PAPER| I

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Mortality of Women From Intimate Partner Violence in South Africa: A National Epidemiological Study

Naeemah Abrahams, MPH, PhD
Rachel Jewkes, MBSS, MSc, MFPHM, MD
Gender & Health Research Unit, Medical Research Council Cape Town, South Africa

Lorna J. Martin, MB, BSc, Dip For Med (SA), MMED, Path (Forens)
University of Cape Town

Shanaaz Mathews, BSoc (Sc), MPH
Gender & Health Research Unit, Medical Research Council Cape Town, South Africa

Lisa Vetten, HDip, AdEd
Tswaranang Legal Advocacy Centre, Johannesburg, South Africa

Carl Lombard, MSc, PhD
Biostatics Unit, Medical Research Council, Cape Town, South Africa

The purpose of this article is to describe mortality of women from intimate partner violence (IPV) in South Africa using a retrospective national study in a proportionate random sample of 25 mortuaries. Homicides identified from mortuary, autopsy, and police records. There were 3,797 female homicides, of which 50.3% were from IPV. The mortality rate from IPV was 8.8 per 100,000 women. Mortality from IPV were elevated among those 14 to 44 years and women of color. Blunt force injuries were more common, while strangulation or asphyxiation were less common. The national IPV mortality rate was more than twice that found in the United States. The study highlights the value of collecting reliable data across the globe to develop interventions for advocacy of which gender equity is critical.

Keywords: female homicide; femicide; intimate partner violence; South Africa

Death is the most extreme consequence of intimate partner violence (IPV) and is often the culmination of extended periods of abuse (Campbell, Sharps, & Glass, 2001; Campbell et al., 2003; Daly & Wilson, 1988; McFarlane et al., 1999; Moracco, Runyan, & Butts, 1998). The health consequences of IPV have been extensively

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researched, but there has been little focus on mortality. It is a much less common health outcome than morbidity, but it is nonetheless particularly important. The United States has national crime databases that routinely collect statistics, and these are presented in a manner that shows the victim–perpetrator relationship and that enables mortality rates from IPV to be studied. Globally, this is very uncommon (Campbell, Glass, Sharps, Laughon, & Bloom, 2007). In most other settings, mortality from IPV can be described only through research, and very few studies have been done (Arbuckle et al., 1996; Campbell et al., 2003; Moracco et al., 1998).

Routine data sources in South Africa do not enable murder to be studied by victim–perpetrator relationship, and therefore the burden of mortality due to IPV has not been explored. We conducted a national study to describe the epidemiology of mortality from IPV, and we present and discuss the mortality rates in this article.

METHODS

This was a retrospective national study. All 225 mortuaries in South Africa that were operating in 1999 were included in the sampling frame. These were stratified by size based on the number of autopsies performed per annum (small = <500 autopsies, medium = 500–1,499 autopsies, large = >1,499 autopsies). A stratified random sample of 25 medicolegal laboratories was drawn using proportional allocation (see Table 1). Within each sampled laboratory, all women aged 14 and older who had been killed by another person in circumstances that were not accidental, between January 1 and December 31, 1999, and whose bodies were taken to mortuaries were identified. This study took 14 as the youngest age, as below this age very few women have intimate partners.

The primary data source was the death registers at the sampled mortuaries. Where death registers were incomplete or not available (n = 4 mortuaries), cases were identified from diaries of the forensic medical examiners or from other police record-keeping systems. The underlying cause of death was usually recorded in the register. All gunshots injuries, head injuries, poisonings, hangings, decomposed bodies, or any cases where the cause of death was "undetermined" or "unknown" were initially included, while clearly recorded suicides and transport accidents were excluded at this stage. For each of these cases, the autopsy report was photocopied. Cases were finally classified as homicide or nonhomicide after review of the autopsy report (second data source) and the interview with the police or docket review (third data source). In a small number of cases (n = 34) where there were discrepancies between the autopsy report and police information, the research

TABLE 1. The Sampling Fraction Based on the Operating Medical Legal Laboratories (MLL) in South Africa in 1999

Number of Autopsies per Annum	Number of MLL (N)	Sample (n)	Sampling Fraction (%)
>1,499	15	8	53.3
1,499–500	34	5	14.7
<500	176	12	6.8
Total	225	25	11.1

team discussed each case, and if there was any doubt that the case was a homicide, it was excluded. Links between data sources were made by the police case number or the mortuary number.

Data were collected during the period 2002–2003 using a pretested data capture sheet. The first part was completed from the records in the mortuaries by the researchers. A second part was based on data abstracted from the photocopied autopsy report (by a forensic pathologist Lorna J. Martin). A final section was completed by the researchers by telephonic or face-to-face interview with the case's primary investigating officer (53.7% of cases), the police station's commanding officer (27.1% of cases), or direct inspection of the police docket by a researcher (19.2% of cases).

The information recorded from the mortuary records included case number and police station, details of death and location of the body, and social and demographic characteristics of victim. That from the police included social and demographic characteristics of the perpetrator and information about the case investigation and outcome. Further questions about the history of violence and relationship data, such as type of partnership (e.g., husband), were asked if cases were identified to be intimate femicide cases. The autopsy reports provided information on the mechanism of death.

Following convention in this field of research and surveillance established by the Supplementary Homicide Reports of the Bureau of Justice (Bureau of Justice Statistics, 2008), the perpetrator of the homicide was defined as the person the investigating officer perceived to be primarily responsible for the murder. A perpetrator was "known" if there was a coherent account of events pointing to the culpability of one person, regardless of whether there had been a prosecution. If there was substantial doubt or no suspect, the perpetrator was "unknown." The victim–perpetrator relationships were classified into intimate and nonintimate partners. Intimate partners were current or ex-spouses, cohabiting or dating partners, other sexual (including lesbian) partners, or rejected suitors.

Data were analyzed using Stata release 8.0 (Stata Statistical Software, 1996). We took into account the survey design, including the different sampling weights of mortuaries. Using standard methods for the analysis of data from a sample survey, estimates for the numbers and proportions of deaths and the mechanisms of death from IPV and murders by others were calculated. Pearson's chi-square test was used to determine significant differences between groups (those murdered from IPV and those murdered by others). Mortality rates were calculated overall and presented for age-groups and race groups, where the denominator source was the South African 1996 national census. These population estimates were adjusted for annual growth using procedures commonly used in mortality studies (Bradshaw et al., 2003; Nannan, Timeus, & Bradshaw, 2002; Statistics South Africa, 1996). Ethical approval for the study was granted by the South African Medical Research Council Ethics Committee, and standard methods were applied to ensure confidentiality of records and identification of victims and perpetrators.

RESULTS

All sampled mortuaries contributed data to the study. Figure 1 presents a flow diagram showing the total sample of murdered women identified through mortuaries and the subgroups on which more information was available for the analysis. The mortuary data enabled us to identify 1,052 female murders, but we were able to trace police investigative

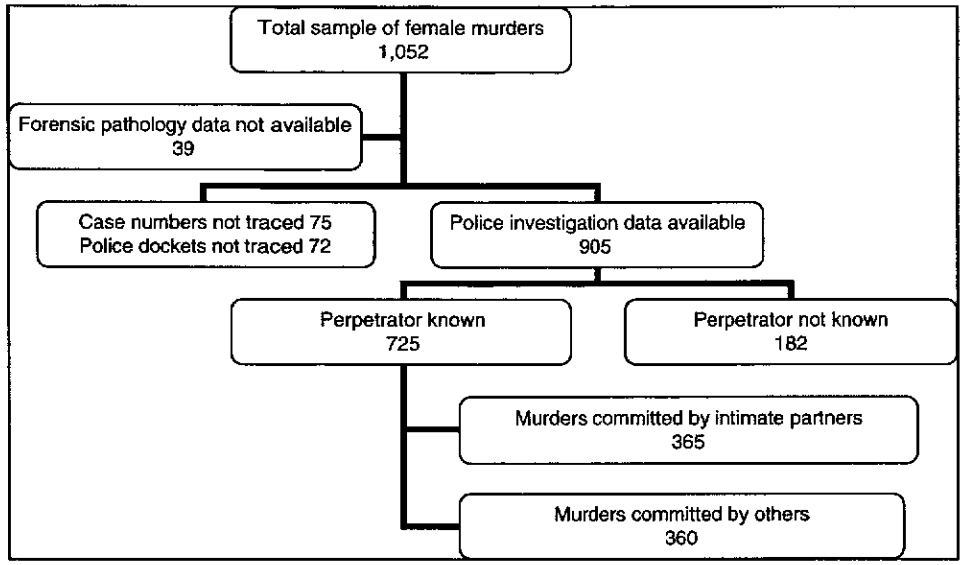

Figure 1. Flow diagram of the sample from 25 medical legal laboratories.

information on only 905 of 1,052 cases (86%). We were able to establish that the police had information on the perpetrator in 725 of the homicides (68.9%); in the other cases, perpetrators remained unknown.

We estimate that 3,797 (95% confidence interval [CI]: 2,693–4,894) homicides of women aged 14 years and older occurred in 1999 in South Africa, giving an overall female homicide rate of 24.7 per 100,000 women 14 years and older (95% CI: 17.7–31.6). In the subgroup where the victim–perpetrator relationship was known, 50.3% (95% CI: 43.8–56.7) were killed by a current or ex- husband or boyfriend; that is, they were deaths from IPV. This enables us to conservatively estimate that 1,349 women died from IPV in South Africa in 1999 (95% CI: 972–1,727), a rate of 8.8 per 100,000 (95% CI: 6.2–11.2) women 14 years an older (Table 2).

Of the women dying from IPV, 52.1% (95% CI: 40.2–63.7) were killed by cohabiting partners, 27.9% (95% CI: 19.3–37.6) by husbands, and 18.5% (95% CI: 12.3–26.7) by noncohabiting boyfriends. In 31.6% (95% CI: 22.6–42.7) of cases, the police had recorded a previous history of IPV.

Table 2 shows the estimated mortality totals and rates by intimate partner status (intimate partner vs. others). These estimates are also broken down in age-groups and race groups. More than 90% of the women murdered by intimate partners were younger than 45 years compared to 63% in women murdered by others. Comparing the estimated murder rates among the four race groups, colored women had the highest murder rate regardless of intimate partner status: 18.3 (95% CI: 2.9–33.7) murders per 100,000 women by intimate partners and 13.8 (95% CI: 2.1–25.6) murders per 100,000 women by others.

The age and race breakdown of male perpetrators by intimate partner status are also given in Table 2. The median age interval for perpetrators was 14 to 29 years compared to 30 to 44 years for intimate partner perpetrators. Colored men had the highest perpetration rate as intimate partners or as others, and this is in agreement with the female rates reported previously.

