

Alcohol Use Trends in South Africa

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ABSTRACT The purpose of this review is to synthesize the prevalence data from five national surveys and local surveys on alcohol use in South Africa over the past 12 years. Systematic review. Results indicate that life time, current (past month) use and binge drinking remained similar over the years for both adolescents and adults. Binge drinking was between 7-11% and risky drinking also remained stable over the years (6%) with larger sex, geographic and racial differences. Risky drinking in pregnant women was 2.5% nationally but particularly high among urban dwellers (4.1%), Coloureds (11.6%) and in the Northern Cape province (24.9%). Local surveys among adolescents, university students, clinic populations and mine employees seem to all generally indicate higher levels of risky drinking than in the national surveys. The burden of alcohol was found to be high: Hazardous or harmful drinking and binge drinking were associated with multiple/indiscriminate (irregular) sex partners among persons living with HIV; alcohol related death in transport and homicide of 50% and fetal alcohol syndrome from 10-74 per 1000 in local surveys. Alcohol production/per capita remained stable with 8 litres but there is relatively high alcohol consumption considering an additional 3-4 litres unrecorded production/consumption, and that high amounts are consumed by a small population since most abstain from drinking in South Africa. Although no significant increase of alcohol use over the past 12 years was found, a high burden of alcohol abuse was found.

INTRODUCTION AND METHOD

Alcohol consumption should be understood in the context of how it is drunk, that is, the patterns of drinking. Patterns of drinking vary a great deal between societies. In much of the developing world, the predominant pattern is of infrequent heavy drinking, particularly by men. Many of the developing sub-regions are characterized by hazardous drinking patterns (World Health Organisation (WHO 2002). Hazardous drinking is defined as a quantity or pattern of alcohol consumption that places patients at risk for adverse health events, while harmful drinking is defined as alcohol consumption that results in adverse events (e.g., physical or psychological harm) (Reid et al. 1999). Efforts have been made to estimate current (past month) levels of alcohol consumption. In general, recorded per-capita consumption is lower in developing than developed sub-regions of the world. The addition of estimated unrecorded consumption brings per adult consumption in Latin America and Africa closer to developed-

country levels (WHO 2002). Since about 1980, the developed world, mainly consisting of Western Europe and North America, has shown stable or decreasing alcohol consumption levels. In the post-war period, the differences in average consumption levels among developed countries have narrowed and there has been some convergence in drink preferences (WHO 2002). In contrast, in Asia (with the exception of Japan), Latin America and Africa, recorded per capita consumption grew from 1961 to the middle 1970s, but then kept increasing in Asia, but decreased somewhat in Latin America, and decreased somewhat more in Africa up to 1997. The general rule seems to be that alcoholic beverage consumption rises with improving economic circumstances. This suggests that as economic development occurs, alcohol consumption and resulting problems are likely to rise with increasing incomes (Obot 2006). The levels of alcohol-related problems in a given society tend to rise and fall, all else being equal, with changes in the level of per-capita alcohol consumption in the society. Prevention measures which affect the level of alcohol consumption are thus among the most effective ways of preventing alcohol-related problems (WHO 2002). Industrially produced beverages, particularly lager beer, are gradually gaining ground against indigenous beverages, on the basis of prestige, promotion and other

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advantages, although they are typically more costly. Most pervasive is the replacement of traditionally and locally prepared beverages by industrial beverages, and particularly by lager beer (Obot 2006).

Population surveys provide evidence of drinking patterns at the individual level. Abstinence is the first crucial variable to examine. If abstinence is common, which is the case among men and women in many developing countries, then per capita consumption estimates will understate the average consumption per drinker. The available evidence indicates, however, that in many societies, particularly in Africa, including South Africa, many of those who drink at all usually drink large amounts when they drink, especially at weekends (Parry et al. 2005).

As the age distribution in most developing societies is skewed towards younger populations, many of the primary effects of alcohol misuse arise from episodes of acute alcohol intoxication (Parry and Bennets 1998). Acute alcohol intoxication is associated with increased mortality and morbidity in South Africa due to accidents, violence, unsafe sexual practices, misuse during pregnancy, etc. (Parry et al. 2002).

The purpose of this study is to review and to synthesize the prevalence data from five national surveys and local surveys on alcohol use in South Africa over the past 12 years. The review will also examine structural factors such as gender, age, socio-economic status (SES), ethnicity and urban versus rural location that may increase the risk for, or protect against alcohol use among South Africans.

