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
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GLOBAL Health Professional Student SURVEY (GHPSS)

Report of Yemen 2009

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1. Introduction

Tobacco use is one of the major preventable causes of premature death and disease in the world [1]. A disproportionate share of the global tobacco burden falls on developing countries, where 84% of 1.3 billion current smokers reside [1]. The World Health Organization (WHO) attributes approximately 5 million deaths a year to tobacco. The number is expected to exceed 8 million deaths by 2030, with approximately 70% of these deaths occurring in developing countries [2].

In Yemen**,** according to the family health survey in 2003, prevalence of current smokers among adults (15 years and above) is 23.7% (34.5% male and 12.8% female) [12].

The Global Youth Tobacco Survey (GYTS) concerning 13-15 years old at 7^{th} to 9^{th} schools grade on 2003 at 3 governorates (Sana'a, Aden and Hadramout) showed that the percentage of students who ever smoked was 17%, current smokers was 6% and who currently use some other form of tobacco was 16% [13].

The second round of GYTS was held on 2008 at 13 governorates showed that the percentage of students who ever smoked was 14%, current smokers was 3.9%, who currently use some other form of tobacco was 12.4% and 24.1% of never smokers are likely to initiative smohing next year[14].

A KAP study on substances abuse done on 2003 among students at Sana’a University showed the prevalence of tobacco use is 26.9 % in males and 7.7% in females[15].

Health professions students have been found to play an important role in cessation and prevention of tobacco use among their patients [3-6]. Counseling by health professions students has been shown to increase smoking cessation [3].

Despite the involvement of health professions students, as the largest group of healthcare professionals in tobacco control, only a few studies have collected information on tobacco use, exposure to secondhand smoke, and training to provide cessation counseling among health professions students. These studies used different sampling methods, questionnaires, and data collection procedures, and very few are from low or middle-income countries [7-10].

The WHO, U.S. Centers for Disease Control and Prevention, and the Canadian Public Health Association have attempted to overcome these limitations by developing and implementing the Global Health Professions Student Survey (GHPSS) [11]. The GHPSS includes surveys of dental, medical, nursing, and pharmacy students.

In the Eastern Mediterranean Region (EMRO), only 15 countries out of 22 have done this GHPSS uptill now.

The data discussed in this report come from the GHPSS conducted among 3rd year medical, dental, nursing and pharmacy students in Yemen.

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 [11].

The dental, medical, nursing and pharmacy GHPSS in Yemen included a census of students and a census of schools. The Yemen GHPSS was conducted in schools during regular lectures and class sessions. Anonymous, self-administered data collection procedures were used.

The final questionnaire was translated into Arabic and back-translated into English to check for accuracy. SUDAAN, 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) [16].

The school response rates for the Yemen GHPSS were 100% for dental, 100% for medical, 100% for nursing, and 100% for pharmacy (Table 1). The student response rates for the Yemen GHPSS, were 84.0% for dental, 73.4% for medical, 87.1% for nursing, and 67.6% for pharmacy.

Table 1. Overall Response Rates of Colleges and Third-Year Dental, Medical, Nursing and Pharmacy Students

Yemen GHPSS, 2009

	Dental	**Medical**	**Nursing**	**Pharmacy**
Schools (%)	100.0	100.0	100.0	100.0
Schools (n)	6	6	5	4
Students (%)	84.0	73.4	87.1	67.6
Students (n)	389	549	226	196

2.2 Measurement

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 dental students who were females was 64.3% and 91.0% were less than age 25, while 55.4% of medical students were females and 94.7% were less than age 25. The percentage of nursing students who were females was 42.6% and 94% were less than age 25, but 52.1% of pharmacy students were females and 91.6% were less than age 25.

3.2 Tobacco Use

Among nursing students, 16.4%currently smoked cigarettes (Table 2). The prevalence for current cigarette smoking among dental students is 14.4%, 14.3% for pharmacy, and 10.9% for medical students.

Among nursing students, 15.8% currently used tobacco products other than cigarettes (Table 2). The prevalence for other tobacco use among dental students is 15.0%, 13.4% for medical, and 11.0% for pharmacy students.

Among dental students, 13.5% currently smoked shisha (Table 2). The prevalence for current shisha smoking among nursing students is 12.9%, 11.5% for medical, and 9.1% for pharmacy students.

