

Factors Linked With Hazardous And Non- Hazardous Use Of Cannabis Among College Students

Running Title: -Factors Linked With Hazardous And Non- Hazardous Use

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Abstract:

Background: Cannabis, heroin and pharmaceutical drugs are the most commonly used drugs in India. Most of the drug users in India are under the productive age group of 18-35 years. Alcohol and drugs are associated with motives of socialization, enhancement of mood and reducing tension. The purpose of the study was to evaluate the students' motives for taking cannabis, role of refusal self-efficacy in hazardous and non- hazardous cannabis consumption among university students.

Material and methods: A cross sectional survey conducted to 230 college students using snowball sampling method. "Cannabis use disorder identification test – revised", "Marijuana Motives Questionnaire", "UPPS Impulsive Behavior scale", and "Marijuana refusal self-efficacy" were used as measurements.

Results: The result of the study shows that there was a positive relationship between cannabis use and coping ($r=.269$), social ($r=.339$), conformity ($r=.302$) and expansion ($r=.402$) motive at $p<0.01$ level. There is no correlation between enhancement motive and cannabis use. The findings also revealed that there was a negative correlation between cannabis use and emotional relief ($r=-.418$), opportunistic ($r=-.487$), social facilitation ($r=-.537$) and total refusal self-efficacy ($r=-.511$) at $p<0.01$ level.

Conclusion: This study concluded that cannabis use has strong relationship with motives, and refusal of self-efficacy. Students' hazardous cannabis use is highly associated with coping, social, conformity and expansion motives. In addition, Hazardous cannabis use is associated with low refusal self-efficacy. The study revealed that there is a significant difference between hazardous and non-hazardous pattern of cannabis use regarding perseverance and positive urgency of self-regulation.

Key words: -cannabis, motives, self-efficacy, self-regulation.

Introduction

Cannabis use affecting various dimensions of health regardless of whether it is a cannabis use, misuse or abuse. It is also largely due to the nature of the drug abuse, personality of the individual and the addict's immediate environment. Although, cannabis has been regarded as an important gift to human beings in terms of resources as well as an evil plant (Groom, Clark & Merlin, 2013). Abel (1980) pointed that "throughout the ages cannabis has been adorned as one of the man's greatest benefactors and cursed as one of his greatest scourges". DSM-5 represents CUD on the basis of the level of severity as mild, moderate and severe impairments in health. On the other hand ICD-10 has various levels from harmful use to dependence on cannabis. Cannabis-use disorders refer to a range of clinically relevant conditions and are defined through psychological, social and physiological criteria which include adverse consequences, loss of control over use, and withdrawal symptoms.

DSM-5 and ICD-10 classifications included "a category for withdrawal symptoms, within 24 hours of consumption of cannabis, the psychological symptoms contain short temper, uneasiness, nervousness, blue mood, aggression, not feeling like to eat and sleeplessness" (APA, 2013; WHO, 1992). Physical symptom consists of "pain, shivering, sweating, elevated body temperature and chills". Two psychological symptoms and one physical symptom should meet for diagnosing cannabis withdrawal syndrome (Hoch et al, 2014).

As per UNODC (2015) cannabis is the most popular psychotropic drug used at international level. WHO (2016) reported alarming to health sector as the cannabis usage has been increased all over the world in ten years from 2001 to 2010. Cannabis, heroin and pharmaceutical drugs are the most commonly used drugs in the India. Most of the drug users in India are in the productive age group of 18-35. Prevalence of cannabis use was 58.7% and regular use to be 31.3% among the school and college students in Dehradun, which is a public health concern in India as well (Juyal et al, 2006). Approximately 30% of college students report past year use of cannabis (Johnston et al, 2014), which is a much higher frequency than the general population (10%) (Wall et al, 2016). College students have higher risk for cannabis use initiation compared to same-aged individuals who were not enrolled in college (Johnston et al, 2016).

Hence the current study focused on the factors involved in cannabis use and abuse. In general, motive is a state of physiological and psychological arousal which affects individual behavior. It acts as a mediating variable as it is inside the person and mediates the effect of stimulus on the responses and it cannot be directly observed (“Motives and drives in psychology”, April 2016). Motives predicts to a certain extent of marijuana use and problems (Lee, Neighbors & Woods, 2007).

Motives of marijuana use among students were found to be pleasure (21.1%), cope (35%), social (55%) and expansion (100%) (Shrier & Scherer, 2014). Hazardous effects of cannabis use related to all the motives except expansion and there was no association found among motives and frequency of cannabis usage (Courtney et al, 2011).

