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Are Primary Health Care Providers Prepared to Implement an Anti-smoking Program in Syria?

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Abstract

Objective—To document primary health care (PHC) providers' tobacco use, and how this influences their smoking cessation practices and attitudes towards tobacco-control policies.

Methods—Anonymous questionnaires were distributed to PHC providers in 7 randomly selected PHC centers in Aleppo, Syria.

Results—All PHC providers completed the questionnaires (100% response rate). A quarter of these providers smoke cigarettes and more than 10% smoke waterpipes. Physicians who smoke were less likely to advise patients to quit (OR = 0.29; 95% CI, 0.09–0.95), assess their motivation to quit (OR = 0.13, 95% CI = 0.02–0.72), or assist them in quitting (OR = 0.24, 95% CI = 0.06–0.99). PHC providers who smoke were less likely to support a ban on smoking in PHC settings (68.2% vs. 89.1%) and in enclosed public places (68.2% vs. 86.1%) or increases in the price of tobacco products (43.2% vs. 77.4%) ($P < 0.01$ for all comparisons).

Conclusions—Smoking, including waterpipe, continues to be widespread among PHC providers in Syria and will negatively influence implementation of anti-smoking program in PHC settings.

Practice implications—Smoking awareness and cessation interventions targeted to PHC providers, and training programs to build providers' competency in addressing their patients' smoking is crucial in Syria.

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Keywords

Smoking prevalence; health care providers; primary health care; antismoking policies; smoking-cessation practices; waterpipe

1. Introduction

Tobacco use is a global public-health problem with a particularly bleak prognosis in developing countries [1]. Tobacco has already killed one hundred million people in the 20th century. Unless effective measures are implemented, tobacco will kill about 1 billion people in the 21st century, mostly at the expense of developing countries [2]. Currently, almost 1 billion men in the world smoke, 35% of men in high-resource countries, and 50% of men in developing countries [3]. In Syria, an Arab Middle Eastern country with a population of more than 18 million, 57% of men and 17% of women smoke cigarettes [4]. To add to the already bleak scene of smoking in Syria and the Middle East, the past decade has witnessed a global re-emergence of waterpipe smoking with the Middle East at its epicenter (Maziak, 2010). Available evidence suggests that waterpipe use is harmful and addictive. For example, recent systematic reviews of the evidence concerning the health effects of this tobacco use method suggest that waterpipe smoking more than doubles the risk of lung cancer, respiratory illness, and low birth weight, and can influence lung function in manner similar to cigarettes raising the potential of later chronic obstructive pulmonary disease (COPD) development as a result of waterpipe use [5–6]. Quitting-success rates are lower for cigarette smokers in Syria than for their counterparts in developed countries [7], partially because of the lack of smoking-cessation services in Syria [8]. Among adult waterpipe smokers in Syria, about a third are willing to quit and more than a half reported an unsuccessful quit attempt in the past year. Belief in one's ability to quit was inversely related to perceived dependence [9].

Tobacco use patterns and attitudes among health care providers may be another contributing factor to the low cessation rates in Syria and in developing countries in general [10]. In many of these countries, including Syria, people believe health care professionals are a credible source for health advice and consider them role models on issues of health and lifestyle [11]. Tobacco cessation advice provided by health care professionals enhances the quit rate among patients [12–14]. Additional evidence from industrialized countries shows that, compared to no intervention, brief intervention based on the 5 A's model (ask, advise, assess, assist, and arrange) from a physician on smoking cessation modestly (30%) increases the odds of quitting [15]. Although smoking behavior and cessation practices of health care providers have been studied extensively in developed countries [16–18], such studies in developing countries, including Syria, are scarce.

Recently, Syria ratified the World Health Organization Framework Convention on Tobacco Control (WHO FCTC), which requires that countries should promote and provide smoking cessation services (<http://www.who.int/fctc/en/>). As a part of this efforts, we have been developing at the Syrian Center for Tobacco Studies (SCTS; <http://www.scts-sy.org>) a system wide smoking cessation program that can be integrated into existing primary health care (PHC) practices [8]. PHC centers in Syria reach large numbers of smokers, and PHC providers (i.e., physicians and nursing staff) are instrumental for the success of any smoking-cessation program [19–20]. The main objectives of this study were to document PHC providers' tobacco use, cessation practices, and attitudes towards tobacco-control policies and to determine how these attitudes are influenced by providers' smoking habits.

