

Practice of Smoking Cessation Assistance: Effect of a Single Intervention by a Tobacco Specialist on the Staff of the Pulmonology Department of the Bourg-En-Bresse Hospital Center

Zida Dominique^{1,2*}, E Bernabeu³, HS Lankoandé⁴, AA Soussou⁵, N Benamor¹ and P Beynel¹

¹Pulmonology Department of the Fleyriat Hospital Center, Bourg-en-Bresse, France

²Pulmonology Department of the Bogodogo University Hospital Center, Ouagadougou, Burkina Faso

³Addiction Department of the Fleyriat Hospital Center, Bourg-en-Bresse, France

⁴Health Department of the Sangoulé Lamizana Camp, Ouagadougou, Burkina Faso

⁵Emergency Department of the Fleyriat Hospital Center, Bourg-en-Bresse, France

***Corresponding Author:** Zida Dominique, Pulmonology Department of the Bogodogo University Hospital, Ouagadougou, Burkina Faso.

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Abstract

Introduction: Smoking is a major public health problem. Its management requires the involvement of all staff in a respiratory health department. Our study aims to demonstrate the impact of a single intervention by a tobacco specialist on staff in the pulmonology department of the Bourg-en-Bresse Hospital Center in east-central France.

Methodology: This was a cross-sectional, descriptive study conducted in two phases: from April 25 to May 30 and from June 1 to July 6, 2022. The tobacco specialist's intervention took place on May 31, 2022, preceded by a spontaneous assessment using a questionnaire sent to staff.

Results: A total of 25 out of 28 caregivers responded to the questionnaire. The average age was 38.68 years $\pm$ 10.71. The frequency of smoking screening during hospitalization was performed frequently in 40% of cases and always in 20%. The frequency of prescription of nicotine replacement therapy (NRT) was 72%, never; and often in 16% of cases.

Regarding patients (119), the prevalence of active smoking during hospitalization was 18.49%. The average age was 61.09 $\pm$ 14.54 years. Male gender represented 72.73%. Previous history of COPD, PBC, and anxiety/depression were noted in 31.82%, 27.27%, and 31.82% of cases, respectively. Smoking status was reported in 46.22% of cases; i.e. 54.84% after the intervention of the tobacco specialist and 36.84% before. The minimal advice was carried out in 33.33% of cases before the intervention of the tobacco specialist against 93.75% after. Tobacco use in our study was 29.77 PA $\pm$ 21.99. Alcohol was the psychoactive substance most associated with smoking (68.18%). Before the tobacco specialist's intervention, only 50% of active smoking patients had received nicotine replacement therapy. After the intervention, nicotine replacement therapy was offered to all patients, but 37.50% refused and 62.50% accepted. Treatment by a tobacco specialist was offered to all patients after the intervention, compared to 16.67% before.

Conclusion: The effect of the tobacco specialist's intervention on staff revealed room for improvement in the management of active smoking in hospitalization. This could contribute to the establishment of a smoke-free hospital.

Keywords: Healthcare Professionals; Smoking; Hospitalization

Abbreviations

AOMI: Peripheral Arterial Disease; CVA: Cerebrovascular Accident; COPD: Chronic Obstructive Pulmonary Disease; CH: Hospital Center; CBP: Lung Cancer; GHT: Territorial Hospital Group; HTA: Arterial Hypertension; BP: Annual Package; SAS: Sleep Apnea Syndrome; NRT: Nicotine Replacement Therapy

Introduction

Tobacco use is a major public health problem. It is a highly addictive chronic disease characterized by repeated cycles of abstinence and relapse [1,2]. Its prevalence continues to increase worldwide. According to a large study, "Global Burden of Disease 2019 Tobacco", published in May 2021, 1.14 billion people worldwide were smokers, with a mortality rate of nearly eight million. It is the cause of death for one in five people [3]. Bronchopulmonary pathologies, linked to or aggravated by tobacco consumption, confront the pulmonologist with the toxicity of smoking and lead him to become involved with tobacco patients. Almost all pathologies have a strong direct or indirect link with smoking: cancer, chronic bronchitis, chronic obstructive pulmonary disease (COPD), asthma [7].

