Assessing Restrictiveness of National Alcohol Marketing Policies

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Abstract — Aims: To develop an approach for monitoring national alcohol marketing policies globally, an area of the World Health Organization’s (WHO) Global Alcohol Strategy. Methods: Data on restrictiveness of alcohol marketing policies came from the 2002 and 2008 WHO Global Surveys on Alcohol and Health. We included four scales in a sensitivity analysis to determine optimal weights to score countries on their marketing policies and applied the selected scale to assess national marketing policy restrictiveness. Results: Nearly, 36% of countries had no marketing restrictions. The overall restrictiveness levels were not significantly different between 2002 and 2008. The number of countries with strict marketing regulations did not differ across years. Conclusion: This method of monitoring alcohol marketing restrictiveness helps track progress towards implementing WHO’S Global Alcohol Strategy. Findings indicate a consistent lack of restrictive policies over time, making this a priority area for national and global action.

INTRODUCTION

Alcohol consumption contributes to ~4% of all deaths globally (Rehm et al., 2009). Alcohol use is the leading risk factor in disability-adjusted life years among males ages 15–24 in all World Health Organization (WHO) regions except the Eastern Mediterranean, and among females in this age group in the Americas and the high-income countries (Gore et al., 2011). Despite the global burden of alcohol consumption, there were few coordinated global efforts to reduce alcohol consumption and related harm until 2005, when the Fifty-Eighth World Health Assembly (WHA) endorsed a Resolution on Public and related harm until 2005, when the Fifty-Eighth World Health Organization’s (WHO) Global Alcohol Strategy. The strategy and new types of marketing strategies and to restrict or ban alcohol promotion associated with activities that target youth. The global alcohol strategy also recommends that countries develop alcohol marketing surveillance systems and set up deterrence systems for marketing restriction infringements (WHO, 2010a).

Previous scales have been developed to assess national alcohol policies in Europe, which include a subcategory on alcohol marketing policies. As part of a broader assessment of national alcohol control policies in 15 European countries, the European Comparative Alcohol Study (ECAS) assessed alcohol marketing restrictions from 1950 to 2000. The ECAS scale assigned countries two points for statutory control and one point for voluntary control (Karlsson and Österberg, 2001). Building on the ECAS, Bridging the Gap (BtG) assessed alcohol control policies in 30 European countries from 2004 to 2006. To assess alcohol marketing restrictions, BtG assigned countries with one-half point for voluntary control, one point for statutory control, two points for bans on alcohol advertising for some beverages and three points for bans on all national alcohol marketing (Karlsson and Österberg, 2007). The national alcohol marketing restriction assessments in the ECAS and BtG are problematic because of the potential ineffectiveness of voluntary restrictions, as we discuss in the section Self-Regulation and Voluntary Restrictions Framework.

To expand upon the ECAS and the BtG assessments, the Alcohol Public Health Research Alliance studied alcohol control policies in European countries as part of the AMPHORA project. Due to the recognized ease in evading or changing voluntary national alcohol marketing restrictions, AMPHORA does not assign any points to countries with voluntary restrictions (Karlsson et al., 2013). Despite the improvements from past strategies to assess national alcohol marketing restrictions, the AMPHORA methodology is too complex to be scaled up to the global level. In addition to survey data, the AMPHORA assessment also relies on experts in each country to provide contextual information, which would not be feasible for WHO to do globally.

As yet, there is no validated method for assessing changes in national marketing restrictions globally. Establishment of a standardized approach to assess a country’s level of restrictiveness on alcohol marketing will assist WHO to monitor changes in restrictions, and thereby evaluate progress towards the implementation of the Global Alcohol Strategy. Given the impact that alcohol marketing has on public health, it is important that evaluation of the strategy include surveillance and monitoring of changes in alcohol marketing restrictions.