The prevalence for ever and current tobacco use among male is significantly higher than females students (Table 2), but no difference between males and females regarding age of initiation.

Table 2. Lifetime and Current Prevalence of Tobacco Use among Third- Year dental, medical, nursing and pharmacy Students

Yemen GHPSS, 2009

	All Respondents		**Current Use**		
	Ever smoked cigarettes	Ever used chewing tobacco, snuff, cigars, or pipes	Cigarettes	Chewing tobacco, snuff, cigars, or pipes	Shisha
	ESMOKER **% (CI)**	**EOTOB** **% (CI)**	**CSMOKER** **% (CI)**	**COTOB** **% (CI)**	**CSHISHA** **% (CI)**
Dental Students					
Total	46.0 (43.6 - 48.3)	42.1 (39.9 - 44.4)	14.4 (12.9 - 16.1)	15.0 (13.5 - 16.7)	13.5 (12.0 – 15.1)
Women	32.6 (29.9 - 35.4)	35.1 (32.3 - 38.0)	2.5 (1.8 - 3.5)	9.0 (7.5 - 10.9)	7.5 (6.1 – 9.2)
Men	66.7 (62.8 - 70.4)	55.0 (50.9 - 58.9)	34.8 (31.1 - 38.7)	25.4 (22.2 - 29.0)	23.8 (20.7 – 27.3)
Medical Students					
Total	45.0 (42.5 - 47.4)	35.5 (33.3 - 37.9)	10.9 (9.5 - 12.5)	13.4 (11.8 - 15.1)	11.5 (10.1 – 13.2)
Women	33.7 (30.7 - 36.9)	27.4 (24.6 - 30.4)	3.9 (2.8 - 5.3)	7.2 (5.7 - 9.0)	5.8 (4.5 – 7.5)
Men	59.1 (55.5 - 62.7)	45.9 (42.3 - 49.5)	19.5 (16.8 - 22.6)	20.4 (17.6 - 23.6)	18.4 (15.7 – 21.4)
Nursing Students					
Total	53.7 (50.8 - 56.6)	44.0 (41.1 - 46.9)	16.4 (14.3 - 18.8)	15.8 (13.7 - 18.2)	12.9 (11.0 – 15.1)
Women	27.9 (24.3 - 31.9)	29.0 (25.3 - 32.9)	3.7 (2.4 - 5.7)	4.7 (3.2 - 6.8)	2.8 (1.7 – 4.5)
Men	73.2 (69.6 - 76.5)	54.9 (50.9 - 58.9)	26.3 (22.9 - 30.0)	24.2 (20.9 - 27.8)	20.4 (17.3 – 23.9)
Pharmacy Students					
Total	53.8 (49.2 - 58.3)	39.5 (35.2 - 44.1)	14.3 (11.4 - 17.9)	11.0 (8.6 - 14.0)	9.1 (6.9 – 11.9)
Women	39.8 (33.5 - 46.4)	23.5 (18.6 - 29.4)	4.1 (2.2 - 7.5)	6.5 (4.1 - 10.2)	5.5 (3.3 – 8.9)
Men	65.8 (59.3 - 71.7)	57.7 (51.1 - 64.1)	25.0 (19.6 - 31.2)	16.6 (12.3 - 21.9)	13.6 (9.8 – 18.6)

3.3 Exposure to Secondhand Smoke (SHS)

Among dental students, 48.4% reported that they had been exposed to SHS in their home in the past 7 days. Similarly, 43.3% of medical students reported SHS exposure at home, 58.6% among nursing students, and 53.2% among pharmacy students (Table 3).

Among dental students, 72.4% reported that they had been exposed to SHS in public places in the past 7 days. Similarly, 74.0% of medical students reported SHS exposure in public places, 77.5% among nursing students, and 70.1% among pharmacy students.

The proportion of dental students reporting their schools have an official policy banning smoking in school buildings and clinics was 21.9%, 24.5% of medical students, 13.4% of nursing students, and 14.3% of pharmacy students (Table 3). The proportion of students reporting that such policies are enforced ranged from 14.8% among the nursing students to 60.6% among the dental students.

