

Intervention to Reduce the Consumption of Toxic substances from the perspective of Chinese Medicine in Adolescent High school Students

Eduardo Salazar Ledesma¹, Castañeda Duarte Angélica², Miguel Alberto Gutiérrez Nava⁴, Cesar Rafael Meza Torres³, García Piceno Yolanda⁴, Rosa Estela López Gomez⁴, Flor Aguilar Gonzalez³, Iris Anaisbeth Osorio Medrano¹

¹Students assigned to the Degree in Human Rehabilitation Acupuncture, attached to the area of Community Public Health programs of the State University of the Ecatepec Valley.

²Full-time professor of the Degree in Rehabilitative Human Acupuncture, responsible for the Community Public Health programs of the State University of the Ecatepec Valley.

³Master of the State University of the Ecatepec Valley.

⁴Full-time professor of the Degree in Rehabilitative Human Acupuncture, of the State University of the Ecatepec Valley

Received: 29 Oct 2022; Received in revised form: 20 Nov 2022; Accepted: 25 Nov 2022; Available online: 01 Dec 2022

©2022 The Author(s). Published by AI Publications. This is an open access article under the CC BY license

<https://creativecommons.org/licenses/by/4.0/>

Abstract— Adolescents have been the object of considerable attention in recent years, despite which knowledge of this period of life is limited; Since the correlation between the development of intelligence and character is still not well known, and the physiological variables that intervene at this age have been established in an incipient way, the main problem of the adolescent is that of the search for personality, since that at this stage he must develop basic values and strengthen his controls to act in society, but at the same time he is pushed to anarchic action. This situation creates rebellion against the family and society for the adolescent, a feeling of misunderstanding, temperament problems, moral problems. In Mexico, 9.2% of adolescents consume tobacco, 30% alcohol and 1.5% other drugs. In the State of Mexico about 70.8% of adolescents consume alcohol, 40.7% tobacco and 22.2% have used illegal drugs. Regarding the municipality of Ecatepec, 28% of adolescents consume alcohol, 22.4% tobacco, 7.7% marijuana and 2.6% consume cocaine. In a general analysis of the background, it was observed that the Municipality of Ecatepec occupies the first place in the State of Mexico, in relation to the consumption of alcohol, tobacco and illicit drugs by high school youth, which constitutes a serious problem of Public Health. Dependence on psychoactive substances or drug addiction, constitute the characteristic syndrome that defines the appearance of disease, aroused by curiosity, group pressure or the search for sensations, continuing with social consumption, aroused more by motivations and "positive" reinforcement. " that provide drugs and progressing to abuse. Develop an intervention model to improve healthy lifestyles and reinforce the management of emotions in adolescents at risk of addictions, at the Adolfo López Mateos Secondary School 127 in the Municipality of Ecatepec in the State of Mexico . DESIGN: The present work is an intervention study evaluated through a quasi- experimental design. With pre and post intervention evaluation and comparison group. The study population will be students who are between the ages of 11 and 15, divided into two groups.

Keywords— Adolescent, Intervention, Chinese Medicine, Emotions, Addictions

I. INTRODUCTION

Mexico is a country of youth. Approximately 70% of the Mexican population is under 30 years of age. This growth of

the young population constitutes a wealth for the nation, on the condition that all this youth becomes true human capital,

that is, it is prepared, educated and used correctly, along with the other resources of the country.

Young people seek their destiny, they want to transcend and their tools are fantasy and their capacity for invention to escape "social determinism", the escape door can be a religion, philosophy or addictive behavior or frank addiction.

In the last decades, different authors have replaced the term "Drug" by that of psychoactive substance and have related it to "Psychoactive Substance Use Disorder" instead of *Drug Dependence*. Thus, the generic term is applied to all those substances that, when introduced into the body, affect or alter mood and behavior, lead to incapacitating disorders for the consumer in the personal, work, social and family spheres, as well as characteristic states between those that highlight intoxication, tolerance, dependence and withdrawal syndrome

Due to its global dimension and its serious effects on the development of countries, the consumption of substances that cause addiction and its consequences require special attention. For a young nation like Mexico, it is of paramount importance to approach the problems of youth. Based on precise and exhaustive scientific evidence, adequate programs must be organized so that youth participate actively and effectively in the life of the country. Society must attend to youth aspirations and give channel to their vital impulse to try to realize them. Obstacles to its development, such as drug use in this case, must be addressed in a timely manner from a preventive perspective.

