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Tobacco use and cessation counseling among pharmacy students

Charles W. Warren¹, Dharendra N. Sinha², Juliette Lee¹, Veronica Lea¹, Nathan R. Jones³

¹US Centers for Disease Control and Prevention, Atlanta, GA, USA

²Tobacco Free Initiative, South East Asia Region, World Health Organization, Delhi, India

³Nathan R. Jones, University of Wisconsin Survey Center, Madison, WI, USA

For the GHPSS Country Research Coordinators**

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Corresponding Author:

Charles Warren,
Centers for Disease Control and Prevention
wcw1@cdc.gov

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Abstract

Background: In 2003, the International Pharmaceutical Federation (FIP) adopted a policy stating pharmacists have an important role to play in tobacco control. In 2005, the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC) developed the Global Health Professions Student Survey (GHPSS) to collect information on student tobacco use and training received on patient cessation counseling while in school. This study includes data from GHPSS conducted among 3rd year pharmacy students in 44 countries and the Gaza Strip/West Bank.

Methods: A two-stage sample design was used to select schools and students for participation in the GHPSS. Self-administered data collection followed for 3rd year students in selected schools and classes.

Results: Twenty-eight of the 40 sites with data for males reported rates greater than 20%; with only 4 sites reporting rates less than 5%. Thirteen of the 44 sites with data for females reported rates greater than 20%; with 21 sites reporting rates less than 5%. The majority of students recognized that they are role models in society, believed they should receive training on counseling patients to quit using tobacco, but few reported receiving formal training.

Conclusions: Following FIP recommendations, pharmaceutical organizations must discourage tobacco use among pharmacists and universities teaching pharmacy must implement programs that train pharmacists in effective patient tobacco cessation-counseling techniques.

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INTRODUCTION

In 2003, the International Pharmaceutical Federation (FIP) adopted the following policy, "Statement of Policy on the Role of the Pharmacist in Promoting a Tobacco Free Future." [1] The FIP position states, "Pharmacists, in common with all other health professionals, have a responsibility to help people to give up smoking or other forms of tobacco use as well as to encourage the rest of the population to do so." ¹ The FIP noted that, "Studies have shown that brief counseling by health professionals on the dangers of smoking and the minor importance of quitting is one of the most cost-effective methods to reduce tobacco use."

[1] The FIP policy statement [1] lists a number of recommendations, including:

- Pharmaceutical organizations should provide both basic and continuing education to pharmacists, pharmacy students and pharmacy assistants on tobacco use, quitting processes, and associated health risks.
- Pharmaceutical organizations should participate in the Tobacco Free Initiative of the World Health Organization through the FIP pharmaceutical and regional forums.
- Individual pharmacists should provide an example

and leadership by being free of tobacco themselves.

In 2005, the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC) developed the Global Health Professions Student Survey (GHPSS) to collect information on student tobacco use and training they had received while in school on patient cessation counseling. [2] The data reported in this study extends the information reported in 2005 by including data reported by 3rd year pharmacy students in 44 countries (Iraq has completed the survey in two regions, Kurdistan and Baghdad) and the Gaza Strip/West Bank (the 46 will be identified as "sites" for the remainder of this paper). This study includes data on tobacco use and training to provide patient cessation counseling among 3rd year pharmacy students. Table 1 lists the 46 sites that completed the Pharmacy GHPSS by year, WHO Region, and country.

METHODS

Design

The Pharmacy 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. [3] The GHPSS is a school-based survey of 3rd year students pursuing advanced degrees in dentistry, medicine, nursing and pharmacy. GHPSS includes 3rd year students because in most countries these students are advanced in their training; yet not in clinical settings. The GHPSS uses a two-stage sample design and follows one of two options:

1. If the number of schools teaching 3rd year pharmacy students is less than 15 the study includes ALL schools. If the number of 3rd year students is greater than 2000 then a random sample of classes teaching 3rd year students is made and students in those classes participate in the survey; otherwise, all students are included in the study.
2. If the number of schools teaching 3rd year pharmacy students is greater than 15 then a sample of schools is made (selection of schools is probability proportional to school enrollment size). If the number of 3rd year students is greater than 2000 then a random sample of classes teaching 3rd year students is made and students in those classes participate in the survey; otherwise, all students are included in the study.

The Pharmacy GHPSS included a census of schools and students in all locations, except in Bangladesh (17 schools), India (216 schools), and the Philippines (19 schools), where a sample of schools was selected with

probability proportional to size from all pharmacy schools in the country and a census of students in the selected schools were surveyed (Table 2).

