

Percentage of current tobacco smoking students receiving help or advice to quit: Evidence from the Global Youth Tobacco Survey, 56 countries, 2012–2015

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ABSTRACT

INTRODUCTION We assessed self-reported receipt of help or advice to stop smoking among current tobacco smoking students enrolled in school.

METHODS Using cross-sectional data collected between 2012–2015 from the Global Youth Tobacco Survey (GYTS), and representing the latest year for which data were collected, we calculated prevalence of receipt of help or advice to stop smoking among current tobacco smoking students aged 13–15 years from 56 countries. The sources of help or advice assessed in the GYTS were: 1) from a program or professional, 2) from a friend, and 3) from a family member. Overall response rates ranged from 60.3% in Nicaragua to 99.2% in Sudan. The analytic sample size ranged from 55 in Gabon to 950 in Bulgaria.

RESULTS In 53 of the 56 assessed countries, more than half of current tobacco smoking students received help or advice to quit from either a program or professional, friend, or family member (range=39.9% San Marino to 96.9% Timor-Leste). From a friend or family member only, the range was 37.2% Bahamas to 69.9% Montenegro, and from a program or professional only, the range was 3.7% Latvia to 34.2% Togo.

CONCLUSIONS Family and friends are the most common sources of help or advice to quit smoking among current tobacco smoking students in the GYTS countries assessed, while programs and professionals were the least common. The use of evidence-based measures is critical to prevent and reduce tobacco use among youth and to ensure they are receiving appropriate help or advice to quit.

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KEYWORDS

students, quitting tobacco smoking, help, advice, Global Youth Tobacco Survey

Received: 26 September 2018

Revised: 14 December 2018

Accepted: 17 January 2019

INTRODUCTION

Tobacco use contributes to 6.4 million deaths globally each year¹ and most tobacco smokers begin smoking during adolescence². Smoking during adolescence causes health problems, such as increased number and severity of respiratory illness, and lifelong smoking also causes cancer and cardiovascular disease³. Therefore, preventing tobacco use among youth is a critical strategy to reduce overall tobacco use^{2,4}. Adolescence may represent an opportune time for tobacco cessation with the goal of preventing more

established or long-term tobacco use³. A recent report found that, in 40 of 51 countries, >50% of current tobacco smoking students aged 13–15 years want to quit⁵. Helping or advising youth tobacco smokers to quit smoking may lead to increased quit attempts, reduced likelihood of lifelong tobacco use, and reductions in morbidity and mortality.

This brief report describes self-reported receipt of help or advice to stop smoking among current tobacco smoking youth aged 13–15 years enrolled in school from 56 countries, chosen by criteria specified below.

METHODS

Data

Data came from the Global Youth Tobacco Survey (GYTS), a nationally representative school-based, paper and pencil, cross-sectional survey of students in school grades associated with ages 13–15 years. Classes within selected schools are randomly selected and all students in selected classes are eligible to participate in the survey. The GYTS uses a two-stage cluster sample design with schools selected at the first stage with probability proportional to the enrollment size followed by classes chosen randomly within selected schools. The data were weighted to reflect country specific prevalence estimates and were adjusted for school and class clustering as well as for non-response and post-stratification relative to grade and sex⁶. For this report, countries were included if they met the following criteria: 1) nationally representative data were available for students aged 13–15 years; 2) latest year for which data were collected and available was within the period 2012–2015, to allow calculation of recent prevalence estimates; and 3) unweighted sample size, for number of current tobacco smokers with non-missing responses to the item asking about ever receiving help or advice to stop smoking, was ≥ 35 . Based on these criteria, 56 countries were selected for analyses. Overall response rates ranged from 60.3% in Nicaragua to 99.2% in Sudan. The analytic sample size ranged from 55 in Gabon to 950 in Bulgaria.

