ECRONICON OPEN ACCESS

EC PSYCHOLOGY AND PSYCHIATRY
Research Article

Brief Intervention for Marijuana Consumers: A Pilot Study

César Carrascoza Venegas* and Leticia Echeverría San Vicente

Department of Psychology, Universidad Nacional Autónoma de México, Mexico

***Corresponding Author:** César Carrascoza Venegas Venegas, Department of Psychology, Universidad Nacional Autónoma de México, Mexico.

Received: May 27, 2019; **Published:** June 13, 2019

Abstract

Introduction: The most commonly used illicit drug in the world is marijuana. In Mexico, ENCODAT 2016 points out that in the population between 12 and 65 years of age, there are a total of 3.14 million marijuana users, with males consuming the most. The use of marijuana is a problem due to its multiple effects on health, at the family, social level and its escalation effect towards other drugs. Many young people perceive it as no dangerous substance, so there is a high risk that they initiate or maintain their consumption. The objective of this work is to evaluate a brief cognitive behavioral intervention, aimed at consumers in the initial stages of the use. The intervention seeks to help clients to develop general strategies to solve problems that allow them to face situations of risk that lead them to consume.

Method: A repeated measures design, pre-post evaluation was used and a follow up at six months after finishing the intervention The sample was formed with 52 marijuana consumers who volunteered receive the brief intervention in an Addiction Care Center in Mexico City.

Results: The results show the effectiveness of the brief intervention and the maintenance of the change after six months; statistically, significant differences are observed between the initial evaluation and the 6-month follow-up (F054.37, $P < 0.000$). However, consistently, the intervention shows a 69% dropout rate with the highest data between the first and second sessions.

Discussion: The discussion focuses on the effectiveness of the brief intervention and the results of the desertion are analyzed in terms of the variables that may be contributing to reducing such high percentages of desertion.

Keywords: *Marijuana; Brief Intervention; Treatment; Dropout*

Introduction

The World Health Organization reports that both legal and illegal drugs are consumed worldwide and this is recognized as a public health problem that worries for the impact it has on the society [1].

The United Nations Office on Drugs and Crime, UNODC, estimates that in the case of marijuana among 3.3 and 4.4% of the population between the ages of 15 and 64 had contact with this substance, with the highest prevalence in North America, Western Europe, and Oceania [2].

In Mexico, marijuana continues to be the main illegal drug that is consumed and has occupied the first places of preference among the population, mainly among young people, it is only surpassed by alcohol and tobacco.

The use of marijuana is a problem in our country due to its multiple and harmful effects on personal, family and social health, as well as promoting scaling up of other drugs. Those who use this substance will not necessarily do so with other drugs, but generally those who ingest stronger drugs previously used marijuana at one time or continue to do so [3]. This escalating effect has also been found with legal drugs such as tobacco or alcohol [4]. The Epidemiological Surveillance System of the Ministry of Health [5] reported that 87.2% of people who started their drug use with marijuana consumed a second drug, and 76.1% a third while 22% reported the use of marijuana only.

In Mexico, The National Survey of Consumption of Drugs, Alcohol and Tobacco, ENCODAT, 2016 [6], shows an increase in marijuana consumption in both men and women, when compared with data from 2011. Adolescent consumption increased in both men and women, particularly with marijuana. The ENCODAT notes that marijuana is the drug with the highest consumption (12.8% for some time in life, 3.5% in the last year and 2% for the last month). Other drugs have prevalences below 1.6% for consumption at some time, below 0.5% in the last year and less than 0.2% in the last month [6]. Villatoro in 2014 [7], reports that 17.2% of high school students in Mexico have ever used drugs. (ENCODE, 2014).

The data previously shown indicate the need to reinforce the actions developed to reduce the demand for drugs. Given the increases in drug consumption with respect to previous years, it is urgent to expand the prevention and treatment policy.

Physiological and psychological effects produced by marijuana

A very common belief among marijuana smokers is that marijuana is a natural herb and cannot be considered a drug; marijuana is not harmful to health. In addition, many adolescents and young people perceive it as a little or nothing dangerous substance, which is why there is a high risk of them starting or maintaining their consumption [8].

Prolonged exposure to marijuana can produce persistent cognitive impairment. There is also confusion with an altered perception of time and space, depersonalization, inability to concentrate, impairment of short-term memory [9], the amotivational syndrome, decreased desire or ability to carry out long-term projects, decreased concentration, and personal neglect [9].

