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Abandonment of treatment and smoking cessation: analysis of data from a control program*

Abandono do tratamento e cessação do tabagismo: análise dos dados de um programa de controle

Abandono del tratamiento de la cesación tabáquica: análisis de datos de un programa de control

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Abstract: Objective: to analyze the profile of smokers undergoing treatment and the factors associated with smoking cessation and smoking cessation in a municipal programo of treatment. **Method:** cross-sectional study carried out in Araranguá, state of Santa Catarina, with 109 people from the Tobacco Control Program, between March and December of the year 2018. Sociodemographic and health information, including depressive symptoms, impulsivity and coping skills, were collected. Descriptive and inferential analyzes were carried out. **Results:** 40.4% of the participants abandoned the treatment, group that obtained the highest mean for impulsivity. The main reasons reported for abandoning treatment were: "being well without smoking", work-related situations and withdrawal symptoms. It was observed that 7.64% quit smoking and 93.8% had mild dependence on nicotine. **Conclusion:** although abandonment is high, some remained in cessation. Those aged 49 years or less were significantly more abandoned and nicotine addiction is a significant impediment to cessation.
Descriptors: Smoking; Tobacco use Cessation; Rehabilitation; Public Health; Mental Health

Resumo: Objetivo: analisar o perfil dos tabagistas em tratamento e os fatores associados ao abandono do tratamento e cessação do tabagismo em um programa municipal. **Método**: estudo transversal realizado em Araranguá, Santa Catarina com 109 pessoas do Programa Controle do Tabagismo, entre março e dezembro de 2018. Foram coletadas informações sociodemográficas e de saúde, incluindo sintomas depressivos, impulsividade e capacidade de enfrentamento. Realizou-se análises descritivas e inferenciais. **Resultados**: 40,4% dos participantes abandonaram o tratamento, grupo que obteve maior média para impulsividade. Os principais motivos relatados para o abandono do tratamento foram: "estar bem sem fumar", situações relacionadas ao trabalho e sintomas de abstinência. Observou-se que 7,64% cessaram o tabagismo e 93,8% apresentavam dependência leve à nicotina.

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Conclusão: apesar do abandono ser alto, alguns permaneceram em cessação. Os com 49 anos ou menos tiveram abandono significativamente maior e a dependência à nicotina apresenta-se como dificultador significativo da cessação.
Descritores: Tabagismo; Abandono do Uso de Tabaco; Reabilitação; Saúde Pública; Saúde Mental

Resumen: **Objetivo**: analizar el perfil de los tabaquistas en tratamiento y los factores asociados al abandono del tratamiento y cesación del tabaquismo en un programa municipal. **Método**: estudio transversal realizado en Araranguá, Santa Catarina con 109 personas Programa Controle del Tabaquismo, entre marzo y diciembre de 2018. Fueron colectadas informaciones sociodemográficas y de salud, incluindo síntomas depresivos, impulsividad y capacidad de enfrentamiento. Se realizó análisis descriptivas e inferenciales. Resultados: 40,4% de los participantes abandonaron el tratamiento, grupo que obtuvo mayor media para impulsividad. Los principales motivos relatados para el abandono del tratamiento fueron: "estar bien sin fumar", situaciones relacionadas al trabajo y síntomas de abstinencia. Se observo que 7,64% cesaran el tabaquismo y 93,8% presentaban dependencia leve a la nicotina. **Conclusión**: a pesar del abandono ser alto, algunos siguieron con la cesación. Los con 49 años o menos tuvieron abandono significativamente mayor y la dependencia a la nicotina se presentaba como dificultador significativo de la cesación.
Descriptores: Tabaquismo; Abandono del Uso del Tabaco; Rehabilitación; Salud Pública; Salud Mental

