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A Study to Assess the Effectiveness of Psycho-Educative Module on Knowledge of Cannabis Use Disorder among Adolescents

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Abstract

Background: Cannabis Use Disorder is an emerging problem among adolescents. Cannabis use remains the most prevalent form of illicit drug use in English speaking countries and the European unions.Awareness of adolescents about the harms of cannabis needs to be addressed. Emphasizing on preventive aspect of mental health, it was felt that improved knowledge of adolescents regarding harms of cannabis would be an effective way to reduce the cannabis users in future. Keeping this in view, the present study was planned among school going urban adolescents.

Objective: The objective of the study was to assess **t**he effectiveness of psycho-educative module on knowledge of cannabis use disorder and association of selected sociodemographic variables with pre- test knowledge score among adolescents of 15-18 years of age group in selected schools of Maharashtra.

Methodology: A True experimental study with pre-test-post-test-control only design was adopted to assess the effectiveness of psycho-educative module by comparing the pre-test and post-test results after the intervention. Stratified random sampling was adopted in the study.The knowledge was assessed by a self-administered questionnaire prepared by the researcher along with the relevant socio-demographic variables. The psycho-educative module on Cannabis Use Disorder was in the form of PPT and discussion.

Result: The study revealed that psycho-educative module was highly effective as there was a statistically significant increase in the mean knowledge score in the post-test (12.34±2.905) as compared to the pre-test (7.14±2.306) score in the experimental group at p valve <0.0001 level. There was a statistically significant change in post-test knowledge score (12.34±2.905) among experimental group as compared to post-test score(7.72±2.584) of control group at p value of < 0.0001.There was also a significant association with the family type and education level of control group samples and pre-test knowledge score.

Keywords: *Adolescents, Cannabis use disorder, Effectiveness, Urban Maharashtra*

Introduction

Adolescence is the stage of human life denoted with the journey on bumpy roads with many obstacles. Adolescence and the early years of adulthood are a time of life when physical, physiological & psychological changes occur. There can be times of stress and apprehension. These significant stress on them and those around them influencing and affecting their relationships with their peers and adults, if not recognized and managed, these stresses can lead to mental illness. Young people are particularly vulnerable to mental distress and illness.[1] Suicide and substance abuse numbers have been steadily rising among adolescets.[2] As per Substance Abuse and Mental Health Service Administration (SAMHSA) 2013 report on drug use among adolescents of 12 to 17 years of age group in India 42.9% uses alcohol,65.5% uses marijuana,38.7% uses prescribed drugs,8.6% uses

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cocaine, 3.0% uses heroine,11.1% uses hallucinogens and 6.7% uses inhalants as substances.[3] Substance abuse among adolescents is a cause of concern as it is associated with risk of accidents, violence and high-risk sexual behaviour.[4] The problem of

substance use among adolescents can be associated with a number of mental health issues such as conduct (50-80%) and mood disorders. The prevalence of depressive disorders ranges from 24% to 50%. Anxiety disorders are another commonly associated mental health disorder with prevalence of 7-40%, paranoia, hallucinations, delusions and developmental delays are the disorders related to illicit drug use.[5]

Background of Study

Marijuana, Hashish, Bhang, Joint, Grass, Doobie, Charas and Ganja are the various synonyms of an exotic weed with an aura of mythical power and mysterious danger. The earliest record of Cannabis use as a drug in Chinese medicine can be traced back to 2737 BC.[6] Cannabis preparation is obtained from the plant Cannabis Sativa.[7]The United Nation's Office on Drugs and Crime (UNODC) World Drug Report 2015 shows the highest prevalence rates among Western Central Africa, North America, and Oceania.[8] The US Centers for Disease Control and Prevention 2011 Youth Risk Behavior Surveillance System (YRBSS) highlights that approximately four in ten high school students have used marijuana in their lifetime, with prevalence highest among males and among black and Hispanic youth.[9] Most Commonly Abused Drugs by High School Seniors (Other than Tobacco and Alcohol) is marijuana.[10] The active constituent of cannabis are various isomers of Tetra-hydro cannabinol (THC). There are more than 60 cannabinoids in Marijuana and a number of them are biologically active.[7] Cannabis cause intense agitation, incoherence, delirium and hallucination in the users. Various studies are conducted worldwide to explore the cannabis use disorder among Adolescents. Cannabis use is often related to psychoses, anxiety, mood disturbance, problems of memory, motivation and coordination. Adolescent marijuana use is associated with increased risks for difficulty at work or school, violent experiences, peer marijuana use, and sibling marijuana problems. There is preliminary evidence of persisting neurocognitive abnormalities among adolescent marijuana users. Deficits in learning and memory, working memory and attention have been observed in heavy users of cannabis. In addition, it appears that adolescents are more vulnerable to the neural impact of heavy marijuana use than adults.[11] Thus the knowledge about the prevention, identification, diagnosis and treatment of harmful use of cannabis and cannabis use disorder is essential with special consideration to adolescents of the society. This will help the adolescents in understanding the cannabis related problems and it can prevent future intake of cannabis by them. All these findings provide a strong background for further studies in Indian scenario where not much have been done to solve the problem of cannabis use. There is a need to conduct a study among Indian urban adolescents to explore the current scenario.

