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Factors associated with the degree of motivation to quit smoking in patients followed-up by pharmacists at a university hospital in southeastern Brazil

Ronara Camila GROIA-VELOSO[1] ⓘ, Lívia Pena SILVEIRA[1] ⓘ, Kirla Barbosa DETONI[1,2] ⓘ, Tatiane Cristina BRITO[1] ⓘ, Odaleia Fonseca COSTA[1] ⓘ, Patricia Gambarelli de ARAÚJO[1] ⓘ, Cássia Lima FERREIRA[1] ⓘ, Claudmeire Dias ALMEIDA[1] ⓘ, Renata Rezende de MENEZES[1] ⓘ, Maria Graciano SILVA[1] ⓘ

[1]Hospital das Clínicas da Universidade Federal de Minas Gerais (HC-UFMG), Belo Horizonte, MG - Brasil
[2]Centro de Estudos em Atenção Farmacêutica - Faculdade de Farmácia, Universidade Federal de Minas Gerais, Belo Horizonte, MG - Brasil

Corresponding author: Groia-Veloso, R.C, rgroia@yahoo.com.br.

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Abstract

Objectives: To describe the clinical role of pharmacists in the management of hospitalized smokers and to assess the factors associated with the degree of motivation to quit smoking in patients followed by pharmacists at a university hospital in southeastern Brazil. **Methods:** A cross-sectional study, carried out from April 2020 to April 2021, in a Brazilian teaching hospital. Patients admitted to this hospital who express a desire to quit smoking or are in severe nicotine withdrawal are referred for evaluation, in which their degree of motivation for smoking cessation is determined, and a brief approach to smoking cessation is performed, in which the pharmacists provide unique health guidance at the bedside on cigarette use, such as the harmful effects of cigarettes, benefits of quitting smoking, methods of quitting smoking and tips for not relapse, how to quit smoking, analyzed by pharmacists at the edge of the bed. Pharmacists assess the dose of nicotine that should be prescribed according to the number of cigarettes used by patients and intervene on dose adjustment with a physician when necessary. A description of the pharmacist's performance, descriptive analysis of the variables and the difference in the distribution of variables in the groups "preparation for action" and "contemplation and pre-contemplation" were performed through univariate analysis using the chi-square test of Pearson. **Results:** Sixty-five smokers participated in the study. All patients received a single brief guidance on smoking cessation. A total of 26 patients (40.0%) had a degree of motivation to prepare for the action, and of these patients 15 (42.9%) were female (Odds ratio – OR 1.295 and Confidence interval CI 0.477 – 3.521); 13 (41.9%) were aged <59 years (OR 1.167; CI: 0.432 - 3.151); 21 (44.7%) had multimorbidity (OR: 2.1; CI: 0.645 – 6.840); 4 (25.0%) required pharmaceutical intervention (OR: 0.409; CI: 0.116 – 1.448) and 14 (60.9%) tried to quit smoking before admission (OR: 3.759; CI: 1.284 – 11.005). **Conclusion:** A high prevalence of patients with a degree of motivation to prepare for smoking cessation action was detected. A statistically significant association was identified between the degree of motivation, preparation for action and history of smoking cessation attempt.

Keywords: tobacco use cessation; pharmaceutical services; hospitalization; motivation; tobacco use cessation devices.

Fatores associados ao grau de motivação de cessação de tabagismo em pacientes acompanhados por farmacêuticos de um hospital universitário do sudeste do Brasil

