

# Which countries are the best in tobacco control? A quantitative analysis of the MPOWER 2017

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**Background** The World Health Organization (WHO) introduced a package of advice to countries including six main policies (MPOWER) to control tobacco use. Our objective was to perform a quantitative analysis of MPOWER in countries and regions to create competition between parties.

**Methods** This cross-sectional study was based on the MPOWER data 2017, with countries assessed using a validated check list of 10 criteria (possible maximum score 37). The scores were summed and presented in a descending order for 6 regions.

**Results** The 23 countries which had at least 85% of total score (i.e., at least 32 from 37) were: United Kingdom, Turkey and Costa Rica (36); Brazil, Panama and Australia (35), Surinam, Colombia, Iran and New Zealand (34); Portugal, Russia, Ireland, Seychelles, Mauritius, Canada, Uruguay and Argentina (33); and Romania, Estonia, Denmark, Spain and Norway (32).

**Conclusions** These 23 countries may present as the best model. Comparison of scores of different countries in this respect can be beneficial since it creates a challenge for the countries to achieve a higher rank.

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**Cite as:** Heydari G. Which countries are the best in tobacco control? A quantitative analysis of the MPOWER 2017. *J Glob Health Rep* 2019; 3: e2019039.

The need for implementation of tobacco control programs is undeniable due to hazards from smoking (1). Tobacco use remains the first preventable cause of morbidity and mortality from chronic diseases worldwide, and the rate of morbidity and mortality is rising due to smoking-related diseases (2, 3). Therefore, the first and the most important strategy to confront this is the comprehensive implementation of tobacco control programs (4, 5). In this regard, the WHO negotiated the Framework Convention on Tobacco Control (FCTC) treaty in 2003 and so far, 181 countries have ratified it (6). In 2008, a package was proposed to be implemented and included six main components, namely: monitor tobacco use and prevention policies, protect people from tobacco smoke, offer help to quit tobacco use, warn people about the dangers of tobacco, enforce bans on tobacco advertising, promotion and sponsorship, and raise taxes on tobacco (7). Global experiences have revealed that implementation of the above-mentioned six strategies can effectively decrease the rate of consumption and resultant-

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**Table 1.** MPOWER WHO score on tobacco control check list based on WHO report 2017

	SCORE
<b>Adult daily smoking prevalence</b>	4
Estimates not available	0
30% or more	1
From 20% to 29%	2
From 15% to 19%	3
Less than 15%	4
<b>Monitoring: prevalence data</b>	3
No known data or no recent data or data that is not both recent and representative	0
Recent and representative data for either adults or youth	1
Recent and representative data for both adults and youth	2
Recent, representative and periodic data for both adults and youth	3
<b>Smoke – free policies</b>	4
Data not reported	0
Up to two public places completely smoke-free	1
Three to five public places completely smoke-free	2
Six and seven public places completely smoke-free	3
All public places completely smoke-free	4
<b>Cessation program</b>	4
Data not reported	0
None	1
NRT and/or some cessation services (neither cost-covered)	2
NRT and/or some cessation services (at least one of which is cost-covered)	3
National quit line, and both NRT and some cessation services cost-covered	4
<b>Health warning on cigarette packages</b>	4
Data no reported	0
No warnings or small warnings	1
Medium size warnings missing some appropriate characteristics	2
Medium size warnings with all appropriate characteristics	3
Large warnings with all appropriate characteristics	4
<b>Anti-tobacco mass media campaigns</b>	4
Data not reported	0
No campaign conducted	1
Campaign conducted with 1–4 appropriate characteristics	2
Campaign conducted with 5–6 appropriate characteristics	3
Campaign conducted with all appropriate characteristics	4
<b>Advertising bans</b>	4
Data not reported	0
Complete absence of ban print media	1
Ban on national television, radio and print media only	2
Ban on national television, radio and print media	3
Ban on all forms of direct and indirect advertising	4
<b>Taxation</b>	4
Data not reported	0
≤ 25% of retail price is tax	1
26–50% of retail price is tax	2
51–75% of retail price is tax	3
>75% of retail price is tax	4
Compliance bans on advertising	3
Complete compliance (8/10 to 10/10)	3
Moderate compliance (3/10 to 7/10)	2
Minimal compliance (0/10 to 2/10)	1
Not report	0
<b>Compliance Smoke-free policy</b>	3
Complete compliance (8/10 to 10/10)	3
Moderate compliance (3/10 to 7/10)	2
Minimal compliance (0/10 to 2/10)	1
Not report	0
<b>Total</b>	<b>37</b>

ly the consequences and complications of tobacco use (8–11). Some studies showed that this type of analysis may create a challenge between countries to improve their status on tobacco control (12, 13). A study in 2015 showed that fifteen countries the highest scores on tobacco control worldwide (14).

