Original Article

TREATMENT GROUP FOR SMOKERS: RESULTS AFTER A TWO-YEAR FOLLOW-UP

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ABSTRACT

OBJECTIVE. To assess immediate and two-year treatment results in smokers seen at the outpatient clinic of a university hospital.

METHODS. One hundred seventy one smokers were assessed for inclusion in a Treatment Group at the Outpatient Clinic for Psychoactive Substance Use at Hospital das Clínicas da Universidade Estadual de Campinas. Sociodemographic variables, history of smoking, presence of comorbidities and psychiatric symptoms, immediate and long-term outcomes (median: 25 months) were evaluated by telephone contact. Frequency analyses and multiple logistic regression analysis were carried out, at a significance level of 5%.

RESULTS. Most patients were female (73.4%), married (48%), had elementary education (74.6%), and were working (57%); 65.2% started to smoke before the age of 15; 63.8% had been smoking for more than 30 years; 76% had already tried to stop smoking; 46.2% presented severe dependence; 72.1% presented medical comorbidities; and 36% presented psychiatric symptoms. The service was sought spontaneously by 51% of the patients, who were mainly concerned with their own health. Of the total number of patients, 79.1% stopped smoking during treatment; after 25 months, 62% remained abstinent. Presence of psychiatric symptoms was the variable associated with failure in smoking cessation. Variables related to relapse were psychiatric symptoms and low attendance to motivation sessions. There was an association between presence of clinical comorbidities, years of smoking, and professional inactivity.

CONCLUSION. This study reinforces the importance of understanding the profile of subjects attending smoking treatment groups in order to evaluate the strategies employed and the adequacy of treatment regimens for smokers, with the aims of improving smoking cessation rates and reducing relapse rates.

KEYWORDS: Smoking. Treatment outcome. Motivation. Recurrence. Smoking cessation.

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INTRODUCTION

Presently there are around 1.1 billion smokers in the planet.[1] If this consumption rate is not reversed, that number may reach 10 million annual deaths by 2020, 70% of which will happen in developing countries.[2] A survey carried out in 2005 showed that 10.1% of the Brazilian population between the ages of 12 and 65 years are tobacco-dependent.[3]

The life expectancy of a smoker is 25% lower than that of a non-smoker. When compared to people who continue smoking, those who stop smoking before the age of 50 show a 50% reduction in the risk of death for tobacco-related diseases.[4] Although 70% of smokers state they would like to stop smoking, less than 10% reach that objective on their own account. In addition, there has been a progressive increase in the demand for cessation support actions, which highlights the role of health

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care institutions and their professionals in actions aimed at smokers.[5,6,7,8]

Treating smokers is among the medical interventions which present the best cost benefit relationships.[6] A study carried out in the north of Brazil[9] pointed out that after 30 months of treatment, 50.8% of the patients had stopped smoking, 17.8% had relapsed, and 31.4% had not stopped. That study indicated the following variables as associated with treatment success: smoking duration time, treatment time, starting age of smoking, Fagerström scale score, and use of complimentary therapy. Another national study including two years of follow-up pointed out that after treatment, 49% of the subjects stopped smoking, 14% reduced smoking and 37% failed. Patients who used some type of pharmacological treatment were more successful, but statistical difference was observed only in association with the variable severe dependence (more failure).[11]

The present study aimed at evaluating the profile of patients followed at a university service for smoking treatment, with a focus on treatment results observed immediately after treatment and after a mean of 27 months (median: 25 months).

Methods

An open follow-up study was carried out with 171 smokers evaluated for inclusion in a Treatment Group (TG) at the Outpatient Clinic for Psychoactive Substance Use (Ambulatório de Substâncias Psicoativas, ASPA) at Hospital das Clínicas da Universidade Estadual de Campinas (UNICAMP) from February 2004 to February 2007.

Inclusion criteria were to be a smoker (daily use of cigarettes for the past six months) and to be over 18 years of age. The exclusion criterion was presence of cognitive limitations which prevented participation in the group.

Every smoker who seeks ASPA is referred to a Motivation Group (MG), which works as an open, direct-access group (i.e., there is no need for formal referral). The group gathers weekly, led by professionals from the outpatient clinic (a psychiatrist, a pulmonologist, a dentist, a nurse, a social assistant, and a psychologist or an occupational therapist), and is observed by medical students, residents of psychiatry, neurology and family health, and also by public health care professionals. The group meets during one hour and discusses the difficulties involved in smoking cessation, mechanisms related to nicotine dependence, barriers to cessation and treatment alternatives; strategies to acknowledge personal motivation factors for smoking cessation are also proposed.