There are the few delimitations identified by the researcher at the beginning of the study. The present study did not include the dropout from school. The rural adolescents were also beyond the limit of this study due to distant geographical location from the researcher. The proposal has been approved by Institutional ethical committee of the Medical college and has been registered in Clinical Trail registry of India (CTRI). Maiman and Becker's Health Belief Model was adopted for the study.[12]

Methods and Materials

This was a true experimental study in which pre-test-post-test only design was adopted. The schools were selected by simple random sampling by lottery method and students were selected by stratified random sampling with proportion method. The samples were selected from both the school and randomly allocated to control and experimental group. The psycho-educative module was prepared by the researcher and validated by expert opinion. Calculated sample size was 95 in each arm, due to high rate of attrition in pilot study, 130 samples were included in each arm. However at the end of the study 96 samples in experimental group and 98 samples in experimental group remained.

Since the standardized tool was not available, tool was prepared by the researcher. The reliability and validity of the tool were tested by test-retest method and expert validation. The tool had two sections, section I included demographic variables of age, gender,

education, type of family, family income, education of parents, substance use in family and significant others, the type of substance used, previous knowledge of cannabis use problem and source of information regarding the substances and section II had questionnaire of 20 items for assessing the knowledge regarding cannabis use disorders among adolescents. Every item consists of four alternatives and only one answer was correct. The score for correct option was '1'. The score for wrong response was zero. There was no negative marking. Thus, the score ranged from 0-20 marks. The time given for pre and post-test was 15 mins and the module were administered by the researcher herself in a time period of 45 minutes. The total duration of data collection was 6 weeks. After obtaining the consent and assent for the study, pre-test was administered for both the control and experimental group. The post-test of control group was conducted after 3 days and on the same day psycho-educative module was administered for both the group to avoid contamination. The post-test for experimental group was conducted after 3 days of intervention.

Results

The analysis of collected data was done with the help of descriptive statistics such as frequency, percentage, mean, standard deviation whereas Wilcoxon sign test, Mann Whitney test, Chi- square test and ANOVA was used for inferential statistics. The majority of the samples belong to 15 to 16 years of age,59(61.6%) in experimental group and 61(62.2%) were in control group. There were 5(5.0%) candidates of 18 to 19 years of age in experimental and 3(3.1%) in control group. As per the gender 49(51.0%) were male and 47(49.0%) were female in experimental group whereas 60(61.2%) were male and 38(38.8%) were female in control group. Majority of the sample were in 9th standard being 37(38.5%) of experimental and 34(34.7%) of control group. The least number of samples were 15(15.7%) in 12th standard in experimental whereas least number of samples were from 11th standard 18(18.4%) in control group. Most of the mothers were educated up to graduation 28(29.1%) in experimental and 30(30.6%) in control group and the least number of mothers were educated till primary3(3.1%) in experimental group and 1(1.0%) mother was illiterate in control group.

Almost equal number of fathers were graduate 26(27.1%) and postgraduatesb28(29.2%) in experimental group and 2(2.1%) fathers were primary educated in experimental group whereas 1(0.8) father was illiterate in control group. 74(77.1%) sample belong to nuclear family, 16(16.7%) belong to joint family and 6(6.2%) were from extended family in experimental group whereas 81(82.7%) sample were from nuclear family, 14(14.2%) were from joint family and 3(3.1%) were from extended family in control group. The majority of sample 46(48.0%) had monthly income between 20,000-49,999 per month in experimental group and 47(48.0%) in control group. 13(13.5%) sample were from low income group of<19,999 per month in experimental group and 13(13.3%) sample of control group. The main findings of the study are in table 1 and figure 1 given below.

