

Alcohol-Related Traumatic Deaths in Transki Region, South Africa

**Dr. B L Meel MBBS, MD, DHSM (Natal), DOH (Wits), Dip HIV/AIDS
(Stellenbousch)**

**Department of Forensic Medicine, Faculty of Health Sciences, University of
Transkei, South Africa**

(Received 04 December 2005 and accepted 12 December 2005)

ABSTRACT: This is a retrospective descriptive study on 105 trauma related deaths. Interviews of the family members were conducted individually before carrying out the autopsies at Umtata General Hospital (UGH). The cause of death was recorded along with the age, and personal habits such as alcohol, and tobacco smoking. This is the referral hospital for a surrounding population of about 400,000. The purpose of this study is to estimate the prevalence of alcohol among victims of traumatic deaths in the Transkei region.

One hundred and five trauma victims were studied. Motor vehicle accidents caused deaths of 34(32%), fatal gunshot injuries 25(24%), stab injuries 18(17%), blunt trauma 10(9%), and miscellaneous 19(18%). Majority of the victims, 71(68%) were under 40 years of age. In 52(49.5%) there was a history of alcohol consumption. Eighteen were between 21 and 30 years, 11 were between 31 to 40 years. Half were smokers. Twenty nine percent were laborers with low level of education. The alcohol related traumatic deaths are high in the Transkei region. There is a need to control alcohol.

KEY WORDS: Trauma, Deaths, Alcohol

INTRODUCTION:

Alcohol is a socially accepted drink for partying, entertainment, bonding, and confidence boosting. Often alcohol abuse leads to drunkenness and violence. A strategy to reduce the crime and violence is to reduce the availability of alcohol¹. World Health Organization (WHO) estimates that there are about 2 billion people who consume alcoholic beverages and 76.3 million with diagnosed alcohol use disorders.

Every day around the world, almost 16,000 people die from injuries. For every person that dies, several thousands more are injured, many of them with permanent sequelae of injuries².

One in four deaths of European men in the group aged 15-29 years is related to alcohol. In parts of Eastern Europe, the figure is as high as one in three³.

South Africans consume well over 6 billion litres of alcohol beverages per year. The prevalence of misuse is likely to be as much as 30% among certain groups. Binge drinking among young people, especially males, is high. A high level of alcohol misuse has been reported among residents of disadvantaged communities. Adult per capita consumption of absolute alcohol in South Africa is between 9 and 10 liters per year which places the country among the higher alcohol consumption nations⁴.

Corresponding Author: Dr B L Meel, Professor and Head, Department of Forensic Medicine, Faculty of Health Sciences, University of Transkei P/Bag X1 Unitra, Umtata 5100 South Africa. E-mail: meel@getafix.utr.ac.za

Alcohol abuse is estimated to cost South Africa in an excess of R9 billion per year. Excise duties on alcoholic beverages were approximately R4.2 billion in 2003/4. The social costs of alcohol-related trauma and accidents in South Africa far exceed the revenue collected. Intoxication is a major factor behind a high percentage of motor vehicle-related injuries and incidents of interpersonal violence⁵. Alcohol remains the substance most commonly abused by injured patients in Cape Town⁶.

The misuse and abuse of alcohol is widespread in South African society and likely to have a large impact on the economy. A major burden is borne by the hospital care system; in particular the cost of alcohol-related trauma⁷. There has been an association between intoxication and both violent crime and suicide attempts. One hundred and four subjects (39%) had criminal convictions, the majority of which were committed while the subjects were intoxicated. The commonest alcohol-related crimes were driving related (17%) and crimes of violence (15%). Male gender and younger age at initiation of drinking, and earlier onset of problem drinking was significantly associated with criminal behavior⁸. Alcohol and cannabis are commonly misused by trauma patients in Johannesburg; the degree of misuse of other drugs appears to be low. Intoxication is a significant risk factor for violence and accidents and the resultant injuries are massive burden on our society. Doctors have the responsibility to highlight the association between substance misuse and trauma and should also attempt to persuade individual trauma patients to reduce future alcohol consumption⁹.