II. THEORETICAL FRAMEWORK

Adolescents have been the object of considerable attention in recent years, despite which knowledge of this period of life is limited; since the correlation between the development of intelligence and character is still not well known, and the physiological variables that intervene at this age have been established in an incipient way.

The characteristic changes in the adolescent include areas such as social and family, as well as acquire greater independence and responsibilities.

However, as is so evident, the rapid biochemical, anatomical and mental changes that occur in adolescence give this period a distinctive character.

Physiological changes in adolescents facilitate neurosis, psychosomatic illnesses, social maladjustment and emotional conflicts.

It should be noted that adolescents lead a very imaginative life and can be associated with extravagant behavior.

The humor oscillates between depression and exaltation, the desire for solitude coexists with the need to act in a group, selfishness goes hand in hand with altruism, conformity with the spirit of rebellion.

Due to the above, the main problem of the adolescent is that of the search for personality, since at this stage he must develop basic values and strengthen his controls to act in society, but at the same time he is pushed to anarchic action. This situation creates rebellion against the family and society for the adolescent, a feeling of misunderstanding, temperament problems, moral problems.

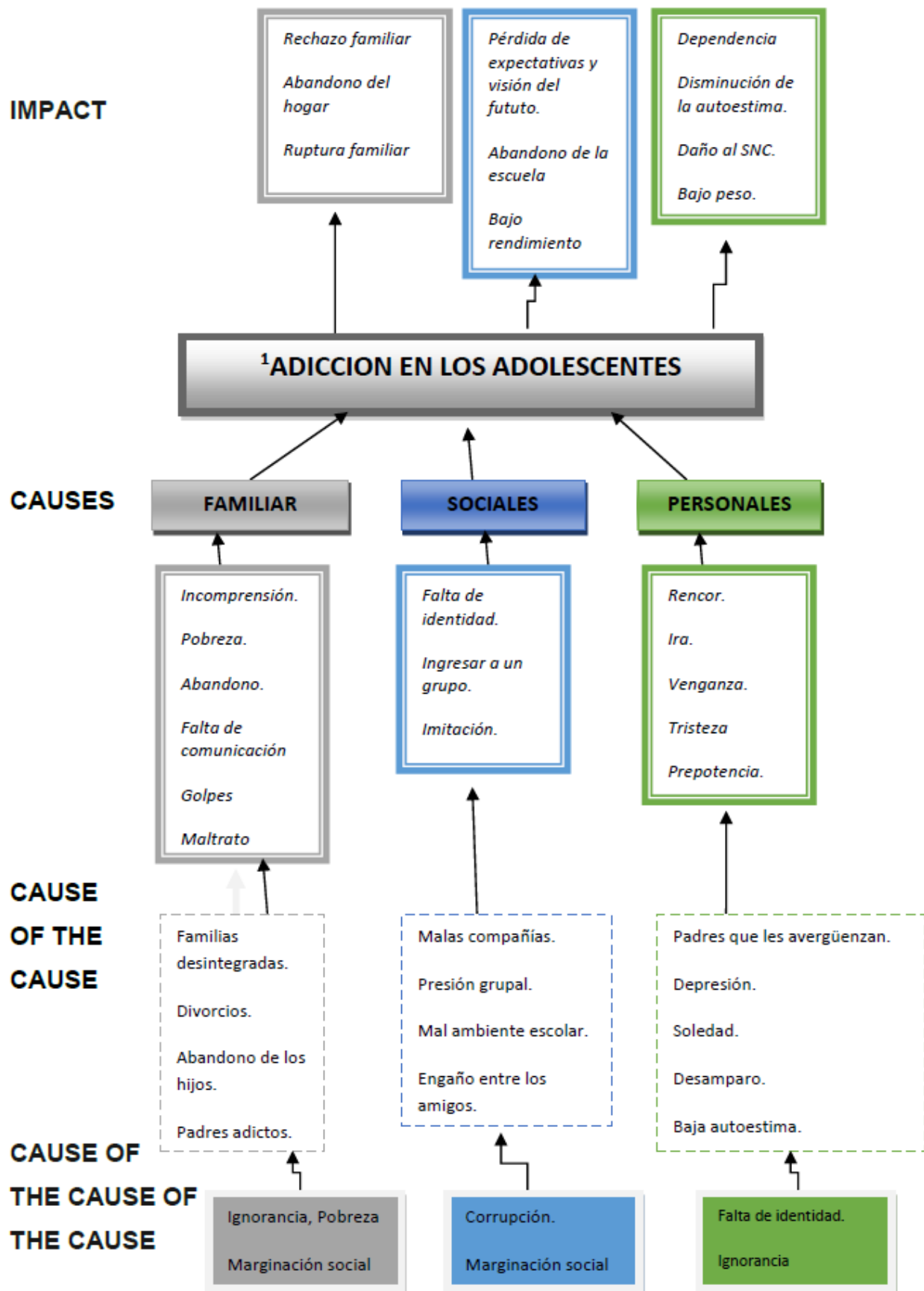
Another of the physiological problems of the adolescent is the management of emotions. At present there is agreement on the role that emotions play in the predisposition for action. Emotions provide information, both on the internal aspects of the individual and on the external situation, for which they have an important role in the development of behavior and decision-making.

