

Factors that motivate smokers to seek outpatient smoking cessation treatment at a university general hospital*

Fatores motivacionais que contribuem para a busca de tratamento ambulatorial para a cessação do tabagismo em um hospital geral universitário

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Abstract

Objective: To describe the reasons smokers give for seeking smoking cessation treatment, correlating those reasons with sociodemographic characteristics, clinical data, stage of readiness to change, and severity of nicotine dependence. **Methods:** Between February of 2008 and February of 2009, we evaluated 53 smokers who were naive to smoking cessation treatment and sought such treatment at the psychoactive substance abuse outpatient clinic of a university general hospital. The instruments used in the study were as follows: a form for the collection of sociodemographic and clinical data; the Fagerström Test for Nicotine Dependence; the University of Rhode Island Change Assessment scale; and a questionnaire on the smoking habit. **Results:** The sample comprised 34 women and 19 men, with a mean age of 48.1 years. Most of the participants had less than 8 years of schooling, had tobacco-related diseases, started smoking during adolescence, had smoked for more than 20 years, and had high nicotine dependence. The decision to quit smoking was mainly influenced by advice from family members, and the decision to seek specialized smoking cessation treatment was influenced by physicians. Most of the men were in the contemplation stage of change, whereas the women tended to have a more balanced distribution of the stages ($p = 0.007$). The women had attempted to quit smoking more often than had the men ($p = 0.017$) and also had a higher level of nicotine dependence ($p = 0.053$). **Conclusions:** The findings of this study highlight the role of health professionals in the approach to smoking cessation and suggest the importance of interventions that are more targeted, in view of the differences between men and women.

Keywords: Smoking; Smoking cessation; Motivation; Tobacco use disorder.

Resumo

Objetivo: Descrever os fatores motivacionais apontados pelos tabagistas para a busca de tratamento para cessação do tabagismo e relacioná-los com dados sociodemográficos e clínicos, estágio de prontidão para mudança e gravidade da dependência da nicotina. **Métodos:** Foram avaliados 53 tabagistas entre fevereiro de 2008 e fevereiro de 2009, que compareceram pela primeira vez a um ambulatório de substâncias psicoativas de um hospital geral universitário em busca de tratamento para parar de fumar. Os instrumentos utilizados foram uma ficha para coleta de dados sociodemográficos e clínicos; Teste de Fagerström para Dependência de Nicotina; escala *University of Rhode Island Change Assessment* e um questionário com perguntas relacionadas ao hábito tabágico. **Resultados:** Foram avaliados 34 mulheres e 19 homens, com idade média de 48,1 anos. A maioria apresentava nível de escolaridade fundamental, era portador de doenças tabaco-relacionadas, começara a fumar na adolescência, tinha mais de 20 anos de tabagismo e dependência elevada. A decisão de parar de fumar foi principalmente influenciada por incentivo familiar, assim como a procura e encaminhamento para o tratamento foi influenciado por médicos. A maioria dos homens estava no estágio de contemplação, enquanto as mulheres tenderam a ter uma distribuição mais equitativa nos estágios ($p = 0,007$). As mulheres tinham tentado parar de fumar mais frequentemente que os homens ($p = 0,017$) e também tinham maior grau de dependência ($p = 0,053$). **Conclusões:** Os achados do estudo salientam o papel do profissional da saúde na abordagem do tabagismo, e apontam para a importância de intervenções mais direcionadas, tendo em vista as diferenças encontradas entre homens e mulheres.

Descritores: Tabagismo; Abandono do hábito de fumar; Motivação; Transtorno por uso de tabaco.