For the assessment of alcohol use on a national level the following national surveys have been used (see Table 1).

Life time and Current (past month) Alcohol Use

Comparing adolescents from the population based survey in 1998 to a school-based national survey in 2002, life time and current alcohol use more than doubled among adolescents within the four year period, while the 2005 South African national HIV prevalence, Behaviour and Communication Survey (SABSSM II) survey shows a decline in life time and current alcohol use among adolescents. Regarding life time and current alcohol use among adults, this seemed to have remained stable for the adult population (see Table 2).

Current (past month) alcohol use has been about 30% (40% among men and 16% among women), which is lower than those reported for other developing countries, e.g. Namibia (men 61%, women 47%), Mexico (men 77%, women 44%), and Thailand (men 77%, women 46%) (Room et al. 2002).

Binge Drinking

Measures on assessing binge drinking differed in the different samples, it seems, however, that binge drinking among youth (15-24 years) increased slightly from 29% of current drinkers in 1998 (DHS) to 31% of current drinkers in 2005 (SABSSM II). Among adults binge drinking was

Table 1: National surveys included in review

<i>Author</i>	<i>Year</i>	<i>Acronym</i>	<i>Scope</i>	<i>Sampling</i>	<i>Sample size/age</i>
Department of Health (1998) and Parry et al. (2005)	1998	DHS (Demographic and Health Survey)	Tobacco, Alcohol	National household survey, multi-stage stratified sampling	N=13826/15 yrs and above
Reddy et al. (2003).	2002	YRBS (Youth Risk and Behaviour Survey)	Substance use	National school survey	N=10699/13-19 yrs
CASE (2006)	2003	WHS (World Health Survey)	Alcohol, Tobacco	National household survey, multi-stage stratified sampling	2351/18 years and above
Shisana et al. (2005)	2004	HSRC (Human Sciences Research Council	Substance use	National educator survey	N=20626/20 yrs and above
Shisana et al. (2005)	2005	SABSSM II (South African national HIV , prevalence Behaviour and Communication Survey)	Substance use	National household survey, multi-stage stratified sampling	N=23236/15 yrs and above

Table 2: Alcohol drinking status by age and sex in percent

<i>Life time</i>	<i>1998 (DHS)</i>		<i>2005 (SABSSM II)[WHS 2003]</i>		<i>2002 YRBS</i>	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
Initiation age <13 yrs					15.8	9.0
15-19	25.3	15.0	21.3	11.9	56.1	43.5
20-24			47.7	18.7		
15-24	35.5	15.9	32.4	15.4		
25-34	65.7	24.5	52.3	19.9		
35-44	71.9	29.4	58.3	22.4		
45-54	72.7	31.6	60.5	26.9		
55-64	67.2	29.8	54.3	27.3		
65+	65.3	33.4	42.0	19.0		
Total	58.1	25.7	45.7 [43.1]	20.6 [17.3]		
Overall total	40.3		30.0		49.1	
<i>Current use</i>	<i>Past month</i>		<i>Past month [Past week]</i>		<i>Past month</i>	
15-19	25.3	14.7	17.2	8.4	38.5	26.4
20-24			42.0	14.6		
15-24	23.3	8.5	27.6	11.6		
25-34	51.7	15.6	45.2	13.9		
35-44	58.9	20.9	49.7	17.4		
45-54	60.0	23.4	53.2	22.5		
55-64	54.2	20.5	46.4	20.8		
65+	45.7	20.3	34.9	14.4		
Total	44.6	16.9	39.2 [41.3]	15.7[16.7]		
Overall total	28.0		24.5 [29.9]		31.8	

relatively high reported for women (32.4%) in 1998 (DHS) compared to 20.6% among female current drinkers in the 2005 (SABSSM II) survey (see Table 3).

Hazardous or Harmful Alcohol Use

Among youth (15-24 years) problem drinking with the CAGE (Cut down, Annoyed, Guilty, Eye-opener) assessment measure was 17% among men

and 6% among women in 1998 (DHS). Hazardous or harmful drinking assessed with the AUDIT (Alcohol Use Disorder Identification Test) measure was 10% among men and 2% among women in the same age group in 2005 (SABSSM II). Among adults, 17% were problem drinkers (assessed with the CAGE) in 1998, 6% (assessed with the AUDIT) in 2005 and 5% (assessed with the AUDIT) among a large representative sample of educators in 2004 (see Table 4).

