

# global health professions student survey

## Country reports

The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC), Atlanta, developed the Global Health Professions Student Survey to track tobacco use among health professions students across countries using a common methodology and core questionnaire. Information from the Survey is compiled within the participating country by a Research Coordinator nominated by the Ministry of Health, and technically reviewed by WHO and CDC. The content has not otherwise been edited by WHO or CDC.

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**World Health  
Organization**

Regional Office for the Eastern Mediterranean



**CENTERS FOR DISEASE  
CONTROL AND PREVENTION**

**Tobacco Use, Exposure to Secondhand Smoke,  
and Cessation Counseling Among Health  
Professions Students: Kingdom of Bahrain,  
Global Health Professions Student Survey  
(GHPSS), 2009**

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## **1. Introduction:**

Tobacco use is one of the biggest public health threats the world has ever faced. There are more than one billion smokers in the world. Globally, use of tobacco products is increasing, although it is decreasing in high-income countries. The epidemic is shifting to the developing world. More than 80% of the world's smokers live in low- and middle-income countries. Tobacco use kills 5.4 million people a year - an average of one person every six seconds - and accounts for one in 10 adult deaths worldwide. Tobacco kills up to half of all users. If current trends continue, there will be up to one billion deaths in the 21st century. Unchecked, tobacco-related deaths will increase to more than eight million a year by 2030, and 80% of those deaths will occur in the developing world (1).

Tobacco is a risk factor for six of the eight leading causes of deaths in the world (2). The vast majority of tobacco users and smokers are hooked when they are children. Approximately 80% of adult smokers started smoking before the age of 18. Every day, nearly 3,000 young people under the age of 18 become regular smokers. Almost half of the world's children breathe air polluted by tobacco smoke (1).

From the country profile of the EMRO region, it was clearly noted that there is a high prevalence of tobacco consumption among adult (approximate  $38 \pm 13$  %) and young ( $19 \pm 12$  %) males in the responding states, and these figures are 3.5 – 5.5 times higher than corresponding prevalence rates among females, respectively. Almost half of the countries in the EMRO region have national tobacco control

programs and most of them (55 – 85 %) have legislations, which ban smoking in health facilities, educational facilities, public transportation, and in the media (3).

Among the HMC/GCC Member States, adult males are significantly more likely than adult females to smoke. Male rates are highest in Yemen (77%) and lowest in United Arab Emirates and Oman (18.3% and 15.5%, respectively), whereas female rates are highest in Yemen (29 %) and below 2% in the other countries, except Bahrain (5.7%) (1).

### **Tobacco in the Kingdom of Bahrain:**

Bahrain does not grow tobacco or manufacture cigarettes, thus all cigarettes available in the market are imported, almost exclusively from Europe and North America. There are four main types of tobacco available in Bahrain (cigarette, water pipe, cigar and pipe). Smokeless tobacco was introduced to Bahrain and started to spread through schools but the ministry of health started to investigate this issue and how it was spread and it was stopped by them.

In the Kingdom of Bahrain, despite decades of health promotion and tobacco control legislation, tobacco use is still prevalent among adults and teenagers. Data show that around three-quarters of ever-smokers, including current smokers and ex-smokers, reported that they started to smoke regularly between the ages of 15 and 18 years (4).

The latest East Mediterranean non-Communicable survey done in 2007 with the cooperation with WHO, showed that the prevalence of using any type of tobacco was 19.9% ( M:33.4%-F:7.0%), while that of smoking cigarettes or cigars was

14.7% (M: 28.7-F: 1.3), and for the sheesha was 8.4% (M: 10.8%-F: 6.1%) (Unpublished).

In a previous pilot study conducted in 2004 in one medical school (unpublished), the results showed that 23.8% of Bahraini male physicians were cigarette smokers, while only 0.9% of Bahraini female physicians were smokers.