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Introduction

Smoking was long considered to be part of the personality and behavior of the individual,⁽¹⁾ even being glamorized as a symbol of masculinity or independence. However, in recent decades, this view has been gradually replaced by the concern about the harmful health effects of smoking; what was seen as a “charming habit”, is currently described as tobacco dependence, which affects the behavior and activities of each individual in different ways, being considered a chronic recurrent disease.⁽²⁾

Cigarettes contain approximately 60 carcinogens, and the use of cigarettes is associated with 200,000 deaths per year in Brazil.⁽³⁾ In a recent national survey, the prevalence of smoking in the adult population was found to be 20%.⁽⁴⁾ Among the smoking-related diseases (SRDs) that cause the most deaths are cardiovascular diseases (43%), various types of cancer (36%), and respiratory diseases (20%). As a result, the life expectancy of an individual who smokes heavily can be 25% lower than that of a nonsmoker.⁽³⁾ In addition, approximately one third of all smokers will die prematurely due to nicotine dependence.⁽⁵⁾

Despite the harmful effects of smoking, most smokers maintain the habit due to three major mechanisms: positive reinforcement (related to the effect of nicotine on the central nervous system, releasing acetylcholine, noradrenaline, dopamine, serotonin, and GABA, which results in pleasurable sensations and in decreased appetite, as well as in increased energy, alertness, and attention); negative reinforcement (represented by maintaining the use in order to prevent withdrawal symptoms, especially anxiety, dysphoria, increased appetite, irritability, and difficulty concentrating); and respondent conditioning (triggered by environmental stimuli, as well as by positive and negative emotions associated with smoking).⁽⁶⁾

Considering the difficulty of smoking cessation, it is important to discuss the factors that can influence the decision to abandon the smoking habit, chief among which is motivation.^(7,8) Motivation can be defined as a state of readiness or eagerness to change. The word “motivation” comes from the Latin root meaning “to move” and is an attempt to understand what drives us in a certain direction or toward a certain objective. Because of the

importance of understanding the motivational mechanisms involved in the decision-making process, Prochaska & DiClemente⁽⁹⁾ described a transtheoretical model of stages of readiness to change as follows:

- Precontemplation—There is not even the intention to change, since the individual does not see the behavior as problematic. The benefits of the behavior are given weight, and the negative effects are minimized.
- Contemplation—The individual is aware of the relationship between the behavior and the problems associated with it, makes a more realistic cost-benefit assessment, and considers the possibility of change, although there is still significant ambivalence.
- Preparation—The individual is ready to attempt the behavior change and needs to take an active part in constructing that change.
- Action—The individual engages in specific activities to achieve the intended change.
- Maintenance—The individual integrates the new behavior into daily life, taking measures to prevent the recurrence of the behavior (relapse prevention).

The stages-of-change model was initially described as linear and later as circular. Since patients often relapse and reenter the cycle, passing through the stages a few times before remaining in the maintenance stage for long periods, this model was subsequently described as a spiral.^(10,11)

In using the stages-of-change model to approach smokers, it is relevant to point out that motivation changes over time and is influenced by the environment in which the smoker is,⁽¹²⁾ as well as being closely related to the level of nicotine dependence.^(13,14) In addition, it is of note that motivation can be influenced by others, and, here, we should emphasize the role of health professionals in tailoring their approach to the motivational stage of the patient, as well as to the treatment planning, in order to stimulate changes consistent with that motivational stage and increase the chances of the patient seeking treatment and adhering to it.⁽¹⁵⁾

Since motivation is one of the key aspects for smokers not only to take the initiative to attempt smoking cessation but also to be successful in the attempt, it is important to try to understand some

elements that might contribute to motivating a smoker to seek smoking cessation and use them in secondary and tertiary prevention strategies.

Therefore, considering how important it is to expand approaches in the care of smokers, the objective of the present study was to collect sociodemographic and clinical data, as well as to evaluate the reasons smokers give for seeking smoking cessation treatment.

Methods

This was a cross-sectional descriptive study evaluating individuals who were naïve to smoking cessation treatment and sought such treatment at the *Ambulatório de Substâncias Psicoativas* (ASPA, Psychoactive Substance Abuse Outpatient Clinic) of the *Universidade Estadual de Campinas* (Unicamp, State University at Campinas) *Hospital das Clínicas* between February of 2008 and February of 2009.

The inclusion criteria were as follows: being a smoker (daily use of cigarettes for at least 1 year); being over 18 years of age; being naïve to smoking cessation treatment (the objective being to collect data related to the factors that motivate such individuals to seek treatment, thereby attempting to obtain responses that are more “spontaneous” and less “contaminated” by the motivational content provided during treatment); not having any apparent significant cognitive impairment or prominent psychotic symptoms and therefore being mentally competent to understand, without assistance, the objectives of the study and the content of the written informed consent form, as assessed based on the clinical impression of the interviewer, under the supervision of a teaching psychiatrist; and being fluent in Portuguese.