In a recent study from Cape Town, 60% of trauma patients showed positivity to alcohol levels on breath analysis, 28% could be classified as problem drinkers, or possible chronic alcoholics, on the basis of questionnaires and, on urine analysis, 40% of patients were found to have used at least one illicit drug in the recent past⁶.

In South Africa, 76% of all deaths after interpersonal violence have been shown to be alcohol related¹⁰. Alcohol and other forms of substance abuse are also major associated factors in the high trauma rates on South Africa's roads.

Seven percent of drivers with illegal blood alcohol levels account for nearly 30% of non-fatal and 47% of fatal driver deaths¹⁰, but injury to drunken pedestrians show even greater alcohol relatedness, as pedestrian accidents account for 72% of adult traffic deaths¹¹. There is hardly any statistics available on alcohol related traumatic deaths in Transkei area. There is a very high rate of (162 per 100,000 population) violent and/or traumatic deaths in Transkei¹². The purpose of this study was to estimate the prevalence of alcohol related traumatic deaths.

METHODOLOGY:

This is a descriptive study covering a period of two years (1997-98) carried out at Umtata General Hospital (UGH) mortuary. The latter is located in the hospital premises, the teaching hospital of the University Of Transkei Medical School in Eastern Cape Province of South Africa. The hospital mortuary provides services to Umtata and Nqeleni magisterial areas serving a population of about 400,000 and carries out about a thousand autopsies per year. This is the only medico legal center in this area.

The information of 105 victims of trauma deaths was gathered by directly interviewing relatives who were present at autopsy. Information was collected on Tuesdays and Thursdays only. The demographic data, cause of death, and their personal habits such as smoking and alcohol consumption were recorded. The data were compiled and analyzed by Epi-Info 6.4 computer program.

RESULTS:

The causes of deaths of all were motor vehicle accidents (MVA) 32%, gunshot 24%, stab injury 17%, blunt trauma 9%, and miscellaneous 18% (**Figure 1**). Out of 105 victims 71(68%) were less than 40years of age (**Table 1 & Figure 2**). A history of alcohol consumption was found in 49.5%. Eighteen of the alcoholic group (17.1%) were between 21 and 30 years of age and 11(10.5%) were between 31 and 40 years (**Figure 3**). Most 28(29.1%) were laborers (**Figure 4 & Table 2**). Fifty four (51.4%) were smokers.

Table 1. Alcoholic vs. Non-alcoholic victims of traumatic deaths (n= 105).

Age groups	Alcoholic	Non-alcoholic	Total
<10 yrs	0 (0.0%)	6 (5.7%)	6 (6%)
11 to 20 yrs	5 (4.7%)	13 (12.3%)	18 (17%)
21 to 30 yrs	18 (17.1%)	10 (9.5%)	28 (27%)
31 to 40 yrs	11 (10.5%)	8 (7.6%)	19 (18%)
41 to 50 yrs	8 (7.6%)	8 (7.6%)	16 (15%)
51 to 60 yrs	7 (6.7%)	2 (1.9%)	9 (9%)
60+ yrs	3 (2.9%)	5 (4.7%)	8 (8%)
Total	52 (49.5%)	53 (50.5%)	105 (100%)

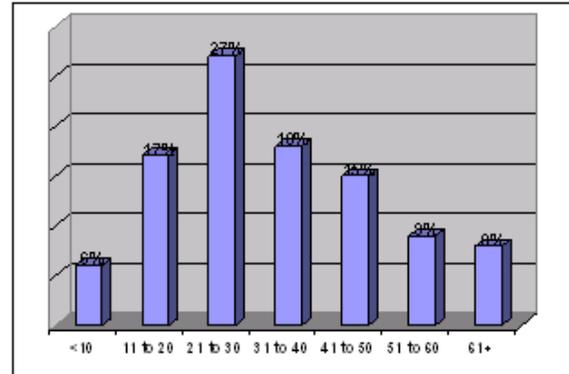


Figure 2. Age groups in the study population (n=105).

Table 2. Occupation of victims of trauma (n=96).