The recent trend towards water pipe smoking is also a source of concern. The prevalence of water pipe smoking was 9.7% among Bahraini male physicians and 3.1% among Bahraini female physicians (5).

The majority of smokers believe that water pipe smoking is not damaging to health and many cigarette smokers switch to the water pipe while they attempt to quit (6-7).

### **Tobacco control strategy in Bahrain**

The history of tobacco control in Bahrain dates back to 1978, when a number of control measures were implemented for the first time, including raising custom duties on cigarettes to 70%, regulating the permissible level of tar and nicotine per cigarette and restricting cigarette advertising. The following year (1979) a nongovernmental organization (NGO), the Bahrain Anti-smoking Society, was formed. The society works in collaboration with the Bahrain government to advocate for tobacco control through prevention activities and lobbying for law review and law enforcement.

In 1994 a tobacco control decree was issued by the Emir of Bahrain to reinforce the antismoking measures. The law also called for the formation of a committee

to include members representing different parties involved in the tobacco control plan. The National Tobacco Control Committee was established in 1995. The committee was headed by the Minister of Health and members of various ministries involved in tobacco control plus NGO representatives.

Bahrain has ratified the FCTC (Framework Convention of Tobacco Control) and became a party in March 2007, and a new law by a loyal decree has recently approved and started in action in 2009 replacing the amiri decree of 1994, and it is broader and stricter than the previous one. A lot of activities are going on in the kingdom to fulfil the articles of both the FCTC and the national law where they strengthen each other; also there are curtains legislations by ministerial orders to control the sheesha and the sheesha café's. This is in accordance with the educational activities all through the country including special school programs. Also the kingdom with all the GCC members is working together through both the ministry of health and ministry of education to modify and improve the school curriculum.

## **2. Methods**

### **2.1 Design**

The GHPSS is part of the Global Tobacco Surveillance System, which collects data through four surveys: the Global Youth Tobacco Survey, the Global School Personnel Survey, the Global Adult Tobacco Survey, and the GHPSS. The GHPSS is a school-based survey of 3rd year students pursuing advanced degrees in dentistry, medicine, pharmacy, and nursing. The GHPSS uses a core questionnaire on demographics, prevalence of cigarette smoking and use of other tobacco products, exposure to secondhand smoke (SHS), desire to quit smoking, and training received to provide patient counseling on cessation techniques. The GHPSS has a standardized methodology for selecting participating schools and uniform data processing procedures.

#### **Sample description:**

In the Kingdom of Bahrain, there are two medical schools and two nursing schools contain 3<sup>rd</sup> year students, all of them were included in the survey. All medical and nursing schools containing 3<sup>rd</sup> year students were included in the sampling frame. A census was done of all medical and nursing schools. All students within all schools were surveyed.

The Bahrain GHPSS was conducted in the nursing schools during regular lectures and class sessions, while for the medical schools, student were in the hospital field, so different approach was used to collect the data, in one of the medical schools, data was collected through their meeting with their research supervisors, and for the second school student were found through their reporting to the receptionist for their clinical rotations.

**Questionnaire:**

Anonymous, self-administered data collection procedures were used. The final GHPSS questionnaire used was the one used by EMRO region which has two languages (Arabic and English) it was translated into Arabic and back-translated into English to check for accuracy.

**Analysis:**

Epi – Info 2000, a software package for statistical analysis of complex survey data, was used to calculate weighted prevalence estimates and standard errors (SE) of the estimates (95% confidence intervals (CI) were calculated from the SEs). A fpc (finite population correction factor) was applied to data given the large sampling fraction and the confidence intervals are reflection of adjustment.

