APPENDIX N

GATS and GYTS Multi-Country Comparisons on Impact of Health Warnings, Smoke-free Laws, and TAPS Bans

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Summary

The following findings are based on observed multi-country comparisons of data published in GATS and GYTS fact sheets and/or country reports to explore whether there are differences between males and females and between adults and youth on key indicators of health warning, smoke-free policy, and point of sale display/advertising ban impact:

1. Health warnings: In some countries, female tobacco users were substantially less likely to think about quitting because of health warnings on smoked and smokeless tobacco packages compared to male tobacco users.
2. Health warnings: There were some differences between adults and youth in the impact of health warnings on thinking about quitting, however patterns in the differences were inconsistent and the reasons for the differences are unclear.
3. Smoke-free workplaces: Exposure to secondhand smoke in workplaces continues to be high in many countries, particularly among males, but also among females.
4. Smoke-free homes: Overall, there were small differences between males and females in exposure to SHS in the home. Smoking in the home was most prevalent in Egypt (2009), Indonesia (2011), Greece (2013), and Viet Nam (2015) where males had slightly higher (ranging from 1% to 10% higher) exposure compared to females.
5. Smoke-free homes: There was some evidence of differences between adults and youth in exposure to SHS in the home. In Africa and the Americas, youth consistently had higher (ranging from 4% to 22% higher) exposure than adults. However, in the four countries with the highest prevalence of smoking in the home, adults had higher (ranging from 9% to 34% higher) exposure compared to youth.
6. Point of sale advertising/display bans: Data were not available to compare impact of point of sale advertising/display bans on adult males and females and there were limitations in the data available to compare impact of the ban on adults vs youth. However, the available data suggests that exposure to POS cigarette marketing in stores continues to be high among youth in countries where it has been banned with generally small differences between boys and girls in policy impact.

Introduction

As part of the WHO and US Centers for Disease Control and Prevention's Global Tobacco Surveillance System (GTSS), the Global Youth Tobacco Survey (GYTS) and the Global Adult Tobacco Survey (GATS) are global standards for monitoring youth and adult tobacco use and include measures for evaluating the impact of tobacco control policies.

The Global Youth Tobacco Survey (GYTS) has been conducted in over 173 countries since 1999, monitoring the use of tobacco among children aged 13-15 years, and has been repeated at least once in 106 countries. This school-based survey consists of 56 core questions covering seven domains: knowledge and attitudes towards cigarette smoking, prevalence of cigarette smoking and tobacco use, role of media and advertising in use of cigarettes, access to cigarettes, tobacco-related school curriculum, secondhand smoke, and smoking cessation.

In 2008, the GTSS was expanded with the introduction of the Global Adult Tobacco Survey (GATS), a household survey of adults aged 15 years and older. GATS is currently active in 36

countries, covering 3 billion adults globally. GATS has been repeated in 11 of those countries. A subset of 22 questions from GATS formed the Tobacco Questions for Surveys (TQS), which has been conducted in 73 countries (as of August 2017), primarily in countries where a full GATS has not been possible. The TQS consists of core questions covering eight domains: background characteristics; smoking behavior; smokeless tobacco use; cessation; secondhand smoke; economics; media; and knowledge, attitudes, and perceptions.

The objective of this analysis was to examine published data on GATS and GYTS indicators of impact of warning label policies, smoke-free policies, and tobacco point of sale display bans to compare adult males with adult females, and youth compared to adults. Seven figures present multi-country data from GATS and GYTS on thinking about quitting because of health warnings, exposure to tobacco smoke in workplaces and homes, and noticing cigarette marketing in stores after point of sale advertising/display bans.

Approach to selection of countries, indicators, and data

The following approaches were used to select countries, impact indicators, and data for this analysis:

Analyses of health warnings and smoke-free policy impact

1. Using the Global Tobacco Surveillance System Data (GTSSData) website of the US Centers for Disease Control and Prevention (https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DataReports.aspx?CAID=1), there were 30 GATS countries where fact sheets were available: 6 in the African Region; 3 in the Eastern Mediterranean Region; 7 in the European Region; 6 in the Region of the Americas; 4 in the Southeast Asia Region; and 4 in the Western Pacific Region.
2. From these 30 GATS countries, we selected GYTS countries where survey results had also been published in fact sheets or country reports for surveys conducted within two years of the GATS in that same country. Doing so would allow for reasonable comparisons to be conducted between adults (surveyed by GATS) and youth (surveyed by GYTS). There were 23 such countries: 4 in the African Region; 3 in the Eastern Mediterranean Region; 5 in the European Region; 4 in the Region of the Americas; 4 in the Southeast Asia Region; and 3 in the Western Pacific Region.
3. From the set of 23 countries identified in Step 2, GATS and GYTS fact sheets were reviewed to identify impact indicators that were common across the majority of fact sheets in the domains of smoke-free and health warnings.
4. Data for the comparison of adult males and females were extracted for the selected indicators where available from GATS fact sheets for the 23 countries identified in Step 2. For countries where fact sheets were available for more than one survey year, available data from the most recent survey wave were extracted. If data for the selected indicators were not available in the fact sheets, we searched for available data in GATS country reports. Only those countries that reported data for both males and females were included.
5. Data for the comparison of overall adult and youth findings were extracted where available from GATS and GTYS fact sheets for surveys conducted within the same 2 year timeframe. If data was not available in GYTS fact sheets, country reports were searched. Only those countries that reported data on the selected indicator for both adults and youth were included.

Analyses of impact of tobacco advertising, promotion, and sponsorship policies

1. 20 countries that had implemented bans on tobacco advertising and product displays at point of sale (POS) as of 2016 were identified (see online supplementary appendix of He et al. (2018)[1] (file:///C:/Users/lvcraig/Downloads/tobaccocontrol-2018-October-27-e2-e98-inline-supplementary-material-1.pdf)
2. GATS and GYTS countries with published data for surveys conducted after the implementation of the POS advertising bans were identified from the list of 20 countries identified in Step 1. There were 5 such GATS countries (Uruguay, Thailand, Ukraine, Kenya, and Russia) and 4 GYTS countries (Uruguay, Thailand, Ukraine, and Kenya)
3. The GATS and GYTS fact sheets were reviewed to identify a common impact indicator for the POS ban.