Resumo

Objetivos: Descrever a atuação clínica de farmacêuticos no manejo de pacientes tabagistas hospitalizados e avaliar os fatores associados ao grau de motivação de cessação de tabagismo em pacientes acompanhados por farmacêuticos de um hospital universitário da região sudeste do Brasil. **Métodos:** Trata-se de estudo transversal, realizado no período de abril de 2020 a abril de 2021, em um hospital de ensino brasileiro. Os pacientes admitidos nesse hospital que manifestam vontade de parar de fumar ou estão em abstinência intensa à nicotina são encaminhados para avaliação, em que se determina seu grau de motivação para cessação de tabagismo, e é realizada abordagem breve de cessação de tabagismo, em que os farmacêuticos realizam orientação em saúde única na beira do leito sobre uso de cigarro, tais como malefícios do cigarro, benefícios de parar de fumar, métodos de parar de fumar e dicas para não ter recaídas, forma de parar de fumar, realizadas por farmacêuticos na beira do leito. Os farmacêuticos avaliam a dose de nicotina que deveria estar prescrita de acordo com número de cigarros utilizados

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pelos pacientes e realizam intervenção sobre ajuste de dose com médico quando necessário. Foram realizadas descrição da atuação do farmacêutico, análise descritiva das variáveis e a diferença na distribuição das variáveis nos grupos "preparação para a ação" e "contemplação e pré-contemplação" por meio de análise univariada utilizando-se o teste de qui-quadrado de Pearson. **Resultados:** Participaram do estudo 65 pacientes tabagistas. Todos os pacientes receberam orientação breve única para cessação de tabagismo. Um total de 26 pacientes (40,0%) apresentou grau de motivação de preparação para a ação, sendo que desses pacientes 15 (42,9%) eram do sexo feminino (Odds ratio – OR 1,295 e Intervalo de confiança IC 0,477 – 3,521); 13 (41,9%) apresentavam idade < 59 anos (OR 1,167; IC: 0,432- 3,151); 21 (44,7%) possuíam multimorbidade (OR: 2,1; IC: 0,645 – 6,840); 4 (25,0%) necessitaram de intervenção farmacêutica (OR: 0,409; IC: 0,116 – 1,448) e 14 (60,9%) tentou parar de fumar antes da internação (OR: 3,759; IC: 1,284 – 11,005). **Conclusão:** Detectou-se uma elevada prevalência de pacientes com

Introduction

The smoking habit is the main avoidable cause of illness and early deaths worldwide. It is associated with the development of various health problems such as cardiovascular and respiratory diseases, as well as malignant neoplasms.[1,2] It is considered a chronic disease of the mental and behavioral disorder type, caused by dependence on nicotine.[3]

Tobacco kills more than 8 million people a year, with more than 7 million of these deaths being a direct consequence of its use, while nearly 1.2 million are the result of non-smokers' exposure to second-hand smoke. Nearly 80% of the more than one billion smokers in the world live in low- and middle-income countries and, in these places, the rates of diseases and deaths related to tobacco are higher.[4,5]

In Brazil, the prevalence of adult smokers has decreased significantly in recent years[5] and this reduction is attributed to the implementation of public policies such as increasing prices and taxes on tobacco, warning images on the packaging of commercialized products, restriction of marketing and advertising promotional actions and the expansion of the implementation in Brazilian municipalities of the National Program for Tobacco Control (*Programa Nacional de Controle do Tabagismo*, PNCT), created in 1989.[6]

The objective of the PNCT is to reduce the prevalence of smokers and, consequently, the morbidity and mortality rates associated with consumption of tobacco derivatives. The program provides for a brief approach to smoking cessation for smokers and intensive treatment with cognitive-behavioral therapy and use of medications provided free of charge by the Unified Health System (*Sistema Único de Saúde*, SUS). As a way to expand its actions and make them more effective, from 1999 onwards, training of health professionals such as physicians, nurses, psychologists and pharmacists is constantly being carried out in order to incorporate the approach to the smoking patient into routine care.[7]

The pharmacists' participation in the process ranges from their technical-managerial role in logistical activities, which aim at ensuring timely supply of medications included in the program, to their effective participation in the care provided to smokers, in order to increase the level of motivation for smoking cessation. Acting in the management of the health condition of these patients, pharmacists can optimize their therapeutic goals and, consequently, increase the chances of smoking cessation.[8,9,10]

Therefore, conducting studies that assess the degree of motivation in patients who smoke and describing the performance of the pharmacist in their management represents an innovation. There is scarcity of research studies on the factors that lead a patient to be more motivated to quit smoking, and this study can also serve as an example for implementing similar services in other hospitals.