The Pharmacy GHPSS was conducted in schools during regular lectures and class sessions. Anonymous, self-administered data collection procedures were followed. The questionnaire included the following topics: demographics, prevalence of cigarette smoking and use of other tobacco products (other products vary from region to region and include smokeless tobacco, bidis, water pipe, and forms of other tobacco products unique to individual countries), exposure to second-hand smoke, desire to quit smoking, and training received to provide patient counseling on cessation techniques. Where appropriate, the final country questionnaires were translated into local languages and back-translated to check for accuracy. SUDAAN, a software package for statistical analysis of 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). [4] For all sites, excluding Bangladesh, India, and the Philippines, a finite population correction factor was applied to take into account non-response and used in the variance of the estimates. T-tests were used to determine differences between subpopulations. [5-6] In this paper, differences in proportions were considered statistically significant if the t-test p-value was less than 0.05.

For sites conducting the Pharmacy GHPSS, the school response rate was 100% in 43 of the 46 sites (lowest was 80.0% in Russian Federation); the class response rate was 100% in all sites; the student response rate ranged from 54.5% (Greece) to 100% (Czech Republic, Russian Federation, Slovakia, and Mongolia); and the overall response rate ranged from 54.5% (Greece) to 100% (Czech Republic, Slovakia, and Mongolia) (Table 1). The number of students who participated in each survey varied due to the number of schools and student enrollment for each country in each sample design.

Measurement

This report includes information on current cigarette smoking, current use of tobacco products other than cigarettes (including smokeless tobacco, bidis, water pipe, and forms of other tobacco products unique to individual countries). In addition, attitude questions were asked regarding: pharmacy 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.

Results in this report are presented by WHO region

with participating countries identified. The six WHO regions are the African Region, the Eastern Mediterranean Region, the European Region, the Region of the Americas, the South-East Asian Region, and the Western Pacific Region.

RESULTS

Student Characteristics

The percentage of pharmacy students who were females was over 60% in all sites except Ghana, Kenya, Senegal, Zambia, Iran, Yemen, Chile, Peru, Bangladesh, India, Lao's PDR, and Papua New Guinea. Over 80% of the students were females in seven sites (Bosnia & Herzegovina, Czech Republic, Russian Federation, Bolivia, Guyana, Myanmar, and Mongolia). Over 90% of the students were less than 25 years old in every site in the Eastern Mediterranean, European, South-East Asian, and Western Pacific (except Lao's PDR, Mongolia, and Papua New Guinea) regions. In the African region, the percent age 25-29 ranged from 0.0% in Kenya (all were age 24 or younger) to 53.4% in Zambia. In Zambia 19.2% of the students were ages 30 or older. In the Americas, the majority of students were under age 25; the percent aged 25-29 ranged from 23.3% (Brazil) to 7.8% (Chile). In Brazil and Trinidad & Tobago, 24% of the students were 30 or older.

Tobacco Use

Among 3rd year pharmacy students, eight sites had current cigarette smoking rates equal to or above 30% (Albania, Republic of Moldova, Russian Federation, Slovakia, Chile, Guatemala, Papua New Guinea and Peru) and eight sites had rates less than 5% (Ghana, Senegal, Zambia, Guyana, Jamaica, Myanmar, Lao's PDR, and Thailand) (Table 2). Twenty-eight of the 40 sites with data for males reported rates greater than 20%; with only 4 sites reporting rates less than 5%. Thirteen of the 44 sites with data for females reported rates greater than 20%; with 21 sites reporting rates less than 5%. In the African region, males were more likely to smoke cigarettes than females in four of five sites; in the Eastern Mediterranean region, males were more likely than females to smoke cigarettes in all eight sites; in the European region, males were more likely to smoke than females in four of 11 sites, females were more likely than males to smoke in five of 11 sites, and there was no difference in Moldova and Greece; in the Americas, there was no gender difference in five of the seven sites (males had higher rates than females in Bolivia and Peru); in the South-East Asia region, males had higher rates than females in all four sites reporting data; and in the Western Pacific region, females were more likely to smoke than males in Lao's PDR while males had higher rates than females in Cambodia, Fiji, Mongolia, and the Philippines.

Among pharmacy students, current use of other tobacco products was 0% in eight sites (Ghana, Kenya, Senegal, Belize, Guyana, Jamaica, Trinidad & Tobago, and Cambodia); less than 5% in 23 sites; and over 15% in Gaza Strip/West Bank, Iraq (Baghdad), Lebanon, Syria, Greece, Latvia, Guatemala, Bangladesh, Fiji, and Papua New Guinea (Table 2). Nine of the 40 sites with data for males reported rates greater than 20%; with 16 sites reporting rates less than 5%. One (Lebanon) of the 44 sites with data for females reported rates greater than 20%; with 27 sites reporting rates less than 5%. In the African region, males were more likely to use other products than females in Algeria while females were more likely than males in Zambia; in the Eastern Mediterranean region, males were more likely than females to use other products in seven of eight sites (no difference in Lebanon); in the European region, males were more likely to use other products than females in four of 11 sites, females were more likely than males to use other products in four of 11 sites, and there was no difference in Bosnia & Herzegovina, Czech Republic, and the Republic of Moldova; in the Americas, there was no gender difference in four of the eight sites reporting data, males had higher rates than females in Bolivia, Chile, and Peru, females had higher rates than males in Uruguay; in the South-East Asia region, males had higher rates than females in Thailand and Myanmar (there was no gender difference in Bangladesh or India); and in the Western Pacific region, males had higher rates than females in Fiji, Mongolia and Lao's PDR; there was no gender difference in the Philippines or Cambodia.

