

Knowledge of and attitudes towards tobacco control among smoking and non-smoking physicians in 2 gulf arab states

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ABSTRACT

Objective: The global health professional survey is a project organized by the World Health Organization, to determine the smoking habits, knowledge and attitude towards tobacco control of health professionals in several countries around the world. This paper presents data from Kuwait and Bahrain.

Methods: The survey period was between May 2000 and March 2001. A questionnaire was distributed to all physicians in Bahrain and to a random sample from Kuwait. The responses to knowledge and attitude questions were on a scale of 1-5, (1 strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree).

Results: Four hundred and seventy physicians from Bahrain and 1095 from Kuwait completed the questionnaire. The prevalence of cigarette smoking in Kuwait was: current smokers 18.4%, previous smokers 15.8%, Bahrain 14.6% and 14.3%. The prevalence of shisha smoking was 12% and 6.4% for Kuwait and

Bahrain, ($p=0.004$). The mean scores of agreement with the association between passive smoking and lung diseases, lower respiratory tract infections in children were 1.6, 1.7 and 1.8, 1.9 for non smoking physicians and smoking physicians ($P<0.01$). The mean scores of agreement with the following policies: large health warning on cigarette packages, complete ban on tobacco advertisement and an increase in the price of cigarette were 1.3, 1.4, 1.7 and 1.7, 1.7, 2.5 for smoking and non-smoking physicians ($p<0.01$).

Conclusion: Smoking physicians have less knowledge and less favorable attitude towards tobacco control compared to non-smokers. There was no difference in the prevalence of cigarette smoking between Kuwait and Bahrain, but the prevalence of shisha smoking was higher in Kuwait.

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In the year 2000, tobacco killed approximately 4.9 million people worldwide.¹ Today it is already responsible for one in 10 adult deaths; by 2030 that figure is expected to be one in 6, or 10,000,000 deaths each year more than any other cause and more than the projected death tolls from pneumonia, diarrheal diseases, tuberculosis, and the complications of childbirth for that year combined.² If current trends persist, 150 million people alive today will eventually be killed by tobacco use, in

the next 25-years. Half of these deaths will be in middle age, losing on average 20-25 years of life.³ Current statistics indicate that it will not be possible to reduce tobacco related-deaths over the next 30-50-years, unless adult smokers are encouraged to quit. With this regard, health professionals in general and physicians in particular have a key role through the health care system to motivate and advise smokers to quit. Since physicians are well regarded and have a reputable position in society,

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they are the most likely persons whom advice on quitting smoking would be accepted by smokers. Randomized, controlled trials conducted in primary care setting have demonstrated that simple advice from a physician has been shown to increase abstinence rates significantly (by 30%) compared to no advice.⁴⁻⁶ Therefore, physicians can and should utilize the window of opportunity during their contact with patients to offer smoking cessation interventions not only in the developed world but also in the developing world.⁷ However, physicians who smoke are less likely to counsel patients regarding the hazards of smoking.^{8,9} Having recognized the important role of physicians in tobacco control, the Tobacco Free Initiative (TFI), World Health Organization (WHO) started a project, The Global Health Professional Survey, to estimate the prevalence of tobacco use among health professionals and to determine the smoking habits, knowledge and attitude towards tobacco control of health professionals in several countries around the world. This paper will present the data related to physicians from 2 gulf arab countries, Kuwait and Bahrain. A comparison between smoking and non-smoking physicians will be presented in order to determine the influence of personal smoking behavior on their knowledge and attitudes towards tobacco control and their perceived role as physicians in tobacco control activities.

Methods. The survey instrument. A standard questionnaire was developed by TFI in collaboration with experts in developing and conducting tobacco use surveys from Center for Disease Control (CDC), Emory University, United States of America, University of New South Wales Australia, and The International Agency for Research on Cancer (IARC). The questionnaire was based on a previous WHO questionnaire used for health professionals.¹⁰ The self-administered survey instrument included 45 questions covering topics such as 1. Personal data, 2. Current and past cigarette and tobacco use. 3. Knowledge of the hazards of smoking and attitude towards tobacco control policies 4. Any smoking cessation interventions provided to patients and 5. Whether or not health professionals received any training in smoking cessation methods. For the sake of simplifying the analysis, the questions under topic 3, were divided into 3 areas: knowledge of tobacco related diseases, 8 questions, agreement with tobacco control policies, 7 questions, and attitude towards the role of physicians in tobacco control, 7 questions. The ranking of responses was based on a likert scale where the respondents were asked to indicate their agreement with the statement on a scale of 1-5, where 1 was strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree. Mean

scores were calculated for smoking and non-smoking physicians. The closer the mean score of all the respondents to one, the stronger their agreement with the proposed statement.

