ANTIGUA AND BARBUDA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Morbidity, health and social problems from alcohol use

In a 1995/1996 study looking at 138 cases of congestive heart failure admitted to Holberton Hospital in Antigua, the aetiology of congestive heart failure was found to be alcohol-related in 2% of the cases reviewed.1

Country background information


References

ARGENTINA

Recorded adult per capita consumption (age 15+)

A national survey conducted in 1999 (total sample size \( n = 2699 \); age group 16–64 years) found the rate of lifetime prevalence of alcohol consumption to be 91.4% (total), 96.4% (males) and 86.6% (females). The prevalence rate of alcohol use in the last 30 days was 66.2% (total), 78.8% (males) and 54.4% (females).\(^3\)

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 7% (males) and 21% (females). Data is for after year 1995.\(^3\)

In a 2001 study of 31 male sex workers in Córdoba, Argentina, it was found that about half of the sample (53.3%) reported drinking alcohol at least once a week.\(^4\)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers in Buenos Aires

Data from the WHO GENACIS study. Regional survey conducted in 2003 (age group 20 to 64 years) in Buenos Aires and Capital Federal. Total sample size \( n = 928 \); males \( n = 367 \) and females \( n = 561 \).\(^1\)
Heavy drinkers

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11.5%</td>
<td>2.0%</td>
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<tr>
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</table>

Heavy and hazardous drinkers (among drinkers) in Buenos Aires

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data from the WHO GENACIS study (total sample size $n = 1000$) conducted in Buenos Aires and the province of Buenos Aires (urban population aged 18 to 65 years) show that the rates of infrequent heavy drinkers and frequent heavy drinkers were 31.3% and 2.4% respectively. Infrequent heavy drinking was defined as drinking less than weekly five or more drinks a day and frequent heavy drinking was defined as drinking weekly or more five or more drinks a day.

Heavy episodic drinkers (among drinkers) in Buenos Aires

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25.8%</td>
<td>25.7%</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data from the WHO GENACIS study. Regional survey conducted in 2003 (age group 20 to 64 years) in Buenos Aires and Capital Federal. Total sample size $n = 928$; males $n = 367$ and females $n = 561$. Definition used: consumption of five or more drinks in one sitting at least once a month in the last year (among drinkers only).

Youth drinking in Buenos Aires (last year alcohol use)

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25.8%</td>
<td>25.7%</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A survey of adolescent school children (956 boys and 303 girls) in Buenos Aires province.
Recently, there has been a trend toward alcohol use at younger ages; in the metropolitan Buenos Aires area, for instance, 70% of adolescents drank beer on a daily basis.\(^7\)

**Alcohol dependence (last year)**

Studies on the prevalence of alcoholism do not provide full data, but they do indicate a high percentage of alcoholics among economically active males (between 30% and 50%).\(^7\)

A national survey conducted in 1999 (total sample size \(n = 2699\); age group 16–64 years) also found the rate of alcohol abuse within the past 30 days to be 6.6% (total), 11.9% (males) and 1.6% (females).\(^2\)

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in Argentina is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).\(^3\)

**Mortality rates from selected death causes where alcohol is one of the underlying risk factors**

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

A study carried out in October 1993 in four hospitals in the province of Buenos Aires found that 7% of all the consultations in the Hospital Emergency Facility were associated with alcohol or drugs. Of these, 70.4% were associated with alcoholic beverages. The prevalence of those having taken absolute alcohol in excess of 40 cc (defined as risky intake) in the previous six hours before attendance at the emergency facility was 5.4%.8

A study carried out in 1994 in hospitals nationwide of both in-patients and patients who had been released within 30 days prior to the study found that the main cause of interment in the sample (n = 260) was associated with the consumption of alcohol and other drugs (42.3%), the main cause being directly or indirectly related to alcohol consumption.9

A study conducted in the Federal Capital in 1978 by the Institute of Biology and Experimental Medicine found that blood alcohol levels of drivers of between 0.03% and 0.07% represented 14.2% of the sample tested, and levels higher than 0.07% correspond to 9.1% of the sample.10

In a case-control study conducted in the city of Mar del Plata, Argentina in 1992–1993 with the purpose of investigating the incidence of and the risk factors associated with proximal femur fractures due to osteoporosis, alcohol consumption was one of the factors found associated with a statistically significant increased risk of fracture of the proximal femur.11

Country background information

| Total population 2003       | 38 428 000          | Life expectancy at birth (2002) | Male | 70.8 |
| Adult (15+)                | 28 052 440          | Female | 78.1 |
| % under 15                 | 27                  | Probability of dying under age 5 per 1000 (2002) | Male | 20   |
| Population distribution 2001 (%) | 88               | Female | 16   |
| Urban                      | 88                  | Gross National Income per capita 2002 | USS | 4060 |
References

1. Preliminary results from the Gender, Alcohol and Culture: An International Study (GENACIS Project). International Research Group on Gender and Alcohol [for more information please see http://www.med.und.nodak.edu/depts/irgga/GENACISProject.html].


BAHAMAS (THE)

Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Youth drinking (last year alcohol use)

Data from the Bahamas Youth Health Survey 1997 showing past year alcohol use among adolescents aged between 10 and 19 years old.¹

Youth drinking (lifetime prevalence of use)

Survey conducted in 1987 among 4767 junior and senior high school students aged 11 years or over.²

The Boys and Girls Industrial School Study was conducted among 74 incarcerated delinquents in 1988 and found that 74% of the total sample reported ever having used alcohol.³
Youth drinking (daily drinkers)

The Boys and Girls Industrial School Study was conducted among 74 incarcerated delinquents in 1988 and found that 50% of the total sample reported drinking alcohol daily.²

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

![Graph showing chronic mortality time-series](image)

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

![Graph showing acute mortality rates](image)

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.

Morbidity, health and social problems from alcohol use

Drinking, drug use and unruly behaviour have been known to lead to serious problems in the Bahamas. Alcohol is involved in the vast majority of arrests, accidents, violent crimes and deaths suffered by students on holiday in the Bahamas. Violent crimes such as rape often happen at night or in the early morning hours, and frequently involve alcohol and the club environment.3

The number of new clients treated at the Community Counselling and Assessment Centre in 2003 for alcohol abuse was 114 (86 males and 28 females). Out of this 114, 24 patients were aged between 21 and 35 years and 88 patients were aged 35 years and older.4 The number of persons presenting with alcohol abuse for treatment at the Community Mental Health Clinic (the principal outpatient treatment facility in the country) declined from 134 in 1990 to 68 in 1996. However, alcoholism is still a major health problem that remain at unacceptably high levels. Between 1988 and 1994, alcohol abuse was one of the three most common disorders presented at the clinic (the other two being drug abuse and depression).5

In 2000, 81.8% of all deaths due to mental conditions was attributed to alcohol-related mental disorders. In 1998, 25% of all deaths due to mental disorders was attributed to alcohol dependence.4

A study of the coroner’s records in the Bahamas between 1959 and 1969 revealed 61 deaths by suicide. 37% of all suicide victims were said to have had an alcohol-related problem.6

Country background information

<table>
<thead>
<tr>
<th>Total population 2003</th>
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<td>Population distribution 2001 (%)</td>
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<td>Female 14</td>
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<td>Urban</td>
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<td>US$ 14 860</td>
</tr>
<tr>
<td>Rural</td>
<td>11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


References

4. *Health Information and Research Unit*, Ministry of Health Bahamas.
BARBADOS

Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

![Pie chart showing last year abstainers](image)

Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.1

A 1991–1994 urban survey conducted in Bridgetown, Barbados (males n = 329 and females n = 482; aged 25 years and above) found that 37.1% of males and 4.4% of females surveyed had consumed at least 12 drinks of any kind of alcoholic beverage in the past 12 months.2

Problem drinkers among acute medical admissions

![Pie chart showing problem drinkers among acute medical admissions](image)

A study of 203 emergency admissions to two medical wards. Problem drinking was assessed using the brief Michigan Alcoholic Screening Test (MAST) questionnaire.3
The study also found that 51% of problem drinkers started drinking between the ages of 16 and 20 years. Seventy per cent of all problem drinkers had a first degree family relative who drank compared to 28% of non-drinkers.

Youth drinking (last year prevalence)

The study also found that an estimated 89% of students had experimented with alcohol and one half of the students below the legal drinking age of 16 had drunk alcohol in the past year.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Barbados is estimated to be -0.5 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

Morbidity, health and social problems from alcohol use

A Rapid Situational Assessment conducted in Barbados in 1999–2000 found that social consequences of substance abuse in Barbados include petty crimes committed against person and property, increases in school dropout rates and increased promiscuity and sexually transmitted diseases.5

A study looking at a subset of the Barbados Eye Study of 3752 participants without glaucoma (aged 40 to 84 years) found that current alcohol use was a positively related factor associated with intraocular pressure.6

Country background information

| Total population 2003 | 270 000 | Life expectancy at birth (2002) | Male | 70.5 |
| Adult (15+): | 218 700 | | Female | 77.9 |
| % under 15: | 19 | Probability of dying under age 5 per 1000 (2002) | Male | 17 |
| Urban: | 51 | | Female | 15 |
| Rural: | 49 |


References

BELIZE

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.¹

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Belize is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

¹WHO Global Status Report on Alcohol 2004
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database

Country background information

<table>
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<th>Total population 2003</th>
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<td>Male</td>
<td>44</td>
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<tr>
<td>% under 15</td>
<td>38</td>
<td></td>
<td>Female</td>
<td>72.4</td>
</tr>
<tr>
<td>Urban</td>
<td>48</td>
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<td>Female</td>
<td>34</td>
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<td>Rural</td>
<td>52</td>
<td>Gross National Income per capita 2002</td>
<td>US$</td>
<td>2960</td>
</tr>
</tbody>
</table>

References

BERMUDA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Note: Bermuda is not a WHO Member State.
## BOLIVIA

### Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

### Last year abstainers

![Pie chart showing last year abstainers](image)

- **Total:** 34.2%
- **Male:** 23.8%
- **Female:** 44.6%

Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.²

It is estimated that in 1998, 10.01% (approximately 800 785 persons) and 7.8% (approximately 626 247 persons) of the Bolivian population are heavy drinkers and alcohol dependents respectively.²

### Youth drinking (last year prevalence)

![Pie chart showing youth drinking](image)

- **Total:** 54.5%

1999 survey of students aged between 12 and 21 years of age.⁷
The same survey also found the rate of lifetime prevalence of alcohol use to be 60.8% and the rate of last month alcohol use to be 31.5%.

Traditional alcoholic beverages

Chicha is a clear, yellowish, effervescent, alcoholic beverage prepared from maize. It has a flavour similar to that of cider. Chicha has been consumed by the Andean Indians for centuries. When prepared from pigmented maize varieties, its colour varies from red to purple. The alcoholic content of chicha varies between 2 and 12% (v/v). The traditional production of chicha is a somewhat unique fermentation process in which saliva serves as the source of amylase for converting starch to fermentable sugars. Malting (germination) of maize kernels to produce the amylase required for starch conversion is an alternative procedure which is widely used in modern day processing. Frequently, salivation is combined with malting to yield chichi.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Bolivia is estimated to be 3.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Morbidity, health and social problems from alcohol use

A study by the Department of Hygiene and Industrial Safety in three factories in La Paz found that 7.3% of absenteeism in the first two days of the work week and 1.2% of work-related accidents were directly related to the consumption of alcohol.

According to statistics collected by the La Paz Traffic Department, in 1980, intoxication was the second most common cause of traffic accidents, being involved in 12.7% of the total number of traffic accidents. This figure increased to 18.6% in 1986.

A study conducted in El Alto found that approximately one third of the women surveyed had been forced by their partner to have sexual intercourse, usually after the man had been drinking. The women claimed that one of the biggest problems at home is that the men drink too much. Alcohol abuse was identified by the women surveyed as being a major problem at home, linked to incidences of domestic violence and coercive sex.