One of the theories of emotion that has received the greatest consensus is Lang's bioinformational model of emotion (See Annex 1).⁸ This model defends that emotions predispose to action and that the emotional response fulfills two fundamental functions, a social one consisting of the expression and recognition of moods, and another motivational, depending on the response of approach or avoidance that the individual shows to stimuli.

We can affirm that the emotional experience has an influence on behavior, for which the study of emotions acquires special relevance if the aim is to understand the consuming and addictive behavior of substances such as alcohol, tobacco and illicit drugs, an important issue and that ultimately impacts the health of young people given the increasing frequency with which they use tobacco, alcohol and illicit drugs.

In Mexico, 9.2% of adolescents consume tobacco, 30% alcohol and 1.5% other drugs. In the State of Mexico about 70.8% of adolescents consume alcohol, 40.7% tobacco and 22.2% have used illegal drugs. Regarding the municipality of Ecatepec, 28% of adolescents consume alcohol, 22.4% tobacco, 7.7% marijuana and 2.6% consume cocaine.^{1,2,3}

Relationship of adolescent problems with the use of addictive substances



The main relationship that exists between adolescents and the consumption of addictive substances lies in the emotional state in which they find themselves, the rational-emotive theory¹² hypothesizes that irrational thoughts concerning low tolerance to frustration or discomfort, are especially present in addictions; This theory basically refers to the fact that anxiety is found in discomfort, and that these emotions are caused by the cognitive components of low tolerance for frustration, that is, the irrational thought that pain, discomfort or unpleasantness is unbearable; this means that unpleasantness cannot and should not be tolerated and must be avoided at all costs.

Several authors agree that it is necessary that an intervention in adolescents must handle the importance that they learn by example; so Bandura's social learning theory¹³ is responsible for considering environmental and personal factors and behaviors that interact with the learning process, handles the importance of learning by imitation or observation and is known as "modeling" since it is learned but through the identification of the behavior in a person, the consequences of the acts can also be predicted.

In order for the intervention to work, students must practice "coping skills" live, these can be managed from a group of people with the same characteristics and with similar skills development, this theory comprises a series of thoughts and actions that they train people to handle difficult situations, they consist of confrontation through strategies such as: planning, distancing, self-control, acceptance, escape or avoidance and positive reappraisal.

For an intervention to be successful, it must be based on the management of cognitive-behavioral processes, since this theory helps young people above all to understand how one thinks about himself, others and the world around them, and then From this it is necessary that a guide or therapist highlights the positive points to improve self-perception.

Once this has been done, it is essential that the young person apply a series of duties to himself in order to transform those perceptions, thus managing a change in his behavior.