Table 3: Alcohol consumption risk status (binge drinking) by age and sex

	<i>1998 (DHS)</i>		<i>2005 (SABSSM II)</i>		<i>Various studies</i>		
	<i>Risky drinking weekends (from current drinkers)¹</i>		<i>Past month binge drinking=overall (from current drinkers)²</i>		<i>Past month binge drinking</i>		
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	
15-19	6.0 (27.3)	4.0 (24.1)	4.8 (28.0)	1.7 (19.9)	29.3	17.9	2002 YRBS (n=10699)
20-24			16.0 (38.3)	4.0 (27.3)	23.0		
15-24	(28.7)	(30.0)	9.5 (34.6)	2.8 (24.7)			
Total 15-24	(29.0)		5.7 (31.0)				
25-34	(36.7)	(33.1)	19.5 (42.8)	3.6 (25.7)			
35-44	(38.6)	(31.7)	21.2 (42.7)	3.2 (18.2)			
45-54	(31.4)	(35.2)	16.0 (29.8)	4.5 (19.6)			
55-64	(26.4)	(30.6)	17.9 (38.4)	3.6 (17.3)			
65+	(20.9)	(29.6)	6.9 (19.7)	1.9 (13.3)			
Total	14.6 (32.8)	5.4 (32.4)	14.3 (36.3)	3.2 (20.6)	17.9	3.9	WHS 2003 (18 years and over)
Overall total	9.2		7.4		10.8		

1=defined for males as drinking 5 or more drinks and women 3 or more drinks per day

2=defined for males as drinking 5 or more drinks and women 4 or more drinks in past month

Table 4: Alcohol consumption risk status (hazardous or harmful drinking) by age and sex in percent

	1998 (DHS) CAGE ¹		2005 (SABSSM II) AUDIT		Educators 2004 AUDIT ⁴	
	Men	Women	Men	Women	Men	Women
15-19			0.5 ² (4.8) ³	0.2 ² (1.3) ³		
15-24	17.3	5.8	0.9 (9.8)	0.6 (2.3)		
20-24			1.5 (16.7)	0.9 (3.3)		
25-34	34.9	9.7	1.7 (17.2)	0.2 (2.1)	16.6	0.9
35-44	37.9	12.1	2.6 (17.3)	0.4 (2.5)	15.9	0.6
45-54	31.2	13.3	0.8 (14.4)	0.4 (2.5)	12.5	0.8
55-64	27.5	9.5	1.0 (13.9)	0.1 (2.0)	9.7	0.1
65+	22.6	12.0	0.2 (3.9)	0.2 (1.6)		
Total	27.6	9.9	1.2 (12.7)	0.4 (2.2)		
		17.2		0.6 (6.2)		5.3

1=alcohol dependent: two or more on the CAGE; 2=probable alcohol dependence: 20 and above on AUDIT;
3= 8 and above on AUDIT hazardous or harmful drinking; 4=hazardous and harmful drinking: 8 and above on AUDIT

Binge Drinking by Geolocality, Province, Race and Formal Education

Higher binge drinking levels were found in urban than rural areas among men in SABSSM II (2005) (17% and 11% respectively) and women (4% and 2% respectively) and the WHS (12% and 9% respectively). However, among current drinkers higher levels of binge drinkers were found among rural than urban women in both DHS (1998) (39% and 29% respectively) and SABSSM II (2005) (26% and 19% respectively). Regarding men, rural men had higher levels of binge drinking among current drinkers (38%) than urban men (30%) in the DHS (1998), while in SABSSM II (2005) more urban (37%) than rural men (34%) among current drinkers were binge drinkers.

According to the province, in SABSSM II the highest rates of binge drinkers among men were in the Western Cape (24%), followed by North West (20%), Gauteng (16%) and Free State (15%) Provinces. According to the racial group, in SABSSM II binge drinking among men was highest among Coloureds (23%), followed by Whites (16%), Black African (13%) and Indian or Asian (7%). However, among male current drinkers the highest levels of binge drinking were found among Coloureds (41%) and Black Africans (41%) as opposed to Whites (25%) and Indian or Asians (18%). Regarding educational level, in both the DHS 1998 and SABSSM II 2005 lower levels of education were associated with higher levels of binge drinking among current drinkers (see Table 5).