Country background information

<table>
<thead>
<tr>
<th>Total population 2003</th>
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<th>Life expectancy at birth (2002)</th>
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<td>% under 15</td>
<td>39</td>
<td>Probability of dying under age 5 per 1000 (2002)</td>
<td>Female</td>
<td>64.7</td>
</tr>
</tbody>
</table>


References

BRAZIL

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Lifetime abstainers

According to the WHO GENACIS Study (2001/2002 regional survey of all urban residents in Botucatu; total sample size $n = 857$, males $n = 377$ and females $n = 480$; age range 20 to 64 years), the rate of last year abstainers was 51.5% (total), 40% (males) and 60.5% (females). 2

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 36% (males) and 57% (females). Data is for after year 1995. 3
Heavy and hazardous drinkers (among drinkers)

According to the 2003 World Health Survey (total sample size \(n = 3719\); males \(n = 1841\) and females \(n = 1878\)), the mean value (in grams) of pure alcohol consumed per day among drinkers was 4.3 (total), 6.8 (males) and 1.9 (females).\(^1\)

According to the WHO GENACIS Study (2001/2002 regional survey of all urban residents in Botucatu; total sample size \(n = 857\), males \(n = 377\) and females \(n = 480\); age range 20 to 64 years), the rate of last year heavy and hazardous drinking among drinkers was 17.8% for men and 18.2% for women. Heavy and hazardous drinking was defined as consumption of 40 g or more of pure alcohol a day for males and 20 g or more of pure alcohol a day for females.\(^2\)

An urban survey conducted in the city of Pelotas, southern Brazil among 1277 subjects aged 15 years and over found that the rate of prevalence of alcohol consumption was 54.2%; 11.9% (21.7% of men and 4.1% of women) reported potentially harmful levels of alcohol use and 4.2% were classified as manifesting alcohol dependence by the CAGE questionnaire.\(^3\)

Heavy episodic drinkers

According to the WHO GENACIS Study (2001/2002 regional survey of all urban residents in Botucatu; total sample size \(n = 857\), males \(n = 377\) and females \(n = 480\); age range 20 to 64 years), the rate of heavy episodic drinking among drinkers was 29.3% for men and 22.5% for women. Heavy episodic drinking was defined as consumption of five or more drinks in one sitting at least once a month in the last year.\(^2\)

In a recent household survey carried out in a sample of 2302 adults in Salvador, Brazil (1052 males and 1250 females), 56% of the sample acknowledged drinking alcoholic beverages. Overall 12-month prevalence of high-risk drinking was 7%, six times more prevalent among males than females (almost 13% compared to 2.4%). Cases of high-risk drinking were defined as those subjects who referred weekly binge drinking (eight or more drinks in one sitting) plus episodes of drunkenness and those who reported any use of alcoholic beverages but with frequent drunkenness (at least once a week).\(^5\)
Youth drinking (lifetime abstainers)

A 1999 survey of 1500 university students (aged between 18 and 25 years) in the state of Minas Gerais found that the rate of lifetime prevalence of alcohol use was 83% and that 48% of students currently use alcohol.6

Street children of Brazil’s urban centres also seem to use alcohol regularly. A 1993 survey conducted in five Brazilian cities and using a convenience sample of children aged 6 to 18 years old showed that the prevalence rate of last month alcohol use ranged from 24.5% in Fortaleza to 81.5% in Recife.7

Youth drinking in large cities (lifetime prevalence)

A 1997 survey of 15 501 students (aged 10 to 18 years old) in Brazil’s ten largest state capitals found that 15% of the students were frequent users of alcoholic drinks (frequent use was defined as consumption of alcohol six or more times in the 30 days preceding the survey).9

Youth drinking (heavy episodic drinkers)

Note: These are preliminary, early-release, unpublished data from WHO’s World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.
Alcohol dependence in large cities

An urban survey of a representative sample of 1260 people aged 15 and over in a town in southern Brazil found that the prevalence rate of alcohol use disorder (using AUDIT) was 7.9% (total), 14.5% (males) and 2.4% (females).  

A cross-sectional study carried out in a random representative sample (n = 330; 243 men and 76 women) out of 1977 homeless people lodged in five public hostels of the Rio de Janeiro metropolitan area found the overall lifetime prevalence of alcohol abuse or dependence using the Composite International Diagnostic Interview (CIDI) and the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R) to be 44.2% (53.1% in men and 15.8% in women).  

An urban survey conducted in 1995 of 275 inpatients in a general hospital found that 12.4% were diagnosed as having an alcohol use disorder by the AUDIT questionnaire. Among men the prevalence was 22% and for women it was 3%.  

A survey of 1459 people aged over 13 years living in a district of Rio de Janeiro found that 51% of the total sample used alcohol and that 3% (4.9% of males and 1.7% of females) were suspected of alcoholism, based on the CAGE test. The greatest prevalence of the use of alcohol and alcoholism was found among men between 30 and 49 years of age. Abstinence from alcohol was more frequent among low-income groups.

Traditional alcoholic beverages

Cachaça, aguardente de cana, pinga or caninha are the beverages obtained with an alcohol content of 38–54% v/v, from the distillation of fermented sugar-cane juice.  

Pinga is a highly popular spirit distilled from sugar-cane and is cheaply available. According to one study, it sells at an average price of just US$ 0.25 per 50 ml dose. The average cost of a 750 ml bottle of lager is US$ 0.82.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Brazil is estimated to be 3.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).  

Ministry of Agriculture figures suggest that illegal production of pinga is estimated to be one billion litres per year. This is in addition to the approximately one billion litres produced annually through legal means. This massive production is partly a by-product of the huge sugar-cane plantation programme, which was instigated as a means of producing alcohol as a petrol substitute to drive cars. Side-effects of this over production of sugar-cane are that alcohol in all forms is extremely cheap. For example, 1 litre of domestic alcohol, used for household cleaning, costs less than US$ 0.50, whilst a litre of pinga costs US$ 2.00. At one quarter the price, and despite its unsavoury and dangerous additives (which include sulfuric acid), some alcohol-dependents intermittently resort to drinking domestic alcohol instead of pinga.

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
Chronic mortality

![Graph showing chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.]

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

![Graph showing acute mortality time-series measured on two axes, deaths from falls, intentional injuries, accidental poisonings, and road traffic accidents.]

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.
Morbidity, health and social problems from alcohol use

A cross-sectional study carried out in the emergency room of a level 1 trauma centre in the city of São Paulo between August 1998 and August 1999 analysed 464 patients. Positive blood alcohol concentrations (BAC) were found in 28.9% of the cases and in 83.4% BAC was equal to 0.10%.

A study in the Metropolitan area of São Paulo during 1994 showed that a high blood alcohol concentration was found in 50.6% of motor vehicle accident victims.

A youth survey of 7th to 11th grade students in public and private schools in São Paulo city found that Episodic Heavy Drinkers (EHDs) reported higher percentage of adverse consequences, such as physical fights, accidents and school absenteeism after drinking. EHDs are more likely to engage in other high-risk behaviours. In the public schools, they were more likely to carry guns, get involved in physical fights, attempt suicide, and use inhalants than abstainers. They are also more likely to use marijuana and smoke cigarettes than moderate drinkers.

In a survey of adolescents in Porto Alegre, it was found that 30.5% of the subjects who had ever drunk alcohol admitted having experienced some kind of problem related to its use. In 70% of these cases the problem was a physical one such as headaches, dizziness and vomiting. However, 16.5% woke up late and 4.1% missed classes due to alcohol consumption.

Data from a study conducted in 1990–1991 in three metropolitan regions looking at the distribution of mental disorders in the Brazilian population found that the prevalence of various forms of alcoholism point to a significant potential demand for psychiatric care in the population over the age of 15, with rates ranging from 4.5% to 8.7% and up to 15% among males in some cities.

Alcoholism and drug use together account for close to 20% of all hospitalizations for mental disorders in Brazil. The proportion is as high as 28% in the South, according to data for 1995. Alcoholism was the underlying cause of 3621 deaths (only 10.8% of those were women), 35.5% of which were of persons under the age of 40.

In a study looking at 616 children and youth patients hospitalized for alcoholic intoxication in São Paulo between 1993 and 1997, it was found that 35.2% of cases were due to reasons of abuse, 26.3% of cases were accidental and 18.8% were for suicidal reasons. The most frequently involved toxic agents were aguardiente (pinga), accounting for 12.2% of cases, beer (5.2%), wine (4.4%) cleaning alcohol (15.6%), cosmetic alcohol (5.8%) and combustive fuel (3.9%).

A study of 2000 cases of mild head trauma in Curitiba, southern Brazil found that alcohol intoxication played a major role as an associated factor related to head trauma and was involved in 17.6% of the cases studied.

Country background information

<table>
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<tr>
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</table>


References

2. Preliminary results from the Gender, Alcohol and Culture: An International Study (GENACIS Project). International Research Group on Gender and Alcohol (for more information please see http://www.med.und.nodak.edu/depts/irrga/GENACISProject.html).

CANADA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Abstainers

Data from the National Population Health Survey 1998–1999. The original sample size of adults 15 years of age and older was 14 682. The data shown here has been weighted. ‘Abstainers’ here include abstainers and former drinkers.

Daily drinkers

Data from the National Population Health Survey 1998–1999. The original sample size of adults 15 years of age and older was 14 682. The data shown here has been weighted.
Heavy episodic drinking (last year among drinkers)

Data from the National Population Health Survey 1998–1999 (original sample size of adults 15 years of age and older was 14,682) shows that the rate of heavy episodic drinking was 4.5% (total), 7.3% (males) and 1.5% (females). Heavy episodic drinking was defined as having five or more drinks once a week. The data shown here has been weighted.¹

In a 1989 national survey of 5,689 men and 5,945 women aged 15 years and above, the rate of last year binge drinking among drinkers was 62.1% (males) and 35.4% (females). Binge drinking was defined as having five or more drinks per drinking occasion.³

In a 1993 regional survey of Ontario residents (553 men and 481 women aged 18 years and over), the rate of past year binge drinking among current drinkers was found to be 55% among men and 22% among women. Binge drinking was defined as having five or more drinks per drinking occasion. In a 1990 regional survey of Ontario residents (22,967 men and 24,028 women aged 12 years and above), the rate of past year binge drinking among current drinkers was found to be 34.8% among men and 14.1% among women. Binge drinking was defined as having 10 or more drinks per drinking occasion.³

Youth drinking (drink at least weekly)

According to the 1997/1998 HBSC survey (total sample size n = 2,403), 22% of 15-year-old boys and 17% of 15-year-old girls reported drinking beer, wine or spirits at least weekly.⁵

Youth drinking (heavy episodic drinkers among drinkers)

Data from the 2000/2001 Canadian Community Health Survey. Heavy episodic drinking was defined as consuming five or more drinks on one occasion, twelve or more times in the last year. Data is for current drinkers only.²
Youth drinking (drunkenness)

According to the 2001/2002 HBSC survey (total sample size \( n = 1625 \)), the proportion of 15-year-olds who reported having been drunk at least two or more times was 30.4% for boys and 22.7% for girls.4

Alcohol dependence (last year)

A survey of a representative household sample using the University of Michigan version of the CIDI of the Ontario population aged 15–64 years found the rate of lifetime prevalence of alcohol dependence to be 12% (total), 19.2% (males) and 4.8% (females).7

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Canada is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).8

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

![Graph showing acute mortality trends](image)

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

Recent research have shown statistically significant associations between alcohol consumption and overall fatal accident rates in all Canadian provinces for males, and in all provinces except Ontario for females. For Canada at large, an increase in per capita alcohol consumption of 1 litre was accompanied by an increase in accident mortality of 5.9 among males and 1.9 among females per 100 000 inhabitants. Among males there was a significant association with alcohol for both falling accidents, motor vehicle accidents and other accidents. Among females, the association with falling accidents and other accidents was significant.\(^9\) In a study to determine the prevalence and context of alcohol use in the deaths of children and youth in the British Colombia province, it was found that alcohol was present at the time of death in two fifths of motor vehicle accidents and one third of suicides and drownings.\(^10\) According to the official statistics of 1997, alcohol was involved in 38.6% of fatal motor vehicle crashes.\(^11\)

A study that compared traumatic deaths occurring while driving a snowmobile and a control group of fatal motor vehicle driver and motorcycle driver accidents found that blood alcohol concentrations in snowmobile fatalities exceeded provincial limits in 64% of the cases. When snowmobile fatalities were adjusted for occurrence during suboptimal lighting conditions, only alcohol use was associated independently with fatal outcome. Drivers in snowmobile fatalities are associated with an approximately fourfold greater use of alcohol than are age- and sex-matched drivers in automobile and motorcycle fatalities.\(^12\)

An analysis of 29 air rage cases reported in the Canadian Press for the time period 1998 to 2000 found that excessive alcohol use was an important precipitating factor.\(^13\)

A study conducted in 1999 of 1001 adults (542 women) aged 18 and over found that the proportion of respondents who reported that at least one person had been drinking in the most recent incident of aggression was 38.1% for arguments, 56.5% for threats and 67.9% for physical aggression. Bivariate analysis suggested that drinkers were significantly more likely than nondrinkers to report aggression, with 11.4% of drinkers reporting verbal aggression only and 13.8% reporting physical aggression, compared to 6.9% and 7.4% of abstainers.\(^14\)

A national Canadian survey on violence against women revealed that women with drunkard partners are six times more at risk of violence since alcohol is considered as one of the major factors of wife assault.\(^15\)

Groups considered to be at particular risk from harm associated with alcohol and other drugs include women, youth, seniors, First Nations and Inuit peoples, and driving-while-impaired offenders. First Nations youths are at two to six times greater risk for alcohol-related problems than their counterparts in other segments of the...
Canadian population. In Canada at large, a 1-litre increase in per capita consumption of alcohol was associated with a 17% increase in male total cirrhosis rates and a 13% increase in female total cirrhosis rates. Alcohol consumption had a stronger impact on alcoholic cirrhosis, which increased by fully 30% per litre in alcohol per capita for men and women.