**Overall response rate:****Medical schools:**

**Schools -** 100.0% 2 of the 2 sampled schools participated

**Students-** 67.2% 119 of the 177 sampled students completed usable questionnaires

**Overall response rate -**  $100.0\% * 67.2\% = 67.2\%$

**Nursing schools:**

**Schools -** 100.0% 2 of the 2 sampled schools participated

**Students-** 81.3% 218 of the 268 sampled students completed usable questionnaires

**Overall response rate -**  $100.0\% * 81.3\% = 81.3\%$



No sampling variables are needed when analyzing the 2009 Bahrain Medical and Nursing GHPSS data, because all 3<sup>rd</sup> year Medical and Nursing students within Bahrain were surveyed.

**Use of the weighted results:**

The results can be used to make important inferences concerning tobacco use risk behaviors of 3<sup>rd</sup> year Medical and Nursing students in Bahrain.

**Table 1.** Overall Response Rates of Colleges and Third-Year Medical and Nursing Students

**Bahrain GHPSS, 2009**

	<b>Medical</b>	<b>Nursing</b>
Schools (%)	100.0	100.0
Schools (n)	2	2
Students (%)	67.2	81.3
Students (n)	119	208

This report includes information on current cigarette smoking, current use of tobacco products other than cigarettes, exposure to SHS at home and in public places, and the extent to which schools have official policies banning smoking in school buildings and clinics, and if the policies are enforced. In addition, attitude questions were asked regarding: health professionals as role models for their patients, whether health professionals think they should get training in patient cessation techniques, and if they have ever received formal training on such cessation counseling techniques.

### **3. Results**

#### **3.1 Student Characteristics**

The percentage of Medical students who were females was 70.5% and 98.4% were less than age 25, while 88.2% of Nursing students were females and 58.2% were less than age 25.

#### **3.2 Tobacco Use**

Among Medical students, 10.9% currently smoked cigarettes (Table 2). The prevalence for current cigarette smoking among Nursing students is 9.4%.

Among Medical students, 16.3% currently used tobacco products other than cigarettes (Table 2). The current prevalence for other tobacco use among Nursing students is 10.8%.

For both health professions, male uses significantly more tobacco (cigarettes & other tobacco) compared to females.

**Table 2.** Lifetime and Current Prevalence of Tobacco Use among Third-Year Medical and Nursing Students

	All Respondents			Current Use	
	Ever smoked cigarettes	Ever smokers who initiated daily cigarette smoking before age 16 years	Ever used chewing tobacco, snuff, cigars, or pipes	Cigarettes	Chewing tobacco, snuff, cigars, or pipes
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
<b>Medical Students</b>					
Total	<b>32.1</b> (27.4 - 37.2)	<b>37.2</b> (28.1 - 47.3)	<b>36.2</b> (31.3 - 41.3)	<b>10.9</b> (8.0 - 14.5)	<b>16.3</b> (12.9 - 20.5)
Women	<b>23.5</b> (18.5 - 29.3)	<b>42.7</b> (28.7 - 57.9)	<b>30.9</b> (25.5 - 37.0)	<b>6.1</b> (3.7 - 9.9)	<b>9.4</b> (6.4 - 13.7)
Men	<b>51.8</b> (42.4 - 61.2)	<b>32.8</b> (21.6 - 46.3)	<b>48.6</b> (39.3 - 58.0)	<b>21.6</b> (14.9 - 30.4)	<b>32.9</b> (24.7 - 42.3)
<b>Nursing Students</b>					
Total	<b>37.0</b> (33.8 - 40.3)	<b>56.1</b> (50.1 - 61.9)	<b>32.5</b> (29.5 - 35.6)	<b>9.4</b> (7.6 - 11.5)	<b>10.8</b> (8.9 - 13.0)
Women	<b>32.7</b> (29.4 - 36.1)	<b>52.6</b> (45.7 - 59.3)	<b>28.1</b> (25.0 - 31.3)	<b>4.1</b> (2.9 - 5.8)	<b>6.4</b> (4.8 - 8.4)
Men	<b>63.9</b> (54.0 - 72.7)	<b>62.4</b> (49.2 - 73.9)	<b>68.4</b> (58.6 - 76.8)	<b>45.8</b> (36.4 - 55.6)	<b>37.0</b> (28.4 - 46.6)

### 3.3 Exposure to Secondhand Smoke (SHS)

Among medical students, 27.9% reported that they had been exposed to SHS in their home in the past 7 days. Similarly, 33.9% of Nursing students reported SHS exposure at home (Table 3).

