

## IF YOU DRINK ALCOHOL, DRINK SENSIBLY

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While alcohol use has a very long history and is an ingrained part of human life, its abuse has many detrimental health, social, lifestyle and economic sequelae. Recent research has, however, identified some potentially positive health effects associated with moderate intakes of alcohol. The Food-Based Dietary Guideline (FBDG) Work Group recognised these facts and decided that it was both prudent, and necessary, to formulate a guideline on the sensible use of alcohol.

The objective of this paper is to present both the detrimental and positive aspects of alcohol intake which were considered by the FBDG Work Group in formulating the alcohol guideline.

The harmful effects of alcohol use and abuse on public health and society are divided into three categories, namely detrimental effects on adult health, teratogenic effects on the fetus and negative social and economic effects. Each category is discussed in detail and includes definitions of a standard drink for men and women, physical health hazards associated with alcohol abuse, characteristics of fetal alcohol syndrome, and social and economic consequences. South African patterns of alcohol consumption are given to highlight the need for restraint in consuming alcohol.

Findings regarding the positive effects of alcohol include the documentation of the French paradox, and the indication that moderate alcohol intake may reduce the incidence of coronary heart disease by increasing high-density lipoprotein cholesterol concentrations, and favourably modifying platelet and other clotting functions. In addition, sorghum beer, a traditional African beverage, has been found to make positive contributions to dietary intake, particularly when the beer is brewed with sorghum adjunct.

International recommendations regarding the ingestion of alcohol used in countries such as the USA and the UK, were used for purposes of comparison. The rationale on which the present alcohol guideline is based, and the reasons why the FBDG Work Group did not formulate a guideline which recommends total abstinence, are also discussed.

The final guideline proposed by the Food-Based Dietary Guidelines (FBDGs) Work Group, 'If you drink alcohol, drink sensibly', addresses the use of alcohol in South Africa.

The manufacture and consumption of alcoholic beverages has been part of mankind's evolution since the dawn of time. The ancient Greeks worshipped Bacchus, the god of wine, and viticulture and the negative consequences of excessive alcohol intake are mentioned in the first book of *The Bible*, Genesis 9: 20-27.<sup>1</sup>

In Africa, indigenous peoples have been brewing alcoholic beverages, such as sorghum and millet beers, for centuries.<sup>2</sup> With the coming of white settlers in the 17th century, wine, barley beer and spirits were introduced to South Africa.

The use of alcohol by humans is, therefore, both a universal and a South African phenomenon, which is probably even more ingrained than most traditional eating habits. The ingestion of alcohol, particularly in excessive quantities, often has negative health and social consequences; however, recent research findings indicate that moderate intake of alcohol may benefit health in certain sectors of the population. Consequently the FBDG Work Group deemed it both necessary and prudent to include a guideline on the sensible use of alcohol.

Public health and social problems associated with ingestion of alcohol and its excessive use, include the following:

- detrimental effects on health
- teratogenic effects on the unborn
- negative social and economic effects.

The 1998 South African Demographic and Health Survey (SADHS) initiated by the Department of Health in collaboration with the Medical Research Council and Macro International, found that just under 50% of males and 17% of females 15 years and older in South Africa acknowledged consuming alcohol.<sup>3</sup> Very high levels of 'risky drinking', particularly over weekends, were found. Groups most affected included the African, coloured, non-urban and less educated populations in South Africa. Certain population groups, such as devout Muslims, abstain from alcohol use for religious reasons.

The FBDG referring to alcohol intake recognises that many South Africans use alcohol, that this use is often excessive and leads to intoxication, that it is responsible for health and social problems, and that education and other interventions are needed to change this common practice. The FBDG on alcohol intends to make a contribution towards encouraging those members of the South African population who misuse alcohol, particularly by binge drinking, to engage in 'low-risk drinking' or 'sensible drinking'. 'Low-risk drinking' is defined as no more than four units of alcohol per day for men and no more than two units for women, with at least two alcohol-free days per week. These guidelines are based on the Australian

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National Health and Medical Research Council's recommended daily levels of responsible alcohol intake.<sup>4</sup> However, people who do not drink are not advised to start drinking in order to gain any claimed health benefit. Furthermore, it is recommended that the following groups abstain from alcohol use: children, individuals of any age who cannot restrict their drinking to moderate levels, women who are pregnant, people who are operating machinery, persons using prescription medicines, and people with a genetic tendency to alcohol dependence.

