



“A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING EFFECT OF SUBSTANCE ABUSE ON REPRODUCTIVE HEALTH IN TERMS OF KNOWLEDGE AMONG ADOLESCENT GIRLS STUDYING IN SELECTED COLLEGES OF AHMEDABAD”

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Abstract : Substance abuse among adolescent girls are an increasing health problem. Lack of adequate knowledge regarding effect of substance abuse increases the risk of reproductive health problems. Therefore, it is important to assess awareness about the effect of substance abuse on reproductive health among adolescent girls.

OBJECTIVE: To evaluate the effectiveness of a structured teaching programme regarding the effect of substance abuse on reproductive health among adolescent girls and to find out the association between selected demographic variables with the pre-test knowledge score.

METHODOLOGY: A pre-experimental (one group pre-test post-test) design was adopted for collecting the data from 60 samples using a structured knowledge questionnaire comprising 30 questions.

RESULTS: The post-test knowledge score was higher than the pre-test score with a mean difference of 3.02. The calculated t-value (7.191) was greater than the table value (2.00) at 0.05 level of significance. A significant association was also found with education.

CONCLUSION: The structured teaching programme was effective in improving knowledge regarding the effect of substance abuse on reproductive health among adolescent girls

KEYWORDS: Effect of substance abuse, Reproductive health, Structured Teaching programme, Adolescent girls, Knowledge.

I. INTRODUCTION

Adolescence is an important stage of life marked by major physical, psychological, and social changes. According to the World Health Organization, adolescents form a large part of the population in India. During this period, many young people are vulnerable to risk-taking behaviors such as substance abuse due to curiosity, peer pressure, stress, and lack of proper knowledge. Substance abuse includes the harmful use of alcohol, tobacco, and drugs, and it has become an increasing public health concern among adolescents.

Substance abuse can seriously affect the reproductive health of adolescent girls. The use of alcohol, tobacco, and drugs may cause menstrual irregularities, hormonal imbalance, infertility, increased risk of sexually transmitted infections, and complications during future pregnancies. Research from the National Center on Addiction and Substance Abuse at Columbia University shows that many girls begin substance use during adolescence as a way to cope with stress, emotional problems, and social pressure.

Many factors such as depression, low self-esteem, peer influence, academic stress, and poor parent-child communication increase the risk of substance abuse among adolescent girls. Lack of awareness about its harmful effects on reproductive health also contributes to the problem. Therefore, structured teaching programmes are important to improve knowledge, correct misconceptions, and help adolescent girls make healthy lifestyle choices.

OBJECTIVES OF STUDY

1. To assess the pre-test knowledge score on knowledge regarding effect of substance abuse on reproductive health in terms of knowledge among adolescent girls studying in selected colleges of Ahmedabad.
2. To assess the post-test knowledge score on effect of substance abuse on reproductive health in terms of knowledge among adolescent girls studying in selected colleges in Ahmedabad.
3. To evaluate the effectiveness of structured teaching programme on knowledge regarding effect of substance abuse on reproductive health in terms of knowledge among adolescent girls studying in selected colleges in Ahmedabad.
4. To find out the association of selected demographic variables with pre-test knowledge score regarding effect of substance abuse on reproductive health in terms of knowledge among adolescent girls studying in selected colleges of Ahmedabad.

HYPOTHESIS

H₀- There will be no significant difference in post-test knowledge score after administration of structured teaching programme on knowledge regarding effect of substance abuse on reproductive health among adolescent girls studying in selected colleges of Ahmedabad.

H₁- There will be significant difference in post-test knowledge score after administration of structured teaching programme on knowledge regarding effect of substance abuse on reproductive health among adolescent girls studying in selected colleges of Ahmedabad.

H₂- There will be significant association between pre-test knowledge regarding effect of substance abuse on reproductive health with selected demographic variables among adolescent girls studying in selected colleges of Ahmedabad.

II. REVIEW OF LITERATURE

Substance abuse has profound adverse effects on reproductive health, especially among adolescent girls. The use of substances such as alcohol, tobacco, cannabis and other drugs can lead to menstrual irregularities, hormonal imbalance, infertility, increased risk of sexually transmitted infections, unintended pregnancies, and complications during future pregnancies. Moreover, substance abuse can negatively impact mental health, academic performance, and overall well-being, thereby affecting the quality of life.