2. Methods

2.1. Sample

The city of Aleppo, located in the northwest of Syria, has approximately 2.5 million inhabitants; this population is composed mainly of Arab Muslims as well as Christian, Kurdish, and Armenian minorities [21]. We randomly selected 4 of 33 government-sponsored PHC centers, and 3 of 21 charitable PHC centers in Aleppo as our sampling unit. These centers provide a range of basic health services, including urgent and routine care, vaccinations, food supplements, and free or low-cost medications. Within their respective catchment areas, these centers have a comparable number of monthly adult patient visits (2000–3000) and serve a large number of patients who share similar demographic characteristics (e.g., primarily low-to-middle income). During a 3-week period, PHC providers were visited at the 7 PHC centers and invited in person to respond to an anonymous questionnaire after a brief explanation of how to complete it. Incentives to increase participation were not provided but multiple visits were made to some centers to ensure the participation of all providers employed by that sampled center completed the study's questionnaire.

2.2. Measurements

The survey questionnaire was developed from similar instruments used in previous studies [7,22–23]. It included questions from the Fagerström Test for Nicotine Dependence [24] and questions about socio-demographic characteristics, smoking history, readiness to quit smoking, beliefs about the health effects of smoking, current smoking-cessation treatment practices according to the 5 A's model (*ask, advise, assess, assist, and arrange*) [25], and attitudes related to antismoking policies. Physicians also were asked to report barriers to implementing cessation services, using an open ended-question. To address the increasing trend of waterpipe smoking in Syria [26], we added questions about waterpipe use to the questionnaire. A current cigarette smoking was defined as smoking in the past 30 days and was subsequently categorized into daily and occasional smoking. The same definitions were used for waterpipe smoking. The protocol and consent form for this study were approved by the institutional review boards at the Syrian Society against Cancer and at the University of Memphis.

2.3. Data analyses

All data were analyzed using SPSS for Windows statistical software package (version 12.0). After data about the sociodemographic characteristics among the physicians and nurses participating in the study were collected, categorical data were expressed as percentages, and continuous data were expressed as mean [SD]. Differences in the smoking behavior of physicians and nurses by sex were compared using the Chi-square test for categorical variables and Student's *t* test for continuous variables. Data were analyzed using logistic regression analysis to examine the association between smoking-cessation practices according to the 5 A's model (*ask, advise, assess, assist, and arrange*) and smoking status among PHC physicians adjusted for age and sex. The Chi-square test was used to analyze the differences of smokers' and nonsmokers' beliefs related to the health effects of smoking and tobacco-control policies. In all analyses, $P < 0.05$ was considered significant.

3. Results

All PHC providers in the selected centers completed the questionnaire. Participants included 85 physicians (60% men, mean age [SD] = 39.56 [6.97] y) and 96 nurses (28.1% men, mean age [SD] 35.42 [7.26] y) (Table 1).

3.1. Smoking prevalence

Overall, 22.4% of physicians and 26% of nurses were cigarettes smokers. Smoking was significantly lower among women than among men in the physicians' group (8.8% vs. 31.4%, $P = 0.01$) and the nurses' group (17.3% vs. 48.1%, $P = 0.004$) (Table 2). Furthermore, 16.5% of physicians and 9.4% of nurses were current waterpipe smokers. Similar to cigarette smoking, waterpipe smoking was significantly lower among the women than among the men in the physicians' group (6.3% vs. 24%, $P = 0.03$) and in the nurses' group (4.5% vs. 23.1%, $P = 0.02$) (Table 2).

3.2. Current smoking-cessation treatment practices

Only half of the participating physicians routinely ask their patients about their smoking status; of those, 88.6% advise patients to quit, 36.4% assess patients' motivation to quit, 47.7% assist patients in quitting, and 11.6% arrange patients' follow-up visits to address their tobacco use. In the logistic regression analysis, smoking physicians were less likely than nonsmoking physicians to advise patients to quit (OR = 0.29; 95% CI, 0.09–0.95), to assess patients' motivation to quit (OR = 0.13; 95% CI, 0.02–0.72), and to assist them in quitting (OR = 0.24; 95% CI, 0.06–0.99).