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Alcohol marketing and public health

The effects of alcohol marketing exposure on youth alcohol consumption are well documented (Anderson et al., 2009c; Babor et al., 2010a; Grenard et al., 2013). A review of the literature concluded that as youth are exposed to more alcohol marketing, they are more likely to drink, or for those already drinking, to drink more (Anderson et al., 2009b). One study found a dose–response relationship to alcohol marketing such that youth drank 1% more for every additional ad that youth saw per month, and they drank 3% more for every additional dollar per capita spent on alcohol advertising in their media market (Snyder et al., 2006). These studies suggest that restrictions in the volume of alcohol marketing, rather than restrictions on content, would be associated with a positive impact of reduced alcohol consumption.

Alcohol marketing restrictions are a low-cost intervention that studies have consistently found to be cost-effective in reducing alcohol-related harm (Chisholm et al., 2004; Hollingsworth et al., 2006; Anderson et al., 2009a). However, no studies, to our knowledge, have assessed the effectiveness of specific policy initiatives to reduce alcohol marketing. Instead, several studies have used modeling to assess the potential impact of alcohol marketing reductions on population-level health outcomes. One study estimated that a 28% reduction in alcohol marketing in the USA would lead to a drop in the monthly prevalence of adolescent drinking by up to 3% from 25%, and to a decline in the monthly prevalence of binge drinking by up to 4% from 12% (Saffer and Dave, 2006). Another study estimated that a total ban on alcohol advertising in the USA would lead to a 16.4% reduction in alcohol-related life years lost among US residents aged 20 in the year 2000, whereas a partial ban would lead to a 4% reduction in alcohol-related life-years lost among the same population (Hollingsworth et al., 2006).

Although the majority of the research on the influence of alcohol marketing on consumption has been conducted in high-income countries, it is likely that alcohol marketing makes an even more substantial impact on consumption in low- and middle-income countries (LMIC), where there are emerging alcohol markets and young populations (Babor et al., 2010a). The International Center for Alcohol Policies (ICAP), funded by large alcohol corporations, aims to participate in the development of alcohol policies in LMIC (International Center for Alcohol Policies (ICAP), 1998), thus, reducing the likelihood of alcohol marketing restrictions in these countries. With increased globalization in LMIC in the past decade, alcohol marketing has increased, and the globalization of the alcohol industry is generally associated with increased consumption (Jernigan, 2009). Studies in the US and Australia have found that youth are exposed to alcohol marketing at rates equal to or greater than adults per capita (Fielder et al., 2009; Chung et al., 2010). Although there may be differences across ages and media type, studies such as these suggest gaps in the effectiveness of current voluntary regulatory or co-regulatory frameworks for reducing youth exposure to alcohol marketing.

Self-regulation and voluntary restrictions framework

Options for regulating alcohol marketing include total restriction, partial restriction, self-regulation and voluntary restriction and no restriction. The self-regulatory and voluntary approach to alcohol marketing restrictions allows alcohol marketers to develop their own codes of good marketing practice and take responsibility for monitoring and enforcement themselves. Public health experts have questioned the effectiveness of this approach in reducing problematic advertising and marketing (Center on Alcohol Marketing and Youth, 2010, 2011; Casswell, 2012). Traditionally, the self-regulatory codes have focused more on content than on placement of and exposure to advertising. Studies in multiple countries have found the content provisions ineffective (Jones and Lynch, 2007; The Marin Institute, 2008; Jones et al., 2008; Vendrame et al., 2010; Smith et al., 2013). Voluntary restrictions on placement have also been shown to be ineffective in preventing targeting of underage populations (Ross et al., 2014) and frequently violated (Jernigan et al., 2013). The alcohol industry tends to interpret voluntary codes more leniently than public health professionals, and public health efforts to enforce the voluntary code provisions tend to find more violations than industry bodies (Babor et al., 2008, 2013). Also, the industry may change codes or weaken them with impunity, rendering advertisements previously found in violation of the codes acceptable (Babor et al., 2010b).