Various cross-sectional studies indicate that substance abuse among adolescents and young adults is an increasing public health concern in many countries, including India. Studies conducted in Gujarat, Kerala, Odisha, Sri Lanka, and other regions report varying prevalence rates of tobacco, alcohol, and illicit drug use among adolescents. Research by Anju Dave et al. (2025) and P. K. Jasani et al. (2019) showed that a considerable proportion of adolescents had experimented with tobacco or other substances, with higher prevalence among males, rural residents, and older adolescents. Similar findings from studies in Sri Lanka and Serbia reported that substance use is often associated with peer influence, family history of substance use, psychological stress, and poor academic performance.

Several studies also highlight the negative impact of substance abuse on reproductive and overall health among adolescents and young women. Research conducted in Ambon, Indonesia by Sri Musriniawati Hasan et al. (2024) found a strong association between drug abuse and reproductive health problems such as menstrual irregularities. Similarly, studies in France and Australia reported that substance abuse can lead to sexual health issues, decreased quality of life, and long-term physical and psychological

complications. These findings indicate that biological, social, and behavioral factors collectively influence substance use and its consequences among adolescents.

Interventional studies demonstrate that educational strategies can effectively improve adolescents' knowledge and awareness about substance abuse. Research conducted in Punjab and Karnataka by D. Kumari and A. Dinesan (2025) showed that structured teaching programmes significantly increased knowledge scores among students regarding prevention of substance abuse. Similar results were reported in studies among adolescents and nursing students, where post-test knowledge levels improved significantly after educational interventions. Overall, the reviewed literature suggests that although substance abuse prevalence among adolescents is notable, structured teaching programmes are effective in enhancing awareness and promoting preventive behaviors.

III. RESEARCH METHODOLOGY

A quantitative research approach was adopted to evaluate the effectiveness of a Structured Teaching Program (STP) regarding effect of substance abuse on reproductive health in terms of knowledge among adolescent girls studying in selected colleges of Ahmedabad. The study utilized a pre-experimental one-group pre-test post-test research design. The independent variable was the Structured Teaching Program, while the dependent variable was knowledge regarding effect of substance abuse.

The study was conducted in selected colleges of Ahmedabad. The target population comprised adolescent girls selected colleges, and the accessible population included those who were available and willing to participate during the data collection period. A total of 60 adolescent girls were selected using a non-probability convenient sampling technique. Inclusion criteria included Adolescent girls who can read, write and understand the English language and who are available at the time of data collection.

Data were collected using a self-structured knowledge questionnaire consisting of 30 multiple-choice questions, with a maximum score of 30. Content validity of the tool was established by five nursing experts, and reliability was determined using the test-retest method ($r = 0.8430$), indicating good reliability. A pilot study was conducted to assess feasibility and clarity of the tool.

The pre-test was administered, followed by the Structured Teaching Program using lecture-cum-discussion and audiovisual aids. A post-test was conducted after seven days to evaluate knowledge gain. Data were analyzed using descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired t-test and Fisher's chi-square test).

IV. RESULTS AND ANALYSIS

The data collected from 60 adolescent girls were analyzed using descriptive and inferential statistics to evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding effect of substance abuse on reproductive health.