Introduction

Tobacco consumption is the main preventable cause of illness and death in the world, which results in about eight million deaths per year.[1] According to the National Cancer Institute, in Brazil, until the year 2013, population surveys showed a decrease of 34.3% in the number of adult smokers.[2] Data from the Surveillance of Risk and Protection Factors for Chronic Diseases, obtained by telephone survey, show that, in 2018, the total percentage of smokers aged 18 or over in the country was 9.3%, 12.1% in men and 6.9% in women.[3] Among 2005 and 2014, more than 800 thousand smokers had access to treatment to stop smoking by the *Sistema Único de Saúde – SUS* (Unified Health System).[1]

The reduction in tobacco use in Brazil has had a positive impact on the rehabilitation and promotion of the population's health, which reflects the drop of 12% in the periods from 1990 to 2015 in the total of lung cancer deaths in men, as well as in the reduction of 25% in the rates of Chronic Noncommunicable Diseases in the same period.[4] Among the Chronic Noncommunicable Diseases, cardiovascular (40.5%) and respiratory diseases (29.9%) had higher rates of reduction.[5]

The *Ministério da Saúde* (Brazilian Ministry of Health) has been developing action policies against tobacco coordinated by the *Instituto Nacional do Câncer* (National Cancer Institute). One of the actions is the *Programa Nacional de Controle do Tabagismo* (National Smoking Control Program), established in 1989, which presents as main strategies of action for tobacco control the promotion of smoke-free environments, dissemination of information about tobacco, access to treatment, regulation of advertising, taxes on tobacco, repression of illicit trade, among others.[6] The therapeutic guidelines recommended by Ordinance 761/2016, for smoking cessation, are based on cognitive interventions, behavioral skills training, drug support when necessary and encouragement to adoption of healthy habits and practice of physical activity.[7]

Some authors affirm that recognizing the characteristics of the smoker who quits the treatment can help in the implantation of a personalized treatment, mainly in the initial clinical approach of the smoker.[8-10] A study points to the causes of smoking cessation program issues related to the place where the program is carried out, meeting times and the professionals who provided assistance, as well as the use of cognitive-behavioral therapy as a unique treatment strategy.[9]

Predictors of successful smoking cessation include sociodemographic factors, such as older age and high schooling. Individual-level factors associated with cessation include prior cessation attempts, intention to quit, less dependence on nicotine, perceived health as good/excellent and with relatively high self-efficacy.[10]

Regarding smoking cessation treatment, there are few references in the literature, especially about the causes that lead smokers to present such behavior.[8-10] Therefore, it is necessary to recognize this information, aiming to improve the quality of the National Smoking Control Program. Thus, the Health Organs will have subsidies to collaborate with the confrontation of one of the biggest challenges of the world public health, the consumption of tobacco.[9] Identifying the profile and causes of smoking cessation and smoking cessation are of

relevance to health programs. Relating these reasons to adherence to treatment can point out ways to further reduce rates of treatment abandonment, and promote greater quality of life, minimize cardiorespiratory and oncological risks to users.

In this sense, we intend to answer the following research question: What is the profile of smokers and what are the factors that are associated with smoking cessation and smoking cessation in a municipal program? Thus, the present study aims to analyze the profile of smokers undergoing treatment and the factors associated with smoking cessation and smoking cessation in a municipal program.

Method

This is a cross-sectional study carried out in the county of Araranguá, located in the extreme south of the state of Santa Catarina. Araranguá, through the *Secretaria Municipal de Saúde* (Municipal Health Department of Araranguá), acts in the control of tobacco use with the implementation, in 2008, of the *Programa de Controle do Tabagismo* (Smoking Control Program). Treatment with an intensive approach to smoking cessation is offered, 10 follow-up sessions, which consists of structuring a specific place for the care of smokers who wish to quit smoking. This approach is carried out in the form of a support group, as it allows the treatment of a greater number of smokers.

The county has a multidisciplinary team, composed of a psychiatrist, nurse and psychologist, who works in the Smoking Control Program. The team counts on the collaboration of professionals from the *Núcleo de Apoio à Saúde da Família* (Family Health Support Center) (nutritionist and physiotherapist), in addressing issues related to healthy eating and encouraging physical activity. Every smoker who has an interest in quitting smoking is inserted in the *Sistema de Regulação das Unidades de Saúde* (Regulation System in Health Units) and waits to join the group. The smoker is communicated by telephone about the start

date of the support group, which is held in the auditorium of the *Unidade Central Bom Pastor* (Bom Pastor Central Unit). The groups start with an average of 40 participants and are quarterly.