Bandura defined self-efficacy as “one’s belief in one’s ability to succeed in specific situations or accomplish a task”. One’s sense of self efficacy can play a major role in how one approaches goals, tasks, and challenges in life. Self-efficacy is of particular relevance to substance abuse because successful recovery is thought to depend on a person’s confidence in his or her ability to resist the temptation to use substances in the face of a trigger or high-risk situation (Bandura, Freeman & Lightsey, 1997; Feldstein, LaChance, Ewing, Bryan, & Hutchinson, 2009).

Students who were using marijuana during college are likely to face academic difficulties (Arria et al, 2008). A study by Hayaki et al (2011) reported that low self-efficacy is directly associated with high frequency of cannabis use, cannabis related problems and vulnerability for cannabis use disorder among the sample of 332 females age ranging from 18 to 24 years.

Bigand, Wilson, Riety & Lewis, (2018) conducted a study among 150 participants using OUD. They found that cannabis users have high level of self-efficacy than non-users. They have confidence that control of pain and sleep. It’s beneficial to know his or her motives to use cannabis and low self-efficacy. A better understanding of the issues is necessary to effectively prevent the development of the problems and create tools and strategies to better equip teens to cope with some of the common challenges of adolescence.

MATERIALS AND METHODS

Study Setting:

The present study was conducted at private universities in Chennai and Chengalpattu districts of Tamil Nadu in the year 2018. The data were collected after obtaining approval from the institution’s Scientific Committee and Ethics Committee and clearance.

Sample Size:

A sample of 230 college students pursuing under graduation and post-graduation in various disciplines such as engineering, medical, para medical, hotel management, art and business studies students were recruited using snowball sampling method. Among 230 participants, 32 samples were not included in the study either they did not respond to more than 10% of the questions or responded to the questions in a random manner. So, the studies final sample size was 198.

Inclusion Criteria:

Participants giving written informed consent, aged 18 to 25 years who had been using marijuana for a period of 6 months were included.

Study Procedure:

Four chains were created by taking participants from four different years. Researcher asked the subjects to recruit three more participants and gave three chits to each participant in which researcher mobile number was written and asked them to give it to another participant. If the participant is interested, he/she may contact the researcher. Confidentiality was maintained and no personal details like name and address was taken from the participants. The socio demographic data sheet and questionnaires were given to the participants to fill. A verbal feedback was taken from participants and the instructions about how to respond the tests were explained in detail to the participants.

Four measures were employed in the assessment of pattern of cannabis consumption, motives to take cannabis, refusal self-efficacy. “Socio demographic sheet” includes age, gender, religion, residence, socio economic status, name of the course, year of the study as well as some questions related to cannabis use. “Cannabis use disorder identification test – revised” (Adamson et. al, 2010), has 8 items. It screens cannabis abuse or dependence of the respondent. Each question is scored from 0 to 4, and the range of possible scores is from 6 to 40. A score of 8 or more indicates a strong likelihood of hazardous cannabis use and 13 or more indicates a possible cannabis use disorder. The scale has an internal consistency, with Cronbach’s alpha=.914 and test-retest reliability of $r=0.871$. The discriminant validity is Youden index= 0.813. “Marijuana Motives Questionnaire” (Simons et al., 2000), consist of 25-items measuring five motives for using cannabis such as enhancement, social, coping, conformity and expansion motives. This assessment has 5-point rating scale, ranging from 1 (Almost never/never) to 5 (Almost always/always). It has good concurrent validity with construct validity and high level of internal consistency for the expansion subscale. Cronbach’s alphas indicated substantial internal consistency for the marijuana motives scales, with alphas ranging from 0.85 (marijuana conformity motives) to 0.93 (marijuana expansion motives). Alpha coefficients in the current sample were .91 for enhancement, .84 for social, .89 for coping, .80 for conformity, and .89 for expansion. “Marijuana refusal self-efficacy” (Young, Gullo, Feeney and Connor, 2012) consists of 8 items. Participants has to rate the items on the scale from “not at all confident” to “totally confident”. This measurement also has adequate reliability and validity. The “UPPS Impulsive Behavior scale

(Whiteside & Lynam, 2001)” is a 59-item measure assessing 5 facets of behavioral self-regulation which includes negative urgency ($\alpha=.88$), positive urgency ($\alpha=.93$), premeditation ($\alpha=.85$), perseverance ($\alpha=.81$) and sensation seeking. This UPPS-P has adequate reliability as well as convergent, discriminant, and predictive validity.

