Alcohol-Related Deaths in Poland During a Period of Weakening Alcohol Control Measures

In Poland since 2001, a number of policy measures designed to reduce alcohol consumption were weakened. After stable alcohol consumption since the 1980s, between 2002 and 2017 the annual consumption of alcohol increased from 6.9 L to almost 10 L of pure alcohol per capita.1,2 We examined changes in mortality wholly attributable to alcohol consumption in Poland between 2002 and 2017.

Methods | We used the World Health Organization (WHO) Mortality Database, which compiles mortality data by age, sex, and cause of death as reported by individual member states from their civil registration systems (the WHO categorized Polish data for the period 1999-2015 as being complete but of “medium” quality).3 Poland has used International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) codes, which include specific alcohol harm indicators, since 1999. Absolute numbers of alcohol-related deaths and population counts were obtained from the WHO and standardized mortality rates per 100 000 were calculated. Because alcohol and tobacco are shared risk factors for many noncommunicable causes of death and cigarette consumption declined in Poland over the analyzed period, we used a narrow definition of primary causes of death wholly attributable to alcohol consumption. These 25 conditions are mental and behavioral disorders (ICD-10 codes F10.0-F10.7), poisoning (ICD-10 codes X45, X65, Y15), liver disorders (ICD-10 codes K70.0-K70.9), gastrointestinal disorders (ICD-10 codes K29.2, K85.2, K86.0), and other disorders due to alcohol (ICD-10 codes E24.4, G31.2, G62.1, G72.1, I42.6) (eTable in the Supplement).4

Trends in alcohol-related mortality between 2002 and 2017 were analyzed using joinpoint regression analysis to calculate average annual percentage changes (AAPCs) (Joinpoint Regression Program version 4.6.0.0; US National Cancer Institute). Because of large differences in alcohol consumption by sex and age, mortality was examined separately in men and women and by age groups (20-44 years, 45-64 years, 65 years or older, and all ages). A 2-sided P < .05 defined statistical significance. Institutional review board approval was not required because the data were anonymized and publicly available.

Results | In 2002, among men in Poland, there were 3256 alcohol-related deaths and a mortality rate of 13.9 per 100 000. In 2017, there were 7604 deaths and a mortality rate of 28.0 per 100 000 (Figure). Between 2002 and 2017, the AAPC was 4.9% (95% CI, 3.2%-6.6%; P < .001) (Table). In 2002, among women in Poland, there were 429 alcohol-related deaths and a mortality rate of 1.7 per 100 000. In 2017, there were 1879 deaths and a mortality rate of 6.4 per 100 000 (Figure). Between 2002 and 2017, the AAPC was 9.7% (95% CI, 7.0%-12.4%; P < .001) (Table).

Mortality rates were highest in the 45- to 64-year age groups in both men (88.8/100 000) and women (21.3/100 000) (Figure), and between 2002 and 2017 the AAPCs were highest in those aged 65 years or older among men (AAPC, 8.5%; 95% CI, 6.7%-10.2%) and among women (AAPC, 12.2%; 95% CI, 10.6%-13.7%), but because of overlapping 95% CIs, differences between age groups cannot be deemed statistically significant (Table). The AAPCs were significant in all age groups for both men and women.

Discussion | An increase in mortality wholly attributable to alcohol consumption in Poland for both men and women and among all ages was observed between 2002 and 2017. This coincided with the weakening of alcohol control measures. In 2001, beer advertising returned to television, and in 2002, excise taxes on spirits were reduced by 30%. From 2010 onward, the alcohol industry began a marketing campaign associated with an increase in sales of small vodka bottles.1,2 At the same time, alcohol-related mortality declined in several other countries of the region, including Russia and Lithuania, where new alcohol control measures were introduced.5

Limitations of the study are that only mortality wholly attributable to alcohol consumption was included, likely...
underestimating alcohol-related mortality; the medium quality of cause-of-death data; and that factors other than policy changes may have played a role. Additional policy solutions should be considered, such as bans on alcohol advertising, measures to limit alcohol availability, educational campaigns, increases in alcohol taxation, and a monitoring system for alcohol-related diseases.6

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COMMENT & RESPONSE

Algorithm to Evaluate Abnormal Liver Function Tests in Liver Transplant Patients

To the Editor In their recent article about outpatient management of liver function test abnormalities in patients with a liver transplant, Dr Graham and colleagues1 stated that “percutaneous biopsy should not be pursued for patients who underwent transplant within the last 6 months or if coagulopathy and/or residual ascites are present. These patients should undergo transjugular liver biopsy.”

Although well-designed clinical trials are difficult to perform in the real world, there is a paucity of data to support the claim that the presence of ascites is a contraindication to percutaneous liver biopsy. In fact, several articles suggest that percutaneous liver biopsy in the presence of ascites is safe. Little et al2 concluded: “Perihepatic ascites does not statistically significantly affect the major or minor complication rate of image-guided percutaneous hepatic biopsy.” Other researchers have similarly stated: “We conclude that the complication rate in liver biopsies guided by CT or sonography in the presence of ascites is not higher than similar biopsies done in the absence of ascites. Ascites should not be considered a contraindication for performing such biopsies.”3 Other groups have used a plugged-percutaneous technique for their liver biopsies, stating that “...percutaneous liver biopsy can be successfully and safely undertaken in patients with moderate coagulation disorders, ascites or both conditions.”4

If a safer, easier, and less expensive alternative to percutaneous liver biopsy existed for liver transplant patients with ascites, the management pathway would be clear. However, the suggested substitute, transvenous liver biopsy, has many disadvantages, including the considerable effort involved, a 3-fold longer procedure time, potential risk of arrhythmias, the use of ionizing radiation, and higher cost.5

Therefore, it might be prudent to soften the absolute contraindication to percutaneous liver biopsy in the presence of ascites.1 Treating physicians should weigh ascites as 1 of several factors when determining the optimal liver biopsy approach, given the drawbacks to transjugular liver biopsy.

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Letters

Table. Trends in Mortality Wholly Attributable to Alcohol Consumption in Poland, 2002-2017

<table>
<thead>
<tr>
<th>Age group</th>
<th>AAPC, % (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-44</td>
<td>2.6 (1.1-4.1)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>45-64</td>
<td>4.8 (2.7-6.9)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>≥65</td>
<td>8.5 (6.7-10.2)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>All ages</td>
<td>4.9 (3.2-6.6)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-44</td>
<td>7.5 (4.8-10.3)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>45-64</td>
<td>10.1 (7.4-12.9)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>≥65</td>
<td>12.2 (10.6-13.7)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>All ages</td>
<td>9.7 (7.0-12.4)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

* Average annual percentage changes (AAPCs) were calculated using the Joinpoint Regression Program, version 4.6.0.0.