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

Yemen GHPSS, 2009

	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
	CORE4 **% (CI)**	**CORE5** **% (CI)**	**SCH_POLICY** **% (CI)**	**SCHPOLICYENFORCE** **% (CI)**	**ETS_HOME** **% (CI)**	**ETS_OTHERPLACES** **% (CI)**
Dental Students	33.6 (28.9 - 38.5)	30.3 (25.9 - 35.1)	21.9 (20.0 - 23.8)	60.6 (55.5 - 65.5)	48.4 (46.1 - 50.7)	72.4 (70.3 - 74.4)
Medical Students	25.4 (21.0 - 30.3)	19.0 (15.1 - 23.5)	24.5 (22.6 - 26.6)	33.0 (28.7 - 37.6)	43.3 (40.9 - 45.7)	74.0 (71.9 - 76.0)
Nursing Students	34.1 (28.5 - 40.2)	27.9 (22.7 - 33.9)	13.4 (11.6 - 15.5)	14.8 (9.8 - 21.7)	58.6 (55.8 - 61.4)	77.5 (75.1 - 79.8)
Phramacy Students	25.4 (18.2 - 34.2)	19.8 (13.0 - 28.9)	14.3 (11.4 - 17.7)	57.6 (45.5 - 68.8)	53.2 (48.7 - 57.7)	70.1 (65.7 - 74.2)

3.4 Health Professional Roles and Training

Over 93.9% of the dental students, 95.4% of the medical students, 93.7% of the nursing students, and 95.3% of the pharmacy students thought health professionals have a role in giving advice about smoking cessation to patients (Table 4). Over 97.0% of the dental students, 96.7% of the medical students, 94.5% of the nursing students, and 96.9% of the pharmacy 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 11.5% among dental students to 17.6% among medical students.

Table 4. Cessation, Education and Perception of Responsibility to Counsel Patients among Ever Smokers, Third-Year Dental, Medical, Nursing, and Pharmacy Students

Yemen GHPSS, 2009

	Current Cigarette Smokers who want to quit smoking cigarettes now	Current Users of Other Tobacco Products who want to quit using other tobacco products now	**Percentage Answering "Yes"**		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?	
	CESS_CIGS **% (CI)**	**CESS_OTOB** **% (CI)**	**TOT_CORE20** **% (CI)**	**TOT_CORE19** **% (CI)**	**CORE36** **% (CI)**
Dental Students	79.9 (72.4 - 85.8)	60.9 (52.1 - 69.0)	90.6 (89.1 - 91.8)	97.0 (96.1 - 97.7)	11.5 (10.1 - 13.0)
Medical Students	71.2 (62.4 - 78.7)	60.8 (52.5 - 68.5)	88.5 (87.0 - 90.0)	96.7 (95.8 - 97.4)	17.6 (15.8 - 19.5)
Nursing Students	73.5 (62.4 - 82.2)	62.3 (50.5 - 72.8)	91.8 (90.0 - 93.4)	94.5 (92.8 - 95.7)	15.7 (13.7 - 17.9)
Pharmacy Students	71.5 (54.5 - 84.1)	69.7 (49.3 - 84.5)	89.5 (86.3 - 92.0)	96.9 (94.8 - 98.1)	16.6 (13.5 - 20.3)

4. Discussion

Findings from the Yemen GHPSS show that nursing students had the highest prevalence (16.4%) of current cigarette smoking. The prevalence of current cigarette smoking was lowest among medical students (10.9%). Use of tobacco products other than cigarettes was highest among nursing students (15.8) and lowest among pharmacy students (11.0%). 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 [9]. The tobacco control community 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.

Second-hand smoke exposure among health professional students in Yemen was high. Over 70.1% of health professions students in Yemen reported they were exposed to SHS in public places. More than 13.4% of the students reported their schools have an official policy banning smoking in school buildings and clinics.

Enforcement of the school policies is low, it ranges from 14.8% in nursing students to 60.6% in dental students. 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 [17]. 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 [18].

Health professions students should be trained to provide effective, accurate, and accessible advice to patients on all aspects of health.

The Yemen GHPSS data show that 91.8% of nursing students but only 88.5% of medical students recognize that they are role models in society. Ninety-seven percent of dental students, 96.7% of medical students, 94.5% of nursing students, and 96.9% of pharmacy students think they should receive training on counseling and treating patients to quit using tobacco. However, only 11.5% of dental students, 17.6% of medical students, 15.7% of nursing students, and 16.6% of pharmacy students have received formal training.