Statistical Analysis

The collected sample was divided into hazardous and non-hazardous cannabis use based on the cut off score in CUDIT-R. The comparison of socio-demographic data with cannabis use pattern was done using “Pearson’s Chi-square test”. “Multivariate Logistic regression” analysis was carried out to find the effect of correlated socio demographic variables on cannabis use. “Kolmogorov Smirnov Test” was performed on study variables to check whether data was normally distributed. As the data was not normally distributed, “Spearman correlation” was conducted to assess the relationship between cannabis use, motives, and refusal self-efficacy. “Mann-Whitney U test” was also carried out to check the difference between hazardous and non-hazardous cannabis user based on motives, and refusal self-efficacy.

RESULTS

Table 1 shows the socio demographic characteristics and cannabis use of participants

Variables	Category	Frequency	Percentage (%)
Cannabis use pattern	Hazardous use	136	68.68
	Non-hazardous use	62	31.31
Age	18 - 21 years	117	59.1
	22 - 25 years	81	40.9
Gender	Male	150	75.8
	Female	48	24.2
Stream of study	Medical	53	26.8
	Non-Medical	145	73.2
Number of years in the university	1	15	7.6
	2	24	12.1
	3	94	47.5
	4 & above	65	32.8
UG or PG	Under graduation	170	85.9
	Post-graduation	28	14.1
Religion	Hindu	131	66.2
	Muslim	32	16.2
	Christian	27	13.6
Place of living	Rural	42	21.2
	Urban	120	60.6
	Sub-urban	36	18.2

A sample of 198 participants who took part in the study was providing responses on the socio demographic details and questionnaires. Among 198 participants, 136 have hazardous cannabis use patterns and 62 have non-hazardous cannabis use patterns. The age range of participants was between 18 and 25 years. The mean age of the participants was 21.47 years. Among all participants, 59.1 % of respondents were between the age range of 18-21 years and 40.9% of respondents were between the age ranges of 22-25 years. The sample consists of 75.8 % of male and 24.2% of female. Out of them, 26.8 % were belongs to medical field and 73.2 % belongs to non-medical field. Most of the respondents were from 3rd year of their education (47.5 %), pursuing post-graduation (85.9 %), from Hindu religion (66.2 %) and from urban area (60.6%).

Table 2 shows the family history of alcohol, tobacco, drug, and cannabis use pattern.

Variables	Response	Non-hazardous cannabis users	Hazardous cannabis users	Chi-square	df	p-value
Family history of alcohol	No	38 (32.5%)	79 (67.5%)	0.181	1	0.671
	Yes	24 (29.6%)	57 (70.4%)			
Family history of tobacco	No	30 (29.4%)	72 (70.6%)	0.354	1	0.552
	Yes	32 (33.3%)	64 (66.7%)			
Family history of drug	No	50 (28.7%)	124 (71.3%)	4.434	1	0.035*
	Yes	12 (50%)	12 (50%)			

The result shows that 32.5% of non-hazardous cannabis users and 67.5% of hazardous cannabis users were having no family history of alcohol. Among participants, 29.6 % of non-hazardous cannabis users and 70.4 % of hazardous cannabis users were having family history of alcohol. Chi-square value of 0.181 and p value of 0.671 indicates that there is no significant difference in the hazardous and non-hazardous cannabis use regarding family history of alcohol.

While considering family history of tobacco, 29.4% of non-hazardous cannabis users and 70.6% of hazardous cannabis users were having no family history of tobacco. Among participants, 33.3% of non-hazardous cannabis users and 66.7% of hazardous cannabis users were having a family history of tobacco. Chi-square value of 0.354 and p-value of 0.552 indicates that there is no significant difference in the hazardous and non-hazardous cannabis use regarding family history of tobacco.

In concern with family history of drug, 28.4% of non-hazardous cannabis users and 71.3% of hazardous cannabis users were having no family history of drug as well as 50% of non-hazardous cannabis users and 50% of hazardous cannabis users were having a family history of drug usage. Chi-square value of 4.434 and p-value of 0.035 indicates that there is a significant difference in the hazardous and non-hazardous cannabis use regarding family history of drug usage.

Table 3 shows the differences in the absenteeism during class and cannabis use pattern.