## NEGATIVE ASPECTS OF ALCOHOL CONSUMPTION

The negative aspects of alcohol consumption can be divided into three categories, namely detrimental effects on health experienced by adults, teratogenic effects, and negative social and economic effects. Generally speaking, adult health sequelae and social and economic consequences tend to be linked to 'high-risk drinking', which has been defined as more than four standard drinks/day for men and more than two standard drinks/day for women (Table I).<sup>5</sup> The teratogenic effects are linked to high intakes of alcohol during pregnancy.

**Table I. Definition of a standard drink<sup>5</sup>**

Drink	Average alcohol content (% volume)	One drink	Alcohol content (g)
Beer, malt	5	340 ml	12
Beer, sorghum	3	500 ml	12
Stout	6	375 ml	17
Cider	6	340 ml	16
Cooler/flavoured grape liquor	5 - 10	340 ml	8
Liqueur	30	25 ml glass	6
Sherry	17	50 ml glass	7
Brandy, whisky	43	25 ml tot	11
Gin, cane, vodka	43	25 ml tot	11
Wine	12	120 ml glass	11

### Detrimental effects on adult health

The negative effects of alcohol consumption on adult health have been extensively researched and widely documented. Multiple organ system dysfunction has been directly linked to excessive alcohol intake or 'high-risk drinking' (Table II).

### S72 Teratogenic effects

Ingestion of alcohol during pregnancy can have mild to severe damaging effects on the fetus. Women who drink alcohol during pregnancy are at greater risk of having a miscarriage or premature delivery. Infants born to mothers who drink alcohol during pregnancy are more likely to have a low birth weight and one or more congenital malformations. Alcohol damage to

**Table II. Physical health hazards associated with alcohol abuse**

Nervous system	Acute intoxication: 'hangovers' and blackouts Persistent brain damage: Wernicke's encephalopathy, Korsakoff's syndrome, cerebellar degeneration
Cerebrovascular disease	Strokes, particularly in young people Subarachnoid haemorrhage Subdural haematoma following cranial injury Withdrawal symptoms: tremor, hallucinations, fits
Liver	Nerve and muscle damage: weakness, paralysis, 'burning' sensation in extremities Fatty infiltration Alcoholic hepatitis Cirrhosis leading to liver failure Liver cancer
Gastro-intestinal system	Acid reflux Tearing/rupture of oesophagus Cancer of the oesophagus Gastritis Aggravation and impaired healing of peptic ulcers Diarrhoea and impaired absorption of food Chronic inflammation of the pancreas which may lead to diabetes and malabsorption of food
Nutrition	Malnutrition due to reduced food intake, toxic effects of alcohol on the gastrointestinal tract, impaired metabolism leading to weight loss, obesity, particularly in early stages of heavy drinking
Heart and circulation	Arrhythmias Hypertension Chronic damage to cardiac muscle leading to heart failure
Respiratory system	Pneumonia from inhalation of vomit
Endocrine system	Increased production of cortisol leading to obesity, acne, hirsutism, hypertension Condition mimicking hyperthyroidism with weight loss, anxiety, palpitations, sweating, tremor Severe hypoglycaemia resulting in coma Intense facial flushing in diabetics using chlorpropamide
Reproductive system	Men: loss of libido, impotence, testicular and penile shrinkage, reduced sperm formation leading to infertility, loss of sexual hair Women: menstrual irregularities, shrinkage of breasts and external genitalia

Adapted from James and Ralph.<sup>6</sup>

fetal brain cells can result in mild to severe brain damage, mental handicap or minimal brain dysfunction, e.g. dyslexia, autism, or hyperactivity.<sup>6</sup>