TABLE 2. The Number and Female Mortality Rates for Age and Race Including Perpetration Rates for Murder From Intimate Partners and Murders by Others: South Africa, 1999 (weighted estimates)

		Murder by Intimate Partners			Murder by Others		
	Population Estimates	*n* (95% CI)	%	Rate per 100,000 Women (95% CI)	*n* (95%)	%	Rate per 100,000 Women (95% CI)
Overall	15,360,904	1,349 (972–1,727)	50.3	8.8 (6.3–11.2)	1,335 (959–1,710)	49.7	8.6 (6.2–11.1)
Age-group (women)[a]							
14–29 years	6,892,855	649 (441–857)	51.1	10.3 (6.3–12.4)	369 (228–511)	28.5	5.3 (3.3–7.4)
30–44 years	4,363,286	524 (336–712)	41.3	12.8 (7.7–16.3)	445 (300–590)	34.3	10.1 (6.8–13.5)
45–59 years	2,261,298	71 (26–117)	5.6	3.5 (1.1–5.1)	260 (165–354)	20.0	11.5 (7.2–15.6)
60+ years	1,843,465	26 (8–44)	2.0	1.5 (0.4–2.3)	223 (85–360)	17.2	12.0 (4.6–19.5)
Race (women)[a,b,c]							
African	11,683,651	1,023 (710–1,336)	75.8	8.8 (6.0–11.4)	992 (662–1,321)	75.6	8.4 (5.6–11.3)
People of color	1,375,413	252 (40–464)	18.7	18.3 (2.9–33.7)	191 (30–353)	14.6	13.8 (2.1–25.6)
White	1,974,767	53 (20–86)	3.9	2.8 (1.0–4.3)	116 (32–200)	8.9	5.8 (1.6–10.1)
Indian	424,331	21 (0–44)	1.5	4.9 (0–10.3)	13 (1–26)	0.9	3.0 (0.2–6.1)
				Perpetration Rate per 100,000 Men			Perpetration Rate per 100,000 Men

Age-group (men)[a,d]							
14–29 years	5,960,703	436 (255–618)	34.2	7.3 (4.2–10.3)	501 (320–681)	56.3	8.4 (5.3–11.4)
30–44 years	4,001,223	672 (487–856)	52.6	16.7 (12.1–21.3)	285 (158–411)	32.0	7.1 (3.9–10.2)
45–59 years	2,009,925	134 (69–200)	10.5	6.6 (3.4–9.9)	66 (15–117)	7.4	3.2 (0.7–5.8)
60+ years	1,163,773	35 (7–62)	2.7	3.0 (0.6–5.3)	38 (0–81)	4.2	3.2 (0–6.9)
Race (men)[a,c,e]							
African	9,774,527	1,031 (730–1,332)	76.4	10.5 (7.4–13.6)	912 (592–1,233)	80.9	9.3 (6.0–12.6)
People of color	1,210,331	239 (43–434)	17.7	19.7 (3.5–35.8)	176 (9–343)	15.7	14.5 (0.7–24.3)
White	1,763,837	53 (20–87)	3.9	3.0 (1.1–4.9)	35 (0–70)	3.0	1.9 (0–3.9)
Indian	386,940	26 (4–48)	1.9	6.7 (1.0–12.4)	4 (0–9)	0.3	1.0 (0–2.3)

[a]Data do not add to total because of missing data for age and race. [b]Rates are calculated per 100,000 women for that race group aged 14 and over. Sample included women from the age of 14 years. [c]Previous race categories used by the apartheid government.
[d]Rates are calculated per 100,000 men of that age-group. [e]Rates calculated per 100,000 men for that race group.

The mechanisms of death are shown in Table 3 and were predominantly firearm injuries, sharp injuries, or injuries from use of blunt force. The latter was a more common mechanism of death for murders committed by intimate partners (33.3% vs. 21.9%: $p = 0.02$), while strangulation and asphyxiation were more common in murders committed by others.

DISCUSSION

This is the first national study of female murder in South Africa that has been able to describe the mortality rate from IPV. The overall rate of female homicide (24.7 per 100,000) found in this study is the highest in the published literature and is sixfold higher than the global rate (4.0 per 100,000 female population) estimated in the World Health Organization's Global Burden of Disease project for 2000 (Dahlberg & Krug, 2002). The rate we found is somewhat higher than that reported (21.0 per 100,000 women all ages) in the South African injury burden study (Bradshaw et al., 2003). Studies from other settings have similarly found that about half of all female murders are deaths from IPV (Arbuckle et al., 1996; Dahlberg et al., 2002); however, the IPV mortality rate found in this study (8.8 per 100,000) far exceeds rates reported in the United States (Brock, 2003; Paulozzi, Saltzman, Thompson, & Holmgreen, 2001; Puzone, 2000; Shackelford & Buss, 2000), Australia (Mouzos, 2001), Canada (Daly et al., 1988), and the United Kingdom (Brookman & Maguire, 2003). It is 2.5 times higher than the highest comparable rate: that of Moracco et al. (1998) in their mortuary-based study from North Carolina, which estimated a mortality rate from IPV of 3.5 per 100,000 women aged 15 and older.

The high mortality rates suggest that both interpersonal violence and IPV are major public health problems in South Africa. The two categories of murder are obviously somewhat related, yet the differences in patterns of age-specific mortality rates by race group between the two groups suggest that murder of women from IPV should not just be seen as an extension of a problem of high rates of murder in the country. The demographic profile of age and race for both victims and perpetrators found in this study is similar to the findings from comparable prevalence and risk factor studies for IPV reported in South Africa. The pattern of greater risk in younger women and higher rates

TABLE 3. Mechanism of Death: Comparing Murders From Intimate Partner Violence and Murders by Others: South Africa, 1999 (weighted estimates)

Mechanism of Death[a]	Murders by Intimate Partners (n = 1,349) n (%)	Murders by Others (n = 1,335) n (%)	p-Value
Gunshot injuries	405 (30.0)	434 (32.5)	0.56
Sharp	440 (32.6)	444 (33.2)	0.82
Injuries from blunt force	449 (33.3)	283 (21.2)	0.02
Strangulation	47 (3.4)	111 (8.3)	0.02
Asphyxiation	2 (0.1)	41 (3.0)	0.00
Burns	14 (1.1)	29 (2.2)	0.37
Drowning	6 (0.4)	4 (0.3)	0.76

[a]Estimates do not add up to 3,793 because categories are not mutually exclusive.

among women of color[1] are the same as those found for the prevalence of IPV in the 1998 South Africa Demographic and Health Survey (Department of Health, 2002). This found that the proportion of women under 40 years reporting physical violence in the past year was nearly double that of women over 40, and the proportion of women of color reporting it was 66% higher than that of African women (the race group with the next highest prevalence rate). The perpetration pattern is also similar to that found in a study of working men in Cape Town, where younger men and people of color reported higher levels of physical violence against intimate partners (Abrahams, Jewkes, Laubsher, & Hoffman, 2006). This suggests that the mortality from IPV can better be understood as an extension of the problem of IPV in the country rather than just an extension of the problem of general homicide.

This has important implications for prevention. The problem of IPV has been theorized as being rooted in constructions of masculinity found in the country and that legitimate the use of violence to control and punish women, compounded by very high levels of alcohol abuse (Jewkes, 2002). There are undoubtedly other factors as well. Firearm availability is widespread in South Africa. The role of firearms is clearly demonstrated in Table 3 as well as in a subanalysis of the cases where suicide followed the murder (Mathews et al., 2008). More than two-thirds of intimate femicide–suicide perpetrators owned a legal firearm. Some of this group of men may have killed themselves in remorse or to avoid the legal consequences of their actions, while others may have planned suicide and wanted to take their partner with them. Causation is very complex and clearly overlaps in multiple ways. While suicide may be precipitated by (untreated) major depressive illness or psychosis, the acts remain extreme manifestations of male control over women and examples of murder rooted in patriarchal ideas of gender hierarchy, norms, and behaviors.

The World Health Organization (Barker, Ricardo, & Nascimento, 2007) has recently reviewed the evidence for the effectiveness of interventions to build gender equity through changing men and boys. They have documented a range of interventions that work with individual men as well as those that try to change institutional cultures, broader social norms, policies, and laws.

In South Africa, the randomized controlled trial evaluation of the HIV behavior change intervention Stepping Stones has shown it to be effective in reducing men's perpetration of IPV 2 years after the intervention (Jewkes et al., 2008). These sorts of interventions are critical for reducing IPV. Controlling access to firearms, interventions to reduce alcohol abuse, and improving mental health services should also have an impact on female homicide. South Africa has a system for the surveillance of homicides, the National Injury Mortality Surveillance System (NIMSS), which may have the potential to collect data to enable trends to be monitored and the broad impact of interventions monitored over time. Unfortunately, it currently does not include data on victim–perpetrator relationships and so cannot shed light on trends in IPV-related mortality (Matzoupolous, 2003). Amending the NIMSS system to include collection of this variable would be very useful.

Our study has several limitations. We depended on police data for details of the murders, and as a result some data were missing, especially on perpetrators, because of limitations of the police investigations and record keeping. We have no way of knowing the biases inherent in the missing data. It is unlikely that data missing due to untraceable case numbers would be biased toward a type of murder; however, it is possible that there were biases in the missing dockets. It is common in South Africa for money to be exchanged for dockets to go "missing," and this may be more common with cases of murder where there was more police sympathy with the perpetrator, as is common with IPV (Altbeker, 2005).

There may have been biases in the large group of cases where the police did not have a suspect. It was our perception when collecting data that the deaths of African women were often not thoroughly investigated, nor were known perpetrators pursued. This reflects both historically based inequalities in public service resources in historically African areas as well as the low status of African women in the national race and gender hierarchy. These limitations mean that the mortality rates from IPV presented are almost certainly conservative estimates of the true rates in South Africa.

One of the strengths of our study is that it used a research methodology that can be replicated to generate comparable data across countries. The need to strengthen global data for a better understanding of the nature and the prevalence of femicide was recently recognized when a global meeting was convened by PATH, the World Health Organization, Intercambios, and the South Africa Medical Research Council (Femicide Technical Meeting, 2008). The main aim of the meeting was to discuss the state of international research and to explore how to strengthen global data to ensure comparability. The meeting concluded that there have been no standard definitions of femicide, even those used by the national homicide databases in developed countries, such as United States, Australia, Canada and United Kingdom (Widyono, 2008). In resource-poor settings, national databases can rarely be used, so the methodology used in this study was recognized as a model that can be replicated, the key features of this being the use of a sampling methodology to enable findings to be generalized to a recognized geographical area through cluster (mortuaries) sampling and collection of data on perpetrators through police sources. Variations between countries or regions in the cultural and social context of female murders will influence case ascertainment in mortuaries. We recommend that femicide research start with a process of understanding the forms of female murder in a society, both the context and the mechanism of death. This will inform case ascertainment in mortuaries and is important background for interviews with the police. In countries with categories of female murder that have their origins in the status of women in society, such as dowry-related deaths and honor killings, it may be desirable to collect data on these and report them separately.

Developing working relationships with a variety of stakeholders, including service providers, policymakers, and advocates in the field, is important. For our study, the important services included medical staff performing the autopsies, police, and policymakers from the justice and health departments. The research methodology enabled us to observe the quality of autopsy records, which was valuable to feed back into services. Interviews with the police and the docket reviews revealed weaknesses in case investigations, particularly inconsistency in inquiry about previous history of IPV. This has also been reported back to services to inform discussions around strengthening investigations of cases.

The findings of the study have been of great value in highlighting the very serious consequences of IPV. This has contributed to raising awareness of the consequences of gender-based violence and the importance of viewing constructions of masculinity predicated on the control of women as a public health problem.

CONCLUSION

The study highlights the importance of collecting data that could be compared globally. The findings also highlight the important public health consequences of IPV and the substantial burden of mortality from murder of women in South Africa. The finding that

patterns of IPV-related mortality more closely follow those of exposure to IPV than to female murder overall suggests that prevention of IPV-related mortality requires interventions that seek to prevent IPV rather than general interventions to prevent homicide. Prevention of IPV through reducing gender power inequalities should be a public health priority for the country.

NOTE

1. Before 1994 during the apartheid era, South Africans was legally required to be identified by race, and the term "colored" referred to persons of mixed race and Khoisan descent.

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Correspondence regarding this article should be directed to Naeemah Abrahams, MPH, PhD, Gender & Health Research Unit, Medical Research Council, PO Box 19070, Tygerberg 7405, Cape Town, South Africa. E-mail: nabraham@mrc.ac.za

PAPER | II

Injury Patterns of Female Homicide Victims in South Africa

Shanaaz Mathews, BSocSc(Honours), MPH, Naeemah Abrahams, MPH, PhD, Rachel Jewkes, MBBS, MSc, MFPHM, MD, Lorna J. Martin, Dip For Med (SA), M Med Path (Forens), Carl Lombard, MSc, PhD, and Lisa Vetten, HDip AdEd(Wits)

Background: Injury patterns and interpretation of injuries in homicidal deaths are important components of medicolegal autopsies. The objective of this article is to describe the incidence of female homicides and their related injury patterns with reference to autopsy practices in South Africa.

Methods: A national retrospective mortuary-based study of homicides in women of 14 years and older in 1999 was conducted. Data were gathered from medical legal laboratory records, autopsy reports, and police interviews from a stratified multistage sample of 25 mortuaries.

Results: The most common cause of homicide was a gunshot wound injury, with a firearm mortality rate of 7.5/100,000 women, 14 years and older, in 1999, followed by sharp force injury (6.8/100,000) and blunt force injury (6.1/100,000). Gunshot victims were more likely to be African, and those killed by sharp force injury were more likely colored.* Significantly, blunt force injury deaths occurred predominantly in intimate partner homicides. A full autopsy was performed only in 70% of cases. An assessment of postmortem reports revealed poor descriptions of the anatomic location of injuries and the specifications of wound dimensions.