The study was conducted at the ASPA, which was established in 2000 and is part of the Psychiatric Outpatient Clinic of the Unicamp *Hospital das Clínicas*.

The patients were informed of the objectives of the study and were given the written informed consent form as a form of invitation to participate in the study. The patients who met the inclusion criteria and agreed to participate, by giving written informed consent, completed the instruments individually, together with the researcher, in a separate room.

The instruments used were as follows:

- A form for the collection of sociodemographic and clinical data including the following: gender; age; profession; employment status; professional activity; level of education; place of residence; marital status; number and age of children; number of persons in the household; leisure activities; religion; religious practice; type of referral to the ASPA; self-reported clinical or psychiatric

Table 1 – Sociodemographic and clinical profile of the study participants.

Variable	n (%)
Gender	
Male	34 (64.2)
Female	19 (35.8)
Age, ^a years	48.11 ± 10.91
Marital status	
Married	31 (58.5)
Single	8 (15.1)
Separated/divorced	9 (17.0)
Widowed	5 (9.4)
Level of education	
Illiterate	3 (5.7)
≤ 8 years of schooling	39 (73.5)
High school (complete or incomplete)	10 (18.9)
College (complete or incomplete)	1 (1.9)
Employment status	
Employed	25 (47.2)
Unemployed	7 (13.2)
On disability/sick leave	11 (20.8)
Retired	4 (7.5)
Retired due to ill health	6 (11.3)
Religion	
Catholic	35 (66.0)
Evangelical	12 (22.7)
None	6 (11.3)
Engages in religious practice	34 (64.2)
Has an SRD	37 (69.8)
Type of SRD	
Respiratory disease	21 (56.8)
Cancer	8 (21.6)
Cardiovascular disease	8 (21.6)
Has a mental disorder (self-reported)	16 (30.2)
Type of mental disorder (self-reported)	
Depression	12 (75.0)
Anxiety	2 (12.5)
Schizophrenia	2 (12.5)

SRD: smoking-related disease. ^aExpressed as mean ± SD.

morbidities; use of alcohol; and frequency and use of any other psychoactive substance

- The Fagerström Test for Nicotine Dependence, validated for use in Brazil^(16,17): a questionnaire that classifies the level of nicotine dependence as low (scores from 0 to 4), medium (scores of 5), or high (scores from 6 to 10)—The questions in this instrument address the following: time to the first cigarette after waking; difficulty in abstaining from smoking in places where smoking is prohibited; the first cigarette of the day being the one that brings the most satisfaction; number of cigarettes smoked per day; increased smoking in the morning; and smoking even when the individual is very ill.
- The University of Rhode Island Change Assessment (URICA) scale, used for measuring the motivation to change⁽¹⁸⁾—The URICA comprises 32 items that were initially tested in smokers and subsequently tested in individuals dependent on alcohol or other substances. Its objective is to investigate the motivational stages of change by using assertions that classify motivation into four stages: precontemplation; contemplation; action; and maintenance. Responses are given on scales ranging from 1 (totally disagree) to 5 (totally agree). Each assertion is related to a different motivational stage, and, at the end of the test, it is possible to determine the patient’s level of motivation by taking into consideration the stage for which the patient scored the highest.
- A questionnaire on the smoking habit consisting of open questions regarding the following: age at smoking onset; reason to start smoking; presence of other smokers in the household; reason why the smoking habit started to cause uneasiness; reason for seeking smoking cessation treatment; history of feelings of embarrassment about smoking; presence of a disease; history of smoking-related health problems and, if so, what problems; history of attempts to quit smoking and, if so, how many attempts, when the last attempt occurred, how long it lasted, what type of assistance was provided, if any; history of encouragement received to make

the decision to quit smoking and, if so, from whom; family reaction regarding the decision; and motivation for the decision to quit smoking

The data related to the closed questions were written down during the interview. The responses to the open questions were recorded in order to make it possible to obtain more complete data. Based on the analysis of the recordings, we constructed categories by which the responses were grouped.