This study sought to perform a quantitative analysis of the above-mentioned report and track the status of tobacco control programs of different countries and the six WHO regions in this regard to create competition between parties with introducing best parties and may motivate countries as a stimulant to be more active on tobacco control.

## METHODS

This cross-sectional study was conducted in the second half of 2017 using a researcher-made checklist that was validated in previous two studies (13, 14). The data for each country related to 10 variables were completed and recorded including 7 MPOWER recommendations, 2 compliances, and the prevalence of tobacco use based on the WHO 2017 report. For the 5-item variables, the score was from 0 to 4; and for the 4-item variables, the score was 0–3. Thus, the range of total scores was calculated from zero to 37. The checklist was crossed-check and finalized by the panel of experts at a meeting in Tobacco Prevention and Control Research Center and the scores were confirmed and approved. The scores of each country were finalized and arranged according to the six zones of the WHO in separate tables.

The checklist and the scoring system used are presented in Table 1.

## RESULTS

Countries which had at least 85% of total score (32 out of 37) were Seychelles and Mauritius at 33 each (i.e. two from 47 countries, representing 4.2% of the WHO Regional Office for Africa (AFRO) region), Costa Rica 36, Brazil and Panama 35, Surinam and Colombia 34, Canada, Uruguay and Argentina 33 (ie. 8 from 35 countries, representing 22.8% of the WHO Regional Office for the Americas AMRO region), United Kingdom and Turkey 36, Portugal, Russia, Ireland 33, Romania, Estonia Denmark, Spain and Norway 32 (ie. 10 from 53 countries, representing 18.8% of the WHO Regional Office for Europe (EURO) region), Iran 34 (i.e. 1 from 22 countries, representing 4.5% of the WHO Regional Office of the Eastern Meditterean

(EMRO) region), and Australia 35, New Zealand 34 (2 from 27 countries, representing 7.4% of the WHO Western Pacific Regional Office (WPRO) region). There was no country in the WHO South East Asia Regional Office (SEARO) region. The 23 countries and their scores (based on the 10 indicators) with differences from 2015 are show in Table 2.

**Table 2.** MPOWER WHO score on tobacco control for top 23 countries

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Costa Rica	4	4	4	3	3	4	4	3	3	3	36	+3
United Kingdom	3	4	4	3	4	4	4	3	3	4	36	+3
Turkey	2	4	4	3	4	4	4	4	3	4	36	+1
New Zealand	3	4	4	3	4	4	4	3	3	3	35	+7
Brazil	4	4	4	3	4	4	2	4	3	3	35	+1
Panama	4	4	4	3	4	4	2	4	3	3	35	-
Suriname	3	3	4	3	3	4	4	4	3	3	34	+4
Colombia	4	4	4	3	3	3	4	4	3	2	34	+3
Australia	4	4	4	0	4	4	4	3	4	3	34	+2
Iran (IR)	4	4	4	3	4	4	3	4	3	1	34	+1
Seychelles	3	3	4	3	3	4	4	3	3	3	33	+5
Portugal	3	4	3	3	3	4	4	3	3	3	33	+5
Russian F.	2	4	4	3	3	4	3	4	3	3	33	+3
Canada	4	4	4	3	4	4	1	3	3	3	33	+1
Mauritius	3	3	3	3	3	4	4	4	3	3	33	+1
Uruguay	4	4	4	3	3	4	1	4	3	3	33	-1
Argentina	3	4	4	3	3	4	3	3	3	4	33	-
Ireland	3	4	4	0	4	4	4	3	3	4	33	-
Romania	2	4	4	3	3	4	3	3	3	3	32	+9
Estonia	2	4	1	3	4	4	4	3	3	4	32	+7
Denmark	3	4	1	3	4	4	4	3	3	3	32	+5
Spain	3	4	4	3	3	3	1	4	3	4	32	+2
Norway	3	4	4	3	3	3	4	3	3	3	32	+1

The highest mean points were scored by Europe (26.41). Other regions are as follows: South-East Asia (25.09), West Pacific (24.88), America (22.05), East Mediterranean region (21.40) and Africa (17.40). The mean difference was significant ( $P<0.05$ ). A negative correlation between low smoking prevalence and high total score was observed ( $P=0.02$ ).