Among Medical students, 50.4% reported that they had been exposed to SHS in public places in the past 7 days. Similarly, 46.6% of Nursing students reported SHS exposure in public places.

The proportion of Medical students reporting their schools have an official policy banning smoking in school buildings and clinics was 58.7%, and 39.4% of Nursing students (Table 3). From the students who reported that they have official policy, the proportion who reported that such policies are enforced was around 88% among both the Medical and Nursing students.

Among Medical students who had ever smoked, 35.0% smoked on college premises/property, and 7.2% smoked in college buildings during the past year.

For the nursing students, from those who had ever smoked, 19.9% smoked on college premises/property, and 3.3% smoked in college buildings during the past year.

**Table 3.** Policy and Exposure to Secondhand Smoke among Third-Year Medical and Nursing Students

	Ever Cigarette Smokers		All Respondents			
	Smoked on college premises/property during the past year	Smoked in college buildings during the past year	Colleges with an official policy banning smoking in college buildings and clinics	Colleges that had an official policy banning smoking in school buildings and clinics that enforced the ban	Exposure to smoke at home during the past week	Exposure to smoke in public places during the past week
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
<b>Medical Students</b>	<b>35.0</b> (25.1 - 46.4)	<b>7.2</b> (3.2 - 15.1)	<b>58.7</b> (53.4 - 63.8)	<b>88.1</b> (82.8 - 91.9)	<b>27.9</b> (23.5 - 32.8)	<b>50.4</b> (45.2 - 55.6)
<b>Nursing Students</b>	<b>19.9</b> (14.2 - 27.0)	<b>3.3</b> (1.3 - 8.2)	<b>39.4</b> (36.2 - 42.7)	<b>88.0</b> (84.1 - 91.1)	<b>33.9</b> (30.9 - 37.0)	<b>46.6</b> (43.4 - 49.9)

More than 90% of both medical and nursing student thought that smoking should be banned in all enclosed public places and more than 85% of all students (Medical & Nursing) thought that sales to adolescents should be banned. (Table 4)

**Table 4.** Attitude towards banning of tobacco in enclosed public places and sales to minors

	Should smoking any tobacco product (cigarettes, sheesha, or other tobacco products) in all enclosed public places be banned	Should tobacco (cigarettes, sheesha, or other tobacco products) sales to adolescents (persons younger than 18 years old) be banned
	% (CI)	% (CI)
<b>Medical Students</b>	<b>93.6</b> (90.6-95.7)	<b>89.8</b> (86.2-92.6)
<b>Nursing Students</b>	<b>96.5</b> (95.0- 97.5)	<b>88.6</b> ( 86.4- 90.6)

### 3.4 Health Professional Roles and Training

Over 91.5 % of the Medical students and 93.5% of the Nursing students thought health professionals have a role in giving advice about smoking cessation to patients (Table 5). Over 92% of the Medical students and 93.0% of the Nursing students thought health professionals should get specific training on cessation techniques. The percentage of health professions students reporting that they had ever received some kind of formal training in their professional school on cessation approaches to use with their patients ranged from 37.4 % among Medical students to 52.5% among Nursing students.

