

Farm Injuries in the Western Cape – Findings from a hospital-based study

Hilton Donson and Sandra Marais
Crime Violence and Injury Lead programme
Medical Research Council and UNISA

Introduction

As is the case with data on non-fatal injuries nationally, there is a dearth of information surrounding injuries that occur in rural areas and particularly on farms.

The Rural Injury Surveillance Study (RISS) aimed to extend the Crime, Violence and Injury Programme's database to include accurate rural trauma data. RISS was conducted in 1999/2000 for a two-month period (one month in summer and one in winter), which included three rural areas namely Hermanus, Vredenburg and Worcester. Information from state as well as private hospitals was included. In addition, mortality data from the mortuaries in these three areas were also collected over the nine-month study period between 1 November 1999 and 31 July 2000.

The methodology that was followed is discussed in detail in another article in this edition (see article on p. 6).

Injury on farms

Table 1 shows the breakdown of fatal and non-fatal injuries by town. Most of the farm injuries (fatal and non-fatal) were recorded at Worcester mortuary and state hospital respectively.

	Hermanus		Vredenburg		Worcester		Total
	State	Private	State	Private	State	Private	
Non-fatal injuries	60	18	36	12	510	12	648
Fatal injuries	4		4		43		51

Morbidity Results

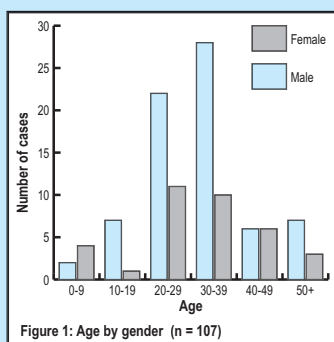
Of the 2997 patients included in RISS, 108 (3.6%) were injured on farms.

Demographics of the injured

(Please Note: Caution should be taken when interpreting the results because of the small sub-categories)

Of the cases studied on farms over the two-month period, two-thirds were male and one-third were female.

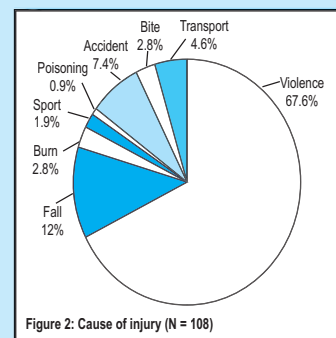
Injuries among men clustered between the ages 30 to 39 years while injuries among females clustered between the ages 20-39 years. This pattern is consistent with findings in national and international literature. The mean age for both genders was around 31 (± 13) years (Figure 1).



General cause of injury

Over two-thirds of all injuries were due to violence while only 12% and 7% were due to either falls or unintentional injuries (Figure 2).

Only four farm injuries were recorded as work-related injuries for the two-month period. This translates into 24 injuries annually (one due to an electrical burn and another three causes not recorded).

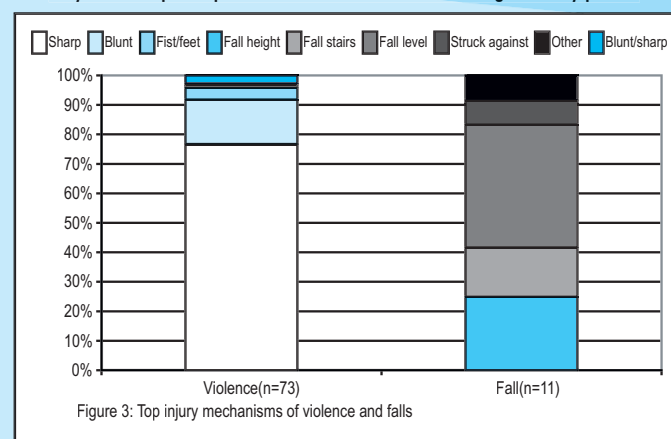


Mechanism of injury by general cause

Figure 3 outlines the specific causes for violence and fall-related injuries.

An overwhelming three-quarters of the violence-related injuries were inflicted with a sharp object such as a knife, followed by injuries due to blunt force (15%). Falls combined - in particular falls on a level - accounted for one-quarter of the unintentional injuries.

Only five transport injuries were recorded on farms during the study period.



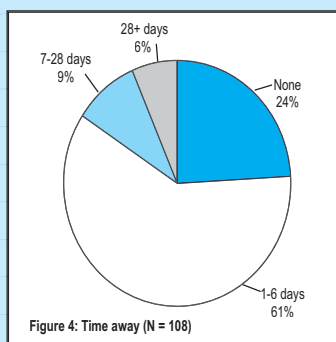
Alcohol-relatedness of injuries

Alcohol relatedness was assessed using self-report. Self-report was conducted by asking the patient whether he/she had consumed alcohol prior to the injury. Clinical judgment was used for unconscious or uncooperative patients.

Nearly 60% of all injuries on farms were alcohol-related. This proportion is higher than the one-third alcohol-relatedness of cases in the whole RISS study. Ninety per cent of violence cases were alcohol related. Only one of the five patients injured in transport collisions were alcohol positive.

