



## Comparison of Tobacco Control Programs Worldwide: A Quantitative Analysis of the 2015 World Health Organization MPOWER Report

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### ABSTRACT

**Background:** A report of the activities of countries worldwide for six main policies to control tobacco use is published once every 2 years by the World Health Organization (WHO). Our objective was to perform a quantitative analysis for it in countries and regions to make a simple view of its programs.

**Methods:** This was a cross-sectional study by filling out a validated checklist from the 2015 WHO Report (MPOWER). All ten MPOWER measures got scores and were entered independently by two individuals and a third party compared the values.

**Results:** 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.

**Conclusions:** Comparison of scores of different countries in this respect can be beneficial since it creates a challenge for the health policymakers to find weakness of the tobacco control programs to work on it.

**Keywords:** Control, tobacco, World Health Organization

### INTRODUCTION

Tobacco use remains the first preventable cause of morbidity and mortality worldwide.<sup>[1,2]</sup> Therefore, the first and the most important strategy to confront this is the comprehensive implementation of tobacco control programs.<sup>[3,4]</sup> However, this implementation cannot be

easily achieved because tobacco companies try their best to seek new customers for their products and replace those who quit smoking or died of it.<sup>[5]</sup> In this regard, the World Health Organization (WHO) negotiated the Framework Convention on Tobacco Control Treaty in 2004, and so far, 177 countries have ratified it.<sup>[6]</sup> In 2008, a package was proposed to be implemented and included six main components, namely, monitoring tobacco use and prevention policies, protecting people from tobacco smoke, offering help to quit tobacco use, warning people

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about the dangers of tobacco, enforcing bans on tobacco advertising, promotion, and sponsorship, and raising taxes on tobacco.<sup>[7]</sup> Global experiences have revealed that implementation of the above-mentioned six strategies can effectively decrease the rate of consumption and resultantly the consequences and complications of tobacco use.<sup>[8-10]</sup> The WHO publishes a report of the activities of countries worldwide with regard to the six aforementioned strategies once every 2 years.<sup>[11]</sup> The aim of our study was to compare MPOWER programs among the countries of the six WHO regions to highlight what has been achieved and what still needs to be addressed by the countries to strengthen these programs and also to find the best parties on it.

## METHODS

This was a cross-sectional study by filling out a validated checklist from the data on pages 118–129 of the 2015 WHO MPOWER Report. A checklist of ten indicators such as six plus one policy in MPOWER, one adult daily smoking prevalence, and two compliance was initially designed by the Iranian and international tobacco control specialists, which was validated in two studies.<sup>[12,13]</sup> There were seven indicators with five possible scores ranging from minimum 0 to maximum 4. There were also three indicators with four possible scores ranging from 0 to 3. The item with no available data would be scored as zero. Hence, the possible total score is 37 ( $7 \times 4 + 3 \times 3$ ) as shown in Table 1. The scores were given by two raters separately and compared and confirmed by a third person as acting supervisor. Two raters administered the assessment, and the interclass correlation confidence = 0.85 was used to assess agreement between the two raters. The scores were classified and the ranking was done.

## RESULTS

Countries which had at least 85% of total score (32 from 37) and percentage by the regions are as follows:

- Africa: Mauritius 32, 1 from 47 countries, 2.1% of region
- America: Panama 35, Brazil and Uruguay 34, Argentina and Costa Rica 33, Canada 32, 6 from 35 countries, 17.1% of region
- Southeast Asia: Nepal and Thailand 32, 2 from 11 countries, 18.1% of region
- Europe: Turkey 35, Ireland and the United Kingdom 33, 3 from 53 countries, 5.6% of region
- Eastern Mediterranean Regional Office: Iran 33, 1 from 22 countries, 4.5% of region
- Western Pacific Regional Office: Brunei 33, Australia 32, 2 from 27 countries, 7.4% of region.

**Table 1: The checklist of ten indicators and its scores based on the World Health Organization MPOWER Report measures 2015**

Indicators	Scores
Adult daily smoking prevalence	4
Estimates not available	0
30% or more	1
From 20% to 29%	2
From 15% to 19%	3
<15%	4
Monitoring: Prevalence data	3
No known data or no recent data or data that are 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
Smoke-free policies	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
Cessation programs	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
Health warning on cigarette packages	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
Anti-tobacco mass media campaigns	4
Data not reported	0
No campaign conducted between January 2009 and August 2010	1
Campaign conducted with 1-4 appropriate characteristics	2
Campaign conducted with 5-6 appropriate characteristics	3
Campaign conducted with all appropriate characteristics	4
Advertising bans	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
Taxation	4

Contd...

**Table 1: Contd....**

Indicators	Scores
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 (8/10-10/10)	3
Moderate compliance (3/10-7/10)	2
Minimal compliance (0/10-2/10)	1
Not report	0
Compliance smoke-free policy	3
Complete compliance (8/10-10/10)	3
Moderate compliance (3/10-7/10)	2
Minimal compliance (0/10-2/10)	1
Not report	0
<b>Total</b>	<b>37</b>

NRT=Nicotine Replacement Therapy

As shown in Table 2, the highest mean points were scored by Europe (24.35), and the other regions were West Pacific (23.29), Southeast Asia (22.36), America (20.37), East Mediterranean region (19.45), and Africa (16.29); There was a significant difference ( $P < 0.05$ ) for means in this regard.