Countries which had less than 30% of total score (11 out of 37) were: Sao Tome, Malawi, and Lesotho 10, Guinea Bissau, Equatorial Guinea, and Angola 8, South Sudan, Burundi, and Mauritania 7, Central Africa 6 (ie. 10 from 47 countries, representing 21% of AFRO region); Saint Vincent 9, Saint Kitts 8, Dominica 7 (ie. 3 from 35 countries, representing 8% of AMRO region); Monaco 7, (ie. 1 from 53 countries, representing 2% of EURO region); and Somali 7 (ie. 1 from 22 countries, representing 4% of EMRO region). There were no countries from SEARO and WPRO regions.

This finding mentioned that Africa region which had fewer countries in top scores (4%) had highest countries in low scores (21%) and it showed vice versa for European region (19%–2%).

## DISCUSSION

This study showed that none of the countries had full scores in the tobacco control programs; however, 23 countries (Seychelles, Mauritius, Costa Rica, Brazil, Panama, Surinam, Colombia, Canada, Uruguay, Argentina, United Kingdom, Turkey, Portugal, Russia, Ireland, Romania, Estonia, Denmark, Spain, Norway, Iran, Australia and New Zealand) had a superior status according to the 2017 MPOWER report. These 23 countries may present a best model for other parties in the implementation and enforcement of tobacco control programs. Comparison

of scores of different countries in this respect can be beneficial since it creates a challenge for the health policy makers to find weakness of the tobacco control programs to work on it. Also, Europe had a superior position over others as well.

In 2015, fifteen countries, which acquired the highest scores (85% of total 37) included Panama and Turkey with 35, Brazil and Uruguay with 34, Ireland, United Kingdom, Iran, Brunei, Argentina and Costa Rica with 33 and Australia, Nepal, Thailand, Canada and Mauritius with 32 points (14). The comparison between these two studies shows that 4 countries (Brunei, Nepal, Thailand and Mauritius) left and 12 new countries are added to this group. It may create competition between countries to have more focus on tobacco control.

In pages 136 to 149 of the 2017 MPOWER report (11) we found 9 countries with lowest smoking prevalence in the world, 5% or less including Ethiopia, Ghana and Panama (3%), Ecuador (4%), Benin, Barbados, Eritrea, Niger and Nigeria (5%) and based on Table 3 to Table 8 the total score of those are 22, 22, 35, 31, 26, 23, 18, 23 and 19, respectively. It shows that among these, only Panama is in top 23. It might be due to other reasons which can be explored in future studies, but we found a significant negative correlation between low smoking prevalence and high total score.

Since the scores were very much close and most countries had a one-point difference, more precise implementation of each strategy and publishing a more thorough report may change the scores and consequently the ranking of countries in this respect. Table 3 to Table 8 show that all of the regions had higher total scores compared with 2015 including Africa +52, America +59, SEAR +35, Europe +109, EMR +43 and WEPR +43. Highest mean score of this is belonging to SEAR with 3.18 and then 2.05 for Europe. It is notable that SEAR has no country in the top 23 but it has best improvement regionally. Also Table 3 to Table 8 show that highest score improvement belong to Timor Leste +13, Cambodia +12, El Salvador and Romania +9, Uganda, Ruanda, Syrian Arab Republic +8 and highest reduction belong to Cameroon -7, Luxemburg -6, San Marino, Libya, Swaziland -5.