This project was approved by the Research Ethics Committee of the Unicamp School of Medical Sciences (ruling no. 926/2007).

We used the Statistical Package for the Social Sciences, version 11.5 (SPSS Inc., Chicago, IL, USA) to consolidate and analyze the database. For descriptive data analysis, we used measurements of position and dispersion

Table 2 - Data on smoking as reported by the study participants.

Variable	n (%)
Age at smoking onset	
< 12 years	11 (20.7)
12-18 years	39 (73.6)
> 18 years	3 (5.7)
Reason for starting smoking	
Social facilitation	28 (52.8)
Family facilitation	16 (30.2)
Curiosity	7 (13.2)
Other	2 (3.8)
History of smoking	
< 10 years	2 (3.8)
10-20 years	4 (7.5)
> 20 years	47 (88.7)
Level of nicotine dependence ^a	
Low	10 (18.9)
Medium	7 (13.2)
High	36 (67.9)
Number of cigarettes per day	
≤ 10	8 (15.1)
11-20	29 (54.7)
21-30	6 (11.3)
≥ 31	10 (18.9)
Attempts at smoking cessation	
None	12 (22.6)
1	11 (20.8)
2-3	15 (28.3)
≥ 4	15 (28.3)

^aDetermined by the Fagerström Test for Nicotine Dependence.

(continuous variables), as well as frequency tables (categorical variables). The chi-square and Fisher's exact tests were used.

Results

A total of 53 smokers were invited, and all agreed to participate in the study. The median age was 49 years. Most of the participants (81%) had children, 26.4% of whom were minors. One third of the interviewees (34%) lived with other smokers. Regarding referral to the ASPA, 7 individuals (13.2%) sought the facility spontaneously, 9 (17%) were influenced by suggestions from friends or coworkers, and 37 (69.8%) were referred by physicians or other health professionals. The remaining sociodemographic and clinical data are presented in Table 1; the information on smoking history is shown in Table 2; and the factors related to seeking treatments can be found in Table 3.

Regarding the stage of change as measured by the URICA scale, 12 smokers achieved the same score for the contemplation and the action motivational stages of change, characterizing a stage that is between significant ambivalence and readiness to act.

The comparison between genders for the data obtained (Table 4) showed that age at onset of smoking, reasons to start smoking, and motivations to quit smoking are very similar between men and women. However, with regard to the level of dependence, the distribution was unequal, the proportion of individuals who had a high level of nicotine dependence, as measured by the Fagerström test, being significantly greater among the women than among the men (76.5% vs. 52.6%). In addition, the rates of previous attempts to quit smoking and of feelings of embarrassment about the smoking habit were higher for the women than for the men.

Discussion

The main objective of this study was to collect data on the sociodemographic and clinical profile of the smokers who sought smoking cessation treatment, as well as to present the reasons given for seeking such treatment, correlating those reasons with gender and stage of change.

Regarding the sociodemographic profile of the smokers who sought smoking cessation treatment, the findings of our study corroborate

Table 3 - Factors related to treatment seeking as reported by the study participants.

Questions/responses and stage of change	n (%)
Why did smoking start to bother you?	
Health problems	30 (56.6)
Social pressure	10 (18.9)
Family pressure	8 (15.1)
Discomfort at the habit	5 (9.4)
Have you ever felt embarrassed about smoking?	
Yes	37 (69.8)
No	16 (30.2)
Did anyone encourage you to quit smoking?	
Yes	37 (69.8)
No	16 (30.2)
Who encouraged you to quit smoking?	
A family member	25 (67.6)
An acquaintance	5 (13.5)
A health professional	7 (18.9)
What motivated you to decide to quit smoking?	
Self-care	6 (11.3)
Health concerns	37 (69.8)
Social aspects	10 (18.9)
Why did you seek smoking cessation treatment?	
The need for assistance in quitting	16 (30.2)
Advice from physicians	17 (32.1)
Advice from family members	9 (9.4)
Health concerns	15 (28.3)
Who referred you to the facility?	
A health professional	37 (69.8)
No one (spontaneous treatment seeking)	7 (13.2)
Friends or coworkers (informal referral)	9 (17.0)
Stage of change ^a	
Contemplation	25 (47.2)
Contemplation/Action	12 (22.6)
Action	16 (30.2)

^aDetermined by the University of Rhode Island Change Assessment scale.

data in the literature,⁽¹⁹⁾ with a predominance of women,⁽²⁰⁾ married individuals,⁽²¹⁾ and individuals who engage in religious practice.