**Table 5.** Cessation, Education and Perception of Responsibility to Counsel Patients among Ever Smokers, Third-Year Medical and Nursing Students

	Current Users of Other Tobacco Products who want to quit using other tobacco products now	Have you ever received help or advice to help you stop using cigarettes	Percentage Answering "Yes"		Do health professionals have a role in giving advice or information about tobacco use cessation to patients	Learned cessation approaches to use with patients
			Do health professionals serve as role models for their patients and the public?	Should health professionals get specific training on cessation techniques?		
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
<b>Medical Students</b>	<b>44.2</b> (28.4 –61.2)	<b>48.7</b> (33.0-64.7)	<b>82.4</b> (78.1 - 86.0)	<b>92.6</b> (89.4 - 94.9)	<b>91.5</b> (88.0-94.0)	<b>37.4</b> (32.5 - 42.6)
<b>Nursing Students</b>	*	<b>50.0</b> (36.8- 63.2)	<b>86.3</b> (83.8 - 88.4)	<b>93.0</b> (91.1 - 94.5)	<b>93.5</b> (91.6-94.9)	<b>52.5</b> (49.3 - 55.8)

\*cell size is less than 10

From Table 5 we can see that around half of the current other tobacco users in the Medical schools want to quit using tobacco, in the other hand, only half of the current smokers ever received help or advice to stop smoking cigarettes.

#### **4. Discussion**

Findings from the Bahrain GHPSS show that students from both disciplines had a high prevalence of current cigarette smoking and a current tobacco use. The prevalence of current cigarette smoking and other tobacco use was lower among female students (6.1% for medical students and 4.1% for nursing student). But comparatively, it is higher than the prevalence found in the pilot study done in 2004 (0.9% for females). Also, for the other tobacco use, the prevalence in this study (16.3% for medical students and 10.8% for nursing student) is higher than what was there in previous study (9.7% for males and 3.1% for females). Tobacco use endangers the health of health professions students and negatively influences the future health professions workforce to deliver effective anti-tobacco counseling when they start seeing patients (8).

The tobacco control programs should target tobacco users among health professions students to overcome this situation. Educational institutions training health professions students should help their students quit using tobacco by providing encouragement and information to students who are considering quitting and providing assistance to students who are motivated to quit. Especially that result from the survey has shown that almost half of those who use other types of tobacco want to quit using them.

The proportion of Medical students reporting their schools have an official policy banning smoking in school buildings and clinics was 58.7%, and 39.4% of Nursing students. Around half of health professions students in Bahrain reported they were exposed to SHS in public places; this should alarm the higher authority for considering better enforcement of the articles of the national law which prohibits smoking in public places and to start issuing tickets for those who break the law.

More than 40% of the students reported their schools have an official policy banning smoking in school buildings and clinics; this should make the authority in the educational institutes advocate for their policies in better way so it can reach all the students and the other employees within their institute. Enforcement of the school policies is considered moderate. Educational institutions training health professions students should be encouraged to provide smoke free work and study areas by banning smoking in their buildings and clinics. A smoke free work environment has been shown to improve air quality, reduce health problems associated with exposure to tobacco smoke, support and encourage cessation attempts among smokers trying to quit, and receive high levels of public support from people who spend time in the area (9). Furthermore, the creation of smoke free areas by health education institutions sends a clear message to educators, students, patients, and clinicians about negative impact of tobacco (10).

Health professions students have been found to play an important role in cessation and prevention of tobacco use among their patients. Counseling by health professions students has been shown to increase smoking cessation (11, 12). Therefore, health professions students should be trained to provide effective, accurate, and accessible advice to patients on all aspects of health. The Bahrain GHPSS data show that a high percentage of the health professional students has a positive attitudes which should be encouraged, as over 80% of both medical and nursing students think that health professionals serve as role models for their patients and the public, and over 90% of both medical and nursing students think they should receive training on counseling and treating patients to quit using tobacco. However, only 37.4% of Medical students, and 52.5% of Nursing students have received formal training.



The Bahrain GHPSS surveyed 3rd year students, so it is possible that students receive training on patient cessation techniques during the latter years of their programs, or the programs they receive either they are not sufficient or not stressed on and considered as a priority. To address these possibilities, the GHPSS research coordinators should raised this question to the school administrators. Professional training for health professions students should include courses detailing the harmful health effects of tobacco use and exposure to secondhand smoke, and training in counseling on tobacco cessation techniques (11, 12, 13, and 14).