Impact of Health Warnings

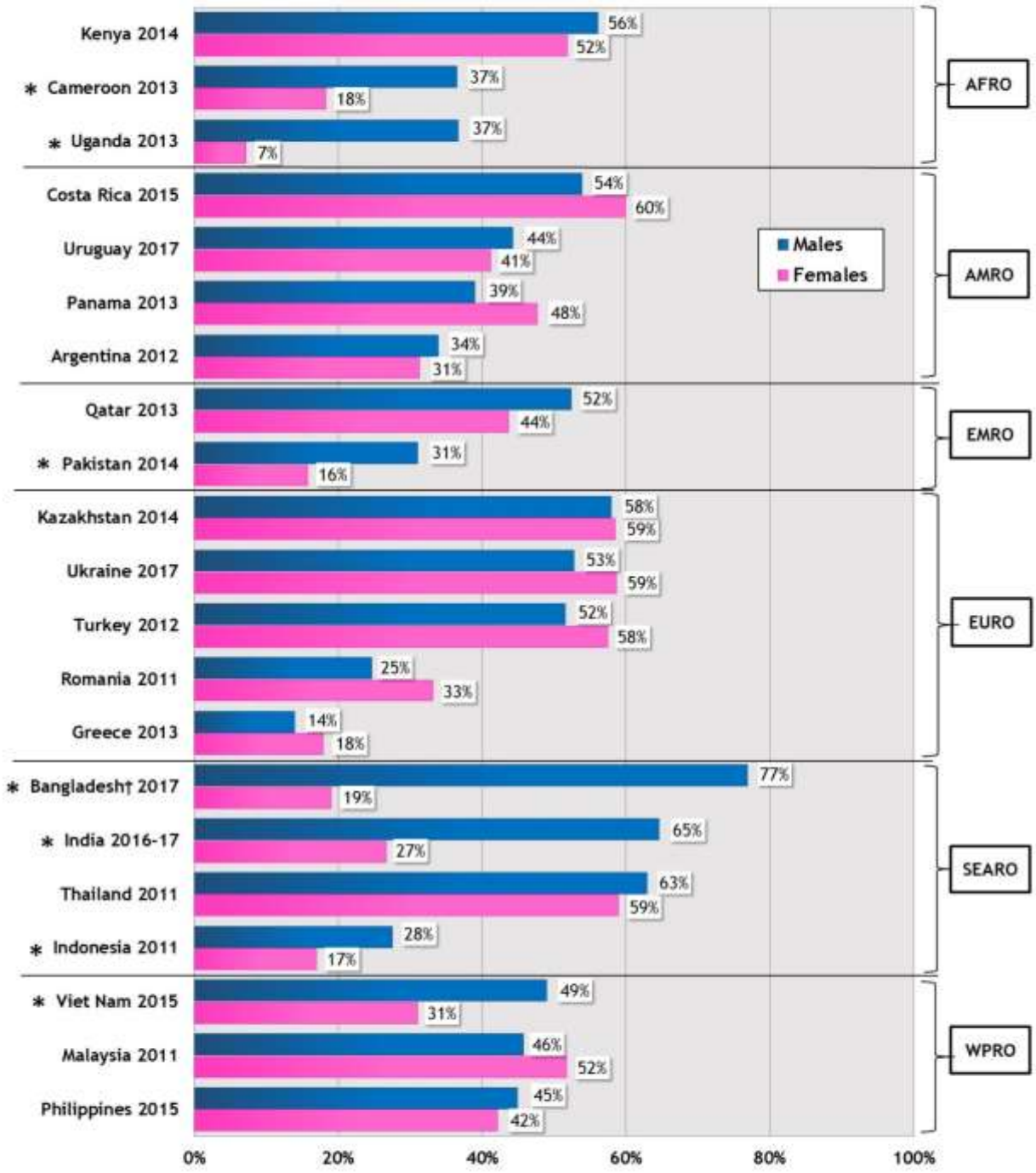
Findings from GATS: Impact of Warning Labels on Adult Male and Female Tobacco Users

Our analysis of impact of health warnings on adult males vs females was based on the indicator *"Thinking about quitting because of health warning labels on cigarette packages"*. Data from this indicator — reported as the percentage of current smokers who noticed health warnings on cigarette packages in the past 30 days who thought about quitting smoking because of the health warnings — are presented in Figure 1 by gender based on the most recent GATS wave where data were available in 21 countries.

Of the 21 countries, thinking about quitting among males was at least 10 percentage points higher than females in 7 countries (see asterisked countries in Figure 1). In 14 countries the difference between males and females was less than 10 percentage points. There were no countries in which females were higher than males by at least 10 percentage points.

The impact of the warnings on thinking about quitting was highest among male smokers in Bangladesh (77%), whereas rates among female smokers in Bangladesh (19%) were among the lowest in the 4 SEARO countries and other regions. At the time of the Bangladesh survey (2017), pictorial warnings were required on 50% of the front and back of smoked and smokeless tobacco (since March 2016). The pictorial warnings replaced text warnings that were required on 30% of the front and back of cigarette packages until 2006 (no warnings were required on smokeless tobacco).

Figure 1. Percentage of adult cigarette smokers who thought about quitting because of warning labels in the last 30 days, by GATS country and gender



* In these countries, the percentage among females was at least 10% lower than males
† In Bangladesh, percentages are reported for current smokers (cigarettes and/or bidis) who thought about quitting because of a warning label on smoked tobacco packages

The GATS Bangladesh 2017 data on this indicator for smokeless tobacco suggests that among female tobacco users, the smokeless warnings had a greater impact on thinking about quitting (36%) than the warnings on smoked tobacco (19%). However, for male tobacco users, the impact of the smoked tobacco warnings (77%) was higher than the smokeless tobacco (49%).