Table 1: Comparison of pre and post-test knowledge score in experiment group

n=96

	Pre-test		Post-test			
	Mean	SD	Mean	SD	Z value	p value
Knowledge score	7.21	2.30	12.34	2.905	8.14	<0.0001

Z table value-1.96

The relevant socio-demographic variables which were considered for the association with the pre-test knowledge score were age, gender, education level, type of family, income of family per month and previous knowledge of the cannabis related problems shows the significant association between the level of education of sample and the pre-test knowledge score.

The knowledge was more in 12th standard students may be associated with the level of maturity of the sample. There was also significant association between the type of family and the pre-test knowledge score of the control group. The knowledge is more in extended families may be related to the disturbed family pattern and lack of attention and more inclination towards the substance use.

Discussion

The present study focused on the effectiveness of psycho-educative module on knowledge of cannabis use disorders among adolescents of 15 to 18 years of age group. The effectiveness of the module was assessed by increase in the post-test scores after the intervention. The association of relevant socio- demographic data were also seen with the pre-test knowledge score. The sample belonging to 15 to 16 years of age were 59(61.6%) in experimental group and 61(62.2%) in control group. 49(51.0%) were male and 47(49.0%) were female in experimental group whereas 60(61.2%) were male and 38(38.8%) were female in control group. The number of males were more in comparison with the number of females in experimental and control group.

The present findings were consistent with Reddy B K, Biswal A and Rao H (2011) studied substance abuse in Bengaluru where 54.2% were male and 48.8% were female sample[13] and also consistent with the study of Din Prakash Ranjan et al. (2010) where more males (71%) fall in 15 to 34 years of age while only 50% females fall under 15 to 34 years of age.[14] Among the sample, 11 (11.4%) admits that their family members, or relatives were involved in substance use in experimental and 28 (28.6%) of control group, out of them the most commonly 05(45.4%) parents were involved with the substance use in experimental group and 16(57.2%) in control group. among the substance users the most common substance was alcohol 7(63.6%) in experimental group and in control group equal numbers were using tobacco and alcohol being 12 (42.9%). Among the sample 31(32.3%) of experimental group and 35(35.7%) of control group had some previous knowledge about cannabis, The most common source of information was the internet sites being 7 (22.7%) in experimental group whereas the television 10(28.6%) was the main source of information in of control group sample.

The findings were similar to Goswami Y P et al (2015) study where 34% got their information from electronic media, whereas television (28.6%) were the main source of information in the control group of present study. The effectiveness of psycho-educative module was assessed by comparing the mean value of pre-test (7.14±2.306) and post-test (12.34±2.905) mean knowledge score in the experimental group was found to be significant at <0.0001 level of significance. Snehalatha R et al (2017) also revealed that the psycho-educative module was effective as there was an increase in mean knowledge score in the post-test (24.08±2.499) as compared to pre-test score of 15.40±2.499.

Similar findings were there in Dinesh Kumar et al (2016) study regarding substance abuse among high school students show that there was an increase in post-test knowledge score from pre-test knowledge score (10.53±1.32 to 24.23±1.8). The percentage increase in knowledge level was from 35.1% to 80.8%.

Conclusion

The study concludes that there was a significant increase in post-test knowledge score among the sample of experimental group after the psycho-educative module at <0.0001 level of significance as compared to the control group.There was significance association of pre-test knowledge score and education level and type of family in control group however there was no significant association with age, gender, family income, substance use by family members and others and the previous knowledge of cannabis use disorder.

The problem of cannabis use is one of the emerging substance use problem needs to pay attention. The profession of nursing has a wide role in preventive and educative aspect of health. The present study has various implication in the nursing. The present study will add on

to the body of knowledge of cannabis related research. It will ignite the young mind of nursing students to take up further research in the field. The data will enrich the evidence in favor of addressing cannabis related issues while planning for further studies.

On the basis of the present study, the researcher suggests and recommends that the present study had one session of intervention and its effectiveness was seen, for better assessment a time series assessment of knowledge is recommended. The study would have been more generalizable if it is conducted covering all the schools as per district with including rural adolescents also. In spite of following all the principle of research, there were few limitations of the study. The study could cover only the limited portion of adolescent population due to various constrains. The knowledge was assessed by a non-standardized structured tool of 20 questionnaire in absence of a standardized tool for knowledge assessment, though the validity and reliability of the tool was done, a standard questionnaire could had been a better tool.

Conflicts of Interest-Nil

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