

**Prevalence and perception of alcohol use in a rural community in South Africa:  
a pre-intervention survey**

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**Abstract**

The aim of the study was to assess the prevalence and perception of alcohol use in a rural community in South Africa and to correlate this with socio-demographic characteristics, knowledge and risk perception of alcohol use. The sample included 801, 385 men (48.1%) and 416 women (51.9%), in the age range from 15 to 60 years, and a mean ( $M=32.8$ ,  $SD=15.0$ ), selected by multi-cluster sampling. Results indicate using a cut-off score of 8 for the AUDIT that 27% of all men and 6.4% of all women were found to be problem drinkers. Men had significantly higher AUDIT scores than women. For men lower risk perception and less religious involvement and for women lower risk perception, higher daily drinking limits and less religious involvement were major predictors for higher AUDIT scores. Community perceptions on alcohol use found that alcoholics can be successfully treat, that no clear distinction between risky and alcoholic drinking was made, accepting attitudes towards health advise on drinking alcohol, interventions by sellers and servers of alcoholic beverages. Results are discussed in view of community interventions of harmful and hazardous alcohol use.

**Introduction**

South Africans consume well over 5 billion litres of alcoholic beverage per year. The figure could be nearer to 6 billion litres, depending on one's estimate of the amount of sorghum beer consumed. Roughly two-thirds of the absolute alcohol consumed in South Africa is malt or sorghum beer. In terms of alcoholic beverage this translates to roughly 4.2 billion litres or roughly 90% of the alcoholic beverage consumed. Roughly 15% of the absolute alcohol consumed is wine (Myers & Parry 2002). Adult per capita consumption of absolute alcohol in South Africa is between 9 and 10 litres per year, which places the country among the higher alcohol consuming nations. Since 1993 the level of per capita adult absolute alcohol consumption appears to be rising, after a decrease in 1990 and 1991 (Myers & Parry 2002).

Based on the findings of the Department of Health's South African Demographic and Health Survey (SADHS) conducted in 1998 by the Medical Research Council (1998), just under half of men (45%) and one-fifth of women (17%) 15 years and older report that they currently consume alcohol.

For both sexes, the rate is 28%, which translates to 8.3 million South Africans 15 years or older. For both men and women the highest levels of current alcohol use were recorded among persons in the 35-44 and 45-54 year age groups, and the lowest levels in the 15-24 year group. Risky drinking was defined as drinking five or more standard drinks per day for men and three or more drinks per day for women. While communal drinking is often also risky, respondents who reported communal drinking were not classified as 'risky drinkers'. Rates of risky drinking for males and females were very similar and were roughly 4-5 times greater at weekends than on weekdays, with one-third of current drinkers drinking at risky levels over weekends. For both males and females, risky drinking at weekends appears to be highest among persons in the middle categories for age (35-44 years for males and 45-54 years for females). Seven percent of pregnant women acknowledged current drinking (Medical Research Council, 1998).

Classen (1999) found in a rural South African community in the North West Province using the CAGE questionnaire that the prevalence of alcohol dependence was 56%. The 'positive' CAGE (two or more affirmative replies) showed a sensitivity of 100% and a specificity of 78% for alcohol dependence. Siegfried, Parry, Morojele and Wason (2001) found in a population-based rural survey in Lesotho using the CAGE that 36% of men and 9% of women were classified as hazardous drinkers defined as drinking 350g (males) or 225g (females) of alcohol/week. Many

researchers fail to recognize that the CAGE reflects lifetime drinking problems, rather than recent alcohol consumption, and is more sensitive to alcohol dependence than to less severe drinking disorders (Fiellin, Reid & O'Connor, 2000).

Knowledge of the prevalence and perception of alcohol use in a community should form the foundation for planning and implementing intervention programmes in that community.

## **Method**

### *Study area*

The study was carried out in one section of the Makhado local municipality with a population of about 200000 in Vhembe district located in the northern region of the Limpopo Province in South Africa. The area is rural and characterised by small-scale farming (Statistics South Africa, 2003).

### *Design*

A representative household survey was conducted in 2003. A three-stage cluster sampling method was used for the villages (area, village and household) using census data from 2001 (Statistics South Africa, 2003). The three-stage cluster sampling was applied to select 810 households randomly choosing them with probability-proportional-to-size from seven areas and 16 villages. In each household, one person (16 years above) (using the birth day method) (man or woman) was randomly selected and interviewed. Participants were surveyed through an interview-administered questionnaire. Nine questionnaires were incomplete and disregarded.