This study presents the findings from a sensitivity analysis comparing the use of four scales to assess levels of alcohol marketing restrictiveness, and then applies that scale to national alcohol marketing restrictions in 2008 in 64 countries, thus providing a baseline for assessment of changes in marketing restrictions since the implementation of the WHO’s Global Alcohol Strategy in 2010. We then use the same scale to assess changes that occurred in this variable between 2002 and 2008, using data from WHO’s periodic global assessments of alcohol policies in Member States (WHO, 2004, 2011).

METHODS

Data source and sample overview

Data for the sensitivity analysis on level of restrictiveness of alcohol marketing policies are from the WHO’s 2008 Global Survey on Alcohol and Health, which was conducted to collect data on alcohol policy, consumption and related health indicators, with participation from the six WHO regional offices. Data from the 2008 survey were subsequently reported in summary in WHO’s 2011 Global Status Report on Alcohol and Health (WHO, 2011). To assess changes in marketing policies over time, we compared the 2008 findings with data from the 2002 WHO Global Survey on Alcohol and Health, reported in WHO’s 2004 Global Status Report: Alcohol Policy (WHO, 2004). In 2002, the overall response rate was 61.5%, and ranged from 14.3% in the Eastern Mediterranean Region to 82.7% in the European Region. In 2008, the overall response rate was 83.9%, and ranged from 66.7% in both the Eastern Mediterranean and the Western Pacific Regions to 100.0% in the African Region.

To maintain a consistent sample in the countries included throughout all of the analyses, we included countries if they responded to both the 2002 and 2008 surveys (n = 116) (Fig. 1). We excluded countries that provided no data on alcohol marketing restrictions (n = 42). If there were missing alcohol marketing restriction data within any of the three alcoholic beverage types (i.e. beer, wine and spirits), comprising eight media types, it was not possible to calculate a meaningful overall restrictiveness score. Thus, we also excluded...
countries with missing data within at least one beverage type, rather than making assumptions that would be necessary for imputation based on non-missing data \((n = 10)\). We included the remaining 64 countries in the analyses.

The final sample included 64 countries, covering 26.6% of the countries in the African Region, 12.5% in the Region of the Americas, 3.1% in the Eastern Mediterranean Region, 40.6% in the European Region, 6.3% in the South-East Asia Region and 10.9% in the Western Pacific Region.

**Measures**

The WHO Global Survey on Alcohol and Health asked country focal points (generally located in Ministries of Health) to report the level of national alcohol advertising restrictions on three alcoholic beverage types (i.e. beer, wine and spirits) across eight media types (i.e. national TV, private TV, national radio, local radio, print, billboards, point of sale, cinema). The 2008 survey added a ninth media type, internet marketing restrictions; however, we did not include it in the sensitivity analysis since comparable data were not available from 2002. The response options included total restriction, partial restriction, self-regulation/voluntary restriction or no restrictions.

We compared three scales with three possible points and one scale with four possible points to determine the optimal scale to use to assess a country’s national level of alcohol marketing restriction, as reported in 2008 (Table 1).

We used the scaling systems to determine how to measure the reported national level of restriction (i.e. total restriction, partial restriction, self-regulation/voluntary restriction or no restriction) across the eight media types. We calculated restrictiveness scores for alcohol marketing restrictions pertaining to beer, wine and spirits by summing the points across the eight media types, respectively. We calculated an overall restrictiveness score by summing the beverage-specific restrictiveness scores, which yielded different maximum values possible based on the scale used (Table 1). Using the 2-1-0 scale, possible values of the country-specific overall restrictiveness scores ranged from zero to 48 points (16 maximum points per beverage type); using the 3-1-0 and 3-2-1-0 scales, overall restrictiveness scores ranged from zero to 72 points (24 maximum points per beverage type); and using the 5-3-1 scale, overall restrictiveness scores ranged from 24 to 120 points (40 maximum points per beverage type). On each of the four scales, we defined five levels of restrictiveness such that there were an equal number of possible scores in each level, with the exception of the least restrictive level only including the minimum score possible (Table 2).