A similar gender gap in the impact of health warnings was evident in India. The impact of the cigarette pack warnings on thinking about quitting was second highest among male smokers in India (65%), compared to only 27% of females. At the time of the India survey (2016-17), pictorial warnings covered 40% of the front of all tobacco products, a requirement since 2009. In contrast to the findings in Bangladesh (where for females the smokeless tobacco warnings had greater impact than the smoked tobacco warnings, but for males the warnings on smoked tobacco had greater impact), in India there were generally no differences in the impact of the various types of tobacco product warnings for female users: cigarettes (27% thought about quitting), bidis (29%), and smokeless tobacco (30%). However, there was greater variation in impact of the warnings among male tobacco users across tobacco products (cigarettes (65%), bidis (56%), and smokeless tobacco (53%)) and the impact of the warnings on thinking about quitting was higher for males than for females across all three tobacco products.

In 2013, the impact of the cigarette pack warnings on quitting was weak among female smokers in Cameroon (18%) and Uganda (7%) and there was evidence of a gender gap in impact within these countries, where thinking about quitting was 19 percentage points higher among male smokers in Cameroon (37%) and 30 percentage higher among male smokers in Uganda (37%). Text warnings were required on packs at the time of the surveys in both countries and only Cameroon has finalized requirements to implement pictorial warnings in 2019.

In summary, the GATS evidence suggests that in some countries, the impact of health warnings on smoked and smokeless tobacco products is substantially lower among female tobacco users compared to male tobacco users.

Findings from GATS vs GYTS: Impact of Warning Labels on Adults and Youth

To compare the impact of warning labels on adult and youth smokers, published GATS and GYTS data on the indicator “thinking of quitting because of health warning labels on tobacco packages” were present in 14 countries. Figure 2 illustrates the comparisons for adults and youth on this measure. It should be noted that comparable data were available for adults and youth in Cameroon and the Philippines. However, in the other 12 countries, data for youth were only available among smokers who noticed the warnings on cigarette packages in the past 30 days.

Of the 14 countries, thinking about quitting because of the warnings among adult smokers was at least 10 percentage points higher compared to youth smokers in 4 countries (see asterisked countries in Figure 2). Thinking about quitting among youth smokers was at least 10 percentage points higher than among adult smokers in 3 countries. In 7 countries, the difference between adult and youth smokers was less than 10 percentage points.

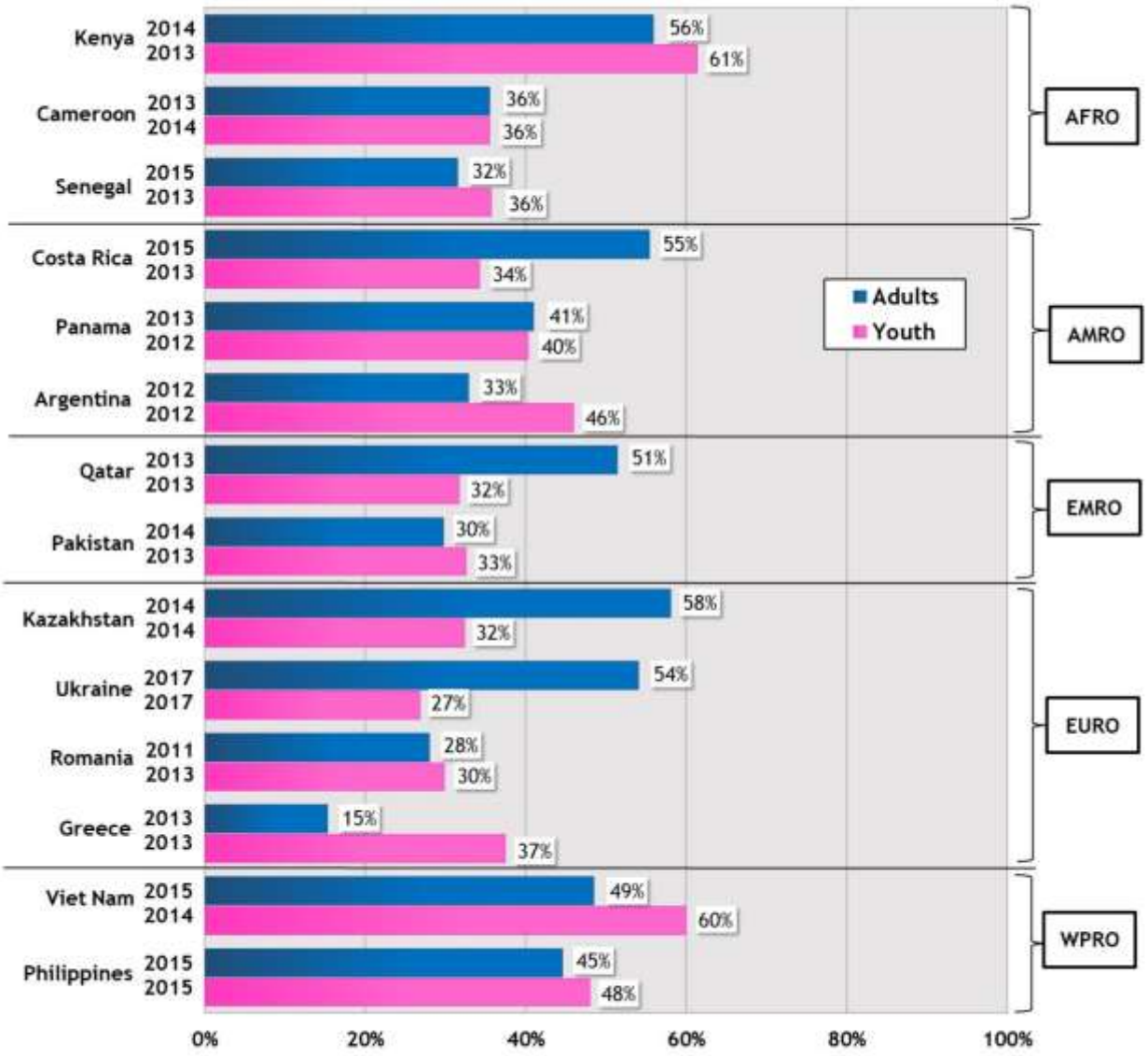
In 4 countries (Costa Rica, Qatar, Kazakhstan, and Ukraine), there were substantially higher rates of thinking about quitting among adult smokers compared to youth smokers—a difference of 19 to 27 percentage points. The reasons for these differences are unclear. In Costa Rica, the higher impact among adults may have been associated with differences in the warnings at the time of the surveys. Pictorial warnings were on packs at the time of GATS in 2015, whereas text warnings were on packs at the time of GYTS in 2013. However, there were no differences in the health warnings or the timing of the GATS and GYTS fieldwork in Qatar, Kazakhstan, and Ukraine.