Three treatment groups from the Smoking Control Program were surveyed, who underwent treatment from March to December 2018, totaling 109 participants. As for the selection criteria, individuals over 18 years old, regardless of sex, who attended at least one session of the treatment group in 2018 were included. Those who did not attend the first treatment session were excluded, as it is at that moment that they are provided guidance on format, duration and resolved the main doubts about the program and the research, as well as the collection of research data started.

Data collection took place by filling out the instruments through a face-to-face interview, adapted from a previous study,[9] with demographic data, morbidities and degree of dependence in the first group session. In the second session, they were interviewed about the degree of impulsivity and the presence of depressive symptoms, and the latter, reapplied in the fourth session.

Impulsivity was assessed using the BIS 11 scale, an instrument composed of 30 items related to impulsivity and based on Ernst Barratt's model. Each participant analyzes each item, responds, considering their own behavior, and classifies according to a four-point Likert scale. The sum of the answer scores can vary between 30 and 120 points and high values in the scores were related to impulsive behaviors. The scale is validated for Brazilian adults.[11]

The presence of depressive symptoms was verified by self-application of the Beck Depression Inventory, validated in Brazil and applied worldwide to adults. This questionnaire consists of completing 21 items, including symptoms and attitudes that vary in scores from 0 to 3 and the sum of the result is classified in one of the 4 categories [not depressed (0-9), mild to moderate (10-18), moderate to severe (19-29) and severe (30-63)]. The statements address sadness, pessimism, feeling of failure, lack of satisfaction, feeling of guilt, self-punishment, self-

deprecation, suicidal ideas, crying crises, irritability, social withdrawal, indecision, body image distortion, work inhibition, work disturbance, sleep, fatigue, loss of appetite, weight loss, decreased libido.[12]

To estimate the degree of nicotine dependence, the Fagerström Questionnaire was applied, an assessment tool validated and used worldwide in smokers. The questionnaire consists of six questions that address the time that the smoker takes after waking up to light his first cigarette, if it is difficult to go without smoking in prohibited environments, which cigarette of the day brings more satisfaction, how many cigarettes do you smoke per day, if you smoke more often in the morning and you smoke even if you are sick. Each answer has a score (0 to 3) and according to the sum of the points obtained in the questions (0 to 10), nicotine dependence was classified into three degrees: mild, moderate and severe.[13]

In the last treatment meeting, in order to assess coping with stressful situations, the Toulous Coping Scale (ETC-R), reduced version, was applied. The scale is self-administered and consists of five factors: (1) control: it shows the reaction to stress, that is, when the person facing a situation needs to reflect and project which are the best strategies to use in solving the situation effectively, without avoiding confrontation (items: 1, 6, 9, 15, 18); (2) refusal: the person seeks to find a certain cognitive and emotional distance from the resolution of the situation/ problem, and may even act by refusing to admit reality (items: 10, 11, 12, 16); (3) conversion: Strategy used by those who use behavior change and adapt their action to the situation/problem, taking responsibility for the management of their problems (items: 4, 5, 14); (4) social support: these people need advice, information, to be heard and comforted by others (items: 7, 8, 13); (5) distraction: strategy in which people look for the company of others or the involvement in activities that distract them from the problems that bother them (items: 2, 3, 17). The global score is given by the sum of the values assigned to the items on the scale. The manifestations for stress according to each factor are given by the sum of the scores of the items described.[14]

After the groups were closed, dropouts were identified and interviewed in their homes, with the support of *Agentes Comunitárias de Saúde* (Community Health Agents). The questionnaire applied was adapted from a previous study and investigated: main reason for abandonment; place, time and day of the week in which the treatment group is carried out; problems with the Smoking Control Program staff, and type of therapy used. It also assessed whether there was a medical indication for treatment; if you have a health problem; how many meetings he attended; if you continue to smoke; if you live alone or with more smokers in the residence.[9]

Abandonment was considered to be absent in two or more consecutive group sessions. During the monitoring of the participants, the loss of three individuals occurred, which were not located due to the change of county.

