

Title:

Hazardous alcohol drinking in the former Soviet Union: a cross-sectional study of eight countries

Short title:

Hazardous drinking in the former Soviet Union

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Abstract

Background: Episodic consumption of large quantities of alcohol (binge drinking) is a major cause of ill-health in the former Soviet Union (FSU). The objective of this study was to describe binge drinking and other hazardous drinking behaviours in eight countries of the FSU.

Methods: Data from national surveys of adults conducted in Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia and Ukraine in 2001 were used (overall sample size 18,428; response rates 71-88%). Binge drinking, high alcohol intake, drinking alcohol during working day, and using illegally produced strong spirits were examined.

Results: On average, 14.5% of men and 1.1% of women drank alcohol in binges (≥ 2 litres of beer or ≥ 750 g bottle of wine or ≥ 300 g strong spirits) at least once every two to three weeks. Binge drinking was more common in young respondents, smokers, frequent alcohol drinkers, in those with a lower socio-economic status, as well as in pro-communist males, single women, and women living in large urban centres. About half the respondents who drank strong spirits obtained at least some alcohol from private sources. Among drinkers, 11% of males and 7% of women usually took their first drink before the end of working day.

Conclusions: Heavy episodic alcohol drinking is frequent in males throughout the region although prevalence rates may have been affected by underreporting, but relatively low in women. Effective alcohol policies are required to reduce alcohol-related harm in the region. These should address hazardous drinking patterns and the common use of illegally produced alcohol.

Introduction

Alcohol is an important cause of premature mortality in countries of the former Soviet Union (FSU)¹ and, in particular, the dramatic fluctuations in life expectancy in the region since the mid-1980s that have been driven by deaths from injuries and violence, cardiovascular disease, and alcohol poisoning.^{2,3}

Many earlier studies of alcohol and health focussed on the average volume of alcohol consumed, with the consensus that there is a cardio-protective effect of moderate regular drinking.^{4,5} However, more recent research has emphasised the importance of pattern of drinking as this has independent health effects not explained by average levels of consumption.^{6,7} Episodic consumption of large quantities of alcohol (sometimes referred to as binge drinking), which is common in Russia and other parts of the FSU, has been shown to produce adverse effects on lipid profile and coagulation, and an increased risk of arrhythmias not seen when the same total amount is consumed over a prolonged period.⁸ These effects are consistent with the apparent association between episodic heavy alcohol consumption and cardiovascular disease, particularly with the high rates of sudden cardiac death seen in Russia.⁹

Few studies have so far described patterns of alcohol consumption in countries of the FSU, except in Russia. The objective of this study was thus to examine episodic heavy drinking and other hazardous drinking behaviours (including drinking during the working day and using illegally produced alcoholic drinks) in eight countries of the FSU, using data from the Living Conditions, Lifestyles and Health (LLH) Project. This project investigated living standards, lifestyle behaviours and health status in the adult populations of Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia and Ukraine, using standardised methods of data collection that included quantitative cross-sectional surveys of a total of 18,428 individuals.¹⁰ Correlates of binge drinking and attitudes to binge drinking were also examined.

Methods

Survey methods

Details of the survey methods have been described elsewhere.¹¹ In summary, surveys were conducted in each country in the fall of 2001 using standardised methods. Each sought to include representative samples of the population aged 18 years and over, although a few small regions that are not under the control of central governments or were subject to conflict had to be excluded from sampling in Georgia (3% of population), Moldova (15% of population) and the Russian Federation (2% of population). Individuals in the armed forces and prisoners were excluded from the samples. Other exclusion criteria (with minor variations among countries) included being mentally disabled, institutionalised, hospitalised or homeless, or being unable to give informed consent to participate. The aim was to sample at least 2000 respondents in each country, but to reach 4000 in the Russian Federation and to 2500 in Ukraine to reflect the larger and more regionally diverse populations in these two countries.