In 3 countries (Argentina, Greece, and Viet Nam), there were substantially higher (ranging from 11 to 22 percentage points) rates of thinking about quitting among youth smokers compared to adult smokers. In all three countries, the same warnings were on packs at the time of the GATS and GYTS surveys in each country. In Viet Nam, there was a 1 year longer period of exposure to the pictorial warnings among adults (GATS was conducted 2 years after the 2013 pictorial warnings were implemented) compared to youth (GYTS was conducted 1 year after the 2013 pictorial warnings).

In 7 of the 14 countries (Kenya, Cameroon, Senegal, Panama, Pakistan, Romania, and Philippines), the difference between youth and adults in reported thinking about quitting because of the warnings was less than 10 percentage points.

In summary, there was some evidence of differences between adults and youth in the impact of warning labels on thinking about quitting, however patterns in the differences were inconsistent and the reasons for the differences are unclear.

Figure 2. Percentage of adult and youth cigarette smokers who thought about quitting because of warning labels in the last 30 days†, by GATS/GYTS country



† Percentages for youth are among those who noticed warnings in the last 30 days, except in Cameroon and Philippines where the data are among all current smokers

Impact of Smoke-free Policies

Findings from GATS: Impact of Smoke-free Policies on Adult Male and Female Smokers

Our analyses of the impact of smoke-free policies on adult males vs females were conducted on two indicators: *"Exposure to tobacco smoke in the workplace"*, and "*Exposure to tobacco smoke in the home*".

Impact of Smoke-free Policies on Exposure to Secondhand Smoke in Indoor Workplaces

Figure 3 presents the percentage of males and females who were exposed to tobacco smoke in their workplace in the last 30 days, among those who work indoors outside of the home in 23 countries. The findings are based on the most recent GATS wave where data was available.

The GATS data show that **in all 23 countries, SHS exposure in the workplace was higher among males compared to females.**

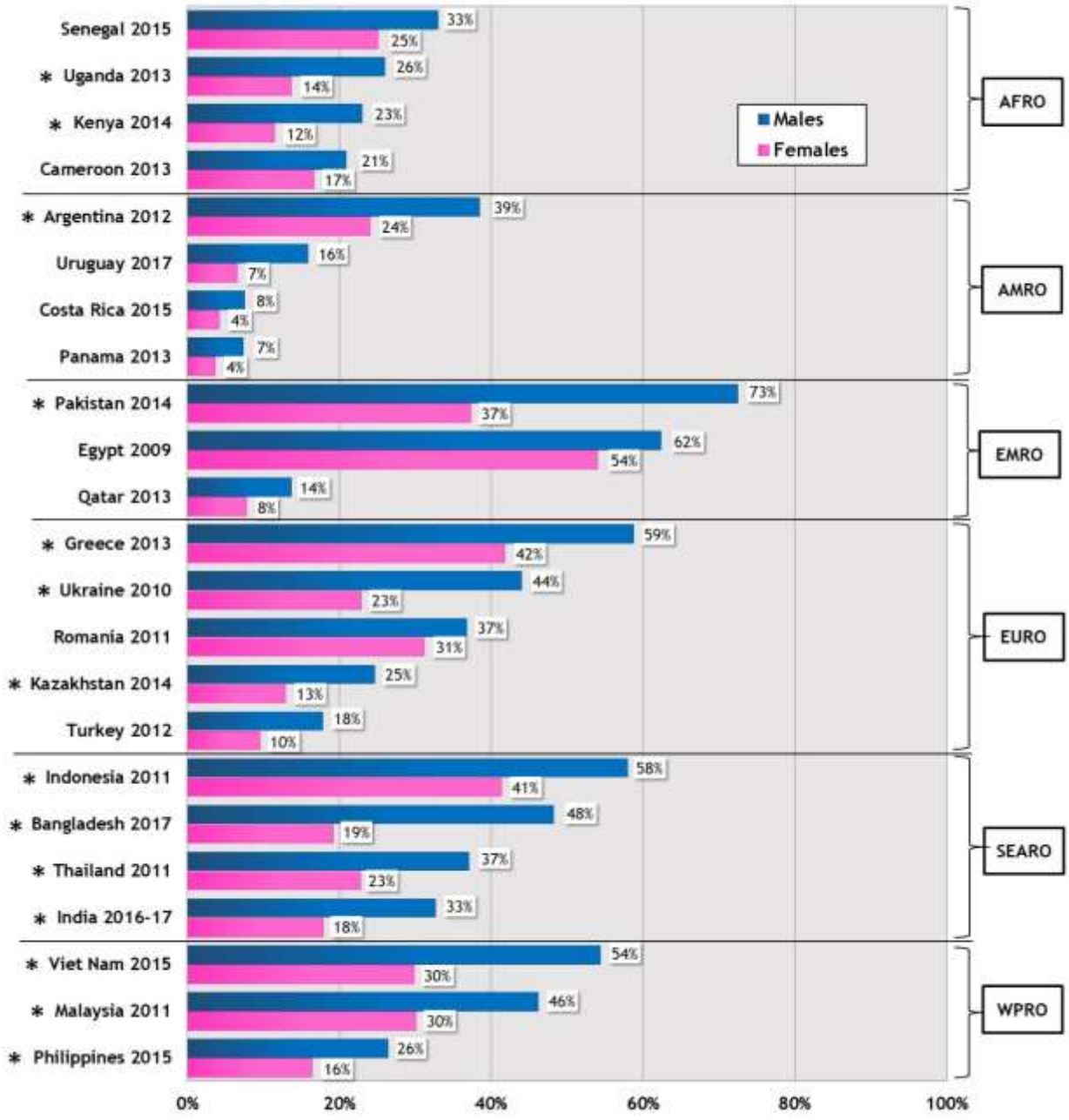
Of the 23 countries, exposure to SHS in indoor workplaces among males was at least 10 percentage points higher than among females in 14 countries (see asterisked countries in Figure 3). Exposure among males was less than 10 percentage points higher than females in the other 9 countries.