Canales, Abuanza in 2010 published the *Manual for Managing Emotions in Secondary School to Develop Resilient Attitudes* in said text cites "emotional regulation is a capacity that we learn to develop and perfect based on

specific training and that serves to avoid uncontrolled emotional responses in situations of anger, provocation or fear, among others. It is related to the ability to feel, perceive and experience our affective state to use it for our benefit and personal growth.^{fifteen}

Olmedo and Barrio in 1988 published the article *Prevention of Negative Emotions in Adolescence* where the following is highlighted: "the relationship between coping strategies used by adolescents and self-reported levels of depression and anxiety has been investigated, we can affirm that learning appropriate coping resources or strategies acquire special relevance in order to facilitate adaptation and protect from the emotional impact that the different stressors may cause at this stage of life.

*Thus, under this premise and with the intention of configuring an intervention program dedicated to teaching coping techniques that would be effective at these age levels to prevent emotional problems, we took into account the high consensus among experts on this subject when consider cognitive-behavioral strategies as the most appropriate to carry out an intervention program that would meet these objectives".*¹⁶

Álvarez Hornos in 2006 published the following in the guide for the orientation of families with adolescents: "Adolescents in general watch television, according to different studies, several hours a day. Television can have a powerful influence on the development of a value system and the formation of behavior, if the videos that are watched are careful in the material that is transmitted and is based on values and good behavior. Unfortunately, a large part of current programming is violent, transmits values that are not desirable for adolescents and encourages consumption, among other issues."¹⁷

III. INTERVENTION METHODOLOGY

DESIGN

The population to intervene will be all the respondents who have answered more than 90% of the survey and who have reported themselves as consumers of addictive substances under the stimulus of an emotion