**Table 3.** Africa Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Seychelles	3	3	4	3	3	4	4	3	3	3	33	+5
Mauritias	3	3	3	3	3	4	4	4	3	3	33	+1
Senegal	4	3	3	0	4	4	1	4	3	2	28	+6
Uganda	4	4	4	0	3	3	1	4	3	1	27	+8
Burkin faso	4	2	4	2	2	4	1	3	3	2	27	+4
Benin	4	2	3	1	3	2	1	3	2	1	26	+1
Kenya	4	3	1	0	3	3	4	4	0	3	25	+2
Madagascar	0	1	4	2	2	4	1	4	3	4	25	+1
Togo	4	3	2	2	1	3	1	4	3	1	24	+3
Niger	4	1	2	0	2	4	1	4	3	2	23	-
South Africa	3	4	1	0	3	1	1	3	3	3	22	+5
Ethiopia	4	2	0	2	3	1	3	3	3	1	22	+4
Ghana	4	2	0	0	3	3	1	4	3	2	22	-3
Namibia	3	1	4	0	3	4	1	3	0	2	21	-3
Cameron	0	3	2	0	3	3	4	3	0	1	21	-7
Mozambique	4	2	1	2	2	1	1	3	2	2	20	+2
Nigeria	4	2	1	0	3	3	1	4	0	1	19	+6
Gambia	4	1	1	0	1	2	1	3	3	3	19	+6
Congo	3	1	4	0	3	2	1	3	0	2	19	-1
Comoros	4	3	2	1	1	2	1	1	2	2	19	-
Rwanda	4	2	1	0	2	2	0	1	3	3	18	+8
Caboverde	4	4	1	0	3	1	1	3	0	1	18	+6
Botswan	3	2	1	0	3	2	1	3	1	1	18	+5
Zimbabwe	4	2	2	2	3	1	1	1	0	2	18	+4

**Table 3.** Continued

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Eritrea	4	1	1	0	1	2	0	4	3	3	18	+3
Mali	4	2	1	0	3	2	1	3	0	2	18	-
Zambia	4	2	3	1	2	1	1	1	0	2	17	+2
UR Tanzania	4	2	1	0	3	1	0	3	1	2	17	+1
Chad	0	1	4	0	2	4	0	4	0	2	17	-3
Swaziland	4	2	1	0	3	2	0	3	0	2	17	-5
Algeria	4	2	2	0	2	1	0	3	0	2	16	-4
Gabon	0	2	2	0	2	3	1	3	0	1	14	-2
Guinea	0	1	2	0	2	2	1	4	0	1	13	-
Sierra Leone	3	1	1	0	1	1	3	1	0	1	12	+2
Cote D'ivore	0	1	1	0	3	1	3	1	0	2	12	-
Liberia	4	2	1	0	2	1	0	1	0	1	12	-
D.R. Congo	0	1	2	0	2	2	1	2	0	2	12	-2
Sao Tome	0	1	1	0	3	1	0	3	0	1	10	+1
Malawi	4	1	1	0	1	1	0	1	0	1	10	-2
Lesotho	2	2	1	0	3	1	0	1	0	0	10	-3
Guinea B.	0	1	1	0	2	1	1	3	0	1	8	+2
E. Guinea	0	1	1	0	1	1	0	1	0	3	8	+1
Angola	0	1	2	0	2	1	1	1	0	0	8	+1
South Sudan	0	1	1	0	0	1	1	1	0	2	7	+4
Burundi	0	1	1	0	1	1	0	1	0	2	7	-
Mauritania	0	1	1	0	1	1	0	1	0	2	7	-3
Central African Republic	0	1	1	0	2	1	0	1	0	0	6	-4
<b>Total</b>											<b>818</b>	<b>+52</b>

\*The mean score of the region=17.40.

**Table 4.** America Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Costa Rica	4	4	4	3	3	4	4	3	3	3	36	+3
Brazil	4	4	4	3	4	4	2	4	3	3	35	+1
Panama	4	4	4	3	4	4	2	4	3	3	35	-
Suriname	3	3	4	3	3	4	4	4	3	3	34	+4
Colombia	4	4	4	3	3	3	4	4	3	2	34	+3
Canada	4	4	4	3	4	4	1	3	3	3	33	+1
Uruguay	4	4	4	3	3	4	1	4	3	3	33	-1
Argentina	3	4	4	3	3	4	3	3	3	4	33	-
Ecuador	4	3	4	3	3	4	1	3	3	3	31	+1
Chile	2	4	4	3	2	4	1	3	3	4	30	+2
El Salvador	4	3	4	0	4	4	4	3	0	3	29	+9
Jamaica	4	1	4	3	4	4	0	1	2	2	25	-2
Trinidad & Tobago	0	3	4	3	3	4	1	1	3	2	24	+1
Honduras	0	2	4	2	3	3	4	3	3	2	24	-3
Venezuela	0	2	4	2	3	4	1	1	3	3	23	+7
Barbados	4	4	4	3	3	1	1	1	0	2	23	+6
Mexico	4	3	0	2	4	4	0	1	2	3	23	-3
Peru	0	2	4	3	3	4	2	1	3	2	22	-1
USA	3	4	1	0	4	3	4	1	0	2	22	-
Bolivia	0	3	2	1	3	4	1	3	1	2	20	-4
Bahamas	4	3	1	0	3	1	1	1	3	2	19	+7
Nicaragua	0	2	3	1	2	3	1	1	3	2	18	+4