In some regions, rates of SHS exposure were low and the gender differences were small, for example in the Americas (Uruguay (2017), Costa Rica (2015), and Panama (2013)). In contrast, Pakistan (2014) had substantially higher SHS exposure among males and also the largest gap in exposure between males and females (73% vs 37% respectively). Exposure to SHS in indoor workplaces was also high among males and females in Egypt (2009), Greece (2013), and Indonesia (2011), where rates of exposure among males ranged from 58% to 62% and among females ranged from 41% to 54%. Large gender gaps in exposure were also evident in Bangladesh (2017) and Viet Nam (2015) where about half of males reported SHS exposure in workplaces, while female exposure ranged from 19% to 30%.

The reasons for higher SHS workplace exposures among males are unclear, but it cannot be explained by the fact that males are more likely to work outside the home because the analyses were only conducted among both males and females who reported working outside the home. The differences may be related to the type of indoor work environment sought by male and females and clustering effects, where males tend to work with males and females tend to work with females in workplaces with differences in social norms for smoking—especially in countries where entire professions are more gender/sex dominant. Since males have higher smoking rates, there may be a tendency for them to smoke because others are smoking in these indoor environments. In contrast, female smokers are much less likely to be in an environment where smoking rates are high, and this will be greater to the extent that there is high gender differentiation in employment. So there will be less social support/norms for smoking in those environments and therefore greater male exposure to SHS in indoor work environments.

In summary, gender comparisons of SHS exposure in workplaces suggest that exposures continue to be high, particularly among males, but also among females in many countries. Greater efforts are needed to strengthen smoke-free laws and to enforce existing restrictions to protect both males and females from the harms of SHS.

Figure 3. Percentage of adults who were exposed to tobacco smoke at the workplace in the last 30 days, among those who work indoors outside the home, by GATS country and gender



* In these countries, the percentage among females was at least 10% lower than males

Impact of Smoke-free Policies on Exposure to Secondhand Smoke in the Home

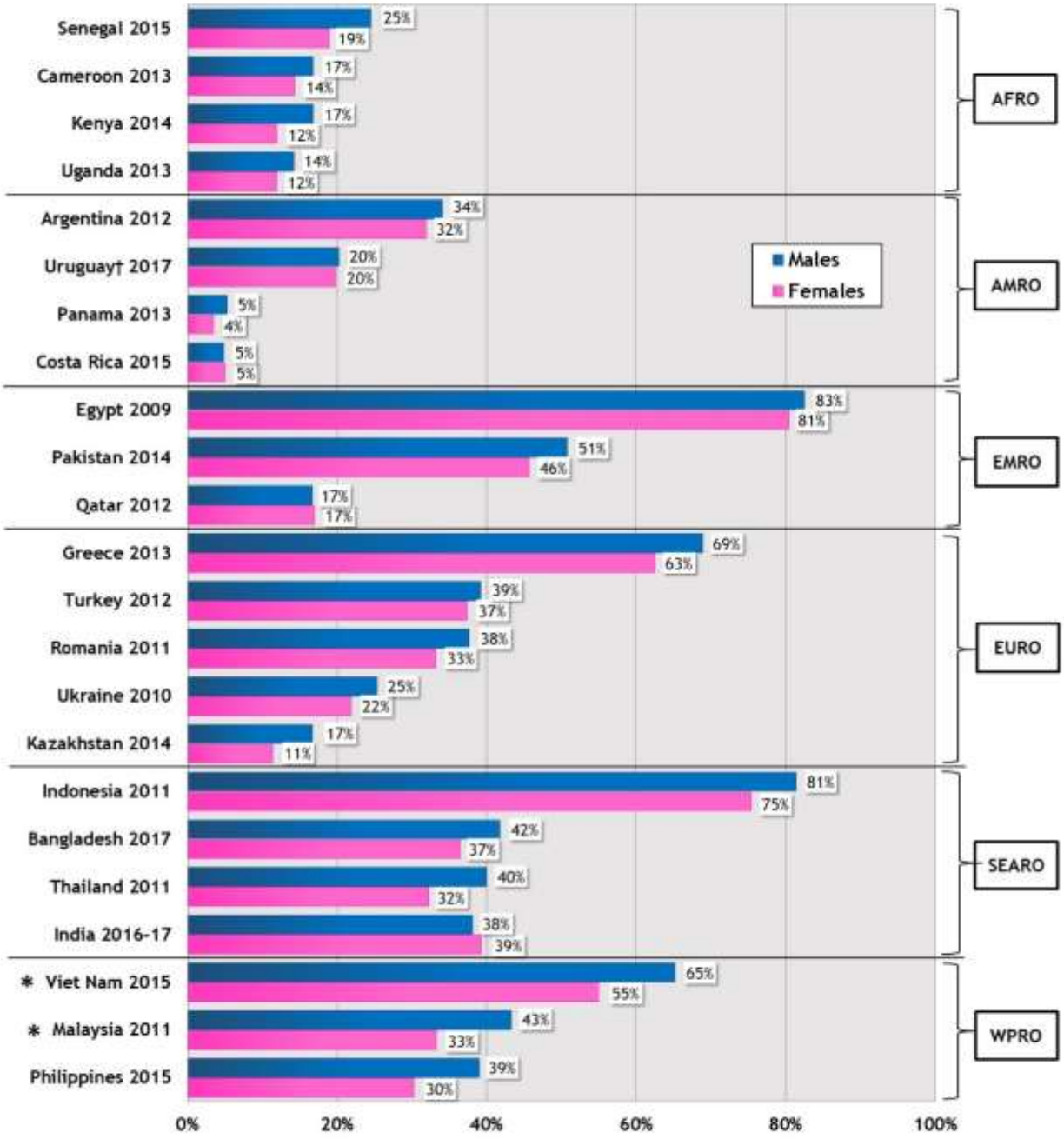
Figure 4 presents the percentage of males and females who were exposed to tobacco smoke at home at least monthly in 23 countries. The findings are based on the most recent GATS wave where data was available.