The high rate of SRDs in the present study (69.8%), especially considering the relatively low mean age (48.1 years), as reported in other studies,⁽²²⁾ underscores the importance of expanding the strategies for treating smoking, minimizing the hazards associated with smoking (morbidity and mortality) and therefore minimizing the individual and collective costs of this dependence.

Table 4 – Comparison of the variables by gender.

Variable	Female (n = 34)		Male (n = 19)	
	n	(%)	n	(%)
Marital status				
Married	17	(50.0)	14	(73.7)
Unmarried	17	(50.0)	5	(26.3)
Level of education				
Illiterate	1	(2.9)	2	(10.5)
≥ 8 years of schooling	33	(97.1)	17	(89.5)
Has an SRD	23	(67.6)	14	(73.7)
Has cancer	4	(11.8)	4	(21.1)
Has a mental disorder (self-reported)	11	(32.4)	5	(26.3)
Type of mental disorder (n = 16)				
Anxiety	2	(18.2)	0	(0.0)
Depression	8	(72.7)	4	(80.0)
Schizophrenia	1	(9.1)	1	(20.0)
Age at smoking onset				
< 12 years	7	(20.6)	4	(21.1)
≥ 12 years	27	(79.4)	15	(78.9)
History of smoking				
≤ 20 years	3	(8.8)	3	(15.8)
> 20 years	31	(91.2)	16	(84.2)
Level of nicotine dependence ^a				
Low or medium	8	(23.5)	9	(47.4)
High	26	(76.5)*	10	(52.6)
Number of cigarettes per day				
≤ 10	5	(14.7)	3	(15.8)
11-20	18	(52.9)	11	(57.9)
21-30	4	(11.8)	2	(10.5)
≥ 31	7	(20.6)	3	(15.8)
Has attempted to quit before	3	(88.2)**	11	(57.9)
Reason why smoking started to bother the smoker				
Discomfort with the habit	4	(11.8)	1	(5.3)
Health problems	18	(52.9)	12	(63.2)
Family pressure	8	(23.5)	2	(10.5)
Social pressure	4	(11.8)	4	(21.1)
Has felt embarrassed about smoking	25	(73.5)	12	(63.1)
Motivation for the decision to quit				
Self-care	4	(11.8)	2	(10.5)
Health concerns	23	(67.6)	14	(73.7)
Social aspects	7	(20.6)	3	(15.8)
Reason for seeking smoking cessation treatment				
The need for assistance in quitting	12	(35.3)	4	(21.1)
Advice from physicians	9	(26.5)	8	(42.1)
Advice from family members	2	(5.9)	3	(15.8)
Health concerns	11	(32.3)	4	(21.1)
Stage of change ^b				
Contemplation	13	(38.2)	12	(63.2)
Contemplation/Action	12	(35.3)**	0	(0.0)
Action	9	(26.5)	7	(36.8)

SRD: smoking-related disease. ^aDetermined by the Fagerström Test for Nicotine Dependence. ^bDetermined by the University of Rhode Island Change Assessment scale. *p = 0.053 (chi-square test). **p < 0.05 (Fisher's exact test).