Health Professional Roles and Training

Over 80% of the students thought pharmacist have a role in giving advice about smoking cessation to patients in 39 of 46 sites, with 25 over 90% (including four of five sites Africa and five of six sites in the Western Pacific) (Table 3). The lowest was in Slovakia (58.4%) and Brazil (57.7%). Over 90% of the students thought health professionals should get specific training on cessation techniques in 34 of the 46 sites, with Latvia, Belize, Panama, Cambodia, and Papua New Guinea at 100%. The lowest was in the European region with seven of 11 below 90%. Less than 40% of the students reported having ever received some kind of formal training in their professional school on cessation approaches to use with their patients in 41 of the 46 sites; less than 20% in 28 sites, and less than 10% in 12 sites. Over 40% of the students had received formal training in Algeria (41.8%), Armenia (40.5%), Latvia (82.5%), Fiji (80.0%), and Jamaica (40.0%).

Table 1. Response rates by region and country, Pharmacy Global Health Professions Student Survey, 2005-2009

Country (Site)	Year	School Response Rate (%)	Class Response Rate (%)	Student Response Rate (%)	Overall Response Rate (%)	Number of 3rd Year Students
AFRICAN REGION						
Algeria	2007	100.0	100.0	79.4	79.4	473
Ghana	2006	100.0	100.0	88.0	88.0	110
Kenya	2008	100.0	100.0	80.9	80.9	38
Senegal	2009	100.0	100.0	59.0	59.0	107
Zambia	2009	100.0	100.0	91.3	91.3	73
EASTERN MEDITERRANEAN REGION						
Gaza Strip/West Bank	2007	100.0	100.0	93.1	93.1	265
Iran	2007	90.0	100.0	63.2	56.9	209
Iraq (Kurdistan)	2005	100.0	100.0	94.7	94.7	88
Iraq (Baghdad)	2009	100.0	100.0	98.6	98.6	417
Lebanon	2006	100.0	100.0	71.8	71.8	170
Sudan	2007	100.0	100.0	71.3	71.3	338
Syrian Arab Republic	2006	100.0	100.0	90.9	90.9	553
Yemen	2009	100.0	100.0	67.6	67.6	196
EUROPEAN REGION						
Albania	2005	100.0	100.0	98.2	98.2	52
Armenia	2006	100.0	100.0	87.7	87.7	98
Bosnia & Herzegovina	2006	100.0	100.0	96.9	96.9	188
Czech Republic	2006	100.0	100.0	100.0	100.0	375
Greece	2009	100.0	100.0	54.5	54.5	59
Kyrgyzstan	2008	100.0	100.0	93.1	93.1	161
Latvia	2009	100.0	100.0	91.7	91.7	22
Republic of Moldova	2008	100.0	100.0	95.9	95.9	46
Russian Federation	2006	80.0	100.0	100.0	80.0	212
Serbia	2006	100.0	100.0	72.5	72.5	281
Slovakia	2006	100.0	100.0	100.0	100.0	195
Slovenia	2007	100.0	100.0	99.2	99.2	119
REGION OF THE AMERICAS						
Belize	2009	100.0	100.0	77.4	77.4	14
Bolivia	2007	100.0	100.0	97.7	97.7	1,182
Brazil (Rio De Janeiro)	2007	100.0	100.0	86.1	86.1	248
Chile	2008	85.7	100.0	75.7	64.9	199
Guatemala	2008	100.0	100.0	85.8	85.8	66
Guyana	2009	100.0	100.0	66.7	66.7	10
Jamaica	2008	100.0	100.0	86.0	86.0	45
Panama	2008	100.0	100.0	82.9	82.9	92
Peru	2006	100.0	100.0	97.4	97.4	478
Trinidad & Tobago	2008	100.0	100.0	74.3	74.3	25
Uruguay	2008	100.0	100.0	91.9	91.9	65
SOUTH-EAST ASIA REGION						
Bangladesh	2009	100.0	100.0	92.5	92.5	492
India	2008	100.0	100.0	84.8	84.8	1,425
Myanmar	2009	100.0	100.0	97.7	97.7	245
Thailand	2006	100.0	100.0	84.0	84.0	1,176
WESTERN PACIFIC REGION						
Cambodia	2005	100.0	100.0	79.7	79.7	55
Fiji	2009	100.0	100.0	96.8	96.8	30
Lao's PDR	2009	100.0	100.0	97.8	97.8	132
Mongolia	2007	100.0	100.0	100.0	100.0	153
Papua New Guinea	2009	100.0	100.0	81.0	81.0	17
Philippines	2005	100.0	100.0	96.1	96.1	633