The questionnaire was administered in the English language in Bahrain and Kuwait since English is the language used in the medical fields in both countries. The definitions used to describe the smoking behavior are based on WHO standardized definitions for tobacco use: Respondents were classified as current, ex-smokers and never smokers. A "current smoker" is someone who at the time of the survey smoked any tobacco product either daily or occasionally; an "ex-smoker" is someone who was formerly a daily smoker but currently does not smoke at all; an "occasional smoker" is someone who smokes but not every day, "a non-smoker" is someone who, at the time of the survey, did not smoke at all; a "never-smoker" is one who either never smoked at all, or have never been a daily smoker or have smoked less than 100 cigarettes in his/her lifetime.¹¹

Sampling design. All physicians working in Kuwait have to register with the Kuwait Medical Association (KMA). A list of all physicians who worked in Kuwait at the end of the year 2000 was obtained from KMA. However, this list could not be used as it did not exclude physicians who had died, retired, or left the country. At the time of study, the total number of physicians in Kuwait according to Ministry of Health (MOH) records was 3763 physicians of whom 3179 (84%) were employed by the MOH, and the rest, 584 (16%) were working in the private sector, Kuwait Oil Company or military hospitals. Since the physicians who worked with the MOH represented 84% of all physicians in Kuwait, this population was used for the survey. A list containing name, gender, specialty, and place of work of all the physicians who worked with the MOH at the end 1999 was obtained. The study population (n=3767) consisted of 70% males and 30% females, and the sample was stratified by gender. The sample size required for Kuwait was 1707 (1195 males, 512 females) based on an estimated prevalence of smoking among physicians at 20% and an expected response rate of 70%. Out of the initial 1707 physicians selected by the statistical package for social sciences software (SPSS), 256 could not be reached as they left the country either for good or for training and 700 responded. Consequently, a second sample of 1000 physicians was drawn 145 of whom could not be reached and 359 responded. This resulted in a total number of respondents of 1059 out of 2306, 46.0% response rate. All doctors and dentists listed in the 1998 Doctors and Dentists Directory constituted the study population for the Bahrain survey. The Directory is compiled by the MOH in Bahrain and was the latest available at the time of the study. The

total number of physicians and dentists listed in the Directory was 846 of whom 3 were duplicates, 199 had left the country either for good (non-Bahraini) or for training abroad or were out of the country during the study period. Due to the small population size (644), it was decided to survey all physicians and dentists. The total number of respondents was 524 (470 physicians and 54 dentists) leading to a response rate of 81.4%. To make the data comparable with Kuwait this report included only the results of physicians, and the results of the dentists will be presented elsewhere.

The questionnaire was delivered to the place of work of the physicians. This was possible as both Kuwait and Bahrain are small countries. A coding system was used to identify non-respondents. Each physician was approached 3 times before being considered as a non-respondent. The data was collected from May through to June 2000 in Bahrain and from June 2000 through to March 2001 in Kuwait.

Data entry and statistical analysis. Data entry was carried out at TFI/WHO, Geneva using Microsoft Access. The statistical analysis was carried out using statistical package for social sciences software, version 11. A chi-square test was used to test the differences in any categorical variables. The mean score for each of the questions regarding knowledge and attitude was calculated and the difference in the mean scores between smokers, and never smokers was tested using analysis of variance test.

Results. Smoking behavior. Of the 1059 physicians from Kuwait, 348 (33%) were females compared to 39% of their counterparts from Bahrain. The proportion of national physicians in the survey was 297 (28%) in Kuwait and 762 (72%) in Bahrain. There was no difference in the mean age of physicians in Kuwait 44.6 ± 9.1 years, compared to Bahrain, 44.7 ± 8.6 years. The prevalence of cigarette smoking among male physicians was much higher than their female counterparts in both countries (**Table 1**). There was a trend of higher prevalence of cigarette smoking among male and female physicians in Kuwait compared to Bahrain, but the difference did not reach statistical significance (**Table 1**). The prevalence of current cigarette smoking among male physicians was highest among Kuwaiti nationals 31%, followed by Bahraini nationals 23.8%, non-national physicians in Kuwait 23.4%, and non-national physicians in Bahrain 20.2% (**Table 2**). The prevalence of current cigarette smoking among female physicians was highest for non-national physicians from Kuwait 7.8% followed by non-national physicians from Bahrain 4.8%, Bahraini nationals 0.9%, and Kuwaiti nationals 0.7%.

