

“A STUDY TO ASSESS THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING EARLY DETECTION AND MANAGEMENT OF SUICIDAL BEHAVIOUR IN ADOLESCENCE AMONG SCHOOL TEACHERS IN SELECTED SCHOOLS AT HASSAN”.

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ABSTRACT

This study was undertaken to evaluate the effectiveness of a Self-Instructional Module (SIM) on the knowledge of high school teachers regarding the early detection and management of suicidal behavior in adolescence. An evaluative, quasi-experimental research design (pre-test, intervention, and post-test) was conducted among 50 high school teachers selected via simple random sampling from private, urban high schools in Hassan district. Baseline knowledge was evaluated using a validated 40-item structured knowledge questionnaire, followed by the administration of the SIM, and a post-test 7 days later. The pre-test baseline showed that the majority of respondents (68%) possessed inadequate knowledge, with an overall mean score of 17.62 (44.1%). After SIM implementation, the mean score expanded significantly to 32.34 (80.9%), with 64% of participants achieving an adequate knowledge tier and 0% remaining in the inadequate tier. The knowledge enhancement mean of 36.8% was highly significant, with a paired t-test value of 21.33 ($P < 0.05$), validating hypothesis H_1 . Baseline thresholds were significantly associated ($P < 0.05$) with the teachers' sex, marital status, educational status, professional experience, and previous source of information, supporting hypothesis H_2 . The study concludes that the SIM emerged as an exceptionally effective learning tool to bridge information deficits and elevate educator capacity.

Keywords: Adolescent Suicidal Behavior, High School Teachers, Self-Instructional Module, Early Detection, Knowledge Questionnaire, Effectiveness.

INTRODUCTION

Adolescence (10–19 years) is a crucial stage of human development marked by rapid physical, psychological, emotional, and social changes. During this transitional period, adolescents face challenges related to identity, independence, relationships, and emotional adjustment. These changes make them vulnerable to mental health problems such as anxiety, depression, stress, and suicidal behavior.

Suicide is a major public health concern and one of the leading causes of death among adolescents worldwide [1]. Risk factors such as academic pressure, family conflicts, substance abuse, emotional instability, mental disorders, and lack of social support increase the likelihood of suicidal thoughts and attempts among young people [2]. Early identification of warning signs and timely intervention are essential for preventing adolescent suicide [3].

Schools play a vital role in promoting mental health and preventing suicidal behavior. Teachers spend a significant amount of time with students and are often the first to observe changes in behavior, emotional distress, or signs of self-harm. With adequate knowledge and awareness, teachers can act as "gatekeepers" by recognizing at-risk students and referring them for appropriate professional support [4].

NEED FOR STUDY

Research indicates that many adolescents experiencing suicidal thoughts do not seek help, making the role of school teachers even more important [5]. Mental health promotion through supportive school environments, life-skill education, counseling services, and teacher involvement can enhance students' resilience and emotional well-being [6].

Therefore, improving teachers' knowledge regarding adolescent suicide prevention is essential for early detection, timely intervention, and the promotion of positive mental health among school-going adolescents. This can contribute significantly to reducing suicidal behavior and fostering a safer and healthier school environment [7].

STATEMENT OF THE PROBLEM:

“A study to assess the effectiveness of self-instructional module on knowledge regarding early detection and management of suicidal behaviour in adolescence among school teachers in selected schools at Hassan”.

OBJECTIVES:

1. To assess the existing knowledge regarding early detection and management of suicidal behavior in adolescence among school teachers.
2. To develop and administer self-instructional module on early detection and management of suicidal behavior in adolescence
3. To assess the effectiveness of self-instructional module on early detection and management of suicidal behavior in adolescence among school teachers
4. To find out the association between the pre- test knowledge score regarding early detection and management of suicidal behavior in adolescence among school teachers with the selected demographic variables.

HYPOTHESES:

H₁ - There will be significant increase in post-test knowledge scores after administration of self-instructional module regarding early detection and management of suicidal behavior in adolescence among school teachers.

H₂ - There will be significant association between pre-test knowledge scores regarding early detection and management of suicidal behaviour in adolescence among school teachers with the selected demographic variables.

OPERATIONAL DEFINITIONS:

Assess: It refers to process of determining the knowledge regarding early detection and management of suicidal behavior in adolescence among school teachers.

Knowledge: In this study, it refers to the correct responses given by the school teachers which can be expressed in terms of numerical values and can be measured by structured knowledge questionnaire.

Effectiveness: It refers to determine the extent to which the information given through self-instructional module regarding early detection and management of suicidal behavior in adolescence among school teachers has achieved the desired outcome as measured by gain in post-test knowledge scores.

