



ORIGINAL RESEARCH

Prevalence and characteristics of smoking in primary healthcare workers in Iquique, Chile

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KEYWORDS

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Prevalence;
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Health knowledge;
Primary care

Summary Objective: To determine the prevalence and characteristics of the smoking habits of primary healthcare workers in Iquique, Chile.

Study design: Cross-sectional study through a survey of all personnel working in primary health care in Iquique, Chile.

Methods: The following variables were investigated: biodemographical characteristics and aspects of smoking, knowledge of the adverse effects of smoking, and some lifestyle factors.

Results: Among the study population, a high prevalence of smokers was found (37%) and a further 26% were ex-smokers. The smokers were predominantly practical nurses, female, aged 25-45 years and married. The only significant relationship was between age and smoking habit ($P=0.02$), with smoking prevalence among younger groups being very high (56%). There was a high level of awareness about the adverse effects of smoking and its addictiveness (99 and 93%, respectively). Forty-three percent of participants had been smoking for more than 15 years, and the main reasons for smoking were 'social consumption' and 'stress' (36 and 29%, respectively). Thirty-two percent of the ex-smokers ceased smoking for discomfort or health reasons. There were no differences between smokers and ex-smokers with respect to participation in sports or working shifts. Fifty-two percent of those surveyed reported they they were annoyed when others smoked near them.

Conclusion: This study revealed a high prevalence of smoking, particularly among practical nurses. Regarding attitudes to health, a dichotomy between knowledge and behaviour was found in this group. In pursuing the commitment to smoking cessation in healthcare personnel, a deeper review of cultural issues and motivation should be considered.

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Introduction

Consumption of tobacco is one the most serious health problems worldwide, and is a major cause of avoidable mortality. The World Health Organization (WHO) has estimated that 4 million deaths/year are attributable to tobacco or tobacco-related diseases, and it is thought that this number could increase to 10 million by 2020 if no control strategies are implemented.¹ It is estimated that 70% of these deaths will occur in developing countries. Chile, with a daily cigarette smoking prevalence rate of 40% in adults (15 years and over), also faces this problem.¹⁻⁴

Controlling this problem is a high priority and many initiatives have been under way for some years in this regard. However, the results have been slow and not always satisfactory. One explanation why most of the strategies and programmes that have been designed have faced diverse difficulties in achieving their objectives could be the decreasing motivation or commitment of healthcare workers (HCWs), whose fundamental role as models and promoters alongside physicians is widely recognized.⁵⁻⁹

The WHO made 'a global commitment' that its members must play a role as non-consuming models encouraging a tobacco-free culture.^{10,11} To reach this goal in the different levels of the healthcare network, prevention is clearly at the primary care level, where the first and longest contact occurs. Likewise, to obtain effective results, commitment and sustainability, it is necessary to understand the characteristics of the caregivers in terms of their behaviour and other factors.

In this regard, different studies have shown that despite various efforts, the prevalence of smoking in HCWs in several countries differs very little from that in the general population, including in Chile.¹²⁻¹⁴

With the aim of contributing to our knowledge of smoking habits and related factors in primary HCWs in the city of Iquique, the present study was designed to analyse the prevalence of smoking, some specific characteristics of this habit, and those areas that could hinder the effectiveness of traditional programmes. All primary HCWs belonging to the public network (the most important) in Iquique were included in the study.

Methods

Population

A cross-sectional survey was carried out on all HCWs belonging to the five outpatient clinics in Iquique,

Chile during October 2001 (219 workers). Eleven workers did not participate.

Data collection

Data were collected through an anonymous and oral survey, obtaining information on the following variables.

- *Socio demographic status*: age, gender, social professional category and marital status.
- *Knowledge*: about the harmfulness and the addictive nature of smoking.
- *Characteristics and circumstances of smoking habit*: years of smoking, age at initiation, quantity, circumstances and reason for smoking (and quitting for ex-smokers).
- *Lifestyles*: participation in sport, working shifts and attitudes towards others who smoked near them.

This survey was based on a WHO survey and related literature on the topic. The surveyors were student nurses. This survey was approved by the Ethics Committee of Universidad Arturo Prat, and the respondents were volunteers.

Data analysis

Data were separated into three categories: smokers, those who smoked (daily or occasionally) at the time of the study; ex-smokers, those who had quit smoking at least 6 months before the study with no relapse; and non-smokers, those who had never smoked.

Data were analysed as proportions using SPSS version 12. The biodemographical variables (gender, age, marital status, activity) were stratified by category (smoking condition) and variable. Statistical analysis of the data was performed using Chi-square test with 95% confidence intervals. *P* values <0.05 were considered to be statistically significant.

Results

A high prevalence of smokers was found among the primary HCWs (37%). Sixty-three percent of the

Table 1 Overall prevalence by category.

	Smokers <i>n</i> (%)	Ex-smokers <i>n</i> (%)	Non-smokers <i>n</i> (%)
Overall prevalence	82 (37)	57 (26)	80 (37)

study population did not smoke; of these, 26% were ex-smokers and 37% were non-smokers (Table 1).