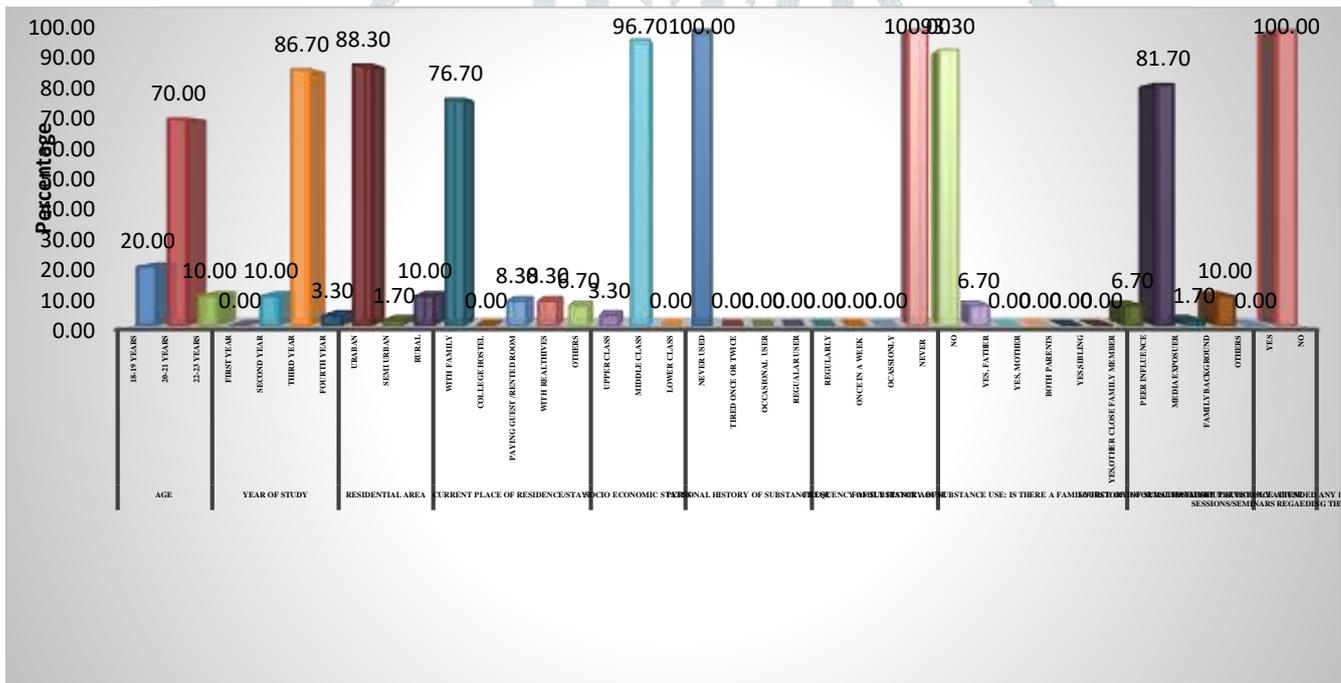
4.1 Demographic characteristics

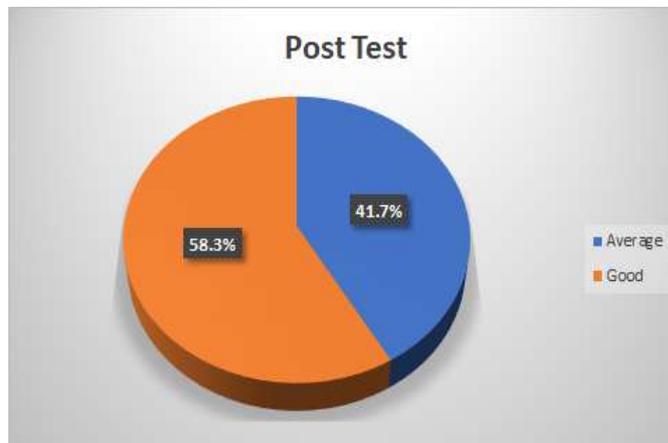
Majority of participants 42 (70%) belonged to the age group of 20–21 years, In year of study, majority of the participants were studying in the Second year 52 (86.70%), With respect to residential area, the majority 53 (88.30%) belonged to urban areas, Regarding the current place of residence, majority of participants 46 (76.70%) were staying with family/parents, In relation to socio-economic status, the majority 57 (95%) belonged to the middle class, Regarding the personal history of substance use, the majority 60 (100%) reported never using substances. Regarding the frequency of substance abuse, all participants 60 (100%) reported never using substances. With respect to family history of substance use, 56 (93.30%) participants reported no family history, Regarding the source of information about substance abuse, the majority obtained information from mass media, followed by friends, family members and educational background. All participants 60 (100%) reported that they had previously not attended informative sessions/seminars regarding prevention and management of substance abuse.