**Table 4.** Continued

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Paraguay	4	3	1	0	3	2	1	3	0	1	18	+4
Dominican R.	4	2	2	2	2	1	1	1	0	3	18	+2
Cuba	2	1	2	2	3	2	0	1	0	4	17	-1
Guatemala	0	2	4	2	3	1	1	1	1	2	16	+1
Saint Lucia	0	3	1	0	3	1	1	1	0	3	13	+4
Guyana	0	3	2	1	3	1	1	1	0	1	13	+1
Antigua B.	0	1	1	3	2	1	2	1	0	1	12	+4
Grenada	0	3	1	0	3	1	1	1	0	2	12	+3
Belize	0	3	1	0	3	1	0	1	0	2	12	+3
Haiti	4	1	1	0	1	1	1	1	0	2	11	+1
Saint Vincent	0	3	1	0	2	1	0	1	0	1	9	+1
Saint Kitts	0	1	1	0	2	1	1	1	0	1	8	+1
Dominica	0	1	1	0	2	1	0	1	0	1	7	-
Total											772	+59

\*The mean score of the region=22.05.

**Table 5.** South East Asia Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
India	4	1	3	3	4	4	3	3	3	3	31	+4
Srilanka	4	3	3	3	3	4	1	3	3	3	30	+5
Bangladesh	2	2	3	3	2	4	4	3	3	4	30	+3
Thailand	3	4	4	0	3	4	4	3	0	3	28	-4
Nepal	3	3	4	0	3	4	4	4	0	2	27	-5
Myanmar	3	4	2	2	3	3	1	3	3	2	26	+4
Moldavia	2	2	2	1	3	2	1	4	3	3	23	+5
Indonesia	1	4	2	1	2	3	4	1	1	3	22	+6
Timor-Leste	1	3	3	2	1	3	3	3	0	2	21	+13
Bhutan	0	4	3	3	3	1	1	3	3	0	21	-2
Korea DPR	0	2	2	2	3	1	4	1	0	1	17	+6
Total											276	+35

\*The mean score of the region=25.09.

**Table 6.** Europe Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
United kingdom	3	4	4	3	4	4	4	3	3	4	36	+3
Turkey	2	4	4	3	4	4	4	4	3	4	36	+1
Portugal	3	4	3	3	3	4	4	3	3	3	33	+5
Russian F.	2	4	4	3	3	4	3	4	3	3	33	+3
Ireland	3	4	4	0	4	4	4	3	3	4	33	-
Romania	2	4	4	3	3	4	3	3	3	3	32	+9
Estonia	2	4	1	3	4	4	4	3	3	4	32	+7
Denmark	3	4	1	3	4	4	4	3	3	3	32	+5
Spain	3	4	4	3	3	3	1	4	3	4	32	+2
Norway	3	4	4	3	3	3	4	3	3	3	32	+1
Latvia	1	4	3	3	3	4	3	3	3	4	31	+5
Poland	2	4	2	3	3	4	3	3	3	4	31	+5
Malta	2	4	4	3	4	4	0	3	3	4	31	+3