**Economic and social costs**

The abuse of alcohol in 1992 cost Canada approximately $7.52 billion, including $4.14 billion for lost productivity due to illness and premature death, $1.36 billion for law enforcement and $1.3 billion in direct health care costs.

**Country background information**

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**References**

CHILE

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 31% (males) and 47% (females). Data is for after year 1995.2

The 1998 Third National Household Survey of Drug Abuse with a sample size of 31 665 people aged between 12 to 64 years old who were representative of the national population found the rate of lifetime abstainers to be 15.6% of the total sample population.3
Problem drinkers (prevalence)

A 1996 survey found that 24% of persons who said they had consumed alcohol in the past year fall into the category of problem drinkers (35.6% of the males and 11.1% of the females surveyed), with higher percentages in the lower socioeconomic groups.5

Youth drinking (last month prevalence)

The corresponding survey in 2000 showed that last month prevalence of alcohol use among those 12–18 years old was 32.8% (males) and 28.4% (females).6

Alcohol dependence (lifetime diagnosis)

In a study of 406 patients hospitalized in the internal medicine service of a public hospital in Santiago (203 males and 203 females), it was found that 38% of males and 6% of females qualified for alcohol dependence or alcohol abuse at some point in their lives. DSM-III-R criteria was used to assess alcohol dependence and alcohol abuse.8

In a study of 406 patients (203 men and 203 women aged 11 to 90 years) hospitalized in an internal medicine service of a public hospital, the rate of current prevalence of alcohol dependence was found to be 6.6% (total), 12.3% (males) and 1% (females). The rate of lifetime prevalence of alcohol dependence was found to be 7.6% (total), 13.8% (males) and 1.5% (females).9
With regard to alcoholism, it is estimated that at present 20% of persons can be classified as problem drinkers; 15% of them are not dependent on alcohol, and 5% are dependent on alcohol. Alcoholism is more frequent among males and among persons who are unemployed or irregularly employed.³

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in Chile is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).²

**Mortality rates from selected death causes where alcohol is one of the underlying risk factors**

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

![Chronic mortality graph](image)

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

It is estimated that 20–22% of work-related accidents have a direct or indirect relationship with recent alcohol use. In a study of patients who required hospitalization for severe work-related accidents, it was found that 15% reported recent use of alcohol.10

In a study to determine the prevalence of family violence against women in a population sample in Temuco, Chile, it was found that alcohol abuse was a risk factor for violence against women. Among men, alcohol abuse was also identified as a risk factor for violent behaviours.11

In a survey in Temuco, Chile, it was found that parental alcohol abuse was an associated factor of child abuse.12

Alcoholism is associated with 38% of hospital discharges. It is the primary cause reported in 4.5% of hospital discharges and in 7% of deaths, and it is an associated cause in 25% of deaths. Alcohol use is a factor in 48.6% of homicides, 38.6% of suicides, and 50% of traffic accidents.5

Cirrhosis of the liver is the fifth cause of mortality in Chile in spite of the fact that the disease has shown a downward trend during the last decade. A significant increase in the median age of hospital discharges and deaths in men and women is noticed. The age-adjusted death rate per 100 000 people was 17.8 in 1999 (26.4 for men and 9.2 for women). In 1999, there were 2671 deaths caused by cirrhosis of the liver, representing 3.3% of total deaths recorded. The lifetime probability of hospital admission caused by cirrhosis of the liver in 1996 was 5.9% (total), 8.1% (men) and 4.4% (women). The lifetime probability of death caused by cirrhosis of the liver in 1999 was 3.6% (total), 5.7% (men) and 1% (women).13

In a case-control study of 170 breast cancer cases and 340 controls (all females) in Santiago, the odds ratio for breast cancer associated with alcohol consumption was found to be 1.61.14

Economic and social costs

The total cost of excessive alcohol consumption (including indirect and direct costs) to Chile is estimated to be US$ 2.969 billion. The cost per capita is estimated to be US$ 209.15
Country background information

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References

COLOMBIA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 31% (males) and 47% (females). Data is for after year 1995.2

High risk drinkers

Data from the 2000–2001 Multi-Country Survey Study. Total sample size n = 6000; males n = 2071 and females n = 3929. Population aged 18 years and above.1

Data from the 2000–2001 Multi-Country Survey Study. Total sample size n = 6000; males n = 2071 and females n = 3929. Population aged 18 years and above. Definition used: consumption of five or more standard drinks for males and three or more standard drinks for females on a typical drinking day.1
Heavy episodic drinkers

Data from the 2000–2001 Multi-Country Survey Study. Total sample size $n = 6000$; males $n = 2071$ and females $n = 3929$. Population aged 18 years and above. Definition used: at least once a week consumption of six or more standard drinks in one sitting.\(^1\)

Youth drinking (last year abstainers)

Data from the 2000–2001 Multi-Country Survey Study. Total sample size $n = 6000$; males $n = 2071$ and females $n = 3929$. Population aged 18 years and above.

A 1997 survey of 1730 students in grade 10 from 32 randomly selected public high schools in Bogotá shows that the percentage of study participants who reported having had at least one drink during their lifetime was 86.6%.\(^3\)

In a study of 2611 children (1253 boys and 1358 girls) aged 6–18 years old from the city of Medellín in Colombia, it was found that 46% of the children drank alcohol (52.5% of boys and 40.5% of girls). The study also found that 25.7% of those aged between 10 and 14 years drank alcohol, whilst 63.5% of children aged between 15 and 18 years old drank alcohol.\(^4\)

Youth drinking (heavy episodic drinkers)

Data from the 2000–2001 Multi-Country Survey Study. Total sample size $n = 1080$; males $n = 384$ and females $n = 696$. Population aged 18 to 24 years.

Population aged 18 to 24 years old. For the age group 15 to 19 years (subsample $n = 357$), the rate of heavy episodic drinkers was 10.1% (total), 16.1% (males) and 7.1% (females). Definition used: at least once a week consumption of six or more standard drinks in one sitting.\(^1\)
Alcohol dependence

According to the 2000–2001 Multi-Country Survey Study (total sample size \( n = 6019 \); sample population aged 15 years and above), the rate of last year alcohol dependence was 4.8% (total), 9.8% (males) and 2.2% (females). Alcohol dependence was measured using criteria from the International Statistical Classification of Diseases and Related Health Problems (10th Revision).1

Note: These are preliminary, early-release, unpublished data from WHO's Multi-Country Survey Study made available exclusively for this report. Some estimates may change in the final analyses of these data.

A 1987 urban survey of 2800 residents between the ages of 12 and 64 in four cities showed that 8.1% of subjects were considered to be alcoholics.6

Traditional alcoholic beverages

Aguardiente (anise-based liquor), guarapo (from sugar-cane) and chicha (alcoholic beverage fermented from maize) and chirrinche (similar to aguardiente but made with herbs) are drunk mainly in the rural areas (home-brewed).

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Colombia is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).2

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.

Morbidity, health and social problems from alcohol use

A study of data on road deaths and injuries from 1991 to 1995 in Colombia found that 15% of deaths are attributable to driving whilst under the influence of alcohol.7

In a study looking at homicides that were registered in Cali, Colombia from 1993 to 1998, the bivariate analysis conducted revealed a positive association with alcohol consumption by the victim. Cases that occurred during a fight between individuals or during group fighting also showed an association with alcohol consumption by the victim.8

A cross-sectional study of a random sample of 275 women in Barranquilla, Colombia found that habitual alcohol consumption in the women and in the spouses were factors associated with marital violence.9
The use of drugs and alcohol is a key factor in 80% of child abuse cases in Colombia, reports a recent study conducted by World Vision in Colombia.\(^{10}\)

A 1997 study showed that alcohol consumption is associated with self-perceived academic ability. Students who reported consumption of alcohol during the 30 days prior to the study showed significantly lower self-perceived academic ability than those who did not report alcohol use during the 30 days preceding the survey.\(^3\)

In a study comparing 85 patients with gastric cancer and 170 controls, alcohol consumption was found to be more common among patients with gastric cancer.\(^11\)

Country background information

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References

COSTA RICA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

A national survey conducted in 2000–2001 (total sample size \( n = 4588 \), males \( n = 2298 \) and females \( n = 2287 \); aged 12–70 years old) found that 26.6% of the total subjects, 36.8% of males and 16.4% of females had consumed alcohol in the month prior to the survey.\(^2\)

A 1995 national survey of Costa Rican inhabitants aged between 12 and 70 years old (total sample size \( n = 2731 \); males \( n = 1360 \) and females \( n = 1371 \)) found that 44.8% of males and 70.4% of females were current abstainers.\(^3\)

According to the WHO GENACIS Study (2003 survey; total sample size \( n = 1067 \), males \( n = 354 \) and females \( n = 713 \); age range 20 to 64 years), the rate of last year abstainers was 44.7% (total), 32.6% (males) and 56.7% (females).\(^4\)
Heavy and hazardous drinkers (among drinkers)

A 1995 national survey of Costa Rican inhabitants aged between 12 and 70 years old (total sample size $n = 2731$; males $n = 1360$ and females $n = 1371$) found that of 1154 current drinkers, 23% reported heavy drinking behaviours. This prevalence was higher in men (33.7%) than among women (5.9%). Heavy drinking was defined as having had five or more drinks at least once in the last month.3

Heavy episodic drinkers (among drinkers)

Youth drinking (past year alcohol use)

Data from the WHO GENACIS study. National survey conducted in 2003 (age group 20 to 64 years). Total sample size $n = 1067$; males $n = 354$ and females $n = 713$. Definition used: average consumption of 40 g or more of pure alcohol a day for males and 20 g or more of pure alcohol a day for females (data is for among drinkers only).4

Data from the WHO GENACIS study. National survey conducted in 2003 (age group 20 to 64 years). Total sample size $n = 1067$; males $n = 354$ and females $n = 713$. Definition used: consumption of five or more drinks in one sitting at least once a month in the last year (among drinkers only).5

1995 study of 304 randomly selected students from rural schools (mean age for females 14.7 years and for males 14.4 years).5
Alcohol dependence

![Graph showing alcohol dependence rates]

Traditional alcoholic beverages

**Guaro** is a local cane spirit.³

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Costa Rica is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

![Graph showing chronic mortality rates]

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

A national survey conducted in 2000–2001 (total sample size $n = 4588$; males $n = 2298$ and females $n = 2287$; aged 12–70 years old). Alcohol dependency/alcoholic was defined as an individual that presents/displays the inability to abstain from the consumption of spirits or is unable to stop when consuming spirits as well as symptoms of greater deprivation (e.g. tremors).²
Acute mortality

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.

Morbidity, health and social problems from alcohol use

It is estimated that 30% of absenteeism and workplace accidents are caused by alcoholism.6

Of a total of 927,644 emergency consultations in 1987, 120,594 (13%) were related to problems secondary to the consumption of alcoholic beverages. In the period 1981–1987, 119,435 traffic accidents were recorded, of which 6003 (5%) were associated with drunken driving.6

In a 1995 study of rural male and female Costa Rican adolescents using the Drug Use Screening Inventory (DUSI), it was found that for males especially, those who reported use of alcohol in the past year manifested more problems. For example, there were significant differences between male alcohol users and nonusers on the severity indices for both behavioural patterns and peer relationships.5

Country background information

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References

4. Preliminary results from the *Gender, Alcohol and Culture: An International Study (GENACIS Project)*. International Research Group on Gender and Alcohol (for more information please see http://www.med.und.nodak.edu/depts/irgga/GENACISProject.html).


CUBA

Recorded adult per capita consumption (age 15+)

A national survey conducted in 1995 (subjects 15 years old or above) found the rate of abstainers (according to the CAGE index) to be 54.8% (total), 32.8% (males) and 75.5% (females).\(^2\)

In a study of 267 individuals aged between 18 and 70 years old in the Municipality of Rodas, Cienfuegos, Cuba, it was found that 52.4% of the sample did not drink or drank only occasionally (1 to 6 times a year), and 32.6% drank moderately (1 to 3 times a week not exceeding 100 ml). For the purposes of this study, 100 ml of alcohol was equivalent to 0.5 litres of spirits or 1 litre of wine or 7 bottles of beer.\(^3\)

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\(^1\) Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.