Contents of the intervention

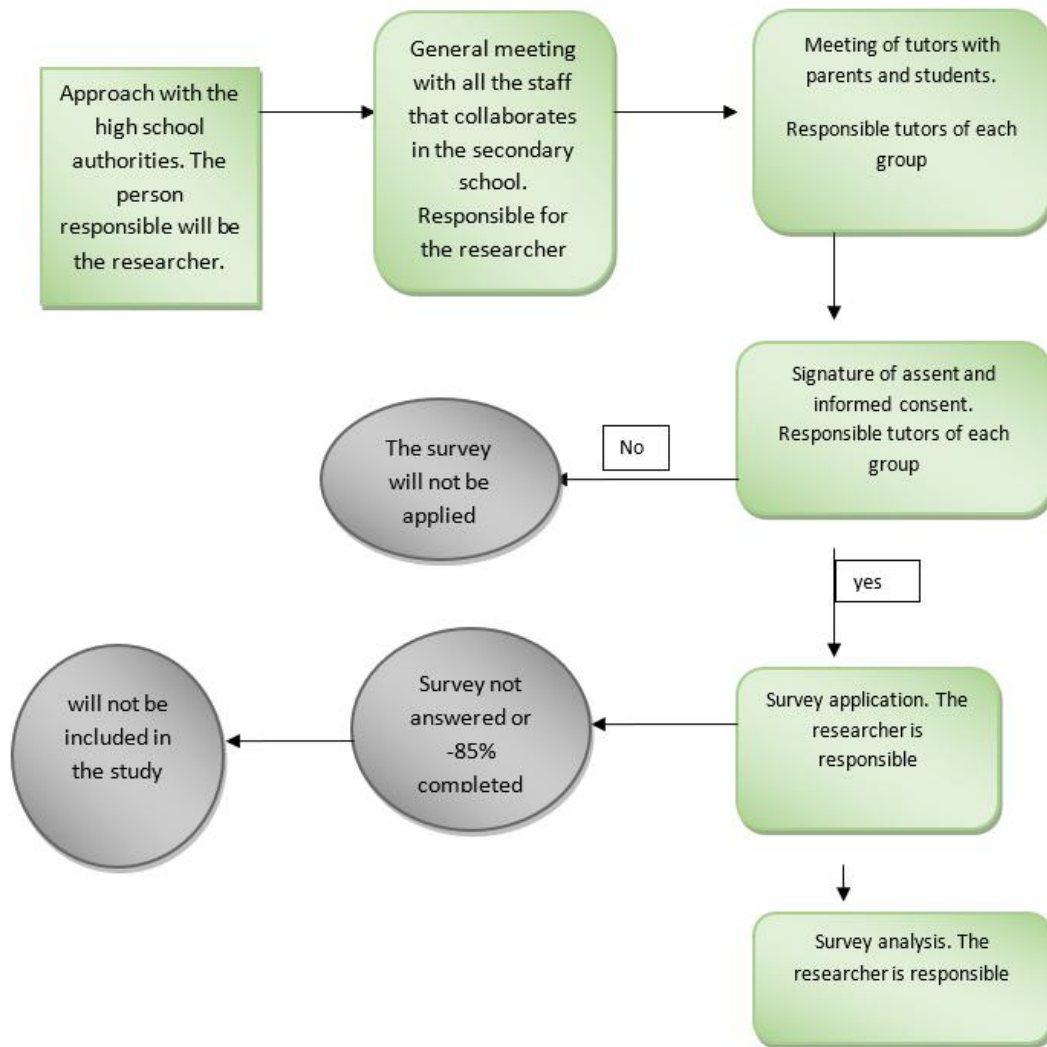


Fig 1 Diagram of the procedure that the intervention will follow.

The following activities will be carried out with the direct participation of the applicant for the master's degree

According to the analysis of the secondary sources, a study of those involved will be carried out with an approach to the secondary school authorities in order to sensitize them about the importance of working with adolescents and why the selection of said school.

A meeting will be held with teachers and directors of the secondary school to notify them of the benefits of the intervention, as well as the delivery of the work plan to be developed and the activities in which each member of the institution will collaborate to obtain the best possible results.

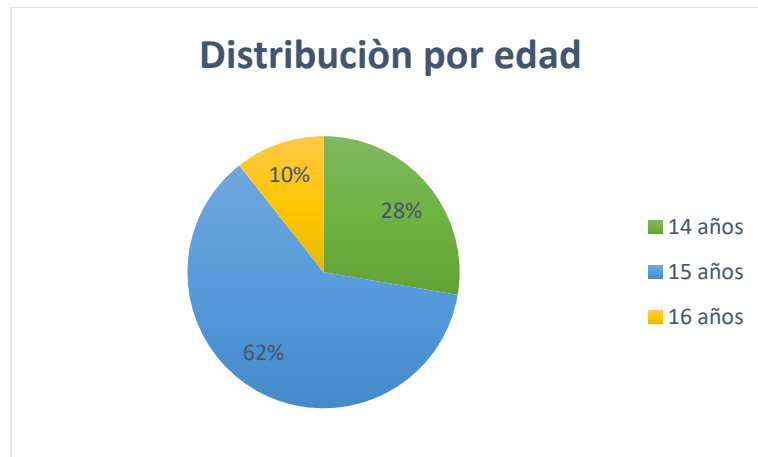
A meeting will be held with the parents and students, which will be led by the tutors in charge of each group, in order to expedite the signing of the assent and informed consent (see Annex 5 and 6)

A questionnaire will be applied to students to detect emotions and their association with addictions.

With the results obtained, the corresponding actions will be carried out

IV. RESULTS

The first pilot study was carried out with a sample of 112 adolescents, of which 62% are 15 years old, (See Graph 1)



