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A Pre-experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Substances Abuse among Boys at Selected Senior Secondary Schools in Jalandhar, Punjab state of India

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Abstract

Background: Substances abuse is dangerous not only for health but also in the view of economic and social values. The habit of substance abuse becomes the cause of purposeless waste of money and affects health. This study was conducted to assess the effectiveness of a structured teaching program on knowledge regarding substances abuse among boys at selected senior secondary schools.

Methodology: A pre-experimental pretest-posttest is used. The setting is at senior secondary schools Jalandhar. The sample includes 60 boys selected by a convenient sampling technique. The tool consisted: Part 1 demographic variables and part 2 structured knowledge questionnaire. The reliability of the tool was established by using the split-half method.

Results: The study's findings show that the mean score, median score and SD in the pre-test were 12.78, 12.5 and 2.92, respectively, whereas the mean score, median score, and SD in post-test were 22.58, 23 and 2.02, respectively. The calculated 't' value was found to be 19.2 while the tabulated value of the 't' at 0.05 level of significance is 1.645, which is lesser than the calculated 't' value. It was safely assumed that STP had a definite impact on raising students' knowledge of substances abuse.

Keywords: Effectiveness, Substances abuse, Boys, Senior secondary schools.

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Introduction

Adolescence is signaled by puberty rights, usually in tests of strength and courage. The completion entitles the individual to be recognized as a young adult.[2]

Man's internal thirst for new and more enriching experiences has driven him beyond the routine and mundane pleasure of every day to search for and reliance on substances. Those are even momentarily affording him relief from monotony and uniqueness of perception. These experiences are satiating not only in themselves but also because then. They make the individual stand apart from his fellow beings. Immutable research has been conducted and a great deal more has been written about the nature and consequences of these mind-changing drugs/substances, yet they remain an enigma. They have been hailed as of enormous social, medical, and religious value and the most destructive, pathogenic, and misleading discovery of all times.[3]

In India, the last two decades have been a period of rapid increase in the percentage of drug and alcohol abusers. Alcohol is getting a social sensation over a wider stratum of society. There has been a marked increase in the use of heroin (popularly known as smack and brown sugar) in our country in the last few years. The affected group has also changed. Earlier, it was usually seen among the elites, upper-middle-class, and student communities. But today, the class, age, and education are no bar for drug and alcohol abuse. A new risk group has emerged: youth educated and illiterate, employed and unemployed, rural and urban industrial workers, labor class and people on tour.[5]

Some teens face personal challenges that compound their risk of substance use and addiction. These include: a genetic predisposition toward developing an addiction or a family history of substance use disorders, adverse childhood events, such as abuse, neglect or other trauma, co-occurring mental health problems, peer victimization or bullying.[5]

A range of effective treatments for adolescent substance use disorders has been developed, including cognitive-behavioral techniques and motivational enhancement therapies. Programs

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more likely to be effective are built on strong evidence, are family-oriented, developmentally appropriate, and delivered by qualified health care professionals. Yet programs to treat teens with substance use disorders are few and far between and, of the programs that do exist, few are tailored to the unique needs of teens. Access to treatment is constrained further by cost, limited insurance coverage and an inadequate referral stream from health care providers who are not well informed of appropriate and effective treatment options[8]

Materials and Methods

Study Design & Sample Size

A pre-experimental research approach is used in the present study. One group pretest-posttest design (no control group or randomization) is used to find the effectiveness of structured teaching programs on knowledge regarding substance abuse among boys at selected senior secondary schools Jalandhar, Punjab. The data collection period extended in February 2014 as per the convenience of the adolescents. the study consists of 60 samples, between the age of 15–18 years were participated. A pre-test was conducted and, STP was given to students on the same day, and a post-test was taken from same samples on the 7th day.

Ethical Consideration

Institutional Ethical Permission was obtained(letter no.: BINT/PO/IEC/029 DT 10/05/2013). Data was collected after getting formal permission from the concerned authorities.

