

## Unnatural deaths among children in the Transkei region of South Africa

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### ABSTRACT

Nearly 99% of the 10.9 million children worldwide under the age of five years who died in 2000 were from developing countries. This amounts to at least 29,000 deaths per day (UNICEF, 2005). This study aims to trace the pattern of unnatural deaths in the Transkei region of South Africa. It is a records review of the medico-legal autopsies carried out between 1996 and 2004 at Umtata General Hospital (UGH). All subjects aged 18 years or below were considered as children.

Between 1996-2004, 7,303 unnatural deaths were recorded. Of these, 1,449 (19.8%) were children. Trauma accounted for 1,028 (70.9%) child deaths and 421 (29.1%) were deaths related to other causes such as hanging, burns, lightning strike, drowning, gas suffocation, falls from a height and poisoning. Motor vehicle accidents accounted for 469 (45.6%) deaths and homicides for 553 (54.4%) deaths. The homicides were firearms injuries, 196 (19%), stab wounds, 185 (18%), and blunt trauma, 178 (17.3%). Non-traumatic deaths were hanging, 81 (19.2%), drowning, 166 (39.4%), lightning strike, 38 (9%), burns, 51 (12.1%), gas suffocation, 24 (5.7%), poisoning, 33 (8.4%) and falls from a height 28 (6.7%).

There is a high risk of unnatural death among children in the area of Mthatha. It threatens the survival of young children in this region of South Africa. Poverty is an underlying cause for these preventable deaths.

### INTRODUCTION

Every year, over a million and a half people die from preventable acts of violence: 800,000 suicides; 500,000 homicides and 300,000 war deaths (WHO, 2005). Injuries accounted for 9% of the world's deaths in 2000. More than 90% of such deaths occur in low-and middle-income countries. Worldwide, road traffic injuries are responsible for the highest injury mortality rates (WHO, 2002a).

Injury as a cause of death has increased among children (WHO, 2000). In many areas road accidents are the leading killers of young people, with more than 180,000 children worldwide under the age of 15 being killed every year (WHO, 2002b). In 2000, an estimated 199,000 youth murders took place; globally equivalent to 565 children and young people aged 10-29 years dying each day as a result of interpersonal violence. Rates for youth homicide vary considerably by region and by country but in the decade from 1985-1994, youth homicide rates increased in many parts of the world – a growth associated in many cases with more frequent use of guns as the method of attack (WHO, 2005).

Suicide is one of the leading causes of death worldwide and is an important public health problem. In 2000, an estimated 815,000 people killed themselves, roughly one death every 40 seconds (WHO, 2002c). In the same year, worldwide, an estimated 283,000 people died from falls. Approximately 50% of the total number of disability-adjusted life years (DALYs) lost globally from falls occurs in children under 15 years of age (WHO, 2002a). Although falls do not appear among the leading causes of death in the world, they are a major cause of injury in children aged 5-14 years (WHO, 2000). Children under five years of age also account for approximately 25% of drowning deaths and a little over 15% of fire-related deaths worldwide (WHO, 2002a).

The highest poisoning mortality rates are found in the male populations of the low-and middle-income countries in Europe. Over 60%

of the global mortality due to poisoning occurs among adolescents and adults aged between 15-59 years (WHO, 2002a).

Violent acts by young people are some of the most visible forms of violence. Fatal assaults involving young people contribute greatly to the global burden of premature deaths. Youth violence deeply harms not only its victims, but also their families, friends and communities (WHO, 2005).

In South Africa, every hour at least ten children under the age of five are dying from preventable conditions (Children Institute, 2007). Trauma and injury-related deaths continue to be the lead causes of death for older children (Bradshaw et al., 2003). The incidence of violent and/or traumatic deaths is high in the Transkei region of South Africa and constitutes a substantial public health problem that needs to be addressed. Young male subjects are the commonest victims of these deaths (Meel, 2004). A study by the author on mortality rates of children 15 years or below in 2003 showed that the majority (80%) of paediatric deaths were related to trauma, and a quarter of trauma-related deaths were due to murder after infliction of penetrating injuries. Blunt force accounted for another quarter of the traumatic deaths, again in murderous circumstances. The majority of trauma-related paediatric deaths were, however, the result of motor vehicle accidents (MVA) (Meel, 2003).

The purpose of this study is to highlight the problem of non-natural deaths among children in the area of Mthatha, and suggest some preventive solutions.