\(^2\) Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

\(^3\)
**Excessive drinkers in Cienfuegos**

A study of 267 individuals (aged between 18 and 70 years old) in the Municipality of Rodas, Cienfuegos, Cuba. Excessive drinking was defined as consuming alcohol 1 to 3 times a week (amounts of 100 ml and above). For the purposes of this study, 100 ml of alcohol was equivalent to 0.5 litres of spirits or 1 litre of wine or 7 bottles of beer.\(^2\)

**Alcohol dependence**

National survey conducted in 1995 of subjects 15 years old or above. Subjects were reported to be alcohol dependent or alcoholic according to the CAGE index.\(^2\)

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in Cuba is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).\(^1\)

**Mortality rates from selected death causes where alcohol is one of the underlying risk factors**

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

A study found that 7% of oral cancer cases in Cuba were attributable to alcohol drinking.4

A study conducted in the Isle of Youth in 1993 found an association between occurrence of neuropathy and alcohol consumption (over 10 grams per day).5

Country background information

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References

DOMINICA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Alcoholism in Marigot district

The study also found that among CAGE-positive patients, there were more males (75%), over age 65 (25%), used alcohol more than 20 years (62%) with rum being the drink of preference (used by 72%). A significantly greater percentage of CAGE-positive patients (65%) were admitted in the preceding year and presented more often with trauma (29%).

Morbidity, health and social problems from alcohol use

According to the 1995 Mental Health Report, 8.7% of the total 652 admissions to Princess Margaret Hospital Psychiatric Unit in 1995 presented with a diagnosis of alcoholism.
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References

DOMINICAN REPUBLIC (THE)

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Lifetime abstainers

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 29% (males) and 70% (females). Data is for after year 1995.¹

Heavy and hazardous drinkers

Data from the 2003 World Health Survey. Total sample size $n = 4496$; males $n = 2079$ and females $n = 2417$. Population aged 18 years and above.¹

Declarations used: average consumption of 40 g or more of pure alcohol a day for men and 20 g or more of pure alcohol a day for women.¹

¹Ref 2
According to the 2003 World Health Survey (total sample size $n = 3401$; males $n = 1822$ and females $n = 1579$), the mean value (in grams) of pure alcohol consumed per day among drinkers was 4.1 (total), 6.1 (males) and 1.7 (females).1

**Heavy episodic drinkers**

Data from the 2003 World Health Survey. Total sample size $n = 4496$; males $n = 2079$ and females $n = 2417$. Population aged 18 years and above. Definition used: at least once a week consumption of five or more standard drinks in one sitting.2

**Youth drinking (lifetime abstainers)**

Data from the 2003 World Health Survey. Total sample size $n = 770$; males $n = 341$ and females $n = 429$. Population aged 18 to 24 years old.1

A 1994 survey among 101 students (aged from 12 to 19 years old) in Santa Domingo found the rate of lifetime prevalence of alcohol use to be 71.5%.3

**Youth drinking (heavy episodic drinkers)**

Data from the 2003 World Health Survey. Total sample size $n = 770$; males $n = 341$ and females $n = 429$. Population aged 18 to 24 years old. Definition used: at least once a week consumption of five or more standard drinks in one sitting.1

Note: These are preliminary, early-release, unpublished data from WHO’s World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in the Dominican Republic is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).2
Country background information

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References
ECUADOR

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Lifetime abstainers

A 1995 survey showed that in the population aged 12 to 49 years, the lifetime prevalence of alcohol consumption was 76.4%. With respect to the preceding month, the prevalence of alcohol consumption was 51.2%.

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 20% (males) and 40% (females). Data is for after year 1995.

Data from the 2003 World Health Survey. Total sample size $n = 4164$; males $n = 1829$ and females $n = 2335$. Population aged 18 years and above.
Heavy and hazardous drinkers

According to the 2003 World Health Survey (total sample size $n = 679$; males $n = 438$ and females $n = 241$), the mean value (in grams) of pure alcohol consumed per day among drinkers was 29.7 (total), 38.8 (males) and 11.8 (females).1

Heavy episodic drinkers

A 1995 survey showed that in the population aged 12 to 49 years, in the month preceding the survey, 19.7% of the persons interviewed had consumed alcohol to excess – i.e. they had gotten drunk on more than one occasion.2

Youth drinking (lifetime abstainers)

Data from the 2003 World Health Survey. Total sample size $n = 4164$; males $n = 1829$ and females $n = 2335$. Population aged 18 years and above. Definition used: at least once a week consumption of five or more standard drinks in one sitting.1
Youth drinking (heavy episodic drinkers)

- **Total**: 5.1%
  - **Male**: 11.2%
  - **Female**: 0.5%

Note: These are preliminary, early-release, unpublished data from WHO's World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.

**Alcohol dependence**

Alcoholism has a prevalence of 7.7% in the population over 15 years of age.²

**Traditional alcoholic beverages**

*Aguardiente (Fire-water)*, also known as *Puro* (Pure) or *Caña* (Cane) is the traditional Ecuadorian liquor. It is basically sugar-cane juice fermented and distilled. It has a very high alcoholic content (approximately 40% to 50% if factory-made and 50% to 70% if not made in a factory).⁴

*Anisados (anisette)* are alcoholic drinks with aniseed flavours. They usually have an alcoholic content of approximately 30–35%.⁴

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in Ecuador is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).³

**Morbidity, health and social problems from alcohol use**

Up to 30% of all traffic accidents are alcohol- or drug-related. In the first three months of 1981 there were 158 accidents caused by persons driving under the influence of alcohol or drugs in the province of Pichincha; deaths occurred in 58% of these accidents.⁵

Alcoholism has been cited as one of the growing reasons for medical consultations, after depression and epilepsy.⁷

In May 2000, the Alcoholic Rehabilitation Centre of Cuenca launched a mental health programme in four rural areas, covering a total population of approximately 40 000 inhabitants. At the start of the programme, the main problems of the rural communities were identified. Alcohol abuse was one of the main problems highlighted. Children and women complained that fathers and husbands presented alcohol abuse, wasted money, beat them and were frequently absent from their jobs. It was generally agreed that most problems were closely related to alcohol consumption.⁶

**Country background information**

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<th>Total population 2003</th>
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1. Definition used: at least once a week consumption of five or more standard drinks in one sitting.
2. Some estimates may change in the final analyses of these data.
3. Unrecorded alcohol consumption in Ecuador is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).
4. The traditional Ecuadorian liquor. It is basically sugar-cane juice fermented and distilled. It has a very high alcoholic content (approximately 40% to 50% if factory-made and 50% to 70% if not made in a factory).
5. Some estimates may change in the final analyses of these data.
6. In May 2000, the Alcoholic Rehabilitation Centre of Cuenca launched a mental health programme in four rural areas, covering a total population of approximately 40 000 inhabitants. At the start of the programme, the main problems of the rural communities were identified. Alcohol abuse was one of the main problems highlighted. Children and women complained that fathers and husbands presented alcohol abuse, wasted money, beat them and were frequently absent from their jobs. It was generally agreed that most problems were closely related to alcohol consumption.
References


EL SALVADOR

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Youth drinking in San Salvador (lifetime prevalence)

A 1994 survey of lifetime prevalence of alcohol use among students in San Salvador (total sample size $n = 1200$; aged 12 to 19 years old).\(^1\)

\(^1\) Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.

\(^2\) A 1994 survey of lifetime prevalence of alcohol use among students in San Salvador (total sample size $n = 1200$; aged 12 to 19 years old).
Unrecorded alcohol consumption

The unrecorded alcohol consumption in El Salvador is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

![Chronic mortality chart]

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

![Acute mortality chart]

Source: WHO Mortality Database

Note: Caution should be exercised when interpreting the results as death registration level is incomplete.
Country background information

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References

**GRENADA**

**Recorded adult per capita consumption (age 15+)**

![Graph showing recorded adult per capita consumption](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

**Abstainers among working adults (do not drink)**

A 1998 survey based on the WHO Alcohol Use Disorders Identification Test (AUDIT) of 824 working adults in Grenada (aged 17 years and over).1

**Heavy episodic drinkers among working adults**

A 1998 survey based on the WHO AUDIT of 824 working adults in Grenada (aged 17 years and over). Figure shows percentage of adults who had six or more drinks on at least one occasion.1

Among drinkers, 18% stated that they drink five or more drinks on a typical day.1
Youth drinking (current drinkers)

The same survey found that 3% of male and 1% of female students drink four or more times per week. 0.8% of all students have six or more drinks daily or almost daily, 3% of students have seven or more drinks on any one day when drinking, and 2.1% drink four or more times a week.  

A study conducted in 1995–1996 of 409 subjects aged 15 to 24 years old found that 70.7% of the respondents had consumed alcohol, while 27.6% did not. A 2000–2001 study among 14–20-year-old adolescents in secondary schools in Grenada found that alcohol proved to be the drug of first choice for young people. The lifetime prevalence of alcohol use was found to be 87.7% of male and 70% of female students.  

Morbidity, health and social problems from alcohol use

Out of the 45 persons admitted over a six-month period beginning February 1987 at the Carlton House Alcoholism Treatment Centre, it was found that 25 of the 45 patients had first degree relatives who were alcoholic. One third of the patients had lost employment as a result of drinking.  

Country background information

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</table>


References

GUATEMALA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

**Lifetime abstainers**

Data from the 2003 World Health Survey. Total sample size $n = 4755$; males $n = 1824$ and females $n = 2931$. Population aged 18 years and above.¹

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 45% (males) and 62% (females). Data is for after year 1995.²

**Heavy and hazardous drinkers**

Data from the 2003 World Health Survey. Total sample size $n = 4755$; males $n = 1824$ and females $n = 2931$. Population aged 18 years and above. Definition used: average consumption of 40 g or more of pure alcohol a day for men and 20 g or more of pure alcohol a day for women.¹
According to the 2003 World Health Survey (total sample size $n = 1136$; males $n = 776$ and females $n = 360$), the mean value (in grams) of pure alcohol consumed per day among drinkers was 3.9 (total), 5.2 (males) and 1.0 (females).¹

**Heavy episodic drinkers**

- **Total:** 1.3%
  - **Male:** 3.4%
  - **Female:** 0.2%

**Youth drinking (lifetime abstainers)**

- **Total:** 77.9%
  - **Male:** 57.7%
  - **Female:** 89.5%

A 1994 survey among 688 students (aged 12 to 19 years old) in Guatemala City found the rate of lifetime prevalence of alcohol use to be 26.5%.³

**Youth drinking (heavy episodic drinkers)**

- **Total:** 1.7%
  - **Male:** 4.8%
  - **Female:** 0.0%

Data from the 2003 World Health Survey. Total sample size $n = 4755$; males $n = 1824$ and females $n = 2931$. Population aged 18 years and above. Definition used: at least once a week consumption of five or more standard drinks in one sitting.⁷

Data from the 2003 World Health Survey. Total sample size $n = 933$; males $n = 342$ and females $n = 591$. Population aged 18 to 24 years old.¹

Data from the 2003 World Health Survey. Total sample size $n = 933$; males $n = 342$ and females $n = 591$. Population aged 18 to 24 years old. Definition used: at least once a week consumption of five or more standard drinks in one sitting.¹

Note: These are preliminary, early-release, unpublished data from WHO's World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.

**Traditional alcoholic beverages**

**Chicha** is an indigenous fermented beverage made from sugar-cane. This beverage is used in traditional Indian rituals and is called **boj** by the inhabitants of Alta Verapaz in the northern part of the country. The Pokomam, who live in the central highlands, and the Ixil, who live in the south-western highlands, have a lightly distilled beverage called **guaro** and **kuxa**, respectively.⁴

**Aguardiente** is a strong, distilled beverage made from sugar-cane and frequently used in public ceremonies.⁴
**Cuxa** is the clandestine counterpart of *aguardiente* and is produced and consumed in Nahuala, a highland Guatemalan Maya community. The primary ingredients for the traditional concoction are raw brown sugar, wheat chaff or other plant material, yeast and saltpetre.\(^5\)

**Unrecorded alcohol consumption**

The unrecorded alcohol consumption in Guatemala is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).\(^2\)

**Mortality rates from selected death causes where alcohol is one of the underlying risk factors**

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

![Chronic mortality chart]

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

**Acute mortality**

![Acute mortality chart]

Source: WHO Mortality Database

Note: Caution should be exercised when interpreting the results as death registration level is incomplete.
Morbidity, health and social problems from alcohol use

Alcohol was involved in approximately 50% of the 430 traffic accidents in 1986.6

In Guatemala, it is believed that the main reason for social violence in the country was men’s consumption of alcohol, caused by intra-family conflict, family disintegration, parental example, poverty and lack of employment.7

Observers cite the negative effects of alcohol – economic expense, sexual transgressions, and quarrels – as largely attributable to the consumption of aguardiente, not boj. There are at least three reasons for this. Firstly, aguardiente is much more potent than boj. Secondly, aguardiente is more expensive, causing greater economic hardships for poor families. Thirdly, the money from the sale of boj remains in the community, whereas the money from the sale of aguardiente leaves the community. Alcohol consumption to the point of intoxication can result in spousal abuse, especially among Indians and poor ladinos.4

Country background information

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<tr>
<th>Total population 2003</th>
<th>Life expectancy at birth (2002)</th>
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References

GUYANA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Youth drinking
A study conducted in 1997 found that 54% of youths aged between 12 and 25 years old were occasional drinkers and 7.5% were regular drinkers. The breakdown by age groups was as follows: 4.3% of 14–15-year-olds were regular drinkers, 5.4% of 16–17-year-olds were regular drinkers and 8.1% of 18–25-year-olds were regular drinkers. The study also found that 49.8% of young people aged between 14 and 17 years reported having been drunk at least once in their life.²

Traditional alcoholic beverages
*Ti’Punch* is the traditional drink made from green lemon, cane syrup with sugar and rum.²

Unrecorded alcohol consumption
The unrecorded alcohol consumption in Guyana is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹
Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

### Chronic mortality

![Chronic mortality chart](chart)

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

### Acute mortality

![Acute mortality chart](chart)

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.