Table 1 - Prevalence of cigarette smoking among physicians in Kuwait and Bahrain by gender.

Smoking behavior	Kuwait		Bahrain	
	Male n (%)	Female n (%)	Male n (%)	Female n (%)
Daily smokers	106 (15.4)	6 (1.9)	39 (14.6)	3 (1.9)
Occasional smokers	65 (9.4)	9 (2.8)	20 (7.5)	0 (0)
Previous smokers	150 (21.7)	11 (3.4)	59 (22.1)	2 (1.3)
Never smokers	369 (53.5)	298 (92)	149 (55.8)	154 (96.9)

Other tobacco products most commonly used in both countries were shisha, cigar and pipe. The prevalence of shisha smoking among male physicians was higher ($p=0.004$) in Kuwait compared to Bahrain (**Table 3**). Similar to cigarettes, shisha smoking was higher among male physicians (16.8% for Kuwait and 8.5% for Bahrain) compared to female physicians (3.3% for Kuwait and 2.9% for Bahrain). The prevalence of shisha smoking among male physicians was highest among Kuwaiti nationals (23.1%) followed by non-national physicians in Kuwait (15.3%), Bahraini nationals (9.7%) and non-national physicians in Bahrain (6.9%) (**Table 2**).

Knowledge and attitude towards tobacco control.

The data from both countries were combined, as there was no difference in the mean score of all the questions on knowledge and attitude towards tobacco control. The mean score for the knowledge questions ranged from the highest agreement of (1.12 ± 0.5) for the statement "smoking is harmful to your health" to the lowest agreement of (2.24 ± 1.9) for the statement "health professionals who smoke are less likely to advise people to stop smoking. For the questions regarding the physician's attitude towards tobacco control policies, the mean score ranged from 1.19 ± 0.6 for the statement "Tobacco sales should be banned to children and adolescents" to 1.90 ± 1.1 for the statement "The price of tobacco products should be increased sharply". For the questions regarding the health professionals role in tobacco control the mean score ranged from 1.26 ± 0.6 for the statement "health professional should routinely advise smoking patients to avoid smoking around children" to 1.83 ± 0.7 for the statement "health professionals should speak to lay groups regarding smoking". The mean scores to almost all statements were further away from one for smoking physicians compared to non-smoking physicians (**Table 4**), which implies that physicians who smoke are less

Table 2 - Prevalence of cigarette and shisha smoking by nationality in Kuwait and Bahrain.

Smoking behavior	Country			
	Kuwait		Bahrain	
	Nationals n (%)	Non-nationals n (%)	Nationals n (%)	Non-nationals n (%)
Male physicians				
<i>Cigarettes</i>				
Daily or occasionally	40 (31)	131 (23.4)	34 (23.8)	25 (20.2)
Previous smokers	23 (17.8)	127 (22.6)	28 (19.6)	31 (25)
Never	66 (51.2)	303 (54)	81 (56.6)	68 (54.8)
<i>Shisha</i>				
Daily or occasionally	30 (23.1)*	86 (15.3)**	15 (9.7)*	9 (6.9)**
Never	100 (76.9)	475 (84.7)	140 (90.3)	121 (93.1)
Female physicians				
<i>Cigarettes</i>				
Daily or occasionally	1 (0.7)***	14 (7.8)***	1 (0.9)	2 (4.8)
Previous smokers	4 (2.8)	7 (3.9)	2 (1.7)	0 (0)
Never	140 (96.6)	158 (87.8)	114 (97.4)	4 (95.2)
<i>Shisha</i>				
Daily or occasionally	7 (4.7)	4 (2.3)	4 (3.1)	1 (2.2)
Never	143 (95.3)	177 (97.7)	123 (96.9)	45 (97.8)
* $p=0.003$ for the difference in shisha smoking among male national physicians in Kuwait and Bahrain				
** $p=0.01$ for the difference in shisha smoking among male non-national physicians in Kuwait and Bahrain				
*** $p=0.015$ for the difference in cigarette smoking among female physicians between nationals and non-nationals in Kuwait				

Table 3 - Prevalence of smoking of other tobacco products among physicians in Kuwait and Bahrain by gender.