Data were analyzed using the Stata 16 statistical program. Descriptive analysis was performed, with measures of central tendency and dispersion for quantitative variables, and absolute and relative frequencies for qualitative variables, and bivariate using the chi-square test or Fisher for qualitative variables and Kruskal Wallis, for quantitative variables.

The research is based on the ethical principles of the Resolution of the *Resolução do Conselho Nacional de Saúde 466* (National Health Council 466) of December 12, 2012 and was approved by the *Comitê de Ética e Pesquisa da Universidade Federal de Santa Catarina* (Ethics and Research Committee of the Federal University of Santa Catarina), under the *Certificado de Apresentação de Apreciação Ética 84197518.0.0000.0121* (Certificate of Presentation of Ethical Appreciation 84197518.0.0000.0121). All participants consented to participate in the research by signing the informed consent form.

Results

In the period in which the program took place, 163 people were registered for treatment, 54 did not attend the first session and were not followed up, totaling 109 participants who were

included in the study. Treatment dropout was 40.4%. In men it was 40.0% (22) and in women, 40.7% (22). Among the individuals who abandoned, 6.8% (3) were not found, as they moved to another county. Regarding demographic characteristics, there was a significantly higher prevalence of dropout among those aged 49 years or less. As for smoking cessation, 76.4% stopped smoking. There were no significant differences in health conditions and abandonment of treatment or cessation (Table 1).

Table 1 - Characteristics, conditions and health problems and their relationship with smoking cessation and smoking cessation, Araranguá, 2018. (n = 109)

		Abandonment		Cessation	
Variables	**n (%)**	**n (%)**	**P-value**	**n (%)**	**P-value**
Characteristics					
Gender			0,937		0,736
Male	55 (50,5)	22 (40,0)		42 (77,8)	
Female	54 (49,5)	22 (40,7)		39 (75,0)	
Age range (n=108)			**0,042**		0,150
49 or less	56 (51,9)	28 (50,0)		38 (70,4)	
50 or more	52 (48,1)	16 (30,8)		42 (82,4)	
Civil status			0,462		0,500
Unmarried	25 (22,9)	12 (48,0)		17 (73,9)	
Separated / Divorced	22 (20,2)	9 (40,9)		15 (71,4)	
Married	51 (46,8)	17 (33,3)		42 (82,4)	
Widower	11 (10,1)	6 (54,5)		7 (63,3)	
Scholarity (n=107)			0,974		0,572
Illiterate	6 (5,6)	3 (50,0)		4 (66,7)	
Elementary School (Incomplete)	29 (27,1)	12 (41,4)		20 (71,4)	
Elementary School (Complete)	23 (21,5)	10 (43,5)		16 (72,7)	
Middle School (Complete)	35 (32,7)	13 (37,1)		26 (76,5)	
Higher Education (Complete)	14 (13,1)	6 (42,9)		13 (76,0)	
BMI (Kg/m^2) (n=99)			0,817		0,853
Normal	31 (31,3)	12 (38,7)		23 (79,3)	
Overweight	45 (45,5)	28 (41,2)		35 (79,5)	
Obesity	23 (23,2)	40 (40,4)		17 (73,9)	
Health conditions					
Physical activity	23 (21,1)	6 (26,1)	0,116	19 (82,6)	0,429
Oral changes	14 (12,8)	6 (42,9)	0,839	12 (92,3)	0,150
Diabetes mellitus	12 (11,0)	6 (50,0)	0,471	9 (75,0)	0,902