Samples were selected using multi-stage random sampling with stratification by region and rural/urban settlement type. Within each primary sampling unit (about 50-200 per country), households were selected by random sampling from a household list (Armenia) or by standardised random route procedures (other countries). One person was chosen from each selected household (nearest coming or last birthday) with substitution in some countries household was not used for residence, the building was ruined (disaster zone), or the selected individual was not in the country at the time of the survey. A pre-specified quota control was used in Belarus, Kazakhstan, Moldova, and Ukraine (combination of region, area, gender, age, and/or education level), and sampling repair procedure (based on area, gender, age and education) in Georgia and Russia. Face-to-face interviews were conducted by trained fieldworkers in the respondents' homes, primarily in the language of the country and in

Russian. Quality control procedures included re-interviews to assess the work of both the interviewers and the interviewers' supervisors. Response rates varied between 71% and 88% among countries.

The questionnaire was developed and piloted in consultation with country representatives using questionnaires from pre-existing studies conducted in other countries in transition^{12,13,14,15}. In addition to covering demographic and socio-economic characteristics, living conditions, lifestyle, use of health services, health status, and health beliefs, it examined the frequency of beer, wine and strong spirits consumption in all respondents who reported consuming alcohol (categories were: 'Daily', '4-5 times a week', '2-3 times a week', 'Once a week', 'Once every 2-3 weeks', 'Once a month', 'Once in 2-3 months', 'Less often', 'Never'). It also investigated the amounts typically drunk at one time in those drinking these types of drinks at least once every two to three weeks (see categories in Table 1). Based on this information, usual weekly intake of alcohol was estimated; respondents who reported consuming beer, wine or strong spirits less frequently than once every two to three weeks were assumed to have a mean weekly intake of zero grams of alcohol for these types of drinks respectively. The reported typical amounts of alcohol consumed were converted from millilitres/litres into grams of pure alcohol per week assuming 40 grams of alcohol in one litre of beer, 80 grams of alcohol in a 750 grams bottle of wine, and 160 grams of alcohol in a bottle of 500 ml of vodka or strong spirits. Those saying they drink more than 2 litres of beer, a litre of wine or more, and more than half a litre of vodka or strong spirits were assumed to drink 2.5 litres of beer, 1 litre of wine, and 600 grams of strong spirits respectively. Alcohol consumption was dichotomised using two different weekly limits of intakes to define high alcohol intake¹⁶: 1) >210 grams of alcohol in males and >140 grams in females; 2) >420 grams of alcohol in males and 280 grams in females (corresponding to a high risk drinking for acute and chronic harm based on WHO classification¹⁷).

The definition of episodic heavy drinking is highly problematic. However, for the present purposes it was defined as consuming, in a single occasion, approximately 80 grams of alcohol,^{7,18} i.e., two or more litres of beer or one bottle (750 grams) of wine. For vodka and strong spirits, the categories of intake included in the questionnaire did not correspond exactly to 80 grams of alcohol. Thus, results for the two closest categories (i.e., 64 grams of alcohol (200 grams of vodka or strong spirits) and 96 grams of alcohol (300 grams of vodka or strong spirits)) were examined and episodic heavy drinking was defined using the most conservative category (96 grams of alcohol). We also identified those whose typical consumption was 160 grams of alcohol or more (one bottle of 500 ml of vodka or strong spirits) as this limit was used in previous studies performed in Russia and Sweden.^{18,19,20} Respondents consuming beer, wine and strong spirits less than once every two to three weeks were defined as not falling into the category of episodic heavy drinkers.

The usual places where respondents consuming vodka or other strong spirits usually get their drinks were examined, as well as the time at which alcohol drinkers usually take their first drink of the day. Correlates of episodic heavy drinking and high alcohol intake were examined. The factors investigated included age, country, area of residence, marital status, being or not of Muslim religion, educational achievement, reported economic situation of the family this year, occupational status (“unemployed and cannot find work” or “employed/studying/housekeeping/on maternity leave/disabled/does not want to work/other situation”), cigarette smoking, frequency of alcohol consumption, and self-perceived health.