Smoking behavior	Country			
	Kuwait		Bahrain	
	Male n (%)	Female n (%)	Male n (%)	Female n (%)
<i>Shisha</i>				
Daily occasionally	116 (16.8)*	11 (3.3)	24 (8.5)*	5 (2.9)
Never	575 (83.2)	320 (96.7)	261 (91.6)	168 (97.1)
<i>Cigar</i>				
Daily or occasionally	64 (9.1)	8 (2.4)	28 (9.8)	2 (1.2)
Never	636 (90.9)	339 (97.7)	257 (90.2)	171 (98.8)
<i>Pipe</i>				
Daily or occasionally	24 (3.4)	4 (1.2)	15 (5)	1 (0.6)
Never	664 (96.5)	327 (98.8)	270 (94.7)	172 (99.4)
* $p=0.004$ for the difference in shisha smoking among males between Kuwait and Bahrain				

knowledgeable regarding the hazards of smoking, and have less favorable attitude towards tobacco control.

Smoking cessation practice. There were only 128 (12.7%) and 53 (11.6%) physicians who received formal training in smoking cessation

methods in Kuwait and Bahrain. Physicians in Bahrain use counseling, and self help material for smoking cessation more often than their counterparts in Kuwait while traditional remedies are used more often in Kuwait (Table 5).

Discussion. The results of the surveys have shown that Kuwait and Bahrain were similar with respect to the overall prevalence of cigarette smoking in both sexes. There were some differences when nationals and non-nationals were compared. However, the prevalence of shisha smoking among male physicians in Kuwait was twice that of their counterparts in Bahrain, in nationals, non-nationals and all male physicians combined. Previous studies had shown that smoking was more prevalent among male (45.3%) and female (26.6%) physicians in Kuwait than male (16%) and female (6.9%) primary health care physicians in Bahrain.^{12,13} The differences in the prevalence of daily cigarette smoking among male and female physicians in Kuwait in the current study compared with that of the earlier one could be partly explained by several factors. The 2 studies were carried out more than 10-years apart, and the earlier study was carried out prior to the Gulf War where the composition of non-nationals was different than that of post war.

Table 4 - Mean scores of never and current smokers among physicians for Kuwait and Bahrain combined with respect to knowledge and attitudes towards tobacco control.

1=Agree strongly, 2=Agree, 3=Unsure, 4=Disagree, 5=Disagree strongly	Mean score	
	Never smokers	Current smokers
Knowledge about tobacco related diseases		
Smoking is harmful for your health***	1.1	1.3
Patient's chances of quitting are increased if a health professional advises him or her to quit**	1.9	2.1
Health professionals who smoke are less likely to advise people to stop smoking***	2.0	3.1
Neonatal death is associated with passive smoking	2.1	2.2
Maternal smoking during pregnancy increases the risk of Sudden Infant Death Syndrome	1.8	1.9
Passive smoking increases the risk of lung disease in non-smoking adults**	1.6	1.8
Passive smoking increases the risk of heart disease in non-smoking adults	1.9	2.0
Paternal smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children**	1.7	1.9
Attitude towards tobacco control policies		
Smoking in enclosed public places should be prohibited***	1.2	1.4
Health warnings on cigarette packages should be in big print***	1.3	1.7
Tobacco sales should be banned to children and adolescents*	1.2	1.3
Sport sponsorships by tobacco industry should be banned***	1.4	1.6
There should be a complete ban on the advertising of tobacco products***	1.4	1.7
Hospitals and health care centres should be smoke-free***	1.2	1.5
The price of tobacco products should be increased sharply***	1.7	2.5
Health professionals role in tobacco control		
Health professionals should serve as role models for their patients and the public***	1.4	1.8
Health professionals should set a good example by not smoking***	1.3	1.7
Health professionals should routinely ask about their patients smoking habits	1.5	1.6
Health professionals should routinely advise their smoking patients to quit smoking	1.5	1.6
Health professionals should get specific training on cessation techniques**	1.7	2.0
Health professionals should speak to lay groups about smoking***	1.8	2.1
Health professionals should routinely advise patients who smoke to avoid smoking around children**	1.2	1.4
*p<0.05, **p<0.01***, p<0.001		

Table 5 - Methods of intervention used by physicians in Kuwait and Bahrain in smoking cessation.