This study aims at describing the pharmacists' clinical role in the management of hospitalized smokers and at assessing the factors associated with the degree of motivation to quit smoking in patients treated by pharmacists at a university hospital in the Brazilian Southeast region.

Methods

Design and description of the practices in the study locus

This is a cross-sectional study carried out from April 2020 to April 2021 in a public teaching hospital from the municipality of Belo Horizonte, Minas Gerais, Brazil, which is a reference hospital for the care of medium- and high-complexity adult and pediatric patients served by the SUS in the state of Minas Gerais.

Patients hospitalized with intense nicotine withdrawal or who manifest a desire to quit smoking during hospitalization are referred for care by the clinical pharmacist. This referral takes place through an electronic system and can be performed by any health professional working in the institutions All the patients referred during the study period were included in this research.

The clinical pharmacist briefly evaluates and addresses these patients. Before the evaluation, data about the reason for hospitalization, comorbidities and medications in use are collected from the medical chart. During the evaluation, the patient's anamnesis is performed, providing information about the degree of abstinence, number of cigarettes smoked at home, degree of nicotine dependence assessed through the Fagerstrom[10] test and motivation phase to quit smoking, in which the patient is described by psychologists Prochaska and DiClemente.[11,12]

Fagerstrom's score includes six closed questions where each answer has a specific value. After applying the test, the score of the six answers is calculated and, at the end, the patient is classified according to the degree of dependence on nicotine, with those who score from zero to two points having low dependence; from three to four, low to moderate dependence; from five to six, moderate dependence; from seven to eight, high dependence; and from nine to ten, very high dependence.[10]

The evaluation of the motivation to quit smoking, on the other hand, is a subjective assessment in which the pharmacist identifies which phase the patient is in, with the five possible phases being pre-contemplation, contemplation, preparation (for action), action and maintenance. In pre-contemplation, the patients are not interested in quitting smoking and do not believe that cigarettes are doing any harm to their health, whereas in the contemplation phase they have wanted to quit smoking for a long period of time. The preparation phase corresponds to the one in which smokers accept to choose a strategy to quit smoking and, in this phase, the patients commit to follow the smoking cessation treatment. The action and maintenance phases are those in which the patient is quitting smoking and remains in abstinence, respectively.[12]

After evaluation, there is the possibility of in-hospital use of nicotine patches, which are used only for patients with intense abstinence or for those who wish to quit smoking and can participate in intensive care for smoking cessation in an outpatient setting. When necessary, the pharmacists personally intervene with the medical team regarding indication of the patch and its dose, according to the dependence level and to the number of cigarettes smoked.

The brief approach is a structured health guidance session that lasts approximately 5 to 10 minutes and in which the practitioners discuss, at the bedside, the harmful effects of cigarettes, the benefits of quitting smoking, methods for quitting smoking and tips on how to avoid relapses and how to quit smoking. This guidance is the standard for all the patients and is conducted only once at admission. At the guidance moment, the pharmacist takes a booklet with guidelines that is handed in to the patient. The focus of this guidance is to sensitize the patient about smoking cessation. The entire pharmaceutical appointment is documented in an institutional electronic record.

The patients who are in the phase of preparation for action (with the desire to quit smoking) are referred to the institution's smoking cessation outpatient services devoted to the Cardiology, Psychiatry and Pulmonology patients or to the Basic Health Unit (BHU). The patients receive the smoking cessation medications for one-month treatment after discharge, in addition to the pharmacist's referral (assessment performed and course of actions suggested).