Statistical analyses

Data were analysed using the statistical software Stata 6.0 (Stata Corporation, College Station, Texas). As sex is a strong predictor of alcohol intake in the former Soviet Union, results are presented separately for men and women.²¹ Between-country and between-gender variations in the selected categorical outcomes (amount of beer/wine/spirits usually drunk at

one time, episodic heavy drinking, high alcohol intake, beliefs related to episodic heavy drinking, places where respondents get vodka and other strong spirits, and time when respondents take their first alcoholic drink of the day) were assessed using chi-squared tests. Differences in the estimated median weekly intake of alcohol were estimated using Kurskal-Wallis one-way analyses of variance by ranks as this variable could not be normalised using standard transformations. Correlates of episodic heavy drinking and of high weekly alcohol intake were examined using multiple logistic regression analyses, adjusting for age and country of residence.

Results

Table 1 shows significant between-country variations in the amount of beer, wine and strong spirits usually drunk on one occasion by respondents who report consuming these types of drinks at least once every two to three weeks. A majority of males (75% on average) reported typically drinking between half and one litre of beer at one time (equivalent to about 20-40 grams of alcohol) and about 38% drink between one and one and a half litre (about 40-60 grams of alcohol). Between 61% (Kyrgyzstan) and 95% (Armenia) of women (83% on average) typically drank half a litre or less of beer at one time (≤ 20 grams of alcohol). When drinking wine, a majority of males in all countries but Georgia (77% on average for seven countries and 10% in Georgia) say they usually drink half a bottle of wine or less (≤ 40 grams of alcohol) in one occasion; about half the males from the same seven countries (55% compared with 4% in Georgia) say they normally take only a maximum of one glass. In Georgia, almost two-thirds of males drinking wine at least occasionally say they usually take at least one litre of wine at one time. The amounts of wine generally drunk in one occasion by women are somewhat lower than those reported by men. On average, 39% of women say they usually take less than a glass and another 39% say they take only about a glass. One point to note is the relatively high proportion of Georgian women regularly drinking one litre of wine

or more (16%) compared with women from other countries (range from 0 to 3%). When they drink strong spirits, a majority of males (73% on average) reported typically consuming between 100 and 300 grams (equivalent to approximately 32-64 grams of alcohol). However, Armenian males tended to report slightly lower intakes with 73% typically drinking 200 grams or less of strong spirits. A large majority of women reported consuming a maximum of 200 grams of strong spirits (84% taking ≤ 200 grams in one occasion); intakes tended to be slightly lower in Armenia, Moldova and Ukraine (82%, 77% and 70% respectively were usually consuming a maximum of 100 grams of strong spirits at one time, compared with 62% on average for the eight countries).

The prevalence of episodic heavy drinking is shown in Table 2. On average, 14.5% of men reported episodes of heavy drinking of beer, wine or strong spirits (≥ 2 litres of beer; ≥ 750 g bottle of wine; ≥ 300 g strong spirits) at least once every two to three weeks, but with large variations among countries (range 5.7-27.4%). In males, episodic heavy drinking was more frequently observed for strong spirits: on average, one in five males reported consuming at least 200 grams of strong spirits at one go (highest prevalence rates observed in Belarus, Kazakshtan and Russia), one in ten usually drink at least 300 grams (highest prevalence rates observed in Belarus, Russia and Kazakhstan), and one in twenty consume at least one bottle (500 ml) on each occasion. Drinking large quantities of wine at any given time was particularly high in Georgia where 26% of the male respondents reported typically drinking at least one bottle of wine ($\sim 80+$ grams of alcohol) in one occasion. Women were about 13 times, on average, less likely to report episodic heavy drinking than males, with prevalences varying from 0.3% (Armenia) to 2.0% (Russia). Drinking large amounts of alcohol on each occasion was slightly more common with strong spirits, with 2% of women consuming more than 200 grams on a typical occasion (highest prevalence as in males in Kazakhstan, Russia and Belarus), 0.8% consuming more than 300 grams (highest prevalence rates also in Russia,

Kazakhstan and Belarus), and 0.3% consuming at least one bottle of strong spirits. In parallel with the results observed in men, drinking large quantities of wine at one go rather than strong spirits was slightly more common in women from Georgia and Moldova.