The pulmonologist is therefore confronted with smoking in his daily practice and, more than any other specialist, he must diagnose and evaluate smoking, help the smoker stop, ensure weaning and prevent relapses [11]. This is a practice integrated into the specialty which, in the vast majority of cases, can be managed by the hospital practices of the pulmonology department. This management is a first-rate treatment for respiratory diseases. Preventing smoking prevents 90% of bronchial cancers, 80% of chronic bronchitis and 100% of histiocytosis X; it also considerably reduces the risk of asthma attacks, superinfection flare-ups and many other diseases [8]. In terms of prevention and treatment of chronic and acute diseases, stopping smoking is therefore always a major part of patient care by caregivers.

Patient smoking management appears to be insufficient. In the European Lung Foundation (ELF) study, which aimed to better understand the impact of lung conditions on smoking behavior and smoking cessation, and to identify recommendations for smoking cessation and professional-patient communication, only 59% of patients reduced their smoking, while 34% continued their consumption unchanged and 7% increased it; management by the pulmonologist, which occurs in 40% of cases, is considered effective by only 27% of patients [10].

The period of diagnosis of these conditions constitutes a favorable moment for the implementation of cessation ("teachable moment"): a period during which a positive change in behavior can occur, with a perception of risk, an emotional response, and an awareness of the urgency of changing one's behavior [12].

Therefore, maintaining this change in the cessation plan must take into account the addiction caused by smoking. Indeed, addiction is a biopsychosocial illness. Management must be comprehensive, given the physical, psychological, and behavioral dependency, and must include all healthcare personnel.

Aim of the Study

Our study aims to demonstrate the impact of a single intervention by a tobacco specialist with the staff of the pulmonology department of the Bourg-en-Bresse Hospital Center on the care of hospitalized tobacco patients in order to optimize the patient's holistic care.

Materials and Methods

Study setting

The study took place in the pulmonology department of the Bourg-en-Bresse Hospital Center (CH), the leading healthcare facility in the Ain department. The Ain department is located in the Auvergne-Rhône-Alpes region, in east-central France. Supported by the Bresse-

Haut-Bugey Territorial Hospital Group (GHT), the CH had over 900 beds and places in 2021 and offers referral and local care services divided into seven clinical, medical-technical, and support activity centers.

Population and study type

This was a cross-sectional, descriptive study.

The study was conducted in two phases, five weeks before and after the tobacco specialist's intervention with the staff. The intervention took place on May 31, 2022. The first phase was from April 25 to May 30; the second from June 1 to July 6, 2022.

It involved all healthcare staff working during the study period and patients hospitalized during the period in the pulmonology department.

Data collection

We initially conducted a spontaneous assessment using a questionnaire sent to healthcare staff, followed by a retrospective data collection using an individual survey form sent to patients and completed from computerized medical records.

Judgment criteria

The outcome measures were:

- The frequency of tobacco screening during hospitalization in the pulmonology department by staff,
- Barriers to initiating tobacco treatment during hospitalization,
- The number of nursing observations where smoking status was recorded,
- Habits regarding the provision of nicotine replacement therapy,
- The minimum amount of advice given to quit.

Data processing and analysis

Data were analyzed using Epi info. 7.2.1.0 software. Pearson's Chi-square test or Fisher's exact test was used to compare categorical variables when necessary. Mean values were presented with the standard deviation as an index of variance. In all statistical tests, the significance level was set at 0.05.

Anonymity was ensured through the coding of survey forms. The confidentiality of information collected from patients' medical records was respected.

Results

Care of hospitalized smoking patients by healthcare staff

Of 28 staff members, 25 responded, for a response rate of 89.28%. The median age was 35 years (30.5; 54). Inpatient smoking screening was always performed in 20% of cases and frequently in 40% (Figure 1). The frequency of nicotine replacement therapy (NRT) prescription was 72% (never; and frequently in 16% of cases).

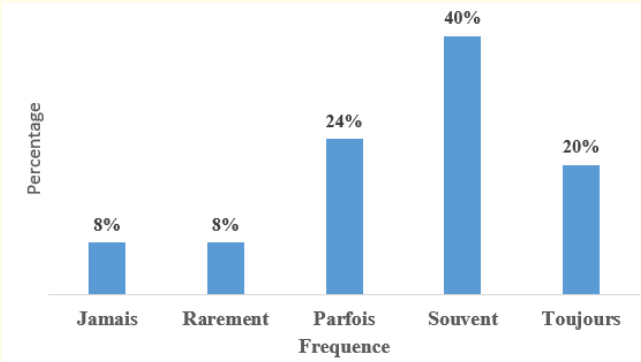


Figure 1: Frequency of smoking screening in hospital.