The Yemen GHPSS surveyed 3rd year students, so it is possible that students receive training on patient cessation techniques during the latter years of their programs.

A comprehensive smoke-free law to protect the people from tobacco hazard and second-smoke was issued on 19 April 2005 by the parliament and Yemen had become a party member to the WHO Framework Convention on Tobacco Control on early 2007. The National Tobacco Control Program with cooperation of WHO/EMRO technical experts has recently reviewed the National Tobacco Control Strategy and Plan of Action in Yemen that attempts to lower tobacco use, enhance tobacco quit rate and the need to review and improve tobacco education and tobacco intervention skills in the curricula of dental, medical, nursing and pharmacy schools.

The majority of evaluation research conducted on tobacco-related curricula has been conducted in high income countries. Relatively little information about the process of teaching health professions students in low and middle-income countries about smoking prevention and cessation is accessible to the international tobacco control community. 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

The Yemen GHPSS 2009, has shown high prevalence of ever smoking and currently smoked cigarettes among students particularly males in the third year dental, medical, pharmacy and nursing colleges. There is an alarming growth in the number of students who use other types of tobacco especially Shisha and chewing tobacco.

The study highlights the need for an urgent action to curb this epidemic, through a comprehensive national tobacco control strategy and plan and other components like persistent educational messages included in the curriculum.

Unfortunately, Tobacco companies play a very strong role in attracting young people in Yemen to smoke and still controlling the markets as promotional activities and advertisements.

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. The 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 health professions 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 community 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. Jha P, Chaloupka FJ. Tobacco control in developing countries. Oxford, UK: Oxford University Press; 2000.
2. World Health Organization. MPOWER: A policy package to reverse the tobacco epidemic. Geneva: World Health Organization; 2008.
3. Rice VH, Stead LF Nursing interventions for smoking cessation. Cochrane Database Syst Rev. 2008 Jan 23;(1):CD001188.
4. Sarna L, Danao LL, Chan SS, Shin SR, Baldago LA, Endo E, Minegishi H, Wewers ME. Tobacco control curricula content in baccalaureate nursing programs in four Asian nations. Nurs Outlook. 2006; 54(6):334-44.
5. Preechawong S. Thai Nurses and Tobacco Cessation Activities in Clinical Practice. Thai J Nurs Res. 2007; 11(1):62-71.
6. 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.
7. Barta S, Richard D. The effects of a theory-based training program on nurses' self-efficacy and behavior for smoking cessation through counseling. J Contin Ed Nurs 2005; 36:117–23.
8. Jenkins, K., & Ahijevych, K. Nursing students' beliefs about smoking, their own smoking behaviors, and use of professional tobacco treatment intervention. Applied Nursing Research. 2003; 6(3):164-172.
9. Lenz BK., Beliefs, knowledge, and self-efficacy of nursing students regarding tobacco cessation,Am J Prev Med. 2008; 35(6 Suppl):S494-500.
10. Durkin A, Promoting smoking cessation among nursing students: how faculty can help, Nurs Educ Perspect. 2007; 28(3):150-4.
11. Warren CW, Jones NR, Chauvin J, Peruga A. Tobacco use and cessation counseling: Cross-country data from the Global Health Professions Student Survey (GHPSS), 2005-7. Tob Control. 2008; 17:238-247.
12. Ministry of Health. Yemen Family Health Survey (YFHS), Selected Indicators. Sana'a: Ministry of Public Health & Population; 2003.
13. Bahaj Ahmed Ali. Report of Global Youth Tobacco Survey (GYTS) in Yemen; 2003.
14. Al-Khawlani Mohamed M. A. Report of Global Youth Tobacco Survey (GYTS) in Yemen second round; 2008.
15. Al-Hanahi Abdul Rageeb Ahmed and others. KAP study on Substances Abuse among students of Sana'a University;2003.
16. Shah, B.V., Barnwell, B.G., Bieler, G.S. Software for the statistical analysis of correlated data (SUDAAN): User's Manual. Release 7.5. 1997 (software documentation). Research Triangle Park, NC: Research Triangle Institute; 1997.
17. 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.
18. 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