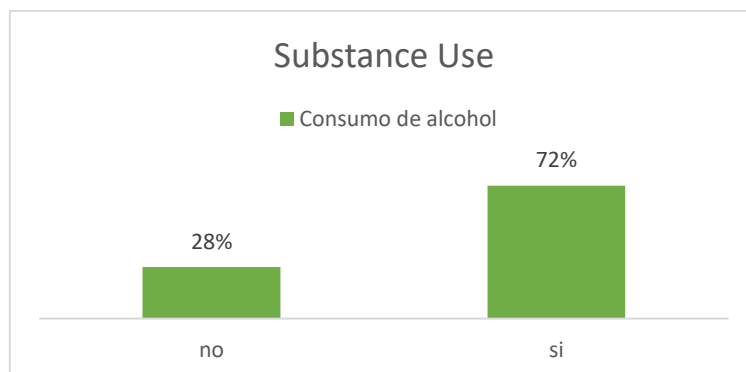
Graph 1: Distribution by age

Based on the results, the distribution by sex was 51% women, and 49% See Graph 2



Graph 2 Distribution by sex of high school students

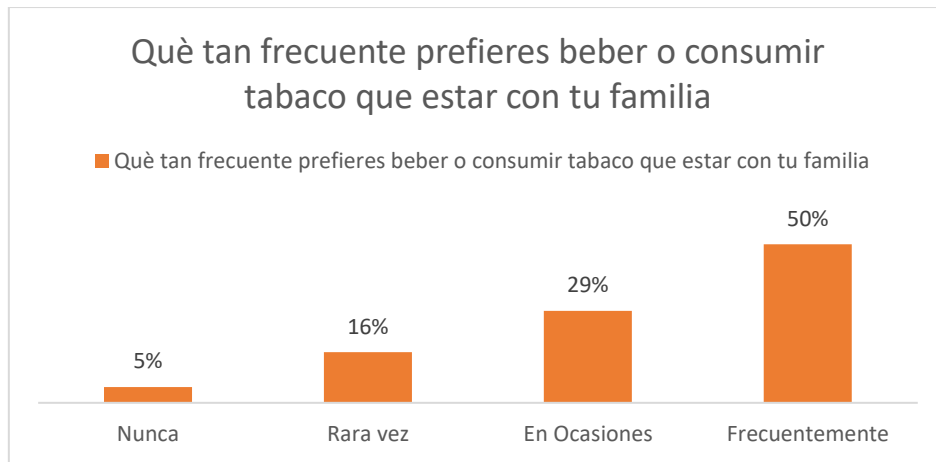
The question about substance use is established and 72% mentioned already having consumption at least once a week. See Graph 3



Graph 3: Percentage of substances at least once a week

One of the relevant questions for us is to know, is if they give priority to the consumption of substances is the frequency related to coexistence in this family case and 50%

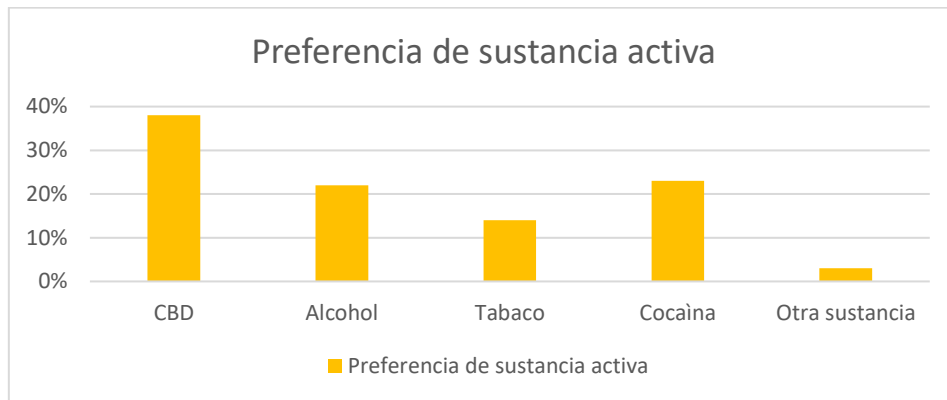
answered that they frequently leave their family, preferring to go to consume some substance . See Chart 4



Graph 4 How often do you prefer to consume toxic substances to be with your family?

Regarding the preference of the most preferred active substance, we found that CBD is the most consumed