Assessing hazardous and harmful drinking rates, in SABSSM II 2005 hazardous and harmful

drinking were both for men and women, and pregnant women higher in urban than in rural areas, while in the DHS 1998 probable alcohol dependence were equally distributed between urban and rural areas. Provinces with high levels of hazardous or harmful drinking in 2005 included Western Cape (13.8%), North West (10.6%), Northern Cape (8.9%), and Gauteng (7.3%). Hazardous or harmful drinking levels among pregnant women were the highest in the Northern Cape (24.9%), followed by the Eastern Cape (2.5%), and North West (2.1%). Among the different racial groups, Coloureds had the highest rates of hazardous or harmful drinking, followed by Whites and Black African. Among pregnant women the highest level of hazardous or harmful drinking was found among Coloured women (11.6%) and Black African women (1.6%). While the 1999 (DHS) survey showed that increasing educational levels the rates of hazardous or harmful drinking decreased, there was not such a relationship in the 2005 (SABSSM II) survey (see Table 6). Past month alcohol use among pregnant women was found to be 7% in 1998 (DHS, 15-49 years) and increased to 12.9% in 2005 (SABSSM II, 18 years and above, n=3089).

Bradley et al. (1998) found that using traditional cut points, the CAGE (≥ 2) missed 47% of patients with heavy drinking or active alcohol abuse or dependence, and the AUDIT (≥ 8) missed 45%. Using lower cut points, however, the CAGE (≥ 1) had sensitivities of 77%, and the AUDIT (≥ 4) also had a sensitivity of 87%. For identification of patients with either heavy drinking, and/or active alcohol abuse or dependence in the past year, the AUDIT performed significantly better than the CAGE.

Table 5: Alcohol consumption risk status (binge drinking) by geolocality, province, race, formal education and sex

	1998 DHS <i>Risky drinking weekends from current drinkers¹ (15 yrs and above)</i>		2005 SABSSM II <i>Past month binge drinking= overall (from current drinkers) (15 yrs and above)</i>		2003 WHS <i>Past week binge drinking (18 yrs and above)</i>
	Men	Women	Men	Women	Men and women
Urban	29.8	29.0	16.8 (37.2)	4.2 (19.1)	12.2
Rural	37.9	39.0	10.5 (34.4)	2.0 (26.0)	8.5
<i>Province</i>					
Western Cape	33.2	29.6	24.0 (39.7)	9.5 (24.3)	
Eeastern Cape	30.9	33.0	7.1 (28.6)	1.9 (19.3)	
Northern Cape	36.7	47.6	11.9 (25.6)	5.2 (25.8)	
Free State	27.2	29.4	14.9 (43.7)	2.1 (21.5)	
KwaZulu-Natal	31.2	36.2	13.6 (41.7)	1.7 (18.6)	
North-West	42.2	42.1	20.4 (49.8)	4.6 (30.7)	
Gauteng	23.3	21.9	16.0 (32.1)	4.4 (17.7)	
Mpumalanga	48.5	46.5	9.6 (27.7)	1.2 (8.0)	
Limpopo	40.6	45.4	8.4 (29.5)	0.9 (18.1)	
<i>Race</i>					
Black African	35.6	41.9	12.9 (41.0)	1.9 (24.0)	
Coloured	39.0	34.0	22.7 (41.3)	9.8 (32.7)	
White	17.6	13.7	16.1 (24.5)	6.5 (12.7)	
Indian/Asian	5.5	0.0	6.7 (17.7)	0.9 (7.4)	
<i>Education</i>					
No education	36.0	38.2	15.5 (38.0)	3.4 (25.6)	
Sub A-Std 3	40.2	44.7	18.4 (42.0)	4.2 (40.3)	
Std 4-Std 5	43.0	44.9	11.4 (38.4)	3.6 (29.7)	
Std 6- Std 9	30.0	31.9	10.9 (34.9)	2.2 (20.8)	
Std 10	23.4	17.8	18.8 (39.0)	3.9 (17.3)	
Higher	23.5	12.7	16.1 (29.4)	4.4 (12.4)	

¹—defined for males as drinking 5 or more drinks and women 3 or more drinks per day

Self-administered screening questionnaires can identify more than 80% of patients with heavy drinking, or active alcohol abuse or dependence, using lower cut points than have been traditionally recommended. One or more points on the CAGE, or 4 or more points on the AUDIT, should therefore be considered a positive screen and lead to further evaluation (Bradley et al. 1998). This could mean that rates of hazardous or harmful drinking identified here using traditional cut points could be still much higher considering lower cut points as suggested.

