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.¹,² Therefore, the first and the most important strategy to confront this is the comprehensive implementation of tobacco control programs.³,⁴ 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.⁵ 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.⁶ 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
about the dangers of tobacco, enforcing bans on tobacco advertising, promotion, and sponsorship, and raising taxes on tobacco. 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. The WHO publishes a report of the activities of countries worldwide with regard to the six aforementioned strategies every 2 years. 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 till 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. 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 × 4 + 3 × 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.

| 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 |
| Large warnings with all appropriate characteristics | 3 |
| 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 |

Contd...
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.\(^{[12,13]}\) 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.\(^{[14]}\) 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.\(^{[14,15]}\) 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.\(^{[16-18]}\)
| Country         | Score | AMR (mean=20.37) |
|-----------------|-------|------------------|
| Panama          | 35    |                  |
| Brazil          | 34    |                  |
| Uruguay         | 34    |                  |
| Argentina       | 33    |                  |
| Costa Rica      | 33    |                  |
| Canada          | 32    |                  |
| Colombia        | 31    |                  |
| Ecuador         | 30    |                  |
| Suriname        | 30    |                  |
| Chile           | 28    |                  |
| Honduras        | 28    |                  |
| Jamaica         | 28    |                  |
| Mexico          | 26    |                  |
| Bolivia         | 24    |                  |
| Trinidad T.     | 23    |                  |
| Peru            | 23    |                  |
| USA             | 22    |                  |
| El Salvador     | 20    |                  |
| Cuba            | 17    |                  |
| Barbados        | 18    |                  |
| Dominican R.    | 16    |                  |
| Venezuela       | 16    |                  |
| Guatemala       | 15    |                  |
| Nicaragua       | 15    |                  |
| Paraguay        | 15    |                  |
| Guyana          | 12    |                  |
| Bahamas         | 12    |                  |
| Haiti           | 12    |                  |
| Grenada         | 12    |                  |
| Belize          | 10    |                  |
| Saint Lucia     | 10    |                  |
| Saint Vincent   | 9     |                  |
| Antigua B.      | 9     |                  |
| Saint Kitts     | 8     |                  |
| Dominica        | 8     |                  |
| Total           | 713   |                  |

| Country        | Score | SEAR (mean=21.9) |
|----------------|-------|------------------|
| Nepal          | 32    |                  |
| Thailand       | 32    |                  |
| Bangladesh     | 27    |                  |
| India          | 27    |                  |
| Sri Lanka      | 27    |                  |
| Bhutan         | 25    |                  |
| Myanmar        | 25    |                  |
| Bhutan         | 23    |                  |
| Myanmar        | 22    |                  |
| Moldavia       | 18    |                  |
| Indonesia      | 16    |                  |
| Korea DPR      | 11    |                  |
| Timor-Leste    | 8     |                  |
| Total          | 241   |                  |

| 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    |                   |
| Luxembourg     | 29    |                   |
| Kazakhstan     | 28    |                   |
| Malta          | 28    |                   |
| Portugal       | 28    |                   |
| Czech R.       | 28    |                   |
| 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...

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### Table 2: Contd...

| Country        | Score |
|----------------|-------|
| Kyrgyzstan     | 18    |
| Andorra        | 17    |
| Israel         | 15    |
| Tajikistan     | 13    |
| Monaco         | 7     |
| **Total**      | **1291** |

**EMR (mean=19.45)**

| Country         | Score |
|-----------------|-------|
| 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** |

**WPR (mean=23.29)**

| Country       | Score |
|---------------|-------|
| 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    |
| **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

There are no conflicts of interest.

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