

Alcohol consumption impact on premature mortality in Romania

Florentina Furtunescu^{1*}, Dana Galieta Minca², Adriana Vasile², Carmen Domnariu³

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Abstract: Alcohol consumption is the third major risk factor for the “ill health” in EU, after tobacco and blood pressure, accounting of 7.2 % of the total burden of diseases (12% in males and 2% in females). The aim of this study is to underline the effects of alcohol drinking on the Romanians’ health, in order to mobilize the national stakeholders for developing a long-term cross-sectoral strategy on alcohol control.

A descriptive approach was done based on regular data from national and international public databases. The effect of alcohol drinking on health status was evaluated through alcohol consumption (no. of pure alcohol liters per capita and per year and prevalence of alcohol drinkers) and alcohol attributable mortality measured as number of deaths and as number of potential years of life lost. Alcohol consumption has an important impact on the health status of the Romanian population in terms of number of deaths and of years of life lost, accounting around 20000 deaths in 2002 and 12 years of life lost per each death. Synergic measures are required to control this problem, in line with the EU strategy, but taking into consideration the national context.

Key words: alcohol consumption, drinking pattern, alcohol attributable deaths

Alcohol consumption is the third major risk factor for the “ill health” in EU, after tobacco and blood pressure, accounting of 7.2 % of the total burden of diseases (12% in males and 2% in females) [1]. Alcohol is also responsible of around 195.000 deaths per year in EU, from which 45.000 from cirrhosis, 50000 from cancer, 10000 suicides, 17000 from traffic accidents, 27000 other accidental deaths and 17.000 due to neuropsychiatric conditions [1, 2]. Many studies showed that alcohol related consequences are more harmful in the East-Europeans countries that have a lower capacity to control the alcohol consume especially through preventive measures [3, 4].

The European Council adopted the Recommendation no 2001/458/EC on the drinking of alcohol by young people, in particular children and adolescents [5] and Conclusions regarding a Community strategy aimed to reduce alcohol-related harm [6] or Conclusions on Alcohol and young people [7].

The European Commission adopted recommendations on enforcement in the field of road safety [8], or on the maximum permitted blood alcohol content (BAC) for drivers of motorized vehicles [9]. Probably the most important and effective measure is the EU strategy

1*) Corresponding author; University of Medicine and Pharmacy “Carol Davila”, Bucharest, Public Health Department, , Dr Leonte St. 1-3, sect 5, Bucharest, Romania, Phone/fax: +4021 3180713, Mail: pbhealth@univermed-cdgm.ro, ffurtunescu@gmail.com

2) University of Medicine and Pharmacy “Carol Davila”, Bucharest, Public Health Department

3) University “Lucian Blaga”, Sibiu, Faculty of Medicine

to support Member States in reducing alcohol related harm [10]. All these documents are relevant but they become really effective only if the member states develop national measures to implement them.

Methods

This paper is a descriptive approach using regular data from national and international public databases. The impact of alcohol drinking on health status was evaluated through alcohol consumption and alcohol attributable mortality. The volume of consumption was analyzed using the WHO database GISAH [11]. The prevalence of alcohol drinking was analyzed based on national and international studies. The categories of drinking were considered according to the WHO classification (table 1) [1, 12].

Table 1 Stratification by alcohol consumption and gender

Category	Level of consumption (g/alcohol/day)	
	Men	Women
Abstinent	0	0
Level I	<40	<20
Level II	40 - 60	20 - 40
Level III	>60	>40

Source: Rehm et al, 2004, cited by Anderson P, Baumberg B. Alcohol in Europe. London: Institute of Alcohol Studies. 2006

Data on mortality are based on the work done in the EU funded project “HEM – Closing the Gap – Reducing Premature Mortality. Baseline for Monitoring Health Evolution Following Enlargement.” no 2003121 and considered the year 2002 (details on the project website www.hem.waw.pl). The number of alcohol attributable deaths was calculated as the proportion of the

disease in the population that would not occur if lifetime exposure to alcohol were hypothetically changed to the counterfactual level of zero [4].