Table 2-1. Prevalence of current tobacco use, by sex, region and country, Pharmacy Global Health Professions Student Survey 2005-2009

Country (Site)	Year	Current cigarette smokers				Currently use other tobacco products			
		Total % (95% CI)*	Male % (95% CI)	Female % (95% CI)	P-Value	Total % (95% CI)	Male % (95% CI)	Female % (95% CI)	P-Value
AFRICAN REGION									
Algeria	2007	8.5 (7.4 - 9.9)	21.6 (18.5 - 25.1)	2.3 (1.6 - 3.4)	0.0000	4.3 (3.5 - 5.3)	11.9 (9.7 - 14.5)	0.4 (0.2 - 1.0)	0.0000
Ghana	2006	0.9 (0.4 - 2.1)	1.8 (0.8 - 4.0)	0.0	0.0174	0.0	0.0	0.0	NA
Kenya	2008	5.3 (2.8 - 9.6)	4.5 (1.9 - 10.7)	6.3 (2.6 - 14.4)	0.6116	0.0	0.0	0.0	NA
Senegal	2009	4.8 (2.7 - 8.3)	8.3 (4.4 - 15.1)	1.8 (0.5 - 6.3)	0.0235	0.0	0.0	0.0	NA
Zambia	2009	4.2 (3.0 - 5.8)	8.1 (5.8 - 11.2)	0.0	0.0000	2.7 (1.8 - 4.1)	0.0	5.9 (3.9 - 8.8)	0.0000
EASTERN MEDITERRANEAN REGION									
Gaza Strip/West Bank	2007	11.0 (10.0 - 12.2)	34.5 (31.1 - 38.0)	3.2 (2.5 - 4.0)	0.0000	18.5 (17.2 - 20.0)	44.9 (41.3 - 48.6)	9.8 (8.6 - 11.1)	0.0000
Iran	2007	8.5 (6.0 - 12.0)	17.4 (12.1 - 24.4)	1.7 (0.6 - 4.8)	0.0000	8.9 (6.5 - 12.0)	13.1 (9.0 - 18.7)	5.5 (3.1 - 9.5)	0.0087
Iraq (Kurdistan)	2005	10.7 (9.1 - 12.5)	30.0 (26.0 - 34.4)	0.0	0.0000	1.1 (0.7 - 1.9)	3.1 (1.9 - 5.1)	0.0	0.0001
Iraq (Baghdad)	2009	17.1 (16.3 - 18.0)	47.4 (45.3 - 49.5)	3.9 (3.4 - 4.5)	0.0000	21.2 (20.3 - 22.1)	48.2 (46.1 - 50.3)	8.9 (8.2 - 9.7)	0.0000
Lebanon	2006	14.9 (12.2 - 17.9)	23.8 (17.5 - 31.5)	12.1 (9.4 - 15.4)	0.0029	21.0 (17.9 - 24.4)	21.8 (15.7 - 29.4)	20.7 (17.3 - 24.7)	0.7897
Sudan	2007	9.9 (8.1 - 12.0)	22.9 (18.8 - 27.7)	2.0 (1.1 - 3.5)	0.0000	5.0 (3.8 - 6.6)	10.9 (8.1 - 14.5)	1.4 (0.7 - 2.8)	0.0000
Syrian Arab Republic	2006	13.0 (12.2 - 14.0)	33.7 (31.4 - 36.1)	4.1 (3.5 - 4.7)	0.0000	20.8 (19.7 - 21.9)	32.2 (30.0 - 34.5)	15.8 (14.6 - 17.0)	0.0000
Yemen	2009	14.3 (11.4 - 17.9)	25.0 (19.6 - 31.2)	4.1 (2.2 - 7.5)	0.0000	11.0 (8.6 - 14.0)	16.6 (12.3 - 21.9)	6.5 (4.1 - 10.2)	0.0005
EUROPEAN REGION									
Albania	2005	47.1 (42.8 - 51.4)	65.8 (58.0 - 72.9)	38.9 (34.1 - 44.0)	0.0000	1.9 (1.1 - 3.3)	0.0	2.6 (1.5 - 4.4)	0.0004
Armenia	2006	17.1 (14.0 - 20.8)	56.0 (47.4 - 64.3)	1.3 (0.5 - 3.2)	0.0000	2.8 (1.7 - 4.6)	6.7 (3.6 - 12.2)	1.3 (0.5 - 3.1)	0.0121
Bosnia & Herzegovina	2006	29.4 (28.2 - 30.7)	25.0 (21.9 - 28.5)	30.1 (28.7 - 31.4)	0.0062	5.5 (4.9 - 6.2)	4.2 (2.9 - 6.1)	5.7 (5.0 - 6.4)	0.0913
Czech Republic	2006	19.3 (18.8 - 19.8)	26.5 (25.0 - 28.1)	18.2 (17.6 - 18.7)	0.0000	11.2 (10.8 - 11.6)	12.2 (11.1 - 13.4)	11.0 (10.6 - 11.5)	0.0562
Greece	2009	27.1 (19.9 - 35.8)	35.7 (20.5 - 54.5)	24.4 (16.7 - 34.3)	0.2565	15.3 (9.9 - 22.8)	35.7 (20.5 - 54.5)	8.9 (4.5 - 16.7)	0.0053
Kyrgyzstan	2008	20.0 (18.3 - 21.8)	10.3 (8.2 - 12.9)	24.4 (22.2 - 26.7)	0.0000	1.9 (1.4 - 2.6)	0.0	2.7 (2.0 - 3.7)	0.0000
Latvia	2009	27.5 (22.0 - 33.8)	**	30.1 (23.7 - 37.4)	NA	19.2 (14.4 - 25.0)	**	18.3 (13.1 - 24.9)	NA
Republic of Moldova	2008	30.2 (20.2 - 42.6)	38.1 (17.9 - 63.6)	27.7 (16.9 - 42.0)	0.4525	6.4 (2.5 - 15.2)	17.4 (5.6 - 42.6)	2.8 (0.6 - 13.0)	0.1225
Russian Federation	2006	42.7 (37.8 - 47.7)	65.9 (54.4 - 75.7)	37.1 (31.8 - 42.6)	0.0000	12.3 (9.3 - 15.9)	34.1 (24.3 - 45.6)	7.0 (4.7 - 10.4)	0.0000
Serbia	2006	29.3 (26.4 - 32.4)	21.2 (16.3 - 27.2)	32.1 (28.7 - 35.7)	0.0011	14.9 (12.8 - 17.4)	10.8 (7.3 - 15.7)	16.4 (13.8 - 19.3)	0.0281
Slovakia	2006	35.4 (33.7 - 37.1)	31.0 (27.5 - 34.6)	36.7 (34.7 - 38.6)	0.0057	9.7 (8.7 - 10.8)	11.9 (9.6 - 14.6)	9.2 (8.1 - 10.4)	0.0477
Slovenia	2007	12.7 (11.9 - 13.5)	11.1 (9.7 - 12.8)	13.2 (12.3 - 14.1)	0.0236	1.7 (1.4 - 2.0)	0.0	2.2 (1.8 - 2.6)	0.0000