### *Sample*

The sample included 801, 385 men (48.1%) and 416 women (51.9%), in the age range from 16 to 60 years, and a mean ( $M=32.8$ ,  $SD=15.0$ ). The two major ethnic groups were 549 (68.5%) Tsonga and 237 (29.6%) Venda, and other 15 (1.8%). The mean years of formal education were 9.3 ( $SD=4.4$ ). Most participants were single (48.4%), 41.4% were married, 6.6% widowed and 3.5% separated divorced. Regarding self-rated economic family background, most (39.9%) rated themselves as quite poor, followed by not very well off (33.5%), quite well-off (15.0%), and wealthy (1.7%).

The religious denomination were for most Born Again Christians (23.3%), followed by African/traditional (19.0%), Zion Christian Church (18.5%), no religion (18.4%), Apostolic (12.6%), Christian (Protestant)(4.1%), and Christian (Roman Catholic) (1.2%.)

### *Procedure*

Five interviewers were recruited from the study area. The interviewers were fluent in English and Tsonga or Venda, had secondary school education, and were aged 18 to 30 years. They underwent a 2-day training programme designed to standardize the questionnaire and data collection procedure. This training was based on focus group discussions, plenary session courses and simulations, and working in twos.

The English version of the questionnaire was first translated into Tsonga and Venda, the predominant local languages, and then independently translated back into English. Differences between the original and second English version were carefully examined and corrected.

The purpose of the survey was explained to the participants, including the risks and benefits, as well as the measures to ensure confidentiality. The participants gave verbal consent to the interview. To ensure confidentiality, no identifiers were recorded on the respondent questionnaire. The Human Ethics Committee of the University of the North approved the study.

After informed consent was obtained from the participant, questionnaires were all interview-administered in Tsonga or Venda at a private place in or around the participant's home.

Great attention was paid to ensuring a non-judgmental attitude of the interviewers and total confidentiality. The supervisor of each team in the village reviewed the questionnaires daily where the interviews had taken place. The interviewer returning to the interviewee corrected major errors.

### *Measures*

For assessing the prevalence and severity of alcohol use the *Alcohol Use Disorders Identification Test* (AUDIT) (10 items) (Babor et al. 2001a) was used. The AUDIT was adapted to the South African context (e.g. defining a standard drink) and translated into the two major target languages according to

scientific standard procedures. Cronbach alpha coefficient for the AUDIT was .76 for this sample.

*Knowledge of alcohol use* (11 items). Cronbach alpha coefficient for this scale was .66 for this sample.

*Lifestyle risk perception* was asked for six lifestyles, e.g. tobacco use, with “In your opinion, what level of harm can be (how much do you fear the damage) caused to your health by the following lifestyle risks? (rated from 1=low level of harm to 7=high level of harm). *Perceptions on risky drinking* were asked with three items on “safe” limits, low and high risk levels of alcohol use for men and for women.

*Attitudes towards alcoholism* were measured by seven items, e.g. “Do you think the term “sick person” applies to the alcoholic?” The first two questions had a Yes or No response format. The other five items included response categories from 1=strongly agree to 4=strongly disagree. These categories were collapsed for analysis to “agree” versus “disagree.” (Blum, Roman & Bennett, 1989). Cronbach alpha coefficient for the scale was .68 for this sample.

Questions on perceptions on health advise on drinking alcohol and whether they had received such a health advise (2 items), and community attitudes towards advertising, serving and selling of alcoholic beverages (7 items).

Further, questions on socio-biographic data and religious involvement (3 items) were included.

## Results

Results indicate using a cut-off score of 8 for the AUDIT that 27% of all men and 6.4% of all women were found to be problem drinkers. Men had significantly higher AUDIT scores than women (see Table 1).

Table 1: Alcohol use

	Total	Men	Women	
	Col%	Col%	Col%	
Abstainers (0)	68.4	55.4	80.7	
Low-risk drinkers (1-7)	15.3	18.5	12.1	
High-risk drinkers (8-19)	11.0	22.2	5.0	
Probable alcohol dependence (20+)	3.3	4.8	1.4	
Mean (SD) total AUDIT score	3.0 (6.2)	4.5 (6.9)	1.7 (4.9)	t=6.62***

\*\*\*p<.001, \*\*p<.01, \*p<.05

Participants had moderate knowledge on alcohol use. The majority (more than 90%) recognized that in order to “risking alcoholism, it is better to abstain from alcohol”. However, most also felt that risky drinkers should stop drinking alcohol, and most did not distinguish between risky drinking and alcoholism. In fact about half endorsed that there is no such thing as moderate drinking. Interestingly, majority of the participants felt that drinking beer is better drinking wine. There were no sex differences regarding knowledge of alcohol use (see Table 2).