In contrast to the findings on exposure to SHS in workplaces, where there were large gender differences, differences between men and women in exposure to SHS in the home were smaller in most countries.

Of the 23 countries, exposure to smoking in the home among males was at least 10 percentage points higher than among females in 2 countries (see asterisked countries in Figure 4). In 21 countries, male and female exposure was within 10 percentage points.

The greatest differences in exposure occurred in the Western Pacific Region where exposure in the home among males was 10 percentage points higher than among females in Viet Nam (2015) (65% vs 55%) and Malaysia (2011) (43% vs 33%). The highest rates of smoking in the home were in Egypt (2009), Indonesia (2011), Greece (2013), and Viet Nam (2015) ranging from 55% to 81% among females and from 65% to 83% among males.

Figure 4. Percentage of adults who were exposed to tobacco smoke at home at least monthly, by GATS country and gender



† The Uruguay 2017 data reports exposure at least weekly instead of monthly
* In these countries, the percentage among females was at least 10% lower than males

Exposure to SHS in the home: adults compared to youth

Figure 5 presents data on exposure to smoking in the home at least monthly among adults compared to youth in 23 countries.

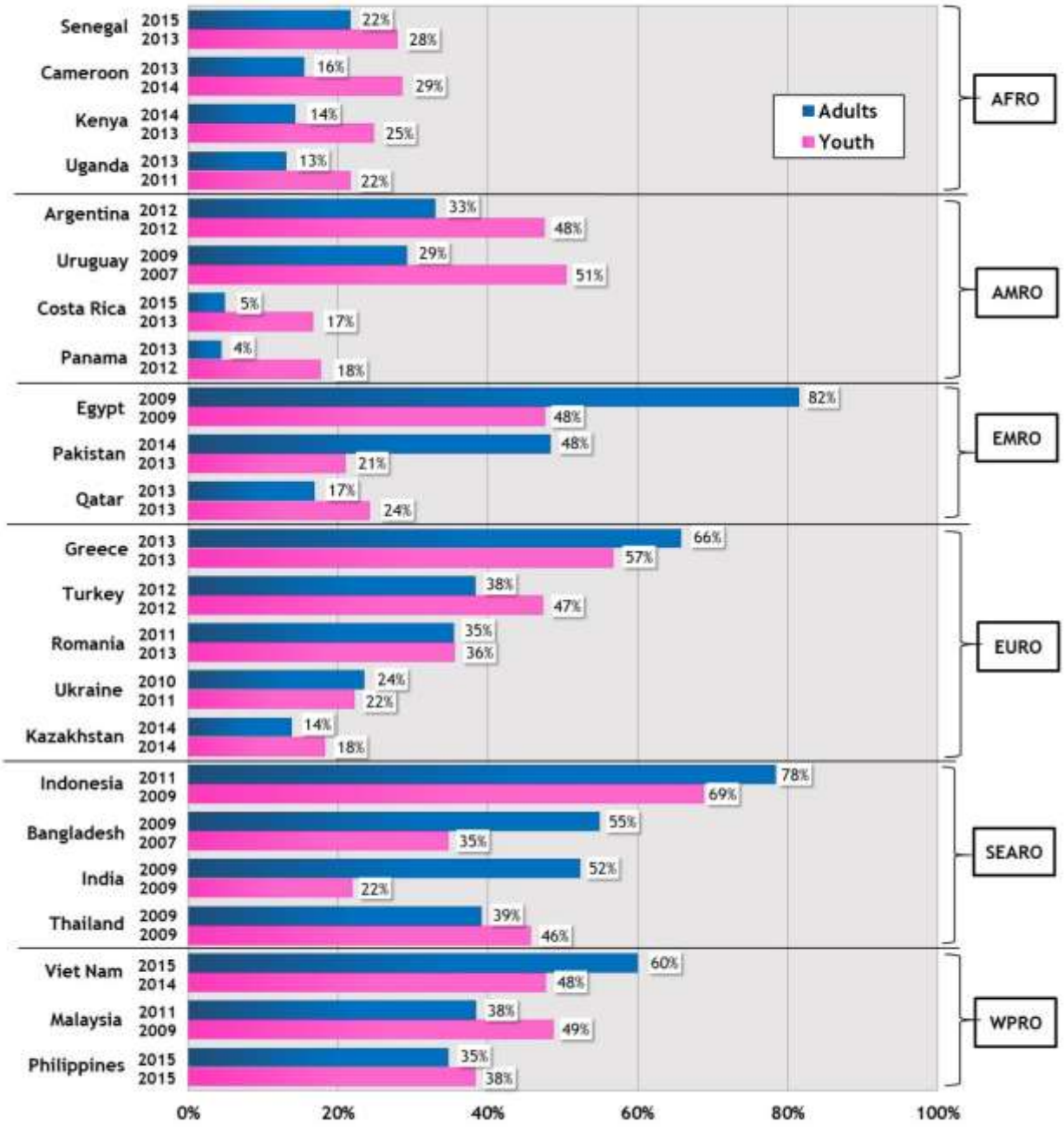
Of the 23 countries, adult exposure to smoking in the home was at least 10 percentage points higher than youth in 5 countries (see asterisked countries in Figure 5). Youth exposure to smoking in the home was at least 10 percentage points higher than adults in 7 countries. Adult and youth exposure was within 10 percentage points in 11 countries.