Self- Instructional Module: In this study self- instructional module refers to systematically developed self- instructional learning material designed for the high school teachers by the investigator to provide information regarding definition, causes, warning signs, early identification and management of suicidal behavior in adolescence at the school environment.

High school teachers: It refers to the teacher who certified after her degree as a teacher and with this certification he/she is working in 8th-10th standard classes.

Suicidal behaviour: In this study suicidal behaviour refers to a type of deliberate self-harm and is defined as an intentional human act of killing oneself

Adolescents: It refers to the age between 13-16 years who are studying in selected schools at Hassan.

ASSUMPTIONS:

Study assumes that:

- School teachers who are working at selected schools may have varying knowledge regarding early detection and management of suicidal behaviour in adolescence.
- The knowledge of the school teachers regarding early detection and management of suicidal behaviour in adolescence can be measured by using a Structured Knowledge Questionnaire.
- The knowledge of school teachers regarding early detection and management of suicidal behaviour in adolescence can be improved by administering an self-instructional module.

CONCEPTUAL FRAMEWORK:

The present study aims at assessing the effectiveness of self-instructional module on knowledge regarding early detection and management of suicidal behaviour in adolescence among high school teachers in selected high schools at Hassan. The conceptual framework selected for this study was based on theory of planned behaviour.

RESEARCH METHODOLOGY

Research Approach and Design

- **Approach:** An evaluative, quasi-experimental approach was used to assess and evaluate the knowledge of school teachers regarding the early detection and management of suicidal behavior in adolescence.
- **Design:** A quasi-experimental, pre-test (O1), intervention (X), and post-test (O2) research design was adopted:
 - **O1 (Pre-test):** Assessment of initial knowledge.
 - **X (Intervention):** Provision of a Self-Instructional Module (SIM).
 - **O2 (Post-test):** Evaluation of knowledge 7 days post-intervention.

Study Variables

- **Dependent Variable:** Knowledge scores of school teachers regarding the early detection and management of adolescent suicidal behavior.
- **Independent Variable:** The Self-Instructional Module (SIM) on the early detection and management of adolescent suicidal behavior.
- **Demographic Variables:** Age, sex, religion, marital status, educational status, years of experience, sector of school, area of school, family history of adolescent suicide, and sources of previous information.

Setting and Population

- **Research Setting:** Selected high schools in the Hassan district, chosen based on investigator familiarity, geographical accessibility, and sample availability.
- **Target Population:** High school teachers currently working in the selected schools within Hassan.

Sample and Sampling Technique

- **Sample Size:** 50 high school teachers who met the inclusion criteria.
- **Sampling Technique:** Simple random sampling (probability sampling).
- **Selection Criteria:**
 - **Inclusion:** High school teachers in Hassan who are willing to participate.
 - **Exclusion:** Teachers unwilling to participate or those who have previously attended a workshop/training on adolescent suicidal behavior.

Data Collection Instrument: Data was collected using a self-administered structured knowledge questionnaire divided into two main components:

- **Section A:** Formulated to collect socio-demographic details (10 items).
- **Section B:** A structured knowledge questionnaire consisting of 40 items.

Table 1: Knowledge Questionnaire Breakdown

Sl. No.	Assessment Variable	No. of Questions	Min Score	Max Score
1.	General information about suicidal behavior in adolescence	7	0	7
2.	Causes, risk factors, warning signs, and early detection methods	10	0	10
3.	Management of suicidal behavior in adolescence	23	0	23
	Total	40	0	40

- **Scoring & Grading:** Correct responses scored 1 and incorrect scored 0. Total knowledge levels are graded as Inadequate (0-50%), Moderately Adequate (51-75%), or Adequate (76-100%).

Tool Psychometrics & Module Development

- **Pre-testing:** Evaluated on 5 high school teachers to check feasibility. The tool was deemed understandable, with an average completion time of 30 to 45 minutes.
- **Reliability:** Estimated using the split-half method and Karl-Pearson’s correlation coefficient formula (r_s). The tool achieved a high reliability score of 0.92.
- **Validity:** Content validity was established by mental health nursing experts, 1 medical practitioner, and 1 clinical psychologist with 100% consensus.
- **SIM Development:** Developed using a general-to-specific structure based on extensive literature review and expert guidance. The module covered definitions, risk factors, warning signs, detection, and management. It reached its final shape following modifications suggested by 8 content experts.

Pilot Study

- **Execution:** Conducted from 22/02/2020 to 29/02/2020 with 5 high school teachers from Sri Udayaravi High School (excluded from the main study).
- **Process:** The pre-test and SIM were administered on Day 1, and the post-test followed on Day 7.
- **Results:** The mean pre-test knowledge score was 18 (45%, inadequate), which increased to a post-test mean score of 36.20 (90.5%, adequate), confirming the study's viability and tool feasibility.

