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Original Article

Auriculotherapy as nursing care to decrease the consumption of marijuana and cocaine*

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Objective: to check the effectiveness of auriculotherapy as nursing care in decreasing consumption of marijuana and cocaine in young adults. Material and methods: quantitative, correlational and applied studio with a pre-experimental, longitudinal and prolective design. n=10 individuals. Was used the SPSS v.17, applying Z test for two related proportions and Wilcoxon. ($p<0.05$, IC 95%). Results: the cocaine use showed a $p=<0.05$ with a IC of 95%, concluding that ear acupuncture is effective in the reducing cocaine use in young adults. Conclusions: the use of psychoactive drugs has the needs to be addressed from different care approach.

Descriptors: Auriculotherapy; Nursing Care; Psychoactive Drugs.

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Auriculoterapia como cuidado de enfermagem na diminuição do consumo de maconha e cocaína

Objetivo: comprovar a efetividade da auriculoterapia como cuidado de enfermagem na diminuição do consumo de maconha e cocaína em adultos jovens. Material e métodos: estudo quantitativo, correlacional e aplicado com desenho pré-experimental, longitudinal e proletivo. n=10 indivíduos. Fue utilizado o SPSS v.1, aplicando-se a prova Z para duas proporções relacionadas e Wilcoxon (p<0.05; IC 95%). Resultados: o consumo de cocaína resultou em p=<0.05 com IC de 95%, concluindo-se que a auriculoterapia é efetiva na diminuição do consumo de cocaína em adultos jovens. Conclusões: o consumo de drogas psicoativas deve ser abordado a partir de diferentes enfoques do cuidado.

Descritores: Auriculoterapia; Cuidados de Enfermagem; Psicotrópicos.

Auriculoterapia como cuidado de enfermería para disminuir el consumo de marihuana y cocaína

Objetivo: comprobar la efectividad de la auriculoterapia como cuidado de enfermería en la disminución del consumo de marihuana y cocaína en el adulto joven. Material y métodos: estudio cuantitativo, correlacional y aplicado con un diseño pre-experimental, longitudinal y prolectivo. n=10 individuos. Se utilizó el SPSS v.17., aplicándose prueba Z para dos proporciones relacionadas y Wilcoxon (p<0.05; IC 95%). Resultados: el consumo de cocaína mostró una p=<0.05 con un IC del 95%, concluyendo que la auriculoterapia es efectiva en la disminución del consumo de cocaína en el adulto joven. Conclusiones: el consumo de drogas psicoactivas tiene la necesidades de ser abordado desde diferentes enfoque del cuidado.

Descriptores: Auriculoterapia; Atención de Enfermería; Psicotrópicos.

Introduction

In the twenty-first century, the drug phenomenon has taken, on a worldwide scale, various proportions that currently constitute a public health problem due to its great economic, political, social and health repercussions[1].

However, before beginning with the drug use phenomenon, it is necessary to understand that drugs are any psychoactive substance that when inside a living organism can modify its perception, besides producing a state of physical or psychic dependence[2]. Based on these types of dependence or dependence based drug use, it is considered a chronic, recurrent disease, characterized by loss of control over the use of these substances, which takes a preferential place in the life of the individual. For this reason, it can be understood that drug use alters the mechanisms of regulation of behavior, especially those related to motivational and emotional control, forming a vicious circle from which it is difficult to leave without the help of a health professional[3-4].

According to estimates by the United Nations Office on Drugs and Crime, in 2013 there was a worldwide prevalence of 243 million people who use drugs at least once a year, and among them there are 27.4 million problem drug users. The most internationally consumed psychoactive substances are marijuana and cocaine; the highest levels of consumption are found in North America, Western Europe, Central and South America, particularly in the United States[5]. Mexico

is located in countries with low marijuana use and in the average cocaine consumption range[6]. In turn, the National Addiction Survey (NAS), held in Mexico in 2011, identified trends for increased use of marijuana in 2008 was 1.0% and for 2011 of 1.2% and cocaine in 2008 was 0.4% and for 2011 it was 0.5%[7].

Drug use is a current problem in today's society, marijuana and cocaine being the most commonly used illicit drugs, which is currently a challenge to be overcome. Faced with this situation that has arisen, nursing care supported in the Theory of Unitary Human Beings Martha Rogers, which in its concepts, principles and main premises is based, that through nursing interventions with non-invasive practices such as auriculotherapy, you can reduce the consumption of these drugs . Because ear acupuncture as a form of acupuncture, allows for points of reaction found in the ear stimulated with seeds or steel balls decrease drug dependence[8], as has been scientifically proven a positive effect of the body that is related to the stimulated ear area, balancing the energy fields altered by the consumption of these psychoactive substances.