**Table 6.** Continued

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Austria	2	4	1	2	3	4	4	3	3	4	30	+7
Moldova	2	4	2	2	3	4	4	4	2	3	30	+3
Kazakhstan	3	4	2	3	3	4	3	3	3	2	30	+2
Bulgaria	2	4	4	2	3	4	1	3	3	4	30	+1
Finland	4	4	1	3	3	4	1	3	3	4	30	+1
Lithuania	2	4	2	3	3	4	1	3	4	4	29	+3
Albania	2	2	4	2	3	3	2	4	3	3	28	+5
Greece	1	4	4	1	3	4	1	3	3	4	28	+3
Slovakia	2	4	2	2	3	4	1	3	3	4	28	+2
Czech R.	2	4	2	2	3	4	1	3	3	4	28	+1
Cyprus	2	3	3	1	3	2	3	3	3	4	27	+5
Italy	2	4	0	0	3	4	4	3	3	4	27	+4
Iceland	4	4	1	3	2	3	1	3	3	3	27	+2
Ukraine	2	4	3	2	2	4	1	3	3	4	27	+1
Germany	2	4	1	0	3	4	3	3	3	3	26	+3
Croatia	1	4	2	3	3	2	1	3	3	4	26	+2
Netherland	2	4	1	0	4	4	4	3	3	3	26	+1
Slovenia	3	4	0	3	3	2	1	3	3	4	26	+1
France	2	4	0	3	3	4	0	3	3	4	26	-1
Turkmenistan	0	3	4	3	3	4	1	3	3	2	26	-1
Hungary	2	4	3	0	3	4	1	3	0	3	26	-3
Belgium	2	4	0	3	3	4	3	3	3	4	26	-
Serbia	1	4	2	2	3	2	1	3	3	4	25	+1
Switzerland	2	4	1	0	3	3	4	1	3	3	24	+4
Macedonia	0	2	4	2	3	3	1	3	3	3	24	+1
Kyrgyzstan	2	3	2	1	3	4	0	3	3	2	23	+5
Armenia	2	4	2	2	3	4	0	1	3	2	23	+1
Luxemburg	3	4	1	0	4	2	3	3	0	3	23	-6
Sweden	4	4	1	0	3	4	1	3	0	3	23	-
Georgia	2	4	2	1	3	2	3	1	1	3	22	+4
Montenegro	1	3	2	1	3	3	1	3	3	3	22	+2
Uzbekistan	4	3	1	1	3	2	1	3	2	2	22	+1
Azerbaijan	3	4	3	2	2	2	1	3	1	1	22	+1
Belarus	2	3	1	0	3	4	0	3	3	2	21	-1
Israel	2	3	2	0	4	2	1	1	0	4	19	+4
Andorra	2	2	2	3	3	1	1	1	0	3	18	+1
Bosnia H.	1	2	1	0	3	1	0	3	2	4	17	-1
Tajikistan	0	3	1	0	2	1	1	3	3	2	16	+3
San Marino	0	2	2	0	3	1	1	3	0	3	15	-5
Monaco	0	2	0	0	3	1	0	1	0	0	7	-
<b>Total</b>											<b>1400</b>	<b>+109</b>

\*The mean score of the region=26.41.

**Table 7.** Eastern Mediterranean Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Iran (IR)	4	4	4	3	4	4	3	4	3	1	34	+1
Pakistan	3	4	4	1	3	3	4	3	3	3	31	+4
Yemen	4	3	3	1	2	3	1	4	3	3	27	+5
Saudi Arabia	4	3	2	1	3	3	2	3	3	2	26	+3
Egypt	2	4	2	0	3	4	1	3	3	3	25	-4
Lebanon	2	4	4	1	3	2	1	3	2	2	24	0

Table 7. Continued

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
Jordan	0	2	2	1	3	2	4	3	2	4	23	+4
Morocco	3	2	2	1	2	1	4	3	1	3	22	+1
Djibouti	4	3	3	0	2	4	0	4	0	2	22	+2
Qatar	3	4	1	0	3	3	0	4	3	1	22	+4
Kuwait	3	4	2	0	4	3	1	4	0	1	22	-1
Bahrain	2	2	0	0	3	3	2	4	3	2	21	+6
Gaza & West bank	0	2	4	1	2	1	1	3	2	4	20	-1
Oman	4	1	1	0	3	3	1	3	3	1	20	+5
Syrian Arab Republic	0	1	3	2	3	1	1	3	3	3	20	+8
UAE	2	2	0	0	4	3	3	4	0	1	19	+3
Afghanistan	0	0	4	2	2	3	1	4	3	0	19	+7
Iraq	0	2	2	1	3	2	2	3	1	3	19	+4
Tunisia	2	1	1	0	3	2	3	3	0	3	18	-2
Libya	0	1	4	0	3	1	1	4	3	1	18	-5
Sudan	0	1	2	0	1	1	1	3	0	3	12	-4
Somalia	0	1	1	0	1	1	1	1	0	1	7	+3
Total	42	51	51	15	60	53	38	73	41	47	471	+43

\*The mean score of the region=21.40.