Alcohol Use among Different Sub-populations

Adolescents: Current use of alcohol among various samples among adolescents assessed from 1993 to 2006 found a range of current alcohol use from 21.5% to 62%, likewise binge drinking ranged from 14% to 40%, while hazardous or harmful drinking was only assessed in one sample where 19% was found (see Table 7).

University Students: Studies with university students in South Africa found from 22 to 80%

current alcohol use, between 6% to 43% past month binge drinking and between 17.1% to 58% hazardous or harmful drinking (see Table 8).

Arrestees/Prisoners: In 1996, a national survey of 1,440 incarcerated male prisoners and 163 prisoners serving their sentences under supervision within their community found that 42.4% of respondents reported drinking at risky levels (defined as an average of 10cl of absolute alcohol per day) prior to or at the time of their most recent offence (Rocha-Silva and Stahmer, 1996).

Mine Employees and Farm Workers: Pick et al. (2003) found among mine employees (n=1671) that 9.3% used alcohol daily and that assessed with the CAGE 15.3% were alcohol dependent.

London (2000) found among farm workers (n=247) working in the fruit growing Western Cape that 87% were potentially alcohol dependent (CAGE score: 2 or more).

Clinic Populations: Bekker and Van Velden (2003) found among patients (n=618) attending a defence force clinic in Cape Town that 13.3% reported to be engaged in hazardous or harmful

Table 6: Alcohol consumption risk status (hazardous and harmful drinking) by geolocality, province, race, formal education and sex

	15 yrs and above		1998 DHS		2005 SABSSM II	
	Men	Women	Men	Women	Total	Being pregnant (n=894)
	CAGE ¹		AUDIT		(6.2)	(2.5)
Urban	27.4	10.3	1.5 ² (15.0) ³	0.4 (3.0)	(7.8)	(4.1)
Rural	27.9	9.2	0.8 (9.2)	0.3 (1.3)	(4.0)	(0.6)
<i>Province</i>						
Western Cape	27.6	11.7	2.2 (25.0)	1.1 (6.3)	(13.8)	(4.6)
Eastern Cape	33.7	10.9	0.5 (5.0)	.0 (0.9)	(2.2)	(2.5)
Northern Cape	38.6	18.5	1.0 (13.1)	1.4 (6.5)	(8.9)	(24.9)
Free State	34.4	11.9	1.4 (14.4)	0.1 (1.2)	(6.4)	(0.0)
KwaZulu-Natal	22.5	6.9	1.5 (10.7)	0.3 (1.3)	(4.6)	(0.3)
North-West	24.8	11.5	2.5 (20.8)	0.7 (3.6)	(10.6)	(2.1)
Gauteng	23.7	10.4	0.9 (12.8)	0.4 (3.0)	(7.3)	(1.3)
Mpumalanga	38.2	11.5	0.9 (7.7)	0.2 (0.6)	(3.6)	(0.0)
Limpopo	23.7	28.3	0.3 (6.8)	0.1 (0.7)	(2.7)	(0.0)
<i>Race</i>						
Black African	29.4	9.6	1.2 (11.3)	0.3 (1.6)	(5.1)	(1.6)
Coloured	33.6	18.4	2.1 (25.7)	0.1 (7.9)	(15.1)	(11.6)
White	9.9	6.1	1.2 (11.5)	1.3 (2.1)	(5.9)	(0.0)
Indian or Asian	20.1	1.7	0.1 (4.1)	.0 (0.4)	(2.0)	(0.0)
<i>Education</i>						
No education	33.4	16.9	0.7 (11.7)	0.2 (2.3)	(5.0)	(0.0)
Sub A-Std 3	35.4	13.1	1.3 (18.9)	1.2 (3.6)	(9.3)	(4.7)
Std 4-Std 5	32.0	11.2	1.2 (12.6)	0.4 (2.7)	(6.3)	(0.0)
Std 6- Std 9	25.7	7.6	1.5 (10.6)	0.4 (2.2)	(5.5)	(4.4)
Std 10	22.3	6.5	1.3 (14.2)	0.1 (1.5)	(6.1)	(0.7)
Higher	17.7	4.9	0.8 (14.5)	.0 (2.2)	(7.6)	(0.0)

1=alcohol dependent: two or more on the CAGE; 2=probable alcohol dependence: 20 and above on AUDIT; 3=8 and above on AUDIT hazardous or harmful drinking;

drinking (AUDIT 8 and above). Peltzer (2006) found among rural primary care out-patients (n=600) that 19.2% (Males 37.4%; Females 10.7%) reported to be engaged in hazardous or harmful drinking (AUDIT 8 and above). Strebel, Stacey and Msomi (1999) investigated psychiatric hospital patient records (n=7938) in Cape Town and found that alcohol abuse among 6.3% of women and 15.1% of men.