Measures

Consistent with the existing literature, current tobacco smoking among students aged 13–15 years, was defined as having smoked a cigarette or other smoked tobacco product in the past 30 days². Current tobacco smoking students responded to an item asking: ‘Have you ever received help or advice

to help you stop smoking?’. Respondents could only choose from the following sources of support: 1) from a program or professional, 2) from a friend, 3) from a family member, or 4) from both programs or professionals and friend or family member. A response option of ‘No’, indicating that the student had not received advice to quit smoking, was also included. All responses are mutually exclusive. Responses for friend and family members were combined into a single answer choice. In addition, we created a composite variable for receiving any advice or help that combined professional/program and friend/family member. Students who reported no current tobacco smoking were excluded.

Analysis

To account for the complex sampling procedures of GYTS, STATA © 14.2 software was used to generate country-specific weighted prevalence estimates and 95% confidence intervals for receiving help or advice to stop smoking among student tobacco smokers. Estimates with a relative standard error >0.3 are not reported.

RESULTS

In 53 of 56 countries, the estimated point prevalence of reporting receiving any help or advice to quit smoking was $>50\%$. Across all countries, the median estimated prevalence of receiving any help or advice to quit smoking among students aged 13–15 years was 72.7% (range=39.9% San Marino to 96.9% Timor-Leste). The median estimated prevalences of help or advice to quit smoking were: 1) 52.5% (range=37.2% Bahamas to 69.9% Montenegro) from a friend or family member only, 2) 8.8% (range=3.7% Latvia to 34.2% Togo) from a professional or program only, and 3) 9.9% (range=2.9% Romania to 31.4% Kenya) from both (Table 1).

Table 1. Prevalence of receiving advice or help to stop smoking among current tobacco smoking students aged 13–15 years, in 56 countries, Global Youth Tobacco Survey, 2012–2015

WHO Region Country	Overall sample size (unweighted)	Number of current tobacco smokers (unweighted)	Any advice (weighted) % (95% CI)	Advice from friend family only (weighted) % (95% CI)	Advice from program professional only (weighted) % (95% CI)	Advice from both friend family and program professional (weighted) % (95% CI)
African Region						
Algeria (2013)	4023	289	80.2 (74.8, 84.7)	58.1 (51.1, 64.9)	7.0 (3.8, 12.6)	15.0 (10.4, 21.3)