Although 79% of physicians indicated that they assist their smoking patients in quitting by educating them about the health risks of smoking, only 5.3% of physicians reported prescribing pharmacologic cessation treatment (e.g. nicotine replacement therapy or bupropion). Only 20% of physicians perceived their current knowledge to be sufficient to help their patients quit smoking. Physicians reported several barriers to implementing smoking-cessation services in PHC centers: lack of patients' motivation to quit (53.8%), lack of resources (i.e., time, place, and medication) (27.3%), lack of provider experience in smoking-cessation intervention (5.8%), and the high rate of illiteracy among patients (13.5%).

3.3. Smoking-related health beliefs and attitudes towards tobacco-control policies

Compared to nonsmoking PHC providers, providers who smoke were less likely to think that smoking is harmful to health (92% vs. 70.5%, $P < 0.01$). With regard to specific medical conditions, current smokers were also less likely to view smoking as a major cause for stroke (45.5% vs. 63.5%, $P = .03$), coronary artery disease (63.6% vs. 78.8%, $P = .04$), and leukoplakia (36.4% vs. 59.1%, $P < 0.001$). In addition, PHC providers who smoke were less likely to acknowledge that parental smoking increases the risk for neonatal death (18.2% vs. 32.1%, $P = 0.007$) and the risk of respiratory track illnesses in exposed children (45.5% vs. 75.2%, $P < 0.01$), to support a smoking ban in enclosed public places (68.2% vs. 86.1%, $P < 0.01$) or PHC settings (68.2% vs. 89.1%, $P < 0.01$), and to agree on increasing the price of tobacco products (43.2% vs. 77.4%, $P < 0.01$) (Table 3).

4. Discussion and Conclusions

4.1. Discussion

Our study is the first to document tobacco-use practices and attitudes among PHC providers in Syria. This study shows that, among the physicians and the nursing staff at PHC centers, smoking continues to be widespread, including waterpipe smoking [27]. The sex differences in tobacco use seen in this population reflect the unacceptability of smoking by girls and women in traditional Middle Eastern societies [28]. Smoking habits among PHC providers in our study appear to affect providers' willingness and ability to promote quitting among their patients and to assist patients in their efforts to quit. Because health care providers represent a crucial component of national efforts to reduce smoking [29–31], our findings

highlight the importance of intensifying efforts to change the smoking-related culture of health care providers in Syria.

Most developed countries have shown a steady decline in physicians' smoking prevalence during recent years, where the lowest prevalence estimates were documented in the United States (2%) [32–33], Australia (3%) [34], and the United Kingdom (3%) [35]. However, physicians in some industrialized nations are still smoking at high levels. For example, physicians' smoking prevalence was 45% in China [36], 43% in Japan [18], 33.3 % in Italy [37], and 32.1% in France [38–39]. Similar results were also documented in the Middle East, where physicians' smoking prevalence was 49% in Greece [40], 38% in Kuwait [41], 36% in the United Arab Emirates [41], 34.6% in Jordan [42], and 24% in Bahrain [43]. Not surprisingly, cigarette smoking prevalence among our study participants is comparable to those in other countries in the Middle East. Earlier (1998) study by our team, showed that cigarette smoking affected about a third (35%) of practicing physicians in the northern parts of Syria [44]. The new factor in tobacco-use patterns among health care providers in Syria is waterpipe smoking, which was not documented in our earlier study. This emerging tobacco-use method is gaining popularity among PHC providers in Syria, where approximately one quarter of males smoke waterpipes [45]. Given the novelty of the waterpipe epidemic and its predominance amongst youth, the spread of waterpipe smoking among health care providers in Syria is likely to soon exceed the prevalence found in this study. The increasing popularity of waterpipe smoking amongst this “health-conscious” population of PHC providers may be due to a misperception of reduced harm that is attributed to the “filtering” effect of water [46–47]. Furthermore, the emerging information about the hazards of waterpipe smoking [27,48–51] may be unknown to local PHC providers in Syria. Therefore, efforts to inform and educate health care providers about these health hazards are urgently needed to curb this epidemic in Syria.