Curricula should include a course or supplements to existing courses specifically relevant to tobacco issues.

Peer-reviewed studies in international settings about educational materials and techniques to improve the capacity of health professions students to treat and counsel patients on cessation are necessary to focus limited resources on effective and efficient strategies to reduce the prevalence of tobacco use. Efforts should be made to assess and share the content of tobacco control components within the formal training curricula and continuing education courses for health professions students. Further research should be carried out to assess the impact of existing tobacco control-related materials and training provided in health professions schools in a variety of cultural and economic environments. The products from such research could form a compendium of “best practices” of patient counseling for training health professions students relevant to countries with a broad spectrum of health resources and infrastructures.

## **5. Conclusions**

Educational institutions, public health organizations, and education officials should discourage tobacco use among health professions students and work together to design and implement programs that train health professions students in effective cessation-counseling techniques. Also these institutions should work together with the community institutions to enforce the law about ensuring smoke free areas. The Bahrain GHPSS has shown significant unmet need for cessation assistance among health professions students as well as gaps in professional training to provide similar effective assistance to their future patients. The Bahrain GHPSS is helpful in evaluating the behavior and attitudes regarding tobacco among health professions students, but additional research is necessary to improve the evidence base for effective tobacco-related curricula, especially materials that are appropriate for a range of cultural and economic settings. If the goal of the tobacco control programs is to reduce substantially the use of tobacco products, then resources should be invested in improving the quality of education of health professions students with respect to tobacco control.

## References

- 1- <http://www.who.int/topics/tobacco/facts/en/index.html>
- 2- Doll R et al. Mortality in relation to smoking: 40 years' observations on male British doctors. *British medical journal*, 1994, 309:901–11.
- 3- <http://www.emro.who.int/tfi/CountryProfile-BAA.htm>
- 4- Global Youth Tobacco Survey Collaborative Group. Tobacco use among youth: a cross country comparison. *Tobacco control*, 2002, 11:252–70.
- 5- Behbehani NN, Hamadeh RR, Macklai NS. Knowledge of and attitudes towards tobacco control among smoking and non-smoking physicians in 2 gulf Arab states. *Saudi medical journal*, 2004, 25(5):585–91.
- 6- Khonji T. Shisha smoking ban on the cards in Bahrain. *Hookahshisha.com* [website] ([http://www.hookahshisha.com/shisha\\_health.htm](http://www.hookahshisha.com/shisha_health.htm), accessed 28 December 2007).
- 7- Survey on Shisha use in Muscat, Oman. Muscat, Oman, Directorate of Studies and Research, Ministry of Health, 1999.
- 8- Lenz BK., Beliefs, knowledge, and self-efficacy of nursing students regarding tobacco cessation, *Am J Prev Med*. 2008; 35(6 Suppl):S494-500.
- 9- Donner A and Klar N. Design and analysis of cluster randomization trials in health research. New York, NY: Qxford University Press Inc.; 2000.

- 10- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health (1996). Making your Workplace Smoke-Free: A Decision Maker's Guide. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health.
- 11- Rice VH, Stead LF Nursing interventions for smoking cessation. Cochrane Database Syst Rev. 2008 Jan 23;(1):CD001188.
- 12- Chan SS, Sarna L, Danao LL. Are nurses prepared to curb the tobacco epidemic in China? A questionnaire survey of schools of nursing. Int J Nurs Stud. 2008; 45(5):706-13.
- 13- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. Implementing a Tobacco-Free Campus Initiative in Your Workplace. Available at <http://www.cdc.gov/nccdphp/dnpa/hwi/toolkits/tobacco/index.htm>
- 14- Fiore MC, Jaén CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008.