SR No.	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE%
1	AGE GROUP		
	A. 18-19 Years	12	20
	B. 20-21 Years	42	70
	C. 22-23 Years	6	10
2	YEAR OF STUDY		
	A. First year	0	0
	B. Second year	6	10
	C. Third year	52	86.7
	D. Fourth year	2	3.3

3	RESIDENTIAL AREA		
	A. Urban	53	88.3
	B. Semi urban	1	1.7
	C. Rural	6	10
4	CURRENT PLACE OF RESIDENCE / STAY?		
	A. With family/parents	46	76.7
	B. College hostel	0	0
	C. Paying guest (PG)/rented room	5	8.3
	D. With relatives	5	8.3
	E. Other (specify) _____	4	6.7
5	SOCIO - ECONOMIC STATUS		
	A. Upper class	2	3.30
	B. Middle class	58	96.70
	C. Lower class	0	0
6	PERSONAL HISTORY OF SUBSTANCE USE (USED BY SELF)		
	A. Never used	60	100
	B. Tried once or twice	0	0
	C. Occasional user (used within the last 30 days)	0	0
	D. Regular user (weekly/daily use)	0	0.00
7	FREQUENCY OF SUBSTANCE ABUSE		
	A. Regularly	0	0
	B. Once in a week	0	0
	C. Occasionally	0	0
	D.		
	E. Never	60	100
8	FAMILY HISTORY OF SUBSTANCE USE		
	A. No	56	93.3
	B. Yes, Father	4	6.7
	C. Yes, Mother	0	0
	D. Both Parents	0	0
	E. Yes, Sibling	0	0

	F. Yes, Other close family member	0	0
9	SOURCE OF INFORMATION ABOUT SUBSTANCE ABUSE		
	A. Peer influence	4	6.7
	B. Media exposure	49	81.60
	C. Family background	1	1.70
	D. Others	6	10
10	PREVIOUSLY ATTENDED ANY INFORMATIVE SESSIONS/ SEMINARS REGARDING PREVENTION AND MANAGEMENT OF SUBSTANCE ABUSE		
	A. Yes	0	0
	B. No	60	100





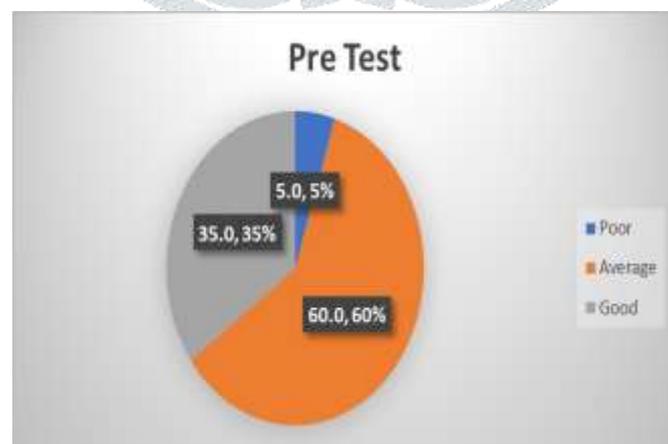
4.2 Comparison of Pre-Test and Post-Test Knowledge Scores

In the pre-test, majority 36 (60 %) had average knowledge, 21 (35 %) had good knowledge and 3 (5 %) had poor knowledge. After administration of STP, 35 (58.30 %) had good knowledge and 25 (41.70 %) had average knowledge, while none remained in the poor category.

The mean pre-test knowledge score was 17.90 (SD = 5.33) and the mean post-test score increased to 20.92 (SD = 4.30). The mean difference was 3.02.

The calculated paired ‘t’ value was 7.191, which was greater than the table value (t = 2.0) at 0.05 level of significance with 59 degrees of freedom. Hence, the difference was statistically significant, indicating that the Structured Teaching Program was effective in improving knowledge regarding effect of substance abuse on reproductive health.

KNOWLEDGE SCORE	PRE-TEST		POST-TEST	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
POOR [0-10]	3	5.0	00	00
AVERAGE [11-20]	36	60.0	25	41.70
GOOD [21-30]	21	35.0	35	58.30
TOTAL	60	100.0	60	100.0



4.3 Area-wise Knowledge Gain

Area-wise analysis revealed maximum percentage gain in knowledge related to types of substance abuse (25%), followed by incidence (18.33%), management (12.50%), prevention (11.90%), and substance-specific effects (11.67%). A moderate gain was observed in knowledge related to cause of substance abuse (7.86%) and definition (5%), while the least gain was observed in effects of substance abuse (3.67%). Overall, the mean percentage of knowledge score increased from 59.67% in the pre-test to 69.72% in the post-test, showing an overall percentage gain of 10.06% after the intervention.