If the fetus is exposed to alcohol abuse, fetal alcohol syndrome (FAS) may occur. It is known that acetaldehyde, a metabolite of alcohol, crosses the placenta and impairs the methylation of DNA in the fetus causing characteristic effects:

- intra-uterine growth retardation resulting in low birth weight and height
- typical facial features (underdeveloped maxillary region, small fissure between the lids of the eyes)
- neurodevelopmental abnormalities, such as microcephaly
- congenital abnormalities of the joints and heart
- persistent mental retardation.<sup>6</sup>

The prevalence of FAS in South Africa has been shown to be much higher than in countries such as the USA. In this regard, of the one thousand children screened in their first year of school in the rural community of Wellington outside Cape Town in the late 1990s, a FAS prevalence of 40.5 - 46.4/1 000 children (age-specific rates for the entire community were 39.2 - 42.9/1 000) was reported. This prevalence is 18 - 141 times greater than prevalence estimates for the USA.<sup>7</sup>

The most important aspect of fetal damage caused by alcohol and FAS, is that all these negative effects can be prevented by totally abstaining from alcohol consumption during pregnancy. This injunction should be adhered to by any woman contemplating pregnancy.

### Negative social effects

Heavy drinking is also associated with a wide variety of negative social and economic effects (Table III).

Cost to industry	Sickness, absence from work and lateness Reduced efficiency and decision making Higher industrial accident rate Impaired industrial relations Early retirement and premature death Higher labour turnover and cost of retraining Cost of psychiatric and medical care
Cost to health services	
Cost of social institutions	Cost of national alcohol bodies Expenditure on research and education Cost of social services
Cost of material damage	Road accidents (fatal and non-fatal, drivers and pedestrians) Abuse of family members, domestic accidents and fires
Cost of criminal activities	Policing and traffic offences Criminal offences and court cases Probation, judiciary and prison service
Undermining of society	Disintegration of family structure, abuse of family members
Dissipation of finances	Use of scarce financial resources for drinking

Adapted from James and Ralph.<sup>6</sup>

It is evident, therefore, that excessive or heavy alcohol intake can have far-reaching and devastating negative effects on the health, social structure and economy of a country such as South Africa. Consequently, it is therefore advisable along with other intervention strategies (e.g. increasing taxes on alcohol products) to promote public education which emphasises that persons who drink alcohol should engage in 'low-risk drinking' or 'sensible drinking', as specified in the FBDG.

### THE POSITIVE ASPECTS OF ALCOHOL CONSUMPTION

While it has generally been acknowledged for centuries that the consumption of alcohol, particularly in excessive quantities, is responsible for a wide variety of society's ills, evidence of potentially positive effects are of relatively recent origin.

The so-called 'French paradox' was first reported in 1992 by Renaud and De Lorgeril.<sup>8</sup> The MONICA Project, a worldwide monitoring system for cardiovascular diseases directed by the WHO, showed that the mortality from coronary heart disease (CHD) in France was similar to the incidence in Japan and China and much lower than in the USA or UK, despite the fact that the French had a saturated fat intake of 14-15% of energy and other risk factors similar to those found in western industrialised countries. This finding was dubbed the 'French paradox'. Renaud and De Lorgeril<sup>8</sup> suggested that moderate alcohol intake, particularly of wine as practised in France, may protect against CHD. These authors pointed out, for instance, that when mortality from CHD in Toulouse, France was compared with that of Stanford in the USA, figures of 78 v. 182/100 000 were found, which translates into a difference of 57%. In comparison with rates for Belfast and Glasgow, CHD mortality was 78 - 79% less. Toulousians had an average alcohol consumption of 38 g/day, of which 34 g was in the form of wine. These authors suggested that wine has a greater protective effect against CHD than other alcoholic beverages. Platelet studies conducted by Renaud and De Lorgeril<sup>8</sup> indicated that platelet aggregation in French subjects consuming 45 g alcohol a day was considerably lower than in Scottish subjects ingesting 20 g/day.