Conclusions: South Africa has a high female homicide rate that exceeds reported rates with the cause of homicide varying by social group. Assessment of injury description suggests weaknesses in the documentation of injuries at autopsy. This weakens the forensic investigation and undermines the strength of evidence presented in court. Further measures are needed to strengthen forensic pathology services in South Africa.

Key Words: Female homicide, Homicide, Injury patterns, Medicolegal autopsy, Postmortem practices.

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South Africa is known as a particularly violent country, with homicide being one of the major public health challenges.[1,2] Burden of disease studies indicates that homicide is the leading cause of fatal injuries in South Africa.[3] According to the Inquest Act of 1959, medicolegal autopsies must be performed on all nonnatural deaths to determine the cause of death. The correct description and interpretation of injuries is an essential part in the process of establishing the cause of death, thereby assisting the criminal investigation. It is also indicative of good autopsy practices, which is an important component of the medicolegal investigation and is vital for convincing a court of the expertise of forensic examiners.

Homicide studies traditionally investigate incidence and patterns of homicide by exploring the age and sex of victims, relationship between victims and perpetrators, and the cause of death.[4–9] These studies have found that men are more likely to die a homicidal death and that blunt and sharp force injuries are the most common cause of homicide.[4–9] Most literature on injuries has presented small studies or case series data,[10–13] whereas only a few large-scale studies explore injury patterns of homicide victims, with mainly anatomic location of injuries documented.[4,9] Understanding location and type of injury in a South African setting is extremely important for understanding homicides. This information is critical in the medicolegal investigation of a homicide case thereby facilitating the proper forensic investigation of such cases.

Until recently, few studies have been published on female homicides in South Africa. The first study on the epidemiology and pathology of femicide in South Africa found a female homicide rate of 24.7/100,000 women, 14 years and older, which far exceeds reported rates from other countries.[14] This study provided the opportunity to analyze injury data, and in this article, we describe the injury pattern and cause of homicide of female homicide victims in South Africa and reflect on indicators of autopsy practices.

METHODOLOGY

This is a national retrospective mortuary-based study. The sampling frame consisted of all medical legal laboratories (MLLs) operating in South Africa during 1999. The MLLs were stratified based on the number of postmortems conducted per annum: small, <500 bodies; medium, 500–1,499 bodies; and large, ≥1,500 bodies. A stratified proportionate random sample of mortuaries was drawn yielding a sample of 25 MLLs. The study population comprises females, 14 years and older, whose death was by homicide and where the body was taken to an MLL between January 1, 1999 and December 31, 1999.

Data were collected between 2002 and 2003 from death registers, autopsy reports, police records, and recorded on a

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From the Gender and Health Research Unit (S.M., N.A., R.J.), Medical Research Council, Cape Town, South Africa; Forensic Medicine and Toxicology (L.J.M.), University of Cape Town, Cape Town, South Africa; Biostatics Unit (C.L.), Medical Research Council, Cape Town, South Africa; and Tshwaranang Legal Advocacy Centre (L.V.), Gauteng, South Africa.
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*Race was used based on the Apartheid classification system with "colored" referring to those of mixed race origin.
Address for reprints: Shanaaz Mathews, BSocSc(Honours), MPH, Gender and Health Research Unit, Medical Research Council, P O Box 19070, Tygerberg 7405, Cape Town, South Africa; email: shanaaz.mathews@mrc.ac.za.

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pretested data collection sheet. Death registers at the sampled MLLs were the primary data source in the identification of female homicides. The identified autopsy reports were photocopied, and the forensic pathologist on the research team extracted the injury data. Data were also collected from police through interviews or record reviews.

Data obtained from MLLs included police case information, details around the death, and demographic characteristics of the victim. Data derived from the police included sociodemographic characteristics of the victim and perpetrator, victim-perpetrator relationship, and information on the case investigation and outcome. The perpetrator was defined as the person whom the investigating officer perceived as primarily responsible for the murder. If there was reasonable doubt or no suspect, the perpetrator was classified unknown. The victim-perpetrator relationship was classified as intimate and nonintimate.

The autopsy report provided data on location of injuries, number of injuries, cause of death, specimen collection, and evidence of pregnancy. Cause of homicide was categorized for this study as gunshot wound, sharp force injury, blunt force injury, strangulation, and others that included asphyxiation, poisoning, drowning, fire, and undetermined deaths. To determine the standard of the autopsy report, a score ranging from 1 = <25%, 2 = 25%–50%, 3 = 51%–74%, 4 = 76%–99% to 5 = 100% was assigned based on injury documentation. The documentation was assessed based on description of the location of injuries, pathologic description of injuries, and whether wound dimensions were specified. The assessment was done during the process of transcription by the forensic pathologist on the team using standard wound description guidelines.[15]

Stata 8.0 was used in the analysis,[16] and the sampling, stratification, and weighting of the MLL were taken into account. This allowed us to calculate mortality rates by cause of homicide using population estimates from the 1996 South African census after adjusting for annual population growth.[17] Frequencies and 95% confidence intervals (CIs) were used to describe victim and perpetrator sociodemographic characteristics and injury patterns by cause of homicide. χ^2 tests were conducted to check for significant differences between the groups.

RESULTS

Access was gained to all sampled MLLs, and data were collected from all study sites. A sample of 1,052 female homicides was identified for the year 1999. Autopsy reports could not be traced in 39 cases, and this analysis is based on 1,013 female homicide cases. In cases where injury data were known, we estimate that a total of 3,437 (95% CI: 2,533 to 4,327) female homicides occurred in South Africa in 1999. The most common cause of homicide was a gunshot wound injury (n = 1,145) with a firearm mortality rate of 7.5/100,000 women, 14 years and older. This was followed by a mortality rate due to sharp force injury of 6.8/100,000 women, 14 years and older (n = 1,045) and that due to blunt force injury of 6.1 of 100,000, 14 years and older (n = 941).

The victims' social and demographic characteristics are presented in Table 1. Overall, victims of female homicide had a median age of 33, with no difference in median age by cause of homicide. The age pattern was similar for gunshot wounds, sharp force injuries, and blunt force injuries. Of significance, a difference between victims who were strangled and the overall female homicide group was found, with a greater proportion (28.8%) of older women within this group ($p < 0.00$). The race profile of female homicides by cause of homicide is noteworthy. Gunshot victims were more likely African women, and less likely to be colored* women ($p < 0.00$) compared with all female homicides. Colored women were also more likely to be stabbed ($p = 0.02$). Victims who were strangled were more likely to be white but less likely to be African compared with the overall homicide group ($p < 0.00$). Those killed by a firearm were more likely to be employed as skilled workers and killed in their home compared with the other groups ($p < 0.00$). Of note, comparing when the murder occurred by cause of homicide shows that sharp force deaths were more likely to occur during weekends ($p = 0.04$), whereas strangulation deaths were more likely to occur during the week ($p = 0.01$). Victims who were stabbed compared with the overall group were also more likely to be pregnant at the time of their murder ($p = 0.05$). The perpetrators' racial profile shows that most homicides were interracial. The relationship characteristics show that those killed by intimate partners were significantly more likely to be murdered by blunt force ($p = 0.05$), whereas those killed by nonintimate partners were more likely to be strangled ($p < 0.00$) compared with all female homicides. When victims were killed by a gun there was a greater likelihood of more than one victim, with this often being other family members such as children ($p < 0.00$), whereas multiple victims were less likely to be associated with blunt force ($p = 0.03$) compared with all homicides.

Table 2 shows type of autopsies and injury patterns for victims by cause of homicide. Of note, a full autopsy was performed only in 70% of all cases. Single injuries were more likely when a gun was used in the killing ($p < 0.00$), whereas multiple injuries were more likely with blunt force ($p < 0.00$) compared with all cases. Overall, the head and face, and thorax were the most common location of injuries in female homicides. Importantly, pattern of injuries differed by cause of homicide. Head and face injuries were more likely to have blunt force injuries, and neck injuries were most common in strangulation deaths whereas thoracic injuries were more likely caused by sharp force injuries. Overall, genital injuries were not common, but when found they were significantly more likely among strangulation deaths compared with all homicides. The most common type of injuries were contusions of the head and face (26.6%) and intracranial hemorrhage (25.9%) of the head followed by penetrating incised wounds (22.5%) of the thorax (data not shown in table).

Table 3 shows that the pathologic description of wounds were best documented, whereas the anatomic location of injuries were overall poorly described. The greatest variation in the documentation of injuries by cause of death was found in the anatomic location of injuries. Sharp force

TABLE 1. Social and Demographic Characteristics of Female Homicide Victims by Cause of Homicide (Weighted Estimates)

	Gunshot Injury, % (95% CI) (n = 387) n = 1,145 (Weighted)	Sharp Force Injury, % (95% CI) (n = 262) n = 1,045 (Weighted)	Blunt Force Injury, % (95% CI) (n = 345) n = 941 (Weighted)	Strangulation, % (95% CI) (n = 81) n = 225 (Weighted)	All Female Homicides, % (95% CI) (n = 1,013) n = 3,437 (Weighted)
Median age (yr)	32 (14–85)	32 (14–83)	33 (14–83)	33 (14–91)	33 (14–91)
Age (yr)					
14–39	69.0 (59.7–77.0)	70.7 (61.8–78.3)	68.1 (61.1–74.3)	47.7 (37.9–57.5)*	67.5 (62.5–72.2)
40–59	19.6 (14.2–26.5)	23.1 (16.8–30.9)	22.7 (16.4–30.6)	23.6 (14.3–36.5)	22.6 (19.0–26.8)
60+	11.4 (5.0–23.8)	6.2 (3.4–11.1)	9.2 (4.9–16.4)	28.8 (18.7–41.6)	9.8 (6.4–14.8)
Race					
African	86.8 (79.0–92.0)*	72.0 (48.9–87.4)*	77.2 (63.5–86.8)	63.1 (39.1–81.9)*	78.8 (64.4–88.4)
Colored	5.7 (1.9–15.6)	24.8 (10.4–48.4)	15.2 (7.4–28.8)	14.7 (4.8–37.3)	14.7 (6.4–30.4)
White	4.7 (2.2–10.0)	3.1 (1.7–5.8)	6.8 (3.2–13.9)	21.4 (9.6–41.0)	5.3 (3.2–8.6)
Indian	2.8 (1.1–6.9)	0.0	0.8 (0.2–4.0)	0.8 (0.1–6.1)	1.2 (0.4–3.0)
Occupation					
Unskilled	10.0 (5.2–18.4)*	15.6 (8.9–25.8)	12.4 (6.7–21.3)	5.3 (1.8–14.5)	13.8 (9.9–19.1)*
Skilled	16.3 (10.9–23.7)	4.3 (1.3–13.4)	2.1 (0.7–6.1)	4.2 (2.0–8.6)	7.1 (4.3–11.3)
Unemployed/housewife	55.9 (42.9–68.1)	64.5 (52.3–75.1)	68.3 (53.0–80.4)	54.3 (42.4–65.8)	63.4 (55.7–70.3)
Others†	17.8 (8.9–32.2)	15.6 (9.3–24.8)	17.3 (8.9–30.8)	36.2 (24.3–50.1)	15.8 (11.4–21.5)
Relationship between victim and perpetrator					
Nonintimate	51.7 (40.8–62.4)	50.7 (41.8–59.6)	38.5 (28.4–49.7)*	70.0 (49.4–84.8)*	49.3 (43.3–55.4)
Intimate	48.3 (37.6–59.2)	49.3 (40.4–58.2)	61.5 (50.3–71.6)	30.0 (15.2–50.6)	50.7 (44.6–56.7)
Scene of injury					
Home	65.9 (55.6–74.9)*	47.2 (38.8–55.6)	52.0 (39.8–64.0)	54.6 (41.8–66.8)	53.6 (47.9–59.2)
Other	34.1 (25.1–44.4)	52.8 (44.3–61.2)	48.0 (36.1–60.2)	45.4 (33.2–58.2)	46.5 (40.8–52.1)
Part of week					
Weekdays	46.1 (39.9–52.4)	38.0 (29.6–47.1)*	43.1 (35.1–51.3)	67.6 (49.1–81.8)*	44.3 (39.4–49.2)
Weekends	53.9 (50.8–60.6)	62.0 (52.9–70.4)	56.9 (48.6–64.9)	32.4 (18.2–50.9)	55.7 (50.8–60.6)
More than one victim	20.1 (13.8–28.5)*	9.3 (4.8–17.2)	5.2 (2.4–11.1)	5.9 (1.8–18.3)	11.2 (8.0–15.4)

* A significant difference of $p \leq 0.05$ between cause of homicide and all female homicides.
† Includes pensioner, student, and sex worker.