Table 2-2. Prevalence of current tobacco use, by sex, region and country, Pharmacy Global Health Professions Student Survey 2005-2009

Country (Site)	Year	Current cigarette smokers				Currently use other tobacco products			
		Total % (95% CI)*	Male % (95% CI)	Female % (95% CI)	P-Value	Total % (95% CI)	Male % (95% CI)	Female % (95% CI)	P-Value
REGION OF THE AMERICAS									
Belize	2009	7.2 (1.0 - 36.2)	**	**	NA	0.0	**	**	NA
Bolivia	2007	23.5 (23.1 - 23.9)	40.8 (39.7 - 41.9)	19.3 (18.9 - 19.8)	0.0000	5.5 (5.3 - 5.7)	8.4 (7.8 - 9.0)	4.8 (4.6 - 5.1)	0.0000
Brazil (Rio De Janeiro)	2007	5.4 (3.4 - 8.4)	4.9 (2.1 - 11.0)	5.7 (3.3 - 9.8)	0.7521	1.2 (0.5 - 3.3)	1.2 (0.2 - 6.4)	1.3 (0.4 - 4.2)	0.9628
Chile	2008	30.0 (26.1 - 34.1)	32.5 (26.6 - 39.0)	27.9 (23.0 - 33.4)	0.2625	5.8 (4.0 - 8.4)	9.6 (6.1 - 14.6)	2.7 (1.3 - 5.3)	0.0032
Guatemala	2008	30.3 (21.7 - 40.6)	26.1 (13.6 - 44.1)	32.6 (21.8 - 45.6)	0.5130	15.2 (9.1 - 24.2)	17.4 (7.7 - 34.8)	14.0 (7.2 - 25.5)	0.6709
Guyana	2009	0.0	NA	0.0	NA	0.0	NA	0.0	NA
Jamaica	2008	2.3 (0.9 - 5.8)	**	2.9 (1.2 - 7.3)	NA	0.0	0.0	0.0	NA
Panama	2008	5.5 (3.5 - 8.4)	9.4 (4.7 - 18.0)	4.2 (2.4 - 7.4)	0.1292	2.4 (1.2 - 4.8)	4.9 (1.8 - 12.7)	1.6 (0.6 - 4.2)	0.1893
Peru	2006	32.3 (29.7 - 35.0)	48.0 (43.6 - 52.4)	21.5 (18.6 - 24.6)	0.0000	8.1 (6.7 - 9.8)	14.4 (11.6 - 17.8)	3.9 (2.7 - 5.6)	0.0000
Trinidad & Tobago	2008	16.0 (9.3 - 26.0)	**	11.1 (5.1 - 22.5)	NA	0.0	**	0.0	NA
Uruguay	2008	24.6 (21.1 - 28.6)	26.7 (19.4 - 35.4)	24.0 (20.0 - 28.5)	0.5590	13.8 (11.1 - 17.1)	6.7 (3.3 - 12.9)	16.0 (12.7 - 20.0)	0.0021
SOUTH-EAST ASIA REGION									
Bangladesh	2009	25.9 (18.7 - 34.8)	36.2 (28.1 - 45.2)	9.8 (5.4 - 17.2)	0.0006	18.4 (13.8 - 24.0)	21.1 (11.9 - 34.8)	13.9 (7.3 - 24.9)	0.3532
India	2008	13.0 (10.9 - 15.4)	18.0 (15.0 - 21.4)	4.6 (2.7 - 7.7)	0.0000	10.6 (8.9 - 12.5)	12.4 (9.8 - 15.7)	7.4 (4.8 - 11.3)	0.0524
Myanmar	2009	1.2 (1.0 - 1.6)	50.0 (34.8 - 65.2)	0.8 (0.6 - 1.1)	0.0000	3.7 (3.2 - 4.3)	50.0 (34.8 - 65.2)	3.3 (2.8 - 3.9)	0.0000
Thailand	2006	2.1 (1.7 - 2.4)	7.7 (6.5 - 9.2)	0.1 (0.1 - 0.3)	0.0000	0.6 (0.5 - 0.9)	1.3 (0.8 - 1.9)	0.4 (0.3 - 0.7)	0.0050
WESTERN PACIFIC REGION									
Cambodia	2005	7.3 (4.7 - 11.2)	28.6 (18.9 - 40.7)	0.0	0.0000	0.0	0.0	0.0	NA
Fiji	2009	17.9 (15.3 - 20.7)	50.0 (44.1 - 55.9)	0.0	0.0000	20.0 (17.4 - 22.9)	36.4 (31.1 - 41.9)	10.5 (8.2 - 13.5)	0.0000
Lao's PDR	2009	1.5 (1.2 - 1.9)	1.1 (0.7 - 1.5)	2.8 (2.0 - 3.9)	0.0008	1.5 (1.2 - 1.9)	2.1 (1.7 - 2.7)	0.0	0.0000
Mongolia	2007	22.9	62.1	13.7	NA	4.6	10.3	3.2	NA
Papua New Guinea	2009	31.3 (21.4 - 43.2)	**	**	NA	20.0 (11.9 - 31.6)	**	**	NA
Philippines	2005	22.1 (16.8 - 28.5)	37.8 (26.5 - 50.5)	18.1 (12.8 - 24.9)	0.0048	3.0 (1.8 - 5.2)	1.7 (0.4 - 6.2)	3.4 (1.8 - 6.3)	0.3132