Table 2: Knowledge of alcohol use in correct answers in percent by gender

	Men	Women	X <sup>2</sup>
	Col%	Col%	
1. It is possible to drink wine in moderation (T)	29.1	27.3	2.85
2. It is possible to drink other alcoholic drinks in moderation (T)	30.2	22.7	8.46*
3. There is no such thing as moderate drinking (F)	49.6	48.9	1.07
4. Risky drinking is the same as alcoholism (F)	19.2	15.9	6.17*
5. To avoid risking alcoholism, it is better to abstain from alcohol (T)	91.0	94.9	17.52***
6. Risky drinkers should stop drinking alcohol (F)	8.8	6.4	2.50
7. There is no such thing as risky drinking (F)	76.1	68.3	8.38*
8. Drinking wine is better than drinking other alcoholic drinks. (T)	25.1	27.1	3.24
9. Drinking beer is better than drinking wine (F)	66.0	78.8	16.21***
10. Drinking about 500cc of good wine a day during meals can be good for an healthy adult (F)	71.6	72.8	2.74
11. Drinking 2-3 units of wine a day when not eating can lead in a healthy adult to alcoholism (T)	66.3	62.4	3.10
Total score: M (SD)	5.36 (1.3)	5.24 (1.4)	t=1.22

(T)=True, (F)=False indicated correct answers

\*\*\*p<.001, \*\*p<.01, \*p<.05

Risk perception of alcohol use was assessed in the context of other lifestyle-related risk behaviour and perceptions of risky drinking. The highest level of harm or fear of harm caused to health were rated by participants as high blood pressure, high cholesterol, and tobacco use, and the lowest obesity, alcoholic drinks other than wine and wine (see Table 3).

Table 3: Lifestyle risk perception

	In your opinion, what <u>level of harm</u> can be caused to your health by the following lifestyle risks? (rated from 1=low level of harm to 7=high level of harm)	In general, how much do you fear the damage to your health that could be caused by the following risk factors? (rated from 1=Not at all to 7=A lot)
	M (SD)	M (SD)
Tobacco use	6.4 (1.5)	6.5 (1.5)
Drinking wine	6.1 (1.8)	6.2 (1.6)
Other alcoholic drinks	6.1 (1.8)	6.1 (1.8)
High cholesterol	6.4 (1.3)	6.5 (1.2)
High blood pressure	6.6 (1.2)	6.7 (0.9)
Obesity	6.0 (1.8)	6.1 (1.8)

Participants rated as “safe” daily limits for drinking alcohol levels (2 drinks for men and 1 drink for women), which are lower than the South African guidelines (no more than 3 drinks a day for men and 2 drinks for women, and two drinking free days a week) (SANCA, in Wolmarans, Langenhoven & Faber, 1992) (see Table 4).

Table 4: Perceptions on risky drinking by gender

	Men	Women	<i>t</i>
	M(SD)	M(SD)	
1. What are the “safe” daily limits for drinking alcohol (health adult, male)	2.3 (1.8)	1.8 (1.8)	3.46***
2. What are the “safe” daily limits for drinking alcohol (health adult, female)	1.1 (1.4)	0.9(1.4)	1.37
3. Number of drinks with low health risk for adult man	3.5 (2.5)	1.9 (1.7)	2.95**
4. Number of drinks with low health risk for adult women	1.4 (2.0)	1.0 (1.2)	1.16
5. Number of drinks with high health risk for adult men	9.7 (14.0)	5.5 (3.3)	2.09*
6. Number of drinks with high health risk for adult women	4.1 (3.3)	3.4 (2.8)	1.19

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Regression analyses

Stepwise linear regression analyses were conducted for men and women separately including age, formal education, self-rated economic background, alcohol knowledge, religious involvement, alcohol use risk perception and safe daily drinking limits as predictors for AUDIT scores. For men lower risk perception and less religious involvement were found as major predictors for higher AUDIT scores, and for women lower risk perception, higher daily drinking limits and less religious involvement were major predictors for higher AUDIT scores (see Table 5).