TABLE 2. Type of Autopsy and Number and Location of Injuries in Female Homicide Victims by Cause of Homicide (Weighted Estimates)

	Gunshot Injury, % (95% CI) (n = 387) n = 1,145 (Weighted)	Sharp Force Injury, % (95% CI) (n = 262) n = 1,045 (Weighted)	Blunt Force Injury, % (95% CI) (n = 345) n = 941 (Weighted)	Strangulation, % (95% CI) (n = 81) n = 225 (Weighted)	All Female Homicides, % (95% CI) (n = 1,013) n = 3,437 (Weighted)
Full autopsy	70.3 (50.9–84.4)	64.0 (45.4–79.1)	76.2 (53.5–89.9)	77.9 (45.9–93.6)*	70.4 (55.1–82.2)
Injuries					
Single	67.4 (59.8–74.2)*	60.6 (50.4–70.1)	32.2 (22.9–43.3)*	62.1 (46.7–75.4)	58.2 (52.8–63.4)
Multiple	32.6 (25.8–40.2)	39.4 (29.9–49.6)	67.8 (56.7–77.1)	37.9 (24.6–53.3)	41.8 (36.6–47.2)
Location of Injuries					
Head and face	63.7 (55.6–71.0)	42.9 (35.1–51.0)*	94.6 (87.1–97.8)*	67.6 (42.9–85.2)	64.1 (59.4–68.5)
Neck	21.1 (9.0–18.1)*	39.9 (30.0–50.6)*	27.2 (19.9–36.0)	95.3 (83.1–98.8)*	31.6 (26.7–36.8)
Thorax	53.7 (44.9–62.2)	82.2 (71.6–89.5)*	57.6 (48.5–66.1)	44.5 (26.5–64.1)	59.3 (54.6–63.9)
Abdomen and lower back	27.3 (20.2–35.8)	24.2 (19.4–29.8)	38.4 (27.2–51.0)*	20.9 (11.7–34.7)	27.5 (22.2–33.5)
Pelvis and buttocks	9.6 (6.3–14.2)	8.4 (4.8–14.3)	23.1 (15.5–32.8)*	8.4 (3.2–20.6)	12.5 (9.2–16.8)
Upper limbs	28.6 (22.0–36.2)*	40.6 (31.0–51.0)	50.7 (40.5–60.9)*	38.5 (23.5–56.0)	37.0 (32.3–42.1)
Lower limbs	15.9 (10.9–22.6)*	13.2 (8.8–19.3)*	40.9 (29.5–53.4)*	28.0 (14.2–47.7)	22.7 (17.5–28.9)
Genital	1.3 (0.4–3.8)*	1.7 (0.5–5.6)*	5.6 (2.4–12.4)	11.8 (3.4–33.4)*	4.1 (2.3–7.0)
Anal	0.8 (0.1–4.1)	0.2 (0.0–1.3)*	0.4 (0.1–1.6)*	1.7 (0.5–6.1)	1.3 (0.8–2.4)

* A significant difference of $p \leq 0.05$ between cause of homicide and all female homicides.

TABLE 3. Injury Description of Female Homicide Victims by Cause of Homicide (Weighted Estimates)

	Gunshot Injury, % (95% CI) (n = 387) n = 1,145 (Weighted)	Sharp Force Injury, % (95% CI) (n = 262) n = 1,045 (Weighted)	Blunt Force Injury, % (95% CI) (n = 345) n = 941 (Weighted)	Strangulation, % (95% CI) (n = 81) n = 225 (Weighted)	All Female Homicides, % (95% CI) (n = 1,013) n = 3,437 (Weighted)
Anatomic location of injury					
<25%	29.9 (15.6–49.5)	28.0 (14.2–47.6)	21.1 (11.2–36.0)	21.6 (5.6–56.0)	25.4 (14.5–40.6)
26%–50%	8.7 (4.5–16.0)	12.56 (6.4–23.2)	7.8 (3.3–17.5)	1.7 (0.4–7.0)	8.7 (5.3–14.0)
51%–74%	8.7 (3.9–18.3)	15.0 (6.7–30.3)	9.8 (5.2–17.8)	3.0 (0.4–19.6)	9.9 (5.6–17.1)
76%–99%	16.9 (9.0–29.4)	13.2 (6.5–25.0)	11.3 (5.0–23.6)	5.0 (1.3–16.9)	12.6 (7.7–19.9)
100%	35.9 (18.1–58.6)	31.3 (15.4–53.2)	50.1 (33.7–66.4)	68.7 (40.4–87.7)	43.4 (28.0–60.1)
Pathological description of injury					
<25%	9.0 (2.9–24.6)	11.7 (5.1–24.1)	6.9 (2.2–19.5)	13.1 (1.8–55.8)	9.3 (3.7–21.4)
26%–50%	1.1 (0.3–3.7)	1.6 (0.3–8.9)	1.7 (0.3–7.7)	0.0	1.3 (0.5–3.4)
51%–74%	2.1 (0.3–1.3)	0.4 (0.1–1.4)	0.2 (0.0–1.5)	0.8 (0.1–6.1)	0.9 (0.2–4.1)
76%–99%	5.7 (1.3–22.1)	4.4 (1.9–9.9)	1.4 (0.2–8.5)	3.9 (0.7–19.7)	3.8 (1.7–8.3)
100%	82.1 (59.6–93.4)	82.0 (66.1–91.4)	89.8 (80.1–95.1)	82.3 (46.9–96.1)	84.7 (72.2–92.2)
Specification of wound dimensions					
<25%	39.0 (20.7–61.1)	21.3 (10.4–38.7)	37.8 (21.3–57.7)	39.3 (16.8–67.6)	33.9 (21.6–48.9)
26%–50%	1.3 (0.3–4.6)	4.1 (1.2–13.4)	6.9 (2.7–16.3)	2.5 (0.5–11.0)	3.2 (1.4–6.9)
51%–74%	1.3 (0.3–6.2)	3.2 (1.0–10.2)	2.8 (1.0–7.6)	0.8 (0.1–7.1)	1.8 (0.8–4.3)
76%–99%	0.5 (0.1–3.1)	0.5 (0.1–2.3)	2.7 (1.1–6.9)	1.7 (0.4–6.6)	1.1 (0.5–2.5)
100%	57.9 (37.8–75.6)	70.8 (53.1–83.9)	49.8 (29.8–69.8)	55.7 (28.6–79.7)	60.1 (44.7–73.7)

injury deaths showed the largest variation in injury description with the specification of wound dimensions best described for such homicides.

DISCUSSION

This study has shown that in South Africa, gunshot wounds are the most common cause of homicide when women are murdered. This is similar to the overall pattern of homicide in South Africa where firearm homicide is the leading cause of injury deaths.[3] It contrasts with findings from countries in Europe and Asia and reflects the widespread availability of firearms in South Africa.[6,8,18] Studies have shown that firearm homicide seems to be more common in countries with high levels of violent crime such as Latin America, the Caribbean, and the United States.[19–21] This study finding of a firearm homicide rate of 7.5/100,000 women, 14 years and older, per annum seems to be one of the highest documented female firearm homicide rates, with the only comparable rate from the United States of 1.54/100,000 women.[22] Single injuries were also more likely when a gun was used. This pattern would suggest that the availability of guns and the lethality thereof render women particularly vulnerable and reduces their chances of resisting when attacked by a gun. The role of firearms was also highlighted in the analysis of intimate-femicide suicides from this study.[23] Legal gun ownership was associated with the double murder where the killing of an intimate partner is followed by the committing of suicide after the murder. South Africa has recently reformed its legislation on firearms restricting legal gun ownership. The Firearm Control Act of 2000 has shown an impact with a decrease in deaths due to gunshot injuries; however, the problem posed by illegal gun ownership still remains.[24] Countries where gun access is restricted have lower levels of gun violence, and, therefore, alternative strategies to control gun access needs to be explored as policy alone is not enough.[21]

Few studies on injuries have explored female homicide. This study has shown that female homicide victims are generally young with a median age of 33 years. This finding is corroborated by homicide studies, which find that younger men and women are generally victims of violence, with women being at increased risk of intimate partner violence at this age.[20,25,26] Overall, the age pattern for female homicides also shows that women are less likely to be murdered as they become older. However, when women were strangled, we observed a different age pattern with a larger proportion of older women in this group. Genital injuries were more likely in deaths due to strangulation, which were also due to a nonintimate partner. In an analysis of rape homicides from these data it was found that strangulation was strongly associated with this form of murder.[27] This suggests that a different dynamic exists in cases of strangulation compared with other causes of death.

Of note, blunt force injury deaths were more likely to occur when the perpetrator was an intimate partner. This is in contrast to that found in the United States where firearms were most likely to be used during intimate partner homicides.[28,29] This type of injury death was also more likely to have injuries to the head and face. This is similar to the findings from studies on acute injury patterns of intimate partner violence victims where head, neck, and face injuries were found to be predictive of intimate partner violence.[30,31]

This study has shown that certain social groups were more likely to be killed in some ways than others. Colored

women were more likely to be killed by sharp force injury and less likely to be killed by guns. Violent crime, in particular, homicide rates among the colored group exceeds those of other race groups in South Africa.[32] Criminologists ascribe these excessive rates to a culture of violence within these communities, with intimate partner femicide also overrepresented within this group.[14,32] Sharp force injuries indicate the physical nature of the attack, which is often of an interpersonal nature and by a known perpetrator.

The assessment of injury description indicates that documentation of injuries was inconsistent. The poor scoring on the anatomic description of injuries is an indication of weaknesses in autopsy practices. This is of concern as it is an important component of the medicolegal investigation. South Africa has a low murder conviction rate and opportunities to collect forensic evidence may be lost if autopsy practices are inadequate.[33] The accurate documentation of injuries is critical in facilitating the forensic investigation and criminal justice process. Yet, only 70% of these homicide cases had a full autopsy performed. During data collection it became apparent that in some instances bodies were prepared by the mortuary assistant and only viewed by the examining doctor. This finding was corroborated by a small study, which found that more than half of the examining doctors do not perform a standard autopsy in all cases.[34] This finding highlights the need for further investigation into autopsy practices, and standards and measures to strengthen these.

CONCLUSION

This study is the first in South Africa to provide a description of injury patterns for victims of female homicide. The findings highlight the high rate of mortality due to gunshot wounds. Importantly, the study found that blunt force injury deaths are more likely to be committed by an intimate partner and that certain patterns of injury are associated with particular causes of death. It was also found that the documentation of injuries was not of a consistent standard reflecting inadequate autopsy practices. However, little is known on how autopsy practices contribute to the criminal investigation and its outcome. Developing this understanding is, therefore, critical for improving the investigation of homicide in South Africa and thereby bringing justice to the women killed.

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PAPER| III

Alcohol Use and Its Role in Female Homicides in the Western Cape, South Africa*

SHANAAZ MATHEWS, B.SOC.SC., M.P.H.,† NAEEMAH ABRAHAMS, M.P.H., PH.D., RACHEL JEWKES, M.B.B.S., M.SC., M.D.,† LORNA J. MARTIN, M.B.B.CH., DIP. FORENS. MED. (SA), M. MED. PATH. (FORENS.),† AND CARL LOMBARD, M.SC., PH.D.†

Gender and Health Research Unit, Medical Research Council, P.O. Box 19070, Tygerberg 7405, Cape Town, South Africa

ABSTRACT. Objective: Levels of alcohol use are high in South Africa and not much is known about women's use of alcohol when murdered. The aim of this article is to describe the patterns of blood alcohol concentration (BAC) at the time of death for female homicide victims and to explore the factors associated with having an elevated BAC. **Method:** A subsample of a national, representative, retrospective mortuary-based study of female homicides ages 14 years and older was analyzed. Data were gathered from medical legal laboratory records, autopsy reports and police interviews from 153 cases at sampled mortuaries in the Western Cape Province of South Africa in 1999. **Results:** Sixty-two percent of women who were murdered had a high BAC at the time of their death, with an overall median BAC of .11% (110 mg/100 ml). A quantile regression analysis showed that a raised median BAC at the time of death was positively associated with the victim's age; being unemployed or not known to be employed; and being killed in a rural setting, in a public space, and on a weekend. Significant interactions between type of homicide and employment showed a modification in median BACs for unemployed victims killed by intimate partners compared with employed victims, with a median difference of .19% (190 mg/100 ml) (95% confidence interval: .14%-.23% [140-230 mg/100 ml]). **Conclusions:** This study highlights the public health impact of excessive alcohol consumption and the need for a comprehensive approach to reduce the harmful effects of drinking. (*J. Stud. Alcohol Drugs* **70:** 000-000, 2009)

THE RELATIONSHIP BETWEEN ALCOHOL and interpersonal violence is well established (Room et al., 2005). Alcohol consumption increases men's risk of violence perpetration and men and women's risk of becoming a victim of violence (World Health Organization, 2006). This relationship appears to be influenced by level of alcohol consumption and rates of violence in a country. Data from mortality studies confirm this, with 45% of victims of fatal injuries having a blood alcohol concentration (BAC) greater than or equal to .05% (50 mg/100 ml; above the legal limit for driving in South Africa) (Matzopoulos, 2004). Understanding this relationship is of particular importance to a country like South Africa, where interpersonal violence is one of the leading causes of death (Norman et al., 2007).