Arterial hypertension	35 (32,1)	17 (48,6)	0,23	24 (70,6)	0,332
Heart disease	13 (11,9)	3 (23,1)	0,176	10 (83,3)	0,549
Pulmonary disease	15 (13,8)	7 (46,7)	0,592	10 (71,4)	0,637
Digestive alteration	47 (43,1)	18 (38,3)	0,701	36 (81,8)	0,270
Skin allergy	11 (10,1)	5 (45,5)	0,717	8 (80,0)	0,779
Cancer	2 (1,8)	1 (50,0)	0,779	2 (100,0)	0,428
Seizure crisis	5 (4,6)	4 (80,0)	0,064	3 (100,0)	0,329
Anorexia	5 (4,6)	3 (60,0)	0,36	3 (60,0)	0,376
Obesity	11 (10,1)	4 (36,4)	0,775	9 (81,8)	0,656
Psychological treatment	19 (17,4)	11 (57,9)	0,087	12 (66,7)	0,285
Psychiatric treatment	25 (22,9)	12 (48,0)	0,376	18 (75,0)	0,853
Alcohol / drug use	19 (17,4)	6 (31,6)	0,39	14 (77,8)	0,881
Another health problem	36 (33,0)	15 (41,7)	0,846	26 (74,3)	0,717
Use of medication	71 (65,1)	30 (42,3)	0,583	50 (72,5)	0,191
Use of dental prosthesis	42 (38,5)	15 (35,7)	0,433	31 (75,6)	0,877
Use of OC*	6 (9,7)	3 (50,0)	0,674	4 (66,7)	0,619
Hormone replacement	2 (3,2)	-	0,222	2 (100,0)	0,406

*OC: Oral Contraceptive

The prevalence of dropouts by treatment group, dependence on nicotine and depressive symptoms before and after smoking cessation and the values of impulsivity and its subdivision and coping with stressful situations are shown in Table 2. Regarding the scales used, there was a difference between cessation and nicotine dependence, 93.8% (15) of those with mild dependence ceased smoking while the percentage of those with severe dependence was 65.1% (28), shown in Table 2.

Impulsivity averaged 67.4. The non-planning area had the highest average among the factors. There were no differences in the averages of the scale and factors between the participants who abandoned treatment or not, as well as in relation to cessation. Control was the item that presented the highest average in relation to coping with stressful situations for all participants and for those who stopped smoking.

Table 2 - Characteristics of the scales and their relationship with smoking cessation and smoking cessation, Araranguá, 2018. (n = 109)

Variables	n (%)	Abandonment		Cessation	
		n (%)	P-value *	n (%)	P-value *
Characteristics					
Group (months of treatment)			0,774		0,380
Group 1 (march to may)	33 (30,3)	15 (45,5)		21 (67,7)	
Group 2 (june to august)	39 (35,8)	15 (38,5)		31 (81,6)	
Group 3 (september to november)	37 (33,9)	14 (37,8)		29 (78,4)	
Nicotine addiction (n=108)			0,379		**0,048**
Light	17 (15,8)	6 (35,3)		15 (93,8)	
Moderate	48 (44,4)	17 (35,4)		37 (80,4)	
Severe	43 (39,8)	21 (48,8)		28 (65,1)	
Depressive symptoms before stopping (n=78)			0,876		0,714
Not depressed	31 (39,7)	10 (32,3)		27 (87,1)	
Mild to moderate depression	25 (32,1)	8 (32,0)		20 (80,0)	
Moderate to severe depression	18 (23,1)	4 (22,2)		16 (88,9)	
Severe depression	4 (5,1)	1 (25,0)		3 (100,0)	
Depressive symptoms after stopping (n=43)			0,771		
Not depressed	28 (65,1)	2 (7,1)		-	
Mild to moderate depression	7 (16,3)	-		-	
Moderate to severe depression	4 (9,3)	-		-	
Severe depression	4 (9,3)	-		-	
	Average (DP†)	**Average (DP†)**	**P-value ‡**	**Average (DP†)**	**P-value ‡**
Impulsivity (n=68)	67,4 (10,9)	69,3 (9,2)	0,281	65,1 (12,6)	0,959
Motor area (n=72)	21,4 (5,0)	22,0 (4,5)	0,453	20,2 (5,6)	0,519
Attention area (n=70)	18,6 (3,5)	19,0 (2,8)	0,462	18,2 (4,1)	0,987
Non-planning area (n=72)	27,3 (5,1)	28,3 (5,0)	0,298	26,7 (5,6)	0,265
ETC-R scale* Control factor (n=40)	4,0 (1,0)	-	-	4,1 (1,0)	-
ETC-R scale* Refusal factor (n=38)	3,2 (0,9)	-	-	3,3 (1,0)	-
ETC-R scale* Conversion factor (n=41)	3,1 (0,9)	-	-	3,1 (0,9)	-
ETC-R scale* Social support factor (n=42)	3,2 (1,0)	-	-	3,3 (1,1)	-
ETC-R scale* Distraction factor (n=41)	3,8 (0,9)	-	-	3,9 (1,0)	-