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Table 1. Continued

WHO Region Country	Overall sample size (unweighted)	Number of current tobacco smokers (unweighted)	Any advice (weighted)	Advice from friend family only (weighted)	Advice from program / professional only (weighted)	Advice from both friend family and program professional (weighted)
			% (95% CI) ^a	% (95% CI)	% (95% CI)	% (95% CI)
Cameroon (2014)	1873	136	71.5 (56.4, 83.0)	56.0 (43.0, 68.2)	8.3 (4.4, 15.1)	- ^b
Comoros (2015)	1551	127	81.8 (61.1, 92.8)	44.6 (30.7, 59.5)	29.5 (20.7, 40.1)	-
Gabon (2014)	788	55	72.7 (61.2, 81.8)	47.5 (27.1, 68.8)	19.7 (11.8, 31.1)	-
Kenya (2013)	1326	84	83.4 (69.8, 91.6)	45.6 (35.0, 56.7)	-	31.4 (21.0, 44.0)
Mozambique (2013)	3062	158	82.8 (67.6, 91.7)	61.0 (46.4, 73.9)	-	-
Seychelles (2015)	1525	278	71.4 (65.0, 77.1)	54.2 (48.3, 59.9)	8.2 (5.3, 12.5)	9.0 (5.3, 14.8)
Togo (2013)	2801	182	90.4 (83.5, 94.5)	52.2 (43.1, 61.2)	34.2 (25.8, 43.8)	-
Zimbabwe (2014)	5114	530	81.7 (65.3, 91.4)	59.5 (40.8, 75.7)	14.5 (7.9, 25.1)	7.7 (4.5, 12.9)
Eastern Mediterranean Region						
Bahrain (2015)	2465	305	86.1 (78.0, 91.5)	59.6 (51.6, 67.2)	11.2 (6.4, 18.8)	15.2 (10.8, 21.0)
Djibouti (2013)	1361	130	64.4 (47.4, 78.4)	43.3 (30.3, 57.3)	16.4 (9.5, 26.9)	-
Egypt (2014)	2141	202	88.1 (78.2, 93.9)	62.3 (40.5, 80.1)	-	-
Iraq (2014)	1266	139	87.5 (79.0, 92.8)	64.4 (56.7, 71.4)	18.9 (12.0, 28.6)	-
Jordan (2014)	1889	416	73.8 (66.6, 79.9)	55.3 (48.0, 62.3)	8.9 (5.5, 14.1)	9.5 (6.2, 14.3)
Pakistan (2013)	5832	334	77.4 (65.1, 86.3)	54.7 (44.2, 64.8)	-	7.0 (4.3, 11.2)
Qatar (2013)	1716	202	75.8 (69.3, 81.4)	50.1 (39.9, 60.2)	11.4 (7.3, 17.5)	14.3 (10.4, 19.5)
Sudan (2014)	1450	105	86.8 (72.7, 94.2)	48.5 (36.3, 60.9)	31.7 (21.8, 43.7)	-
United Arab Emirates (2013)	3376	320	71.2 (64.2, 77.4)	50.5 (43.5, 57.4)	7.4 (4.2, 12.5)	13.3 (9.1, 19.2)
Yemen (2014)	1634	212	82.1 (72.5, 88.8)	60.0 (50.0, 69.2)	14.1 (7.6, 24.7)	-
European Region						
Albania (2015)	3482	319	65.4 (57.5, 72.5)	47.4 (38.6, 56.4)	8.3 (5.0, 13.4)	9.7 (6.3, 14.5)
Belarus (2015)	2428	213	67.6 (58.2, 75.8)	47.4 (39.0, 56.0)	10.0 (5.7, 17.0)	-
Bulgaria (2015)	3532	950	65.1 (59.2, 70.5)	53.1 (47.8, 58.2)	5.1 (3.0, 8.4)	7.0 (5.0, 9.5)
Georgia (2014)	962	86	72.9 (61.8, 81.7)	58.8 (47.9, 68.9)	-	-
Greece (2013)	4096	535	58.8 (53.8, 63.6)	46.0 (40.6, 51.6)	-	9.9 (6.6, 14.5)
Italy (2014)	1428	313	47.6 (41.2, 54.0)	40.1 (34.3, 46.2)	-	6.5 (4.3, 9.8)
Kyrgyzstan (2014)	3468	170	70.3 (57.9, 80.4)	46.2 (35.6, 57.3)	-	-
Latvia (2014)	4025	861	50.9 (44.0, 57.9)	41.7 (35.8, 48.0)	3.7 (2.1, 6.5)	5.5 (3.7, 8.0)
Lithuania (2014)	3113	736	57.7 (52.0, 63.2)	39.5 (35.3, 43.8)	8.4 (6.1, 11.4)	9.8 (7.3, 13.1)
Moldova (2013)	3548	285	77.6 (71.0, 83.1)	60.7 (53.4, 67.6)	-	11.4 (7.6, 16.8)
Montenegro (2014)	3692	342	75.9 (52.2, 90.1)	69.9 (43.6, 87.5)	-	-
Portugal (2013)	7600	902	59.9 (55.0, 64.5)	44.7 (40.1, 49.3)	4.9 (2.8, 8.7)	10.3 (7.0, 14.7)
Romania (2013)	3328	348	59.1 (52.1, 65.7)	47.6 (40.5, 54.8)	8.5 (5.0, 14.3)	2.9 (1.7, 5.0)
San Marino (2014)	534	77	39.9 (28.0, 53.1)	38.1 (26.4, 51.3)	-	-
Serbia (2013)	3076	460	63.3 (57.7, 68.7)	55.7 (50.1, 61.2)	4.1 (2.2, 7.3)	-
Region of the Americas						
Argentina (2012)	2069	355	65.5 (58.1, 72.2)	57.6 (5.0, 64.9)	4.6 (2.8, 7.6)	-
Bahamas (2013)	1033	108	54.0 (39.3, 68.1)	37.2 (26.7, 49.1)	7.1 (2.7, 17.2)	9.7 (3.8, 22.8)
Barbados (2013)	1306	155	50.1 (41.6, 58.6)	37.7 (28.8, 47.6)	-	-