Category of occupation	No. of victims	percentage
General labourers	28	29.1%
Civil servants	16	16.6%
Domestic workers	6	6.2%
Learners	24	25%
Miscellaneous	22	22.9%
Total	96	100%

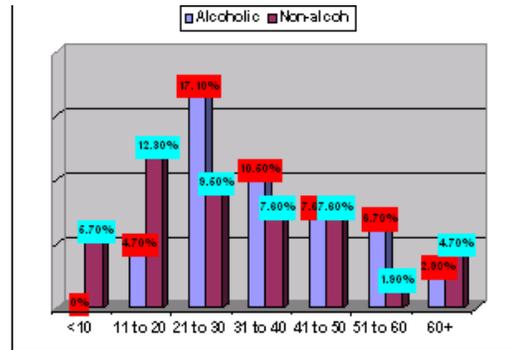


Figure 3. Alcoholic vs. Non-alcoholic in different age groups (n=105).

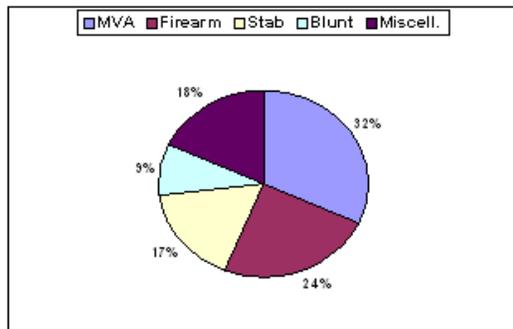


Figure 1. Pattern of traumatic deaths (n=105).

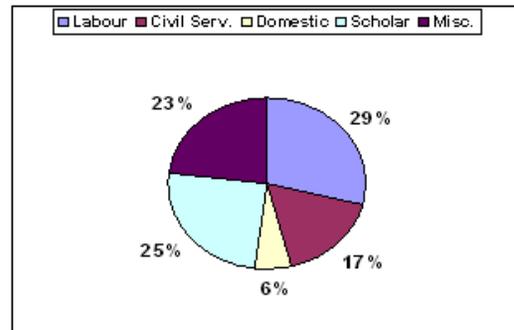


Figure 4. Occupation of the victims of Trauma (n=105).

DISCUSSION:

Trauma is the leading cause of death in the Transkei region of South Africa, one of the least developed parts of the country, and violence contributes substantially to these traumatic deaths. The unusually high level of crime in this area is a reflection of massive unemployment poverty, and a low level of education. The commonest cause of death in this study is MVA (32%), firearm injuries (24%), stab wounds (24%), and blunt trauma (9%) (Figure 1). The observed rate of violent and/or traumatic deaths

in Transkei region of South Africa from 1993 to 1999 is 2.4 times higher than in Cape Town, and that of homicidal deaths is 1.3 times higher¹². Alcohol misuse is one of the most significant public health problems in South Africa today¹³. The family members who were interviewed confirmed that about half the victims were under the influence of alcohol at the time of the assault (Table 1). Alcohol and traumatic deaths is a major concern in many studies. A study carried out by Peden in 2000 in South Africa, showed that alcohol remains the most commonly abused

substance among trauma patients⁶. Alcohol-related crime is increasingly being recognized as a problem in cities and towns with popular entertainment districts¹⁴. Alcohol has found to play a major role in commission of murder in Soweto, in that in 48% of the cases either both or one of the parties was under the influence of alcohol¹⁵. Another South African study showed that the majority of traumatic deaths were associated with positive alcohol levels in the victims¹⁶. Unfortunately, from 1993 the level of per capita adult absolute alcohol consumption appears to be rising, after a decrease in 1990 and 1991⁴. Alcohol misuse also impacts on the criminal justice system, with evidence of association between drinking at risky levels, committing crime, or being a victim of crime¹⁷. The role of alcohol misuse has always been inextricably entwined with crime; the nature of the relationship is not a simplistic one. To assume that the relationship is causal is to oversimplify the issue, as other factors associated with the murder will be negated. Alcohol is but one, albeit an important, link in the over all chain of causative factors¹⁸.

