessment was conducted 7 days later. Descriptive statistics, paired t-tests and chi-square tests were used for analysis. **Results:** Adequate knowledge was reported by 76.2% of students at pre-test and 97.6% at post-test; favorable attitude increased from 64.5% to 84.5%. Mean knowledge scores increased from 22.44 ± 3.175 to 27.53 ± 2.994 ($t = -10.859$, $p < 0.0001$). Mean attitude scores increased from 39.44 ± 4.905 to 41.73 ± 4.635 ($t = -3.395$, $p < 0.001$). No significant association was reported between pre-test knowledge and the assessed sociodemographic variables. **Conclusion:** The structured teaching programme was associated with statistically significant improvements in knowledge and attitude regarding suicide and its prevention among PU students. School/college-based mental-health education may be a valuable component of adolescent suicide-prevention efforts.

Keywords: structured teaching programme; suicide prevention; knowledge; attitude; Pre-University students; adolescents; Bangalore

INTRODUCTION

Suicide represents one of the most urgent global public-health challenges. According to the World Health Organization (WHO), approximately 703,000 individuals die by suicide each year, making it the fourth leading cause of death among individuals aged 15–29 years worldwide (1). Suicidal behaviour encompasses a spectrum from ideation and planning to attempt and completion, and is strongly associated with untreated mental disorders, social isolation, adverse life events, and restricted access to mental-health services (2). The disproportionate burden borne by young people underscores the need for targeted, evidence-based preventive strategies.

In India, suicide remains a pressing public-health concern, with the National Crime Records Bureau (NCRB) reporting 164,033 suicide deaths in 2021—a rate of 12.0 per 100,000 population (3). Adolescents and young adults are particularly vulnerable, and academic institutions have been identified as critical settings for early intervention. Pre-University (PU) students in India face heightened academic stress, competitive examination pressures, and significant psychosocial transitions, all of which may predispose them to suicidal ideation (4). Studies among adolescents in Asian countries have demonstrated that depression, anxiety, and academic pressure are key risk factors for suicidal ideation in this population (5). Globally, suicidal behaviour among youth is recognised as a multifaceted phenomenon requiring multilevel preventive approaches, including school-based education programmes (6).

Structured teaching programmes (STPs) are a recognized educational intervention designed to systematically impart

targeted knowledge and foster attitudinal change within a defined timeframe. Evidence suggests that school- and college-based educational interventions can meaningfully improve knowledge about suicide risk factors and help-seeking behaviours, reduce stigma, and cultivate supportive attitudes toward mental health (7,8). A systematic review of school-based suicide prevention interventions highlighted the importance of structured curricula that address both awareness and help-seeking skills, particularly for younger populations (9). Despite the growing body of international evidence, high-quality pre-experimental evaluations of STPs in the Indian PU college context remain limited, constituting a meaningful gap that the present study aimed to address.

OBJECTIVES

1. To assess the pre-test level of knowledge regarding suicide and its prevention among PU students.
2. To assess the pre-test level of attitude regarding suicide and its prevention among PU students.
3. To determine the effectiveness of the structured teaching programme on knowledge and attitude regarding suicide and its prevention among PU students.
4. To determine the association between the pre-test level of knowledge and attitude with selected sociodemographic variables among PU students.

MATERIALS AND METHODS

Research Approach and Design

A quantitative research approach was adopted with a pre-experimental one-group pre-test–post-test design. This design

was selected to evaluate the effectiveness of the structured teaching programme (STP) on knowledge and attitude regarding suicide and its prevention, without the use of a control group.

Setting and Participants

The study was conducted at a selected Pre-University (PU) college in Bangalore, Karnataka, India. The target population comprised PU students (Grade XI and XII equivalents) enrolled in the institution. Eligibility criteria included: (i) PU students present on the day of data collection and willing to participate; (ii) students who could read and write English or Kannada. Students with prior formal training in suicide prevention were not excluded but were noted as a demographic variable. A total of 85 students constituted the study sample.

Sampling

A non-probability convenience sampling technique was employed to recruit participants from the selected PU college. Students who met the eligibility criteria and were available and willing to participate during the data-collection period were included in the study. A total of 85 students constituted the final sample. The sample size was determined based on the availability of eligible participants at the selected study setting during the study period.

