Drink driving in Brazil: a question of law?

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Abstract

Background
In Brazil, after June of 2008, all drivers are subject to a “Zero Tolerance Law” and the alcohol limit is a breath alcohol concentration (BrAC) of 0.1 mg/L of air. However, there is an important loophole which allows drivers to refuse breath or blood alcohol testing as it may self-incriminate. The prevalence of drink driving is therefore a gross underestimate.

Aim
To compare the police reported prevalence of drink driving with self-reported alcohol consumption and driving behaviors gathered from questionnaires administered at police roadblocks in two Brazilian capital cities.

Methods
In the period August 2011 and January-February 2012 researchers administered a questionnaire on alcohol consumption and driver behavior to 800 voluntary participants during police conducted drink driving roadblocks, in Palmas and Teresina.

Results
In both cities, about 60% of drivers who self-reported having drunk within 6 hours of having been stopped by the police refused to perform breathalyzer testing or fled the roadblock or were not offered the test compared about 30% of drivers that said had not been drinking. The prevalence of BrAC positive, due to refusal and lack of data was of 9.8% and 5.7% in Palmas and Teresina, but in a simulation this prevalence can be as high as 25.1% and 22.8% respectively.

Discussion
Despite the reduction of the legal limit for drink driving, the legal uncertainty caused by the interpretation of the legislation, allows most drivers who drink and drive, though stopped by the police to return to the road with impunity. In this context he police/traffic officers are powerless to enforce the law and thus drink driving goes largely unchecked.
Introduction

Road traffic crashes victimize thousands of people every day and are a growing reality in large cities, especially in low- and middle-income countries (LMICs) in which more than 90% of road traffic deaths occur. Road traffic injuries (RTIs) result in high economic and social costs of around 1.0 to 1.5% of GDP in these countries, related to the spectrum of medical treatment, lost productivity, and intangible costs associated with the loss of lives (Peden et al., 2004; WHO 2009).

In 2010, approximately 42,000 people died as a result of crashes on Brazilian roads (Brazil, 2012). Of these deaths, as is the case in other LMICs, a high percentage was associated with alcohol. According to isolated studies from select state capitals, between 32.2 and 47% of fatal road traffic victims were under the influence of alcohol in any quantity at the time of the crash (Leyton et al 2005; Modelli, Pratesi e Tauil 2008; Stampe et al 2010).

Among interventions to reduce mortality caused by alcohol, the most effective are those that reduce the legal limit for drinking and driving, random breath testing in checkpoints, fast punishment when due, as a suspension of driving licence, treatment for recidivist drinking while intoxicated (DWI) offenders (Mann et al 2001; Henstridge et al. 1997; Borschos 2000; Wells-Parker et al 1995, Zobeck e Williams 1994).

In 1998, Brazilian law (“the New Traffic Code”) provided a reduction in the legal blood alcohol concentration (BAC) legal limit to 0.06% (0.6 g of alcohol / L of blood) in addition to mandating seatbelt and helmet use, and establishing a penal system. Despite the decrease in traffic mortality rates, in the first years after its implementation (Fig. 1), was not possible to disaggregate the results of the different ‘established methods’, due to a lack of monitoring and evaluation of the intervention (Brazil 1997).

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**Fig. 1: Mortality rate per 100,000 inhab – Brazil – 1996-2010**

Note: deaths considering ICD-10: V01-V89.

After an initial decrease in the traffic mortality rates, the trend inverted, returning to the nearly the baseline measurement. In the 2008 a new “zero tolerance” law was approved reducing the alcohol limit by breath alcohol concentration (BrAC) to 0.1 mg/L of air, and more severe penalties (Brazil 2008). The first few months after the implementation of the “zero tolerance law” correspond with a
decrease in traffic mortalities in 2009. However, there is an important loophole due to a controversial interpretation of an unrelated pact in which a driver can invoke the Pacto the São Jose (American Convention on Human Rights) can refuse to perform breathalyzer or blood testing so as not to create evidence against him or herself. Thus police or traffic officers are disempowered and cannot uniformly enforce existing legislation and likewise, the prevalence of reported drink driving is grossly underestimated.