### Morbidity, health and social problems from alcohol use

In 2000, there were 140 patients treated for alcoholism.²
Country background information

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References

HAITI

Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

![Pie chart showing last year abstainers](image)

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Haiti is estimated to be 0.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹

Country background information

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References

HONDURAS

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

The 2001 National Survey of Men’s Health (subjects aged from 15 to 59 years old) found that 28% are current alcohol drinkers. In a study consisting of males and females older than 15 years of age residing in a semi-rural area, it was found that male alcohol consumption usually started before the age of 18 years, as compared to 22 years for females. In most cases, peer pressure was usually responsible for taking the first drink.
Youth drinking (lifetime prevalence)

A 1994 survey among 401 students (aged 12 to 19 years) in Tegucigalpa found the lifetime prevalence of alcohol use to be 51.8%.

Traditional alcoholic beverages

In rural areas, aguardiente, which is a traditional spirit and rum, is consumed.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Honduras is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Source: WHO Mortality Database
Morbidity, health and social problems from alcohol use

According to the Department of Forensic Medicine, in the year 2002, 33.7% of all violent death victims had a positive blood alcohol concentration. In addition, 23% of all homicides, 8.6% of accidental deaths and 4.4% of suicides were related to alcohol. The data also showed that 6% of road traffic accidents were alcohol-related.6

42% of traffic accidents are associated with alcohol consumption by the driver, and 61% of occupational accidents (injuries and mutilations) occur among workers who consumed excess alcohol the previous day. 51% of divorces occur in marriages in which one of the spouses, usually the man, is an alcoholic.7

There were 175 alcohol-related traffic accidents (out of 1530 in total) reported in the Central District in 1987.8

In a study conducted by the Honduran Institute for the Prevention of Alcoholism, Drug Addiction, and Drug Dependency on the use of alcohol and drugs among students in teachers’ schools in Honduras in 1996, four of every five students reported that children and adolescents could easily obtain alcohol in their neighbourhoods or communities.7

In 2001 alcohol dependence syndrome ranked first among the discharge diagnoses at the National Psychiatric Hospital of Santa Rosita (58.5%).9

Country background information

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<tr>
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<td>Gross National Income per capita 2002</td>
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References

JAMAICA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 29% (males) and 70% (females). Data is for after year 1995.¹

Heavy drinkers (last month)

National survey conducted in 2001 (total sample size n = 2380; aged 12 years and above). Heavy drinking was defined as consuming five or more drinks on five or more occasions during the past month.¹
Heavy episodic drinkers (last month)

According to the 1997 National Adolescent Students’ Drug Survey, 70.9% of students reported having ever had a drink. A little more than one in four students (28.8%) had used alcohol in the month preceding the survey. In a study of 2417 Jamaican urban and rural high school students (1063 boys and 1354 girls, aged 16–17 years old), the rate of prevalence of alcohol use was found to be 50.2%. In a study of 28 female adolescents (aged 16 to 19.9 years) diagnosed with more than one sexually transmitted disease in Kingston, Jamaica, it was found that 62% of the sample consumed alcoholic drinks.

Youth drinking (last month heavy drinkers)

The same survey also found that last year prevalence rates of alcohol dependence or abuse among 12- to 17-year-olds were 1.3% for abuse and 0.9% for dependence.
Alcohol dependence (last year)

The same survey also found that 5.8% of respondents had a problem of alcohol abuse or dependence and of which 4.3% were diagnosed with abuse without dependence (for abuse only, the male prevalence was 7.2% and female 1.9%). DSM-IV criteria was used to assess alcohol abuse and dependence.¹

Unrecorded alcohol consumption

According to the WHO Global Burden of Disease Study (2000) the unrecorded alcohol consumption in Jamaica is estimated to be 1.00 litre pure alcohol per adult capita.²

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

A study identified that in blood samples of 31 motor vehicle fatalities, evidence of alcohol intake was found in 77.5% of the fatalities and 35.5% had alcohol levels above the legal acceptable limits.7

A recent study done by three doctors revealed that alcohol was found in the bodies of 43% of drivers involved in traffic accidents.8

Country background information

<table>
<thead>
<tr>
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<td>2 651 000</td>
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<td>43</td>
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References

MEXICO

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

According to a 2000 national survey of both rural and urban populations (males \( n = 11,952 \) and females \( n = 12,147 \); age group 20 years and above), the rate of current drinkers was 69.4% (males) and 59.5% (females).  

According to the 2003 World Health Survey (total sample size \( n = 38,745 \), males \( n = 16,377 \) and females \( n = 22,368 \); sample population aged 18 years and over), the rate of lifetime abstainers was 52.7% (total), 35.6% (males) and 65.2% (females).

According to the 2000–2001 Multi-Country Survey Study (total sample size \( n = 4686 \), males \( n = 1888 \) and females \( n = 2798 \); sample population aged 18 years and over), the rate of last year abstainers was 53.5% (total), 35% (males) and 65.9% (females).

In a study of 2523 emergency room patients in eight hospitals in Mexico City, it was found that 63% had ingested alcoholic beverages, in particular spirits and beer; 58% admitted to having been drunk at least once in the past year.
Heavy and hazardous drinkers (among drinkers)

According to the 2000–2001 Multi-Country Survey Study (total sample size $n = 4686$, males $n = 1888$ and females $n = 2798$; sample population aged 18 years and over), the rate of high risk drinking was 14.2% (total), 18.1% (males) and 11.6% (females). High risk drinking was defined as average consumption of five or more standard drinks for males and three or more standard drinks for females on a typical drinking day.  

According to the 2003 World Health Survey (total sample size $n = 38745$, males $n = 16377$ and females $n = 22368$; sample population aged 18 years and over), the rate of heavy episodic drinking among the total population was 3% (total), 6.3% (males) and 0.7% (females). Heavy episodic drinking was defined as at least once a week consumption of five or more standard drinks in one sitting.  

According to the WHO GENACIS Study (1998 survey; total sample size $n = 5266$, males $n = 2174$ and females $n = 3092$; age range 20 to 64 years), the rate of heavy episodic drinking among drinkers was 46.9% for men and 5.8% for women. Heavy episodic drinking was defined as consumption of five or more drinks in one sitting at least once a month in the last year.  

Problem drinkers among an insured population

To estimate the prevalence of hazardous and harmful alcohol consumption (AUDIT definition) among the insured population of the Mexican Social Security Institute, 45117 insured subjects from Mexico’s 36 political districts were interviewed.
The 1993 National Survey of Addictions (ENA) revealed that 66% of the urban population between 12 and 65 years old consumed alcohol (77.2% of men and 57.5% of women), and among them, 41.6% drank occasionally but in large quantities (five or more glasses per time).\(^7\)

**Youth drinking (last year abstainers)**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53.2%</td>
<td>38.7%</td>
<td>63.9%</td>
</tr>
</tbody>
</table>

According to the 2003 World Health Survey (total sample size \(n = 6616\), males \(n = 2712\) and females \(n = 3904\); sample population aged 18 to 24 years), the rate of lifetime abstainers was 56.2% (total), 42.9% (males) and 65.4% (females).\(^3\)

A 2000 survey of 10,578 students from the Federal District of Mexico City found that the lifetime prevalence of alcohol consumption was 61.4% (total), 62.6% (males) and 60.2% (females).\(^8\)

Data derived from a 1996 representative survey of 1929 students in junior high and high schools in the city of Pachuca, Hidalgo, Mexico found that 47.9% of the sample have tried alcohol and 12.6% had drunk large quantities – five drinks or more per sitting – during the month prior to the survey.\(^9\)

**Youth drinking (heavy episodic drinkers)**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.9%</td>
<td>5.9%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

According to the 2003 World Health Survey (total sample size \(n = 6616\), males \(n = 2712\) and females \(n = 3904\); sample population aged 18 to 24 years), the rate of heavy episodic drinking among the total population was 3.1% (total), 6.3% (males) and 0.8% (females). Heavy episodic drinking was defined as at least once a week consumption of five or more standard drinks in one sitting.\(^3\)
Alcohol dependence (last year)

In a sample \( n = 8890 \) drawn from a 1988 national survey on addictions in Mexico City’s urban population, the rate of last year alcohol dependence was found to be 4.9% (total), 9.9% (males) and 0.6% (females).¹⁰

Traditional alcoholic beverages

**Pulque** is the national drink in Mexico, where it is claimed, it originated with the early Aztecs. Pulque is a milky, slightly foamy, and acidic beverage. It is obtained by fermentation of aguamiel, which is the name given to the juices of various cacti, notably *Agave atrorvbirens* and *A. americana* which are often called the ‘Century Plant’ in English. Pulque contains between 6% and 7% alcohol.¹¹ Pulque is the beverage of choice among rural localities. The average weekly intake per household in these areas has been estimated to be 6.4 litres compared to only 3.7 litres of beer.¹²

**Aquardientes** are local beverages with high concentrations of alcohol.¹²

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Mexico is estimated to be 3.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).¹³

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
**Chronic mortality**

![Chronic mortality chart](chart)

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

**Acute mortality**

![Acute mortality chart](chart)

Source: WHO Mortality Database

**Morbidity, health and social problems from alcohol use**

A study reported that 24.1% of men and 5.6% of women who drink daily or almost daily have been involved in a car accident before. This was also true for 21.2% and 2.5% respectively of men and women drinking significant amounts weekly or more often.¹²

A study 112 patients attending emergency rooms due to injuries caused by car accidents found that 13.4% of the patients had positive alcohol concentrations in their blood, and 14.6% of the cases admitted that they had consumed alcohol six hours prior to the accident.¹⁴
A study conducted among patients attending an emergency room in a public health hospital in Pachuca, Mexico found that alcohol consumption was higher in those attending for accidents or violence than in medical patients. Positive blood alcohol levels were found in 17.7% of injured patients and 15.8% reported alcohol consumption six hours prior to the accident. According to the CAGE, 9.2% of the patients were alcohol-dependent and 10.9% were heavy drinkers according to the AUDIT.15

A study conducted in Pachuca, Mexico found that there was a significant relationship between habitual alcohol consumption and Emergency Room (ER) injuries. Injured patients in the ER sample were significantly more likely to report high frequency/high quantity of drinking during the last 12 months than the general population and to report drinking within six hours before the injury.16

A study in 2002 looking at 705 injury patients from a hospital emergency department in Mexico City found that the estimated relative risk of injury for patients who reported having consumed alcohol within six hours prior to injury (17% of the sample) was 3.97. This increase in the relative risk was concentrated within the first two hours after drinking; there was a positive association of increasing risk with increasing number of drinks consumed.17

A study looking at male drinking and violence-related injury in the emergency room found that alcohol consumption prior to injury was a more important risk factor than usual drinking for injuries resulting from violence, while quantity of usual alcohol consumption was more predictive of violence-related injuries than frequency of drinking.18

A sample of women patients seen at emergency services (ES) of the Mexican city of Pachuca, Hidalgo over the age of 18 was selected using ES forms and interviewed. Thirty-six women (5.2%) out of 717 of the total number of women were found to be heavy drinkers according to the TWEAK scale. This group of women had 2.3 times the risk of becoming depressed, 2.87 times the risk of taking other drugs, 1.95 times the likelihood of having been sexually abused and 1.57 times the risk of displaying suicidal ideation.19

A study which was part of the National School Survey on drug use by high school students found that more antisocial acts were perpetrated by alcohol users than by nonusers. In a logistic regression model, it was found that using alcohol was one of the main risk factors for perpetrating antisocial acts.20

26% of women seeking counselling services in the urban areas of Mexico reported that their partner’s abusive behaviours were fueled by intoxication.21

In Mexico, liver cirrhosis is one of the top 10 causes of death among the country’s population, and it is the most common cause of death among males between 35 and 54 years of age. The mortality rate due to alcohol has increased from 7.8/100 000 persons in 1970 to 12/100 000 persons in 1995 within the population 15 years of age and older.22

Country background information

<table>
<thead>
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<td>Gross National Income per capita 2002</td>
<td>US$ 5910</td>
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References

1. Preliminary results from the Gender, Alcohol and Culture: An International Study (GENACIS Project). International Research Group on Gender and Alcohol (for more information please see http://www.med.und.nodak.edu/depts/irgga/GENACISProject.html).
NICARAGUA

Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption (age 15+) in Nicaragua from 1961 to 2001. The graph illustrates the consumption of total, beer, spirits, and wine in litres of pure alcohol per year.]