*Escala ETC-R: Escala Toulousiana de Coping

The main reasons reported by the participants for abandoning treatment were "being well without smoking" (n = 6), work-related situations (n = 6) and withdrawal symptoms (n = 5). Of those who abandoned treatment, 62.5% continued to smoke, 38.2% live with smokers and 25% reported dissatisfaction with the place where the program was carried out. The meetings of the

first 2 groups were held at the reception of the Bom Pastor Central Unit, as the Unit's auditorium was closed. In addition, 72% (32) of those who left the group said they would participate again.

Discussion

In 2018, 109 people participated in the anti-smoking treatment groups offered by the Municipal Health Department of Araranguá. The percentage of treatment abandonment was 40.4% and cessation, 76.4%. The reasons reported by the participants for abandoning treatment refer to individual conditions, such as not having the need to continue the program to remain in abstinence, but also related to the structure of the place.

The percentage of treatment abandonment identified was relatively close to that reported in the state of São Paulo, at 30.5%.[15] Analysis of a Smoking Control Program in Northern Paraná found a percentage of 23.8%.[9] However, in Minas Gerais, a rate of 84.6% was observed.[16] The variation in the values may be related to the criteria used for the definition, such as number of absences, length of treatment and the moment that was evaluated. In addition, the fact that services do not provide drug therapy free of charge, low income of the participants, low educational level and high degree of nicotine dependence, are factors that may have contributed to this practice.[16] Among the factors studied, in the present investigation, the youngest had a significantly higher percentage of dropout.

The profile of smokers abandoning treatment are individuals under the age of 49, female, economically active, highly dependent on nicotine and not depressed, according to the initial Beck Inventory. Authors relate the high degree of dependence to nicotine as the main difficulty found in the anti-smoking treatment, consequently the biggest cause of failure in smoking cessation, since dependence is the central element in the maintenance of smoking.[17-19] Nicotine addiction has two basic components: the physical (intense desire to smoke, withdrawal

symptoms) and the psychological (support to deal with situations of loneliness, stress and frustrations). Thus, people with low dependence have a lower frequency and intensity of withdrawal symptoms, and therefore have a greater chance of success in smoking cessation.[18]

As for gender, the data obtained differs from the literature, as other researches revealed greater abandonment of treatment by males.[1,9] The data found in this research, in relation to women, may be related to mood changes, which can create different difficulties in the face of tobacco abstinence. A study also mentions the concern with body weight as an obstacle in smoking cessation in women.[20] The imposition by today's society of strict beauty standards regarding aesthetic issues and the use of tobacco as an aid to weight control has been reported in the literature.[2] Research shows that it is negative life experiences that influence women to smoke.[21-22] A study with women smokers discuss how much the workload, reproductive and productive, the incessant social and family demands and the contradictions that women have experienced in contemporary society can potentiate female smoking.[21]

Among the changes or health conditions reported by the participants that had a greater relationship with the abandonment of treatment was the presence of seizures and previous psychological monitoring. The presence of seizures contraindicates the use of Bupropion and leads the smoker to use only the nicotine patch or a second choice medication for the control of withdrawal symptoms. This can make smoking cessation difficult, and consequently leads to treatment cessation.[7]