In this light, the present study aims to compare the police reported prevalence of drink driving with self-reported alcohol consumption and driving behaviors gathered from questionnaires administered at police roadblocks in two Brazilian capital cities: Palmas, Tocantins and Teresina, Piauí during 2011 and 2012.

Methods

In the period August 2011 and January-February 2012 researchers from the Federal University of Rio Grande do Sul (UFRGS) in collaboration with the Johns Hopkins International Injury Research Unit (JH-IIRU) administered a questionnaire on alcohol consumption and driver behavior to 800 voluntary participants during police conducted drink driving roadblocks, in two state capitals, Palmas and Teresina. All sites for roadblocks were predetermined by police or traffic agents for their association with high numbers of crashes, with limited input from the research team. Drivers of cars and motorcycles were randomly selected from those persons stopped by the police. After obtaining informed consent, drivers were invited to participate in a structured interview. Once the interview concluded, the police or traffic officers continued with their standard procedures including performing the breathalyzer test. The results from this testing or the refusal to perform it, was incorporated into the interview later (Fig. 2).

Data were collected from two rounds (August 2011 and January-February 2012) in two-hour roadblocks, on Wednesday through Saturday from 19hs and Sundays after 16hs. The traffic flow was counted considering the type of vehicle, which served to build the sample weight to reduce the bias in the type of vehicle.

To estimate the real prevalence of drink driving in this sample, we used information obtained from the interview – those who admitted to having drunk in the last 6 hours, weighted by the percentage
of individuals who had but tested negative, plus the percentage of false information on alcohol consumption and breath test positive.

This study is part of the monitoring of Project Road Safety 10: Brazil – a Bloomberg Philanthropies Initiative in 10 LMICs.

Results

Table 1 shows select socio-demographic characteristics of the drivers interviewed in this study across the two rounds. In both cities most of the drivers are men, driving cars and more than 40% had finished at least high school. Regarding drink driving: about 60% self-reported having driven after drinking at least once a month in the last year; and about 10% self-reported having had a traffic crash while under the influence in their lifetime.

Table. 1: Drivers Socio-demographic Characteristics

<table>
<thead>
<tr>
<th>Sample</th>
<th>Palmas (n=364)</th>
<th>Teresina (n=436)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>84.5% (80.8 - 88.2)</td>
<td>83.3% (79.8 - 86.8)</td>
</tr>
<tr>
<td>Age – mean*</td>
<td>31.22 (10.43)</td>
<td>36.04 (11.71)</td>
</tr>
<tr>
<td>Car</td>
<td>73.3% (68.8 - 77.8)</td>
<td>71.2% (66.9 - 75.5)</td>
</tr>
<tr>
<td>Education - 12 years+</td>
<td>42.2% (37.1 - 47.3)</td>
<td>39.7% (35.1 - 44.3)</td>
</tr>
<tr>
<td>Drove after drinking - at least 1 X/month - last year</td>
<td>59.5% (54.5 - 64.5)</td>
<td>65.8% (61.4 - 70.3)</td>
</tr>
<tr>
<td>Has had a traffic crash caused by alcohol in their lifetime</td>
<td>10.5% (7.4 - 13.7)</td>
<td>9.0% (6.3 - 11.7)</td>
</tr>
<tr>
<td>Breathalyzer test (BrAC)&gt;0</td>
<td>9.6% (6.6 - 12.6)</td>
<td>5.7% (3.5 - 7.9)</td>
</tr>
<tr>
<td>Reported alcohol consumption in last 6 hours</td>
<td>17.9% (14.0 - 21.8)</td>
<td>12.8% (9.7% - 15.9)</td>
</tr>
</tbody>
</table>

Source: constructed by the authors
Note: between parentheses, 95% confidence interval for categorical variables and standard deviation for mean*

In both cities, about 60% of drivers that admitted to having drunk within 6 hours of having been stopped refused to perform breathalyzer testing or fled the roadblock without having been tested (68% in Palmas and 61% in Teresina) In Palmas 51% refused breathalyzer testing while in Teresina 41% of the drivers fled or were not offered the breathalyzer test by the police as compared to about 30% of drivers that said had not been drinking in that same city (Tab. 2).