A large proportion of the smokers were aged 25-35 years (37%) (Table 2), but the greatest proportion of smokers (56%) were in the youngest age group (<25 years) which mainly consisted of administrative personnel and practical nurses. The proportion of ex-smokers was greatest in those aged ≤ 45 years by category (smoking condition) and by variable. Smoking habit was found to be inversely associated with age ($P=0.018$) (Table 2).

With regard to gender, a high proportion of smokers were female. The majority of respondents in the three groups studied were married. When analysed by variable, a greater proportion of smokers were unmarried (Table 2).

A high proportion of non-professional HCWs were smokers, especially amongst the administrative staff (51%). Conversely, greater proportions of ex-smokers and non-smokers were found among the professional HCWs (Table 2).

Almost all the staff surveyed were aware of the adverse effects of smoking (99%), including cancer, lung disease and, to a lesser extent, cardiovascular disease. Likewise, a high proportion of HCWs acknowledged that smoking was addictive (93%).

The circumstances of smoking were studied so that this knowledge could be used in future interventions. It was found that 37% of participants smoked at work. Most smoked when they were in a situation of 'stress' or 'nervousness' (anxiety) (55%). Curiously, ex-smokers had tended to smoke mainly with colleagues and when nervous or stressed (Table 3).

Studying the long-term patterns revealed that 43% of smokers had been smoking for more than 15 years, and that the great majority of smokers and ex-smokers began smoking when aged 15-20 years (50 and 56%, respectively). Most started smoking after noon, which was when they were off duty, and after meals.

The main reason for smoking was 'social' or 'in groups', followed by 'stress'. On the other hand, the principal reasons for smoking cessation among the ex-smokers were 'feeling discomfort' (32%) and 'health reasons' (32%) (Table 4).

The probable influence of life style in the HCWs was also studied, with a low rate of participation in sports being observed. Although most of those participating in sports were non-smokers (39%), no significant differences were found ($P=0.27$). The slight difference seen among those working shifts and smoking (56%) was not statistically significant ($P=0.59$) (Fig. 1).

To evaluate attitudes to a non-smoking environment policy, participants were asked if they were

annoyed when others smoked near them. Fifty-two percent of participants indicated that this did annoy them, with a greater proportion among the ex-smokers and the non-smokers (67 and 64%, respectively).

Discussion

The prevalence of smoking among primary HCWs in Iquique was greater than was expected and that reported in similar groups.^{12,13} This prevalence was only slightly lower than that reported for the general adult population aged 15 years and over in Chile.^{2,4} This situation, besides being a local public health problem, represents a potential barrier in trying to involve this group as a first line for health promotion.

In the present study, the only statistical association was an inversely proportional relationship between smoking and age. This has been reported previously, highlighting an area that may benefit from or require an intervention.¹⁵ The high prevalence of smoking in younger groups, slightly higher than that among their peers in the general population, deserves special consideration because they share two worrying characteristics: they are administrative (non-professional), and they stay in service for a career, although they are not usually involved in clinical work.

It is remarkable that women, irrespective of being the most numerous HCWs, represent the greatest proportion of smokers.^{3,13,16} Also, single people, assumed to have less direct family support network, smoked more than married people.

The largest proportions of smokers were among the administrative personnel and practical nurses, supporting the idea that the level of education could have some influence on smoking habit.¹⁶ This finding has considerable importance as practical nurses, in countries like Chile, are the largest group of HCWs and are important role models in the community.

Some other negative aspects that should be taken into account in this context include the fact that the majority of smokers have been smoking for more than 15 years, and almost all HCWs do not have a healthy life style with regard to participation in sports.^{16,17}

When reviewing the characteristics of smoking habits, some results deserve special attention. Firstly, the expected correlation between participation in sports and smoking was not found. Secondly, the introduction of smoking-free areas at work has not led to significant changes because

Table 2 Biodemographic features of personnel by category (smoking status)

Bio-demographic features	Smokers			Ex-smokers			Nonsmokers			Total (b) n (%)	P
	n	a(%)	b(%)	n	a(%)	b(%)	n	a(%)	b(%)		
<i>Age*</i>											0.01
<25	10	(12)	(56)	4	(7)	(22)	4	(5)	(22)	18 (100)	
25-35	30	(37)	(49)	11	(19)	(18)	20	(25)	(33)	61 (100)	
36-45	27	(33)	(39)	15	(27)	(21)	28	(35)	(40)	70 (100)	
46-55	9	(11)	(20)	20	(35)	(43)	17	(21)	(37)	46 (100)	
>55	6	(7)	(25)	7	(12)	(29)	11	(14)	(46)	24 (100)	
Total (a)	82	(100)		57	(100)		80	(100)			
<i>Gender</i>											0.71
F	61	(74)	(39)	40	(70)	(26)	55	(69)	(35)	156 (100)	
M	21	(26)	(33)	17	(30)	(27)	25	(31)	(40)	63 (100)	
Total (a)	82	(100)		57	(100)		80	(100)			
<i>Marital status</i>											0.65
Married	50	(61)	(36)	41	(72)	(30)	47	(59)	(34)	138 (100)	
Single	32	(39)	(40)	16	(28)	(20)	33	(41)	(40)	81 (100)	
Total (a)	82	(100)		57	(100)		80	(100)			
<i>Profession</i>											0.14
Professional	18	(22)	(25)	24	(42)	(33)	31	(39)	(42)	73 (100)	
Administrative	22	(27)	(51)	9	(16)	(21)	12	(15)	(28)		
Practical Nurse	30	(37)	(42)	17	(30)	(24)	25	(31)	(34)	43 (100)	
Assistant	12	(14)	(39)	7	(12)	(22)	12	(15)	(39)	72 (100)	
Total (a)	82	(100)		57	(100)		80	(100)		31 (100)	