Burden of Alcohol

Fetal Alcohol Syndrome: Levels of fetal alcohol syndrome (FAS) in South Africa are the highest ever recorded. In research conducted in the Western Cape (Wellington, a wine growing region), the prevalence of FAS among grade 1 students was found to be 41–46 per 1000 in 1997, rising to 65–74 per 1000 in 1999 (May et al. 2000). Viljoen (2001) reported similar rate in a non-wine growing region in Gauteng (10 per 1000 among first-grade children, when FAS and deferred diagnoses were combined, the median prevalence was 26.5 per 1000 children. Further, Viljoen et al.

(2005) reported yet a higher rate of FAS among first-grade school children (55.2-74.2 per 1000 children) in a wine growing region in the Western Cape.

Crime: A study among arrestees was carried out in Cape Town, Durban and Johannesburg in three phases between 1999 and 2000 (Parry et al. 2004b). The main focus of the study was the link between drug use and crime, but arrestees in the three cities were also asked whether they were under the influence of alcohol at the time that the alleged crime took place. Overall, for 15% of the alleged crimes, arrestees indicated that they were under the influence of alcohol at the time the alleged offence took place. Regarding violent offences, arrestees indicated that they were under the influence of alcohol for 25% of weapons-related offences, 22% of rapes, 17% of murders, 14% of assault cases and 10% of robberies. Levels of alcohol-related crime were particularly high for family violence offences at 49%. Arrestees also indicated that they were often under the influence of alcohol in cases involving property offences, for example, 22% of cases involving house-

Table 7: Overview of surveys with adolescents on alcohol use

Author	Year/Institution	N	Current alcohol use (%)			Past month binge drinking (%)			Risky drinking (%) (AUDIT 8 or more)		
			M	F	Total	M	F	Total	M	F	Total
Flisher et al (1993)	1990/Secondary schools, Cape Town	7340			26			15			
Flisher et al. (2003)	1997/Secondary schools CapeTown	2779	39	25	31	37	19				
Bhana et al. (1999)	1998/Secondary schools Durban	3030				53	29				
Terblanche and Venter (1999)	1999/Secondary schools Port Elizabeth	2334				58	43				
Visser and Moleko (1999)	Primary schools, Pretoria	460			27			14			
Morejele et al. (2000)	Female school leavers, Cape Town	221			40			25			
Peltzer et al. (1999b)	Urban secondary schools	191			35						
Peltzer et al. (1999a)	Rural secondary schools	209	37	14	26						
Neser et al. (2001)	Secondary schools, Pretoria	2003			62			40			
Madu and Matla (2003)	Secondary schools, Polokwane	435			39						
Taylor et al. (2003)	Secondary schools, KwaZulu-Natal	1318			212						
Parry et al. (2004a)	Community, Cape Town	90			28			26			
Peltzer et al. (2006)	Community survey	800	25	19	22	24	13	19			
Betancourt and Herrera (2006)	Urban secondary schools	1424			31			14	14	4	19

breaking and 12% of cases involving the theft of a motor vehicle. When asked why they consumed alcohol or other drugs in relation to crimes, many arrestees indicated they consumed these substances in order to give them courage to commit the crimes (Parry et al. 2004b).

Alcohol Related Injury

Turning to non-fatal injuries, in 2001 39% of trauma patients in Cape Town, Durban and Port Elizabeth had breath alcohol concentrations (BrACs) greater than or equal to 0.05g/100 ml [43]. Levels of alcohol positivity were particularly high for persons injured as a result of violence (73% for Port Elizabeth, 61% for Cape Town and 43% for Durban). In the early 1990's the Medical Research Council (MRC) conducted studies of persons receiving services for traumatic injuries at a wide variety of facilities in the Cape Metropole, and it was reported that 70% of domestic violence cases were alcohol related (Peden 2006).