As for impulsivity, the averages were relatively higher among those who gave up treatment, denoting the highest value in the area of non-planning. Some people, even intellectually developed, may fail to respond adequately to life's challenges because they are unable to organize.[23] One of the hypotheses that has been studied is that tobacco consumption is a reflection of a quest to “self-medicate” to relieve symptoms resulting from Attention Deficit Disorder, acting as a resource for improving the processes of attention and cognition. The

prevalence of smoking in adolescents and adults with Attention Deficit Disorder tends to be higher, compared to subjects without the disorder.[24] However, the research carried out in the Smoking Program of Araranguá/SC did not investigate the presence of Attention Deficit Disorder cases in the treatment groups, but they may be related to impulsivity.

The main health problem reported at the time of the treatment abandonment interview was depression. However, it is noteworthy that the majority of smokers who abandoned treatment were not subjected to the second application of the Beck Inventory, due to the abandonment of treatment before the application of the questionnaire. Thus, depression was self-reported by the interviewee, without diagnostic confirmation. Studies have shown that there is strong evidence of a relationship between smoking and depressive disorders.[25-26] Authors found high levels of depression in a cohort of smokers in South Africa. This may demonstrate a reduced likelihood of smoking cessation in smokers with depression. In smokers with a history of depressive disorders, the act of quitting smoking is a risk factor for the maintenance of the psychiatric clinical condition, or even for the development of a new depressive crisis.[27] A study points to depression and/or anxiety as the second most cited self-reported comorbidity and presents difficulties in smoking cessation.[28]

Among the main reasons reported by smokers in the present study for abandoning treatment are: work-related situations (such as changes in time, place or type of work), "I was fine without smoking" (demonstrating that I no longer need medication and psychological support group) and withdrawal symptoms (headache, excessive irritability, insomnia). The percentage of smokers who had quit smoking when the treatment quit interview was conducted was higher than that reported by a study that found that 15.6% of quitting smokers were able to stop smoking without assistance.[9] Thus, the study shows that even without completing treatment, smoking cessation is successful among dropouts.

Among the reasons related to the characteristics of the team and the structure of the Smoking Control Program, there is the place where the group is carried out with the highest percentage. The change of location for the group may have contributed to the abandonment of treatment. Inadequate physical structure is one of the factors that contribute to reducing access, humanization and continuity of health care.[29] As well, for the health professional there is the possibility of generating losses, since it compromises their autonomy, generating dissatisfaction, wear and tear, improvisations, conflicts with users, difficulty in planning resources and difficulties in carrying out quality practices.

Among the limitations of the study are the loss of data related to the absence of some participants at the time of applying the questionnaires. As a consequence, there was a reduction in the size of the sample in some measurements performed, which made comparison difficult. Another limitation of the study is that smoking cessation was considered at the end of the treatment groups. It is known that within a year, relapses are quite common, and this interval is considered to define the person as an ex-smoker.

Conclusion

The results of the research related to the abandonment of treatment offer subsidies justify the need for changes in the physical structure of the program, thus seeking to offer an adequate and comfortable place for the participants and the team. It should be noted that in the group of dropouts there were individuals who were not smoking. This demonstrates that not all smoking cessation treatment has a direct relationship with the cessation failure.

The smoker quitting smoking treatment has the following profile: less than 49 years old, widowed, illiterate, female, economically active, highly dependent on nicotine and is not depressed.

The age group of smokers under 49 years old showed a statistically significant relationship with treatment abandonment. The study also identifies how issues related to access

to health services impact the smoker's permanence in treatment, as there were dropouts due to difficulties in adapting treatment to the workday of some participants.

In addition, nicotine addiction was the only significant impediment to smoking cessation. People identified with severe nicotine dependence should receive greater attention from the team's professionals through qualified listening and emotional support, since there is greater difficulty in cessation and permanence in treatment in this group of smokers.

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