## METHODS

The study was a records review of unnatural deaths in Mthatha (Umtata) General Hospital mortuary between January 1996 and December 2004. All medico-legal autopsies were recorded in the post-mortem register. Records included name, address and age of the deceased, together with cause of death. The data of children aged 18 years or below was analyzed separately. They were divided into traumatic deaths (MVAs, firearm injuries, stab wounds and blunt force trauma) and other deaths such as hanging, drowning, lightning, burns, gas

suffocation, falls and poisoning. There is, however, overlapping of some traumatic injuries into the second category. The referrals were from Mthatha and some adjoining districts with a combined population of about 400,000.

## RESULTS

A total of 7,303 unnatural deaths were recorded between 1996 and 2004. Of these, 1,449 (19.8%) were children. Trauma accounted for 1,028 (70.9%) of children's deaths and 421 (29.1%) were related to other causes such as hanging, burns, lightning strike, drowning, gas suffocation, falls from a height and poisoning (Tables I and II).

Motor vehicle accidents accounted for 469 (45.6%) deaths and 553 (54.4%) were homicides. The homicides were firearms injuries 196 (19%), stab wounds 185 (18%), and blunt trauma 178 (17.3%) (Table I). Deaths related to non-trauma were hanging, 81 (19.2%), drowning, 166 (39.4%), lightning strike, 38 (9%), burns, 51 (12.1%), gas suffocation, 24 (5.7%), poisoning, 33 (8.4%) and falls from a height, 28 (6.7%) (Table II).

## DISCUSSION

There is a scarcity of literature on child unnatural deaths in South Africa. No single indicator or source of information is sufficient to describe the magnitude of the problem.

The public is not well informed because of powerlessness, fear, and/or stigmatization of the victims. The people in Transkei area are mainly migrant labourers. Poverty and unemployment are probably the major factors to be considered as possible causes of high levels of violence in the area (Meel, 2003).

The number and pattern of traumatic events varies within a country and between countries. South Africa is considered a violent country. Trauma is a major cause of death in children between five and 14 years (Plani and Boffard, 1999). A total of 7,303 unnatural deaths were recorded between 1996 and 2004 and of these 1,449 (19.8%) were children. This is one child death for every five adult deaths. Interestingly, over the seven-year period 1993 to 1999 unnatural child deaths accounted for only 10.6% of all deaths (Meel, 2003). This figure has almost doubled in the present survey (19.8%).

*Table I.* Traumatic deaths among children (<18 years) in the area of Mthatha (N=1028).

Years	MVAs (N=469)	Homicide			Homicide
		Firearms (N=196)	Stab (N=185)	Blunt trauma (N=178)	
1996	65 (6.3%)	19 (1.8%)	19 (1.8%)	23 (2.2%)	61 (5.9%)
1997	72 (7%)	26 (2.5%)	22 (2.1%)	24 (2.3%)	72 (7%)
1998	57 (5.5%)	20 (1.9%)	29 (2.8%)	27 (2.8%)	76 (7.4%)
1999	43 (4.2%)	33 (3.2%)	15 (1.5%)	18 (1.7%)	66 (6.4%)
2000	50 (4.9%)	26 (2.5%)	23 (2.2%)	15 (1.5%)	64 (6.2%)
2001	42 (4%)	21 (2%)	16 (1.6%)	17 (1.7%)	54 (5.3%)
2002	37 (3.6%)	14 (1.4%)	16 (1.6%)	17 (1.7%)	47 (4.6%)
2003	55 (5.4%)	26 (2.5%)	23 (2.2%)	14 (1.3%)	63 (6.1%)
2004	48 (4.7%)	11 (1%)	22 (2.1%)	17 (1.7%)	50 (4.9%)
Total	469 (45.6%)	196 (19%)	185 (18%)	178 (17.3%)	553 (54.4%)

*Table II.* Non-traumatic violent deaths among children in the area of Mthatha (N=421).

Years	Hanging	Drowning	Lightning	Burns	Suffocation	Poisoning	Fell
1996	5 (1.2%)	15 (3.6%)	4 (0.9%)	2 (0.5%)	2 (0.5%)	1 (0.2%)	0 (0%)
1997	5 (1.2%)	19 (4.5%)	1 (0.2)	5 (1.2%)	11 (2.6%)	1 (0.2%)	3 (0.7%)
1998	8 (1.9%)	16 (3.8%)	5 (1.2%)	6 (1.4%)	5 (1.2%)	5 (1.2%)	3 (0.7%)
1999	10 (2.3%)	14 (3.3%)	7 (1.6%)	4 (0.9%)	0 (0%)	5 (1.2%)	5 (1.2%)
2000	12 (2.8%)	17 (4%)	6 (1.4%)	3 (0.7%)	2 (0.5%)	3 (0.7%)	5 (1.2%)
2001	13 (3%)	16 (3.8%)	3 (0.7%)	8 (1.9%)	0 (0%)	7 (1.6%)	3 (0.7%)
2002	4 (0.9%)	22 (5.2%)	3 (0.7%)	8 (1.9%)	0 (0%)	3 (0.7%)	2 (0.5%)
2003	14 (3.3%)	18 (4.3%)	4 (0.9%)	10 (2.3%)	4 (0.9%)	6 (1.4%)	3 (0.7)
2004	10 (2.3%)	29 (6.9%)	5 (1.2%)	5 (1.2%)	0 (0%)	2 (0.5%)	4 (0.9%)
Total	81 (19.2%)	166 (39.4%)	38 (9%)	51 (12.1%)	24 (5.7%)	33 (7.8%)	28 (6.7%)