It is of note that certain aspects evaluated in the present study are indicative of the role that health professionals play in the various stages of the smoking cessation process. The majority of the interviewees (69.8%) reported that health concerns constituted the major motivating factor for deciding to quit smoking, which suggests the importance of the information provided by health professionals during clinical care. However, when the interviewees were asked to identify the principal agents in encouraging them to quit smoking, the proportion who identified family members was greater than was that of those who identified health professionals (67.6% vs. 18.9%). Nevertheless, as the patients manifested their desire to quit smoking, the role of health professionals became more relevant: 32.1% of the interviewees sought treatment upon the advice of a physician, whereas 9.4% sought treatment upon the advice of family members. In addition, 69.8% of the interviewees were referred to the ASPA by a health professional (the rest sought the ASPA spontaneously or were referred by friends or acquaintances). These data corroborate those found in studies indicating the importance of the role of health professionals in the process of smoking cessation and showing that even a minimal intervention can motivate individuals toward the action stage of change.⁽²³⁾ Therefore, it is important that health professionals be made aware that they should address the importance of smoking cessation with all smokers treated, even before those smokers express interest in quitting smoking,⁽⁷⁾ in order to encourage those who are in the precontemplation stage of change to progress to the subsequent stages.

Health concerns were mentioned as the leading cause of uneasiness about the smoking habit, as well as the main reason for making the decision to quit smoking. This variable can be used as an argument for encouraging smoking cessation in the approaches taken by health professionals and in prevention campaigns, underscoring the idea that quitting smoking at any time, even after the onset of an SRD, brings health benefits.^(7,24)

The interviewees also reported that social aspects, such as the feeling of embarrassment about smoking, constituted a motivating factor for the decision to quit smoking. Studies conducted in Brazil in the future, after the implementation of the measures of the current

Brazilian national anti-smoking policy,^(25,26) should investigate these social aspects, and the role that anti-smoking measures play in the decision-making process for smoking cessation should be discussed.

Relapse is common throughout the smoking cessation process, and some studies have suggested that, on average, five to seven attempts are needed in order to achieve success.⁽⁵⁾ In the present study, most of the interviewees had already made at least one attempt to quit smoking, and, of those, one third had already attempted to quit four or more times.

The findings of the present study corroborate those of other studies,^(1,3,27) showing that the smoking habit is usually acquired during adolescence, 94.3% of our interviewees having taken up the habit before the age of 18. Therefore, prevention campaigns targeting and tailored to this age group are needed in order to improve the outlook for the rates of smoking in the adult population.

Despite the limitations associated with self-reporting, we found that comorbid mental disorders, especially depression, were common, as has been reported in other studies,^(8,20) and the detection of such disorders is essential for the adjustment of strategies for treatment, especially pharmacological treatments.⁽²⁸⁾

In the comparison between men and women, some differences were found to be significant: distribution by stage of change, men being predominantly in the contemplation stage of change and women having a more balanced distribution of the stages ($p = 0.007$); previous attempts to quit smoking, the percentage of women who had already attempted to quit smoking being higher than that of men ($p = 0.017$); and level of nicotine dependence as measured by the Fagerström test, women having a higher level of nicotine dependence than did men ($p = 0.053$). These data suggest the importance of developing specific strategies for population subgroups, strategies that are more targeted tending to translate to greater effectiveness.⁽²⁸⁾

It has been demonstrated that approximately 70% of smokers are planning to quit smoking at some point.⁽²⁹⁾ In the present study, most of the smokers who sought treatment were in the contemplation stage of change. Therefore, it is essential that, as a public health strategy, health

professionals be trained to meet this demand and to contribute to making individuals move from the contemplation stage to the action stage.⁽³⁰⁾

The present study has some limitations. The sample of smokers was small, which limits the analysis and the statistical significance of the findings. In addition, no standardized diagnostic instruments were used to investigate the presence of anxiety or depression, such disorders being self-reported by the interviewees. Furthermore, the study was conducted at an outpatient clinic of a university general hospital (referral hospital), which probably increased the rate of SRDs. These factors should be taken into consideration if the data presented here are to be generalized to other populations.

The present study has contributed to broadening the scope of data on smokers in Brazil, and we hope that such data can be used to expand and optimize treatment strategies, especially at public health facilities, in an attempt to minimize the hazards associated with the smoking habit itself (such as nicotine dependence and environmental tobacco smoke pollution) and the harms related thereto, especially SRDs and their impact on morbidity and mortality. Further studies, involving larger samples, should be conducted in order to build a body of knowledge in this area, which is of great relevance to public health.

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