Only half of the participating PHC physicians reported routinely asking patients about their smoking status, and fewer than half of these assist their patients in their efforts to quit smoking. Similar results were found in other countries in the Middle East such as Kuwait [41], Jordan [42], and Greece [40]. These results compare unfavorably with data from international studies of high-income countries in the West and Asia [16,18,52]. For example, a study in the United States assessed community-based PHC physicians' smoking-cessation practices and found that 67% “ask” about smoking status in more than 80% of all patients visits; 74% “advise” smoking patients to quit; 35% “assist” smoking patients in quitting; and 8% “arrange” follow-up visits or phone calls [16]. Similarly, a study from Japan reported that 82% of physicians routinely assess their patients' smoking status [52]. Thus, it appears that many PHC physicians in Syria are missing important opportunities to advise patients about quitting smoking and available smoking-cessation strategies.

This missed opportunity may be partially due to limited physician access to resources needed to assist smoking patients; only 5% of PHC physicians in this study prescribed smoking cessation medications. This could indicate either that many PHC physicians in Syria are unaware of these cessation aids or that the availability of these pharmacologic aids is limited in Syria. In addition, most physicians thought that their knowledge was insufficient to help patients quit smoking and were interested in receiving training in cessation counseling. These attitudes may reflect a lack of opportunities for training in this area during medical school or as part of continuing medical education for physicians. Other barriers to smoking cessation identified by PHC physicians in this study include: perception of lack of effect, lack of time, and perceived lack of patients' motivation to quit. These barriers are similar to those found in studies in other countries [53–54]; overcoming these barriers will require a national smoking-cessation plan that involves training health care providers and providing smoking-cessation guidelines.

Another factor that can affect PHC providers' willingness to address smoking among their patients lies in the providers' own smoking patterns. This finding is in agreement with other studies showing that physicians who smoke are less likely to address smoking in their patients [10,55–56]. One of the most marked examples of this difference was in Greece [40], where only half of the physicians who smoke were involved in smoking-cessation counseling compared to 100% of their nonsmoking colleagues. The smoking status of PHC providers in this study also influenced their support for tobacco-control policies. These findings indicate that PHC providers who smoke would have a negative influence on implementing antismoking policies in PHC settings in the future and call for targeted efforts to promote quitting and tobacco-control policies among PHC providers.

4.2. Conclusions

In summary, this study provides useful insights into the challenges involved in implementing smoking-cessation services in PHC settings in Syria. These insights can be of value for other countries in the Middle East that share the same challenges as Syria does in dealing with the epidemic of tobacco use: (1) the high smoking prevalence among PHC providers, including an increase in waterpipe use; (2) the inadequate involvement of PHC providers in aiding the smoking-cessation of patients; (3) the lack of confidence among PHC physicians in their ability to provide effective cessation treatment and counseling; and (4) the negative attitude towards tobacco-control policies among PHC providers who smoke.

4.3. Practice implications

Our data show the widespread of smoking among health care providers in Syria, and that this factor can influence their implementation of smoking cessation services and policies in PHC. Since effective interventions to reduce smoking among patients depend on health care providers' commitment to smoking cessation, high smoking prevalence among this population in Syria and other neighboring countries in the Middle East represent an obvious barrier. Therefore a top priority for national health authorities in Syria and elsewhere in the region will be to target health care providers with smoking awareness and cessation interventions. Increasingly, these interventions should include waterpipe smoking and its health hazards. This is best done in parallel with stricter enforcement of tobacco free policies in PHC and other health delivery facilities [57]. Another worrisome trend shown in this study lies in physicians' inadequate training in offering cessation treatment to smokers. This can be addressed by providing smoking cessation trainings as part of the medical curriculum and/or continuing medical education for PHC providers. Such policies combined with offering incentives for physicians to quit smoking and offer adequate smoking cessation counseling may provide best outcome for the implementation of successful smoking cessation services in PHC in Syria and the Middle East.

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Table 1

Demographic characteristics of 181 primary health care providers in Aleppo, Syria who participated in the study.