Methods

Quantitative, correlational and applied study, with a pre-experimental, longitudinal and proletive design. Held from January 2009 to August 2010, in a colony of the municipality of Tepic, Nayarit. With a universe of 33 young adults, a sample of 10 individuals who met the inclusion criteria were included: age between 19 and 45 years, who consumed marijuana and cocaine, of both sexes and who wished to participate in the study. For data collection, a professional instrument was developed "Onti-Leca 2009", adapted from the Student Questionnaire 2003, approved by the World Health Organization, presenting validity and reliability of Guttman Split-half of 0.8181[9]. The instrument "Onti-Leca 2009" is integrated by two sections: general data and psychoactive drugs that allow to know the prevalence lapsica and current; For the reliability of the instrument, a pilot test was performed in a population similar to the study sample, obtaining a Cronbach's alpha of 0.88.

The research procedure included the authorization of the bioethics and citizen action committees of the study colony, followed by the informed consent of the participants and the pre-measurement to give rise to the design and implementation of the auriculotherapy program, which included 12 individual sessions for the application of auriculotherapy points plus three educational sessions; One month after the end of the auriculotherapy intervention, the post-test was performed.

For the processing of the results, the statistical package for the social sciences version 17 was used. For the categorical variables, frequencies and percentages were determined, and for the numerical variables mean and standard deviation. To test the hypothesis, the Z test was performed for two related proportions and the Wilcoxon statistic with a value of $p < 0.05$ to demonstrate statistical significance at a confidence level of 95%.

Results

In Table 1, the results show that, according to the profile of young adults, 90% are men who use marijuana and cocaine.

Table 1 - Profile of the young adult who consumes marijuana and cocaine from Colonia Morelos Tepic, Nayarit, Mexico, 2010

Variable		f	%
Gender	Male	9	90
	Female	1	10
Education	Elementary	1	10
	Highscheel	5	50
	Bachelors	4	40
Marital status	Married	2	20
	Single	4	40
	Free union	2	20
	Divorced	2	20
Ocupation	Trader	3	30
	Worker	1	10
	Builder	4	40
	Stylist	1	10
	Employed	1	10
Religion	Catholic	10	100

Source: Onti-Leca Questionaire, 2009, n = 10

In Table 2, an average of 34 ± 8.7 years of age is demonstrated in the population, that is, ages range from 25 to 43 years, these ages reaffirm the aforementioned profile where young adults are at a productive age. However, it should be mentioned that, in this study, the age at which marijuana 14 ± 1.7 years, while the age of onset of cocaine use showed an average of 21 ± 3.5 years. The mean time in years of marijuana and cocaine use showed an average of 8 ± 5.9 and 12 ± 4.9, respectively, indicating that cocaine has a longer time of consumption than the average of marijuana.

Table 2 - Time of consumption of marijuana and cocaine of the young adult of the colony Morelos Tepic, Nayarit, Mexico, 2010

Variable	Minimum data	Maximum data	$\overline{X}$ ± SD
Age (years)	25	43	34 ± 8.7
Marijuana use start age	12	16	14 ± 1.7
Age of onset of cocaine use	17	24	21 ± 3.5
Marijuana Consumption Time	2	14	8 ± 5.9
Cocaine Consumption Time	7	17	12 ± 4.9

Source: Onti-Leca Questionaire, 2009 n = 10

In relation to the drugs they have already used in life, 100% used alcohol, tobacco and cocaine, 60% marijuana, 30% amphetamines and tranquillizers, 20% hallucinogens and sedatives and 10% ecstasy and heroin respectively, which reflects that the young adult is a policeman.

Table 3 shows that 60% of marijuana use has been used from 1 to more than 21 times in life and 40% used it up to 151 times in the last year, while in cocaine use 100% consumed from 1 to more than 21 times in life and 100% consumed up to 151 times or more in the last year, ie, this is the drug that the study population consumed permanently.

Regarding the frequency (1 to more than 4 times a day) and quantity (1 to more than 4 doses of cigarettes) of marijuana consumption per week and the day before the intervention, it was found that 40% of young adults consume it . After the intervention, only 20% consume. About the frequency (1 to more than 4 times a day) and the amount (1 to more than 4 doses) of cocaine use per week and per day, before the intervention, recorded data show that 100% of young adults consume. After the intervention, 30% continued with the consumption behavior (Table 4).

