Abstract

Background: High violent mortality rate in Russia and its profound fluctuation over recent decades have attracted considerable interest. A mounting body of evidence points to the binge drinking pattern as a potentially important contributor to the violent mortality crisis in Russia. In line with this evidence, we assume that higher level of vodka consumption in conjunction with binge drinking pattern results in close aggregate-level association between vodka sales and violent mortality rates in Russia. Aims and Methods: To test this hypothesis, trends in beverage-specific alcohol sales per capita and mortality rates from external causes in Russia between 1980 and 2005 were analyzed by means of ARIMA time-series analysis. Results: Results of the analysis indicate that violent mortality rates tend to be more responsive to change in vodka sales per capita than to change in total level of alcohol sales. The analysis suggests that a 1-litre increase in vodka sales per capita would result in a 5% increase in violent mortality rate, an 11.3% increase in accidents and injuries mortality rate, a 9.2% increase in suicide rate, a 12.5% increase in homicide rate, and a 21.9% increase in fatal alcohol poisoning rate. Conclusion: The outcomes of this study provide support for the hypothesis that alcohol played a crucial role in the fluctuation in violent mortality rate in Russia in recent decades. Assuming that drinking vodka is usually associated with intoxication episodes, these findings provide additional evidence that the binge drinking pattern is an important determinant of the violent mortality crisis in Russia.

Keywords

Beverage-specific alcohol sales, violent mortality, ARIMA timeseries analysis, Russia.