SR NO	AREA OF CONTENT	MAXIMUM SCORE	PRE-TEST KNOWLEDGE SCORE			POST-TEST KNOWLEDGE SCORE			MEAN DIFFERENCE	% GAIN
			Mean score	SD	Mean %	Mean score	SD	Mean %		
1	Definition	1	0.87	0.34	86.67	0.92	0.28	91.67	0.05	5.00
2	Incidence	1	0.50	0.50	50.00	0.68	0.47	68.33	0.18	18.33
3	Types	1	0.18	0.39	18.33	0.43	0.50	43.33	0.25	25.00
4	Cause of substance abuse	7	4.05	1.60	57.86	4.60	1.39	65.71	0.55	7.86
5	Effects of substance abuse	5	3.42	1.43	68.33	3.60	1.15	72.00	0.18	3.67
6	Substance specific effect	4	2.50	1.27	62.50	2.97	1.07	74.17	0.47	11.67
7	Prevention	7	4.20	1.35	60.00	5.03	1.21	71.90	0.83	11.90
8	Management	4	2.18	1.08	54.58	2.68	1.07	67.08	0.50	12.50
	TOTAL	30	17.90	5.33	59.67	20.92	4.30	69.72	3.02	10.06

Area wise knowledge score of samples

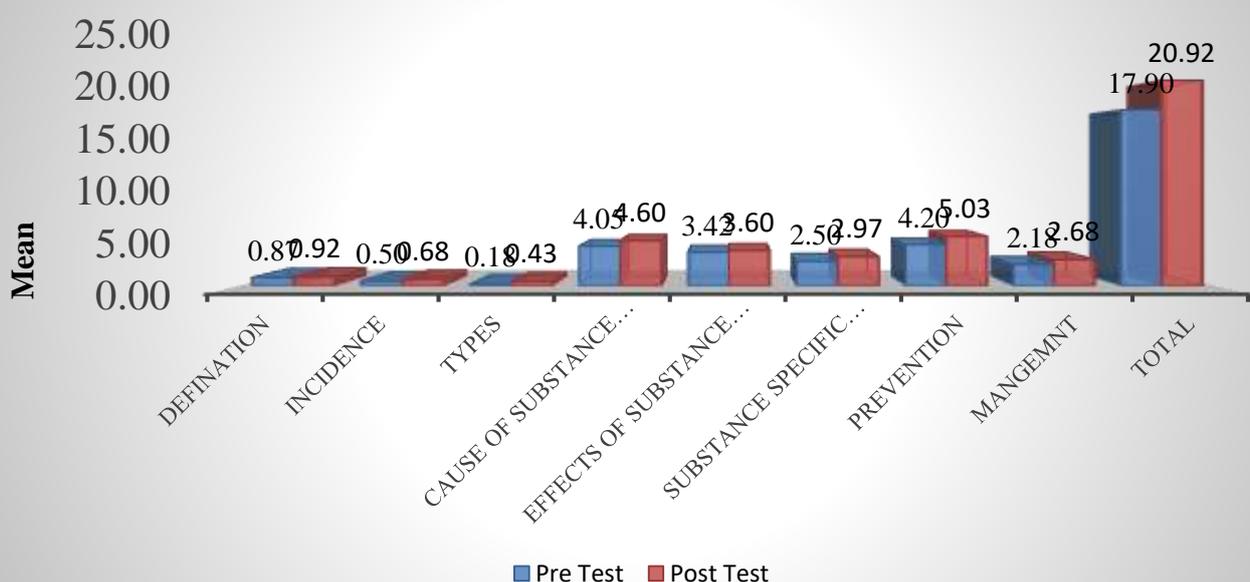
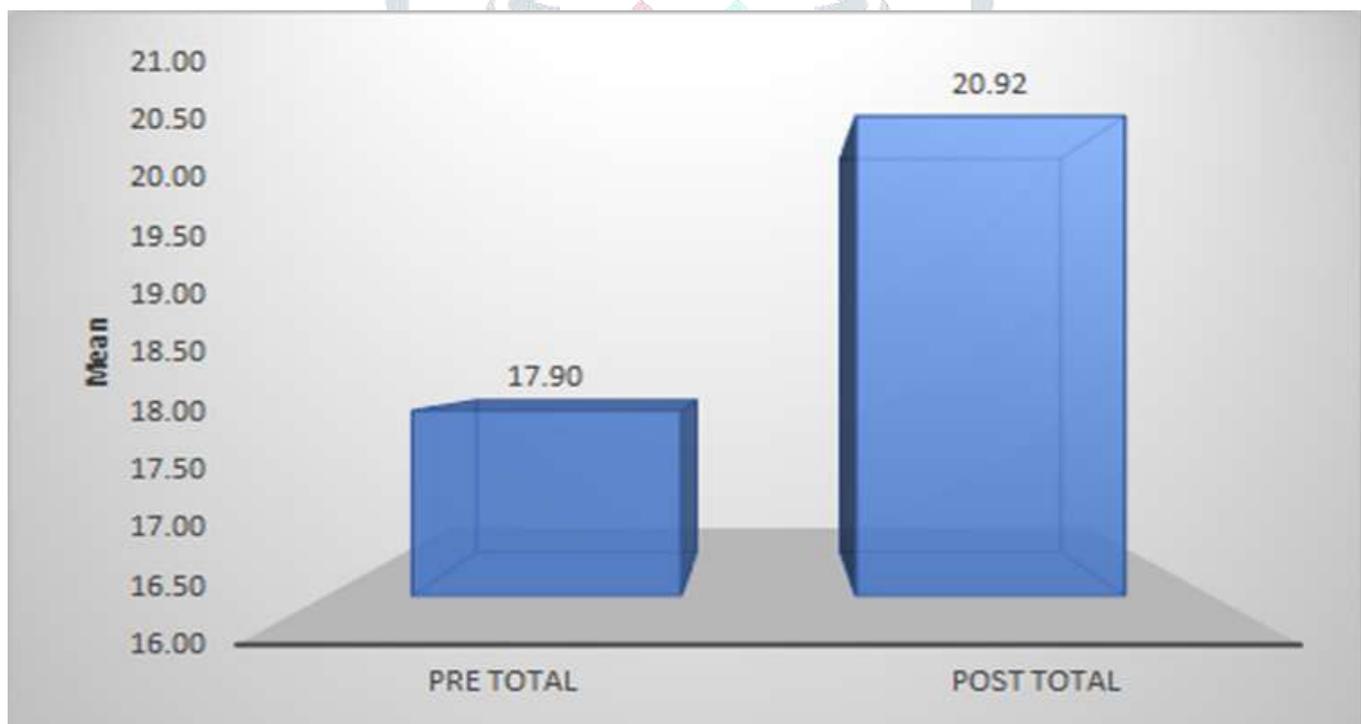


Table 4.4 Mean, Mean Difference, Standard Deviation (SD) and 't' test value of the Pre-test and Post-test Knowledge scores of samples. [N=60]

	MEAN	MEAN DIFFERENCE	SD	CALCULATED "t" VALUE	DF	TABLE VALUE	SIGNIFICANT/NO N-SIGNIFICANT
PRE TEST SCORE	17.90	3.02	5.33	7.191	59	2.0	SIGNIFICANT T
POST TEST SCORE	20.92		4.30				

Table 4.4 shows the comparison of pre-test and post-test knowledge scores on substance abuse among adolescents. The mean pre-test score was 17.90, while the mean post-test score was 20.92, with a mean difference of 3.02. The standard deviation of the pre-test score was 5.33 and the post-test score was 4.30.

The calculated t-value (7.191) was higher than the table t-value (2.0) at 0.05 level of significance with 59 degrees of freedom. Therefore, the null hypothesis was rejected, indicating that the structured teaching programme was effective in improving the knowledge of adolescents regarding substance abuse.



4.5 Association Between Pre-Test Knowledge and Demographic Variables

Chi-square analysis revealed that year of study ($\chi^2 = 14.573$, $p < 0.05$) had significant association with pre-test knowledge scores. Other variables such as age group, residential area, current place of residence/stay, socio economic status, personal history of substance use(used by self), frequency of substance abuse, family history of substance abuse, Source of information about substance abuse, previously attended any informative sessions/seminars regarding prevention and management of substance abuse showed no significant association.