Initially the protective effect of alcohol against CHD was linked to the polyphenol content of wine, particularly of red wine. Polyphenols have potent anti-oxidant properties and prevent low-density lipoprotein (LDL) oxidation. However, later studies have indicated that moderate alcohol intake *per se* provides the protection against CHD.<sup>9</sup> In a Chinese study of 18 244 middle-aged men (45 - 64 years), Yuan and co-workers<sup>9</sup> found that subjects who consumed approximately two alcoholic drinks a day had a 19% reduction in overall mortality (relative risk 0.81; 95% confidence interval 0.70 - 0.94), after adjustment for age, level of education and cigarette smoking, compared with lifelong non-drinkers. The authors found no difference and no particular protective effects relating to the

various beverages (beer, rice wine, spirits). In relation to CHD, a 36% reduction was identified in subjects who drank moderately (defined by the study as 28 or fewer drinks per week). No protective effect was identified regarding stroke.<sup>9</sup>

In a review of studies investigating the positive effects of moderate alcohol intake on the incidence of CHD, published by De Groot and Zock<sup>10</sup> in 1998, it is reported that a meta-analysis of cohort studies found that the relative risk of CHD was 0.83 for moderate drinkers (2 - 3 drinks/day), compared with abstainers. The authors suggested that alcohol *per se* may have a protective effect because it has been found to increase high-density lipoprotein (HDL) cholesterol concentrations favourably, modify platelet function and other components of clotting and fibrinolysis. They also pointed out that moderate alcohol intake decreased stress, and helped people to relax.

These findings prompted the governments of both the UK and the USA to issue recommendations advising the public to drink 'sensibly'. The UK 'sensible drinking' guidelines<sup>11</sup> state that low-risk drinking equates to drinking up to 21 units for men and up to 14 for women per week. The guidelines conclude that the causal relationship between protective effects of alcohol and CHD has been established in a 'scientifically valid' manner. They include the information that moderate intake of alcohol in 'adults who are not yet middle aged', namely men under 40 and premenopausal women, may confer protective effects against CHD in later years of life. The UK guidelines state that moderate drinking of as little as one unit a day may confer protection against risk of death from all causes. The guidelines, however, also state that by drinking nothing, individuals are not exposing themselves or society to any of the other harms associated with alcohol. The UK sensible drinking guidelines attribute the protective effect against CHD to ethanol and not to other ingredients such as polyphenols, which seems to indicate that no specific alcoholic beverage confers special protection.<sup>11</sup>

The recommendations published by the government of the USA on alcohol consumption,<sup>12</sup> also acknowledge that a potentially beneficial relationship between moderate drinking and lowered risk of CHD exists in 'some individuals'. The USA guidelines which cover a wider field of dietary intake than the UK guidelines, counter the positive recommendation on drinking sensibly with warnings of the detrimental effects alcohol has on health. The guidelines essentially say *if you drink, do so in moderation, with food*. They do not encourage people to start drinking. Moderation is defined as no more than one drink per day for women and no more than two drinks per day for men. It must be noted that in the USA, a 'standard drink' is defined as 14 ml of absolute alcohol compared with 8 ml of absolute alcohol in the UK. The USA guidelines also stress that people with a genetic tendency to alcoholism should not drink at all.

In the African context, traditionally brewed sorghum beer

has often been equated with food because of its high nutritive content.<sup>13</sup> A litre of sorghum beer brewed from sorghum malt, using unrefined sorghum as the starchy adjunct, is a relatively nutritious beverage (Table IV).<sup>13</sup> This is so because the sorghum has been allowed to ferment to an endpoint which ensures lysis of the yeast cells and increases the bioavailability of B vitamins and it contains 3% alcohol or less. Table IV also compares the nutrient content per litre of sorghum beer brewed using refined maize grits or unprocessed sorghum as adjunct. The percentage contributions of nutrients by one litre of the respective beers to the South African recommended dietary allowances (RDAs),<sup>14</sup> and the estimated safe and adequate daily dietary intake (ESADDI)<sup>15</sup> for manganese and the estimated minimum requirement (EMR) for potassium as specified in the USA for adults,<sup>15</sup> are also depicted.