There are only very few studies carried out in South Africa, a country where the incidence rates of crime and alcohol abuse are unacceptably high. There was an association between crime and suicide⁸. The victims were predominantly male (4:1), and under 40 years (68%) in this study (Figure 2). The findings were similar to those in the National Injury Mortality Survey System report¹⁹. The victims of traumatic death in this study were typically young male, a finding in line with what has been reported from most studies¹.

There were 28 in the 21 to 30 year age group of whom 18 were alcoholic (Figure 3). Thus alcohol could be contributory to violence by young people. Youth violence deeply harms not only its victims, but also their families, friends and communities. Its effects are seen not only in death, illness and disability, but also in terms of the quality of life¹. Twenty four of the victims were under 20 years of age. Of them 5 were supposed to have consumed alcohol and were in the 11 to 20 year age group (Figure 3). Binge drinking, and especially male binge drinking, among 18 to 24 years olds is statistically related to offending behavior. In the 12 months prior to interview, 39% of binge drinkers admitted to committing an offence and 60% admitted criminal behavior during or after drinking alcohol¹⁴. In a survey of 1378 African young persons aged 10-21 years from urban and rural

areas of South Africa, Rocha Silva et al found that 11.3% of urban and 19.6% of rural males consumed on an average almost five, 340ml beers per day²⁰. Levels of binge drinking are clearly higher in the drop-out males than school going, and it is high in Xhosa speaking⁷.

Alcohol is associated with violent crime at a greater than chance level and at a significantly higher level than it is associated with nonviolent crime. Heavy drinking and a verbal argument usually precede the violent act and the victim as likely as the offender, to initiate an altercation. When intoxicated a simple altercation may turn up violent²¹. The link between alcohol and violence is also culturally dependent, and exists only in settings where the collective expectation is that drinking causes or excuses certain behaviors²². In South Africa, for example, men speak of using alcohol in a premeditated way to gain the courage to give their partners the beatings they feel are socially expected of them²³. There were 28 labourers among the victims, with a low level of education (Table 2 & Figure 4). Alcohol consumption is prevalent in all class of societies. Numerous studies have indicated that consumption of alcohol in small to moderate amounts every week can reduce ischemic strokes²⁴. The cost-benefit on health by consumption of alcohol is not assessed, and probably it will cause more harm than good. Public should also be aware of the long term consequences. Many studies have shown that alcohol abuse is a leading cause of morbidity and mortality throughout the world, causing acute and chronic liver disease. One in 10 patients with liver cirrhosis results from alcohol abuse²⁵. There were 54 victims who were confirmed smokers. Generally, two commonly used legal drugs, alcohol and tobacco smoke, are more frequently consumed than all other illegal drugs combined, with disastrous consequences of health²⁶. In middle age group, economically active men, the probability of premature deaths is high in sub-Saharan Africa. Among men, tobacco is responsible for one-third of all male deaths²⁷.

CONCLUSION:

South Africa has been carrying a triple burden of poverty, chronic diseases, and injuries, and now a fourth has been added due to HIV/AIDS pandemic¹². These conditions are interrelated. Alcohol is an underlying factor in this interrelationship, and to break this cycle the consumption of alcohol need to be reduced. The strategy recommended by WHO¹ to reduce the crime and violence, is to reduce the availability

of alcohol. This was compared in two experimental and four control towns, and it was observed that there was a decrease in offences in the experimental towns¹.

This study is limited in scope as the number of cases is small. However, it highlights the depth of the problem of alcoholism in relation to traumatic deaths in Transkei.

ACKNOWLEDGEMENT:

The author wishes to thank Dr. George Rupesinghe, Senior Specialist, Family Medicine, Umtata General Hospital, for the assistance given during the preparation of this manuscript.