Table 3 describes the reported mean intakes of pure alcohol as well as the proportion of respondents classified as having high intakes of alcohol. In males, weekly intakes of pure alcohol varied noticeably among countries, but the median intake was equal to zero grams in Armenia, Georgia, Kazakhstan and Kyrgyzstan, mainly because we assumed no intake in respondents consuming beer, wine or strong spirits less than once every two to three weeks. However only 16%, 28%, 16% and 34% of male respondents from these countries, respectively, say they never drink alcohol (results not shown). On average, more than one in ten men had a weekly intake of pure alcohol greater than 210 grams (range 4.4-15.2%) and 4% (1.8-6.0%) had an intake greater than 420 grams. In women, alcohol consumption was much lower with median intakes of zero grams in all countries. The proportion of women taking more than 140 grams of pure alcohol per week was on average only 1.5% (range 0.7-2.6%), and 0.5% (0.1-1.4%) reported consuming more than 280 grams per week.

Correlates of episodic heavy drinking were examined using logistic regression analyses adjusting for age and country of residence. Results are described in Table 4. Age, country, smoking status and the frequency of alcohol consumption were strong correlates of episodic heavy drinking in both males and females ($p < 0.0005$). A significantly lower likelihood of drinking alcohol in binges was observed in individuals who were in older age groups (p -value for trend < 0.0001 in males and females), in smokers, and in those consuming alcohol more frequently (p -value for trend < 0.0001 in males). Males and females from Armenia, Kyrgyzstan, Moldova and Ukraine were significantly less likely to be episodic heavy drinkers compared with their Russian counterparts. To the contrary, men from Georgia were 60% more likely than Russian men to usually drink large amounts of alcohol in one occasion. In

males, the likelihood of episodic heavy drinking did not vary by living area, marital status, being of Muslim religion, education, and occupational status. However, males who reported a better economic situation for their household and those with a bad self-reported health were less likely to be episodic heavy drinkers compared with, respectively, males in worst economic situation and those who rated their health as good. Males who believed that they could live better if the Communist system were restored were 18% more likely to be episodic heavy drinkers compared with those who did not agree with this statement. In women, variations with area of living, marital status, education, and economic situation were observed. Women living in cities other than the capital or regional capital, those with a higher education degree, and those who reported an average economic situation tended to be less likely to be episodic heavy drinkers. To the contrary, women who were single were 68% more likely than married women to report episodic heavy drinking.

A large majority of respondents in all countries except Armenia believed that it is important or quite important to avoid episodic heavy drinking to keep healthy (Table 5). This represented on average 85% of males and 88% of females in these seven countries. In comparison, only 28% of Armenian males and 30% of Armenian females shared the same belief.

Among respondents who reported drinking vodka or other strong spirits (Table 6), the proportion of those only obtaining legally produced drinks from a legitimate outlet was lowest in Georgia (14% of males and 22% of females) and highest in Kazakhstan (73% of males and 82% of females). Other respondents reported obtaining only illegally produced drinks (more than half the respondents in Georgia), or a combination. The likelihood of getting vodka and other strong spirits only from a proper company was lower among heavier male drinkers in all countries except Georgia and in women from Belarus and Russia (country-specific tests for trend all <0.005).

Table 7 indicates that 11% of males and 7% of women who report consuming any alcohol usually take their first drink before the end of the working day, but this varied between countries; the highest proportions were observed in Armenia (19% of males and 12% of females) and Moldova (15% of males and 9% of females).