Data on tobacco-using inpatients in the pulmonology department

During the study period, 119 patients were hospitalized in the pulmonology department of the Bourg-en-Bresse Hospital Center. Fifty-five (55) patients (46.22%) were smokers, including 18.49% who were active smokers during the hospitalization (Figure 2). The median age was 61.5 years (range, 50; 77); the mean was 61.09 years +/- 14.54, with a male predominance (Table 1). The tobacco use rate in our study was 29.77 ± 21.99, the frequency of alcohol use was 68.18% (15 out of 22 patients), cannabis use was 4.55% (one out of 22 patients), and cocaine use was 9.09% (two out of 22 patients). Tobacco exposure was represented according to sociodemographic characteristics (Table 2).

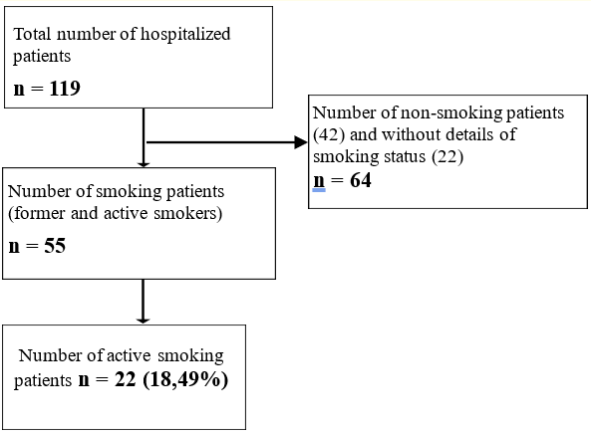


Figure 2: Flowchart of smoking in hospital.

	Number (n = 22)	Percentage (%)
Gender		
Male	16	72,73
Female	6	27,27
Marital Status		
Single	5	22,73
Divorced	6	27,27
Married	9	40,91
Common-law	2	9,09
Occupation		
Lumberjack	1	4,55
Truck Driver	1	4,55
Head Resin Molder	1	4,55
Journalist	1	4,55
Laborer	2	9,09
Works in Construction	1	4,55
Works in Industry	1	4,55
Restaurateur	1	4,55
Retired	8	36,36
Not Specified	5	22,72
History		
Hypertension	9	40,91
Diabetes	5	22,73
COPD	7	31,82
Lung Cancer (PBC)	6	27,27
Anxiety-Depression	7	31,82
Heart Disease	6	27,27
PAD	2	9,09
Stroke	1	4,55
SAS	1	4,55
Housing		
Landlord	13	59,09
Owner	8	36,36
Homeless	1	4,55

Table 1: Sociodemographic characteristics of active smoking patients.

	Tobacco consumption in PA		p-value
	≤ 30 PA n (%)	> 30 PA n (%)	
Age			
≤ 60 years	9 (90,00)	1 (10,00)	
> 60 years	4 (33,33)	8 (66,67)	0,01
Sex			
Male	10 (62,50)	6 (37,50)	
Female	3 (50,00)	3 (50,00)	0,65
COPD			
Yes	3 (42,86)	4 (57,14)	
No	10 (66,67)	5 (33,33)	0,56
CBP			
Yes	1 (16,67)	5 (83,33)	
No	12 (75,00)	4 (25,00)	0,02

Table 2: Variations in sociodemographic characteristics according to tobacco exposure.

Evaluation of the effectiveness of the tobacco specialist's intervention

Period before the intervention: From April 25 to May 30, 2022

During this period before the tobacco specialist's intervention, 57 patients were hospitalized in the pulmonology department of the Bourg-en-Bresse Hospital Center. Active smokers represented 6, with a prevalence of 10.53% (Figure 3). Tobacco consumption was recorded in pack-years (PY). Alcohol consumption was associated in 83.33%. The average smoking rate in PY was 16.60 +/- 14.62 (Figure 4). Management consisted of cessation advice (33.33%), and the prescription of nicotine replacement therapy (Table 3).