REFERENCES:

1. World Health Organization (WHO). *World report on violence and health*. WHO, Geneva 2002.
2. World Health Organization (WHO). *Injury: A leading cause of the global burden of disease* 1999.
3. Press Release 2001 Alcohol-number-one killer of young men in Europe, Copenhagen & Stockholm. <http://www.who.int/inf-pr-001/01.html>.
4. Parry CDH. Substance abuse in South Africa. *Country report prepared for World Health Organization (WHO) focusing on young persons* 1998;1-26.
5. Sebastian van A. The taxing issue of alcohol abuse. *Science in Africa* 2004 <http://www.scienceinAfrica.co.za/2004/january/injuryfund.htm>
6. Peden M, van der Spuy J, Smith P, Bautz P. Substance abuse and trauma in Cape Town. *SAMJ* 2000;90(3):251-5.
7. Parry C, Tibbs J, van der Spuy J, Cummins G. Alcohol attributable fractions for trauma in South Africa. *Curationis* 1996;19(1):2-5.
8. Allan A, Roberts MC, Allan MM, Pienaar WP, Stein DJ. Intoxication, criminal offences and suicide attempts in a group of South African problem drinkers. *SAMJ* 2001;91(2):145-50.
9. Bowley DM, Rein P, Cherry R, Vellema J, Snyman T, Boffard KD. Substance abuse and major trauma in Johannesburg. *S Afr J Surg* 2004;42(1):7-10.
10. Van der Spuy JW. Trauma, alcohol and other substances. *S Afr Med J* 2000;90:244-6.
11. Van der Spuy JW. South African trauma data: some perspectives for planning. *Trauma Emerg. Med* 1996 June-July;13(1):7-10.
12. Meel BL. Incidence and pattern of traumatic and/or violent deaths between 1993 and 1999 in Transkei region of South Africa. *American Journal of trauma* 2004July;57(1):125-9.
13. Safety in Mines Research Advisory Committee (SIMRAC). Project report on Prevalence of alcohol and substance use, and reported knowledge, attitude and practice regarding its relationship with health and safety on mines South Africa 2003;1:1-85.
14. Richardson A, Budd T. Young adults, alcohol, crime and disorder. *Crim. Behav. Ment. Health* 2003;13(1):5-16.
15. Snyman HF. Prevention strategies for violent crimes in Soweto. Presented at: Conference in South Africa "Violence and possible solutions for peace in Soweto" 1992 June 11.
16. Goosen J. Blood alcohol levels in pre-hospital deaths due to trauma. University of Witwatersrand 2001. <http://www.wits.ac.za/trauma/5htm>.
17. Myers B, Parry C. Fact sheet: Alcohol use in South Africa-alcohol and drug abuse research group. Medical Research Council (MRC) 2003.
18. Walfish S, Blount WR. Alcohol and crime: issues and directions for future research. *Crime Justice Behav* 1989;16:370-386.
19. Butchart S. A profile of fatal injuries in South Africa 1999: First annual report of the NIMSS. National Injury Mortality Surveillance System (NIMSS). Medical Research Council, Cape Town, South Africa 2000.
20. Rocha-Silva L, de Miranda S, Erasmus R. Alcohol, tobacco and other drug use among black youth, Pretoria: HSRC1996.
21. Murdoch D, Pihl RO, Ross D. Alcohol and crimes of violence: present issues. *Int J Addict* 1990;25(9):1065-81.
22. Gelles R. Alcohol and other drugs are associated with violence-they are not its cause. In: Gelles RJ, Loseke DR, eds. *Current controversies on family violence*. Thousand Oaks, CA, sage 1990; 182-196.
23. Abrahams N, Jewekes R, Laubsher R. I do not believe in democracy in the home: men's relationships with and abuse of women. Tygerberg, Centre for epidemiological research in South Africa, Medical Research Council 1999.
24. Rose VL. Moderate alcohol consumption may lower risk of ischemic stroke.

- American Family Physician 1999.
http://www.findarticles.com/p/articles/mi_m3225/is_6_60/ai_56959136.
25. Worman HJ. Alcohol and Cirrhosis of Liver 2004.
<http://cpmcnet.columbia.edu/dept/gi/alcohol.html>
26. Meel BL. Prevalence of tobacco smoking in ex-mineworkers of the former republic of Transkei, South Africa. Tobacco Counters Health. Watch 2002. Macmillan (India) Ltd publishers 2002; 98-106.
27. Csepe P. Tobacco and alcohol policy development project in Hungary. Tobacco Counters Health. Watch 2002. Macmillan (India) Ltd publishers 2002;98-106.

Internet Journal of Medical Update
ISSN 1694-0423, <http://www.geocities.com/agnihotrimes>