* Confidence interval.

** Cell size <10

NA - Not available

Table 3-1. Attitudes toward and training in patient smoking cessation counseling, region and country, Pharmacy Global Health Professions Student Survey, 2005-2009

Country (Site)	Year	Think health professionals have a role in giving advice or information about smoking cessation to patients	Think health professionals should get specific training on cessation techniques	Have ever received any formal training in smoking cessation approaches to use with patients in their Pharmacy school training
		Total % (95% CI)*	Total % (95% CI)	Total % (95% CI)
AFRICAN REGION (AFR)				
Algeria	2007	83.1 (81.4 - 84.7)	94.8 (93.7 - 95.7)	41.8 (39.7 - 44.0)
Ghana	2006	99.1 (97.9 - 99.6)	98.2 (96.8 - 99.0)	31.8 (28.3 - 35.6)
Kenya	2008	100.0	97.4 (93.7 - 98.9)	2.6 (1.1 - 6.3)
Senegal	2009	100.0	98.1 (95.5 - 99.2)	28.6 (23.3 - 34.5)
Zambia	2009	94.5 (92.7 - 95.9)	95.9 (94.3 - 97.1)	8.3 (6.6 - 10.5)
EASTERN MEDITERRANEAN REGION (EMR)				
Gaza Strip/West Bank	2007	87.7 (86.5 - 88.8)	98.5 (98.0 - 98.9)	19.4 (18.0 - 20.8)
Iran	2007	88.8 (85.3 - 91.5)	93.2 (90.1 - 95.4)	11.2 (8.6 - 14.5)
Iraq (Kurdistan)	2005	99.3 (98.3 - 99.7)	93.9 (91.7 - 95.5)	36.6 (30.6 - 43.1)
Iraq (Baghdad)	2009	85.3 (84.5 - 86.1)	88.2 (87.4 - 88.9)	14.6 (13.8 - 15.4)
Lebanon	2006	86.0 (82.9 - 88.6)	97.1 (95.4 - 98.2)	19.3 (16.2 - 22.8)
Sudan	2007	95.8 (94.4 - 96.9)	97.1 (95.9 - 98.0)	5.8 (4.4 - 7.4)
Syrian Arab Republic	2006	97.8 (97.4 - 98.2)	98.5 (98.2 - 98.8)	24.2 (23.1 - 25.4)
Yemen	2009	95.3 (92.7 - 97.0)	96.9 (94.8 - 98.1)	16.6 (13.5 - 20.3)
EUROPEAN REGION (EUR)				
Albania	2005	86.6 (83.9 - 89.0)	98.1 (96.8 - 98.9)	7.7 (5.9 - 10.0)
Armenia	2006	72.1 (67.8 - 76.0)	85.0 (81.3 - 88.0)	40.5 (36.2 - 45.0)
Bosnia & Herzegovina	2006	77.7 (76.6 - 78.8)	78.8 (77.7 - 79.9)	1.6 (1.3 - 2.0)
Czech Republic	2006	82.9 (82.4 - 83.4)	68.7 (68.1 - 69.3)	1.3 (1.2 - 1.5)
Greece	2009	NA	NA	11.9 (7.2 - 19.0)
Kyrgyzstan	2008	87.6 (86.1 - 88.9)	93.8 (92.7 - 94.7)	22.0 (20.3 - 23.8)
Latvia	2009	80.0 (74.0 - 84.9)	100.0	82.5 (77.0 - 86.9)
Republic of Moldova	2008	88.9 (78.8 - 94.5)	91.6 (82.5 - 96.2)	33.5 (23.2 - 45.6)
Russian Federation	2006	NA	78.2 (73.8 - 82.1)	16.8 (13.4 - 20.9)
Serbia	2006	85.4 (83.0 - 87.5)	86.4 (84.0 - 88.5)	23.6 (20.9 - 26.4)
Slovakia	2006	58.4 (56.6 - 60.2)	73.7 (72.1 - 75.2)	2.1 (1.6 - 2.7)
Slovenia	2007	100.0	85.7 (84.9 - 86.5)	7.6 (7.0 - 8.2)