The potential years of life lost were calculated using the life expectancy at birth fixed at 82.5 years for females and 80.0 years for males. The WHO mortality database was used for deaths and the UN population database was used for number of population by age group and by gender. Three age-groups were considered: 0 – 19 years (young age), 20 – 64 years (adult age) and 65+ year. Alcohol attributable deaths were combined by the authors by age group, by gender and by cause of death, as absolute number and as proportion. Potential years of life lost due to alcohol were analyzed by age group and by gender.

Results

Total alcohol consumption

Alcohol consumption in Romania recorded an ascending trend from 1961 to 1979, when was recorded a peak of almost 11,9 litres of pure alcohol per capita (age 15+) and per year. Since then it is recorded a slow descending trend until 1989 and then an increasing, reaching the maximum level of consumption in 1994 (12,9 l/year). After this peak, the consumption slowly decreased reaching 9.7 l/year in 2003.

Globally, the level of recorded per capita alcohol consumption per year increased almost twice, from 5,7 l in 1961 to 9.7 l in 2002. However, the recorded consumption does not completely illustrate the alcohol drinking in Romania. There is an additional unrecorded consumption estimated to around 4 liters/inhabitant/year [11]. This unrecorded alcohol is mostly homemade and consists in grape wine and spirits made of fruits [13], which are culturally accepted and even considered good for health.

The consumption's structure has changed considerably during the years 1961-2002 (fig 1). In the early 60's wines used to account more than 60% of the alcohol consumption

(in liters of pure alcohol per year and per capita), but since the early 70ies, the consumption decreased reaching 31% from total in 2003. Beer was the least preferred in the early 60'ies (14% from total consumption in liters of pure alcohol) but the consumption increased, reaching higher than wine in 2003 (41%). The spirits were between wine and beer. In the 60ies, spirits represented around 21.1% from the pure alcohol consumption per capita and per year. The consume remains quite constant over years, reaching 25% in 2003.

Prevalence of drinkers

The prevalence of alcohol consumption in Romania was analyzed from time to time through different surveys, more or less comparable, but time-series on prevalence by age-groups or by gender are still missing. No national published data related to alcohol consumption before the 90ies. Even the data published by the international organization are different when confronting various sources.