The patients referred to intensive treatment for smoking cessation participate in structured sessions based on the federal government program structured by the National Cancer Institute called "Quitting Smoking Without Mysteries".[15] The treatment in this program has 10 sessions and the practitioners who coordinate this smoking cessation treatment are trained and can structure its sessions in the coordinator's manual. The patients can be monitored individually or in groups. In the institution, the intensive care provided to the Cardiology patients is coordinated by a pharmacist with the help of resident pharmacists.

The variables collected were the following: age, gender, reason for admission, comorbidities, multimorbidity (≥ 2 comorbidities), degree of motivation (pre-contemplation, contemplation and preparation for action),[10] number of cigarettes per day, time of cigarette use, receiving brief guidance on admission, Fagerstrom test scores (low, low to moderate, moderate, high and very high), attempt to quit smoking before follow-up (yes or no), number of attempts, eligibility to use the medication at admission, reason for non-eligibility, indication for nicotine replacement, dose of nicotine treatment (7 mg, 14 mg or 21 mg), pharmaceutical intervention (yes or no), eligibility for nicotine use at hospital discharge (eligible patients being those with preparation for action and availability of outpatient follow-up for smoking cessation), referral for treatment at an outpatient clinic or BHU, and specification of the referral locus.

Data collection and analysis

The data were collected from the smoker's electronic medical record and evaluation form standardized in the institution. The data collected were introduced and processed in a Microsoft Excel® spreadsheet.

In order to guarantee personal confidentiality, all patients in this study were addressed through numerical identification. Descriptive data analysis consisted of frequency distributions for the categorical variables, and of measures of central tendency and dispersion for the continuous variables. The numerical variables were assessed in relation to normal distribution using the Kolmogorov-Smirnov test, considering probability of significance at $p<0.05$ and a 95% confidence interval.

The difference in the distribution of variables in the "preparation for action" and "contemplation and pre-contemplation" groups was assessed through univariate analysis using Pearson's chi-square test. In the presence of at least one expected frequency lower than five, Fisher's exact test was used. The association between the variables was considered to be of statistical significance when it presented a p-value<0.05. For the univariate analysis, the independent variables selected were as follows: gender; age ≥ 59 years old (dichotomized by the median); multimorbidity; pharmaceutical intervention; history of smoking cessation attempts; number of cigarettes ≥ 20 (dichotomized by the median); years smoking ≥ 40 (dichotomized by the median); very high Fagerstrom test score (yes or no), and nicotine patch dose (14 mg or 21 mg).

The information not provided by the patients was treated as missing data and excluded from the analysis. All the analyses were performed in the *Statistical Package for Social Sciences*® (SPSS®) software, version 25.0.

This paper was approved by the Research Ethics Committee of the Federal University of Minas Gerais, under number 80169717.4.0000.5149.

Results

All the patients who were referred to pharmacists participated in the study, totaling 65 smokers, most of whom were female (n=35; 53.8%). The patients' age median was 59.0 years old (IQR=17.5), with ages varying from 21 to 77 years old; segregation of the patients according to age group was as follows: 18-50 years old (18 patients), 51-60 years old (19 patients), and > 70 years old (28 patients). The most frequent reasons for hospitalization were Acute Myocardial Infarction (AMI) (n=23; 35.4%) and COVID-19 (n=5; 7.7%). Most of the patients presented multimorbidity (n=47; 72.3%). The most frequently identified comorbidities were Coronary Artery Disease (CAD) (n=26; 40.0%), Systemic Arterial Hypertension (SAH) (n=25; 38.5%), alcoholism (n=12; 18.5%), and depression (n=9; 13.8%) (Table 1).

With regard to the smoking habit, it was identified that the median number of cigarettes smoked by the patients was 20 (IQR=15.0) and that the median of the Fagerstrom test score was 8 (IQR=3.0). A total of 40% (n=26) of the patients were in hospital in the motivation phase of preparation for action; most of the patients were eligible for nicotine replacement (n=49; 75.4%) and used a dose of 21 mg nicotine transdermal patch (n=48; 73.8%).