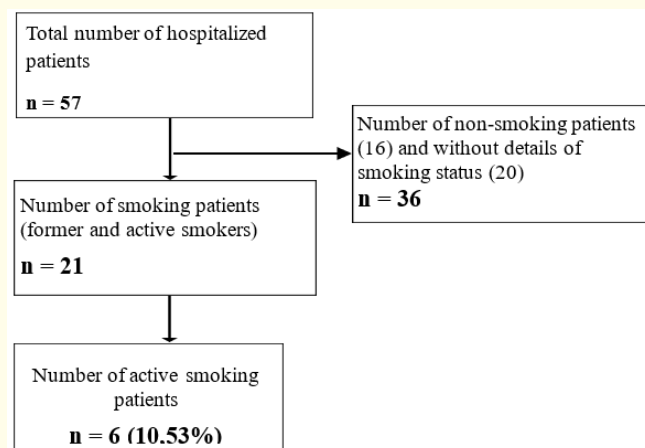


Figure 3: Flowchart before the intervention.

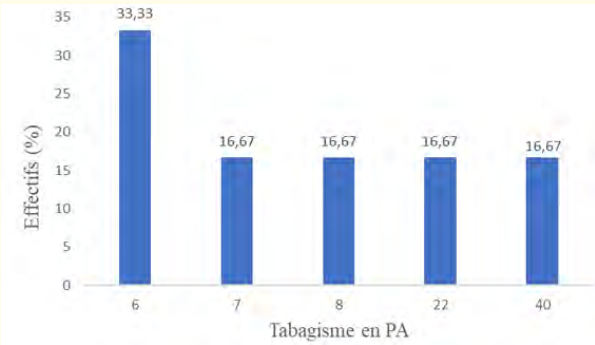


Figure 4: Frequency of smoking in PA.

	Number (n = 6)	Percentage (%)
NRT prescription		
No	3	50
Yes	3	50
Quit advice given		
No	4	66,67
Yes	2	33,33
Appointment with a tobacco specialist		
No	5	83,33
Yes	1	16,67

Table 3: Methods of hospitalized smoking management.

Post-intervention period: June 1 to July 6, 2022

After the tobacco specialist’s intervention, 62 patients were hospitalized in the department, including 16 active smokers (Figure 5). The various elements of post-hospital care included the prescription of NRT and advice to quit, which was provided to 93.75% of patients (Table 4).

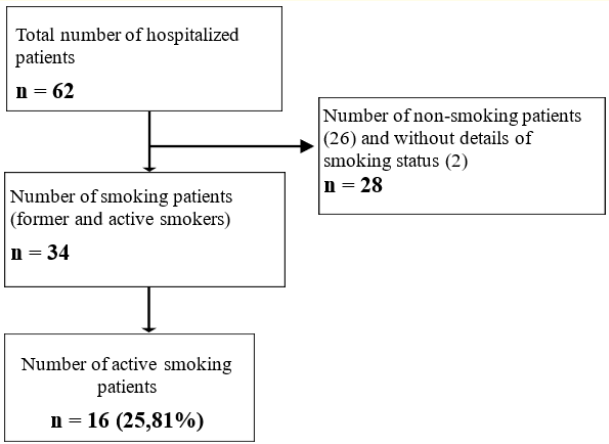


Figure 5: Post-intervention flow diagram.

	Number (n= 16)	Percentage (%)
NRT prescription		
Refusal	6	37,50
Yes	10	62,50
Quit advice given		
No	1	6,25
Yes	15	93,75
Appointment with a tobacco specialist		
No	13	81,25
Yes	3	18,75

Table 4: Inpatient management of smoking after intervention.

Discussion

Our objective was to demonstrate the impact of a single intervention by a tobacco specialist with healthcare staff on the care of hospitalized smoking patients.

The small size of our sample, both before and after the tobacco specialist’s intervention, may be related, on the one hand, to the selection of active smoking patients, excluding former smokers. On the other hand, the lack of systematic information on smoking status in the files contributed to the reduced number.

Collecting smoking status during clinical encounters is essential to provide patients with resources to quit smoking. Smoking cessation can be difficult, and clinical visits are opportunities to intervene and recommend programs and therapies. Obtaining a patient’s smoking status is a crucial step in initiating smoking cessation interventions and monitoring progress [12].