The chronic use of marijuana worsens some of the problems that the person may suffer, such as depression, anxiety, personality disorders and the risk of exacerbation of mental illness, prolonged exposure to marijuana can produce persistent cognitive deterioration [10].

To address and reduce the prevalence of the intake of this substance, it is necessary to develop and evaluate intervention programs. Until the decade of the nineties, in the world there was a variety of therapeutic approaches for the treatment of substance abuse either on an outpatient basis or residential, however, it was surprising the lack of studies that evaluate the effectiveness of the therapeutic procedures used. The exception comes from cognitive behavioral therapy [11].

Cognitive behavioral therapy

Cognitive behavioral therapy considers that drug use is an inadequate coping strategy, because of the harmful consequences on the health of the person, the family, and the community. Cognitive behavioral therapy aims to establish coping strategies that allow the client to effectively solve risk situations without having to use drugs.

In this work, the therapy used is based on the model Guided self-change treatment, developed by Sobell and Sobell [12]. It is a brief cognitive behavioral intervention aimed at consumers in the early stages and oriented to prevent irreversible cognitive and/or organic damage from occurring. During therapy, clients develop general strategies to solve problems that allow them to face changes in their lifestyle. Abstinence is the goal of therapy because in Mexico still considered an illegal substance and can lead to the consumption of other drugs.

Method

Sample

The selection of the sample was intentional and not probabilistic, with 52 clients who attended an Addiction Care Center in Mexico City, voluntarily and met the following admission criteria: a) over 18 years old, b) drug of preference, marijuana, c) without indicators of psychiatric comorbidity.

Table 1 shows the sociodemographic characteristics of the 52 clients who participated in the intervention: 87% are adolescents or young adults, with an average age of 22.63 years old, 92% are men, 68% are students with professional studies or graduate students, 71% are students and mostly singles.

Measurement tools

The subjects that met the inclusion criteria were applied to the following instruments:

1. **Initial semi-structured interview [13]:** It has 10 areas in which demographic data are included, the history of drug use, consequences (physical, school, work, economic, effective, interpersonal, aggression, legal).
2. **Drug abuse questionnaire (DAST) [14]:** A screening instrument that provides a quantitative index of the range of problems related to the use of marijuana.
3. **Timeline follow-back method [15]:** This instrument allows knowing the pattern of use of different substances during six months before starting the intervention. With the data, a detailed analysis of the variations in frequency, quantity, and intensity is obtained. This instrument is applied in the initial interview before starting the treatment and in each follow-up.
4. **Inventory of drug use situations (ISCD) [16]:** Detects major risk situations for drug customers. It has 60 items divided into eight subscales. Evidence suggests that ISCD is a reliable and valid scale.
5. **Daily monitoring or daily logs:** The objective of this instrument is to review together with the client the days in which he consumed and the situations under which he did it. Measures the changes in daily consumption patterns, generated from the beginning of the intervention and during the development of the same, as well as those cognitive and environmental variables that are associated with the level of change generated and the relapses that may occur.

When a consumer comes to the Addictions Care Center, it is assigned a therapist and a first date. An admission and an evaluation session are made at the end of these two sessions the client sign an informed consent.

Then attends an average of five sessions, the following table summarizes the contents of each of the sessions.

Sessions	Content of the sessions
Admission	Identify the reasons that lead the client to seek a change in consumer behavior and motivate the achievement of change Apply DAST
Initial evaluation	It applies: Semi-structured interview Timeline follow-back Method Inventory of Drug Use Situations
Intervention	During the intervention sessions the client is provided with a self log to monitor the intake of the substance, readings, and tasks to perform in each of the sessions
First session	Objective: To increase motivation for change. • Information is provided related to the effects of the drug on the organism, • The results of the consumption pattern of the client are reviewed. • A decisional balance that seeks to identify the benefits and costs of marijuana use and later the benefits and costs to stop consuming analyzes were performed. • Later client engagement on total abstinence as a goal is made in this session.

Second session	Objective: To identify risk situations that lead to consumption and perform a functional analysis of the behavior • Risk situations, precipitators, availability of marijuana, and positive and negative consequences of each situation. • These situations are compared with the results obtained in the ISCD or inventory risk situations, in order to perform a functional analysis of behavior, by identifying the antecedents, consequences and abusive behavior. • The possibility that the user suffers a relapse, during or after treatment due to the nonspecific situation is discussed, relapse is analyzed not as a failure but as part of the learning process.
Third session	Objective: To develop a model of problem-solving, • The client proposes a number of solutions to help cope with risk situations that lead to consuming the substance.
Fourth Session	Objective: To identify the achievements related action plans and results obtained during treatment and a comparison of its previous and current fifth Session Objective: Teaching relaxation options the user. • During the session the user and therapist determine if additional sessions are needed to review the components that have not reached an appropriate degree of execution or new action plans for new situations or situations arose that were not covered are performed.
Fifth session	Objective: Teaching relaxation options for the client the user.
Follow up	Objective: Measure the maintenance of the change. • They are carried out at 3 and 6 months, once the intervention is finished. • Analyze the results obtained during the intervention • Compare the previous and current pattern of the client, • Analyze whether the goal was met, as well as maintaining the current abstinence. • Also prevents an impending relapse and if it happened I analyze suggesting additional steps, using general coping strategies.