Discussion

While most studies of episodic heavy drinking in countries of the FSU to date have focussed on Russia, this study provides information from eight countries representing more than four-fifth of the FSU population. The LLH surveys have several important advantages, including the fact that they used standardised methods of data collection, they sampled the general adult population of each country, their overall response rates were relatively high, they were undertaken in respondents' homes, and response rates for questions related to alcohol consumption were high (e.g., 99.95% for overall frequency of consumption; >99.8% for the frequency of beer, wine and strong spirits consumption). Their generalisability is thus an important strength. However, because the surveys were based on self-reported information, like all such surveys they are likely to have been affected by reporting bias. The tendency for individuals to underestimate their alcohol consumption is well known²² and can be expected to have affected estimates of drinking prevalence and amounts consumed in this study. In addition, heavy drinkers are generally less likely to participate in surveys and individuals unable to give consent, some of whom with have been intoxicated, were excluded from the study, thus potentially reducing further the prevalence of episodic heavy drinking and high alcohol intake. Those who drink frequently to intoxication are unlikely to be able to recall accurately how much they consumed. Nevertheless, we assumed that in countries where heavy drinking is tolerated, at least in men, there may be less social stigma about admitting to it and thus less under-reporting of intakes. Another limitation of the surveys is the fact that they were not designed specifically to study alcohol consumption and the questions thus have limitations. For example, no

distinction is made between lifelong abstainers and ex-drinkers. In addition, no question on the alcohol content of the different types of drinks consumed was included. In the questions estimating the frequency of alcohol consumption, there is a gap between 'Daily' and '4-5 times a week'. There are also gaps in the measures of amounts consumed (e.g., for wine: 'Half a litre', 'A bottle (750g)', 'A litre or more'). These could lead to an underestimation of intakes if people whose consumption level falls in these gaps chose the lower categories and questions about the average amount consumed usually underestimate intake.²³ Finally, even though the overall sample size in each country is relatively large, the small size of certain subgroups reduced the power to detect significant differences, and data were only collected on individuals aged 18 years and over which precludes the exploration of hazardous drinking in adolescents.

Accumulating evidence has suggested that epidemiological studies involving alcohol as a risk factor should go beyond the traditional measures of mean intakes as a basis for understanding drinking behaviour and that both the amounts drunk and patterns of intake should be examined.^{6,24} although as this and other studies show, accurate measurement of exposure is difficult. Individuals who consume alcohol at high levels (episodic heavy drinking) more frequently experience an increased risk of a range of health and social problems.

While the damaging effects of harmful drinking patterns are now acknowledged,^{25,26,27,28,29} there remains considerable disagreement how to define and measure them, in particular in relation to the use of the term 'binge drinking'.³⁰ The Journal of Studies on Alcohol has adopted a policy that requires the term 'binge' to be used only to describe an extended period of time (usually two or more days) during which a person repeatedly administers alcohol or another substance to the point of intoxication, and gives up his/her usual activities and obligations in order to use the substance. In this case, the core definition of a 'binge' is thus the combination of prolonged use and the giving up of usual activities.³¹

Another question is how to define an episode of heavy drinking (often defined previously as a binge). Some have this as drinking over 60 to 80 grams of alcohol at one go, sometimes with lower cut-offs for women.^{7,30,32,33} Others have chosen the much higher value of 160 grams.^{34,35} The use of a fixed cut-off point have been criticised, however, as they do not take account of the weight of the person or whether any food was eaten during the drinking episode, and because they may give the impression that consumption below that level is safe. Some thus recommend using instruments that examine the extent to which alcohol interferes with a person's family, social and working life.³⁶ Our more recent work suggests that markers of the consequences of heavy drinking, such as frequency of hangovers, getting into trouble with police, or being unable to work because of the effects of alcohol are actually better predictors of harm.

Unfortunately, these questions were not asked in the LLH surveys so it was necessary to define episodes of heavy drinking in terms of the amounts usually drunk in one occasion, employing cut-offs used in previous studies conducted in countries of the FSU.