**Procedures**

We established the following criteria to select the optimal scale based on the results from the sensitivity analysis: (i) maximum consistency of categorization of country-specific levels of restrictiveness across scales and (ii) evidence from published literature on the effectiveness or ineffectiveness of self-regulation/voluntary alcohol marketing restrictions. After applying these criteria to determine the optimal scale, we used

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**Table 1. Scales to assess overall level of restrictiveness on alcohol marketing policies**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
<th>Maximum overall restrictiveness score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1-0</td>
<td>2 points for total restriction, 1 point for partial and 0 points for either self-regulation/voluntary or no restrictions</td>
<td>48</td>
</tr>
<tr>
<td>3-1-0</td>
<td>3 points for total restriction, 1 point for partial and 0 points for either self-regulation/voluntary or no restrictions</td>
<td>72</td>
</tr>
<tr>
<td>5-3-1</td>
<td>5 points for total restriction, 3 points partial and 1 points for either self-regulation/voluntary or no restrictions</td>
<td>120</td>
</tr>
<tr>
<td>3-2-1-0</td>
<td>3 points for total restriction, 2 points partial and 1 points for self-regulation/voluntary, and 0 points for no restrictions</td>
<td>72</td>
</tr>
</tbody>
</table>

*The overall restrictiveness score is the sum of the three beverage-specific restrictiveness scores.

**Table 2. Sensitivity analysis level of overall alcohol marketing restriction by scale, 2008 \((N = 64)\)**

<table>
<thead>
<tr>
<th>Level of Restrictiveness</th>
<th>Scale 2-1-0</th>
<th>Scale 3-1-0</th>
<th>Scale 5-3-1</th>
<th>Scale 3-2-1-0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cut-points</td>
<td>Cut-points</td>
<td>Cut-points</td>
<td>Cut-points</td>
</tr>
<tr>
<td>Least restrictive</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Slightly restrictive</td>
<td>1–12</td>
<td>1–18</td>
<td>25–48</td>
<td>1–18</td>
</tr>
<tr>
<td>Restrictive</td>
<td>13–24</td>
<td>19–36</td>
<td>49–72</td>
<td>19–36</td>
</tr>
<tr>
<td>Very restrictive</td>
<td>25–36</td>
<td>37–54</td>
<td>73–96</td>
<td>37–54</td>
</tr>
<tr>
<td>Most restrictive</td>
<td>37–48</td>
<td>55–72</td>
<td>97–120</td>
<td>55–72</td>
</tr>
</tbody>
</table>

Cut-points are the scale-specific values defining the levels of restriction.
the selected scale to assess changes in alcohol marketing regulations from 2002 to 2008.

Data analysis
We analyzed the data using STATA 12.1 (Stata Corp, 2011). We used the Wilcoxon Mann–Whitney test to examine whether the overall changes in alcohol marketing restrictions were significantly different between 2002 and 2008. We dichotomized the restrictiveness categories by aggregating the two lower levels of restrictiveness (i.e. least and slightly restrictive) and the three higher levels (i.e. restrictive, very and most restrictive). We conducted the Wilcoxon Mann–Whitney test to assess whether the number of countries with alcohol marketing regulations that were at the higher end of the restrictiveness spectrum in 2002 was significantly different from those in 2008.

RESULTS

Sensitivity analysis
There were few differences in the level of overall alcohol marketing restriction across the scales with three possible point values. Table 2 shows the summary measures of number and percentage of countries in each level of restrictiveness by scale.

We also examined country-specific results (data not shown). The 2-1-0 and 5-3-1 scales yielded identical results in levels of restrictiveness by country. Application of the 3-1-0 scale, compared with the 2-1-0 and 5-3-1 scales, yielded an overall difference in six countries ranking as one level less restrictive. Specifically, the 3-1-0 scale categorized four countries that had been ranked as restrictive as slightly restrictive, two countries that had been very restrictive as restrictive and one country that had been most restrictive to very restrictive.