## DISCUSSION

This study showed that none of the countries scored full in the tobacco control programs; however, Mauritius, Panama, Nepal, Thailand, Turkey, Iran, and Brunei were superior status in each region. In addition, Europe Region had a superior position over others as well. This has been previously done in two studies by Heydari *et al.*<sup>[12,13]</sup> for the Eastern Mediterranean countries, showing that although Iran and Egypt acquire high scores, they still face weaknesses in raising the tax on tobacco (Iran) and banning tobacco use in public places (Egypt). Europe gained the highest mean score and it might be from high scored for raising taxes on tobacco and enforcing bans on tobacco advertisement. In contrast, Africa gained the lowest mean score and acquired the least points in the two above-mentioned policies. The superior position of European countries in this regard has also been mentioned in a study by Joossens.<sup>[14]</sup> In addition to the aforementioned two policies, he mentioned, “offering help to quit tobacco use” and “enforcing bans on tobacco use in public places” to be among the most influential policies.<sup>[14,15]</sup> This kind of comparison could create a strong incentive for tobacco control policymakers in different countries to adopt the MPOWER package policy more strictly in the future. The results of this study and a similar one indicate that the implementation of tobacco control programs can substantially reduce tobacco-related mortality and morbidity.<sup>[16-18]</sup>

**Table 2: Countries ranked by total MPOWER World Health Organization score on tobacco control in 2015**

Country	Score
AFR (mean=16.29)	
Mauritius	32
Seychelles	28
Cameron	26
Benin	25
Ghana	25
Namibia	24
Madagascar	24
Burkina Faso	23
Kenya	23
Niger	23
Senegal	22
Swaziland	22
Togo	21
Chad	20
Congo	20
Algeria	20
Comoros	19
Uganda	19
Ethiopia	18
Mali	18
Mozambique	18
Gabon	16
Tanzania	16
Eritrea	15
Zambia	15
South Africa	14
D.R. Congo	14
Zimbabwe	14
Gambia	13
Guinea	13
Lesotho	13
Botswana	13
Nigeria	13
Cote d'Ivoire	12
Liberia	12
Cabo Verde	12
Malawi	12
Mauritania	10
Rwanda	10
Sierra Leone	10
Central A.R.	10
Sao Tome	9
Angola	7
Burundi	7
E. Guinea	7
Guinea B.	6
South Sudan	3
<b>Total</b>	<b>766</b>

Contd...

**Table 2: Contd...**

Country	Score
AMR (mean=20.37)	
Panama	35
Brazil	34
Uruguay	34
Argentina	33
Cost Arica	33
Canada	32
Colombia	31
Ecuador	30
Suriname	30
Chile	28
Honduras	27
Jamaica	27
Mexico	26
Bolivia	24
Trinidad T.	23
Peru	23
USA	22
El Salvador	20
Cuba	18
Barbados	17
Dominican R.	16
Venezuela	16
Guatemala	15
Nicaragua	14
Paraguay	14
Guyana	12
Bahamas	12
Haiti	10
Grenada	9
Belize	9
Saint Lucia	9
Saint Vincent	8
Antigua B.	8
Saint Kitts	7
Dominica	7
Total	713
SEAR (mean=21.9)	
Nepal	32
Thailand	32
Bangladesh	27
India	27
Sri Lanka	25
Bhutan	23
Myanmar	22
Moldavia	18
Indonesia	16
Korea DPR	11
Timor-Leste	8
Total	241

Contd...

**Table 2: Contd...**

Country	Score
EURO (mean=24.35)	
Turkey	35
Ireland	33
United kingdom	33
Norway	31
Russian F.	30
Spain	30
Bulgaria	29
Finland	29
Hungary	29
Luxemburg	29
Kazakhstan	28
Malta	28
Portugal	28
Czech R.	27
Denmark	27
France	27
Moldova	27
Turkmenistan	27
Belgium	26
Lithuania	26
Latvia	26
Poland	26
Slovakia	26
Ukraine	26
Greece	25
Estonia	25
Iceland	25
Netherland	25
Slovenia	25
Serbia	24
Croatia	24
Albania	23
Italy	23
Germany	23
Austria	23
Romania	23
Macedonia	23
Sweden	23
Belarus	22
Armenia	22
Cyprus	22
Uzbekistan	21
Azerbaijan	21
Switzerland	20
Montenegro	20
San Marino	20
Georgia	18
Bosnia H	18

Contd...

**Table 2: Contd...**

Country	Score
Kyrgyzstan	18
Andorra	17
Israel	15
Tajikistan	13
Monaco	7
Total	1291
<b>EMR (mean = 19.45)</b>	
Iran (IR)	33
Egypt	29
Pakistan	27
Lebanon	24
Kuwait	23
Saudi Arabia	23
Libya	23
Yemen	22
Gaza and West bank	21
Morocco	21
Tunisia	20
Djibouti	20
Jordan	19
Qatar	18
UAE	16
Sudan	16
Bahrain	15
Oman	15
Iraq	15
Syrian Arab Republic	12
Afghanistan	12
Somalia	4
Total	428
<b>WPR (mean = 23.29)</b>	
Brunei	33
Australia	32
Mongolia	31
Fiji	28
New Zealand	28
Samoa	28
Vietnam	28
Malaysia	27
Singapore	27
Philippines	26
Palau	25
China	24
Kiribati	24
Solomon I.	23
Korea R.	23
Tonga	23
Cook Island	21

Contd...

**Table 2: Contd...**

Country	Score
Lao R.	21
Marshal I.	19
Nauru	19
Tuvalu	19
Vanuatu	19
Cambodia	18
Japan	17
Niue	16
Papa N.G.	16
Micronesia	14
Total	629

AFR=Africa Region, AMR=America Region, SEAR=Southeast Asia Region, EURO=Europe Region, EMR=Eastern Mediterranean Region, WPR=Western Pacific Region

## CONCLUSIONS

These 15 countries may indicate as the best model for other parties to implementation and enforcement of tobacco control program. Comparison of scores of different countries in this respect can be beneficial since it creates a challenge for the health policymakers to find weakness of the tobacco control programs to work on it.

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### Conflicts of interest

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