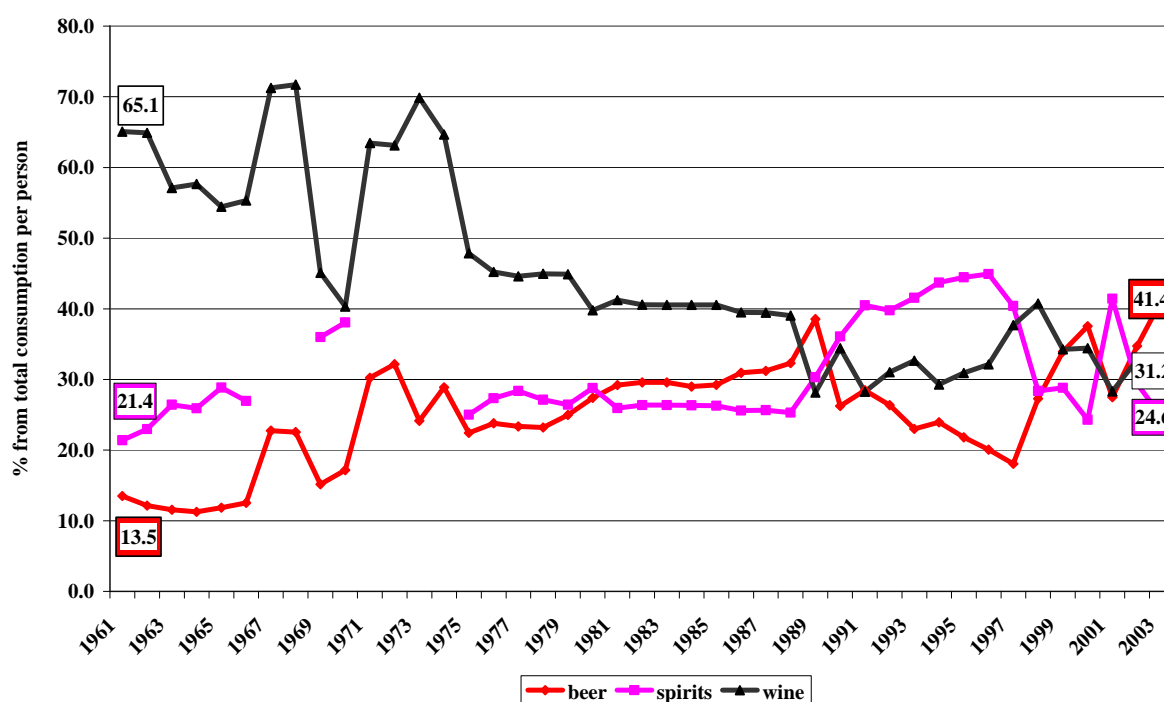


Fig. 1 The structure of alcohol consumption in Romania, 1960 - 2003 (Source data: GISAH)

Estimation was made in HEM project, based on a survey made in 1992 and reported by Ferrer et al, 1995. Following this data, more than 50% from women aged 15+ and 22% from men are abstainers (meaning 4.8 millions women and 1.9 millions men). However, the rest of 48% from females and 78% from males use to drink alcohol at different levels (around 4.5 millions women and 6.8 millions men).

From these people, around 950 thousands women and 3.8 millions men are heavy drinkers (categories III of IV - more than 40 g alcohol/day for women and respectively 60 g alcohol/day for men). Another national survey from 2001 found a higher prevalence of abstainers (32% and 66% in males and females respectively) [14].

Compared to EU new members Romania has a very favorable percent of abstainers (second place, after Bulgaria that takes the lowest position) also for males and females. Per contrary, the prevalence of heavy drinkers is alarming, Romania being on the 5th place in males (after Czech Republic, Hungary, Estonia and Slovakia) and on the third place in

females (after Hungary and Slovakia), with 43,9% and respectively 10,2 % heavy drinkers males and females [15].

The analysis of alcohol consumption by age-groups in males showed the highest prevalence in adult age-group (20 – 64) (82% - 84%) and a lower prevalence after age of 65 (69%). The lowest prevalence (53%) was found in young males (15 – 19). A quite similar situation was found in females (48 %, 54% and 32% in young, adult and older age respectively).

Binge drinking frequency was the highest in adult males compared to young and old ages, but in females, the highest prevalence of binge drinking was found in age group 15 – 19. Also the ESPAD studies reported an increasing prevalence of binge drinking (three times or more in the last 30 days) in young people (boys, girls and students respectively) from 9, 2 and 5 in 1999 to 19, 5 and 11 respectively in 2003 [16, 17]. No important differences of alcohol consumption prevalence were found between rural and urban areas [14, 18].

Production and quality of alcohol consumed in Romania

Romania has a long tradition in wine production. However, this production decreased by 23% since 1993 to 2006 (from 6549 thousands hectoliters in 1993 to 5014 in 2006) [19]. The beer production decreased during 1993 - 1997, but faced a spectacular increasing after this moments, reaching in 2006 180% compared to 1993 (from 9929 thousands hectoliters in 2006 to 17848 in 2006). After the 90'ies the spirits' production was quite stable, reaching in 2004 to the level from 1993. The registered production has a good quality and is safely sold. There are official excise stamps to avoid smuggling.

Deaths due to alcohol

In 2002, around 20000 deaths were due to various levels of alcohol consumption, from which 12500 were premature deaths (before the age of 65). Most of these deaths (17266, meaning 87%) occurred in males. The alcohol attributable deaths represented 12% from total deaths in males and 1.2% in females. This proportion was much higher in adult age both in males and females (fig 2).