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

- Total: 23.2%
  - Male: 8.7%
  - Female: 37.7%

Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.¹

Youth drinking (lifetime prevalence)

- Total: 41.1%

Data from a 1994 survey of lifetime prevalence of alcohol use among 698 students (aged from 12 to 19 years old) in Managua.²
Unrecorded alcohol consumption

The unrecorded alcohol consumption in Nicaragua is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).1

Country background information

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<td>*Estimated to be in the low income range ($735 or less)</td>
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</table>


References


PANAMA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Youth drinking (lifetime prevalence)

Data from the 1996 National Youth Survey on Alcohol and Drug Use (total sample size n = 5481; aged between 12 and 18 years).

A 1994 survey among 575 students (aged from 12 to 19 years old) in Panama City found the rate of lifetime prevalence of alcohol use to be 48.7%.

Youth drinking (last year drinkers)

Data from the 1996 National Youth Survey on Alcohol and Drug Use (total sample size n = 6477; aged between 12 and 18 years).
Mortality rates from selected death causes where alcohol is one of the underlying risk factors
The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

**Acute mortality**

Source: WHO Mortality Database
Note: Caution should be exercised when interpreting the results as death registration level is incomplete.
Country background information

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<td>Life expectancy at birth (2002)</td>
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References


PARAGUAY

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Lifetime abstainers

Data from the 2003 World Health Survey. Total sample size $n = 4618$; males $n = 2110$ and females $n = 2508$. Population aged 18 years and above.1

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 18% (males) and 38% (females). Data is for after year 1995.2

Heavy and hazardous drinkers

Data from the 2003 World Health Survey. Total sample size $n = 4618$; males $n = 2110$ and females $n = 2508$. Population aged 18 years and above. Definition used: average consumption of 40 g or more of pure alcohol a day for men and 20 g or more of pure alcohol a day for women.1
According to the 2003 World Health Survey (total sample size $n = 3656$; males $n = 1938$ and females $n = 1718$), the mean value (in grams) of pure alcohol consumed per day among drinkers was 6.2 (total), 10.1 (males) and 1.7 (females).\(^1\)

**Heavy episodic drinkers**

Data from the 2003 World Health Survey. Total sample size $n = 4618$; males $n = 2110$ and females $n = 2508$. Population aged 18 years and above. Definition used: at least once a week consumption of five or more standard drinks in one sitting.\(^1\)

**Youth drinking (lifetime abstainers)**

Data from the 2003 World Health Survey. Total sample size $n = 981$; males $n = 463$ and females $n = 518$. Population aged 18 to 24 years old.\(^1\)

**Youth drinking (heavy episodic drinkers)**

Data from the 2003 World Health Survey. Total sample size $n = 981$; males $n = 463$ and females $n = 518$. Population aged 18 to 24 years old. Definition used: at least once a week consumption of five or more standard drinks in one sitting.\(^1\)

Note: These are preliminary, early-release, unpublished data from WHO's World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.
Alcohol abuse in urban areas

Survey of 2504 individuals aged between 12 and 45 years old. Alcohol abuse was defined according to the CAGE index.²

Traditional alcoholic beverages

Abati – an alcoholic beverage made of maize is consumed.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Paraguay is estimated to be 1.5 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).²

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References

PERU

Recorded adult per capita consumption (age 15+)

![Graph](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

![Pie chart](image)

Data from the 2002 National Survey on Prevention and Consumption of Drugs (total sample size \( n = 4850 \); ages 12 to 64 years).

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 17% (males) and 24% (females). Data is for after year 1995.

Frequent drinkers (focal point data)

![Bar chart](image)

WHO focal point data. Frequent drinking was defined as drinking on five or more days each week.
Youth drinking (last year drinkers)

In a survey of 991 male adolescent high school students in Lima, Peru (aged between 12 to 19 years), it was found that 34.6% of the students indicated that they drank alcohol approximately once a month and 28.8% indicated that they drank alcohol daily to once a week.4

Alcohol dependence

Traditional alcoholic beverages

Local alcoholic drinks are grape brandy (pisco) and fermented corn juice (chicha).

Sora – an alcoholic beverage based on germinated, ground, cooked and fermented maize is also consumed.5

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Peru is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).7
Morbidity, health and social problems from alcohol use

According to the National Survey on Drug Consumption, 10.2% of all drug abuse cases are related to alcohol. Alcohol consumption is a grave public health problem that is associated with psychosocial factors. In Peru men have a higher rate of alcohol consumption than women, 16% and 4.9% respectively. 30% of the cases of alcohol consumption develop concomitant psychosocial problems such as aggressiveness, irritability and depression. Suicide is also associated with substance abuse and alcoholism.

According to the National Household Survey conducted in 2001, alcohol-related problems were a major community problem afflicting the majority of the households sampled.

A survey of 179 adults living in five towns in the remote Amazon region of Peru found that 48% drank alcohol and that alcohol use was a major behavioural risk factor in that region.

Country background information

<table>
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<td>% under 15</td>
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<td>Population distribution 2001 (%)</td>
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</table>


References

PUERTO RICO

Abstainers (lifetime abstainers)

Survey aimed at estimating rates of substance use disorders in a probability sample of 4709 household residents aged 15 to 64 years.¹

Youth drinking (last year alcohol use)

Data came from an island-wide survey of the general residential population (15–18 year old subsample, unweighted n = 922) fielded in 1997.²

Alcohol abuse/dependence disorder (last year)

Survey aimed at estimating rates of substance use disorders in a probability sample of 4709 household residents aged 15 to 64 years according to CIDI and DSM-IV criteria.¹

Data from an island-wide survey of the Puerto Rican general residential population (15–18 year old subsample, unweighted n = 922) fielded in 1997 found the rate of lifetime alcohol abuse or dependence (according to CIDI and DSM-IV) to be 6.4%.²

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database

Country background information

<table>
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<tr>
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<td>Population distribution 2001 (%)</td>
<td>per 1000 live births</td>
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<td>Urban</td>
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<td>Rural</td>
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</table>

Sources: Population and Statistics Division of the United Nations Secretariat, World Bank World Development Indicators database
Note: Puerto Rico is an Associate Member of WHO.
References
SAINT KITTS AND NEVIS

Recorded adult per capita consumption (age 15+)

Morbidity, health and social problems from alcohol use

Of all visits made to mental health services in 1995, 25% (67 patients) was due to alcohol addiction and drug-induced psychosis.\(^1\)

Country background information

<table>
<thead>
<tr>
<th>Total population 2003</th>
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<td>US$</td>
<td>6370</td>
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</table>


References

SAINT LUCIA

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Alcohol consumers in Vieux Forte

A 1991–1994 urban survey conducted in Vieux Forte (males n = 491 and females n = 593; aged 25 years and above). Alcohol consumers were defined as having at least 12 drinks of any alcoholic beverage in the past 12 months.1

Country background information


References

SAINT VINCENT AND THE GRENADINES

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Youth drinking in Saint Vincent (alcohol users)

Survey of 850 adolescents from schools in Saint Vincent.

Morbidity, health and social problems from alcohol use

Mental Health Centre admission records for the 1992–1995 period indicate that of the 587 admissions due to substance abuse, 24.8% were for alcohol.

Country background information

<table>
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References

SURINAME

Recorded adult per capita consumption (age 15+)

![Graph showing recorded adult per capita consumption in Suriname from 1961 to 2001.](image)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

![Pie chart showing last year abstainers in Suriname.](image)

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Suriname is estimated to be 0.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).\(^1\)

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

\(^1\) Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database
Country background information

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References

TRINIDAD AND TOBAGO

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

In 1995, 80% of males and 54% of females reported that they had consumed 12 or more alcoholic drinks in their lifetime. Persons with low educational attainment reported a higher prevalence of drinking.²

A 1977–1986 urban survey conducted in the suburbs of St James and Woodbrook Park in Port-of-Spain (males \( n = 1340 \) and females \( n = 1046 \); aged 35 years and above) found that 35.4% of males and 75% of females were abstainers.³
Weekly alcohol drinkers

In a 1989 study of 1448 persons, including 306 adolescents aged between 16 and 19 years old, it was found that 42.5% of adolescent males, 11.3% of adolescent females and 21.9% of adult females were drinking at least once per month. Acute heavy drinking (more than five drinks on a single occasion) was more prevalent in adolescent females than in adult females.4

High risk drinkers in north central Trinidad

The same survey also found that 36.1% of males and 69.1% of females reported an AUDIT score of 0–1 (indicating no or very low alcohol intake).5

In 1995, heavy drinking (at least 21 units per week) was reported by 10.5% of males; the percentage rose to 13% in the central region of the country where the sugar industry is based.2

Youth drinking (lifetime prevalence of alcohol use)

The study also found that students’ first exposure to drinking alcohol was by family members in childhood or experimentation later. Transitions from primary to secondary schools and from junior to senior schools were associated with increased alcohol use. Ethnic reversals of substance abuse among high school students were observed by a high use of alcohol among Indo-Trinidadian and low use among Afro-Trinidadian students. The use of alcohol by students was also positively correlated to its use by fathers.7
Alcoholism in Tobago
A study conducted in Tobago found that CAGE responses consistent with alcoholism were present in 14.3% of males and 1.1% of females.

Traditional alcoholic beverages
*Babash* – a home-brewed rum is consumed. It is not permitted to be made or consumed in Trinidad and Tobago in part because of its excessively high alcohol content.

Unrecorded alcohol consumption
The unrecorded alcohol consumption in Trinidad and Tobago is estimated to be 0.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Mortality rates from selected death causes where alcohol is one of the underlying risk factors
The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

**Chronic mortality**

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.
Acute mortality

**Morbidity, health and social problems from alcohol use**

A survey carried out in December 1984 at the Casualty Department of the Port-of-Spain General Hospital found that 68% of the 38 accident victims seen had blood alcohol concentrations higher than 50 mg per 100 ml and 55% had blood alcohol concentrations higher than 80 mg per 100 ml.9

Hospital admission figures, cirrhosis death rates, per capita alcohol consumption rates and other indices have for many years indicated a high prevalence of alcoholism in Trinidad and Tobago. A six-month survey of the medical wards at the Port-of-Spain General Hospital in 1979 showed that 47% of male admissions and 5% of female admissions were alcohol-related.9

In a 2-year retrospective study, it was found that alcohol abuse was a contributory risk factor for musculoskeletal sporting injuries.10

In a study where 40 drug users were interviewed in Trinidad and Tobago, respondents frequently reported a history of alcohol abuse within the family.11

**Country background information**

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</tbody>
</table>


**References**

3. Miller GJ et al. Adult male all-cause, cardiovascular and cerebrovascular mortality in relation to ethnic group, systolic blood pressure and blood glucose concentration in Trinidad, West Indies. International


UNITED STATES OF AMERICA (THE)

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Last year abstainers

In the same survey, the rate of lifetime abstainers was 16.9% (total), 13.6% (males), 19.9% (females) and the rate of last month abstainers was 49% (total), 42.6% (males), 55.1% (females).1

Data from the 2001 National Household Survey (total sample size \( n = 68,929 \); aged 12 years and older) show that the rate of lifetime alcohol use among the total population sampled was 84%. The rate of last year alcohol use was 65.5% (total), 69.8% (males) and 61.5% (females).2

2002 national survey. 68,126 interviews were obtained from subjects 12 years or older.1
According to the WHO GENACIS Study (1995/1996 survey; total sample size $n = 857$, males $n = 377$ and females $n = 480$; age range 20 to 64 years), the rate of heavy episodic drinking among drinkers was 29.1% for men and 6.9% for women. Heavy episodic drinking was defined as consumption of five or more drinks in one sitting at least once a month in the last year.\(^3\)
Youth drinking (last year alcohol use)

In the same survey, the rate of lifetime alcohol use among 12- to 17-year-olds was 43.4% (total), 43.4% (males) and 43.4% (females) whilst the rate of last month alcohol use was 17.6% (total), 17.4% (males), and 17.9% (females).¹

Data from the 2003 Youth Risk Behavior Survey (total sample size n = 15 214; subjects in grades 9 to 12) show that the rate of lifetime users (students who had at least once drink of alcohol on one or more days during their life) was 74.9% (total), 73.7% (males) and 76.1% (females). The rate of last month alcohol use (students who had at least one drink of alcohol on one or more of the past 30 days) was 44.9% (total), 43.8% (males) and 45.8% (females).⁴