South Africa has one of the highest levels of absolute alcohol consumption per drinker: 20.1 L per adult per year compared with 16.5 L in heavy drinking regions such as the Ukraine and Russian Federation (Rehm et al., 2003). Establishing an accurate picture of alcohol use in South Africa, however, is difficult because of the history of illegal community-based outlets (shebeens) selling home-brewed alcohol (Parry, 2005). National data from the 1998 South African Demographic Health Survey found one-third of both men and women who drink report risky drinking, particularly on weekends (Parry et al., 2005).

Violence often occurs in intimate relationships where men are heavy drinkers (Grisso et al., 1999; Kyriacou et al., 1999; Lipsky et al., 2005). However, researchers have debated whether male heavy drinking alone causes intimate partner violence (Leonard, 2005), and some studies of women's drinking and experience of violence have shown that male heavy drinking is not predictive of violence or of sustaining injury in an intimate relationship (Testa et al., 2003; Thompson and Kingree, 2006). However, one study of working men in South Africa found that women's use of alcohol was a justification for being violent toward an intimate partner (Abrahams et al., 2006).

Studies from the United States on victim and perpetrator use of alcohol in relation to intimate homicide suggest that there are gender differences in the pattern of alcohol use (Moracco et al., 1998; Sharps et al., 2001). Most of the female victims had negative BAC toxicology reports, whereas more than half of male perpetrators were intoxicated. A study of female murders and alcohol in Cape Town found that just more than half of women murdered had a BAC greater than .10 % (100 mg/100 ml) (Lerer, 1992). It was also found that

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†Correspondence may be sent to Shanaaz Mathews at the above address or via email at: shanaaz.mathews@mrc.ac.za. Rachel Jewkes is with the Gender and Health Research Unit, Medical Research Council, Pretoria, Gauteng, South Africa. Lorna J. Martin is with Forensic Medicine and Toxicology, University of Cape Town, Cape Town, South Africa. Carl Lombard is with the Biostatistics Unit, Medical Research Council, Tygerberg, Cape Town, South Africa.

nearly half (44%) of female victims of fatal sharp and blunt injuries were heavily intoxicated (BAC > .20% [200 mg/100 ml]) (Lerer, 1992). However, this study did not explore the victim—perpetrator relationship.

Women's use of alcohol and their associated vulnerability is underexplored, and this study on the epidemiology and pathology of female homicide in South Africa provides an opportunity to examine the role alcohol has played in the homicide of women in the Western Cape, South Africa. The aim of this article is to describe the patterns of BAC at the time of death for female homicide victims and factors associated with having an elevated BAC.

Method

Study design, setting and sample

The data were collected as part of a nationally representative, retrospective study of female homicide victims ages 14 years and older who were admitted to mortuaries (Medical Legal Laboratories) between January 1, 1999 and December 31, 1999. (Medical Legal Laboratories are forensic mortuaries owned by the state Department of Health where all autopsies to investigate all unnatural deaths are performed.) Details of the study design, the identification of female homicide cases and the tools used for data collection are described in more depth elsewhere (Abrahams et al., 2008; Mathews et al., 2008). BAC data was available only for the Western Cape Province because BAC results for the other regions were destroyed before data collection. This article is based on analysis of female homicide cases from the Western Cape Province. A total of 182 cases were identified via death registers; no blood alcohol was taken in 24 cases, blood alcohol results were missing in 4 cases, and 1 postmortem report was missing. An analysis of this BAC missing group (n = 29) showed that the demographics were similar to the rest of the sample, and this group was excluded from further analysis. This article is based on the other 153 cases.

Data collection

Data were collected from 2002 through 2003 using a pretested data collection sheet. Three data sources were used. First, all cases of female homicide were identified from the death registers at the Medical Legal Laboratories. Second, autopsy reports were photocopied, from which the forensic pathologist on the team abstracted injury and pathology data. Third, police data were obtained via telephone interviews, record reviews, or face-to-face interviews with the investigating officer. Thus, the registers provided the first level of information on the cause of death, which was further verified with the information in the autopsy report as well as data obtained during interviews with the investigating officers or reviews of police dockets. Important to the study was the classification of all cases into either intimate partner homicide or nonintimate homicide. Police data allowed for this classification based on the victim–perpetrator relationship. An *intimate partner* was defined as the victim's husband, boyfriend (dating or cohabiting), exhusband (divorced or separated) or exboyfriend, same-gender partner, or a rejected would-be lover.

Variables

In addition to cause of death data obtained from the mortuary registers, we abstracted information on whether blood alcohol was taken during the autopsy, level of BAC and demographic details (race and age). Data collected from the police dockets included social and demographic characteristics of the victim and perpetrator, the relationship between them, information about the murder and its circumstances (if available) and the criminal investigation. Race as a variable is still of importance in South Africa, because the artificial racial boundaries created by apartheid have had a devastating and long-term public health impact that has to be taken into account by public health research. Data on race were, therefore, collected and are reported in the study based on the classification categories used by the apartheid regime, where "African" refers to those of black African decent and "non-African" refers to European, Asian, and mixed-race decent.

Injury and pathology data were extracted from the photocopied autopsy report and included type of specimen collected (e.g., blood alcohol) and number and description of injuries. If a blood alcohol specimen was taken, the result was obtained from either the autopsy report or police data, and if not available, the result was requested from the two national forensic laboratories. For this article, the BAC of the victim at the time of death was the variable of primary interest. In this article, we report BAC as milligrams per 100 ml for comparison with U.S. data, although standard practice for reporting in South Africa is grams per 100 ml. BAC was divided into two categories: below the legal alcohol limit (0-40 mg/100 ml) and above the legal limit for driving in South Africa (≥50 mg/100 ml). We refer to the latter as *drunk*. We then created a further category for those that were above 150 mg/100 ml (*very drunk*).

Data analysis

Data were analyzed using Stata Version 9 (StataCorp LP, College Station, TX). This analysis was based on the homicide cases obtained from the mortuaries in the Western Cape province that formed part of the larger national sample. The larger study stratified mortuaries based on the number of postmortems performed annually, and mortuaries were weighted based on a ratio of allocation between the strata. This Western Cape sample included one large mortuary that

TABLE 1. Overall female homicide blood alcohol concentration (BAC), by cause of death and median BAC

BAC	Gun ($n = 39$) %	Sharp ($n = 61$) %	Blunt ($n = 34$) %	Strangled ($n = 14$) %	Total ($N = 153$)[a] %
0%	71.8	23.0	17.6	35.7	37.9
.01%-.04%	10.3	4.9	11.8	0.0	6.5
.05%-.14%	5.1	16.4	14.7	7.1	11.1
≥.15%	12.8	55.7	55.9	57.1	44.4

[a]Total includes cases that are classified as "other" and not accounted for by the cause of death listed above.

had more than 1,500 autopsied cases per year, one medium mortuary (500-1,499 cases per year) and two small mortuaries (<500 cases per year). Because this study used data from only one province, an unweighted analysis has been performed. Comparisons were made between BAC (below the legal alcohol limit and at or above the legal alcohol limit) for all cases using unadjusted odds ratios. To handle the nonnormal distribution of BAC a nonparametric regression approach was followed and quantile regression using the median was selected. The legal limit corresponds to the 45th percentile of the BAC distribution and is therefore very close to the median. For the multiple regression analysis, the victim characteristics were considered the covariates, and the number of BAC units between a particular level of a variable and the reference group was the estimated coefficients' difference. Ninety-five percent confidence intervals (CI) were estimated for all parameters. The regression model included interactions between certain covariates. Exploratory analysis through the use of a tree regression showed the interrelationship between certain covariates. The regression model included interactions terms for type of homicide with employment and setting. A further postestimation stratified analysis of the interaction terms was conducted to obtain the differential in median BAC for intimate and nonintimate homicides by these covariates.

Ethical approval for this study was obtained from the ethics committee of the Medical Research Council of South Africa.

Results

Of the 153 cases used in the analysis a positive BAC toxicology reading was found in 62.1% (95% CI: 54.5%-70.0%) with a median BAC of .11% (110 mg/100 ml) and a mean BAC of .20% (200 mg/100 ml) (range: .01%-.41% [10 mg-410mg]). Table 1 shows the BAC distribution by cause of death. The overwhelming majority of women killed by gunshot injuries were sober, but the levels of BAC were particularly high for most victims with other mechanisms of death. Of note, victims of death by strangulation were either sober or very drunk. Those killed by intimate partners had a consistently higher median BAC for all causes death except for gun homicides.

Table 2 presents BACs of victims by their demographic characteristics and the circumstances of their killing. Unemployed victims and those of unknown employment status had higher levels of alcohol at the time of death than those who were employed. Victims who were living in rural areas had much higher levels of alcohol than those living in urban areas, with a median BAC of .22% [220 mg/100 ml] compared with .06% [60 mg/100 ml]. Those killed in public spaces and on weekends were also often very drunk. Importantly, women killed by an intimate partner were also much more likely to be very drunk compared with those killed by a nonintimate perpetrator. Further stratification by homicide type shows that unemployed victims killed by an intimate partner were most likely to be very drunk with a median BAC of .25% (250 mg/100 ml). Rural homicide victims irrespective of their relationship to the perpetrator were mostly very drunk at the time of the murder. This contrasted with urban victims of a nonintimate perpetrator who were more likely to be sober.

Table 3 presents perpetrator data. Higher BACs were found in victims of unemployed perpetrators, those who were themselves known to have a drinking problem, and those who did not own guns.

Table 4 shows the quantile regression model for factors associated with the victims' median BAC at the time of the homicide. The characteristics of the victims that were significantly associated with a higher median BAC were the following: being older than age 29 years; being unemployed or unknown employment status; and being killed in a rural setting, in a public space, and on a weekend. Significant interactions between the employment status of the victim and homicide type as well as homicide setting and homicide type were found. Stratified analysis showed that the median BACs of unemployed homicide victims were modified by the type of homicide (data not shown), with an almost fourfold difference between the median BACs of intimate homicide victims (.19% [190 mg/100 ml]) and nonintimate victims (.05% [50 mg/100 ml]; $p < .000$). Among victims killed in urban settings, the type of homicide was not associated with the median level of BAC, whereas those killed in rural settings had a .14% [140 mg g/100 ml] higher median BAC for nonintimate homicides compared with those killed by an intimate perpetrator.