At pharmaceutical admission, all the patients attended a single and brief guidance session about smoking cessation at the bedside. The pharmacists performed interventions with the medical team regarding indication and/or change in the dose of the nicotine replacement patch for 24.6% (n=16) of the patients.

As for the post-discharge treatment for smoking cessation, all the patients who had a motivation degree defined as "preparation for action" (n=26) were referred to intensive treatment with sessions using Cognitive Behavioral Therapy and use of medications provided by the Ministry of Health (nicotine replacement therapy and/or bupropion). Four patients in the contemplation motivation phase were also referred for a new outpatient approach. Of the 30 patients referred to post-discharge intensive treatment, 21 (70%) were monitored on an outpatient basis by clinical pharmacists with support from the Cardiology medical team.

Table 1. Sociodemographic, clinical and smoking characteristics and pharmaceutical interventions of patients monitored by pharmacists admitted to a university hospital in southeastern Brazil (2021).

Information	All N=65
Sociodemographic	
Age (years old) Median (Interquartile Range)	59.0 (17.5)
Female gender[1] n (%)	35 (53.8)
Clinical Characteristics	
Multimorbidity n (%)	47 (72.3)
Reasons for admission n (%)	
AMI[1]	23 (35.4)
COVID-19	5 (7.7)
Elective mandibulectomy surgery	3 (4.6)
Comorbidities n (%)	
CAD[2]	26 (40.0)
SAH[3]	25 (38.5)
Alcoholism	12 (18.5)
Depression	9 (13.8)
Smoking habit	
Number of cigarettes a day Median (IQR)	20.0 (15.0)
Years smoking Median (IQR)	40.0 (29.5)
Tried to quit smoking before hospitalization n (%)	23 (35.9)
Fagestrom Test[4] (FT) n (%)	
Very high	44 (68.8)
High	15 (23.4)
Average	4 (6.3)
Low	1 (1.6)
Motivation degree n (%)	
Pre-contemplation	33 (50.8)
Contemplation	6 (9.2)
Preparation for action	26 (40.0)
Eligible for nicotine use during hospitalization n (%)	49 (75.4)
Reason for non-eligibility	
No abstinence	9 (52.9)
Patient refuses to use nicotine patch	3 (17.6)
Cannot undergo outpatient treatment	2 (11.8)
Others[5] n (%)	3 (17.6)
Eligible to receive medication for discharge n (%)	24 (36.9)
Transdermal nicotine dose n (%)	
14 mg	1 (2.0)
21 mg	48 (98.0)
Referred to outpatient service	30 (46.2)
Cardiology outpatient service	21 (70.0)
Pneumonology outpatient service	1 (3.3)
Psychiatry outpatient service	1 (3.3)
Basic Health Unit	6 (20.0)
Others[6]	1 (3.3)
Pharmaceutical interventions n (%)	
Brief approach about smoking cessation	65 (100.0)
Need for dose adjustment	16 (24.6)

[1]AMI: Acute Myocardial Infarction; [2]CAD: Coronary Artery Disease; [3]SAH: Systemic Arterial Hypertension. [4]FT: Fagerstrom Test; [5]The patient was dependent on cocaine rather than on nicotine. [6]Private physician.

The univariate data analysis identified an association between the motivation degree of "preparation for action" and history of having tried to quit smoking (Table 2).