DEMOGRAPHIC VARIABLES		PRE TEST SCORE			TOTAL	Chi Square	D F	Table value	S/N S
		Average	Good	Poor					
AGE GROUP	18-19 years	7	5	0	12	5.213	4	9.48	NS
	20-21 years	24	16	2	42				
	22-23 years	5	0	1	6				
YEAR OF STUDY	First year	0	0	0	0	14.573	4	9.48	S
	Second year	4	0	2	6				
	Third year	30	21	1	52				
	Fourth year	2	0	0	2				
RESIDENTIAL AREA	Urban	32	18	3	53	2.27	4	9.48	NS
	Semi urban	0	1	0	1				
	Rural	4	2	0	6				
CURRENT PLACE OF RESIDENCE/ STAY	With family/ parents	29	14	3	46	2.844	6	12.59	NS
	College hostel	0	0	0	0				
	Paying guest (PG)/rented room	2	3	0	5				

	With relatives	3	2	0	5				
	Other (specify)	2	2	0	4				
Socio - economic status	Upper class	2	0	0	2	2.105	2	5.99	N S
	Middle class	34	21	3	58				
	Lower class	0	0	0	0				
Personal history of Substance use (Used by Self)	Never used	36	21	3	60	Can't be computed			
	Tried once or twice	0	0	0	00				
	Occasional user (used within the last 30 days)	0	0	0	0				
	Regular user (weekly/ daily use)	0	0	0	0				
Frequency of substance abuse	Regularly	0	0	0	0	Can't be computed			
	Once in a week	0	0	0	0				
	Occasionally	0	0	0	0				
	Never	36	21	3	60				
Family history of substance use	No	34	19	3	56	0.561	2	5.99	N S
	Yes, Father	2	2	0	4				
	Yes, Mother	0	0	0	0				
	Both parents	0	0	0	0				
	Yes, sibling	0	0	0	0				
	Yes, Other close family member	0	0	0	0				
Source of information about substance abuse	Peer influence	4	00	0	4	14.746	6	12.59	N S
	Media exposure	29	19	3	49				
	Family background	1	0	0	1				
	Others	2	2	2	6				
previously attended any informative sessions/ seminars regarding prevention and management of substance abuse	Yes	0	0	0	0	Can't be computed			
	No	36	21	3	60				

Conclusion of Analysis

The findings clearly indicate a statistically significant improvement in knowledge scores after the administration of the Structured Teaching Program. Therefore, the null hypothesis (H_0) was rejected and the research hypothesis (H_1) was accepted, confirming the effectiveness of the intervention.

V. Discussion, Conclusion, Implications and recommendations

The study evaluated the effectiveness of a Structured Teaching Program (STP) on knowledge regarding effect of substance abuse on reproductive health among adolescent girls studying in selected colleges of Ahmedabad. The findings showed a significant improvement in knowledge after the intervention. The mean pre-test score (17.90) increased to (20.92) in the post-test, and the calculated 't' value (7.191) was statistically significant at 0.05 level.

Year of study showed significant association with pre-test knowledge, while other demographic variables did not. The findings indicate that structured health education plays an important role in enhancing the knowledge of adolescent girls regarding the effect of substance abuse on reproductive health among adolescent girls.

Conclusion: The study concluded that a knowledge deficit existed before the intervention. The Structured Teaching Program was effective in significantly improving knowledge regarding Effect of substance abuse on reproductive health among adolescent girls.

Implications and Recommendations: The study suggests that nurses should organize regular awareness programs in educational settings. Future research can be conducted with larger samples, experimental designs, and long-term follow-up to assess sustained practice.

ACKNOWLEDGMENT

The authors express their sincere gratitude to the management and faculty of JG College of Nursing, Ahmedabad, Gujarat, for their guidance and academic support in completing this research study.

We extend our heartfelt thanks to our research guide Ms. Joice Alphonsa Jose for her continuous encouragement, valuable suggestions, and constructive feedback throughout the study.

We also acknowledge the support of the participants and all those who directly or indirectly contributed to the successful completion of this research work.

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