Injury severity and time away

Nearly all (97.5%) of farm injuries were of relatively minor nature i.e. having an injury severity score (ISS) of less than 9 ($x=4.1$; $\pm SD=4.2$; Median = 4.0). However, three-quarters of patients were either incapacitated or were off work (Figure 4).



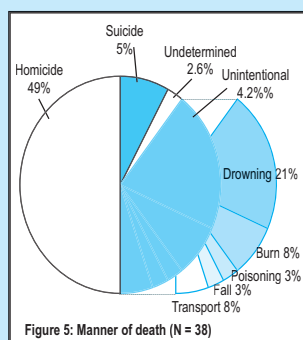
Mortality results

A total of 38 (8.9%) of the 429 deaths that occurred on farms and were recorded between 1 November 1999 and 31 July 2000 were obtained from the mortuaries in the three study areas namely Hermanus, Vredenburg and Worcester and entered into the RISS database. Again, caution should be taken when interpreting the results because of small sub categories.

Apparent manner of death

Figure 5 shows that the most common cause of death on farms was homicide, accounting for half of all non-natural deaths while unintentional injuries accounted for 42.1% and suicides for 5.3% of the deaths.

Two suicides were reported on farms during the nine-month study period.



Apparent manner of death by gender

Although male deaths accounted for nearly two-thirds of all non-natural deaths, the proportions of male and female homicides were similar. Unintentional injuries were more common among males than females. (Table II).

Table II: Manner of death by gender (n = 36)

	Homicide	Suicide	Unintentional	Undetermined	Total
Male	13(54.2)	1(4.2)	9(37.5)	1(4.2)	24(100)
Female	6(50.0)	1(8.3)	5(41.7)		12(100)
Ratio	2.2:1	1:1	1.8:1		2:1

Manner of death by age

Age was unknown in 2 (5.2%) of the 38 cases. Of the remaining 36 cases, the average age was 31.1 (+11.4) years. The highest number of all deaths was seen in the 30-39 year age category. Homicide was the leading manner of death in all but two age categories. Homicides clustered between the ages of 20-39 years while

unintentional injuries, including traffic collisions clustered between the ages of 30-39 years (Table III). Nearly half of the deaths on farms were due to wounds inflicted with a sharp and blunt and sharp object.

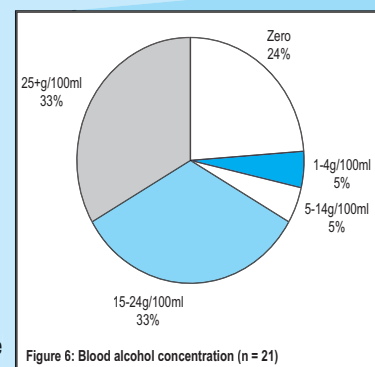
Table III: Manner of death by age (n = 36)

	Homicide	Suicide	Unintentional	Total
0-9			1(100)	1(100)
10-19	3(60.0)		2(40.0)	5(100)
20-29	5(71.4)	1(14.3)	1(14.3)	7(100)
30-39	7(46.7)	1(6.7)	7(46.7)	15(100)
40-49	3(42.9)		4(57.1)	7(100)
50+			1(100)	1(100)
Mean (+SD)	30.0(+ 9.5)	29.5(+10.6)	32.6(+13.9)	31.1(+11.4)

Blood alcohol levels

Blood alcohol concentration (BAC) levels were obtained in 21 (55.2%) of the 38 cases.

Twenty-four per cent of these cases had zero BAC levels while 76% tested positive for blood alcohol. Eighty-three per cent of those murdered were alcohol positive. Over 90% of those who tested positive had BAC levels at or above 0.05 g/100ml (Figure 7). The mean BAC level for those who tested positive was 0.24 + 0.09 g/100ml.



In summary, RISS found that:

- most of the non-fatal injuries occurred among young men
- two-thirds of non-fatal injuries were the result of violence
- most of the violence-related non-fatal injuries were inflicted with a sharp object
- nearly all violence-related non-fatal injuries were alcohol-related
- although nearly all injuries were minor of nature, three-quarters of the injured were off work or incapacitated.
- homicide was the most common cause of mortality on farms
- two in three deaths were male
- the proportions of male and female homicides were similar
- most of the deaths were alcohol positive; and
- of those fatal cases who tested positive for alcohol, nearly all were positive at or above the blood alcohol limit for drivers, i.e. their motor skills are affected.

We encourage readers, including organisations, wishing to submit contributions, to contact the Co-coordinating Editors:

Sandra Marais:
MRC, Cape Town, Tel: (021) 938- 0216,
E-mail: Sandra.marais@mrc.ac.za

Garth Stevens:
UNISA - ISHS, Johannesburg,
Tel: (011) 857-1142/3,
E-mail: steveg@unisa.ac.za

For more information on the Crime, Violence and Injury Lead Programme (CVI) you may go to the following web pages: www.unisa.ac.za/dept/ishs/ and www.mrc.ac.za/crime/crime. We have designed and posted a request for information form onto our webpages for those agencies and individuals wishing to source information from CVI.