Discussion

Most of the smokers with intense nicotine withdrawal or who expressed a desire to quit smoking during hospitalization, evaluated in this study, are female. The predominance of women found in our study is in line with the result of the study carried out in a hospital in the state of São Paulo with the same profile, public and of high complexity,[15] in addition to another national study.[16]

Diseases caused by the use of cigarettes can be avoided and present high global mortality.[17] Among the main diseases related to the smoking habit responsible for hospital admissions are those of the cardiovascular system,[18] such as AMI, which was one of the most frequent reasons for hospitalization among the patients in this study. Tobacco use is one of the most important causes of AMI worldwide. A case-control study conducted in 52 countries with more than 27,000 participants indicated that the current smoking habit was associated with a statistically higher risk of non-fatal AMI when compared to never having smoked, and the risk increased by 5.6% with each additional cigarette.[19]

Also in relation to diseases of the cardiovascular system, more than one third of the smokers assessed in our study had a Systemic Arterial Hypertension (SAH) diagnosis. SAH was also the most prevalent comorbidity among smokers admitted to a large-size university hospital from the South of the country.[20]

The smoking habit is also a known risk factor for many respiratory infections and increases the severity of respiratory diseases. In the current pandemic context imposed by the new coronavirus, the World Health Organization (WHO) highlights the act of smoking as a risk factor for infection by the SARS-CoV-2 virus and increased severity of COVID-19.[18] According to the integrative review carried out by Rodrigues et. al. (2020), the smoking habit is a risk factor for a poor prognosis of the disease, as tobacco can increase the angiotensin-converting enzyme, which is a target for the entry of SARS-CoV-2 into the cell. Thus, lung damage caused by tobacco motivates the risk of COVID-19 and of progress to more severe cases of the disease, increasing hospitalization.[21] Added to this, it can also be inferred that the act of smoking itself can increase the risk of contamination by the disease simply by taking the products to the mouth without proper hand hygiene.[22] Moreover, Malta *et al.* (2021) showed an increase in the smoking habit among the Brazilian population during the COVID-19 pandemic and identified that deterioration of mental health, sleep quality and lack of income contributed to this increase in the consumption of cigarettes.[23]

Patients who smoke can go through five stages of behavioral changes until being able to quit smoking. The "preparation for action" phase corresponds to the one in which the smoker accepts to choose a strategy to quit smoking.[12] These are usually patients who have already made some previous attempt to reduce the number of cigarettes, spent hours or days without smoking and/or sought help.[24] These characteristics corroborate the positive and statistically significant association found in this study between a history of trying to quit smoking and being in the "preparation for action" phase.

Table 2. Univariate analysis of the factors associated with the motivation degree of "preparation for action" in patients monitored by pharmacists admitted to a university hospital in southeastern Brazil (2021).

Information	Motivation degree, "preparation for action"		Univariate Analysis	
	Yes	No	Odds ratio (95% CI)[3]	p-value
Female gender[1] n (%)	15 (42.9)	20 (57.1)	1.295 (0.477 − 3.521)	0.612
Age (years old)				
< 59	13 (41.9)	18 (58.1)	1.167 (0.432 − 3.151)	0.761
≥ 59	13 (38.2)	21 (61.8)		
Multimorbidity[2] n (%)	21 (44.7)	26 (55.3)	2.1 (0.645 − 6.840)	0.213
Pharmaceutical intervention[2] n (%)	4 (25.0)	12 (75.0)	0.409 (0.116 − 1.448)	0.158
Tried to quit smoking before hospitalization[2] n (%)	14 (60.9)	9 (39.1)	3.759 (1.284 − 11.005)	0.014
Number of cigarettes n (%)				
≥ 20	2 (28.6)	5 (71.4)	0.567 (0.101 − 3.168)	0.413
< 20	24 (41.4)	34 (58.6)		
Years smoking n (%)				
≥ 40	11 (36.7)	19 (63.3)	0.772 (0.284 − 2.098)	0.612
< 40	15 (42.9)	20 (57.1)		
Very high value in Fagerstrom test[2] n (%)	28 (63.6)	16 (36.4)	0.629 (0219 − 1.803)	0.386
Nicotine patch dose n (%)				
14 mg	-	1 (100.0)	2.000 (1.507 − 2.654)	0.510
21 mg	24 (50.0)	24 (50.0)		

[1]Dichotomous variable for which only one category was presented. [2]Dichotomous variable of the 'yes' or 'no' type, for which only the 'yes' category was presented. [3] CI: Confidence Interval.