Data Collection Procedure

- **Administrative Setup:** Formal permissions were obtained from the principals of the selected high schools.
- **Timeline:** The main study was conducted over a one-week period from 3/3/2020 to 10/3/2020.
- **Implementation:** 1. The investigator established rapport, explained the research aims, and secured written consent. 2. Socio-demographic data and pre-test knowledge scores were collected via the structured questionnaire. 3. The SIM booklet was distributed immediately following the pre-test. 4. Exactly 7 days later, the post-test was administered using the same instrument.

Plan for Data Analysis

- **Descriptive Statistics:** Frequency, mean, percentage, and standard deviation are utilized to organize, compute, and describe demographic variables and knowledge scores.

- **Inferential Statistics:** * **Paired 't' test:** Applied to evaluate the statistical significance of knowledge improvement between the pre-test and post-test.
 - **Chi-square test:** Used to analyze the association between demographic variables and pre-test knowledge levels.
- **Presentation:** All analyzed findings are illustrated through structured tables and diagrammatic figures.

Section I: Socio-Demographic Baseline Data

Table 1: Frequency and percentage distribution table of sociodemographic variables (N = 50).

Demographic Variable	Category	Frequency (N)	Percentage (%)
Age Group	25–35 years	23	46
	35–45 years	12	24
	45–55 years	6	12
	55–60 years	9	18
Sex	Male	21	42
	Female	29	58
Marital Status	Married	40	80
	Unmarried	10	20
Educational Status	Graduate	21	42
	Post Graduate	29	58
Experience (Years)	1–10 years	26	52
	10–20 years	15	30
	20–30 years	9	18
School Sector	Government	0	0
	Private	50	100
School Area	Urban	50	100
	Rural	0	0
Religion	Hindu	40	80
	Christian	4	8
	Muslim	6	12
Family History of Adolescent Suicide	Yes	4	8
	No	46	92
Source of Previous Information	Mass Media	24	48
	Books	18	36
	Health Personnel	5	10
	Others	3	6

Section II: Effectiveness of the Self-Instructional Module (SIM)

Table 2: Knowledge Enhancement and Paired t-Test Analysis (N = 50).

No.	Knowledge Aspects	Pre-Test Mean (%)	Pre-Test SD	Post-Test Mean (%)	Post-Test SD	Enhancement Mean	Paired t-Test Value
I	General information on suicidal behavior	46.0	16.1	80.0	14.1	34.0	11.56*
II	Causes, risk factors, warning signs & detection	40.4	13.8	78.2	14.8	37.8	13.50*
III	Management of suicidal behavior	45.0	11.3	82.3	8.5	37.2	20.88*
	Combined / Overall Summary	44.1	10.0	80.9	8.9	36.8	21.33*

*Note: * Significant at 5% level; Table value $t(0.05, 49df) = 1.96$. The overarching knowledge gains (36.8%) validate and support hypothesis H1.

Shift in Overall Knowledge Classification Levels

- **Inadequate Knowledge (less than or equal to 50% Score):** Decreased dramatically from **68.0%** (34 respondents) in the pre-test down to **0.0%** (0 respondents) in the post-test.
- **Moderate Knowledge (51–75% Score):** Altered from **32.0%** (16 respondents) in the pre-test to **36.0%** (18 respondents) in the post-test.
- **Adequate Knowledge (greater than 75% Score):** Increased remarkably from **0.0%** (0 respondents) in the pre-test up to **64.0%** (32 respondents) following the intervention.
- **Statistical Significance:** chi-square = 66.12* (Significant at 5% level where the critical table value is chi-square (0.05, 2df) = 5.991).

Section III: Chi-Square Association Table

Table 3: baseline associations measured between pre-test teacher knowledge thresholds and their respective baseline backgrounds (N = 50).

Demographic Variables	Category	Inadequate (N)	Inadequate (%)	Moderate (N)	Moderate (%)	Chi-Square Value	P-Value & Significance
Age Group (Years)	25–35	15	65.2	8	34.8	1.64	P > 0.05 (Non-significant)
	35–45	9	75.0	3	25.0		
	45–55	3	50.0	3	50.0		
	55–65	7	77.8	2	22.2		
Sex	Male	11	52.4	10	47.6	4.06*	P < 0.05 (Significant)
	Female	23	79.3	6	20.7		
Marital Status	Married	30	75.0	10	25.0	4.50*	P < 0.05 (Significant)
	Unmarried	4	40.0	6	60.0		
Educational Status	Graduate	18	85.7	3	14.3	5.22*	P < 0.05 (Significant)
	Post Graduate	16	55.2	13	44.8		
Experience (Years)	1–10	21	80.8	5	19.2	7.75*	P < 0.05 (Significant)
	10–20	6	40.0	9	60.0		
	20–30	7	77.8	2	22.2		
Religion	Hindu	28	70.0	12	30.0	0.67	P > 0.05 (Non-significant)
	Christian	2	50.0	2	50.0		
	Muslim	4	66.7	2	33.3		
Family History of Suicide	Yes	3	75.0	1	25.0	0.10	P > 0.05 (Non-significant)
	No	31	67.4	15	32.6		
Source of Info	Mass Media	18	75.0	6	25.0	12.73*	P < 0.05 (Significant)
	Books	13	72.2	5	27.8		
		0	0.0	5	100.0		