Demographic characteristics	Physicians (n= 85) n (%)	Nurses (n= 96) n (%)
Sex		
Male	51 (60)	27 (28.1)
Female	34 (40)	69 (71.9)
Marital status		
Married	69 (81.2)	71 (74)
Not married	16 (18.8)	25 (26)
Religion		
Muslim	63 (74.1)	86 (89.6)
Other	22 (25.9)	10 (10.4)
Ethnicity		
Arab	73 (85.9)	91 (94.8)
Others	12 (14.1)	5 (5.2)
Mean age (y) [SD]	39.56 [6.97]	35.42 [7.26]

Table 2

Smoking behaviors among primary health care providers in Aleppo, Syria, grouped based on sex.

	Physicians		Nurses	
	Male	Female	Male	Female
	n = 51 n (%)	n = 34 n (%)	n = 27 n (%)	n = 69 n (%)
Current smoking method				
Cigarette	16 (31.4) *	3 (8.8) *	13 (48.1) *	12 (17.4) *
Waterpipe	12 (24) *	2 (6.3) *	6 (23.1) *	3 (4.5) *
Frequency of current smoking method Cigarette				
Daily	10 (62.5)	3 (100)	10 (76.9)	7 (58.3)
Occasional	6 (37.5)	0	3 (23.1)	5 (41.7)
Waterpipe				
Occasional	12 (100)	2 (100)	6 (100)	3 (100)
Willing to quit smoking				
Cigarette	10 (62.5)	2 (66.7)	7 (53.8)	10 (83.3)
Waterpipe	4 (33.3)	0	3 (50)	2 (66.6)
Attempt to quit in the past year (yes)				
Cigarette	6 (37.5)	3 (100)	4 (30.7)	7 (58.3)
Waterpipe	2 (16.6)	0	2 (33.3)	2 (66.6)
Plan to quit cigarettes in the next month	4 (25)	1 (33.3)	9 (69.2)	2 (16.6)
Number of years smoking cigarettes (Mean [SD])	18.60 [9.39]	12 [7.93]	17.60 [7.21]	16.29 [10.46]
Number of cigarettes smoked daily (Mean [SD])	12.85 [10.97]	11.67[2.88]	18.23 [10.63]	12.09 [7.02]

* Indicates *P*-value < 0.05 for comparison of data from male and female participants.

Table 3

Health beliefs and attitudes related to tobacco-control policies and smoking-cessation practice among primary health care providers in Aleppo, Syria according to their smoking status*.

	Smoker n = 44 n (%)	Nonsmoker n = 137 n (%)	P-value
Health beliefs			
Smoking is harmful to your health.	31 (70.5)	126 (92)	.0002
Smoking is a major cause for lung cancer.	35 (79.5)	122 (89.1)	.11
Smoking is a major cause for stroke.	20 (45.5)	87 (63.5)	.03
Smoking is a major cause for pulmonary emphysema.	23 (52.3)	84 (61.3)	.28
Smoking is a major cause for laryngeal cancer.	29 (65.9)	106 (77.4)	.12
Smoking is a major cause for coronary artery disease.	28 (63.6)	108 (78.8)	.04
Smoking is a major cause for oral cancer.	25 (56.8)	97 (70.8)	.08
Smoking is a major cause for bladder cancer	9 (20.5)	42 (30.7)	.19
Smoking is a major cause for leukoplakia	16 (36.4)	81 (59.1)	< .001
Passive smoking increases the risk of lung diseases in nonsmoking adults.	15 (34.1)	66 (48.2)	.10
Parental smoking increases the risk of neonatal death	8 (18.2)	44 (32.1)	.007
Parental smoking increases the risk of respiratory track illnesses in exposed children.	20 (45.5)	103 (75.2)	< .001
Attitudes related to tobacco-control policies			
Health warnings on cigarette packages should be added.	33 (75)	112 (81.8)	.33
Tobacco advertising should be banned.	31 (70.5)	106 (77.4)	.35
Smoking in enclosed public places should be prohibited.	30 (68.2)	118 (86.1)	.007
Prices of tobacco products should be increased sharply.	19 (43.2)	106 (77.4)	< .001
Tobacco sales to children should be banned.	40 (91)	126 (92)	.82
Smoking in PHC settings should be restricted.	30 (68.2)	122 (89.1)	.001

* Physicians and nurses at 7 primary health care centers in Aleppo, Syria were given questionnaires asking whether or not they agreed with certain health beliefs and attitudes concerning smoking and tobacco-control policies. Responses of those indicating agreement with the statements were stratified by the smoking status of the provider.