Data Collection Measures

Convenient sampling technique (Non-Probability Sampling Technique) was used to collect the sample validated by experts and found reliable. Data collection tools are the procedures or instruments used by the researcher to observe or measure key variables in the research problem. It is prepared in **Section A-** It consists of demographic data with 13 items (Age, Religion, Education grade, Education of father, Occupation of father, education of mother, Occupation of mother, Types of family, Monthly income of a family, Family history of substances abuse, Source of information. **Section B-** consists of a self-structured multiple-choice questionnaire to assess the knowledge of adolescence regarding substances abuse. It contains 30 multiple-choice questions. Data was collected by self-administration of knowledge assessment questionnaire by study subjects. Each correct answer was given a score of "one" and the wrong answer was "zero". The total score given was 30. The score was interpreted as, Poor = 0–8, Satisfactory = 9 – 15, Good = 16–24, Excellent = 25–30.

Statistical Analysis

Descriptive and Inferential statistics were used to analyze data as per the objectives and hypothesis. In the descriptive analysis, calculations were done by using frequency and percentage. mean, median and SD & for inferential statistics chi-square test was used to find out the association between pre and post-test knowledge score regarding substances abuse and selected demographic variables

Table 1 : Frequency and Percentage Distribution of Demographic variables of boys (n = 60)

S. No.	*Demographic Data*	*F*	*%*
1	Age		
	a) 15–16	21	35%
	b) 16–17	16	26.67%
	c) 17–18	12	20%
	d) 18 and above	11	18.33%
2	Religion		
	Sikh	15	25%
	Hindu	40	66.67%
	Muslim	4	6.67%
	Christian	1	1.66%
3	Education grade		
	11th	29	48.33%
	12th	31	51.67%
4	Education of father		
	Illiterate	7	11.67%
	Upto primary level	23	38.33%
	Upto secondary level	23	38.33%
	Graduation	5	8.33%
	Post graduation and above	2	3.33%
5.	Occupation of father		
	Farmer	3	5%
	Businessman	8	13.33%
	Dailywages	19	31.67%
	Government employee	8	13.33%
	Unemployed	2	3.33%
	Private employee	20	33.33
6.	Education of mother.		
	Illiterate	13	21.67%
	Up to primary level	19	31.67%
	Up to secondary level	24	40%
	Graduation	2	3.33%
	Post graduation and above	2	3.33%
7.	Occupation of mother		
	Housewife	48	80%
	Dailywages	3	5%
	Government employee	5	8.33%
	Private worker	4	6.67%
	Unemployed	0	0%
8.	Types of family		
	Nuclear	31	51.67%
	Joint	14	23.33%
	Extended	15	25%
9.	Monthly income of the family in rupees.	40	66.67%
	a) 5, 000–10,000	13	21.67%
	b) 10, 000–15,000	4	6.67%
	c) 15, 000–20,000	3	5%
	d) 20, 000 and above		
10.	Family history of substances abuse		
	At regularinterval	15	25%
	Occasionally	13	21.67%
	Daily	12	20%
	Never	20	33.33%
11.	Common substances abused.		
	Alcohol	20	33.33%
	Tobacco	5	8.33%

	Cigarette	10	16.67%
	Opium	4	6.67%
	Cannabis	1	1.67%
	None	20	33.33%
12.	Family member abusing substances.		
	Mother	1	1.67%
	Father	30	50%
	Sister	0	0%
	Brother	5	8.33%
	Self	4	6.67%
	No one	20	33.33%
13.	Source of information regarding substances abuse		
	Healthpersonnel	16	26.67%
	Massmedia	11	18.33%
	Relatives/Friends/Familymembers	24	40%
	Books,literature	9	15%