In the period comprehended in this study, 614 people attended the MG. Of these, 36% attended only one session, and 41% at least four sessions, a number considered by the staff as the minimum for someone to be evaluated for inclusion in the TG. Out of the patients who attended the MG at least four times (N=213), 171 individuals decided to undergo evaluation for inclusion in the TG.

Data about the subjects included in this study were collected from the initial evaluation form for inclusion in the TG, which was composed of two parts. The first part, conducted by a health care professional, included sociodemographic data, the reason which motivated the decision to stop smoking, how the patient came to the service, smoking history, dependence degree on the Fagerström scale,[10] and history of previous cessation attempts. The second part evaluated the presence of psychiatric symptoms, clinical comorbidities and degree of motivation for change; these data were collected by a second year psychiatry resident. After the evaluation, data were discussed with a psychiatry professor.

The TG meets weekly, lasts for one hour and a half, is coordinated by a therapist and a co-therapist, and the whole regimen includes around eight weekly sessions. After completing the TG sessions, patients are invited to attend the MG monthly until completing one year of smoking cessation, as a way to maintain his or her treatment outcome and as a stimulus to the patients who are beginning their treatment.

After the initial evaluation for inclusion in the TG, subjects were contacted by telephone within a period which varied from 14 to 41 months (median: 25 months) and were invited to inform the outcome of their treatment regarding smoking (cessation, reduction, maintenance or increase in the number of cigarettes smoked per day), whether they had stopped smoking during or after participation in the TG, whether they had complied to the proposed medication and reasons for non-adhesion, as well as information on weight gain in the period.

Each participant's TG attendance rate was collected from the ASPA's presence list.

Based on the data collected, descriptive analyses of frequency were carried out for categorical variables, and position and dispersion measures were calculated for continuous variables. In order to identify factors related to cessation and relapse, multiple logistic regression analysis was used. A stepwise variable selection process was employed. The significance level adopted for statistical tests was 5%.

This study was approved by the Research Ethics Committee at the FCM/UNICAMP's (protocol no. 054/2008).

Results

Out of the 171 patients evaluated, 13 (7.6%) were excluded (five because of impossibility to attend the treatment group due to its schedule, four because they were still too ambivalent about the cessation proposal, and were therefore sent again to the MG, and four patients were sent to an individual approach: two because of dementia state with cognitive damage, and two because of psychotic states with great loss of pragmatism). As a result, 158 patients were included in the TG.

Most patients sought the service spontaneously (51%), and 35% were referred by a doctor. The smokers' mean age was 49.9 years (median: 50 years; lowest age: 32; highest age: 75 years).

Almost all patients (95%) were at the action stage regarding the motivation to stop smoking, according to the model proposed by Prochaska and DiClemente.[12] Drug treatment was indicated to 92.7% of patients (51.3% bupropione, 32.2% nortriptyline, 27.2% adhesive, and 7% gum).

Attendance to the TG was divided as follows: 2% did not start the treatment, 13% attended less than eight weekly sessions, 63% attended eight sessions, and 22% attended more than eight sessions (maximum: 12 weekly sessions). Regarding medication, 86% used the prescribed medication. Out of these, 44.9% interrupted the drug treatment regimen, most of them because of financial difficulties (48%) or side effects (13%).

The factor positively associated with the variable smoking

Table 1. Sample characteristics

Variables	N	%
Sociodemographic		
Female	125	73.1
Married	82	48
Education ≤ elementary level	133	77.7
Working	97	56.7
Away from work due to tobacco-related disease	21	12.3
Retired due to tobacco-related disease	13	7.6
Smoking		
Started smoking before the age of 10	31	18.1
Started smoking between the ages of 11 and 15	80	46.8
Over 30 years of smoking	109	63.7
At least one attempt to stop smoking	130	76
High degree of dependence*	79	46.2
Morbidities		
Current clinical disease	123	72
Current anxious symptoms	51	29.8
Previous history of alcohol abuse/dependence	49	28.6
Current depressive symptoms	29	17
Reasons for having sought treatment**		
Concern with health	150	87.7
Family pressure	80	46.8
Medical advice	54	31.6
Having a tobacco-related disease	59	34.5
Social or work pressure	49	28.6
Cigarette cost	22	12.8
Religious reasons	9	5.2

* The Fagerström scale helps evaluate the degree of nicotine dependence, using the following punctuation: low (0 to 4), medium (5 to 7), and high (8 to 10).