Method used	Kuwait n (%)	Bahrain n (%)	p
Counseling	693 (68.4)	350 (78.5)	<0.001
Self help materials	296 (29.2)	166 (37.3)	0.008
Medications like nicotine replacement or others	293 (28.9)	143 (32.1)	NS
Traditional remedies like acupuncture or herbal medicine	142 (14)	32 (7.2)	<0.001
No intervention at all	52 (15)	42 (9.5)	0.004

Prior to the Gulf War most of the non-national physicians were from other Arab countries where the smoking prevalence is high while a large proportion of the non-national physicians in the current study are from India and European countries where the smoking prevalence is low. The earlier study was carried out on a much smaller sample of 300 physicians; however the response rate in the earlier study was much higher (84%) compared to the present one (46%). This may indicate that there was underreporting in the current survey due to low response rate and the fact that a higher percentage of nonsmokers would most likely accept to participate in such a survey than smokers. The higher prevalence of shisha smoking among Kuwaiti, non Kuwaiti and all male physicians in Kuwait compared to Bahrain could partly be explained by the possibility that Kuwaiti men socialize more than the Bahraini and smoke the shisha in their social gatherings. The lower prevalence of cigar and pipe smoking in comparison to other types is not surprising as previous studies on physicians, and the

general population have shown that they were less popular than cigarettes and shisha.^{13,14} Cigarette smoking among Kuwaiti male physicians (31%) and Kuwaiti female physicians (0.7%) are lower than that of adult males (34.4%) and females (1.9%) in the general population.¹⁵ In contrast, the prevalence of cigarette smoking among Bahraini (24%) male physicians is higher to that of the general population (20.3%) but that of female physicians (0.7%) is similar to that of adult Bahraini females (0.6%).¹⁶ It is noteworthy that both Bahrain and Kuwait have passed Amiri decrees in 1994 and 1995, with regard to an anti smoking law. Medical establishments are among the places where smoking is prohibited in both countries. The 2 countries have comprehensive tobacco control policies and have adopted a series of resolutions with other Gulf Cooperation Council Countries.¹⁷ The similarity between physicians in Bahrain and Kuwait in their knowledge regarding tobacco related diseases, and attitude towards tobacco control policies and the differences between the physicians by smoking behavior indicates that the latter is a major determinant in tobacco control. In questions, which were related to knowledge, smokers and never smokers were in highest agreement with the statement "smoking is harmful to your health and in lowest agreement with the statement "Health professionals who smoke are less likely to advise people to stop smoking". It might be that smokers had less knowledge regarding their behavior in smoking cessation or refused to admit this fact. The "never smokers'" knowledge of the health effects of tobacco smoking was better than that of "smokers " in all the questions that addressed this issue. When asked regarding their approval of proposed tobacco control policies both smokers and never smokers had the least agreement with a rise in the price of tobacco, but the highest agreement with banning tobacco sales to children and adolescents and smoke free health care centres. The attitude of never smokers towards tobacco control policies was significantly better than that of smokers for all the statement related to tobacco control policies. In the section regarding health professional (HP) specific roles in tobacco control the statements "HP should get specific training on smoking cessation technique" and "HP should speak to lay groups regarding smoking" had the least agreement among both never smokers and smokers with smokers being less supportive of the statements. This indicates that both groups do not foresee their role as anti smoking advocates beyond their professional duties and are of the opinion that a structured smoking cessation program is not part of their medical duties. However, both groups were similar in their opinion towards the role of health professionals in routinely asking patients regarding their smoking behavior and advising smokers among them to quit. Although, smokers and never

smokers perceived health professionals as role models and they should set a good example for others, less of the smokers were in agreement to these statements than never smokers. This implies that the physicians in Bahrain and Kuwait recognize their exemplary role as health professionals and the importance of collecting the smoking history from their patients and advising them to quit. The lack of formal training in pharmacotherapy of smoking cessation in both countries may explain the low percentage of physicians who use medications.

In conclusion, our study shows that the prevalence of smoking is high among male physicians in both Kuwait and Bahrain. The smoking behavior of physicians affect their knowledge, or "readiness to admit" of smoking related diseases as well as their attitude towards tobacco control policies. We feel that physicians should ascertain and record smoking status of their patients on a routine basis; seek innovative ways to motivate and encourage smokers to quit and stay smoke-free; deliver brief smoking cessation advise at every opportunity; and advocate for the inclusion of training of smoking cessation methods in medical school curricula as well as in the continuous education programs in Bahrain and Kuwait. Finally, physicians and health care providers in association with their national medical and health professional associations must play a leading role in advocating for the implementation of a comprehensive tobacco control policy.

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