Table 3-1. Attitudes toward and training in patient smoking cessation counseling, region and country, Pharmacy Global Health Professions Student Survey, 2005-2009

Country (Site)	Year	Think health professionals have a role in giving advice or information about smoking cessation to patients	Think health professionals should get specific training on cessation techniques	Have ever received any formal training in smoking cessation approaches to use with patients in their Pharmacy school training
		Total % (95% CI)*	Total % (95% CI)	Total % (95% CI)
REGION OF THE AMERICAS (AMR)				
Belize	2009	100.0	100.0	28.4 (11.3 - 55.3)
Bolivia	2007	84.7 (84.3 - 85.0)	96.1 (95.9 - 96.2)	19.5 (19.2 - 19.9)
Brazil (Rio De Janeiro)	2007	57.7 (52.3 - 63.0)	96.3 (93.6 - 97.9)	11.5 (8.3 - 15.7)
Chile	2008	94.6 (92.3 - 96.3)	88.7 (85.6 - 91.3)	6.3 (4.6 - 8.7)
Guatemala	2008	100.0	93.9 (86.6 - 97.4)	18.5 (11.6 - 28.0)
Guyana	2009	100.0	90.0 (67.8 - 97.5)	0.0
Jamaica	2008	95.6 (91.6 - 97.7)	95.6 (91.6 - 97.7)	40.0 (33.4 - 47.0)
Panama	2008	100.0	100.0	16.5 (13.0 - 20.8)
Peru	2006	92.7 (91.1 - 94.0)	98.5 (97.7 - 99.1)	17.7 (15.6 - 19.9)
Trinidad & Tobago	2008	100.0	96.0 (88.4 - 98.7)	20.8 (13.0 - 31.7)
Uruguay	2008	90.8 (87.9 - 93.0)	90.8 (87.9 - 93.0)	7.7 (5.7 - 10.4)
SOUTH-EAST ASIA REGION (SEAR)				
Bangladesh	2009	90.7 (86.1 - 93.9)	86.8 (82.8 - 89.9)	31.1 (21.4 - 42.9)
India	2008	88.8 (85.7 - 91.3)	83.9 (80.0 - 87.1)	30.4 (26.1 - 35.1)
Myanmar	2009	71.6 (70.3 - 72.8)	96.7 (96.2 - 97.2)	8.6 (7.8 - 9.4)
Thailand	2006	98.1 (97.8 - 98.4)	93.1 (92.4 - 93.7)	18.9 (17.9 - 19.9)
WESTERN PACIFIC REGION (WPR)				
Cambodia	2005	94.5 (91.0 - 96.8)	100.0	16.4 (12.3 - 21.4)
Fiji	2009	93.3 (91.4 - 94.8)	93.3 (91.4 - 94.8)	80.0 (77.1 - 82.6)
Lao's PDR	2009	97.7 (97.2 - 98.1)	94.8 (94.1 - 95.4)	17.4 (16.3 - 18.5)
Mongolia	2007	88.9	98.7	15.0
Papua New Guinea	2009	100.0	100.0	23.5 (15.1 - 34.7)
Philippines	2007	99.3 (98.3 - 99.7)	93.9 (91.7 - 95.5)	36.6 (30.6 - 43.1)