Table 5: Regression analyses of independent variables with AUDIT scores by gender

Dependent: AUDIT score

Independent variables	Men <i>Beta</i>	Women <i>Beta</i>
Age	-.02*	ns
Years of education	ns	-.09*
Economic status	ns	ns
Alcohol knowledge	ns	.09*
Religious score	-.27***	-.14**
Risk perception	-.44***	-.38***
Safe daily drinking limits	ns	.27***
Adjusted R square	.31	.33

\*\*\*p<.001, \*\*p<.01, \*p<.05

### *Perceptions about alcoholism*

Regarding public images of alcoholism four-fifth of the participants felt that alcoholism can be successfully treated, and two-thirds indicated that alcoholics need to be helped by others to quit drinking. However, half thought that the term “sick person” does not apply to an alcoholic, an alcoholic should not be viewed and treated as a person who is ill, and 44% felt that the term “morally weak” applies to an alcoholic and 55% that they should be held responsible for being an alcoholic (Table 6).

Table 6: Attitudes towards alcoholism

	Yes(%)
1. Do you think the term “sick person” applies to the alcoholic?	50.0
2. Do you think the term "morally weak" applies to the alcoholic?	56.1
3. A person should not be held responsible for being an alcoholic.	44.9



4. Alcoholics cannot quit drinking by themselves and must be helped by others.	67.3
5. An alcoholic should be viewed and treated as a person who is ill.	49.1
6. Alcoholism can be successfully treated.	81.5
7. An alcoholic should be viewed and treated as someone who is a criminal.	13.0

*Health advise of drinking alcohol*

Participants were asked to rate from 1=I wouldn't like it at all to 7=I would like it very much on "How do you feel about your doctor or nurse asking about your drinking behaviour?" Women rated with M=6.6 (SD=2.1) and men M=5.8 (SD=2.0) indicating that most do not mind not be asked about their drinking behaviour. Men were less favourable than women about being asked on their drinking behaviour. Eighteen percent of men and 10% of women indicated that they had ever been advised on the health risks of drinking alcohol by a doctor or nurse (see Table 7).

Table 7: Advise on health risks of drinking alcohol by gender

	Men	Women
Have you ever been advised on the health risks of drinking alcohol by your <u>doctor or nurse?</u>	Col%	Col%
Never	82.2	90.0
Over a year ago	12.6	7.0
During the past year	5.2	3.0

\*\*\*p<.001, \*\*p<.01, \*p<.05

*Community attitudes towards advertising, serving and selling of alcoholic beverages*

Two-thirds of the participants were of the opinion that advertising about alcohol should be stopped. Three-quarters felt that servers of alcoholic beverages should be allowed to advise customers on their drinking and that prices for alcoholic beverages should be increased to reduce drinking. The legal age for drinking alcoholic beverages in South Africa is 18 years. Participants indicated that on average the legal age for people to be allowed to drink should be 20 years. More women (72%) than men (53%) felt that selling alcohol should be controlled by checking ID cards for legal drinking age (see Table 8).

Table 8: Frequency of affirmative responses by gender in percent on alcohol attitudes

	Men	Women	X <sup>2</sup>
	%	%	
Prices for alcoholic beverages should be increased to reduce drinking.	70.7	78.0	.75
Selling alcohol should be controlled by checking ID cards for legal drinking age.	53.4	72.0	3.92*
Servers of alcoholic beverages should be allowed to advise customers on their drinking.	74.1	76.0	.05
Servers of alcoholic beverages should be allowed to stop serving further alcoholic drinks to a customer after four drinks.	63.8	69.4	.37
Advertising about alcohol should be stopped.	62.1	68.0	.41
What should be the legal age for people to be allowed to drink? M (SD)	20.0 (2.1)	20.3 (2.3)	t= -.67

## Discussion

Alcohol use in this rural South African community (27% of all men and 6.4% of all women were found to be problem drinkers) compares with other studies using the AUDIT, by lower overall prevalence rates of alcohol use disorder, 7.9%, with 14.5% prevalence among men and 2.4% among women, in a population-based study in Brazil (Mendoza-Sassi & Beria, 2003), and higher problem drinking, 86.5% of all men and 7.5% of all women among a Venezuelan Native American community sample (Seale, Alvarado, Vogel & Terry (2002).

Regarding public images of alcoholism, this study found that half thought that an alcoholic should not be viewed and treated as ill and sick, and 44% felt that the term “morally weak” applies to an alcoholic and 55% that they should be held responsible for being an alcoholic. While in a study by Blum, Roman and Bennett (1989) conducted on public images of alcoholism in the US, it was found that even 78% felt that alcoholics should be held responsible for being an alcoholic, and on the other hand that they should be viewed and treated as ill (89%) and sick (76%). Community health education should further emphasis on the treatability of alcoholics.

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