Alcohol Related Death

The burden of alcohol related mortality and trauma is extremely high, with just under half of all non-natural deaths in 2002 having blood alcohol concentrations greater than or equal to 0.05 g/100 ml and up to two-thirds of all cases tested annually at trauma units in three cities between 1999 and 2001 having breath-alcohol concentrations above that level (Matzopoulos et al. 2003). While levels of alcohol-related mortality remained stable over that 3-year period, levels of alcohol-related trauma fluctuated (Parry 2005).

Alcohol related transport, homicide and suicide death and elevated Blood Alcohol Concentration (BAC) has been over 50% for homicide and transport related death and for suicide between 30% to 40% in the past five years (see Figure 1).

Alcohol and HIV

Both qualitative and quantitative studies

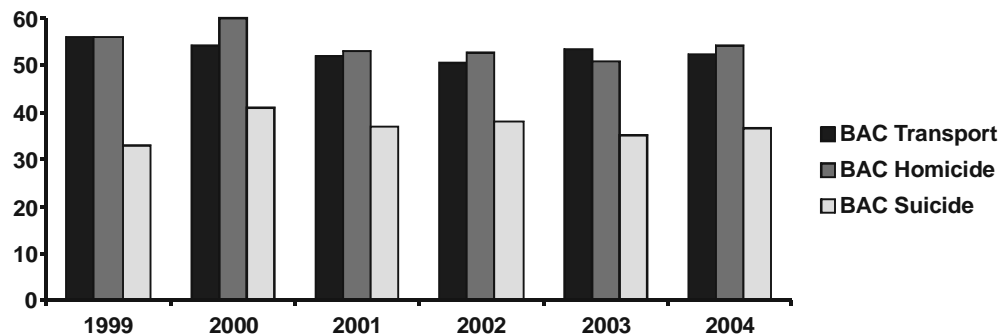


Fig. 1. Transport, homicide and suicide related deaths and elevated Blood Alcohol Concentration (BAC)
Source: National Injury Mortality Surveillance System (Medical Research Council)

conducted among adolescents and young adults in Gauteng Province between 2002 and 2003 point to strong links between drinking and engagement in sexual risk behaviours (Matzopoulos et al. 2003).

Furthermore, almost one in five HIV patients studied at a large infectious disease clinic in Cape Town in 2003 met criteria for an alcohol use disorder. These patients were more likely to have symptomatic HIV infection (Olley et al. 2005).

Specifically, alcohol use frequency, quantities consumed and problem drinking are associated significantly with the number of sexual partners a person has had and engagement in sex that was later regretted (Morojele et al. 2004a,b, 2006).

Based on data from SABSSM II (Shisana et al. 2006), HIV positive persons were more likely hazardous or harmful drinkers and binge drinkers

than HIV negative persons. Hazardous or harmful drinking and binge drinking were related with having more than one regular and with having irregular partners but they were not associated with unprotected first or last sex (see Table 9).

Alcohol Production

Based on production figures, there does not appear to have been any significant increase in overall alcohol consumption between 1994 and 2004 (Parry 2005), but other changes have occurred, including a steady increase in per capita consumption of alcoholic fruit beverages and spirit coolers, and a decline in sorghum (traditional African) beer consumption. There was also an increase in consumption of natural wine,

Table 8: Overview of surveys with university students on alcohol use

Author	Year/Institution	N	Current alcohol use (%)			Past month binge drinking (%)			Risky drinking (%) (AUDIT 8 or more)		
			M	F	Total	M	F	Total	M	F	Total
Plüddeman et al. (1999)	University of Stellenbosch	543	84	79		30.5			56.5	40	
Peltzer (2000)	University of Limpopo	801									29.6
Meyer (2001)	University of Stellenbosch	540	50	38	42.0	34	12	19.4			
Marais et al. (2002)	Free State University	88			80.4			43.2	33.3	18.6	28.3
Peltzer (2003)	University of Limpopo										
Peltzer et al. (2002)		799	28.4	15	22.2	28	12	20	26.1	6.1	17.1
Peltzer et al. (2005)	25 Higher Education Institutions	1056	73.2	48.4	58.0	10.0	3.5	6.0	28.6	11.3	17.4
Mhlanga (2006)	University of Limpopo	200			56			43			58

brandy and vodka, but then a decline in recent years to a level lower than in 1994. Malt beer consumption showed a similar trend, but more recently has shown an increase to above 1994 levels (Parry 2005).