One reason for this difference is in the paediatric age groups. In the previous study, children were 15 years or below, while the present study includes children up to 18 years. Unnatural mortality increases with age, suggesting that more violence occurs in older children (Meel, 2003).

There were 1,028 (70.9%) child deaths due to trauma in this study (Table 1). This high number is a matter of concern. The government has proposed many health policy schemes for the children in Mthatha region but the importance of them is cancelled out by the high

rate of violence in the community. More than half, 553 (54.4%), of the children were victims of murder (Table I). For every homicide of a young one there are also 20-40 non-fatal cases which require hospitalization (WHO, 2004). Mthatha is a poverty stricken area in South Africa with poor infrastructure, high unemployment (49%) and poor health care services (Gilbert and Walker, 2002). Trauma is common among the poor and they are the victims as well as the perpetrators.

Firearm injuries killed 196 (19%) children over the nine-year period (1996-2004) (Table I).

This is the commonest method of homicide. Children are the unfortunate targets. It is not always possible to establish the motives for killing children. A recent study showed that the proportion of firearm injuries in Transkei increased from 18% in 1993 to 26% in 2004 (Meel, 2005). South Africa has one of the highest firearm-related homicide rates in the world, second only to Columbia. Police figures indicate that firearms are increasingly being used as murder weapons (Gun Control Alliance, 2005).

Stab wounds caused 185 (18%) deaths (Table I), and are the second commonest method of homicide. There is increasing use of alcohol among teenagers and young adults. More victims of sharp-force violence (72%) tested alcohol positive than other victims of violent deaths (Medical Research Council, 2004). Around 30% of 15-year olds get drunk at least once a month, or more often, and the harm caused by teenage alcohol drinking has increased in recent years. It is partly caused by intense alcohol advertising, low prices, infringement of the prohibition of alcohol sale to minors as well as an increasing adult acceptance of teenage drinking (PARPA, 2006). Xhosas traditionally carry a knife. This could be dangerous when an individual is intoxicated. Blunt force injuries are associated with 178 (17.3%) deaths in this study, whereas, in the fifth annual report of NIMSS, it was about 23.8% (Medical Research Council, 2004).

The present study, like the NIMSS study, shows that the most common cause of unnatural deaths among children was homicide, 553 (54.4%) followed by MVAs, 469 (45.6%) (Table I). Prevention of MVAs could go a long way to reducing mortality in children. One such measure would be the compulsory wearing of vehicle seatbelts by all passengers, including children. Education in schools about road rules could prevent MVA fatalities. Nonetheless, the attitude of motorists towards young children's safety also has to change.

There were 81 (19.2%) deaths from hanging (Table II). Sixty-four per cent of suicidal deaths recorded were in teens and young adults. The growing number of deaths in this age group is an urgent matter of concern. Financial hardship was the main reason identified in 87% of

victims of suicide (Meel, 2003). To break the vicious cycle of poverty and crime, education plays a key role. Granting free education to the poor may help to improve the situation.

Geographically, Transkei is in the summer rainfall region and an area where lightning strikes are common. There were 38 (9%) deaths from a lightning strike. The terrain is such that there are also many small lakes and drownings also occur as a result. There were 166 (39.4%) such deaths (Table II).

Burns and gas suffocation are associated risks in poor families, as they use wood or charcoal to keep their homes warm in winter. There were 51 (12.1%) deaths from burns and 24 (5.7%) deaths from gas suffocation (Table II). For every eight unnatural non-traumatic deaths of a child, there is one death as a result of burns. Poor children are the ones at greatest risk of sustaining burns. Accidental poisoning is also common as families have no safe places to keep poisons away from children.

In conclusion, there is a high risk of children's unnatural deaths in the Transkei region of South Africa. The majority of them died as a result of trauma. More than half the traumatic deaths were homicides, and about a quarter were suicides. Social factors such as low levels of education, unemployment, poverty and alcohol appear to be common contributors to the problem.

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