Regarding marijuana use in the last month in the pre-intervention, it was found that 40% consumed 1 to 30 times, while the results obtained in the post-intervention showed a consumption of 20%. On the other hand, cocaine use in the last month reported that 100% consumed 1 to 30 times, and after the intervention only 30% mentioned having used cocaine 1 to 30 times.

When the frequency of use of marijuana pre-intervention was determined, it was found that 40% had high marijuana use, after the intervention only 10% recorded this consumption. Regarding the amount of marijuana use, pre-intervention was found at a high level of 20% and after the intervention only 10%. According to frequency of pre-intervention cocaine use, 90% of young adults presented high consumption and after the intervention only 30% of the subjects reported this type of consumption. Regarding the amount of consumption of this drug, it was reported that 60% of young adults have a high pre-intervention consumption and only 20% post-intervention.

Table 3 - Consumption in life and in the year of marijuana and cocaine in the young adult of Colonia Morelos Tepic, Nayarit, Mexico, 2010

Variable		Consumption characteristics	f	%
Marijuana	Consumption in life	Never used	4	40
		1 to 10 times	1	10
		11 to 20 times	0	0
		21 or more	5	50
	Consumption per year	Never used	6	60
		Less than 50 times	1	10
		51 to 150 times	1	10
		151 or more	2	20
Cocaine	Consumo en la vida	Never used	0	0
		1 to 10 times	1	10
		11 to 20 times	1	10
		21 or more	8	80
	Consumo en el año	Never used	0	0
		Less than 50 times	2	20
		51 to 150 times	3	30
		151 or more	5	50

Source: Onti-Leca Questionaire, 2009. n = 10

Table 4 - Frequency and amount of consumption per week and per day of marijuana and cocaine in young adults, Tepic, Nayarit, Mexico, 2010

Variable		Consumption characteristic	Pre-intervention		Post-intervention	
			f	%	f	%
Marijuana	Num. of times a day (frequency)	Did not consume	6	60	8	80
		Once a day	3	**30**	1	**10**
		2 or 3	0	**0**	0	**0**
		4 or more	1	**10**	1	**10**
	Amount of consumption in the week	No dose	6	60	8	80
		One dose	2	**20**	1	**10**
		2 to 3 doses	0	**0**	0	**0**
		4 or more	2	**20**	1	**10**
	Amount of consumption per day	No dose	6	60	8	80
		One dose	3	**30**	1	**10**
		2 to 3 doses	0	**0**	0	**0**
		4 or more	1	**10**	1	**10**
Cocaína	Num. of times a day (frequency)	No dose	0	0	7	70
		One dose	6	**60**	2	**20**
		2 to 3 doses	2	**20**	0	**0**
		4 or more	2	**20**	1	**10**
	Amount of consumption per week	No dose	0	0	7	70
		One dose	2	**20**	0	0
		2 to 3 doses	3	**30**	1	**10**
		4 or more	5	**50**	2	**20**
	Amount of consumption per day	No dose	0	0	7	70
		One dose	5	**50**	1	**10**
		2 to 3 doses	4	**40**	2	**20**
		4 or more	1	**10**	0	0

Fuente: Cuestionario Onti-Leca, 2009. *n*=10

Table 5 - Comparison of the Wilcoxon test of marijuana and cocaine use among young adults before and after intervention Tepic, Nayarit, Mexico, 2010

	Marijuana			Cocaine		
	Number of times a month	Frequency of use	Quantity of use	Number of times a month	Frequency of use	Quantity of use
Z	-1.633	-1.732	-1.000	-2.401	-2.449	-2.000
p	.102	.083	.317	.016	.014	.046

Fuente: Cuestionario Onti-Leca, 2009. *n*=10

To test the hypothesis, the non-parametric test of two related samples and the Wilcoxon statistic (Table 5) were used, which allowed to determine the values obtained before and after intervention according to the number of times they used marijuana in the month, a p value = 0.102, in marijuana use frequency p = 0.083 and in relation to the amount of marijuana use ap = 0.317 with 95% CI, accepting that the distributions of the data are equal before and after intervention, obtaining a greater distribution of marijuana. data after the intervention, without becoming a statistically significant difference.

For cocaine use in the month, a value of p = 0.016 was recorded in cocaine use frequency p = 0.014 and in relation to the amount of cocaine use, p = 0.046 with 95% CI, rejecting the equal distribution of pre and post-intervention, obtaining a greater distribution of data after the intervention with significant statistical value.

The former can be interpreted as having a reliability of 95% in the study population, there is a decrease in cocaine consumption after the intervention with auriculotherapy.