Results

Table 1 reveals about Demographic characteristics, that according to age majority 35% of boys were in the age of 15-16 years. religion, most of the boys (66.67%) were Hindus and 25% were Sikhs and 8.33% related to other religions. According to education, (51.67%) of boys was studying in the 12th class. education of fathers mostly is educated at the primary level (38.33%) and up to the secondary level(38.33%). The father's occupation, 33.33% were private employees and 31.67% were working for daily wages. education of mother, the majority of student's mothers were educated up to secondary level (40%) and up to primary level (31.67%). Whereas occupation of mother, most women (80%) were housewives. participants type of family, the majority (51.67%) of boys belonged to nuclear family. Their monthly family income, the majority (66.67%) of boys had their monthly income below Rs.10000. The family history of substances abuse, 66.67% of boys said someone abused substances in the family mostly by father (50%) or brother (8.33%). According to common substances abused, the majority (33.33%) of boys said alcohol is mostly abused in their family. The majority of the participant's sources of information regarding substances abuse, (40%) of boys acquired information from relatives/friends, while 26.67% of adolescence acquired information from health personnel.

Table 2 explains students' frequency and percentage distribution according to pre-test knowledge scores regarding substance abuse. Maximum students (68.33%) had a satisfactory level of knowledge and minimum (6.67%) had poor knowledge while (21%) had a good level of knowledge whereas none of the students had an excellent level of knowledge score.

Table 3 depicts students' frequency and percentage distribution according to post-test knowledge scores regarding substances abuse. Maximum students (80%) had a good level of knowledge and (20%) had an excellent level of knowledge. None of the students had satisfactory and poor knowledge scores.

Table 2 : Frequency and percentage distribution of pre-test knowledge score regarding substances abuse (n = 60)

Level of knowledge	*Score*	*f*	*%*
Poor (≤25) Satisfactory (26–50%)	0–8	4	6.67%
Good (51–75%)	9–15	41	68.33%
Excellent (>75%)	16–24	15	25%
	25–30	0	0%

Maximum Score = 30, Minimum Score = 0

Table 3: Frequency and percentage distribution of post-test knowledge score regarding substances abuse (n = 60)

Level of knowledge	*Score*	*N*	*%*
Poor (≤25) Satisfactory (26–50%)	0–8	0	0%
Good (51–75%)	9–15	0	0%
Excellent (>75%)	16–24	48	80%
	25–30	12	20%

Maximum Score = 30, Minimum Score = 0

Table 4: Comparison of pre and post-test mean knowledge score regarding structured teaching questionnaires on substances abuse (n = 60)

	Pre-test	*Post-test*
Mean	12.78	22.58
Median	12.5	23
SD	2.92	2.02
„'t' test	19.2*	

Maximum Score = 30, Minimum Score = 0

Table 4 reveals that the mean score, median score and SD in the pre-test was 12.78, 12.5, and 2.92, respectively, whereas the mean score, median score, and SD in post-test were 22.58, 23, and 2.02, respectively. The calculated "t" value was found to be 19.2, while the tabulated value of the "t" at 0.05 level of significance is 1.645, which is lesser than the calculated "t" value.

Hence null hypothesis is rejected, and the research hypothesis is accepted that is the post-test knowledge score regarding substances abuse was significantly higher than the pre-test knowledge score. It can be safely assumed that STP had a definite impact on raising students' knowledge.

Table 5 shows the association between pre-test knowledge scores regarding substances abuse with selected demographic variables.

The chi-square test is used to find the association between the pre-test knowledge score with the selected demographic variables. The tabulated chi-square value at 0.05 level of significance for 1df (degree of freedom) is 3.84. If the calculated chi-square value is greater than the tabulated value, then the null hypothesis will be rejected and will be concluded that there is a significant association between the pre-test knowledge score and the particular demographic variable.