Table 3 Circumstances of smoking habit in healthcare workers.

Variable		Smokers n (%)	Ex-smokers n (%)
At work	Yes	30 (37)	21 (37)
	No	52 (63)	36 (63)
With Colleagues	Yes	35 (43)	37 (65)
	No	47 (57)	20 (35)
Nervous or stressed	Yes	45 (55)	27 (47)
	No	37 (45)	30 (53)

a notorious proportion of HCWs smoke at work and in their offices but not when attending to patients.¹⁸⁻²⁰ Also, despite a high degree of awareness of the adverse effects of tobacco and addiction, people continue to smoke. Such results have been found in studies¹⁵ that involve not only the use of tobacco but also other preventive programmes, raising the question beyond mere epidemiological issues. Finally, as the main reasons for smoking were 'social consumption' and 'stress' and the reasons for smoking cessation were 'discomfort' or 'health problems', the cultural misconception of tobacco as a 'socializer or helper' under some psychologically stressful conditions is indicated. The latter indicates the

Table 4 Characteristics of smoking habits in healthcare workers.

Variable	Smokers n (%)	Ex-smokers n (%)
<i>Years smoking/smoked</i>		
> 5	18 (22)	24 (42)
5-10	15 (18)	11 (19)
10-15	14 (17)	6 (11)
< 15	35 (43)	16 (28)
<i>Age at smoking initiation (years)</i>		
> 15	8 (10)	8 (14)
15-20	41 (50)	32 (56)
20-30	22 (27)	15 (26)
< 30	11 (13)	2 (4)
<i>Reason for smoking</i>		
Social	30 (36)	
Stress	24 (29)	
Enjoy	20 (25)	
Other	8 (10)	
<i>Reason for smoking cessation</i>		
Discomfort		18 (32)
Health reasons		18 (32)
Personal		13 (22)
Peer pressure		8 (14)

^a No data available.

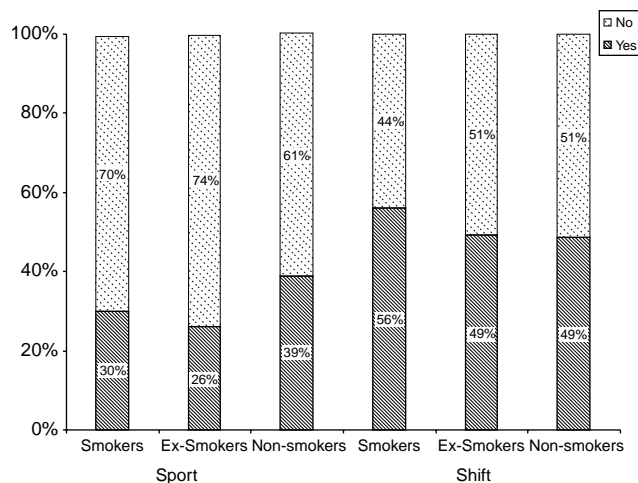


Figure 1 Distribution of healthcare workers who take part in sport or who work shifts and smoking habits. Sport and smoking condition $P=0.276$, shift and smoking condition $P=0.587$.

influence of cultural and environmental factors as well as personal or individual handicaps or conditions, as discussed elsewhere.^{15,16}

Moreover, the same underlying concern can be stated regarding attitudes to consumption because a clear dichotomy is observed between acquired knowledge and behaviour or social response. The explanation for this dichotomy can be found more in the field of motivation than knowledge.⁵⁻⁹

Lastly, it is noteworthy that no association was found between smoking habit and working shifts (a frequently described condition in the health labour area). This could mean that this factor is not so relevant in this or other groups.^{13,14,21}

Conclusion

In summary, this study highlighted the biodemographical profile, characteristics and circumstances of the smoking habits of primary HCWs in Iquique. This profile has shown that these HCWs are substantially affected by smoking and this constitutes a potential barrier to banning tobacco.

As ex-smokers and non-smokers were also studied, helpful clues for enhancing the efficiency of programmes were found.

Finally, the results of this study may contribute to our understanding of the smoking habit in HCWs and their lack of involvement and commitment in the search for effective anti-tobacco activities. This opens a discussion on whether HCWs themselves need intervention in a tailored manner either

in parallel or beforehand, and a reflection on how deep cultural and motivational aspects play a major role in success and effectiveness.

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