

Evidence-based strategies and interventions to reduce alcohol-related harm

Global assessment of public-health problems caused by harmful use of alcohol

1. Harmful use of alcohol causes considerable public-health problems and is ranked as the fifth leading risk factor for premature death and disability in the world. Estimates for 2002 show that at least 2.3 million people died worldwide of alcohol-related causes. Those deaths accounted for 3.7% of global mortality, and alcohol consumption was responsible for 4.4% of the global burden of disease (as measured in disability-adjusted life-years lost, Table 1).
2. The impact of alcohol consumption is greater in younger age groups of both sexes. It accounts for 3.7% of all deaths in all age groups (6.1% in men, 1.1% in women), but 5% of deaths under the age of 60 were attributable to this risk factor (7.5% in men, 1.7% in women). Fatal injuries, in particular, occur relatively early in life. The fact that alcohol kills relatively early in life is borne out by the excess of the proportion of alcohol-attributable years of life lost over that of alcohol-attributable deaths.
3. Harmful use of alcohol is the third leading contributor to disease burden in developed countries, the first for men in developing countries in which mortality rates are low, and eleventh in developing countries with high mortality rates. The different ranking of risk factors in terms of death or disease in various regions reflects differences not only in causes of death and the age profiles of mortality rates (e.g., the effects of malnutrition and infant mortality), but also in patterns of drinking and amount of alcohol consumed.
4. Harmful use of alcohol is causally linked with many different disease conditions. Neuropsychiatric disorders, mainly from alcohol use and including alcohol dependence, account for more than a third (34%) of the burden of disease and disability attributable to alcohol, followed by unintentional injuries like road traffic crashes, burns, drowning and falls (altogether 26%), intentional injuries including suicide (11%), cirrhosis of the liver (10%), cardiovascular diseases (10%) and cancer (9%) (see Table 2). When only alcohol-related deaths are considered, unintentional injuries (25%), cardiovascular diseases (22%) and cancer (20%) are the three biggest categories.

Table 1. Global and regional burden of disease attributable to alcohol consumption, 2002

Region	Deaths ^a		Years of life lost ^a		Number of disability-adjusted life-years lost ^a	
	Number of deaths	Percentage of all deaths	Number	Percentage of all years of life lost	Number	Percentage of all disability-adjusted life-years lost
	(thousands)		(thousands)		(thousands)	
Global	2 123	3.7	38 177	4.1	64 975	4.4
Men	1 836	6.1	32 553	6.6	54 970	7.1
Women	287	1.1	5 625	1.3	10 006	1.4
African						
Men	184	3.4	4 165	3.0	5 757	3.2
Women	50	1.0	1 050	0.8	1 429	0.8
The Americas						
Men	277	8.7	5 616	14.1	12 026	15.2
Women	46	1.7	871	3.2	2 569	3.9
South-East Asia						
Men	285	3.7	5 314	3.8	8 088	3.8
Women	28	0.4	586	0.5	867	0.4
European						
Men	532	10.8	9 085	17.8	14 017	16.7
Women	77	1.7	1 644	5.2	2 553	3.8
Eastern Mediterranean						
Men	20	0.9	394	0.9	480	0.7
Women	3	0.2	57	0.1	77	0.1
Western Pacific						
Men	539	8.5	7 979	10.1	14 603	10.3
Women	82	1.5	1 417	2.3	2 511	2.1

^a Adjusted for beneficial effects attributable to alcohol consumption.

5. The disease burden estimates reflect the harm attributable to alcohol after the protective effects of alcohol, particularly for ischaemic heart disease, have been taken into consideration. Although evidence suggests that low or moderate alcohol consumption can reduce mortality and morbidity due to a few diseases and for certain age groups, any threshold for harmful use of alcohol is difficult to define. For many diseases such as breast cancer the risk increases with the amount of alcohol drunk, with no evidence of a threshold effect.

6. The current estimates of alcohol-attributable disease burden only partly describe the impact of harmful use of alcohol on society. Accumulating evidence suggests an association between such harmful use and infectious diseases like HIV disease and tuberculosis, but such links have to be proven and quantified before global estimates of burden of disease can be adjusted accordingly. In addition, harmful use of alcohol causes diverse social and economic damage and costs, most of which are not reflected in the alcohol-attributable component of the estimates.

7. This social and economic impact needs to be considered in policy-making. The global cost of the harmful use of alcohol in 2002 has been estimated to be between US\$ 210 000 million and US\$ 665 000 million: US\$ 50 000–120 000 million for illness, US\$ 55 000–210 000 million

for premature mortality, US\$ 30 000–55 000 million for the consequences of drink-driving, US\$ 30 000–65 000 million for absenteeism, up to US\$ 80 000 million for unemployment, US\$ 30 000–85 000 million for criminal justice costs associated with alcohol-related crime and US\$ 15 000–50 000 million for criminal damage. The total equates to between 0.6% and 2.0% of global gross domestic product. Notwithstanding methodological problems in their estimation, these figures represent an enormous social and economic burden. Further research is needed to refine these estimates globally and, in particular, in low- and middle-income countries. Harmful use of alcohol contributes to disparities in health between and within countries, and understanding of its importance in relation to socioeconomic development needs to be improved through further work.

8. Harmful use of alcohol continues to be a major contributor to the burden of disease, despite the fact that much of the alcohol-attributable portion is avoidable, even in the short-term. The relationships between alcohol consumption and a wide range of conditions, particularly in lower-income countries and for some specific diseases, need to be better understood. However, given the current trends both in availability of alcohol, with expected increases in alcohol consumption in the most populous countries, and in outcomes, with an overall relative increase in alcohol-attributable causes of death, the detrimental impact of alcohol is expected to increase in the future if further interventions are not introduced.

Table 2. Disability-adjusted life-years lost attributable to alcohol consumption in the world, 2002

Disease category	Men (number)	Women (number)	Total for men and women (number)	Men (%)	Women (%)	Total for men and women (%)
Maternal and perinatal conditions (low birth weight)	52	42	94	0.1	0.4	0.1
Cancer	4 593	1 460	6 054	8.2	12.9	9.0
Diabetes mellitus	0	20	20	0.0	0.2	0.0
Neuropsychiatric disorders	19 393	3 722	23 115	34.6	32.9	34.3
Cardiovascular diseases	5 711	887	6 598	10.2	7.8	9.8
Cirrhosis of the liver	5 415	1 468	6 883	9.7	13.0	10.2
Unintentional injuries	14 499	2 647	17 146	25.9	23.4	25.5
Intentional injuries	6 366	1 051	7 417	11.4	9.3	11.0
Total “detrimental effects” attributable to alcohol	56 029	11 297	67 326	100.1	99.9	99.9
Diabetes mellitus	-225	-86	-312	21.3	6.7	13.3
Cardiovascular diseases	-834	-1 205	-2 039	78.7	93.3	86.7
Total “beneficial effects” attributable to alcohol	-1 059	-1 291	-2 351	100.0	100.0	100.0
All alcohol-attributable net disability-adjusted life-years lost	54 970	10 006	64 975	100.0	100.0	100.0
Total disability-adjusted life-years lost due to all causes	772 912	717 213	1 490 126			
Percentage of all disability-adjusted life-years lost attributable to alcohol	7.1%	1.4%	4.4%			

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