* Confidence interval

NA - Not available

DISCUSSION

Prevalence

The 2003 FIP policy statement encouraged pharmacists to endorse the WHO Tobacco Free Initiative and strive toward a “Tobacco Free Future.” One of the recommendations stated “Individual pharmacists should provide an example and leadership by being free of tobacco themselves.” [1] Findings from the Pharmacy GHPSS are not encouraging. Twenty-eight of the 40 sites with data for males and 13 of the 44 sites with data for females report current cigarette smoking rates greater than 20%. The FIP statement that pharmacists should “be free of tobacco themselves” [1] was not found in any of the 40 sites with data for males; and was found for only 6 of the 44 sites for females. Results from this study suggest that pharmacy schools need to consider including a two-pronged tobacco cessation approach for their students: 1) Information about the harmful effects of tobacco use to encourage students not to smoke, or for those who smoke to quit; and 2) Cessation information to provide assistance to students who are motivated to quit.

Cessation Counseling

The 2003 FIP policy statement recommended, “Pharmaceutical organizations should provide both basic and continuing education to pharmacists, pharmacy students, and pharmacy assistants on tobacco use, quitting processes, and associated health risks”. The *Clinical Practice Guidelines* [7] recommends health professionals follow the 5 A’s (Ask about tobacco use, Advise to quit, Assess willingness to make a quit attempt, Assist in quit attempt, and Arrange follow-up) for those patients who want to quit using tobacco and the 5 R’s (Relevance, Risks, Rewards, Roadblocks, and Repetition) for those patients who do not want to quit. Results from the Pharmacy GHPSS show that over 80% of pharmacy students recognize that they are role models in society (in 40 of 45 sites), over 90% think they should receive training on counseling and treating patients to quit using tobacco (36 of 45 sites), but less than 40% have received formal training in 42 of 46 sites. Results from this study suggest the FIP needs to work closely with member universities and pharmaceutical organizations to assist in developing both basic and continuing education programs aimed at teaching effective patient cessation counseling techniques. Basic and continuing education curricula could include independent courses or additions to existing courses specifically relevant to tobacco cessation.

Limitations

Little information about the process of teaching pharmacy 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 pharmacists to 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 pharmacy students. Further research should be carried out to assess the impact of existing tobacco control-related materials and training provided in pharmacy schools in a variety of cultural and economic environments.

In particular, the Pharmacy GHPSS is subject to at least three limitations. First, as this study is representative of 3rd year students who have not had extensive interaction with patients, these survey results should not be extrapolated to practicing pharmacists. Second, data were based on the self-report of students, who might underreport or over-report their behaviors or attitudes. The extent of this bias cannot be determined from these data; however, reliability studies in the United States have indicated good test-retest results for similar tobacco-related questions. [8] In addition, a reliability study of the GHPSS questionnaire was conducted in the United States in 2005; but not internationally. [9] Lastly, the sites included in this study are not representative of individual WHO regions given the number of sites included per region (of the 193 WHO Member States we report data for 44 countries and the Gaza Strip/West Bank).

CONCLUSIONS

Tobacco use is a serious health problem, WHO estimates over 5 million deaths a year can be attributed to tobacco. [10] If current trends continue, WHO estimates tobacco attributable mortality will exceed 8 million per year by 2030. A disproportionate share of the global tobacco burden falls on developing countries, where 84% of current smokers reside. Health professionals, including pharmacist, have important roles to play in tobacco control. Pharmacist who use tobacco can be role models by stopping and all pharmacist can provide patient counseling on tobacco use prevention and cessation. Educational institutions, public health organizations, and education officials should follow the lead of the FIP and discourage tobacco use among pharmacists. These groups should also work together to design and implement programs that train pharmacy students on effective cessation-counseling and treatment techniques. Concurrently, additional research is needed to improve the evidence base for effective tobacco-related curricula, especially

materials that are appropriate for a range of cultural and economic settings.

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**GHPSS COUNTRY RESEARCH COORDINATORS

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Region of the Americas: Raul Pitarque, Hugo A. Miguez, Ana Maria Tambussi (Argentina); Sherilee Rolle (Bahamas); Englebert Emmanuel (Belize); Franklin Alcaraz del Castillo (Bolivia); Luisa Goldfarb, Valeska Caralho Figueiredo, Adelemara Mattoso Allonzi, Leticia Casado Costa, Liz Maria de Almeida

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OTHER NOTES

CW Warren, J Lee and V Lea are obligated by their institution to have the following statement printed in the report: "The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention."

CONFLICTS OF INTEREST:

None declared.

KEY POINTS

- Tobacco use is high among pharmacy students in all regions of the World
- The majority of pharmacy students reported very high exposure to second hand smoke at home and in public places

- Over 80% of pharmacy students recognize that they are role models in society
- Over 90% of pharmacy students think they should receive training on counseling and treating patients to quit using tobacco

Less than 40% of students have received formal training on patient counseling techniques.

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