Data from the 2003 Monitoring the Future study (national results on adolescent drug use) conducted among students in eighth grade (total sample size n = 16 500), tenth grade (total sample size n = 15 800), and twelfth grade (total sample size n = 14 600) found that the rate of lifetime prevalence of alcohol use was 45.6%, 66% and 76.6% (for students in eighth grade, tenth grade and twelfth grade respectively). The rate of last year alcohol use was 37.2%, 59.3% and 70.1% (for students in eighth grade, tenth grade and twelfth grade respectively). The rate of last month alcohol use was 19.7%, 35.4% and 47.5% (for students in eighth grade, tenth grade and twelfth grade respectively).⁵

Data from the 2001 Harvard School of Public Health College Alcohol Study Survey (total sample size n = 10 904; 64% female; subjects were students at 119 4-year colleges) show that the rate of last year abstainers was 19.3% (total), 20.1% (males) and 18.7% (females).⁶

Data from the 2001 National Household Survey (total sample size n = 68 929; aged 12 years and older) show that the rate of last year alcohol use among the subsample aged 14 to 19 years (sample size unknown) was 52.7% (total), 52% (males) and 53.4% (females).²

In a recent study of 2280 youths from two juvenile justice detention facilities in Georgia (939 males and 1341 females; age range 11 to 18 years), the rate of lifetime alcohol use for the entire sample was 77.8%. Recent alcohol consumption (the month prior to the current detention) was reported by 62.6% of the participants. Of these, approximately 40% reported alcohol consumption on six or more days. Furthermore, 37.8% had five or more drinks during that time. Half of the participants who reported alcohol consumption in the month prior to the detention had had five or more alcoholic drinks in the same day, with 62.4% engaging in this behaviour between 1 and 5 days and the remaining 38.6% engaging in this behaviour (binge drinking) between 6 and 31 days.⁷

In a study of 314 students: 116 African American adolescents (50 boys and 66 girls) and 198 Haitian adolescents (93 boys and 105 girls) in inner-city public high schools in Boston (students were in grade 9 through 12), it was found that the rate of current drinking activity (drunk in the past 6 months) was 67% (African-American boys), 45% (African-American girls), 43% (Haitian boys) and 61% (Haitian girls). The corresponding rates for lifetime alcohol use were 94%, 77%, 97% and 96% respectively.⁸

A study using data from the 1993 National Household Survey on Drug Abuse included 1865 Hispanic adolescents (52% male; aged 12 to 17 years; respondents are of Cuban (n = 200), Mexican (n = 1133), Puerto Rican (n = 255) and Central/South-American (n = 277) origin) found the rate of last year abstainers for males (by above-mentioned order of origin) to be 78.1%, 63.2%, 68.2% and 61.3% respectively. For females the rates were 70.2%, 66.7%, 70.2% and 65.5% respectively. The corresponding rates of frequent heavy drinking (defined as having drank four or more times in the past month and drinking five or more drinks per sitting one or more times) to be 0.5%, 6.7%, 3.1% and 5.8% for males and 1.1%, 2.5%, 0.1% and 2.3% for females.⁹
Youth drinking (drink at least weekly)

According to the 1997/1998 HBSC survey (total sample size $n = 1808$), 23% of 15-year-old boys and 15% of 15-year-old girls reported drinking beer, wine or spirits at least weekly.\(^{11}\)

Youth drinking (last month heavy drinkers)

Data from the 2003 Monitoring the Future study (national results on adolescent drug use) conducted among students in eighth grade (total sample size $n = 16\,500$), tenth grade (total sample size $n = 15\,800$), and twelfth grade (total sample size $n = 14\,600$) found that the rate of last month daily use of alcohol was 0.8%, 1.5% and 3.2% (for students in eighth grade, tenth grade and twelfth grade respectively).\(^{5}\)

Data from the 2001 National Household Survey (total sample size $n = 68\,929$; aged 12 years and older) show that 32% of teenagers reported drinking on a monthly basis and 21.5% (24.6% of boys and 18.4% of girls) reported binge drinking five or more drinks on at least one occasion in the past month. In terms of heavy alcohol use, 6.5% of teenagers (8.4% of boys and 4.6% of girls) reported drinking five or more drinks on the same occasion on at least five different days in the past month.\(^{1}\)

In a 2002 study of 1029 (58% female) students attending a community college in California, it was found that 74% of the participants reported drinking alcohol in the past 12 months and 52% reported alcohol use in the past 30 days. About half (47%) of the sample reported lifetime use of malt liquor, and 38% reported malt liquor use in the past 12 months. Malt liquor drinkers also reported engaging in heavy drinking (i.e. five drinks in a row in a 2-hour period) more frequently and experienced intoxication more frequently than did drinkers who reported no malt liquor use. Overall, 30% of the sample reported heavy drinking in the past 30 days; among them, 71% were malt liquor drinkers. Similarly, 40% of the sample reported intoxication in the past 30 days; among these respondents, 67% were malt liquor drinkers. The study also found that prevalence rates of problem behaviours generally were highest among malt liquor drinkers, followed by drinkers who did not use malt liquor and then nondrinkers.\(^{12}\)
Youth drinking (last month heavy episodic drinkers)

Data from the 2003 Youth Risk Behavior Survey (total sample size \( n = 15214 \); subjects in grades 9 to 12) show that the rate of last month heavy episodic drinking (students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days) was 28.3% (total), 29% (males) and 27.5% (females).\(^4\)

Data from the 2001 Harvard School of Public Health College Alcohol Study Survey (total sample size \( n = 10904 \); 64% female; subjects were students at 119 4-year colleges) show that the rate of binge drinkers was 44.4% (total), 48.6% (males) and 40.9% (females). The rate of frequent binge drinkers was 22.8% (total), 25.2% (males) and 20.9% (females). Binge drinking was defined as the consumption of at least five drinks in a row for men or four drinks in a row for women during the two weeks before completion of the survey. Frequent binge drinking was defined students who had binged (refer to above definition) three or more times in the past two weeks.\(^6\)

Youth drinking (drunkenness)

According to the 2001/2002 HBSC survey (total sample size \( n = 1625 \)), the proportion of 15-year-olds who reported having been drunk at least two or more times was 30.4% for boys and 22.7% for girls.\(^10\)

Alcohol dependence or abuse (last year)

In a sample consisting of 2040 short-stay, general hospital admissions (1613 males and 427 females) the current (last year) prevalence for DSM-IV criteria of alcohol use disorder was found to be 7.4%.\(^{13}\)

It is a known fact that alcohol abuse and alcoholism are leading causes of death among Native Americans. In a series of face-to-face interviews conducted with 1660 individuals from seven Native American tribes from 1998 to 2001, the lifetime prevalence of DSM-IV alcohol dependence was found to be high in six of the seven tribes (men: 21–56%, women: 17–30%).\(^{14}\)

In a study conducted among Navajo Indians (735 men and 351 women) using the Diagnostic Interview Schedule, the rate of lifetime prevalence of alcohol dependence was found to be 70.4% for men and 29.6% for women.\(^{15}\)

In a recent study of 198 (109 male) homeless youths aged between 13 and 19 years old, it was found that 95.4% of the total sample had used alcohol in the past year and 87.9% had used alcohol in the past month. Using the Structured Clinical Interview for DSM (SCID), 44.6% of those administered the SCID for alcohol met criteria for DSM-IV alcohol dependence in the past year; an additional 21.7% of those not meeting dependence criteria met criteria for alcohol abuse.\(^{16}\)
Unrecorded alcohol consumption
The unrecorded alcohol consumption in the United States of America is estimated to be 1.0 litre pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Mortality rates from selected death causes where alcohol is one of the underlying risk factors
The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.

Chronic mortality

Acute mortality

Source: WHO Mortality Database
Morbidity, health and social problems from alcohol use

Workers are roughly two times more likely to be absent from work the day after alcohol was consumed.\textsuperscript{18}

A survey found that farm residents who drank more frequently had higher farm work injury incidence rates (3.35 injuries per 10 000 person-days of observation versus 1.94 injuries per 10 000).\textsuperscript{19}

A study of 6 540 managers, supervisors and workers at 16 worksites found that although moderate-heavy and heavy drinkers reported more work performance problems than very light, light or moderate drinkers, the lower-level-drinking employees, since they were more plentiful, accounted for a larger proportion of work performance problems than did the heavier drinking groups.\textsuperscript{20}

In a study looking at data from 1992 to 2000, it was found that there were an estimated 68.6 million emergency department visits attributable to alcohol, a rate of 28.7 per 1000 population. The number of alcohol-related visits increased 18% during this period.\textsuperscript{21}

In emergency rooms, self-reported alcohol consumption within six hours of admission is higher for injured than uninjured attendees. 20–40% of emergency admissions are intoxicated; the night-time rate is higher at 80%.\textsuperscript{22}

In a study evaluating a sample of emergency department patients for history of violence and substance abuse, it was found that in comparison with participants who reported no alcohol use, those drinking any alcohol were twice as likely to report that their injury sustained was related to acute violence and that there was a history of past-year violence, including violence victimization and perpetration in both partner and non-partner relationships, as well as any substance use in the past month and any substance-related consequences in the past year.\textsuperscript{23}

According to the National Highway Traffic Safety Administration, during 2002, alcohol-related motor-vehicle crashes resulted in 17 419 deaths in the United States, accounting for 41% of all traffic fatalities.\textsuperscript{24}

In a report released by the Centers for Disease Control and Prevention (CDC) that analysed the occurrence of child passenger deaths involving drinking drivers during 1997–2002, it was found that among the 2335 children who died in alcohol-related crashes, 1588 (68%) were riding with drinking drivers.\textsuperscript{25}

Conservative estimates of sexual assault prevalence suggest that 25% of American women have experienced sexual assault, including rape. Approximately one half of those cases involve alcohol consumption by the perpetrator, victim or both.\textsuperscript{26} A study looking at data from 859 female sexual assault victims identified from the National Violence against Women Survey found that offender drinking was associated with greater likelihood of rape completion.\textsuperscript{27}

A study conducted among college women (using data from three different surveys performed in 1997, 1999 and 2001) found that roughly one in 20 (4.7%) women reported being raped. Nearly three quarters (72%) of the victims experienced rape while intoxicated. Women who drank heavily in high school and attended colleges with high rates of heavy episodic drinking were at higher risk of rape while intoxicated.\textsuperscript{28}

Alcohol plays an important part in intimate partner violence. A 1995 national study found that 30–40% of the men and 27–34% of the women who perpetrated violence against their partners were drinking at the time of the event.\textsuperscript{29} A study found that problem drinking significantly predicted perpetration and victimization for men and women. For women, partner drinking was strongly related to perpetration and victimization.\textsuperscript{30}

In a recent study of 103 women who were arrested for domestic violence, it was found that relative to the nonhazardous drinkers (NHD) group, hazardous drinkers (HD) women reported significantly greater frequency of perpetration of physical assault, psychological abuse and sexual abuse toward their relationship partners, causing significantly more injuries. HD women also reported significantly greater frequency of physical assault victimization than NHD women. HD women reported significantly greater frequency of general violence perpetration since age 18 than NHD women. There was a trend for the HD group to report a greater frequency of general violence in the past year relative to the NHD group. Women in the HD group also reported significantly more partner alcohol problems relative to the NHD group. HD women were significantly more likely than NHD women to have used alcohol and to have been intoxicated prior to the most recent battering arrest. In addition, compared with NHD women, HD women reported a higher frequency of partner violence perpetration and victimization, and general violence perpetration, subsequent to drinking in the past year.\textsuperscript{31}

A time series analysis of alcohol consumption and suicide mortality between 1934 and 1987 in the United States of America found that bivariate associations between alcohol consumption and suicide rates were not significant. However, when unemployment was included in the model, increases in per capita alcohol consumption were significantly related to increases in suicide overall, for men and women, and for the young (under age 40) and middle-aged (40 to 59 years), but not for those over age 60.\textsuperscript{32} An earlier study looking at suicide rates and
alcohol consumption between 1970 and 1989 showed findings that suggested that it was not the consumption of ethanol per se but rather the consumption of ethanol in the form of spirits that is related to suicide. Rather, it would appear that a population-based preference for the consumption of spirits is associated with suicide events.\(^{33}\)

In a study exploring the relationship between alcohol use prior to suicide among American Indian decedents in New Mexico for the years 1980 through 1998, alcohol was detected in 69% of all suicides with some variance by major tribal cultural groups (ranging from 62.1% to 84.4%). This is higher than in suicides among the overall New Mexico population (44.3%). The mean blood alcohol concentration (BAC) of the drinking Indian decedents at suicide was 0.198. Mean BACs were high for both males (0.199) and females (0.180) who had been drinking. Over 90% of the Indian decedents who had been drinking had BACs greater than the legal intoxication level of 0.08.\(^{34}\)

A study found that a consumption increase of 1 litre of alcohol per capita brings about an increase in the divorce rate of about 20%. The results from this study provide support both for the effects of heavy drinking on divorce rates and the effect of divorce rates on expenditure for alcoholic beverages.\(^{35}\)