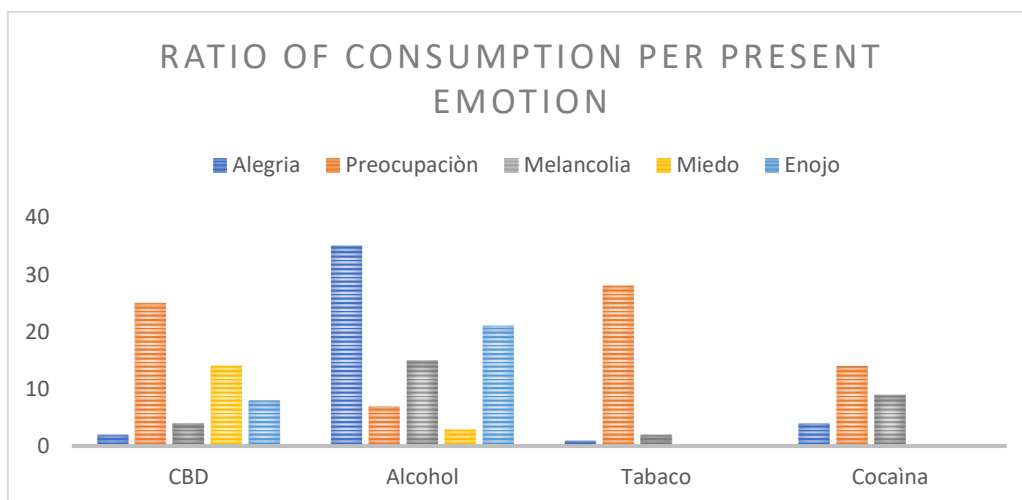
substance followed by alcohol, which are the data with the highest percentage. See Graph 5.



Graph 5 Preferred substance to consume

A crossover of variables was carried out where consumption was correlated with emotion, this questioning is of vital importance since emotions interfere with the release of different neurotransmitters and the answer to our approach

from the perspective of Chinese medicine is that by modifying the emotions and perceptions of these could reduce the levels and frequency of consumption. See Graph 6



Graph 6 Emotion for which toxic substances are consumed

V. CONCLUSIONS

Undoubtedly, for a young population like Mexico, it is essential to address health threats that affect personal, work, social or family development, which according to statistics, the consumption of psychoactive substances is one of the main factors that influence for this problem, however, clarifying emotions as a causal variant of addictions represents a treatable characteristic as a preventive measure to reduce existing cases of addiction, and thus a pillar tool for public health.

According to the study we can determine that, in the State of Mexico, specifically for the Municipality of Ecatepec, a small portion of the young population belonging to a public institution, 51% of the total cases corresponds to the female sex involved in drug use. of psychoactive substances, and of the general percentage of the population sample, 62% corresponds to 15-year-olds. These numbers show a considerable figure that makes intervention feasible to reduce cases, and that, according to the relation of consumption by emotion, worry has an incidence rate greater than 40% of cases out of 3 of harmful substances; cocaine, CBD, smoking.

For traditional Chinese medicine it is important to maintain energy balance, whose function is to regulate the circulation of blood and fluids in the body, however, the Shen (which represents the mental state) is the one who has even greater power over directing energy, and thereby to blood and fluids (Li Ping, 2006). Which means in Western medicine how to maintain a hemodynamic balance, as well as a hydroelectrolytic balance that leads to the regulation of the sympathetic and parasympathetic activity of our nervous system. That said, addressing emotions in young people can mean a significant rate of reduction in behaviors or inappropriate behaviors that threaten their health.

As mentioned at the beginning, the majority of the population in Mexico corresponds to 70% of young people, which implies advantages for the growth and development of the country, taking into account the growth aspirations of each person. Let us consider this intervention as a strategic model that will allow new opportunities for our next generations.

REFERENCES

[1] Gutiérrez JP, Rivera - Dommarco J, Shamah -Levy T, Villalpando-Hernández S, Franco A, Cuevas - Nasu L, Romero-Martínez M, Hernández-Ávila M. National Health and Nutrition Survey (2012) Cuernavaca , Mexico: Institute National Public Health.

[2] Medina-Mora ME, Villatoro-Velázquez JA, Fleiz -Bautista C, Téllez-Rojo MM, Mendoza-Alvarado LR, Romero-Martínez M, Gutiérrez-Reyes JP, Castro-Tinoco M,

Hernández-Ávila M, Tena-Tamayo C, Alvear-Sevilla C and Guisa-Cruz V. (2011) *National Survey of Addictions* . Mexico National Institute of Psychiatry Ramón de la Fuente Muñiz; National Institute of Public Health; Health Secretary

[3] Terrón L, Juárez Ma, Rojas C, Mosqueda M (2009) *Survey of the State of Mexico on the consumption of Alcohol, Tobacco and Drugs in Students*, State of Mexico: Mexican Institute against Addictions.