In our study, smoking status (former and current smoker) was reported in 46.22% of cases; slightly more after the tobaccologist’s intervention (54.84%) than before (36.84%). This may be explained by the use of free text as a smoking identification method, which provides less data.

Smoking identification methods such as checkboxes, vital signs, and alarms resulted in an increase in the number of patients with reported smoking status [13].

We also noted the inadequacy of staff screening; only 40% did it frequently and 20% always.

Information on smoking status also remains limited in the literature. According to the study conducted by the European Lung Foundation in collaboration with the European Respiratory Society working group, the majority of patients reported that doctors/nurses had discussed smoking with them before and after their diagnosis in 41% [10]. Underner, *et al.* found systematic screening in 41% [15]. Yousef noted systematic screening in 60% of cases [14].

Hospitalization should be seen as an opportune time to address the subject of smoking, since this can be done at several points during the hospitalization and by several medical and paramedical personnel.

A hospital stay implies temporary smoking abstinence and therefore represents an opportunity to initiate smoking cessation. This opportunity is all the more important when the reason for hospitalization is tobacco-related [13].

Minimal advice to quit was provided in 33.33% of cases before the tobacco specialist's intervention, compared to 93.75% afterward. Indeed, an analysis of the healthcare staff's practices revealed that minimal advice was ineffective in 84% of cases. Given this difference, the tobacco specialist's intervention allowed for minimal advice to be taken into account, the impact of which on smoking cessation assistance remains significant.

Furthermore, minimal advice is an approach that concerns all smokers, whether or not they want to quit. It is based on brief advice, verbally explaining the expected health benefits, supplemented either by a written brochure, a telephone consultation such as the Tobacco Info Service, or revisited during a subsequent dedicated consultation. In the meta-analysis by Stead, *et al.* in 2013, grouping together 42 studies or 31,000 smokers, it was proven that brief advice versus no advice significantly increases the smoking cessation rate at 6 months and more (RR = 1.66, 95% CI: 1.42-1.94) [14].

Nicotine replacement therapy (NRT) aims to temporarily replace a large portion of the nicotine in cigarettes to reduce the motivation to smoke and nicotine withdrawal symptoms, thereby facilitating the transition from smoking to complete abstinence. Thus, in our study, NRT prescriptions included transdermal patches and gum. Before the intervention of the tobaccologist, only 50% of active smoking patients had received NRT. After the intervention, NRT was offered to all patients, but there were 37.50% refusals and 62.50% acceptances. Caregivers reported never prescribing NRT in 72% of cases. This could be explained by the majority of staff being paramedical (88%) who did not know they could prescribe it.

Also, the perception of cessation by the healthcare staff could limit smoking cessation assistance, especially since the average age of our patients was 61.09 years +/- 14.54. Indeed, the obstacles for some caregivers to approach a smoking cessation process were based on false beliefs and inappropriate attitudes (the damage is already done, do not harm their well-being, do not want to quit, it is the prerogative of the specialist, it is the patient's personal life) as in the literature [15].

The intervention of the tobaccologist therefore helped to lift the veil and increase the prescription rate of NRT.

To strengthen smoking cessation support, treatment by a tobacco specialist was offered to all patients after the intervention, compared to 16.67% before. The majority of our patients (81.25%) refused to make an appointment with a tobacco specialist. This could be linked to an expression of their tobacco dependence. The cessation support intervention initiated during hospitalization is therefore necessary and increases the chances of cessation according to the literature [13].

Conclusion

The effect of the tobacco specialist's intervention on staff revealed room for improvement in the management of active smoking in hospitalized patients. The hospital prevalence of tobacco users was 18.49%. We observed systematic identification of smoking status in 54.84% of cases. Minimal advice to quit was provided in 33.33% of cases before the tobacco specialist's intervention, compared to 93.75% afterward. Thus, healthcare professionals must apply best practices by identifying addictive behaviors in hospitalized patients and informing them about the harmful effects of active smoking.

The implementation of computerized tools for tobacco identification and management has been accompanied by an increase in tobacco specialist consultations and, in some cases, an increase in prescriptions. This could contribute to the establishment of a smoke-free hospital.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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