Table 8. Western Pacific Region countries ranked by total MPOWER WHO score on tobacco control in 2017\*

COUNTRY	SMOKING PREVALENCE	MONITORING	SMOKE-FREE POLICIES	SMOKE-FREE POLICY COMPLIANCE	CESSATION PROGRAMS	HEALTH WARNING ON CIGARETTE PACKAGES	MASS MEDIA CAMPAIGNS	ADVERTISING BANS	ADVERTISING BANS COMPLIANCE	TAXATION	SCORE	DIFFERENCE FROM 2015
New Zealand	3	4	4	3	4	4	4	3	3	3	35	+7
Australia	4	4	4	0	4	4	4	3	4	3	34	+2
Brunei	4	4	4	0	4	4	4	3	4	0	31	-2
Cambodia	3	4	4	2	2	4	4	3	3	1	30	+12
Philippines	3	4	1	1	3	4	4	3	3	3	29	+3
Vietnam	3	4	3	2	1	4	4	3	3	2	29	+1
Korea R.	2	4	1	3	4	3	4	1	3	3	28	+5
Tonga	2	2	3	3	3	2	4	3	3	3	28	+5
Malaysia	3	4	1	0	3	4	4	3	3	3	28	+1
Singapore	4	4	2	0	4	4	4	3	0	3	28	+1
Fiji	3	3	2	3	3	4	4	3	3	2	28	0
Mongolia	2	4	4	2	3	4	1	4	3	1	28	-3
Samoa	2	3	3	3	3	4	5	3	3	3	27	-1
Palau	4	4	3	3	3	1	0	3	3	3	27	+2
Vanuatu	4	3	1	0	3	4	1	4	3	3	26	+7
Lao R.	2	4	4	3	1	4	0	3	3	1	25	+4
China	2	3	1	1	3	2	4	3	2	3	24	3
Nauru	1	2	4	2	2	2	1	3	3	3	23	+4
Kiribati	1	3	2	0	3	3	4	4	0	2	22	-2
Cook Island	3	4	2	0	3	3	1	3	0	3	22	+1
Tuvalu	0	1	1	2	3	2	1	4	3	3	20	+1
Solomon I.	0	1	1	2	3	4	0	3	3	2	19	-4
Marshal I.	0	1	4	2	3	1	1	1	3	3	19	0
Japan	3	4	1	0	3	2	1	1	0	3	18	+1
Niue	4	2	1	0	3	1	0	1	0	4	16	0
Micronesia	0	3	1	2	3	1	1	1	0	3	15	+1
Papa N.G.	1	1	4	0	1	1	1	3	1	2	13	-3
Total											672	+43

\*The mean score of the region=24.88.



The superior position of European countries in this regard has also been mentioned in a study by Joossens (15). Except in the Eastern Mediterranean region, no such a study has been conducted in other parts of the world (16); therefore, this can be an interesting research topic for future studies and the results can be used to create a challenge and a competition among countries in an effort to gain a better ranking.

## Limitations

Firstly, the study was limited by not randomizing selection. In addition, we did not ensure the report on MPOWER which was sent from country to WHO was aligned with the real status of tobacco control in the society.

## CONCLUSION

Countries perform differently with regard to tobacco control programs and these 23 countries possibly present the best model. Comparison of scores of different countries in this respect can be beneficial since it creates a challenge for the countries to achieve a higher rank. Based on WHO documents we have a simple validated view of ranking of countries and regions regarding tobacco control which may create a challenge to improve this status. Comparison of scores of different countries in this respect can be motivate the health policy makers to find weakness of the tobacco control programs to work on it.

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**Funding:** None.

**Authorship contributions:** GH conceived and designed the study. GH wrote the first draft of the manuscript.

**Competing interests:** The author has completed the Unified Competing Interest form at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) (available upon request from the corresponding author), and declares no conflicts of interest.

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