**Table IV. Comparison of the nutritive content of sorghum beer brewed with refined maize grits and unprocessed sorghum as starchy adjunct<sup>13</sup>**

Nutrient	Maize grits adjunct		Sorghum adjunct	
	Nutritive content/ litre	%RDA/ ESADDI/ EMR	Nutritive content/ litre	%RDA/ ESADDI/ EMR
Energy (kJ)	1 475	12.3	1 695	14.1
Protein (g)	5.4	9.6	5.2	9.3
Total fat (g)	Trace	0	Trace	0
Carbohydrate (g)	41.9	-	39.9 %	-
Ethanol % (m/m)	2.31	-	3.20*	-
Thiamin (mg)	0.58	38.7	0.96*	64.0
Riboflavin (mg)	0.41	24.1	0.47	27.6
Nicotinic acid (mg)	3.03	15.9	5.58*	29.4
Calcium (mg)	53	6.6	52	6.5
Magnesium (mg)	94	23.5	178*	44.5
Phosphorus (mg)	150	18.8	305*	38.1
Iron (mg)	1.26	7.0	3.44*	19.1
Zinc (mg)	1.63	10.9	1.94*	12.9
Copper (mg)	0.17	5.7	0.27*	9.0
Manganese (mg)	0.88	25.1	1.83*	52.3 -
Sodium (mg)	21	< 1	18	< 1
Potassium (mg)	217	10.9	407*	20.4

\* Significant difference between adjuncts ( $P < 0.05$ ).  
RDA = recommended dietary allowances;<sup>14</sup> ESADDI = estimated safe & adequate daily dietary intakes;<sup>15</sup> EMR = estimated minimum requirements.<sup>15</sup>

It is evident that sorghum beer, particularly if brewed with sorghum adjunct, can make a significant contribution to the diet with regard to the intake of energy, protein of plant origin, carbohydrate, thiamin, riboflavin, nicotinic acid, magnesium, phosphorus, iron, zinc, copper and potassium. However, it should be noted that besides industrially produced sorghum beer there are also 'home brews' and 'concoctions'. The former

are produced at home from sorghum malt/powder beer, brown bread, sugar and baker's yeast. The latter are home brews with artificially boosted alcohol content and acidity. These beers are often unhygienic and of poor quality. The alcohol content can be as high as 10%. Concoctions can also be injurious to health.

Traditionally brewed sorghum beer differs considerably from the commercially brewed product which uses refined maize as the starch source. Nowadays, the specification which restricted the ethanol content of sorghum beer to 3.0% m/m, is often exceeded. It should be noted that African populations no longer derive as much nutritional benefit from alcohol consumption, because traditional sorghum beer is increasingly being supplanted by barley beer, spirits and wine, as black South Africans become urbanised and westernised.

In view of the positive effects that moderate consumption of alcoholic beverages has on CHD and the fact that traditionally brewed sorghum beer can make a positive contribution to nutritional status, an outright ban on alcohol consumption is not warranted. That is why the South African FBDG states, 'If you drink alcohol, drink sensibly'.

### PATTERNS OF ALCOHOL CONSUMPTION IN SOUTH AFRICA

The SADHS,<sup>3</sup> which evaluated lifetime and current use of alcohol, and weekend and weekday consumption, documented that 45% of men and 17% of women, 15 years and older, acknowledge that they currently consume alcohol (Table V). The combined prevalence for alcohol consumption by men and women of 28% translates to 8.3 million South Africans who acknowledge that they currently consume alcohol. Owing to the methodology employed, this is likely to be an underestimate of the actual number of current drinkers. Various factors influence current drinking trends, namely:

- **Sex and population group.** White males (71%), white females (51%), and coloured males (45%) have the highest percentages reporting that they currently consume alcohol, whereas African females (12%) and Asian females (9%) have the lowest percentages.
- **Residence.** Drinking prevalence is higher in urban men (47%) and women (19%), than non-urban men (41%) and women (13%).
- **Province.** Drinking prevalence is highest in males living in the Free State and Gauteng (> 50%), while those living in Northern Province (28%) had the lowest prevalence. For women, those living in the Free State, Western Cape and Northern Cape reported the highest prevalence of alcohol use (23 - 25%) whereas the lowest prevalence was recorded in Northern Province (9%).
- **Age group.** The highest percentages of current drinkers for men and women were reported for the 35 - 44-year, and the 45 - 54-year age groups. The lowest levels were reported for the 15 - 24-year age group.