The application of the scale with four possible point values (i.e. 3-2-1-0 scale), which gave a point for self-regulation/voluntary restriction, introduced more variation into the categorization of restrictiveness levels. Compared with the 2-1-0 and 5-3-1 scales, the 3-2-1-0 scale moved two countries that had been ranked as least restrictive to slightly restrictive, six countries that had been slightly restrictive to restrictive, three countries that had been least restrictive to restrictive, ten countries that had been restrictive to very restrictive and two countries that had been very restrictive to most restrictive.

We applied the established criteria to select an optimal scale to use to track national alcohol marketing restriction globally. First, the identical categorization of restrictiveness levels by country on the 2-1-0 and the 5-3-1 scales supported the use of one of them over the 3-1-0 scale that yielded slightly less-consistent country-specific categorization of restrictiveness levels. Second, based on the strong evidence in the literature on the ineffectiveness of self-regulation/voluntary restrictions, we determined that countries should not be assessed as more restrictive based on the presence self-regulation/voluntary restrictions, leading to the elimination of the 3-2-1-0 scale. With the remaining choice between the 2-1-0 and 5-3-1 scales, we selected the 2-1-0 scale for ease of interpretation, such that having no restrictions was associated with zero points, and a minimum restrictiveness score of zero indicates a complete lack of national alcohol marketing restrictions—rather than no restrictions being worth one point as in the 5-3-1 scale. We therefore employed the 2-1-0 scale as the optimal scale for assessing changes in the restrictiveness of alcohol marketing regulations globally.

Alcohol marketing restrictions in 2002 and 2008
Using the 2-1-0 scale to assess national alcohol marketing restrictions, as reported in 2008, 35.9% of the countries had no restrictions on alcohol marketing for any types of alcoholic beverages or in any types of media. One-fourth of the countries had mid-level restrictiveness regulations, and 17.2% fit into the most restrictive category (Table 3).

The median level of restrictiveness for alcohol marking was restrictive in 2008, which was one level of restrictiveness higher compared with the median of slightly restrictive in 2002. While the median did shift towards a more restrictive direction, there was no statistically significant change in the overall levels of restrictiveness from 2002 to 2008 ($z = -0.61, P = 0.54$). In 2002, 35.9% of the countries reported no restrictions, equal to the prevalence of countries with no restrictions in 2008. Moreover, the combined percent of countries with alcohol marketing regulations at the higher end of the restrictiveness spectrum in 2002 (39.0%, $n = 25$) was not significantly different from the percent of countries in 2008 (53.1%, $n = 34$) ($z = -0.99, P = 0.32$) (Fig. 2).

DISCUSSION

The identical outcomes from the 2-1-0 and 5-3-1 scales supported the selection of one of them rather than the 3-1-0 scale, which differed in the levels of restrictiveness for six countries. Literature indicates that self-regulation/voluntary restrictions are ineffective to achieve compliance with alcohol marketing codes that seek to protect vulnerable populations (e.g. young people) from exposure to alcohol marketing (Jones and