There was also a positive association, although not statistically significant, between the degree of motivation to prepare for action and the female gender. This result corroborates what was found by Santos *et al.*, and can be explained by the fact that women are more concerned with their health, reinforcing the idea that men need more strategies and incentives to seek smoking cessation. This study identified a negative association, although without statistical significance, between motivation degree and number of cigarettes, years smoked and the Fagerstrom Test, which is also in line with what was found by Santos *et al.*, showing that the high level of nicotine dependence has been one of the major difficulties for smoking cessation. [25] The lack of statistical association can be explained by the sample size of our study, and the non-identification of studies that investigated the association of the motivation degree with the variables tested in this study reinforce the need to invest in more research studies on this theme.

The brief approach to the patient during hospitalization allows identifying, in an individualized manner, clinical and behavioral aspects regarding consumption of cigarettes. In this context, the hospitalization period represents an important moment to address various risk behaviors for health. This is because, in these conditions, the patients are usually more sensitive and receptive, as the smoking habit may have been the reason for hospitalization.[20]

However, a systematic review with meta-analysis that included 50 clinical trials showed that brief inpatient guidance alone is not enough for patients to remain without smoking for the next 12 months after discharge. The results of this review indicate that behavioral interventions that are initiated during hospital stay and include at least one month of supportive contact after discharge promote smoking cessation among these patients.[26] Vogiatzis *et al.* (2017) also pointed out that the results are better when the patient is referred to a smoking cessation support program at the time of hospital discharge.[27] Referral of all the patients in this study who presented some degree of preparation for action to intensive treatment with Cognitive Behavioral

Therapy sessions and use of medications provided by the Ministry of Health is of paramount importance for treatment success.

The approach by the multiprofessional hospital team and education in health for the patient who smokes are factors that motivate smoking cessation. As described by Boni *et al.* (2020), more than 60% of the hospitalized smokers identified the support provided by the health team specialized in smoking cessation as an important aspect that favors the success of smoking cessation.[20]

In this context, hospital pharmacists are an integral part of the health team and have specialized clinical roles that assist in the implementation of the PNCT guidelines.[28] A review of studies of pharmacist-led interventions for smoking cessation found that patients who participated in pharmacist-led interventions presented higher smoking cessation rates when compared to treatment-as-usual or no intervention. [9]

These professionals play a fundamental role in educating patients about the risks of smoking and in encouraging them to seek cessation, developing cessation plans and providing recommendations for lifestyle changes and pharmacological therapies. For this, it is essential that they express empathy and support, that they invite the patient to reflect on new perspectives and that they identify the accomplishments achieved during all stages, increasing their motivation and self-confidence.[29]

Finally, to the authors' knowledge, this study is innovative because it is the first to describe this type of service offered to hospitalized smokers and the factors associated with the motivation degree for smoking cessation; and it is relevant because it can be reproduced in other scenarios similar to the one presented, with the potential to improve use of medications in this critical moment of hospitalized patients with nicotine dependence. However, as the study was carried out only in one hospital, its data cannot be generalized, and further studies are needed to explore this theme.

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Conclusion

The study described the pharmacists' activities in the management of hospitalized smokers, which included an assessment of the smoker patient and a brief approach at the bedside of all the patients in this study, focusing on the harmful effects of cigarettes, the benefits of quitting smoking, methods for quitting smoking, tips for not having relapses and on how to quit smoking. The pharmacists had to conduct interventions with the medical team regarding indication and/or change of dose of the nicotine replacement patch for a significant percentage of patients.

It was found that most of the patients smoked around 20 cigarettes and presented high dependence on nicotine in Fagerstrom test. A high prevalence of patients with a motivation degree of "preparation for action" to quit smoking was also identified, and most of the patients were eligible for nicotine replacement with transdermal patches. A statistically significant association was identified between the motivation degree of preparation for action and history of smoking cessation attempts.

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