Alcohol attributable deaths by cause

The main causes of death were cardiovascular diseases (in males), digestive diseases (liver cirrhosis was the most important), injuries, cancers and other neuropsychiatric conditions. The structure of alcohol related deaths was different between genders. In males, this structure was dominated by cardiovascular diseases (39%), injuries (23%) and digestive diseases (22%), followed by cancer (10%) and neurological disorders (6%). In females, most of the alcohol related deaths were due to digestive diseases (liver cirrhosis, 49%) and injuries (30%), followed by cancer (11%) and neurological disorders (10%).

There are huge differences in proportion of deaths caused by alcohol between age groups, in each gender. In young age group more than 95% of deaths caused by alcohol are due to injuries both in men and women. In adult males, deaths from alcohol are due to injuries (30%), digestive and cardiovascular diseases (26% and 25% respectively), cancers 11% and neurological disorders (8%). In adult women these proportions differ markedly.

The biggest contribution in deaths caused by alcohol is due to digestive diseases (47%), followed by injuries, neurological disorders and cancer (33%, 12%, and 8% respectively). Age 65+ is dominated in males by cardiovascular diseases (62%), followed by digestive diseases (17%), cancers and injuries (9% each) and neurological disorders

(3%). In females same age, 57% from deaths are due to digestive diseases, followed by injuries (22%) and cancers (14%) and neurological disorders (7%).

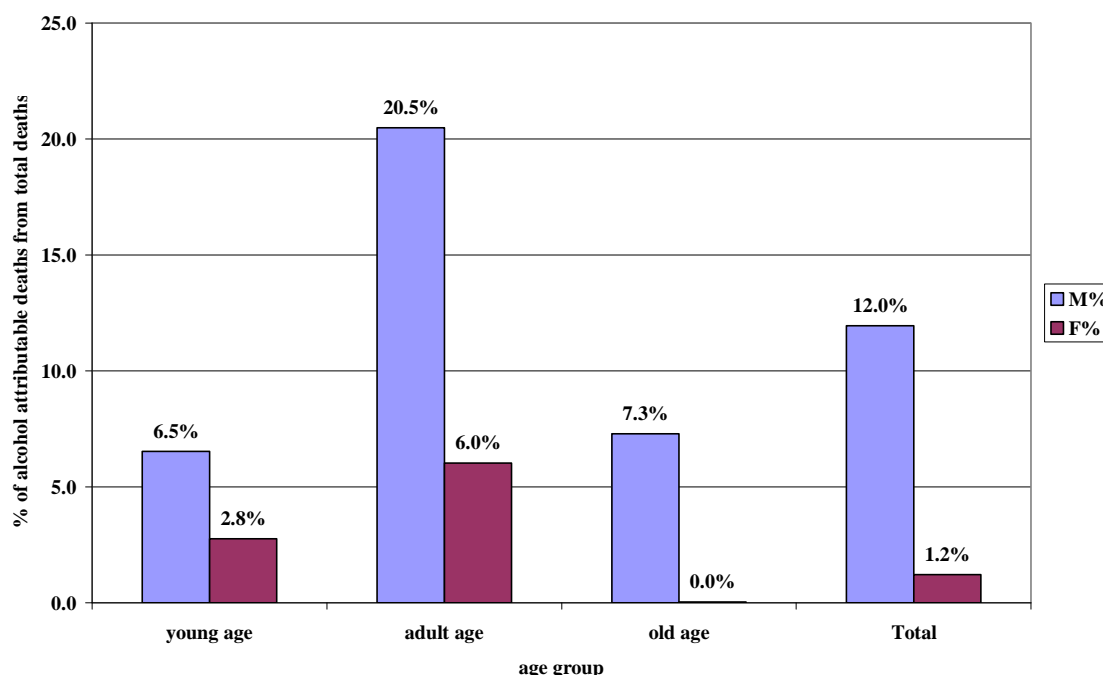


Fig. 2 The share of alcohol deaths in total deaths by age-group and by gender

Potential years of life lost
In 2002 alcohol consumption was responsible of almost 240.000 years of life lost, from which 90% were lost in males. The most majority of these potential years of life were lost in adult age (84% in males and 90% in females – table 2).