Ethical considerations

The project was evaluated and approved by the Ethics Committee of the Faculty of Psychology of the National University of Mexico. All study participants arrived voluntarily and signed a consent form that describes the characteristics of the intervention, notes the confidential nature of the information and the possibility of using the data for research purposes.

Results

Table 1 shows the sociodemographic characteristics of the 52 clients and also, the history and consumption patterns. The average age of onset in the use of marijuana is 14 years old. Only 12% of the sample started consuming marijuana, most started with alcohol or tobacco, 87% obtained a low or medium level in the DAST.

Variables		
Age of onset in consumption	X = 14.38 (DS .65)	
Start substance, marijuana	Mariguana Alcohol Tobacco	12.2% 63% 24.8%
Consumes more than one substance	17.5%	
Total years of marijuana use	X = 4.23 (DS 3.37)	
Amount consumed more frequently during the last year	X = 2.69 (DS de 1.65)	
Frequency of consumption	X = 4.23 days	
Drug Abuse Questionnaire, DAST	Low level Medium Severe	25.9% 61.5% 11.5%
Percentage of clients who tried to stop using	54%	
Consumption alone	50%	

Table 1: *Sociodemographic characteristics and pattern of marijuana use.*

The results related to the effectiveness of the intervention model are shown in figure 1. The data of the people who completed the intervention and had follow-ups at three and six months are shown. You can observe the tendency to stop consuming or abstinence, it was growing throughout the sessions for these subjects, in terms of the average of days free of intake, consumption of one, two and more than three marijuana cigarettes, in each one of the phases of the intervention. These data were obtained through the Timeline follow back method in the initial evaluation (six months prior to starting the intervention and six months follow-up, and with the daily self log, during the intervention sessions.

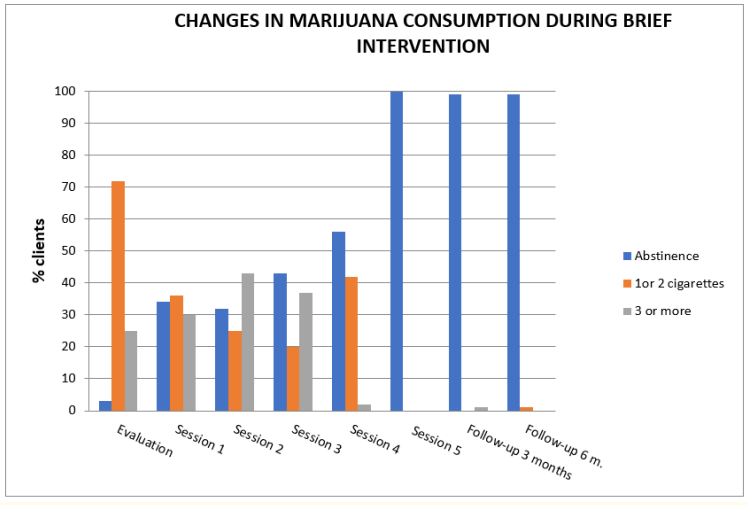

Figure 1: *Changes in the amount of marijuana consumed during Brief Intervention and follow-ups.*

To determine whether statistically significant differences existed in addition to those observed in terms of quantity, and frequency in the pattern, in different phases analysis of variance (ANOVA) for repeated measures was carried out, the results showed significant differences between baseline and follow-up ($F = 54.37$, $P < 0.000$), no differences between baseline and treatment were found. However, it is clear that the trend towards abstinence is growing at each stage of treatment, reaching follow-ups.

These data, which are consistent with international research, show the effectiveness of the brief behavioral cognitive intervention, since people, in the initial stages of consumption, stopped consuming marijuana, showing great consistency in the results.

In table 2, we can see the risk situations that lead people to abuse; the highest scores correspond to unpleasant emotions and conflict with others. Based on the classification of Annis [17], drug clients in these situations have a negative profile and are related to more difficult situations to address the substance for use as a way to cope. However, in those who completed the intervention, change was achieved using new coping strategies successfully.