Discussion

This study showed that two out of three female homicide victims consumed substantial amounts of alcohol before their murder. More than half of the women exceeded the legal blood alcohol limit, with the median BAC (.11% [110 mg/100 ml]) more than twice the legal limit. This finding is similar to that reported by Lerer (1992) in research in the same region more than a decade earlier; however, direct comparison is limited because comparative legal alcohol

Table 2. Demographic characteristics of victims of female homicide and blood alcohol concentration (BAC) at time death

		All female homicides (N = 153)				
Variable	n	Median (range) BAC	0%-.04% %	≥.05% %	OR (CI) %	*p*
Age, years						
14-29	51	.05% (0%-.41%)	49.0	51.0	ref.	
30-39	59	.22% (0%-.37%)	32.2	67.8	2.02 (0.93-4.39)	.074
40-49	17	.08% (0%-.33%)	47.1	52.9	1.08 (0.36-3.25)	.668
≥50	23	0% (0%-.30%)	65.2	34.8	0.51 (0.19-1.42)	.199
Race						
African	57	.08% (0%-.37%)	45.6	54.4	ref.	
Non-African	96	.15% (0%-.41%)	43.8	56.3	1.07 (0.55-2.08)	.823
Employment						
Employed	45	0% (0%-.33%)	75.6	24.4	ref.	
Unemployed	70	.21% (0%-.41%)	25.7	74.3	8.93 (3.76-21.22)	<.001
Unknown	38	.08% (0%-.32%)	42.1	57.9	4.25 (1.67-1.84)	.002
Setting						
Rural	33	.22% (0%-.36%)	27.3	72.7	ref.	
Urban	120	.06% (0%-.41%)	49.2	5.8	0.39 (0.17-0.90)	.028
Scene						
Other	95	.04% (0%-.36%)	51.6	48.4	ref.	
Public space	52	.17% (0%-.41%)	3.8	69.2	2.40 (1.17-4.89)	.016
Day of homicide						
Weekday	58	.01% (0%-.41%)	58.6	41.4	ref.	
Weekend	95	.14% (0%-.37%)	35.8	64.2	2.54 (1.3-4.97)	.006
Perpetrator relationship						
Nonintimate	80	.03% (0%-.37%)	53.8	46.3	ref.	
Intimate	73	.20% (0%-.41%)	34.3	65.8	2.23 (1.16-4.29)	.016
Type of homicide and employment						
Intimate employed	17	0% (0%-.33%)	7.6	29.4	ref.	
Intimate unemployed	39	.25% (0%-.41%)	18.0	82.0	1.97 (2.91-41.30)	<.001
Intimate unknown employment	17	.09% (0%-.25%)	35.3	64.7	4.4 (1.04-18.59)	.044
Nonintimate employed	28	0% (0%-.33%)	78.6	21.4	ref.	
Nonintimate unemployed	31	.14% (0%-.37%)	35.5	64.5	6.67 (2.08-21.36)	.001
Nonintimate unknown employment	21	.07% (0%-.32%)	47.6	52.4	4.03 (1.16-13.99)	.028
Type of homicide and setting						
Intimate rural	17	.24% (0%-.36%)	35.3	64.7	ref.	
Intimate urban	56	.19% (0%-.41%)	33.9	66.1	1.06 (0.34-3.32)	.917
Nonintimate rural	16	.22% (0%-.33%)	18.6	81.3	ref.	
Nonintimate urban	64	0% (0%-.37%)	62.5	37.5	0.14 (0.04-0.54)	.004

Notes: OR = odds ratio; CI = confidence interval; ref = reference.

levels differ. This pattern of alcohol use among female homicide victims in South Africa appears to be different from those reported in the United States, where most women who are murdered have negative BAC toxicology reports (Moracco et al., 1998; Sharps et al., 2001). Our finding fits with an overall pattern of high alcohol consumption and interpersonal violence in South Africa (Norman et al., 2007; Parry, 2005).

This study was conducted in the Western Cape, a region known to have one of the highest levels of alcohol consumption in South Africa (Parry et al., 2005). This is a wine- producing area with a historical practice known as the "dop system," whereby farm laborers were partly paid in crude acidic wine that is very addictive (Mager, 2004). Although this practice is legally prohibited, a residual pattern of very heavy drinking persists, particularly on weekends, in these rural farming communities. Discussions with community-based organizations in the region have pointed to a relationship between hazardous communal drinking and high levels of interpersonal violence. There are few real strangers in these communities and, even when the perpetrators were nonintimate partners, the perpetrators were predominantly known to their victims. This suggests that murders were probably not random acts but that there was some form of preexisting relationship between the victim and perpetrator, which may in fact have had a sexual nature. Waldman (1996) reported that women have very little control over their own sexuality in such communities and that there is often fluidity in sexual partnerships, which is related to the men's sense of sexual entitlement. Unequal gender power relations on farms are likely to be a key factor in explaining the association between higher levels of alcohol and being killed by a

Table 3. Perpetrator characteristics and female homicide victim blood alcohol concentration (BAC) at time of death

		All female homicides (N = 153)				
Variable	n	Median (range) BAC	0%-.04% %	≥.05% %	OR (CI) %	*p*
Age, years						
14-29	50	.09% (0%-.33%)	46.0	54.0	ref.	
30-39	39	.18% (0%-.41%)	33.3	66.7	1.70 (0.72-4.06)	.229
≥40	29	.23% (0%-.36%)	37.9	62.1	1.39 (0.55-3.55)	.486
Race						
African	51	.11% (0%-.41%)	41.2	58.8	ref.	
Non-African	76	.15% (0%-.35%)	4.8	59.2	1.02 (0.49-2.09)	.965
Employment						
Employed	48	.08% (0%-.41%)	5.0	5.0	ref.	
Unemployed	66	.17% (0%-.31%)	28.8	71.2	2.47 (1.14-5.38)	.022
Unknown	39	0% (0%-.29%)	64.1	35.1	0.56 (0.24-1.33)	.189
Perpetrator problem alcohol use						
No	93	.01% (0%-.41%)	56.4	43.6	ref.	
Yes	53	.14% (0%-.37%)	22.6	77.4	4.42 (2.06-9.46)	<.001
Gun ownership						
No	138	.15% (0%-.41%)	37.5	62.5	ref.	
Yes	9	0% (0%-.23%)	74.1	25.9	0.21(0.08-0.54)	.001

Notes: OR = odds ratio; CI = confidence interval; ref. = reference.

Table 4. AQuantile regression analysis: Victim characteristics associated with median blood alcohol concentration (BAC) at time of homicide

Variable	Coefficient (95% CI)	*p*
Intercept	.07% (.02%-.12%)	
Age, years		
14-29	ref.	
30-39	.06% (.03%-.09%)	<.001
40-49	.05% (.01%-.09%)	.013
≥50	.05% (.02%-.10%)	.004
Employment		
Employed	ref.	
Unemployed	.05% (.02%-.09%)	.006
Unknown	.08% (.04%-.12%)	<.001
Setting		
Rural	ref.	
Urban	−.15% (−.19%-−.11%)	<.001
Scene		
Other	ref.	
Public space	.06% (.03%-.08%)	<.001
Day of homicide		
Weekday	ref.	
Weekend	.05% (.03%-.08%)	<.001
Homicide type		
Nonintimate	ref.	
Intimate	−.14% (−.20%-−.08%)	<.001
Interactions		
Intimate × Urban	.17% (.11%-.22%)	<.001
Intimate × Unemployed	.14% (.08%-.19%)	<.001
Intimate × Unknown Employment	.02% (−.04%-.08%)	.523

Notes: R^2 = .35. CI = confidence interval; ref. = reference.

nonintimate perpetrator and may explain why this pattern is similar to that found with intimate homicides.

The relationship between the cause of death and BAC is also revealing, because women who faced a firearm before they were killed were sober, whereas those killed with either sharp or blunt force were highly intoxicated at the time of their death. These data indicate that there are distinct subgroups of women who are murdered. The murder of women who were sober appears to be planned, because the weapon used requires more forethought. However, the higher BACs in the group killed by sharp objects or blunt force appear to be linked to a combination of levels of interpersonal violence prevalent in communities and the social nature of drinking.

Our results found that intimate partner homicide is associated with an increase in the odds of the victim having a high BAC at the time of death. Furthermore, unemployed victims had a higher median blood alcohol when killed by an intimate partner. This might suggest that unemployed women are at increased risk because they are more likely to be financially dependent and use alcohol as a means to cope with the violence in the relationship, making it more difficult to leave and exacerbating an already violent relationship. Research has shown that women in violent relationships are at increased risk of misusing substances (Campbell, 2002), and it has been proposed that women use alcohol as a consequence of the violence to cope with the fear, terror, pain, and anticipation of future attacks (Browne, 1997). It is clear that being intoxicated renders women unable to protect themselves, impairs their judgment, and therefore increases their vulnerability as easy targets for violence during arguments.

The study has also revealed some aspects of the social nature of alcohol use and the vulnerability that it creates for women. Heavy drinking and the increased risk of being killed in a public space would indicate that the pattern of alcohol use among murdered women differs in South Africa from that in the United States (Sharps et al., 2001). Heavy drinking in public spaces suggests that it is linked to the social norms of drinking. In South Africa, heavy drinking on weekends is socially accepted for both men and women and is viewed as recreational (Morojele et al., 2006). It is,

therefore, not surprising that being killed on weekends was associated with a high BAC at time of death. Given the social context of drinking, the concern is why others within the social setting do not intervene to prevent such killings or notice that the woman is too drunk to protect herself and help her to safety. It would appear, however, that heavy social drinking is an accepted norm and engaged in by many, resulting in a lack of response.

The pattern of excessive social drinking in South Africa poses a major public health problem and requires urgent attention. The World Health Assembly has recently adopted a resolution with the aim of developing a global strategy to reduce the harmful use of alcohol (World Health Assembly, 2008). Initiatives to reduce such harmful drinking should be in line with this global strategy. A comprehensive approach to address excessive drinking should take into account both societal and individual factors (Morojele et al., 2006; World Health Assembly, 2008). The approach should include the introduction of a national plan to reduce substance abuse with a focus on developing alternative recreational facilities, regulating the multitude of unlicensed liquor outlets, and educating the general population on the risks of excessive drinking (Parry et al., 2005). Shifting norms and perceptions of what is drunk, on serving intoxicated people in taverns, and deciding what and when is enough are the first steps in changing the culture around drinking. These steps are critical if we hope to shift patterns of excessive drinking in communities.

An important limitation to the study is that the data were gathered in a region known for its high level of alcohol consumption. The region, in this respect, is not strictly representative of South Africa. However, heavy drinking on weekends is a part of alcohol-consumption patterns throughout the country. Having said this, the findings may not be generalizable to all homicide victims in South Africa. Although the study shows a significant association between the perpetrator's problem alcohol use and the victim's elevated BAC at the time of the killing, the study was unable to measure the perpetrator's BAC at the time of the killing, because the data were obtained from police files.

Conclusions

This study shows that women who are killed have excessively high levels of alcohol at the time of their death. The pattern we observe in South Africa is different from what has been reported elsewhere. High levels of social drinking and its acceptance within South African society is a public health challenge. These risky drinking patterns among both women and men combined with high rates of intimate partner violence render women vulnerable, because it increases the likelihood that women will be unable to defend themselves or elude a possible attack. This study highlights the public health risk of excessive alcohol consumption, its relationship with intimate partner killings, and the need to introduce a comprehensive approach to change behavior and attitudes around drinking.

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PAPER] IV

Intimate femicide–suicide in South Africa: a cross-sectional study

Shanaaz Mathews,[a] Naeema Abrahams,[a] Rachel Jewkes,[a] Lorna J Martin,[b] Carl Lombaard[c] & Lisa Vetten[d]

Objective To examine the incidence and patterns of intimate femicide–suicide in South Africa and to describe the factors associated with an increase in the risk of suicide after intimate femicide (i.e. the killing of an intimate female partner).

Methods A cross-sectional retrospective national mortuary-based study was conducted at a proportionate random sample of 25 legal laboratories to identify all homicides committed in 1999 of women aged more than 13 years. Data was collected from the mortuary file, autopsy report and a police interview.

Findings Among 1349 perpetrators of intimate femicide, 19.4% committed suicide within a week of the murder. Suicide after intimate femicide was more likely if the perpetrator was from a white than African racial background (odds ratio, OR: 5.8; 95% confidence interval, CI: 1.21–27.84), was employed as a professional or white-collar worker than blue-collar worker (OR: 37.28; 95% CI: 5.82–238.93), and owned a legal gun than not owning a legal gun (OR: 45.26; 95% CI: 8.33–245.8). The attributable fraction shows that 91.5% of the deaths of legal gun-owning perpetrators and their victims may have been averted if this group of perpetrators did not own a legal gun.

Conclusion South Africa has a rate of intimate femicide–suicide that exceeds reported rates for other countries. This study highlights the public health impact of legal gun ownership in cases of intimate femicide–suicide.