Table 2 Potential years of life lost (PYLL) due to alcohol by gender, 2002 (Source: HEM calculation)

Age groups	Males		Females	
	PYLL	%	PYLL	%
0-19	9207	4.4%	2733	9%
20-44	78939	37.4%	13173	46%
45-64	99143	47.0%	12819	44%
65+	23584	11.2%	176	1%
Total	210873	100.0%	28902	100%

Discussion

Recorded per capita consumption of alcohol almost doubled in Romania during 1961 – 2002. An unrecorded per capita consumption of 4 liters of pure alcohol per capita is estimated additionally. The structure of consumption has changed by increasing beer and decreasing the wine consumption.

Related to the pattern of consumption, Romania has a favorable prevalence of abstainers compared to other East European countries, but a high prevalence of binge drinkers, both in males and females. An increasing prevalence of binge drinking in young people is reported by international studies and this aspect should be addressed very carefully on long term. The alcohol sold on the market is of good quality, but questions raise the home made alcohol.

As regarding the mortality losses in 2002, around 20000 deaths were due to alcohol consumption, from which 12500 were premature deaths (before the age of 65). 87% of these deaths occurred in males. The most detrimental effect occurred in people aged 20-64 in which 20% form all death in males and 6% from all deaths in females were attributed to alcohol. In fact, one from five deaths in adult males was caused by alcohol. Compared to EU 15 (old members - men 15%; women 7%) and EU 10 (new members men 19%; women 7%; men 19%; women 7%;) the figures seem to be more detrimental for Romania only in males [20, 21]. However, in 2002, the alcohol-attributable death rates in Romania were about three times higher than the EU15 rates in males (159 per 100,000 population in Romania compared 55 in EU) and but also one and a half higher in females (21 per 100,000 population in Romania compared to 14 in EU) [20, 21].

The structure of alcohol related deaths by cause was different between genders being dominated by cardiovascular diseases, injuries and digestive diseases in males and by liver cirrhosis and injuries in females. Cancer accounted a similar proportion in both genders. Differences in structure of alcohol attributable deaths by cause were found between age groups in each gender. In young age group more than 95% of deaths caused by alcohol were due to injuries both in men and women.

In adult males, deaths from alcohol were due to injuries, digestive and cardiovascular diseases in males and respectively to digestive diseases and injuries in females. Age 65+ was dominated by cardiovascular and digestive diseases in males and by liver cirrhosis and injuries in females.

Almost 240.000 potential years of life were lost due to alcohol in Romania in 2002 (90% in males), most of them in adult age. Every person that died due to alcohol drinking could have lived another 12 years of good life near the family and achieving a valuable social role.

These findings underline the need to adopt strong public health measures for controlling the consequences of alcohol harm.

According to EU regulations and recommendations, some progress was made especially at the level of primordial prevention and a lot of national institutions become involved in this field. Romania implements EU policies and recommendations in the fields of drinking driving (Blood Alcohol Concentration for driving is 0 mg/ml), packaging and labeling of alcohol products, taxation, illicit trade, restrictions on the availability and sales, especially to minors, advertising, promotion and sponsorship. Alcohol is completely banned at working places.

The Ministry of Agriculture establishes regulations and standards for alcohol production and licensing and the Ministry of Public Finances regulates and supervises the taxation policy. The National Antidrug Agency has had responsibilities in combating alcohol and tobacco along with illicit drugs, but it was recently reorganised. Also primary prevention measures such educational programmes are implemented. The diseases attributed to alcohol are covered by the National Health Insurance House and also the treatment of withdrawal.

As we can notice, many policies for alcohol control were developed and implemented in different sectors. However, these measures are monitored separately and their impact is not very well known and understood. An integrated, cross-sectoral long-term strategy is necessary in order to better control the alcohol related harm. This requires

the mobilization of all relevant governmental institutions, but also the local communities, the civil society and the individuals have to be involved.

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