A study found that from 1983 to 1998, changes in alcohol consumption were significantly associated with changes in gonorrhea and syphilis rates. Each 1% increase in alcohol consumption was associated with increases of about 0.4% to 0.7% in reported gonorrhea incidence rates and 1.8% to 3.6% in reported syphilis incidence rates.\(^{36}\)

Alcohol is associated with motor vehicle crashes and fatal intentional injuries such as suicides and homicides. In 1994, 19,470 deaths were attributed to alcohol-induced causes.\(^{37}\)

In 1998, chronic liver disease (CLD) was the tenth leading cause of death in the United States. Of 30,933 CLD deaths in 1998, 39% were coded as alcohol-related.\(^{38}\)

A national study of college and university students conducted in 1999 found that compared with respondents first intoxicated at age 19 or older, those first intoxicated prior to age 19 were significantly more likely to be alcohol dependent and frequent heavy drinkers, to report driving after any drinking, driving after five or more drinks, riding with a driver who was high or drunk and, after drinking, sustaining injuries that required medical attention. Respondents first intoxicated at younger ages believed that they could consume more drinks and still drive safely and legally; this contributed to their greater likelihood of driving after drinking, and riding with high or drunk drivers.\(^{39}\)

A national study of college students found that students with poor mental health/depression (PMHD) were less likely to report never drinking, as likely to report frequent, heavy and heavy episodic drinking, and more likely to report drinking-related harms and alcohol abuse.\(^{40}\)

**Economic and social costs**

The costs of alcohol abuse and alcoholism were estimated to be $184.6 billion in 1998. These costs include: about $18.9 billion in medical expenditures to treat the medical consequences of alcohol abuse and alcoholism, $134.2 billion due to lost earnings, $31.6 billion for other impacts to society (such as specialty alcohol services such as alcohol abuse treatment, crime costs and social welfare administration). Compared to 1992, this was an approximately 25% increase, or an average annual increase of 3.8%.\(^{41}\)

In 1992 the economic cost to society from alcohol abuse and alcoholism was an estimated $148 billion. Specialized services for the prevention and treatment of alcohol problems cost $5.6 billion and treatment for health problems attributed to alcohol abuse cost $13.2 billion. 107,400 people died as a consequence of alcohol abuse and the estimated cost was $31.3 billion, representing the present discounted value of expected lifetime earnings (at 6%). An estimated $67.7 billion in lost potential productivity was attributed to alcohol abuse. Total costs attributed to alcohol-related motor vehicle crashes were estimated to be $24.7 billion. This included $11.1 billion from premature mortality and $13.6 billion from automobile and other property destruction.\(^{42}\)

In the United States of America, related absenteeism and poor job performance cost $148 billion annually (average annual cost per working adult, $2000). Although hangover is associated with alcoholism, most of its cost is incurred by the light-to-moderate drinker.\(^{43}\)

The total cost of alcohol use by youth was $52.8 billion in 1996. This includes $19.5 billion for alcohol-attributable crashes involving drivers under the age of 21 (pedestrians and cyclists included), $29.4 billion for alcohol-attributable violent crime involving perpetrators under the age of 21, suicide attempts ($1.5 billion), unintentional drownings ($426 million), alcohol-attributable burns ($189 million), fetal alcohol syndrome ($493
million), alcohol poisonings ($340 million) and alcohol treatment ($1 billion). Yet another breakdown of this $52.8 billion expense is how the money was spent: alcohol-related problems resulted in $3.7 billion in medical spending in 1996 – about 4% of total medical spending in the country; they led to future work losses, property damage, and criminal justice costs of $10.6 billion; and they caused pain and quality of life losses conservatively valued at $38.5 billion.\textsuperscript{44}

Country background information

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<td>GNI per capita 2002</td>
<td>US$ 35 060</td>
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References

3. Preliminary results from the Gender, Alcohol and Culture: An International Study (GENACIS Project). International Research Group on Gender and Alcohol (for more information please see http://www.med.und.nodak.edu/depts/irgga/GENACISProject.html).
URUGUAY

Recorded adult per capita consumption (age 15+)

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

Lifetime abstainers

A 2001 national survey (subjects aged 12 to 64 years old living in cities larger than 5000 inhabitants; \( n = 2382 \)) found the prevalence rate of lifetime abstainers to be 19.5% (total) and the prevalence rate of last year abstainers to be 30.6% (total).\(^3\)

Estimates from key alcohol experts show that the proportion of adult males and females who had been abstaining (last year before the survey) was 7% (males) and 21% (females). Data is for after year 1995.\(^3\)
Heavy and hazardous drinkers

According to the 2003 World Health Survey (total sample size $n = 1909$; males $n = 1074$ and females $n = 835$), the mean value (in grams) of pure alcohol consumed per day among drinkers was 5.1 (total), 7.1 (males) and 2.7 (females).\(^1\)

Heavy episodic drinkers

Data from the 2003 World Health Survey. Total sample size $n = 2981$; males $n = 1447$ and females $n = 1534$. Population aged 18 years and above. Definition used: at least once a week consumption of five or more standard drinks in one sitting.\(^1\)

Youth drinking (lifetime abstainers)

Data from the 2003 World Health Survey. Total sample size $n = 297$; males $n = 155$ and females $n = 142$. Population aged 18 to 24 years old.\(^1\)
Youth drinking (heavy episodic drinkers)

- Total: 8.4%
  - Male: 13.5%
  - Female: 2.8%

Note: These are preliminary, early-release, unpublished data from WHO's World Health Survey made available exclusively for this report. Some estimates may change in the final analyses of these data.

Alcohol dependence

- Total: 5%
  - Male: 8.5%
  - Female: 1.3%

Data from the 2003 World Health Survey. Total sample size $n = 297$; males $n = 155$ and females $n = 142$. Population aged 18 to 24 years old. Definition used: at least once a week consumption of five or more standard drinks in one sitting.¹

A national household survey of 2500 persons aged between 15 and 65 years found the rate of last month alcohol abuse to be 19.5%.⁴

Unrecorded alcohol consumption

The unrecorded alcohol consumption in Uruguay is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).³

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

In Uruguay, men who consume alcohol are six times more likely to abuse their families than those who do not consume or consume moderately.\(^5\)

Mortality from cirrhosis of the liver rose from 8.5 per 100,000 in the 1986–1991 period to 11.0 per 100,000 in 1995, and affects men much more than women.\(^6\)

In a case-control study involving 160 cases of adenocarcinoma of the lung and 520 hospitalized controls in Uruguay between January 1998 and July 2000, it was found that hard liquor intake was associated with a 40% increase in risk of adenocarcinoma of the lung.\(^7\)

A case-control study involving 331 cases of stomach cancer and 622 controls conducted in Montevideo, Uruguay during the period 1992–1996 found that alcohol drinking (particularly hard liquor and beer) was
associated with an odds ratio (OR) of 2.4, after controlling for the effect of tobacco, vegetables, and other types of alcoholic beverages.\textsuperscript{8}

In a hospital-based case-control study involving 327 men with lung cancer and 350 male controls carried out between January 1988 and December 1990, a significant positive association was found between beer intake and the risk of lung cancer.\textsuperscript{9}

In a study comparing 210 cases of stomach cancer with 630 controls afflicted with a wide variety of diseases who were admitted for treatment at the University Hospital of Montevideo, Uruguay between July 1985 and December 1988, it was found that both wine and hard liquor carried increased odds ratios, but heavy drinkers of wine displayed a sixfold increase in risk of developing gastric carcinoma.\textsuperscript{10}

In a case-control study conducted in Uruguay between 1992 and 1996, it was found that pure hard liquor drinking was associated with an increased risk of 3.6 for cancer of the oral cavity and pharynx, whereas pure wine drinking showed an odds ratio of 2.1. When pure hard liquor drinkers were compared with pure wine drinkers, the odds ratio for pure liquor drinkers was 1.7. Furthermore, the risk associated with pure hard liquor drinking was analysed by subsite, and the highest odds ratios were observed for oral cavity cancer.\textsuperscript{11}

A case-control study found that beer drinkers showed an increased odds ratio of 5.5 in men for risk of non-Hodgkin’s lymphoma.\textsuperscript{12}

### Country background information

<table>
<thead>
<tr>
<th>Total population 2003</th>
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<th>Life expectancy at birth (2002)</th>
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</table>


### References

**BOLIVARIAN REPUBLIC OF VENEZUELA**

**Recorded adult per capita consumption (age 15+)**

[Graph showing trends in recorded adult per capita consumption from 1961 to 2001, with data points for total, beer, spirits, and wine consumption over time.]

Sources: FAO (Food and Agriculture Organization of the United Nations), World Drink Trends 2003

**Last year abstainers**

- Total: 42.5%
- Male: 30%
- Female: 55%

Estimates from key alcohol experts showing proportion of adult males and females who had been abstaining (last year before the survey). Data is for after year 1995.

In a 1998 study of 40 patients with Diabetes Mellitus Type 2 and 30 healthy subjects with similar characteristics (age range 30 to 75 years), it was found that 15% of the sample were alcohol consumers.

**Weekly alcohol drinkers in Maracaibo**

- Male: 45.3%
- Female: 15.9%

Data from an urban survey conducted in the city of Maracaibo (males \( n = 63 \) and females \( n = 145 \)). Definition used: consumption of at least one unit of alcohol a week (one unit = one whiskey or one vodka or one gin (40% alcohol content) or two glasses of wine or three beers).
Youth drinking in Caracas (female alcohol consumers)

A 1999 urban survey of 331 female adolescents (aged between 13 and 19 years old). 

Alcohol dependence among doctors (lifetime prevalence)

A survey of 191 resident doctors of a large university hospital in Venezuela using the Spanish version of the Diagnostic Interview Schedule (DIS). The same survey found the rate of lifetime alcohol abuse to be 20.9%. 

Traditional alcoholic beverages

Corn liquor is consumed by an indigenous tribe in Venezuela. Several times each year, especially during the corn harvest season, the trunk of a large tree would be hollowed out and filled with corn mash by an individual specially chosen by the community. The corn mash would be allowed to ferment to create an alcoholic beverage, with a high enough alcoholic content to cause intoxication after consumption of only two glasses or gourdfuls. When the corn liquor was ready, a village festival would be held in which all adults would drink to the point of falling down. Men would typically bring their bows and arrows and fight to settle grudges. Festivals would end after two or three days, when the corn liquor ran out. There were rarely individuals who consumed alcoholic beverages at times other than festival celebrations.

Unrecorded alcohol consumption

The unrecorded alcohol consumption in the Bolivarian Republic of Venezuela is estimated to be 2.0 litres pure alcohol per capita for population older than 15 for the years after 1995 (estimated by a group of key alcohol experts).

Mortality rates from selected death causes where alcohol is one of the underlying risk factors

The data represent all the deaths occurring in a country irrespective of whether alcohol was a direct or indirect contributor.
Chronic mortality

Note: Chronic mortality time-series measured on two axes, ischaemic heart disease on right axis and the other causes on the left.

Acute mortality

Source: WHO Mortality Database

Morbidity, health and social problems from alcohol use

In a 1999 survey of 331 female adolescents aged between 13 and 19 years in Caracas, 15.44% of the adolescents sampled reported experiencing problems associated with alcohol drinking. Of these, 62.86% had problems with family, 22.86% had problems with friends, 8.57% had problems with strangers and 5.71% had problems with the police.4

A study conducted on a Latin American indigenous population found that the majority of both men (98%) and women (53%) had drunk alcohol at some time in their lives, with 94% and 26% respectively having consumed alcohol within the past 12 months. Using a cut-off score of 8 for the AUDIT, 86.5% of all men and 7.5% of all women were found to be problem drinkers. Focus group discussions revealed that traditional patterns of binge
drinking of corn liquor had gradually been replaced by consumption of commercial beer and rum at more frequent intervals and with more negative social consequences.6

With increasing contact with Creole culture, several changes occurred which resulted in changes in drinking patterns. Cash incomes were generated through the sale of cash crops, timber, and through day labour on nearby cattle ranches. Men from the villages began to frequent the bars of nearby towns and consume beer and rum. Drinking to the point of intoxication in town, at times accompanied by fighting, became a frequent pattern for men during harvest times or on payday for those working in ranches. Other alcohol-related problems which developed as a result of changes in drinking patterns include lack of food, medicine, or school supplies for children (as a result of spending all or most of cash incomes on alcohol), individual cases of trauma from falls, fights, or vehicular accidents (usually bicycles or motorcycles), medical illnesses and family problems (most commonly arguments or fights). Disorderly conduct or fighting would frequently result in individuals being put in village jails, especially on holidays, e.g. the period from 24 December to early January.6

A case-control study of 292 cases of gastric cancer and 485 controls in a high-risk area of Venezuela found that male alcohol drinkers were at higher risk than male non-drinkers for gastric cancer.7

Country background information

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References