Tab. 2: Comparison between questionnaire information and Breathalyzer test result

<table>
<thead>
<tr>
<th></th>
<th>Palmas</th>
<th>Teresina</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>BrAC&gt;0</td>
<td>18%</td>
<td>3%</td>
</tr>
<tr>
<td>BrAC=0</td>
<td>14%</td>
<td>66%</td>
</tr>
<tr>
<td>Refused to perform the test, invoking the law</td>
<td>51%</td>
<td>15%</td>
</tr>
<tr>
<td>NI*</td>
<td>17%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: constructed by the authors
Note: BrAC = Breath Alcohol Concentration; NI* indicates no information provided by the police about the performance of breathalyzer testing or the result: may indicate that the driver fled of the roadblock without performing the test, or it was not offered by the police.

Thus the prevalence of drink driving, in this case synonymous with positive BrAC, due to refusal and or the lack of data, was 9.8% and 5.7% in Palmas and Teresina respectively over the course of two
rounds. However in in simulation 2, considering the refusal and the lack of information by the police, the prevalence can be as high as 25.1% and 22.8% respectively (Tab. 1 and Tab. 3).

Tab 3. Simulation for a Real Prevalence of drinking and driving

<table>
<thead>
<tr>
<th></th>
<th>Palmas</th>
<th>Teresina</th>
</tr>
</thead>
<tbody>
<tr>
<td>BrAC&gt;0 (1)</td>
<td>21</td>
<td>14</td>
</tr>
<tr>
<td>+ Reported alcohol consumption in last 6 hours &amp; Refused test (2)</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>+ Reported alcohol consumption in last 6 hours &amp; NI (3)</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Simulation 1 (1+2+3)</td>
<td>65 (17.9%)</td>
<td>48 (11.0%)</td>
</tr>
<tr>
<td>BrAC&gt;0+ No reported alcohol consumption in last 6 hours &amp; Refused* (4)</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>BrAC&gt;0+ No reported alcohol consumption in last 6 hours &amp; NI * (5)</td>
<td>12</td>
<td>33</td>
</tr>
<tr>
<td>Simulation 2(1+2+3+4+5)</td>
<td>91 (25.1%)</td>
<td>99 (22.8%)</td>
</tr>
</tbody>
</table>

Source: constructed by the authors
Note: BrAC = Breath Alcohol Concentration

Discussion

Despite the reduction of the legal limit for drink driving, the legal uncertainty around the interpretation of the legislation, considering the Pacto of San Jose, permits drivers to engage in this risk factor for RTI without facing the consequences stipulated by law. Since drivers can refuse breathalyzer testing the police/traffic officers have little incentive to conduct roadblocks. Although some of the drivers under influence of alcohol invoke the Pact, others do not (i.e. escape the roadblock) and still avoid punishment thus explaining the low prevalence observed in both Palmas and Teresina. Estimations or simulations including persons who self-reported engaging in this behavior, particularly those who avoided being tested, are necessary to arrive at a truer prevalence.

Larger issues remain. Often roadblocks last only as long as officers are available and end should there be a crash within the city, etc. and are therefore constrained by a lack of human resources. Moreover the police/traffic officers lack capacity in regards to the enforcement of the “zero tolerance law.” Although drivers can invoke the Pact of San José, police/traffic officers still have the authority to suspend licenses, impound vehicles, and or issue fines to those suspected of the behavior.

However, due to a recent change in the Brazilian legislation in December 2012, after the realization of the present study study, the police/traffic officers are now able to enforce the performance of breathalyzer or blood testing and in the case of refusal, are now empowered to arrest a driver suspected of this behavior and apply more severe penalties. Future studies of the prevalence of drink driving and alcohol associated crashes, injuries and deaths are necessary to determine whether the problem of the drink driving in Brazil is a matter of law or of the capacity to enforce the law.

Acknowledgements

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References