- **Level of education.** The highest percentages of current drinkers were found among persons with the lowest and highest levels of education (55% and 58% for men, 23% and 33% for women), whereas moderate levels of education were associated with lower percentages of current drinking (40 - 51% in men, 13 - 19% in women).

Research on 'risky drinking', defined by the SADHS as drinking 5 or more standard drinks per day for men and 3 or more standard drinks per day for women, showed that hazardous drinking is 4 - 5 times more common at weekends than during the week. Risky drinkers can be categorised from the results of this survey as follows: men aged 35 - 44, women aged 45 - 54, living in non-urban areas with a low level of education (Sub A to Standard 5), belonging to the coloured or black populations.<sup>3</sup>

There is thus no doubt that while many South Africans do not consume alcohol, almost a third of those who do, drink at risky levels over weekends. Roughly a quarter of persons aged 15 - 19 years were reported to be drinking at risky levels over weekends.<sup>3</sup> Any educational measure which could lower the incidence of risky drinking, such as the proposed FBDG on alcohol, would therefore be considered as highly desirable.

### EXAMPLES OF OTHER GUIDELINES

Many governments throughout the world have formulated guidelines concerning the use of alcohol. The UK<sup>11</sup> and USA<sup>12</sup> guidelines mentioned above, both inform their target audiences that moderate drinking may be beneficial to health, but that the population should drink 'sensibly'. The USA guidelines state, 'If you drink alcoholic beverages, do so in moderation, with meals, and when consumption does not put you or others at risk'. The proposed South African FBDG on alcohol is, therefore, in line with international thinking and provides balanced advice on an important facet of dietary intake. The Australian National Health and Medical Research Council indicates that 0 - 4 drinks for males and 0 - 2 drinks for females is 'responsible'.<sup>4</sup>

### WHY NOT RECOMMEND ABSTINENCE OR A BAN ON ALCOHOL?

When faced with the overwhelming body of evidence of the harmful effects associated with excessive drinking of alcohol, it would have been understandable if the FBDG Work Group had formulated a guideline recommending total abstinence or even a government ban on the use of alcohol. Many interested parties will no doubt question why this was not done. However, recent evidence of potentially positive effects of drinking alcohol on CHD and total mortality, combined with the fact that alcohol has been used by humans since the dawn of time as a libation, a sacrament, a social lubricant and even as a food, encouraged the Work Group to try to formulate a

**Table V. Percentage of males and females ( $\geq 15$  years) reporting lifetime use of alcohol, current use of alcohol, and percentage of current drinkers engaging in risky drinking<sup>a</sup>**