Continued

Table 1. Continued

WHO Region Country	Overall sample size (unweighted)	Number of current tobacco smokers (unweighted)	Any advice (weighted)	Advice from friend family only (weighted)	Advice from program / professional only (weighted)	Advice from both friend family and program professional (weighted)
			% (95% CI) ^a	% (95% CI)	% (95% CI)	% (95% CI)
Belize (2014)	1273	131	70.9 (58.4, 80.9)	52.1 (42.8, 61.4)	-	9.8 (5.9, 15.8)
Costa Rica (2013)	2158	171	46.0 (38.8, 53.4)	37.9 (30.2, 46.3)	-	-
El Salvador (2015)	2567	302	78.9 (72.9, 83.8)	59.0 (53.0, 64.8)	8.8 (5.4, 14.2)	11.0 (8.1, 14.8)
Guatemala (2015)	3351	479	59.7 (53.2, 65.8)	48.0 (41.5, 54.6)	7.7 (4.4, 13.1)	4.0 (2.6, 6.1)
Guyana (2015)	1000	105	83.2 (74.8, 89.2)	52.8 (40.6, 64.7)	-	11.8 (6.8, 19.7)
Nicaragua (2014)	3006	394	78.7 (71.7, 84.4)	61.5 (54.0, 68.5)	9.9 (6.1, 15.5)	7.4 (5.1, 10.4)
Panama (2012)	4077	316	72.2 (64.7, 78.6)	52.7 (43.9, 61.3)	9.2 (4.5, 17.8)	10.4 (6.4, 16.3)
Paraguay (2014)	5153	331	57.2 (44.1, 69.4)	44.9 (32.2, 58.3)	-	-
Peru (2014)	2299	229	68.7 (46.1, 84.9)	46.4 (31.8, 61.6)	-	13.9 (7.6, 23.9)
Uruguay (2014)	3256	312	72.6 (65.4, 78.8)	54.8 (47.9, 61.5)	8.1 (5.1, 12.6)	9.7 (6.5, 14.3)
South-East Asian Region						
Bhutan (2013)	1378	206	89.1 (82.5, 93.3)	63.7 (57.6, 69.5)	-	19.1 (13.8, 25.9)
Indonesia (2014)	4317	691	90.7 (88.0, 92.7)	67.3 (61.8, 72.4)	5.6 (4.2, 7.5)	17.7 (13.5, 23.0)
Thailand (2015)	1721	218	83.3 (76.0, 88.7)	54.0 (47.0, 60.7)	15.7 (10.2, 23.3)	13.6 (8.7, 20.8)
Timor-Leste (2013)	1908	529	96.9 (94.7, 98.2)	65.4 (54.3, 75.0)	14.0 (8.9, 21.3)	17.5 (9.9, 29.0)
Western Pacific Region						
Brunei Darussalam (2013)	917	80	81.9 (67.7, 90.8)	49.0 (35.2, 63.0)	-	-
Mongolia (2014)	6178	399	58.5 (51.8, 65.0)	46.0 (39.1, 53.1)	-	7.3 (4.7, 11.3)
Philippines (2015)	5885	711	86.6 (81.8, 90.3)	52.9 (45.8, 59.9)	21.1 (11.9, 34.6)	12.6 (9.4, 16.8)
South Korea (2013)	3437	186	63.0 (55.6, 69.8)	45.1 (39.5, 50.8)	8.8 (5.1, 14.6)	9.1 (5.1, 15.8)
Vietnam (2014)	3430	110	88.1 (79.0, 93.6)	61.0 (47.5, 73.0)	-	-
MEDIAN	2516	281.5	72.7 (69.2, 76.1)	52.5 (50.3, 54.6)	8.8 (6.3, 11.3)	9.9 (8.1, 11.6)

a 95% Confidence Interval. b Data not reported due to relative standard error > 0.3.