Variables	Response	Non-hazardous cannabis users	Hazardous cannabis users	Chi-square	df	p-value
Absenteeism during class	No	53 (42.7%)	15 (57.3%)	20.149	1	<0.001**
	Yes	9 (12.2%)	12 (87.8%)			

The result indicates that 42.7% of non-hazardous cannabis users and 57.3% of hazardous cannabis users has no absenteeism during class. Among participants, 12.2% of non-hazardous cannabis users and 87.8% of hazardous cannabis users having absenteeism during class. Chi-square value of 20.149 and p-value of <0.001 indicated that there is a significant difference in the cannabis use pattern and absenteeism during class due to cannabis use.

Table 4 shows the relationship between cannabis use, motives and refusal self-efficacy

Variable	C.use	Cop	Enh	Soc	Con	Exp	Ppm	Emo.r	Opp	Soc.f	T.self
C.use	1										
Cop	.269**	1									
Enh	.124	.186**	1								
Soc	.339**	.617**	.260**	1							
Con	.302**	.617**	.182*	.602**	1						
Exp	.402**	.392**	.344**	.513**	.496**	1					
Ppm	.269**	.329**	.054	.352**	.150*	.307**	1				
Emo.r	-.418	-.299**	-.058	-.288**	-.202**	-.260**	-.203	1			
Opp	-.482**	-.189**	-.032	-.322**	-.229**	-.332**	-.115	.718**	1		
Soc.f	-.537**	-.377**	-.126	-.367**	-.425**	-.431**	-.185**	.601**	.615**	1	
T.self	-.511**	-.281**	-.087	-.328**	-.241**	-.326**	-.102	.924**	.871**	.742**	1

*p<.05 **p<.01

Table 4 shows the significant positive correlation between cannabis use and coping (r=.269), social (r= .339), conformity (r=.302) and expansion (r=.402) motive at p<0.01 level. This also reveals that there is no significant relationship between enhancement motive and cannabis use. The result indicates that there is a positive correlation between cannabis use and perceived peer marijuana use (r=.269) at p<0.01 level. The analysis also reveals that there is a significant negative relationship between cannabis use and emotional relief (r=-.418), opportunistic (r= -.487), social facilitation (r=-.537) and total refusal self-efficacy (r=-.511) at p<0.01 level.

Table 5 shows the motives and cannabis use pattern

Motives	Hazardous			Non-hazardous			Mann-Whitney U	p value
	N	Median	MAD	N	Median	MAD		
Coping	136	10.0	3.0	62	6.5	3.0	2648	<0.001**
Enhancement	136	12.0	3.0	62	13.0	3.0	4115	0.786
Social	136	14.0	3.0	62	10.5	5.0	2567.5	<0.001**
Conformity	136	9.0	3.0	62	8.0	3.0	3460	0.042*
Expansion	136	12.0	3.0	62	10.0	3.5	3043	0.002**

** indicates significance at 0.01 level * indicates significance at 0.05 level

Table 5 shows that there is a significant difference between hazardous and non-hazardous pattern of cannabis use in coping (U=2648, p<0.001), social (U=2567.5, p<0.001) and expansion (U=3043, p= 0.002) at 0.01 level and in conformity (U=3460, p=0.042) at 0.05 level. There is no significance difference for enhancement.

Table 6 shows the refusal self-efficacy and cannabis use pattern

Refusal self-efficacy	Hazardous			Non-hazardous			Mann-Whitney U	p value
	N	Median	MAD	N	Median	MAD		
Emotional relief	136	18.0	5.0	62	28.0	11.5	2087.5	<0.001*
Opportunistic	136	15.0	5.0	62	24.0	7.0	1940	<0.001*
Social facilitation	136	11.0	3.0	62	16.0	4.0	2113	<0.001*
Total refusal self-efficacy	136	43.5	13.0	62	66.0	17.0	1872	<0.001*

** indicates significance at 0.01 level

Table 6 shows that there is a significant difference between hazardous and non-hazardous pattern of cannabis use in emotional relief (U=2087.5, p<0.001), opportunistic (U=1940, p<0.001), social facilitation (U=2113, p<0.001) and total refusal self-efficacy (U=1872, p<0.001) at 0.01 level.

Table 7 shows the self-regulation and cannabis use pattern

Self-regulation	Hazardous			Non-hazardous			Mann-Whitney U	p-value
	N	Median	MAD	N	Median	MAD		
Negative Urgency	136	2.4	0.3	62	2.3	0.4	3720.5	0.184
Premeditation	136	1.9	0.4	62	1.7	0.3	3562.5	0.08
Perseverance	136	2.1	0.4	62	1.8	0.3	3108	0.003**
Sensation seeking	136	3.0	0.4	62	2.7	0.4	3932.5	0.447
Positive urgency	136	2.7	0.3	62	2.6	0.3	3321	0.016*

The above table indicates that there is a significant difference between hazardous and non-hazardous pattern of cannabis use in perseverance (p=0.003) at 0.01 level and in positive urgency (p=0.016) at 0.05 level.