Tools for Data Collection

Two investigator-developed instruments were used: (i) a structured knowledge questionnaire comprising 30 items covering suicide epidemiology, risk factors, warning signs, myths and facts, and prevention strategies; and (ii) a structured attitude scale comprising 20 items. The knowledge questionnaire was scored on a 0–1 dichotomous scale (maximum score 30) and categorised as: adequate knowledge ($\geq 75\%$ correct, i.e., $\geq 23/30$); moderately adequate knowledge (50–74%, i.e., 15–22/30); and inadequate knowledge ($< 50\%$, i.e., $< 15/30$). The attitude scale used a 3-point Likert response format (maximum score 60) and was categorised as: favorable attitude ($\geq 75\%$, i.e., $\geq 45/60$); neutral/moderate attitude (50–74%, i.e., 30–44/60); and unfavorable attitude ($< 50\%$, i.e., $< 30/60$). Content validity was established through expert review. Reliability was assessed in a pilot study: split-half reliability coefficient for the knowledge questionnaire was $r = 0.80$, and Cronbach's α for the attitude scale was 0.80, both indicating acceptable internal consistency.

Intervention: Structured Teaching Programme

The STP was delivered as a single structured, 30–45-minute lecture-cum-discussion session, supported by audio-visual aids. The content covered: the definition, epidemiology, and burden of suicide; risk factors and warning signs; myths versus

facts regarding suicide; and prevention strategies, including available resources and help-seeking pathways. The programme was developed by the investigator and validated by experts in psychiatric nursing and mental health prior to implementation.

Data Collection

Main study data collection was conducted from 1 to 18 July 2025. On Day 1, written informed consent was obtained from all participants, followed by administration of the pre-test (knowledge questionnaire and attitude scale). The STP was then delivered to all participants in the same session. On Day 8 (seven days post-intervention), the post-test was administered using the same instruments. Section I of the tool captured sociodemographic data including age, sex, stream, year of study, family type, parental education, parental occupation, previous training in suicide prevention, sleep pattern, and academic stress.

Statistical Analysis

Data were analysed using descriptive and inferential statistics. Frequency distributions and percentages were used to describe sociodemographic characteristics and levels of knowledge and attitude. The paired t-test was applied to evaluate the significance of pre- and post-test differences in mean scores. Chi-square tests were used to examine associations between pre-test knowledge and attitude levels and selected sociodemographic variables. A p-value of < 0.05 was considered statistically significant. Analysis was performed using standard statistical software.

Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee of Miranda College of Nursing, Bangalore. Permission to conduct the study was obtained from the Principal of the PU college. Written informed consent was obtained from all participants prior to data collection; for participants under 18 years of age, parental or guardian consent was also sought in accordance with institutional requirements. Participation was voluntary, and confidentiality of data was maintained throughout.

RESULTS

Data were collected from 85 PU students. Table 1 summarises selected sociodemographic characteristics. The majority of participants were female ($n = 64$; 75.3%), enrolled in the first year of PUC ($n = 77$; 90.6%), and pursuing the Science stream (97.6%). Academic stress was reported by 62.4% of participants, and 91.8% had not previously received any formal suicide-prevention training.

Table 1. Selected sociodemographic characteristics of participants (N = 85)

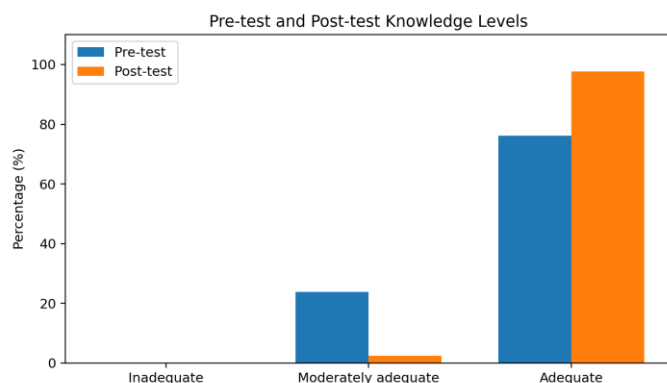
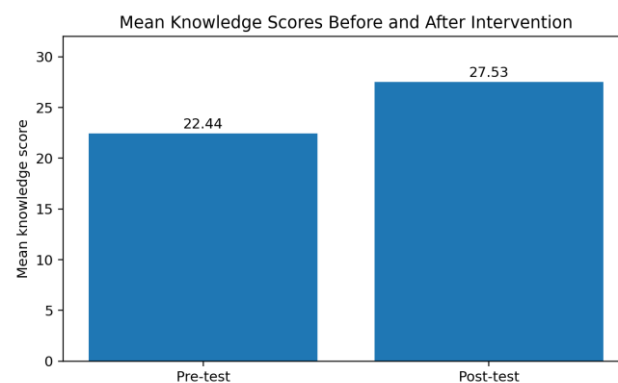
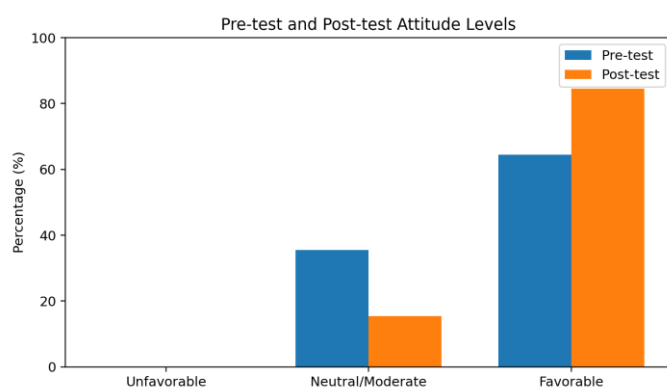
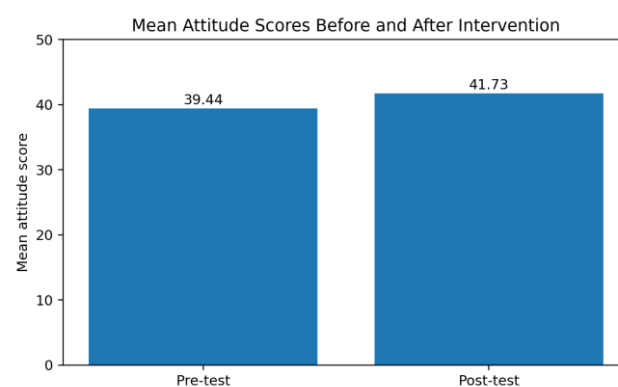
Characteristic	Category	n	%
Gender	Male	21	24.7
	Female	64	75.3
Year of study	I year PUC	77	90.6
	II year PUC	8	9.4
Academic stress	Yes	53	62.4
	No	32	37.6
Previous suicide-prevention training	Yes	7	8.2
	No	78	91.8