While recognising the many limitations of this research, our results suggest that occasional heavy drinking is frequent in males from the region covered by the surveys, and this even though a large majority of male respondents in most countries understood the adverse consequences of such drinking for their health. Based on our definition of episodic heavy drinking (≥ 80 grams of alcohol from beer or wine, or ≥ 96 grams of alcohol from strong spirits in one drinking occasion at least once every two to three weeks), 14% of males, but a much lower proportion (1%) of females were, on average, engaging in episodes of heavy drinking at least once every two to three weeks. In males, the prevalence of episodic heavy drinking tended to be highest in males from Georgia (mainly consuming wine) as well as in Russia, Belarus and Kazakhstan (consuming spirits), and lowest in Moldova. In women, the prevalence was highest in Russia and lowest in Armenia. 11% of males and 1% of females reported drinking large amounts of spirits

(≥ 96 grams of alcohol at least once every two to three weeks); in Russian respondents, this was 17% of males and almost 2% of females. For comparison, a study examined trends in episodic heavy drinking in an urban population of Russia (Novosibirsk) between 1985 and 1995.³⁷ It suggested that episodic heavy drinking, defined as consuming at least 80 grams of alcohol at a single occasion at least once a month, changed in men aged 25-64 years from 36% in 1985-86 to 52% in 1988-89 and to 51% in 1994-95. In women it increased from 0.4% in 1985-86 to 5% in 1994-95. Using a slightly different definition of a binge (drinking about 250 ml of vodka or equivalent (80 grams of alcohol) on one occasion more than once a month), another survey conducted throughout the Russian Federation in 1996 reported a prevalence of episodic heavy drinking of 31% in males and 5% in females aged 18 years and over. These estimates are thus much higher than ours. We could hypothesise that the difference is due to a reduction in the prevalence of episodic heavy drinking in Russia between 1996 and 2001, but such a large decrease appears unlikely considering the deeply embedded culture of drinking and the lack of policy action on alcohol.³⁸ The discrepancy is likely to reflect underreporting of alcohol consumption in our study, for the reasons noted above, a problem also faced by the Russian Longitudinal Monitoring Survey.³⁹ Differences in the population studied and limitations of the survey questionnaire could also have played a role. Finally, the difference is likely to have been due, at least in part, to the lower alcohol intake cut-off or longer time period used to define episodic heavy drinking in the previous surveys, and/or to differences in age groups.

Most surveys to date have reported mean alcohol consumption rather than patterns of intakes. For comparison purposes, we thus attempted to estimate mean and median alcohol intakes although these are likely to be underestimates as we had to assume a mean intake of beer, wine and strong spirits equivalent to zero grams of alcohol in individuals who reported consuming these types of drinks less than once every two to three weeks. The proportion of respondents who have high intakes should not however have been affected as much as it is unlikely that many

respondents drinking once a month or less have a mean weekly intake above the chosen cut-offs. Compared with other European countries, the proportions of men and women reporting a high alcohol intake was not particularly excessive. In Austria, for example, 41% of men and 8.5% of women consume more than 210 grams of alcohol per week. In Ireland, 27% of men and 21% of women report consuming more than 210 grams and more than 140 grams of alcohol respectively (our findings indicate 11% in males and 1.6% in females). However, only 14% of Hungarian men and 0.8% of Hungarian women fall into these categories (210/140 grams). While we observed that 4% of males, on average, were consuming more than 420 grams of alcohol per week, this appears to be the case in 29% of Austrian males and 7% of German males. In the United Kingdom, 6% of males weekly consume at least 400 grams of alcohol and 2% of females consume at least 280 grams of alcohol (compared with 0.3% on average in our results for females). However our results are not consistent with estimates of per capita alcohol consumption and suggest that they underestimate the proportion of high alcohol consumers. Indeed, values of per capita intake estimated for the Global Burden of Disease (GBD) Study for 2000 were estimated to be (in 1995) 14.1 litres of pure alcohol in Austria, 15.5 litres in Ireland, 12.0 litres in the United Kingdom, 17.5 litres in the Russian Federation, 30.5 litres in Moldova and 11.1 litres in Kazakhstan.⁴⁰ These values include estimates of unrecorded consumption, which is known to be important in this region (e.g., samogon made by the distillation of fermented foodstuff mainly sugar but also potatoes, grain, vegetables or fruits; homemade wines and beers; stolen alcohol intended for medical or industrial use and alcohol-based liquids such as aftershave lotions and colognes) and from illicit importation.^{41,42} In Russia, samogon was a traditional rural phenomenon that spread to urban areas. Its use increased rapidly during anti-alcohol campaign of the the mid-1980s and has remained high even after the end of the campaign.^{41,43} Unrecorded intakes of alcohol in the FSU are by definition difficult to assess but some estimates are two to three times higher than official figures.⁴⁴

