Spatial patterns of male alcohol-related mortality in four post-communist countries

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ABSTRACT

Background and Aim

Eastern Europe is known to suffer from a high burden of alcohol-related mortality. However, persisting unfavorable conditions at the national level mask variation at the sub-national level. We aim at exploring spatial patterns of cause-specific mortality across four post-communist countries: Belarus, Lithuania, Poland, and European Russia.

Data and Methods

We use the official mortality data routinely collected over 1179 districts and cities. The analysis refers to males aged 20–64 and covers the period 2006–2014. Mortality variation is mainly assessed by means of the Standardized Mortality Ratio. *Getis-Ord Gi* statistic* is employed to detect hot and cold spots of alcohol-related mortality.

Results

Alcohol-related mortality exhibits a gradient from very high levels in northwestern Russia to low ones in southern Poland. Spatial transitions from higher to lower mortality are not explicitly demarcated by the national boundaries. Within the countries, hot spots of alcohol-related mortality dominate the territories of northwestern and western Russia, eastern and northwestern Belarus, southeastern Lithuania, and eastern and central Poland.

Conclusion

The observed mortality gradient is likely to be associated with the spread of alcohol epidemics from the European part of Russia to the other countries which is believed to have started more than a century ago. Both contemporary socioeconomic and demographic factors as well as the peculiarities of culture, traditions and behavioral patterns observed in specific geographical areas of the four countries should be taken into account while developing efficient anti-alcohol policies. Reducing alcohol-related harm in the areas identified as hot spots should be prioritized.