Table 2. Pre-test and post-test levels of knowledge and attitude (N = 85)

Outcome	Level	Pre-test n (%)	Post-test n (%)
Knowledge	Inadequate	0 (0)	0 (0)
	Moderately adequate	20 (23.8)	2 (2.4)
	Adequate	65 (76.2)	84 (97.6)
Attitude	Unfavorable	0 (0)	0 (0)
	Neutral/Moderate	30 (35.5)	13 (15.5)
	Favorable	55 (64.5)	72 (84.5)

Table 3. Effectiveness of the structured teaching programme: paired t-test results (N = 85)

Outcome	Pre-test Mean±SD	Post-test Mean±SD	Paired t	p value
Knowledge	22.44±3.175	27.53±2.994	-10.859	<0.0001
Attitude	39.44±4.905	41.73±4.635	-3.395	<0.001

**Figure 1. Percentage distribution of pre-test and post-test knowledge levels.****Figure 3. Comparison of mean pre-test and post-test knowledge scores.****Figure 2. Percentage distribution of pre-test and post-test attitude levels.****Figure 4. Comparison of mean pre-test and post-test attitude scores.**

The mean knowledge score increased by 5.09 points (from 22.44 to 27.53) following the STP, and this improvement was highly statistically significant (paired $t = -10.859$, $p < 0.0001$). The mean attitude score increased by 2.29 points (from 39.44 to 41.73), also reaching statistical significance (paired

$t = -3.395$, $p < 0.001$). Chi-square analysis indicated no statistically significant association between pre-test knowledge levels and the sociodemographic variables assessed.

DISCUSSION

The principal finding of this study was a statistically significant improvement in knowledge regarding suicide and its prevention following a single-session structured teaching programme. Mean knowledge scores increased from

22.44±3.175 at pre-test to 27.53±2.994 at post-test (paired $t = -10.859$, $p < 0.0001$), and the proportion of students with adequate knowledge rose from 76.2% to 97.6%. These findings are consistent with Nebhinani et al. (2020), who reported significant improvements in suicide-related knowledge among medical students following brief

educational training (10). Similarly, Strunk et al. (2014) demonstrated that a structured school-based suicide prevention and depression awareness programme was associated with statistically significant increases in knowledge and help-seeking intention among adolescents (11). The breadth of improvement observed in the present study may reflect the receptivity of PU students to structured mental-health education in an academic context, as well as the relative novelty of the content, given that 91.8% reported no prior exposure to suicide-prevention training.

A statistically significant improvement in attitude was also observed, with the mean attitude score increasing from 39.44 ± 4.905 to 41.73 ± 4.635 (paired $t = -3.395$, $p < 0.001$). The proportion of students with a favorable attitude toward suicide prevention increased from 64.5% to 84.5%. These findings align with Robinson et al. (2013), whose systematic review of school-based suicide prevention interventions found that educational programmes were effective in improving both knowledge and attitudes among young people (9). Breet et al. (2021), in a systematic review and narrative synthesis of suicide prevention programmes in high schools and universities, similarly highlighted the value of structured educational content in reducing stigma and fostering help-seeking attitudes (13). The comparatively modest magnitude of attitudinal change relative to knowledge change in the present study may reflect the well-documented observation that attitudes are inherently more resistant to change than knowledge, and that sustained attitude modification may require more intensive, multi-session interventions.