[4] Mena I, Dorr A, Viani S, Neubaue S (2013) Effects of marijuana use in schoolchildren on brain functions demonstrated by neuropsychological tests and neuro-SPECT images. *Journal of Mental Health* Santiago de Chile: 367-374.

[5] Palacios J, Andrade P. Academic performance and risk behaviors in adolescents. *Journal of Education and Development* UNAM Mexico (2007) 5 – 16.

[6] Anzo Alicia (2004) *Drugs in children and adolescents Technical guidelines from a comprehensive evolutionary perspective* Technical Area in Treatment and Rehabilitation Santiago , Chile.

[7] Rodríguez P (2008) *urban tribes: youth, consumption and identity construction*. Faculty Journalism and Social Communication Argentina.

[8] Chicarro J, Perez M (2011) *Emotional response in substance addicts in outpatient addiction treatment*, 2012 · VOL. 24 NO. 1 · PP. 59-68. Institute of Addictions. Madrid Health. City of Madrid.

[9] Cienfuegos Salgado, David and Macías Vázquez, María Carmen. 2006. Studies in homage to Marcia Muñoz de Alba Medrano. Biolaw , technology, health and genomic law. Legal Research Institute. UNAM, Mexico,

[10] Garcia-Pelayo and Gross 1999. Larousse Encyclopedic Dictionary. Edition.

[11] Tomas Escobar, Raul. 1999. Dictionary of Dangerous Drugs. University Publisher. Buenos Aires.

[12] ELLIS, A.; CABALLO, V. and LEGA, L. "Rational Emotional Behavioral Therapy" Editorial Siglo XXI, Mexico, DF, 1999.

[13] Bandura, Albert (ed.) Self-efficacy: how we face changes in today's society / Bilbao, Spain: Desclée de Brouwer, 1999, c1999 Theories and models of learning in connected and ubiquitous environments. Bases for a new theoretical model from a critical view of "connectivism". Zapata-Ros, Miguel. Page 47 of 49.

[14] Ferzola , Maximiliano (2005), " *Anime and violence* ", in Revista Otaku, no. 2 Mine Publishers. Mexico.

[15] Canales, Abuanza (2010) "Learning to manage emotions in secondary school to develop resilient behaviors". Editorial Angeles Publishers Mexico Federal District.

[16] Olmedo and Barrio (1998) " *Prevention of Negative Emotions in Adolescence: Assessment of Cognitive-Behavioral Techniques* " Journal of Psychopathology and Clinical Psychology 1998, Volume 3. Number 2, pp. 121-137.

[17] Álvarez Hornos Teresa (2006) "Guide for Orientation of Families with Adolescents" Junta de Andalucía, Andalusia Spain

- [18] McInerney J (1994) *Patterns of Addiction: A Rational-Emotive Perspective* Journal of Drug Addiction. United States of America.
- [19] Becoñar E (2010) Manual of addictions for psychologists specializing in clinical psychology in training Spain: Ed Ministry of health.
- [20] Franco A, Trends in Public Health (1998) University of Antioquia
- [21] Margulis Mario and UrrestI Marcelo, (1998) "*The social construction of the condition of youth*" In Living to all: Youth, cultural territories and new sensitivities. Ed. Century of Man.
- [22] PAPANINI, Vanina. (2006). "*Anime. Technological worlds, Japanese animation and imaginary Social.*" Ed. La Crujía, Buenos Aires.
- [23] REGUILLO Rosana, (2000). "*Emergence of youth cultures. Strategies of disenchantment*". Chap. 1 "Thinking young people a necessary debate" Buenos Aires, Grupo Editorial Norma.
- [24] CABALLO, Vicente et al. (comp.) "Manual of Therapy Techniques and Behavior Modification". Editorial Siglo XXI, Spain. 1998
- [25] FANNING, P and McKAY , M. "Self-esteem: evaluation and improvement". Editorial Martínez Roca, Mexico, DF (undated)