Discussion

The age of marijuana use in the present study was 12 to 16 years, while cocaine was 17 to 24 years old. We found ages similar to those of King's study in 2007 where they point out that the age of early onset of illegal drug use increases their dependence[10]. The mean cocaine consumption time is 12 + 4.9 years, which coincides with the studies by Margolin et al. In 2002, where they report an average consumption of this drug of 10.9 years[11]; while marijuana reported an average time of consumption of 8 + 5.9 years, reflecting a higher prevalence of cocaine use.

The results reported that 100% of young adults consumed alcohol, tobacco and cocaine, marijuana 60%, amphetamines and tranquillizers 30%, hallucinogens and sedatives 20%, heroin and ecstasy 10% respectively, ie that the phenomenon of drugs is not exclusive of a substance, but that the addict, in his eagerness to satisfy his created need, resorts to the ingestion of a great diversity of psychoactive substances; It should be noted that legal drugs are the transition to illegal drug use, as mentioned by Herrera et al., In 2004, where alcohol or tobacco users were more likely to initiate use of other drugs than non-users ($p < 0.001$)[12].

Based on the above findings and with reference to the principles of Rogers' theory, young people who use marijuana and cocaine as having a closed energy field, for lack of interaction with the ambient energy field, with low frequency waves. That is, the person who uses drugs disturbs their inner environment, which produces an imbalance of energy and, consequently, their well-being is low. For this reason, the person experiencing poor well-being paradoxically uses drugs to momentarily improve their well-being and reduce the adverse effects of continued drug use[13]. To balance the internal energy field altered by marijuana and cocaine, auriculotherapy was used as nursing care that was effective in stimulating ear energy points, related to the parts of the body affected by the consumption of these drugs, restoring the internal energy balance of the young addict, who in his environment diminishes the consumption of these psychoactive substances. Some discomforts expressed during the procedure were mild pain when placing the mustard seed on the ear, after the application tolerable pain in the Shenmen point and zero point, and itching and discomfort to sleep on the side of the ear with the treatment. Also expressing after the sixth and eighth session is more able to resist the temptation to use drugs, feel less anxious and calmer. A similar situation has been found in studies demonstrating the efficacy of traditional Chinese medicine in the treatment of addictions; in particular, auriculotherapy has shown excellent results, among which are found that favor therapeutic adherence, patients show greater commitment to treatment, fewer consultations lost, greater motivation for recovery, sleep better, they are less nervous and can fight anxiety more effectively[14].

According to results obtained in the use of marijuana and cocaine in the last month after intervention, in the population studied, it was verified that there was a decrease in the consumption of the first one in 20% and of the second in 70%, responding to the initial question in which the auriculotherapy as nursing care in the studied population had an effect in terms of decreased consumption of these two types of drugs.

As the percentages obtained were recorded, regarding frequency of marijuana use pre-intervention reported 40% of high consumption and post-procedure 10%, that is, reduced the frequency of high consumption to low consumption of up to 30%. When measuring the amount of marijuana consumption was reported at a high level 20% and after the intervention 10% of this level, ie, it decreased marijuana consumption by 10%; results similar to those found in a study conducted by Cervera in 2010, which obtained through acupuncture a decrease in the desire to consume marijuana in 22.2% compared to conventional treatment[15], and in another, made by Mendez in 2010, who confirmed that auriculotherapy is effective as a coadjuvant in reducing craving in cocaine-dependent patients ($p = 0.0001$)[16].

In relation to cocaine, in the number of times of consumption per month, frequency and amount of consumption of this same drug, a $p = <0.05$ was found with 95% CI, obtaining a greater distribution after the intervention, results which coincide with that of Avanti et al. conducted in 2000, where it was pointed out that patients allocated to acupuncture presented negative results when searching for cocaine in urine samples with $p = 0.01$[17]. On the other hand, López et al. in 2013, they pointed out, through the literature review, that acupuncture, in its different modalities, has effects at the local and central level, which help overcome and / or reduce the degree of dependence[18].

Conclusions

Statistically significant differences were found in the quantity, frequency and cocaine use after the intervention, so it can be stated that the hypothesis was supported by the results of this study, which show that auriculotherapy as a nursing care is effective in reducing cocaine use in young adult.

In turn, it identifies the high impact that the implementation of alternative techniques has on the management, control and rehabilitation of individual and social problems related to the use of psychoactive drugs, because multi-causality as a problem has to be approached through different forms of care.

However, it also reflects the need to perform several actions, such as the integration of multidisciplinary work in care, the training of nursing professionals in the use of alternative and complementary practices and the medium and long term follow-up of these techniques.

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