The contextual characteristics of the study sample are noteworthy. More than three-fifths of participants reported experiencing academic stress, and the vast majority were first-year PUC students who had recently transitioned from secondary school. In India, the PU phase is frequently characterised by intensified examination preparation and heightened psychosocial pressures, factors that have been identified as risk-related in the epidemiological literature (3,4). The finding that only 8.2% of participants had prior exposure to any suicide-prevention training underscores the scarcity of formal mental-health education at this educational level in the Indian context, and supports the case for integrating such content into routine health education programmes in PU colleges.

The study design, a one-group pre-experimental pre-test–post-test design, is a recognised limitation. In the absence of a control group, the observed improvements cannot be attributed exclusively to the STP; maturation effects, test-retest learning, and expectancy effects cannot be entirely ruled out. The 7-day post-test interval measured short-term retention rather than sustained learning or behavioural change. A randomised controlled or quasi-experimental design with a longer follow-up period would provide a more robust evidence base. Such design refinements are recommended for future studies. These methodological considerations are consistent with those raised in the broader literature on suicide prevention evaluation, where the evidence base for educational interventions would be considerably strengthened by controlled designs and longer follow-up (12).

NURSING IMPLICATIONS

The findings of this study hold several implications for nursing practice, education, administration, and research. In practice, nurses working in educational and community settings are

well-positioned to conduct adolescent mental-health screening, deliver structured health education on suicide prevention, and facilitate timely referral and counselling. The results suggest that even a brief, single-session structured intervention can produce meaningful short-term knowledge and attitudinal improvements in this population.

In nursing education, these findings support strengthening undergraduate and postgraduate curricula with content on adolescent mental health, psychiatric nursing, therapeutic communication, and suicide assessment and prevention. Nurse educators may consider incorporating structured, evidence-based teaching modules on suicide prevention into health education practicum placements in schools and colleges. At the administrative level, nursing managers and hospital administrators may develop institutional protocols for periodic mental-health awareness training, establish interdisciplinary referral pathways, and foster partnerships between health services and educational institutions. Further nursing research should test culturally adapted and multi-session suicide prevention interventions in diverse Indian educational settings using randomised controlled or quasi-experimental designs, larger and more representative samples, and longer follow-up periods to evaluate sustained outcomes.

LIMITATIONS

- Single-institution setting: the study was conducted in one selected PU college in Bangalore, which limits the generalizability of findings to other educational, geographic, and cultural contexts.
- Pre-experimental design: the absence of a control group precludes causal attribution of the observed improvements to the intervention alone; confounding factors cannot be eliminated.
- Short follow-up: the 7-day post-test interval assessed immediate knowledge and attitudinal retention but does not provide evidence regarding long-term change or behavioural outcomes.
- Internal inconsistencies in the source dissertation: a limitation statement in the original document refers to a sample of 60, although the methodology and all results consistently report $N = 85$; this documentation inconsistency should be corrected before submission.
- Data discrepancies: some reported frequencies and sociodemographic association findings are internally inconsistent and require verification against original statistical output before publication.

RECOMMENDATIONS

Structured mental-health and suicide-prevention education should be formally incorporated into PU-level health education programmes, with periodic awareness sessions for students. Training for teachers, counsellors, and school-health personnel may further extend the reach of preventive education. Institutions should strengthen counselling and referral infrastructure, support parent engagement, and promote multidisciplinary collaboration between health and education sectors. Future studies should employ larger, geographically and sociodemographically diverse samples; controlled or quasi-experimental designs with active comparator groups; multi-session interventions with booster components; and longitudinal follow-up to evaluate sustained knowledge, attitudinal, and behavioral change.

CONCLUSION

This pre-experimental study demonstrated that a single-session structured teaching programme was associated with statistically significant short-term improvements in both knowledge and attitude regarding suicide and its prevention among PU students in a selected college in Bangalore. The findings support the potential value of structured, age-appropriate mental-health education within academic settings and are consistent with comparable international evidence. However, the absence of a control group, the limited follow-up period, and internal inconsistencies in the source data require cautious interpretation. These findings should be regarded as preliminary evidence warranting confirmation through methodologically rigorous controlled studies. Addressing the identified data discrepancies before submission to a peer-reviewed journal is strongly recommended.

ETHICAL APPROVAL: Ethical approval was obtained from the Institutional Ethics Committee of Miranda College of

Nursing, Bangalore. Permission to conduct the study was obtained from the Principal of the participating PU college.

CONSENT TO PARTICIPATE: Written informed consent was obtained from all participants. For participants under 18 years of age, parental or guardian consent was obtained as applicable.

CONFIDENTIALITY: Participant confidentiality and anonymity were maintained throughout the study.

FUNDING: No external funding was received for this study.

CONFLICT OF INTEREST: The author declares no conflict of interest.

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