DISCUSSION

Our research shows that in 53 out of 56 countries surveyed, more than half of current tobacco smoking students reported receiving some help or advice to quit. Tobacco smoking students' family and friends were the most common sources of help or advice to quit. In contrast, public health programs and health professionals were the least common sources. These data show that more than five out of ten current tobacco smoking students seek help or advice from only non-evidence based sources in 32 countries. These students may be receiving incorrect information about how to quit smoking tobacco, which may result in poorer cessation outcomes and longer-term tobacco smoking. These findings indicate that opportunities

exist to enhance promotion of evidence-based tobacco prevention and control strategies, such as advice from health professionals, in addition to population-level education on the dangers of tobacco smoking among youth. While our study was unable to assess whether current tobacco smoking students received advice or help from other sources, such as social media and internet-based intervention, some of these interventions are discussed in the literature as potential ways to provide important services to students^{7,8}. Important considerations are that any smoking cessation program/intervention needs to be age-appropriate and meet the needs of youth as well as being culturally appropriate. New technologies, such as mobile phones and social media platforms,

could offer new opportunities to expand cessation services to youth, but these may not be feasible in low resource settings, which would include 40 low and middle income countries in this study at time of survey administration. Future research is needed at individual country levels to inform evidence-based leveraging of health communication related to tobacco prevention and cessation.

The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) treaty, which, as of December 2017, 55 of 56 countries in this analysis have ratified, focuses on evidence-based measures that help keep people safe from tobacco⁹. Specific Articles outlined in FCTC include warning on the dangers of tobacco use (Article 12) and highlighting the benefits of tobacco cessation (Article 14)⁹. To help countries implement FCTC, WHO developed the MPOWER demand reduction strategies¹⁰; when these strategies are implemented as part of a comprehensive tobacco control approach, they can help prevent and reduce youth tobacco use^{2,11,12}. Additional components of a comprehensive approach can also include sub-national efforts by health professionals and tobacco control programs. For example, health professionals could use the '5As' method as a practical framework to identify and assist youth who smoke tobacco⁸. Trainings and tools for health professional, such as Treatment and Beyond¹³, are available in the Internet that may help increase their capacity to provide tobacco cessation advice and counseling, and enhance their knowledge and understanding of tobacco prevention and control strategies. Additionally, tobacco control programs could implement youth-oriented campaigns that warn about the dangers of tobacco smoking to help reduce youth smoking^{2,11}.

Limitations

This report has some limitations. First, data were self-reported by students, which might result in misreporting of smoking behavior and/or receipt of help or advice to quit. Second, the data are from those who were enrolled in school, which limits generalizability to all youths. Third, low response rates in some countries, and the use of complete case analysis, might have resulted in non-response bias. Finally, GYTS only assesses receipt of help or advice

to quit smoking from programs or professionals, from friends, and from family members, and does not assess use of social networks, social media, or internet access and use. These could potentially be important considerations for developing school-based cessation or other types of advice and cessation services for youth.

CONCLUSIONS

To our knowledge, this is the first study using GYTS data to assess current tobacco smoking students who reported receiving help or advice to stop smoking; previous findings revealed that many current tobacco smoking students report a desire to quit⁵. The desire to quit smoking among students presents potential opportunities to develop programs and cessation strategies that could assist students in stopping a behavior that has lifelong consequences to wellbeing and health. Implementing evidence-based strategies outlined in WHO MPOWER, as part of a comprehensive tobacco control approach, can help prevent and reduce tobacco use among youth¹⁰, and may help countries to move towards a tobacco-free generation.

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ACKNOWLEDGEMENTS

We would like to thank Linda Anton, GYTS Collaborating Group, and World Health Organization Collaborators. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

CONFLICTS OF INTEREST

Authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none was reported.

FUNDING

Andrew B. Seidenberg is supported by the University of North Carolina Lineberger Cancer Control Education Program (T32 CA057726).

PROVENANCE AND PEER REVIEW

Not commissioned; externally peer reviewed.