In all eight countries in the African Region and Region of the Americas, a higher percentage of youth reported exposure to smoking in the home at least monthly compared to adults. In the African Region, exposure to SHS in the home among youth ranged from 22% in Uganda (2011) to 29% in Cameroon (2014), with the highest difference in adult-youth exposure in Cameroon (16% adults vs 20% youth). In the Americas, SHS exposure among youth ranged from 17% in Costa Rica (2013) to 51% in Uruguay (2007), with the highest difference in adult-youth exposure in Uruguay (29% adults vs 51% youth).

In contrast, there were substantially higher exposures to SHS in the home among adults compared to youth in the Eastern Mediterranean region, particularly in Egypt (2009) and Pakistan (2013-14) where adult exposure was higher by 34 and 27 percentage points, respectively. Similarly, in Southeast Asia, approximately half of adult smokers in Bangladesh (55%) and India (52%) were exposed to SHS in the home in 2009 compared to 35% of youth in Bangladesh (2007) and 22% of youth in India (2009).

In the European and Western Pacific Regions, differences in exposure to SHS in the home between adults and youth were smaller, with no clear patterns. However, there were high rates of exposure among youth, particularly in Romania (2013), Turkey (2012), Greece (2013), Philippines (2015), Viet Nam (2014), and Malaysia (2009) where exposure ranged from 36% to 57%.

Figure 5. Percentage of adults and youth who were exposed to tobacco smoke at home at least monthly, by GATS/GYTS country



Impact of Bans on Tobacco Advertising and Promotion

Article 13 of the WHO FCTC and its guidelines call for a comprehensive ban on tobacco advertising, promotion, and sponsorship. As of 2016, 20 countries have implemented tobacco advertising and promotion bans at point of sale (POS). This section compares noticing cigarette marketing at POS among adults and youth in four countries after implementation of their bans. GATS data on this indicator were not available for adult males and females in three of the four countries where GATS and GYTS data were available. However, GYTS data was available to examine whether there were differences between boys and girls in noticing POS marketing in 7 countries and 3 regions of Chile where POS advertising bans have been implemented.

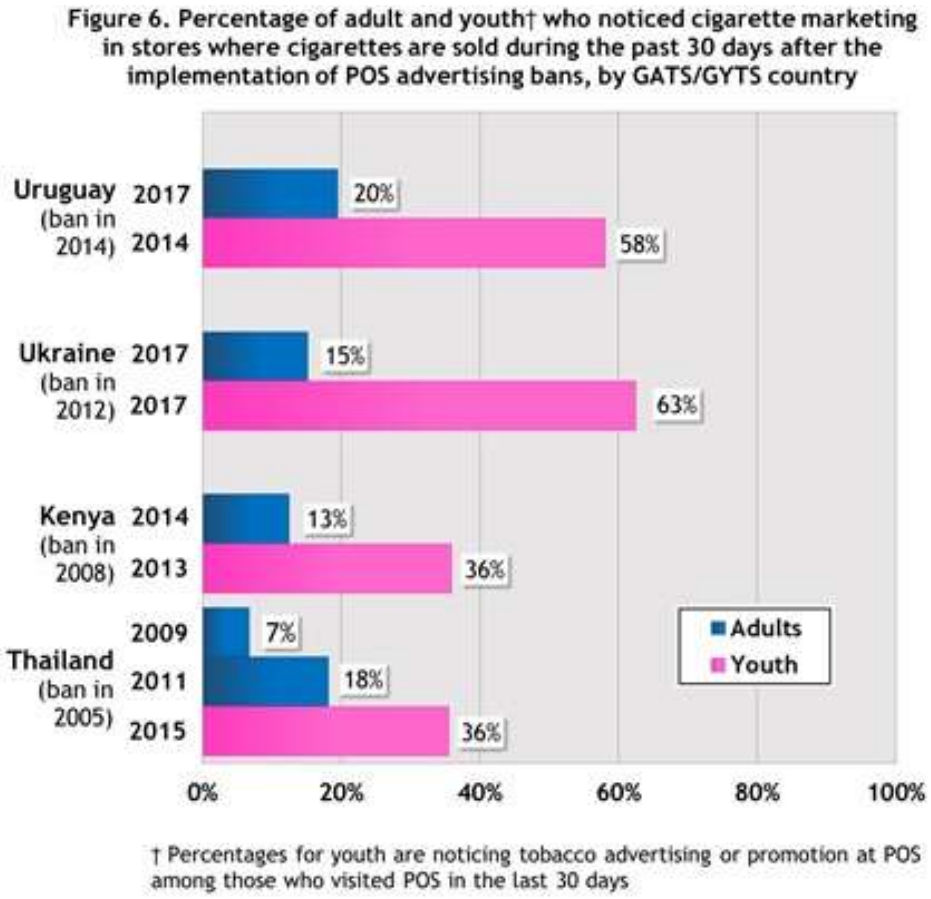
Impact of POS advertising bans on exposure to POS marketing among adults and youth

Figure 6 presents data on the indicator noticing cigarette marketing in stores where cigarettes are sold in four countries where GATS and GYTS fieldwork was conducted after implementation of the POS advertising bans. It is important to note that the data is reported slightly differently in the GATS and GYTS fact sheets. For GATS data, the percentages represent adults who noticed cigarette marketing in stores where cigarettes are sold in the past 30 days. For GYTS, the percentages represent youth who noticed tobacco advertising or promotion at POS among those who visited POS in the past 30 days. The difference is that the data for adults was not filtered on exposure to POS.

