

Fatalities by poisoning in the Mthatha area of South Africa

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To the editor: The global incidence of poisonings is not known. It is speculated that up to half a million people die each year as a result of various kinds of poisoning, including poisoning by natural toxins. The incidence of pesticide poisoning, which is high in developing countries, has doubled during the past 10 years.¹ Poisoning continues to be an important public health problem in the United States. In 1995, two million human poison exposures were reported to all poison centres.²

Data on mortality in Africa is inadequate. The death rate in South Africa is 9.4 per 1 000, so approximately 400 000 out of a population of 40 million die each year.³ About 20% of all deaths are due

to unnatural causes, excluding violence, accidents and self-inflicted deaths.³ Twenty per cent of 400 000 clearly suggests that 80 000 deaths per annum occur from unknown causes, possibly from traditional African medicine (TAM).⁴

The major cause of mortality, namely TAM, is responsible for 51.7% to 62% of deaths.⁵ In the case of many who die without reaching hospital, the relatives do not often admit to the ingestion of a traditional remedy.⁶ It is not possible to determine the true causes in all cases because the symptoms and signs of poisoning by herbs closely mirror the major causes of death in the South African black population.⁴

The leading cause of death from acute

poisoning in South Africa is from traditional medicines such as *muti*, which is responsible for 51.7% of deaths. Sangomas (traditional healers) provide basic health care to an estimated 80% of South Africa's 40 million people, most of whom cannot afford Western-style health care.⁷ Deaths related to poisoning appear to be increasing in this area of Mthatha. The purpose of this study is to highlight the problem in relation to the demographics of the area.

This is a record review of autopsies done at the Umtata (Mthatha) General Hospital mortuary between January 1993 and December 2005. This mortuary serves about 400 000 people and is attached to the Walter Sisulu University Medical School (formerly University of Transkei). All the autopsies were recorded in the post-mortem register. Records included names, addresses, age of the deceased, and the causes of death. All cases of poisoning are based on the history by the police and the next of kin. Results were analysed manually and are presented in the form of tables and figures.

There were 10 230 unnatural deaths between 1993 and 2004. Of these, 161 (1.6%) were due to poisoning. There was an increase in deaths from poisoning from 2.5% in 1993 to 13.7% in 2005 (see Table I and Figure 1). The highest rate (17.4%) was in 2001, and the lowest in 1993 and 1994. About two-thirds (66%) were males (see Figure 2). More than half (51.5%) were in the 11 to 30 year age group (see Table II and Figure 3).

This record review is the only inquiry into poison fatalities in this region of South Africa. It provides an important insight that justifies a comprehensive study of the subject. Poisoning-related deaths in Africa are grossly under investigated, and therefore underestimated.

Table I: Incidence of deaths due to poisoning (1993–2005) at Mthatha General Hospital, Mthatha, South Africa

Years	Male (%)	Female (%)	Total (%)
1993	3 (1.9%)	1 (0.6%)	4 (2.5%)
1994	1 (0.6%)	3 (1.9%)	4 (2.5%)
1995	2 (1.2%)	4 (2.5%)	6 (3.7%)
1996	2 (1.2%)	3 (1.9%)	5 (3.1%)
1997	6 (3.7%)	1 (0.6%)	7 (4.3%)
1998	11 (6.8%)	3 (1.9%)	14 (8.7%)
1999	9 (5.6%)	2 (1.2%)	11 (6.8%)
2000	10 (6.2%)	6 (3.7%)	16 (9.9%)
2001	18 (11.2%)	10 (6.2%)	28 (17.4%)
2002	12 (7.5%)	3 (1.9%)	15 (9.4%)
2003	7 (4.3%)	5 (3.1%)	12 (7.4%)
2004	14 (8.7%)	3 (1.9%)	17 (10.6%)
2005	15 (9.4%)	7 (4.3%)	22 (13.7%)
Total	110 (66%)	51 (34%)	161 (100%)

Table II: Male vs. female deaths due to poisoning (1993–2005) at Umtata General Hospital

Years	Male (%)	Female (%)	Total (%)
1 to 10	4 (2.5%)	2 (1.2%)	6 (3.7%)
11 to 20	19 (11.8%)	21 (13%)	40 (24.8%)
21 to 30	32 (19.9%)	11 (6.8%)	43 (26.7%)
31 to 40	22 (13.7%)	9 (5.6%)	31 (19.3%)
41 to 50	17 (10.6%)	4 (2.5%)	21 (13.1%)
51 to 60	7 (4.3%)	1 (0.6%)	8 (4.9%)
61 and above	9 (5.6%)	3 (1.9%)	12 (7.5%)
Total	110 (68.4%)	51 (31.6%)	161 (100%)

The mortality rate in developed countries is low in comparison to that in the developing world and intentional poisonings are rare. There were 10 230 unnatural deaths in the Mthatha area between 1993 and 2005. Of these, 161 (1.6%) were deaths due to poisoning. The National Injury Mortality Surveillance System (NIMSS) report showed that poisoning is not among the top 10 external causes of death in South Africa.⁸ In the Mthatha area, it is the eighth most common cause of unnatural death. The major cause of mortality was a result of traditional medicines (51.7%).⁵ The local Xhosa tribe that inhabits this area believes in the use of traditional medicines to cure their illnesses. The medicines are mainly herbal preparations. They are prescribed by *sangomas* or *izinyangas* – traditional healers from the African indigenous groups.⁹ Alcohol-related mortality is also very high in this area. Approximately 25% of all hospital admissions in South Africa are directly or indirectly related to alcohol use.¹⁰

There is little information on the effect of HIV/AIDS on people taking poisons to take their own lives. Poisoning-related deaths, however, have increased from 2.5% in 1993 to 13.7% in 2005 (see Table I and Figure 1). This is more than a five-fold increase over a period of 13 years. During the same period, the established prevalence of HIV infection in South Africa also increased from 14.2% (1996) to 24.5% (2000).¹¹

More males died as a result of poisoning (68.4%) than did women (see Figure 2). A similar observation was also reported at Ga-Rankuwa Hospital in Pretoria, South Africa, where 60% of fatalities were males.¹² The major problem area is poisoning with traditional medicines, which are mainly of plant origin. Primarily, it is difficult to make a firm diagnosis in these cases. The histories are vague and patients rarely disclose the source of the substances responsible. The fatalities with traditional medicine are as high as 87%.¹³ Traditional healers (herbalists) cannot be held responsible for selling these toxic herbs, as the new laws have recognised the herbalists. There are an estimated 200 000 traditional healers in South Africa. Witchcraft is a force to be reckoned with and protected against in the lives of many Southern African Bantu speakers. There undoubtedly are some individuals who wilfully perform antisocial acts with

the intention to harm people (like in any culture) and who thus can be considered guilty of witchcraft. The use of human body parts for *muti* by so-called traditional healers in South Africa is an example of the perverse corruption in the *muti* industry.¹⁴ There is no record of the type of poisoning in this study, but according to the histories a large number of people had taken herbs, organophosphates or carbon disulphide.

Most deaths (26.7%) occurred in the 21 to 30 age group (see Table II and Figure 3). The pattern of poisoning differs in different areas and is associated with cultural beliefs. The study showed that fatalities among males are twice as much as those among females. The emerging HIV infection and poor support system could be held responsible in several deaths, particularly in younger age groups. It is essential to have a better understanding of traditional medicine and a poison control centre needs to be provided. Clinical toxicology is still not acknowledged as a separate medical discipline in most countries, including South Africa.

There are an increasing number of fatalities due to poisoning in the Mthatha area of South Africa.

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