Background characteristics	Total sample (5 574 males and 7 962 females)				Current drinkers (2 478 males and 1 321 females)			
	Ever drunk alcohol		Drink now (current drinking)		Risky drinking — weekdays*		Risky drinking — weekends*	
	Males	Females	Males	Females	Males	Females	Males	Females
<b>Age</b>								
15-24	35.5	15.9	23.5	8.5	3.1	1.2	29.3	30.1
25-34	65.7	24.5	51.8	15.6	8.4	9.1	37.2	33.4
35-44	71.8	29.4	61.1	21.0	7.5	7.4	39.0	32.4
45-54	72.8	31.6	60.1	23.5	8.1	14.0	31.7	35.3
55-64	67.2	29.8	54.2	20.4	7.6	12.5	27.2	31.8
65+	65.3	33.4	45.8	20.3	6.6	7.0	21.0	30.2
<b>Residence</b>								
Urban	59.9	29.2	46.7	19.2	6.4	7.1	30.0	29.5
Non-urban	55.0	20.1	41.4	13.2	8.3	12.9	38.0	39.3
<b>Province</b>								
Western Cape	61.4	40.1	43.6	24.2	6.1	5.4	33.4	30.2
Eastern Cape	60.2	22.3	47.5	16.2	6.5	9.8	31.4	33.6
Northern Cape	63.4	34.3	48.5	23.1	6.2	7.7	38.1	48.7
Free State	66.4	31.6	56.2	24.5	5.6	5.6	27.3	30.0
KwaZulu-Natal	54.4	17.9	39.8	11.5	8.5	14.2	31.7	37.8
North West	57.5	23.7	46.6	17.0	9.1	14.9	42.9	43.0
Gauteng	59.1	32.4	49.7	20.6	6.1	4.7	24.0	22.1
Mpumalanga	62.1	21.0	45.9	14.2	5.8	8.6	49.4	46.4
Northern	45.1	15.7	28.3	8.6	11.1	18.1	41.1	45.2
<b>Education</b>								
No education	70.3	33.5	54.6	22.9	6.9	14.6	36.0	38.6
Sub A - Std 3	63.2	24.2	50.7	16.3	12.1	11.3	40.3	44.6
Std 4 - Std 5	55.2	20.5	42.0	13.2	10.5	9.5	42.9	44.9
Std 6 - Std 9	51.2	20.7	39.6	12.7	4.7	7.6	30.4	32.5
Std 10	59.6	28.8	46.7	18.5	6.9	5.9	24.4	18.3
Higher	70.4	45.7	57.8	33.4	2.0	1.9	24.0	12.6
<b>Population group</b>								
African	53.4	18.8	41.5	12.3	7.7	13.3	35.7	42.1
African, urban	54.1	19.9	43.6	12.8	6.6	11.3	32.5	40.7
African, non-urban	52.4	17.6	38.8	11.8	9.2	15.3	40.2	43.5
Coloured	63.6	40.4	44.8	23.2	9.3	4.3	39.2	34.2
White	84.9	69.8	71.4	50.5	3.4	2.7	18.7	14.0
Asian	64.6	14.7	37.4	9.0	1.5	0.0	6.1	0.0
<b>Total</b>	<b>58.1</b>	<b>25.7</b>	<b>44.7</b>	<b>16.9</b>	<b>7.0</b>	<b>8.8</b>	<b>32.8</b>	<b>32.4</b>

\* Defined for males as drinking  $\geq 5$  drinks per day, and for females as drinking  $\geq 3$  drinks per day.

guideline which introduces a cautionary note without being prescriptive. The sad history of Prohibition in the 1920s and 1930s in the USA should serve as a reminder that banning alcohol outright makes mankind turn to ingenious, exploitative and criminal methods of obtaining alcohol. Far better to give the public pause by pointing out that drinking alcohol can have negative consequences, but when used moderately not only contributes to enjoyment of life, but may also have health benefits to some individuals (e.g. men over 35 years and postmenopausal women).<sup>16</sup> These benefits may occur with drinking levels as low as one drink every 2 days<sup>17</sup> and are

replicable through other means such as stopping smoking, increasing exercise, eating a balanced, low-fat diet, and taking aspirin.<sup>18</sup> Regularity of moderate alcohol consumption in such populations is important to maximise the health benefits of moderate drinking. Binge drinking or drinking to intoxication may well outweigh any health benefits.<sup>19</sup>

While the message about sensible 'low-risk drinking' is applicable to all South Africans who drink alcohol, the benefits are likely only to be applicable to older South Africans (men over 35 years and postmenopausal women)<sup>16</sup> and not to the majority of South Africans who are younger. For such

populations alcohol is likely to have a net detrimental effect on mortality as a result of its role in violence and other forms of injury.<sup>20</sup> Nevertheless, it should be borne in mind that even among older South Africans risky drinking may be high, with 20 - 30% of persons aged 55 years and older in the SADHS being found to drink at risky levels (Table V).<sup>3</sup>

The FBDG 'If you drink alcohol, drink sensibly' is intended to encourage 'low-risk drinking' as part of a balanced diet, while discouraging abuse of the 'fruit of the vine', and barley, sorghum and rye distillations.

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