** Patients could give more than one reason.

Table 2. Treatment results regarding smoking habit

Results	Immediate (n=158) N (%)	Follow-up after 25 months* (n=150) N (%)
Cessation	125 (79.1)	93 (62)
Reduction	8 (5.1)	12 (8)
Maintenance of the same pattern	22 (13.9)	20 (13.3)
Increase in the number of cigarettes smoked per day	3 (1.9)	--- ---
Relapse	--- ---	15 (10)

* Eight patients were not found at the 25-month follow-up contact.

cessation was absence of psychiatric symptoms (85% vs. 69%; $p=0.01$, odds ratio, OR =2.3). The variables associated with relapse were lower attendance to MG (32.2% vs. 18.7%; $p=0.01$, OR= 2.8) and presence of psychiatric symptoms (45% vs. 24.7%; $p=0.01$, OR=5.2).

Smoking duration time was associated with the presence of clinical comorbidities ($p=0.01$), and the latter was associated with professional inactivity (leave or retirement) due to tobacco-related diseases ($p=0.02$). Some associations between variables were not statistically significant, but suggested tendencies: depressive symptoms and non-cessation ($p=0.08$), relapse and clinical comorbidities ($p=0.09$), weight gain and female sex ($p=0.08$), and weight gain and depression ($p=0.07$).

Discussion

From the point of view of sociodemographic and smoking-related variables, our data support the findings of national and international studies[9,12,13]: predominance of women aged 40 to 50 years, starting age of smoking < 15, over 30 years of smoking habit, Fagerström score varying from medium to high, high levels of clinical comorbidities, and at least one previous cessation attempt.

Some limitations of the present study should be considered: the first one refers to the fact that treatment was probably influenced by the variable availability of medicines at the service (bupropione, nicotine replacement therapy in the forms of adhesive or gum), which helps mainly a population with few economic resources. In this study, it was not possible to test the effect of the use of drugs on treatment outcome. Another limitation refers to the fact that follow-up data were collected on the telephone. Although such practice is common in follow-up studies, it may contribute to a lower accuracy of the information collected. Also, the presence of psychiatric symptoms was evaluated by a second year psychiatry resident, supervised by a professor, and did not employ standardized diagnostic tools.

Despite these limitations, the present study revealed some relevant data: cessation rate (79%) and especially cessation maintenance after 25 months (62%) were very high when compared with other studies.[14,9,12] It is important to highlight that the smokers included in this study had been previously submitted to some motivational sessions (mean of six). This factor probably contributed to the high rate of participants already in the action stage and optimized the rate of response, especially if we consider that the availability and use of nicotine replacement therapy and antidepressives was inconsistent. In view of these findings, we suggest that the inclusion and broadening of motivational strategies should be considered in the process preceding the cessation attempt, especially in public services, where there are limitations on drug availability.

The association between psychiatric symptoms and worse results (non-cessation and relapse), already mentioned in other studies[15,16,17], reinforces the importance of such relationship and of an approach directed at a subgroup of individuals.

A finding that deserves to be highlighted is that, although national and international studies suggest a higher smoking rate among men, there is a predominance of women among patients who seek treatment to stop smoking. In this sense, it is relevant to assess the reason for this lower rate of treatment seeking among men, who present a high rate of morbidity due to smoking-related diseases. It is also relevant to try to adapt the offer of services to that portion of the smoking population.

Another relevant aspect was the confirmation of the association between smoking duration time, clinical morbidity and social costs related to work leave and retirement rates due to smoking-related diseases.

The information collected in the present study pointed out the discrepancy between the high clinical morbidity rate among patients (72%), compared to the low rate of medical referral to the service (31.6%), which indicates the need for a higher awareness among health care professionals about the importance of adequate guidance about smoking in clinical services. Another aspect indicated by the results was the need for optimizing adherence to motivational strategies, considering its relevance in smoking cessation and cessation maintenance in this population.

With this study, we hope to contribute for the creation and optimization of approach strategies for smoking cessation in the public health care system.

Conclusion

This study reinforces that understanding the sociodemographic and clinical profile of this population is fundamental to the evaluation of the strategies employed and to the adjustment of treatment proposals for smokers aiming at improving cessation rates and reducing relapse rates.

No conflicts of interest declared concerning the publication of this article.

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Artigo recebido: 4/3/09
Aceito para publicação: 7/6/09