Results of a recent survey conducted in rural Russia (Veronej, Novograd, Orusk regions) suggested that unrecorded consumption accounts for 80 to 90% of total intake.⁴⁵

Our study confirms widespread use of privately made drinks with about half the respondents obtaining some or all of their alcohol from private sources. However, this may also be an underestimate due to fear of the traditionally severe penalties for illegal home production and purchase (for example in Kazakhstan where about three-quarters of the respondents said they obtained alcohol only from a proper company but where the estimated unrecorded intakes are assumed to be relatively high).

Although the LLH questionnaire did not include a standard instrument that would have allowed us to identify problem drinking one indication is starting to drink early in the day.⁴⁶

In this study, at least 11% of male drinkers and 7% of female drinkers report drinking alcohol before the end of work day, and more frequent drinkers are more likely to start drinking before they finished working. This aspect of alcohol abuse should clearly be examined in more details in future studies in the region using tools such as the AUDIT questionnaire or other internationally recognised tool.^{47,48}

A better understanding of the determinants of hazardous drinking in the region is needed. In this study, we observed that the likelihood of episodic heavy drinking was higher in respondents who were elderly, and in those who smoked and drank more frequently. Bobak et al. reported a similarly strong association in their survey of the Russian Federation suggesting a clustering of unhealthy lifestyle behaviours. Some researchers have suggested that Russians with positive recollections of the Soviet period place a lower emphasis on health promoting activities than those who welcomed the new system,⁴⁹ possibly because of the Soviet rejection of individual responsibility for health.⁵⁰ This agrees with our finding that men who believe that they could live better if the Communist system were restored are more likely to be episodic heavy drinkers. A similar finding was not observed in women, however. Pattern of

drinking was associated with some markers of socio-economic status in our study, being less common among the better off and among more educated women. However, contrary to what was observed by Bobak et al., the unemployed were not more prone to episodes of heavy drinking. Single women in large cities were also more likely to engage in episodes of heavy drinking, consistent with other evidence of a change in traditional gender roles in post-Soviet society. Finally, respondents in poorer health were less likely to be episodic heavy drinkers, although the difference reached significance only in men. This is contrary to previous findings that Russian men with the worst self-rated health were almost five times as likely as those with a very good rated health to be episodic heavy drinkers. One interpretation is that sicker men may have adopted less hazardous drinking behaviours.

In conclusion, the findings described in this study indicate that heavy episodic alcohol drinking is frequent among men throughout the region covered by the LLH surveys, but so far it is relatively infrequent among women. They also confirm that the use of homemade alcohol is common even though its use may have been underreported. While drinking patterns need to be explored in more detail in the region using internationally agreed tools and definitions, our results emphasise the importance of developing effective alcohol policies in an effort to reduce alcohol-related harm in the region, in line with the goals of the European Alcohol Action Plan.⁵¹ These will need to address both overall consumption and damaging drinking patterns, while taking into account the consumption of alcohol from illicit sources.

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