It is seen that there is a significant association between the pre-test knowledge score and the religion of the students the calculated value is 11.87. the null hypothesis is rejected in this case, while there is no significant association between the pre-test knowledge score and any other demographic variables. Thus

Table 5 : Findings related to association between demographic variable and pre-test knowledge score (n = 60)

S. No.	*Demographic variable*	*≥ Median*	*<Median*	*Chi-square value*	*Inference*
1.	Age (in years)				
	a. 15 – 17	22	17	1.83	N
	b. >17	8	13		
2.	Religion				
	a. Hindu	20	20	11.87	S
	b. Minorities	19	1		
3.	Education grade				
	a. 11^{th}	12	17	1.09	NS
	b. 12^{th}	17	14		
4.	Education of father				
	a. Up to primary level	13	18	2.43	NS
	b. Secondary level to post graduate	18	11		
5.	Occupation of father				
	a. Self employed.	8	16	2.86	NS
	b. Regular employment	20	16		
6.	Education of mother				
	a. Up to primary level	13	19	1.61	NS
	b. Secondary to post graduation level	17	11		
7.	Occupation of mother				
	a. Unemployed.	21	26	3.38	NS
	b. Employed	9	3		
8.	Types of Family				
	a. Nuclear	16	15	0.06	NS
	b. Joint	14	15		
9.	Monthly income of family (in rupees)				
	a. 5000–15000	24	29	1.7	NS
	b. 15000 and above	5	2		
10.	Family history of substances abuse.				
	a. No	13	7		
	b. Yes	17	23	0.13	NS
11.	Source of information regarding substances abuse.				
	a. Health personal, relative and friends	23	17	2.7	NS
	b. Mass media, books, literature	7	13		

S = Significant, NS = Not significant

it is concluded that the null hypothesis is accepted in the other cases.

In Table 6, it is seen that the calculated chi-square value for an educational grade is 13.03. This value is significantly higher than the tabulated chi-square value at 0.05 level of significance which is 3.84.

Thus, the null hypothesis is rejected and the research hypothesis is accepted and concluded that there is a significant association between the post-test knowledge score with educational grade. No association was found between any other variables and post-test knowledge score. Thus null hypothesis is accepted in all other cases.

Discussion

The findings of the study showed that maximum students (68.33%) had an average level of knowledge and minimum (6.67%) had below-average knowledge and 25% had a good level of knowledge and the excellent level of knowledge (0%). Thus, it was evident that the majority of students had an average level of knowledge regarding substances abuse. The mean score, median score and SD in the pre-test was 12.78, 12.5 and 2.92 respectively.

This study was supported by Syed Masud Ahmed and AKM Masuel Rana"s descriptive study on general knowledge

Table 6: Findings related to association between DemographicVariable and Post-test Knowledge Score (N = 60)

S. No.	Demographic variable	≥Median	<Median	Chi-square value	Inference
1.	Age (in years)				
	a. 15 – 17	21	16	1.01	NS
	b. >17	10	13		
2.	Religion				
	a. Hindu	20	20	0.53	NS
	b. Minorities	12	8		
3.	Education Grade				
	a. 11^{th}	8	21	13.03	S
	b. 12^{th}	23	8		
4.	Education of father				
	a. Up to primary level	14	16	0.27	NS
	b. Secondary to Post graduation level	16	14		
5.	Occupation of father				
	a. Self employment	12	12	0.04	NS
	b. Regular employment	19	17		
6.	Education of mother				
	a. Up to primary level	16	16	0.31	NS
	b. Secondary to Post graduation level.	16	12		
7.	Occupation of mother				
	a. Unemployed	23	25	1.35	NS
	b. Employed	8	4		
8.	Types of Family				
	a. Nuclear	13	18	2.43	NS
	b. Joint	18	11		
9.	Monthly income of family (in rupees)				
	a. 5000 – 15000	26	27	1.24	NS
	b. 15000 and above	5	2		
9.	Monthly income of family (in rupees)				
	a. 5000 – 15000	26	27	1.24	NS
	b. 15000 and above	5	2		
10.	Family history of substances abuse.				
	a. No	11	9	2.7	NS
	b. Yes	20	20		
10.	Family history of substances abuse.				
	a. No	11	9	2.7	NS
	b. Yes	20	20		
11.	Source of information regarding substances abuse.				
	a. Health personal, Relative and friends	23	17	1.63	NS
	b. Mass media, books, literature	8	12		