DISCUSSION

From the research, it was found that 68.6% of participants are hazardous cannabis users and 31.31% are non-hazardous cannabis users. Similarly, a study by Asbridge, Duff, Marsh & Erickson (2014) found that 77% of cannabis users meet the requirements for moderate to severe risk pattern. Those who use cannabis for a long period of time (96%) may meet the requirements for risk pattern. One cross-sectional study conducted in northern India by Arrora et al (2016) found that 20.43% of participants were substance abusers among 230 undergraduate and postgraduate medical students. The study found that, 79.3% of male participants were hazardous users while in females 35.4% were hazardous users. Anker and Carroll (2011) reported that females were likely to develop a substance abuse pattern due to the influence of the hormone estrogen. However, results of the current study indicated that males are 7 times more prone to hazardous cannabis use than females. This result supported by Sexton, Cuttler, Finnell & Mischley (2016) that the men were using cannabis more frequently and in higher quantities than women. When compared to male participants, the females were hesitant to take part in the study due to stigma attached with it. This is the reason for a smaller number of females in this study. Females also reported that they usually take cannabis in company of their male friends.

Participants reported that they were using two varieties of cannabis, sativa and indigo. Sativa is green in color and is pure weed and in dry form. Indigo is brown in color. Most of the participants were using sativa. They are mainly smoking it by stuff in a bong. Some of the participants also report automobile accidents. Similar study found that cannabis use was related to automobile accidents (Asbridge et al, 2014).

In the present study, 26.8% of participants are medical students and 73.2% are non-medical students. Result showed that 41.5% of medical students and 78.6% of non-medical students were reported hazardous cannabis users. This indicated that non-medical students are more hazardous users. Result may be affected by the less number of participants from medical group. Among overall participants, 87.9% have no family history of drug use and 12.1% have the family history of drug use. Participants with and without family history of drug use have 50% and 71.3% hazardous cannabis users respectively. Result of the study showed that participants without family history of drug use are also vulnerable to hazardous cannabis use. However, result of previous study found that those who have family history of drugs have high chances of developing cannabis use disorder (Kathleen et al, 2009). Now a day, students are getting more chance to use the cannabis as it is easily available through some agents. They also obtained knowledge from their friends as cannabis is not a harmful drug and instead, it enhances mood and perception of the users. This makes them more vulnerable to use cannabis. A study found 80.31%, 60.1% and 18.7% of participants were also taking alcohol, tobacco and other drug respectively. Among alcohol, tobacco and other drug users 72.3%, 77.3% and 64.6% were found to be hazardous cannabis users respectively. They are either using other substances along with cannabis or independently. Current study revealed that those who are using other substances are more likely to be hazardous cannabis users. Previous studies also found that cannabis abuse and dependence were highly associated with increased risk of other substance dependence (Degenhardt, Hall & Lynskey, 2001; Hodgins, Kim & Stea, 2017). Roxburgh et al (2013) found alcohol, tobacco and other drugs are frequently used substances and often taken by the abusers together.

In the present study, 62.6% of participants reported no history of absenteeism and 37.4% reported history of absenteeism due to cannabis use. Current study found that hazardous cannabis users are more likely to miss classes. Among overall respondents, 79.8% reported no personal issues due to cannabis use while 20.2% (hazardous cannabis users) reported personal issues due to cannabis use. So, this study indicated that hazardous cannabis users were facing personal issues like not talking to family members, breakup with friends, aggression, financial problem and lack of appetite. Among all, 74.2% of subjects reported no academic issues and 25.8% reported academic issues due to cannabis usage. Among all participants, 96.1% of participants with academic issues and 59.2% of participants without academic issues were hazardous cannabis users. Academic issues include lack of concentration on study, difficult to comprehend, frequent absenteeism, a greater number of arrears in exams, not able to complete assignments on time and facing problem in campus placement. Green et al (2010) also reported that marijuana use is related to academic problems in adolescents.

Motives and cannabis use of university students

Result showed that cannabis use was significantly associated with four domains of motives which include coping, social, conformity and expansion motives except enhancement motives. High level of motives was related to high level of cannabis usage. Students often use coping as a major motive to forget worries, whenever he or she feel depressed or nervous and to cheer up the mood. This finding is supported by previous studies which indicated coping motives are related to cannabis use (Buckner, 2013; Lee, Neighbors & Woods, 2007; Buckner, 2013).