Findings indicate that in all four countries, a higher percentage of youth who visited POS in the past 30 days noticed cigarette marketing at POS compared to the percentage of adults who noticed advertising in stores in the past 30 days. It is unclear whether the higher rates among youth reflect differences in implementation of the law at the types of POS visited by youth compared to those visited by adults or whether the differences are associated with higher rates of exposure to POS among youth in the past 30 days.

In Uruguay, GYTS fieldwork was conducted the same year as implementation of the POS advertising and display ban (2014) and therefore the ban may not have been fully implemented at the time youth were surveyed.

Regardless of possible limitations in the comparability of the adult and youth survey data, the high rates of noticing cigarette marketing among youth suggest the need for stronger implementation and enforcement of the bans.

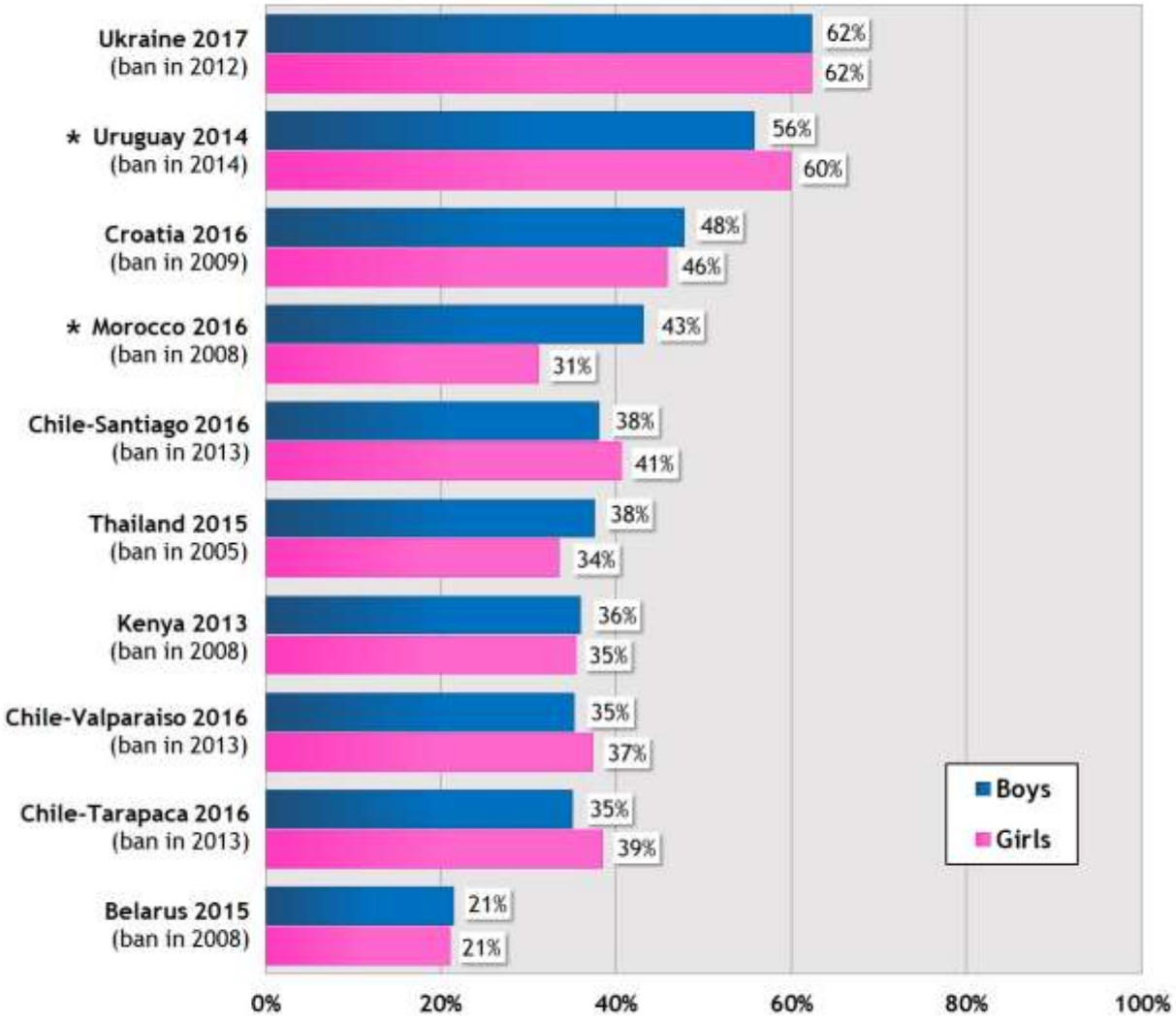


Impact of POS advertising bans on exposure to POS marketing among boys and girls

Figure 7 presents differences between boys and girls in noticing tobacco marketing at POS among youth who visited POS in the past 30 days. Gender comparisons for 7 countries and 3 regions of Chile where POS advertising and promotion bans were implemented indicate that in the majority of countries there were small differences in the impact of the ban on youth. Of the 10 countries/regions, only 1 country (Morocco) showed a difference of more than 10 percentage points between boys (43%) and girls (31%). In all other countries/regions, the difference between boys and girls in noticing POS marketing was less than 5 percentage points.[1] The data suggest that marketing bans in stores need to be strengthened (for example, to include a ban on POS product displays in Ukraine) and better enforced in order to achieve greater reductions in exposure to advertising in this setting.

[1] Note that the GYTS fact sheets for Morocco and Uruguay indicated that the gender differences were significant.

Figure 7. Percentage of youth who noticed POS marketing, among those who visited POS in the last 30 days, by GYTS country



* In these countries, GYTS fact sheets noted that gender comparisons were significant at $p<0.05$

References

[1] He Y, Shang C, Huang J, *et al.* Global evidence on the effect of point-of-sale display bans on smoking prevalence. *Tob Control* 2018;**0:**1-7. doi:10.1136/