ISCD Risk situations	Percentage
Unpleasant emotions	**39%**
Physical discomfort	20%
Pleasant emotions	26%
Testing personal control	22%
Urges/temptations	22%
Conflict with others	**30%**
Social pressure to use	26%
Pleasant times with others	24%

Table 2: *Situations of risk to consume marijuana, ISCD.*

A problem encountered regularly in the treatment of psychological problems, especially in the case of addictions is desertion. The number of people who dropped out during the intervention (69.2%), with the largest number of desertion between the first and the second session (47.2%) after the initial evaluation is shown in figure 2. This is discussed in the next section.

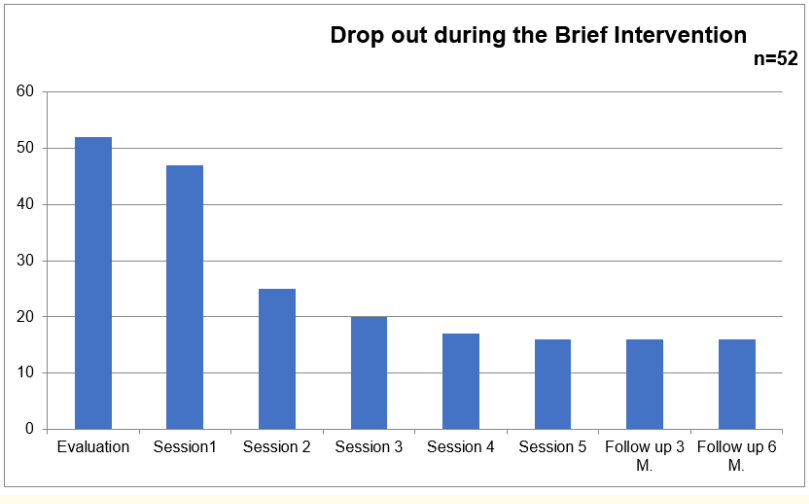

Figure 2: *Drop out rate during Brief Intervention.*

Discussion and Conclusion

The results of this research suggest two important effects, on the one hand, the positive results obtained with the brief intervention, in those people who completed it, as well as the maintenance of the six-month change, as observed in the follow-ups. On the other hand, the dropout rate was so high (69%).

Initial results suggest continuing doing research in brief intervention strategies that contributed to achieving this change in those people who finished the therapy. Research is needed because we have to reduce the dropout rate presented in this study. It is important to investigate which components of the intervention are the most relevant, to identify the variables that are relevant to achieve the change in the clients who were successful, analyze the motivational work of the therapist with precision, which characteristics of the clients help to achieve the change [18,19], which components offer the necessary elements for the self-regulation process to occur and strengthening the self-efficacy [20,21] necessary for the change in the pattern of consumption of cognitive and behavioral strategies that facilitate the modification of the consumption pattern [22].

It is necessary to continue the research with the dropout rate since there is a high rate in this study. Independently that it is a characteristic of the treatments against the addictions [23].

It is important to point out that the participants were mostly adolescents and young adults with an average age of around 22 years old, almost all men with a mostly professional education level and single people. That is, they comply with the profile of entry to the treatment and at the same time-share characteristics that favor use. For example, due to their average age and personal conditions (economic income that allows access to drugs, singles, students) they share a low perception of risk with respect to the danger it poses to personal and social health [24] and for the same reasons, have not experienced any severe consequences of any kind and consumption does allow them to immediately handle negative emotional states such as anxiety and depression (ISCD) [16] a common characteristic in the participants of this work.

In addition, the fact that in the first session, we talk about abstinence as a treatment goal could be the key element that leads clients to stop the intervention and continue consuming.

It is important to point out that this intervention should continue to be evaluated systematically, the results of a brief cognitive behavioral intervention should be compared with other treatments to know its effectiveness, work is needed to identify the variables that are relevant to achieve the change in the users that were successful.

It would be important to question abstinence as an immediate goal, especially at the beginning of the intervention, as this may be a factor that leads to desertion, it is necessary to evaluate whether the initial goal may be the reduction in consumption to reach the abstinence at the end of the intervention, especially in young clients.

Bibliography

1. ATLAS on substance use. "Resources for the prevention and treatment of substance use disorders". WHO. Genève, Swiss (2010).

2. UNODD-WHO Joint Programme on drug dependence treatment and care. Vienna/Geneva, United Nations Office on Drugs and Crime/ World Health Organization (2009).