It has been estimated that the per capita consumption of alcohol in South Africa is between 10.3 and 12.4 litres, with the higher level reflecting the amount including homebrewed alcohol (WHO 2002). However, in interpreting per capita consumption it is important to remember that countries also differ in terms of the proportion of the population who drink and who abstain from alcohol. According to the World Health Organization (WHO 2002), 45% of men and 70% of women in Afro Region E (which includes countries like Ethiopia and South Africa) abstain from drinking alcohol. Therefore, while consumption per adult is only 7.1 litres of pure alcohol per year in this region, consumption per drinker is 16.7 litres per year (Rehm et al. 2003). It has been estimated that per capita consumption amongst drinkers in South Africa is likely to be even higher than the regional average (Parry and Dewing 2006).

This gives South Africa one of the highest levels of alcohol consumption per drinker anywhere in the world, putting it at a similar level as

countries such as the UK and the Ukraine (Rehm et al. 2004). Countries also differ in terms of hazardous patterns of drinking. The WHO study ranked countries on a four point scale in terms of whether the pattern of drinking was hazardous or not. Although

Western Europe has among the highest levels of per capita alcohol consumption in the world, it has one of the least hazardous patterns of drinking (see Table 10).

Hazardous patterns of drinking are indicated by the level of the population drinking first thing in the morning, drinking to intoxication, drinking apart from meals, etc. South Africa falls into that group of countries exhibiting the most hazardous pattern of drinking (Parry 2005; Rehm et al. 2003). This is not unexpected given the findings of research on both adults and young people in the country. For example, according to the 1998 South African Demographic and Health Survey, between a quarter and a third of drinkers drink at risky levels over weekends, and drinking to intoxication is common (Parry et al. 2005). With regard to young people, 29% of males and 18% of females between grades 8 and 11 were found in the 2002 National Youth Risk Behaviour Survey to report past month binge drinking (Reddy et al. 2003).

Table 9: HIV status and substance use

	<i>N</i>	<i>%</i>	<i>HIV positive %; 95% CI</i>	<i>>1 regular partner%; 95% CI</i>	<i>Irregular partner%; 95% CI</i>	<i>Unprotected first sex%; 95% CI</i>	<i>Unprotected last sex%; 95% CI</i>
Hazardous or harmful drinking	1082	6.6	14.6 [11.3,18.7]	15.3 [11.6,20.8]	16.1 [11.6-21.9]	80.3 [76.0,84.0]	43.0 [37.0,49.3]
No hazardous or harmful drinking	15316	93.4	9.4 [7.5,11.7]	5.6 [4.2,7.6]	5.2 [3.8-7.0]	76.0 [73.1,78.8]	54.6 [49.9,59.3]
Binge drinking (past month)	1260	7.7	13.0 [10.4,16.1]	10.6 [8.1,13.8]	11.4 [8.6,14.9]	78.9 [75.7,81.8]	50.0 [45.5,54.6]
No binge drinking	16398	92.3	9.0 [6.9,11.6]	6.4 [4.6,8.9]	5.3 [3.7,7.6]	76.0 [72.4,79.3]	51.9 [46.1,57.6]

Table 10: Per capita alcohol consumption (In litres absolute alcohol) in the population aged 15 years and over, selected countries, 1986 to 2003/4

	<i>1986 Litres</i>	<i>1991 [1990] Litres</i>	<i>1996 Litres</i>	<i>2000/1 Litres</i>	<i>2003 [2004] Litres</i>
Uganda		13.5*		19.5*	19.5
Greece				8.0	9.3
USA		[9.3]		6.7	8.5 [8.4]
Nigeria		6.6*		10.4*	10.0
South Africa	7.5	7.3 (14.2)*	7.8	4.7 (7.8)*	7.8
Japan		[8.0]		6.5	7.4 [7.6]
China				4.0	

*Consumption data estimated from production data.

Source: World Advertising Research Center, *World Drink Trends 2005*. (NTC Publications, 2005; Obot, 2006; OECD, 2006)

CONCLUSION

The proportion of the population consuming alcohol in South Africa is low as compared to other countries, however, many of those who drink appear to engage in risky drinking regularly. They are thus at risk for developing alcohol problems. The negative effect of excessive alcohol-related problems seem to be high in terms of trauma, violence, crime, unsafe sexual practices, injuries to the brain of the developing fetus, etc. There is a need to develop and implement a comprehensive strategy to curb the misuse of alcohol in South Africa (Parry et al. 2005). Further, a national house-hold survey on drug use and health (including treatment need) for persons 12 years and above is suggested every three years to monitor trends in alcohol use.

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