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Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

Intimate femicide, the killing of a woman by her intimate partner, is considered the most extreme form and consequence of intimate partner violence. Until recently, not much has been known about this phenomenon in South Africa. The first national study on female homicide estimated that the intimate-femicide rate in 1999 was 8.8 per 100 000 women aged 14 years and older.[1] This rate is higher than other reported rates worldwide, with the only comparison being North Carolina in the United States of America (USA), which has reported a rate of 3.46 per 100 000 women aged 15 years and older.[2]

Internationally, between 18% and 40% of perpetrators of intimate femicide commit suicide afterwards.[3–7] The past decade has seen an emergence of studies from developed countries such as Australia and the USA that have explored the type of perpetrator and the associated risk factors.[3,4,6] However, there is an absence of information from developing settings. More commonly, this phenomenon has been examined in homicide-suicide research, where the murder victims are both men and women and perpetrators may be either an intimate partner or not.

The South African national study on the epidemiology of female homicide provided the opportunity to describe the epidemiology of intimate femicide–suicide for the first time. This has not been described previously in a developing setting since such settings have limitations with the availability of reliable death data, thus placing a constraint on the range of variables available.

The aim of this paper is to describe the incidence and patterns of intimate femicide–suicide and the factors associated with an increased risk of suicide after intimate femicide.

Methods

This was designed as a cross-sectional mortuary-based national retrospective study of female homicide victims older than 13 years who presented at a medical legal laboratory (MLL) between 1 January 1999 and 31 December 1999. In South Africa, all unnatural deaths are required to undergo a postmortem at an MLL to determine cause of death. All MLLs operating in 1999 formed part of the sample and were stratified based on the number of postmortems performed per annum; small < 500 bodies, medium 500–1499 bodies and large ≥ 1499 bodies. The approximate ratio of allocation between the three strata was 8:5:12 (8 large mortuaries, 5 medium mortuaries and 12 small mortuaries), which was based on optimal allocation fitting a sample of 25 mortuaries.[8] Data was collected 3 years after the murder, so as not to compromise the criminal investigation. Ethical

[a] Gender and Health Unit, Medical Research Council, PO Box 19070, Tygerberg 7505, South Africa.
[b] Division of Forensic Medicine and Toxicology, University of Cape Town, Cape Town, South Africa.
[c] Bio-statistics Unit, Medical Research Council, Tygerberg, South Africa.
[d] Centre for the Study of Violence and Reconciliation, Braamfontein, Johannesburg, South Africa.
Correspondence to Shanaaz Mathews (e-mail: shanaaz.mathews@mrc.ac.za).
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approval for the study was granted by the ethics committee of the South African Medical Research Council.

Data was collected from three sources using a pretested data collection sheet, which was designed based on an assessment of various instruments and was finalized after the pilot study. The primary data source was the death register at the MLLs so as to identify cases of homicide. The second data source was the postmortem report, which was entered onto the data collection sheet by the forensic pathologist on the team. Interviews with the investigating officer or police record reviews were the third data source. Police data allowed us to confirm a homicide, victim–perpetrator relationship and whether the perpetrator committed suicide.

The following definitions were used:

- **Intimate femicide:** The killing of a woman by an intimate partner. This includes the woman's husband, boyfriend (dating or cohabiting), ex-husband (divorced or separated) or ex-boyfriend, same sex partner or a rejected would-be lover.
- **Intimate femicide–suicide:** An intimate femicide followed by the suicide of the perpetrator within a week of the homicide.
- **Intimate femicide–non suicide:** The killing of a female by her intimate partner without subsequent suicide of the perpetrator.

The perpetrator was defined as the person whom the investigating officer considered as the primary person responsible for the homicide. Cases were classified into intimate femicide and non-intimate femicide, and then intimate-femicide cases were sub-classified into intimate femicide–suicide and intimate femicide–non suicide.

Classification bias was minimized through the use of two data sources; data from the investigating officer and the outcome of the inquest court inquiry.

Data collected from MLL records included information on police case details and victim information such as age, race, date and time of death. The pathology reports provided data on injuries, manner of death and primary cause of death. Data collected from the police included demographic details of perpetrator, victim perpetrator relationship and relationship status, previous history of violence, events leading to the murder, the legal outcome of the case or the death of the perpetrator. Data on race was collected: inequalities imposed by apartheid have had a lasting public health impact and must be considered by health researchers. Race was used based on the Apartheid classification system as it is still documented in all official records. Race of the victim was determined through mortuary records, while perpetrator race was determined via police records. Race is accurately documented at both these sources as it is based on the person's identification documentation.

Data was analysed using Stata version 8 (StataCorp LP, College Station, TX, USA). The analysis took into account the survey design, including the stratification and weighting of the sample. Incidence rates for intimate femicide–suicide were calculated for victims and perpetrators using population estimates from the 1996 South African Census Report,[9] adjusted to reflect the year under investigation. Descriptive statistics were used to compare intimate femicide–suicide and intimate femicide–non suicide cases. Significant differences between the two groups were tested using the chi-square test. Unadjusted odds ratios and 95% confidence intervals (CI) were calculated to describe the association between intimate femicide–suicide and selected variables. A logistic regression model was built to investigate the factors associated with intimate femicide–suicide. A backward stepwise model-building process was followed. Candidate variables for the model included perpetrator's race, victim's age, perpetrator's age, perpetrator's occupation, legal gun ownership, relationship status, events leading to the homicide, primary cause of death and mechanism of death. The final model contained the independent variables that remained significant at ≤ 0.05 level. Finally, the attributable fraction for legal gun ownership and intimate femicide–suicide was calculated using the adjusted odds ratio for gun ownership.[10]

Results

A total of 3793 (95% CI: 2693–4894] estimated cases (weighted) were identified via death registers (Fig. 1). Complete police data was collected on 86.7% (3296; 95%CI: 2440–4152) of cases, of which 18.6% (95% CI: 13.9–24.2) had an unknown perpetrator and were excluded from further analysis. Overall 11.4% (95% CI: 7.8–15.0) of the perpetrators died in the 3 year follow-up period, with this figure increasing to 22.2% (95% CI:15.2–31.3) for intimate-femicide perpetrators, suicide being the leading cause of death (86.6%; 95% CI: 73.6–99.4) in this group.

This study found an estimated 261 (95% CI: 155–368) intimate femicide–suicide cases (i.e. 19.4% of intimate-femicide cases; 95% CI: 11.9–26.8), giving an intimate femicide–suicide fatality rate of 1.7 per 100 000 (95% CI: 1.0–2.4) women aged 14 years and older and a perpetrator fatality rate of 2.0 per 100 000 (95% CI: 1.2–2.8) males 15 years and older for 1999.

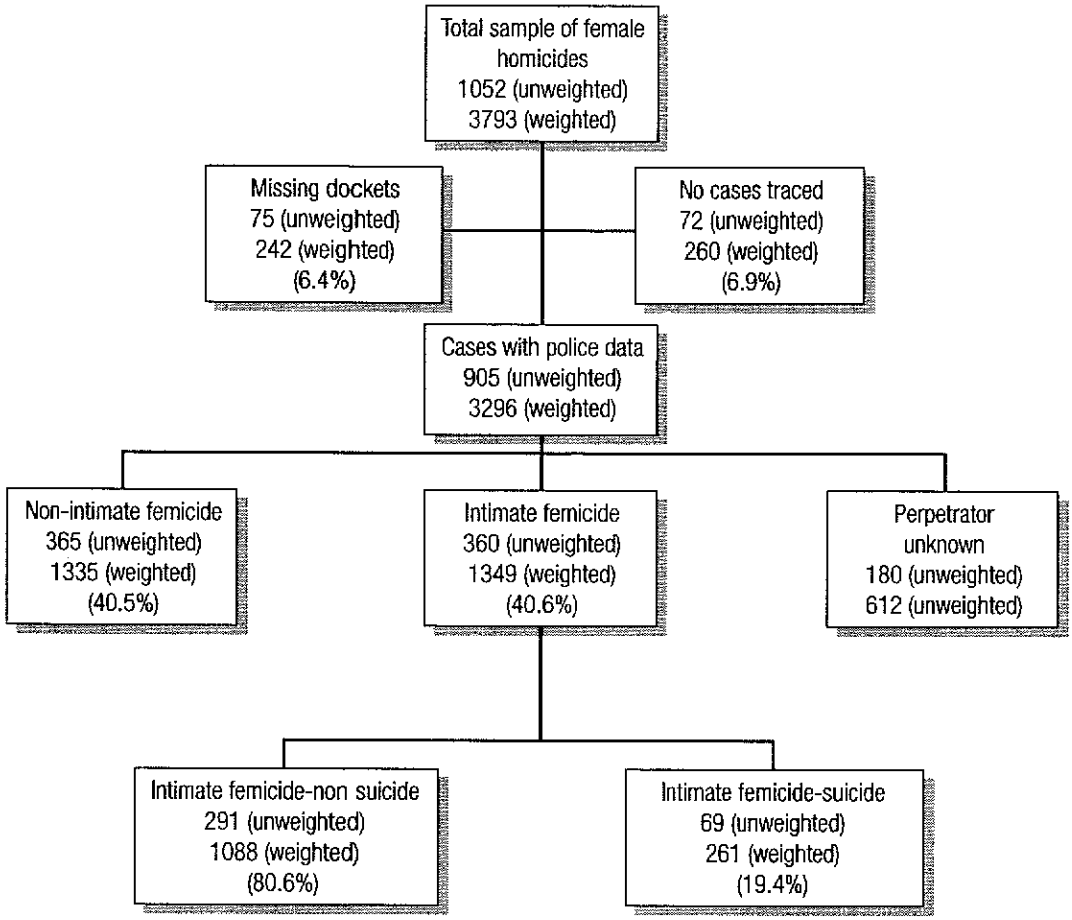
Table 1 presents the demographic characteristics of victims. The median age of victims of intimate femicide–suicide cases was 26 years and median age of victims of intimate femicide–non suicide cases was 30 years. Victims of intimate femicide–suicide cases were usually younger than their perpetrators, who were significantly less likely to commit suicide as the victim's age increased.

Table 2 shows that perpetrators of intimate femicide–suicide were more likely to be of white or Indian than of African racial background and least likely to be of mixed race; more likely to be younger; more likely to be employed; and more likely to be working in the security industry (police, army or as a guard) than a blue-collar worker.

Intimate-femicide perpetrators who committed suicide compared to cases without suicide; were younger, more likely to be Indian but less likely to be of mixed than African race; more likely to be employed; and they were more likely to be working in the security sector, to be professional or white-collar workers, or to be self-employed than blue-collar workers. They were also more likely to own a legal gun.

Significant differences were found between the two intimate-femicide groups in relation to the preceding events to the murder ($P = 0.03$). In the intimate femicide–suicide group, women were more likely to have ended the relationship.

Fig. 1. **Flowchart of all cases identified**



No significant differences were found in the primary cause of death. However, mechanism of death shows that intimate femicide–suicide cases were significantly more likely to have been killed by a gun and less likely to have been killed by blunt force, compared to intimate femicide–non suicide cases.

Table 3 shows a logistic regression model for factors associated with femicide–suicide perpetrators. This was more likely if the perpetrator was a professional or white-collar worker (odds ration, OR: 37.3; 95% CI: 5.82–238.93) than a blue-collar worker; owned a legal gun (OR: 45.26; 95% CI: 8.33–245.80) and was racially classified as white (OR: 5.8; 95% CI: 1.21–27.85) than African. Calculating the attributable fraction reveals that 91.5% of the deaths of legal gun-owning perpetrators and their victims may have been averted if legal gun ownership had been restricted among this group.

Discussion

In South Africa during 1999, 19.4% of perpetrators of intimate femicide committed suicide. This proportion appears to be at the lower end of the range reported internationally (18–40%),[3–10] with similar rates reported for Australia (21%)[5] and North Carolina, USA (24%).[6] Yet, the intimate femicide–suicide fatality rate for women (1.7 per 100 000) was higher than the only comparable rate in North Carolina, USA, which reported an increase from 0.67 to 1.06 per 100 000 over a 5-year period.[6] This increase of almost two times is similar to the overall difference in intimate-femicide rates between South Africa (8.8 per 100 000)[1] and North Carolina (3.46 per 100 000).[2] These high rates of intimate femicide and femicide–suicide appear to be related to the excessive levels of interpersonal violence prevalent in South Africa, with homicide being the second leading cause of death.[11] We do not completely understand why South Africa has a lower proportion of intimate femicide–suicide, but it could be linked to the racial distribution of male suicides. Our overall suicide rate is comparable to global rates, however, we have an overrepresentation of white males.[12] This difference suggests that a different dynamic exists within South Africa and could partly be explained by the prevailing high level of interpersonal violence and gender inequality.