	Health Personnel	3	100.0	0	0.0		
	Others						

*Note: * Significant at 5% level. Since sex, marital status, education level, professional experience, and previous resource visibility are statistically associated with baseline knowledge metrics, research hypothesis H2 is formally accepted

Discussion

The primary objective of this study was to evaluate the effectiveness of a Self-Instructional Module (SIM) on the knowledge of high school teachers regarding the early detection and management of suicidal behavior in adolescence. The findings from the baseline socio-demographic data revealed that a significant majority of the participants (68%) initially possessed inadequate knowledge regarding adolescent suicidal behavior. This baseline deficit is a critical concern, given that school teachers are uniquely positioned to serve as frontline observers for identifying early warning signs in adolescents.

Following the implementation of the SIM, a highly significant improvement in knowledge was observed across all measured aspects. The overall mean knowledge score increased markedly from a pre-test percentage of 44.1% to a post-test percentage of 80.9%. Aspect-wise evaluation showed that a substantial surge occurred within the domain of management of suicidal behavior, which improved by 37.2%. This distinct increase indicates that the structural framing of the instructional material, moving systematically from general concepts to specific behavioral interventions, provided highly actionable insights for the educators. The statistical validity of this enhancement was strongly supported by the paired t-test value of 21.33, which vastly exceeded the critical table value (1.96) at the 5% significance level, leading to the clear acceptance of hypothesis H₁.

Furthermore, the chi-square analysis identified that certain demographic baseline variables—specifically sex (chi-square = 4.06), marital status (chi-square = 4.50), educational status (chi-square = 5.22), years of experience (chi-square = 7.75), and the source of previous information (chi-square = 12.73)—exhibited a statistically significant association with the teachers' initial knowledge levels. This statistical confirmation validates and supports hypothesis H2. Interestingly, variables such as age and religion did not show any significant correlation with baseline capabilities. The data strongly indicates that targeted educational interventions can systematically bridge existing informational gaps, proving that structured module-based programs are an effective avenue for enhancing mental health literacy among school staff.

Conclusion

This study successfully demonstrated that the existing knowledge of high school teachers regarding the early detection and management of adolescent suicidal behavior was notably limited prior to the intervention. The prevalence of inadequate knowledge highlights an urgent need for institutional training frameworks within secondary education systems.

The successful implementation of the Self-Instructional Module resulted in a highly meaningful and statistically significant paradigm shift in knowledge levels, upgrading the majority of the participants (64%) into the "adequate knowledge" tier. The dramatic drop in the "inadequate knowledge" segment from 68% down to 0% in the post-test proves that independent learning modules are both feasible and highly efficient vehicles for professional capacity development.

In conclusion, structured self-instructional tools provide a highly reliable, accessible, and statistically sound method for empowering secondary educators with vital mental health surveillance skills. Based on these outcomes, it is highly recommended that similar validated instructional tools be institutionalized across school boards. Equipping teachers with standardized capabilities to detect warning signs early and implement preliminary management protocols can establish a safer, more responsive school ecosystem to support vulnerable adolescents.

Acknowledgements

I express my profound gratitude to the principals and administration of the selected private high schools in Hassan for granting formal administrative permission to conduct this research study. Heartfelt thanks are extended to the 50 high school teachers who willingly consented, dedicated their time, and actively participated in the pre-test, self-instructional module training, and post-test evaluations.

Conflicts of Interest

The authors declare that there are no financial, personal, or professional conflicts of interest that could inappropriately influence or bias the design, execution, data collection, statistical analysis, or interpretation of this study.

Funding and Sponsorship

This research study did not receive any specific grant, financial aid, or sponsorship from funding agencies in the public, commercial, or not-for-profit sectors. The entire study, including the development and printing of the self-instructional module booklets, was completely self-funded by the investigator.

Ethical Considerations and Informed Consent

The study protocol was approved by the institutional review board and relevant school authorities before data collection initiated. Prior to the administration of the baseline structured knowledge questionnaire, appropriate orientation was conducted to explain the overarching aims and nature of the study to all eligible subjects. Written informed consent was explicitly obtained from each participating high school teacher. Adequate care was systematically taken to protect participants from any potential risk while guaranteeing absolute confidentiality, anonymity, security, and identity protection throughout the data management process

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