

REDUCED ALCOHOL AVAILABILITY LEADS TO FALL IN ALCOHOL-ATTRIBUTABLE MORTALITY: Evidence from Estonia

Restrictions on the hours when alcohol could be sold in Estonia led to a fall in the country's rate of mortality attributable to alcohol consumption by more than a third. That is the central finding of research by **Relika Stoppel**, to be presented at the annual congress of the European Economic Association in Manchester in August 2019. Their study shows that the protective effect predominantly benefits the male population and the middle-aged – and the effect is long lasting.

In an effort to reduce harmful use of alcohol, the Estonian government restricted alcohol sales hours in Tallinn, the capital of Estonia, in 2007. One year later, this policy was extended to the whole of Estonia. Since then alcohol off-premise sales are prohibited nationwide between 10pm and 10am.

Using mortality data for the period 1997-2015, this study analyses the effect of these policies on 100% alcohol-attributable mortality (AAM). It finds that in the case of Estonia, the policy was successful in reducing AAM. At the county level as well as countrywide, limited alcohol availability decreased mortality attributable to alcohol consumption by more than a third with a lasting effect.

Compared with other member states in the EU, Estonia has a remarkably high rate of premature mortality, and alcohol is involved either directly or indirectly in a significant share of it. This research analyses solely mortality that is directly linked to alcohol use. In particular, it looks at mortality that is to 100% attributable to alcohol consumption, for example, alcohol intoxication, alcoholic liver disease, alcohol poisoning.

To understand the direct effect of alcohol sales policy, this study takes a unique approach to analysing 100% AAM. It analyses the responsiveness to the policy by a particular population group that is most at risk while the majority of economic analyses of alcohol policies look either at single alcohol-attributable death cause (for example, drunk driving fatalities), alcohol-related death cause (for example, suicides, murders) or alcohol-related morbidity (for example, hospitalisation, injuries).

As for the effectiveness for different age groups, this study limits the analysis to three age groups. The youngest age group (20-34 years) has no significant outcomes with respect to the policy. But the insignificance most likely results from the small number of AAM within this age group. Thus, although alcohol-related morbidity is noteworthy for this age group, they remain mostly spared from the fatal end.

The countrywide policy was most effective for the 35-49 age group. It reduced monthly AAM within this group by 3.706 deaths, which is equal to a reduction of 54.9% of the initial mean AAM prior to the countrywide policy. The policy decreased AAM for the oldest age group (50-64 years) by 26.3%.

Furthermore, the policy was successful in reducing AAM for both sexes. Among men, AAM was reduced by 2.504 deaths per 100,000 males per month. For women, the reduction was 0.731 deaths.

Considering the initial AAM per month – 6.538 among men and 1.946 among women – the scope of the policy's effectiveness becomes clearer. More precisely, in absolute

numbers, men experienced a larger decrease in AAM; but in relative terms, both sexes experienced approximately the same decrease in AAM.

As for policy implications, the results give the following insights. First, alcohol sales regulation, and thus reduced alcohol availability, is an effective policy to reduce AAM. It has a protective effect predominantly on the male population and the middle-aged, and the effect is long lasting.

Moreover, these findings suggest a very clear implication for public health: a reduction by 39% in monthly AAM per 100,000 population is, especially for Estonia, a very big impact.

Although this analysis is conducted with Estonian data and it analyses a policy in Estonia, it is not only relevant in this country. Due to historic and cultural similarities, these findings could also be interesting for the whole Baltic region and potentially for other former Soviet states as well.

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