3. Centros de Integración Juvenil. Legalización de la mariguana. México DF (2009).

4. Medina-Mora M., *et al*. "Aspectos psicosociales de la dependencia al tabaco y su inducción a probar otras drogas". En M. E. Medina-Mora (Coord.) Tabaquismo en México. México: El Colegio Nacional (2010).

5. Secretaría de Salud. "Sistema de Vigilancia Epidemiológica de las Adicciones. Informe 2012". México: SS, Dirección General de Epidemiología (2018).

6. Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz; Instituto Nacional de Salud Pública, Comisión Nacional Contra las Adicciones, Secretaría de Salud. Encuesta Nacional de Consumo de Drogas, Alcohol y Tabaco 2016-2017, ENCODAT: Reporte de Drogas. Villatoro-Velázquez JA, Resendi-Escobar E, Mujica-Salazar A, Bretón-Cirret M, Cañas-Martínez V, Soto-Hernández I, Fregroso-Ito D, Fleiz-Bautista C, Medina-Mora ME, Gutiérrez Reyes J, Franco Núñez A, Romero-Martínez M, Mendoza-Alvarado L México (2017).

7. Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz; Comisión Nacional Contra las Adicciones, Secretaría de Salud. Encuesta Nacional de Consumo de Drogas en Estudiantes 2014, ENCODE: Reporte de Drogas. Villatoro-Velázquez JA, Oliva Robles N, Fregoso Ito D, Bustos Gamiño M, Mujica Salazar A, Martín del Campo Sánchez R, Nanni Alvarado R. y Medina-Mora ME. México (2015).

8. Cruz Martín del Campo SL. Los efectos de las drogas: de sueños y pesadillas. México. Ed. Trillas (2007).

9. Borja JK. "Efectos del consumo de mariguana sobre la toma de decisiones en estudiantes universitarios: Un estudio neuropsicológico". Tesis de Licenciatura, UNAM (2009).

10. Babor T., *et al*. "La política de drogas y el bien público". Washington DC: OPS (2012).

11. Higgins T and Heil S. "Principles of learning in the study and treatment of substance abuse". En M Galanter y H Kleber Eds. Textbook of substance Abuse Treatment. Washington: American Psychiatric Publishing (2004).

12. Sobell L and Sobell B. "Problem Drinkers. Guided Self-Change Treatment". The Guilford Press. New York London (1993).

13. Ayala VH., *et al*. "Manual de autoayuda para personas con problemas en su forma de beber". Ed. Porrúa. México (1998).

14. Skinner HA DAST. Adaptado a México por De las Fuentes, Villalpando, Oropeza R. Vázquez F. Ayala H. Adaptación del CAD. Tesis de licenciatura, UNAM (2001).

15. Sobell LC and Sobell MB. "Timeline follow back: a technique for assessing self-reported ethanol consumption". In J Allen and RZ Litten (Eds.), Measuring alcohol consumption: psychosocial and biological methods. New Jersey: Human Press (1992).

16. De León L., *et al*. "Inventario de Situaciones de Consumo de Drogas. Adaptación validación y confiabilidad del Inventory of drug taking situations". Tesis de licenciatura. Facultad de Psicología, UNAM (2001).

17. Annis H and Graham M. "Modal profile types among heavy drinkers seeking treatment". En: Tratamiento de conductas adictivas. H Ayala y L Echeverría (Compiladores). UNAM (2001).

18. Miller W and Rollnick S. "Motivational Interviewing. Preparing People for Change (Second edition)". New York: Guilford Press (2002).

19. Sobell M and Sobell L. "Guided Self-Change Model of Treatment for Substance Use Disorders". *Journal of Cognitive Psychotherapy: An International Quarterly* 19.3 (2005): 199-210.

20. Bandura A. "Social Foundations of Though and Action. A Social Cognitive Theory". New Jersey: Prentice Hall (1987).

21. Bandura A. "Self-Efficacy in Changing Societies". Cambridge: Cambridge University Press (1995).

22. Lawton K. "Brief Interventions and Brief Therapies for Substance Abuse". Treatment Improvement Protocol Series. Samhsa. Center for Substance Abuse: USA. 34 Handbook (1999).

23. Hunt W., *et al*. "Relapse rates in addiction programs". *Journal of Clinical Psychology* 27.4 (1971): 455-456.

24. Lozano B., *et al*. "Abstinence and Moderate use goals in the treatment of marihuana dependence". *Addiction* 101.11 (2006): 1589-1597.

Volume 8 Issue 7 July 2019