Social motives are common among cannabis users as they want to be sociable, to enjoy a party, to improve celebration and parties, for fun in social gatherings and to enhance self confidence in social situations. They are also using conformity motives like others won't make fun of them for not using cannabis, friends pressurizing to use cannabis, to fit in the group, to be liked by others and not to feel left out. Expansion motives includes to know oneself better to be more creative and organized, to understand things differently, to expand awareness and to be more open to experiences. Earlier studies reported that there was a relationship between cannabis use and these motives (Bujarski, Norberg & Copeland, 2012).

Enhancement motive is used to get fun, to get high, for pleasant feelings and to get excited. The study results showed that there was no significant association between cannabis use and enhancement motive. Contradictorily, previous studies revealed that there was a relationship between cannabis use and enhancement motives (Dash & Anderson, 2015; Foster et al, 2015).

Present study also found that hazardous cannabis users were using high level of coping, social, conformity and expansion motives as compared to non-hazardous users. Coping motives are related to more problematic use of marijuana to cope with childhood maltreatment (Vilhena & Goldstein, 2014). Bujarski, Norberg & Copell (2012) found that those who are not accepting emotions are also using coping motives for marijuana use. Boon-Miller and Bernstein (2007) reported that conformity motive is related to more frequency of marijuana use. Foster (2014) stated that

enhancement motive is related to increase the cannabis use and problem. Buckner et al, (2012) found no association between enhancement motive and problematic use.

Refusal self-efficacy and cannabis use of university students

Findings showed that cannabis use is negatively associated with all domains of refusal self-efficacy which includes emotional relief, opportunistic, and social facilitation. In an emotional relief they felt ashamed, restless, worried and upset and they perceived themselves less efficient to refuse cannabis. Similarly in opportunistic when they are in party, or someone offers them, partner/ friend is smoking and while drinking. In social facilitation, they feel more confident, feel more accepted by friends and while meeting people. High level of cannabis use is related to low level of refusal self-efficacy. The findings also indicated that hazardous cannabis users have low level of emotional relief, opportunistic, social facilitation and total refusal-self efficacy as compared to non- hazardous users. Zvolensky et al (2018) found that problematic cannabis use is related to low self-efficacy for quitting cannabis. While considering other substances, low refusal self-efficacy for quitting is related to high consumption of substance (Foster, Yeung & Neighbors, 2014). Oei and Jarden (2007) found "if drinking refusal self-efficacy was high, alcohol consumption was found to be low".

Self-regulation and cannabis use pattern

The result indicated that there is a significant difference between hazardous and non-hazardous pattern of cannabis use in perseverance and positive urgency of behavioral self-regulation. Earlier study found that there was an association between low self-regulation and high cannabis use (Dvarak & Day, 2014). The current study also indicated that perseverance and positive urgency are high in hazardous users than in non-hazardous users. Dvarak & Day (2014) found that individuals who are not able to regulate their behavior are more likely to use cannabis frequently and also vulnerable for risk of experiencing negative consequences.

Strength and Limitations

Strength includes proper inclusion criteria were set beforehand to reduce the selection bias as well as there was no standardized previous research study which distinguish hazardous and non-hazardous use pattern among medical and non-medical students.

There are number of potential limitations in the present study. The study followed a non-random sampling method, so prevalence cannot be determined. Female participants were less in this study compared to males as well as this research does not cover all streams of the university. Snowball sampling will not give exact picture and prevalence of the cannabis use. Using survey method to assess large number of student population will provide a better outcome about the prevalence and problems related to cannabis use.

CONCLUSION

The result of the study showed that cannabis use had strong relationship with motives, refusal self-efficacy. Hazardous cannabis usage of the students is highly associated with coping, social, conformity and expansion motives and low refusal self-efficacy as many students perceived that using marijuana is not harmful.

The number of hazardous cannabis users was higher compared to non-hazardous users. Male students are seven times more hazardous users than females. Students who have the family history of drug and mental illness, using cannabis with other substances like tobacco, alcohol and other drugs and they were prone to be hazardous users. Students' hazardous cannabis use leads to absenteeism, experiencing more personal and academic issues.

Therefore, there is a significant difference between hazardous and non-hazardous pattern of cannabis use regarding perseverance and positive urgency of self-regulation.

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Conflict of interest:

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Contribution of individual authors:

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