<table>
<thead>
<tr>
<th>Level of Restrictiveness</th>
<th>$n$ (%)</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least restrictive</td>
<td>23 (35.9)</td>
<td>Belgium, Benin, Cambodia, Chile, Comoros, Congo (Republic of), Czech Republic, Egypt, Eritrea, Guatemala, Guinea-Bissau, Malawi, Namibia, Netherlands, New Zealand, Niger, Philippines, South Africa, Suriname, Trinidad and Tobago, Uganda, United States of America, Zambia</td>
</tr>
<tr>
<td>Slightly restrictive</td>
<td>7 (10.9)</td>
<td>Australia, Austria, Bulgaria, Denmark, Malaysia, Malta, Portugal, Canada, Croatia, Ethiopia, Germany, Ghana, Israel, Italy, Kenya, Korea (Republic of), Lithuania, Panama, Russian Federation, Slovakia, Tanzania, Thailand, United Kingdom</td>
</tr>
<tr>
<td>Restrictive</td>
<td>16 (25)</td>
<td>Belarus, France, Latvia, Seychelles, Slovenia, Turkey, Venezuela</td>
</tr>
<tr>
<td>Very restrictive</td>
<td>7 (10.9)</td>
<td>Algeria, Bosnia and Herzegovina, Iceland, India, Indonesia, Iran, Jordan, Norway, Poland, Sri Lanka, Sweden</td>
</tr>
<tr>
<td>Most restrictive</td>
<td>11 (17.2)</td>
<td></td>
</tr>
</tbody>
</table>
concern, we explored how the addition of the ninth media type affected the categorization of restrictiveness levels. WHO’s 2011 Global Status Report on Alcohol and Health reported data from the 2008 survey, including all nine of the media types (WHO, 2011). When we compared the levels of restrictiveness by country that WHO published to the levels of restrictiveness resulting from the sensitivity analysis cut-points, only two countries that were included in this analysis were categorized differently—ranking as most restrictive rather than very restrictive. The minimal differences across scales suggest the adaptability of using this approach to assess global alcohol marketing changes over time.

Lastly, a limitation of the scale in this study is the inability to account for the potential differential impact on drinking behavior by media type. The impact of various media types on alcohol consumption may differ across countries and cultures.

CONCLUSIONS

We have established a viable means of evaluating the level of restrictiveness of alcohol marketing policies by country. This approach should assist WHO in monitoring progress towards implementation of the global alcohol strategy in this arena. In future years, if alcohol marketing policy data are available for the majority of WHO Member States, studies could assess differences in alcohol marketing policy restrictiveness across regions or by income groups. Given the low level or lack of restrictions, there is a need for increased resources and technical assistance at the global and regional levels to support countries in efforts to increase the restrictiveness of their national alcohol marketing regulations. Future studies will assess for the limitations, such as the goal of reducing the influence of alcohol marketing on young people; however, constitutional environments differ across countries. Trade regulations are another potential barrier to regulating alcohol marketing, but there is evidence that countries can overcome this. For instance, the European Court of Justice has found that in at least one instance, the case of France’s Loi Evin, restrictions on advertising ‘services’ in the law were justified by the aim of protecting public health (ECJ C-262/02, Co-429/02).

Limitations

This study is not without limitations. Data are collected via responses from country focal points and are thus subject to human misinformation biases. Considering the relative consistency of the data from 2002 and 2008, it is unlikely that there were substantial misinformation biases. There are further limitations in the data available pertaining to federal countries, where alcohol marketing restrictions may not exist at the national level. The current design of the Global Survey on Alcohol and Health does not easily allow federal countries to provide details on sub-national policies.

Another limitation is the challenge of determining appropriate cut-points when an odd number of media types are examined, prohibiting the division of four equal width levels of restriction above the least restrictive level. The 2008 Global Survey on Alcohol and Health included nine media types, which would yield a maximum overall restrictiveness score of 54 if all media types were analyzed, rather than the maximum value of 48 assessed in the present study. To address this concern, we explored how the addition of the ninth media type affected the categorization of restrictiveness levels. WHO’s 2011 Global Status Report on Alcohol and Health reported data from the 2008 survey, including all nine of the media types (WHO, 2011). When we compared the levels of restrictiveness by country that WHO published to the levels of restrictiveness resulting from the sensitivity analysis cut-points, only two countries that were included in this analysis were categorized differently—ranking as most restrictive rather than very restrictive. The minimal differences across scales suggest the adaptability of using this approach to assess global alcohol marketing changes over time.

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changes in national alcohol marketing policies among WHO Member States in the years that follow the endorsement of the Global Strategy.

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Conflict of interest statement. None.

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