S = Significant, NS = Not Significant

on substances abuse among adolescent boys and girls in New Delhi, Mean knowledge score in the area related to narcotics was 42% and 39.9% for boys and girls and related to alcohol was 32.6% for both groups. Based on the study conclude the majority of respondents has inadequate knowledge regarding substance abuse.[15]

The study findings showed that a maximum (80%) of the students had a good level of knowledge and (20%) had an excellent level of knowledge regarding substances abuse. Thus, it was evident that the majority of students had gained a good and excellent level of knowledge regarding substances abuse. The mean score, median score and SD in the post-test was 22.58, 23 and 2.02, respectively.

This study was supported by Karnool and Raju"s quasi-experimental study on drug addiction among engineering students at Bangalore which showed that in post-test the overall mean knowledge score of the students is 76.63%. In the pre-test, majority of students, had a mean knowledge score of 48.37%. Thus it showed that structured teaching programs had a definite impact on raising the knowledge of students regarding drug addiction.[29]

The study revealed that Pre-test and post-test mean knowledge score was 12.78, 22.58 Respectively. The calculated „t" value was 19.2 which was significant at the $p>0.05$ level while the tabled value on this level of significance was found at 1.645. Hence null hypothesis was rejected and the research hypothesis was accepted i.e. the post-test knowledge score regarding substances abuse was significantly higher than the pre-test knowledge score. It can be safely assumed that STP had a definite impact on raising the knowledge of students on substance abuse.

This study was supported by Prathima Moorthy, N, Manjunatha's a pre-experimental study on knowledge about opioids and cocaine abuse among college students in Bangalore. Which show that the calculated t- value was t = 37.74 and was greater than the tabulated value at a 0.05% level of significance. The overall findings of the study showed that this structured teaching program is very effective in improving the knowledge of college students on opioids and cocaine.[31]

The current study findings showed that there is a significant association between the religion of students and pre-test. The chi-square value of religion was found to be 11.87. while the table value at the 0.05 level of significance was 3.84. no other demographic variable had a significant association with the pre-test knowledge score.

The post-test there was found a significant association between the educational grade and post-test knowledge score. The chi-square value of educational grade was found to be 13.03 in post-test. Where the tabulated value at the 0.05 level of significance was 3.84 the study did not show any other significant association between demographic variable and post-test knowledge score.

This study was supported by Sreevani R' s a quasi-experimental study on adverse effects of tobacco smoking among adolescent students in Tamaka dist. Kolar that there was no relationship between variables and knowledge of adolescence but there was the relationship between education and knowledge of adolescence regarding the adverse effect of tobacco and smoking. Based on findings the investigator concluded that PTP has improved the knowledge of adolescence regarding the adverse effect of tobacco and smoking32.

Conclusion

The following conclusions were drawn based on the findings of the study. The majority of students had inadequate knowledge regarding substances abuse in the pre-test. Age of the boys, Education and Occupation of the parents, type of family and income of a family, Source of information regarding substances abuse had no impact on knowledge regarding substance abuse. A structured teaching program had a definite impact on students' knowledge regarding substances abuse. In the post-test majority of students had adequate knowledge regarding substances abuse.

Recommendations

A formal education program must be conducted in all senior secondary schools regarding substances abuse. The study can be replicated on a large sample; thereby findings can be generalized to a large population. A concentrated effort should be made to increase the awareness among the boys of senior secondary school students of their responsibilities in today's society. Substances abuse assessment (SAA) for adolescence and young adults could be held on a regular basis.

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