Intimate femicide–suicide has often been considered as a distinct phenomenon, differing from both female homicide and intimate femicide.[13] However, few studies have been conducted to explore its associated factors. Risk factor studies from the USA have shown that a history of domestic violence is an important risk factor for both intimate femicide and femicide–suicide.[4,6] An important limitation of this study is that history of domestic violence was not routinely investigated by the police. This information was only known for one third of intimate-

Table 1. **Characteristics of victims**

Characteristics	Intimate femicide–suicide[a] (%) $n = 261$[a]	Intimate femicide–non suicide[a] (%) $n = 1088$[a]	Odds ratio (95% CI)	*P*-value
Victim age				
14–29	72.9 (54.8–85.7)	45.4 (35.3–55.9)	1.00	–
30–39	19.4 (8.5–38.5)	39.3 (28.7–51.0)	0.31 (0.09–0.99)	0.05
40+	7.6 (3.0–18.3)	15.3 (12.0–19.4)	0.31 (0.11–0.88)	0.03
Median	26 years	30 years		
Victim race				
African	79.7 (66.8–88.5)	74.9 (56.4–87.3)	1.00	–
Mixed	5.0 (1.8–13.2)	22.0 (10.0–41.7)	0.21 (0.07–0.65)	0.009
White	10.2 (4.5–21.4)	2.5 (0.9–6.6)	3.9 (0.93–16.44)	0.06
Indian	5.0 (1.8–13.5)	0.7 (0.1–5.6)	6.85 (1.0–48.24)	0.05
Relationship status				
Boyfriend	28.8 (18.5–41.9)	27.1 (16.9–40.4)	1.00	–
Husband	30.8 (16.9–49.4)	15.5 (9.8–23.6)	1.74 (0.66–4.61)	0.25
Cohabiting partner	40.4 (25.6–57.1)	55.5 (42.0–68.2)	0.59 (0.25–1.40)	0.22
Other	0.0	1.9 (0.8–4.6)	–	–
Victim employment				
Unemployed	40.3 (21.1–62.9)	60.6 (49.4–70.6)	1.00	–
Employed	44.2 (25.0–65.2)	20.5 (14.5–28.0)	3.24 (1.04–10.12)	0.04
Unknown	15.5 (6.8–31.8)	19.0 (13.3–26.5)	1.22 (0.37–4.06)	0.35
Employment category				
Blue-collar	28.4 (11.7–54.1)	58.6 (38.6–76.1)	1.00	–
Pensioner	5.9 (0.6–38.5)	0.8 (0.09–7.5)	14.47 (0.37–586.67)	0.14
Professional	30.6 (9.5–64.9)	22.0 (9.7–42.5)	2.88 (0.47–17.69)	0.23
Security industry	4.9 (1.6–14.0)	0.8 (0.1–6.5)	11.97 (1.2–118.84)	0.04
Student	30.3 (11.7–58.7)	17.8 (7.8–35.5)	3.53 (0.72–17.21)	0.11
Primary cause of death				
Multiple injury	41.1 (21.9–63.6)	47.7 (37.5–57.8)	1.00	–
Single injury	58.9 (36.4–78.2)	46.9 (38.5–55.4)	1.45 (0.59–3.58)	0.401
Undetermined	0.0	5.6 (2.9–10.5)	–	–
Mechanism of death				
Gun	82.7 (63.7–92.9)	18.1 (9.7–31.1)	21.7 (5.9–79.7)	0.00
Sharp object	14.7 (5.3–34.5)	38.0 (30.2–46.4)	0.28 (0.08–1.04)	0.05
Blunt force	11.3 (3.2–32.8)	40.7 (30.0–52.4)	0.19 (0.04–0.74)	0.01
Strangled/asphyxiated	2.6 (0.3–19.4)	3.9 (2.1–7.2)	0.66 (0.08–5.67)	0.69
Fire	0.0	1.4 (0.5–3.9)	–	–
Drowning	0.0	0.5 (0.2–1.4)	–	–
Other	0.0	0.7 (0.2–2.2)	–	–

[a] Weighted estimates.

femicide cases, with no data on previous violence for femicide–suicide cases as they were investigated only as inquest inquiries.

Theories on the cause of intimate femicide–suicide have a common theme of jealousy and possessiveness by the women's male partner.[5,13,14] Some authors have argued that it is due to depression in the perpetrator, which results in morbid jealousy and delusions that lead him to kill his partner.[5,15,16] Intimate femicide–suicide is often premeditated and carefully planned.[13,14,17] This is demonstrated by the short period of time between the two acts, as well as suicide notes and a history of stalking.[13] Graser[17] suggests that this is primarily an extended suicide (i.e. the primary aim is suicide), which is rational and carefully planned, with the homicide being an act of taking the family with him. Intimate femicide may also occur as a spontaneous act of murder occurring in a fit of jealousy, with the suicide being an act of remorse or stemming from fear of the consequences. The extent of premeditation, depression in the perpetrator or spontaneity of the act could not be determined in our study as the police had limited information in their files.

Suicide among intimate-femicide perpetrators was more likely if the perpetrator was white; employed as a professional or white-collar worker; and owned a legal gun. Given South Africa's political history, race is often a loose indicator of socioeconomic status and

Table 2. **Characteristics of perpetrators**

Characteristics	Intimate femicide–suicide (%) $n = 261$[a]	Intimate femicide–non suicide (%) $n = 1088$[a]	Odds ratio (95% CI)	*P*-value
Perpetrator age				
14–29	46.4 (26.8–67.2)	31.1 (22.8–40.7)	1.00	–
30–39	42.2 (23.8–63.1)	40.1 (32.6–48.1)	0.71 (0.24–2.09)	0.51
40+	11.4 (5.6–21.8)	28.8 (21.4–37.6)	0.26 (0.08–0.84)	0.03
Median	30 years	34 years	–	–
Perpetrator race				
African	80.4 (67.1–89.2)	75.4 (59.1–86.7)	1.00	–
Mixed	4.3 (1.3–13.3)	20.9 (10.2–38.1)	0.19 (0.07–0.54)	0.003
White	9.5 (4.0–21.1)	2.6 (1.0–6.7)	3.39 (0.76–15.1)	0.104
Indian	5.7 (2.4–13.3)	1.0 (0.3–4.1)	5.21 (1.33–20.31)	0.02
Perpetrator employment				
Unemployed	20.6 (11.1–35.1)	42.0 (31.9–52.8)	1.00	–
Employed	65.3 (49.9–78.1)	50.5 (38.8–62.1)	2.64 (0.1–7.01)	0.05
Unknown	14.1 (6.9–26.5)	7.5 (4.1–13.4)	3.84 (1.54–9.59)	0.006
Employment category				
Blue-collar	18.1 (6.5–41.3)	60.1 (46.7–72.1)	1.00	–
Gardener/farm worker	0.0	21.1 (11.3–36.0)	–	–
Professional/white-collar	14.1 (4.3–37.3)	3.6 (1.8–7.3)	12.9 (4.84–34.51)	0.000
Security industry	58.0 (28.0–82.9)	8.0 (3.3–18.3)	24.1 (4.55–127.44)	0.001
Self-employed	9.9 (4.7–19.6)	5.6 (2.3–13.1)	5.9 (1.25–28.06)	0.03
Student	0.0	1.6 (0.3–7.5)	–	–
Gun ownership				
Do not own a legal gun	24.6 (14.1–39.4)	68.1 (55.1–78.8)	1.00	–
Unknown	9.1 (3.36–22.2)	22.3 (12.2–37.4)	1.12 (0.32–3.95)	0.85
Own a legal gun	66.3 (51.4–78.6)	9.6 (5.3–16.7)	18.65 (6.79–51.2)	0.000
Do not own an illegal gun	80.4 (67.1–89.2)	70.6 (54.4–82.8)	1.00	–
Unknown	9.1 (3.4–22.2)	23.2 (12.9–38.1)	0.34 (0.97–1.21)	0.09
Possess/own illegal gun	10.5 (5.2–20.1)	6.3 (3.6–10.7)	1.47 (0.44–4.93)	0.51
Preceding events				
Argument	53.5 (26.8–78.3)	54.6 (42.2–66.6)	1.00	–
Alleged infidelity of victim	16.3 (4.1–46.9)	19.7 (13.7–27.5)	0.84 (0.15–4.75)	0.84
Female ended relationship	29.0 (12.2–54.6)	8.4 (4.2–16.3)	3.52 (1.12–11.17)	0.03
Other	1.3 (0.2–9.9)	17.3 (9.6–29.1)	0.08 (0.01–0.81)	0.04

[a] Weighted estimates.

social group membership, or culture.[18] The increased suicide risk for white men matches national suicide patterns in South Africa that show the rate of suicide overall is highest in this group.[12] Therefore we suggest that the social meaning of intimate femicide, and the perpetrator's reaction afterwards, may differ between racial groups. Interestingly, overall intimate-femicide rates were found to be lowest among white males.[1]

Studies that have explored the factors associated intimate femicide–suicide[4,5,7] suggest that it is a "middle-class phenomenon", more common among married men who are employed. Kozoil-McLain[4] report that perpetrators of intimate femicide–suicide were more "conventional", employed, married, did not abuse drugs or abuse their partner during pregnancy. This study has also found that perpetrators of intimate femicide–suicide were of a higher socioeconomic status and would perhaps have more to lose after killing an intimate partner. This suggests that the possibility of negative consequences, such as the shame attached to incarceration and imprisonment, might result in the perpetrator choosing to suicide.

Legal gun ownership has been shown to be strongly associated with an increased risk of intimate femicide–suicide in other studies.[3,4,7,14,15] This almost certainly is due to the lethality of guns and the ease with which they can be used in suicide. The greater proportion of perpetrators employed in the police, army or private security industry reflects the easier access to guns in these professions. Two-thirds of intimate femicide–suicide perpetrators owned a legal gun and the attributable fraction shows that a large proportion of these deaths might have been prevented should gun ownership within this group have been restricted. The strong association found between legal gun ownership and intimate femicide–suicide suggests that access to legal

guns in South Africa requires urgent attention. In the USA, it was found that restricting gun access for abusers who had restraining orders decreased rates of intimate partner killings, while confiscation and domestic violence laws proved ineffective.[19] This suggests that, although there has been huge emphasis on illegal gun ownership in South Africa, legal gun ownership and its relationship with intimate partner violence clearly poses an important public health problem and highlights the need to restrict gun ownership.

Limitations

An important limitation in this study is the choice of comparison group. Comparing intimate femicide–suicide to intimate-femicide cases results in the contribution of common risk factors being rendered invisible. This factor is compounded by data being obtained from police sources. This could result in data being incomplete while also being limited in scope at times.

Table 3. **Logistic regression analysis model: factors associated with intimate femicide–suicide**[a]

Variable	Odds ratio (95% CI)	*P*-value
Perpetrator occupation		
Blue-collar	1.00	–
Other	1.4 (0.42–4.80)	0.55
Professional/ white-collar	37.3 (5.82–238.92)	0.001
Security	3.8 (0.44–32.71)	0.21
Gun ownership		
No legal gun	1.00	–
Unknown legal gun ownership	1.3 (0.21–8.1)	0.76
Legal gun ownership	45.3 (8.33–245.8)	< 0.000
Perpetrator race		
African	1.00	–
Mixed	0.8 (0.16–4.41)	0.84
White	5.8 (1.22–27.85)	0.029
Indian	0.7 (0.19–2.74)	0.61
Log likelihood: −40.76		
Wald χ^2**:** 52.72		
***P*-value:** < 0.0001		
Pseudo R^2**:** 0.53		

[a] Weighted estimates.

Conclusion

South Africa has a rate of intimate femicide–suicide that greatly exceeds reported rates elsewhere and clearly reflects the high rate of intimate femicide. We have shown that intimate-femicide perpetrators are more likely to commit suicide if they are white or of a higher socioeconomic status. Gun ownership is a very important risk factor for intimate femicide–suicide. The *World report on violence and health* reports on the risks posed by guns in the home for both intimate femicide and suicide. It recommends legislation on restricting ownership of guns as a form of primary prevention.[20] This study once again highlights the public health risk posed by legal gun ownership and the importance of restricting access to guns. ■

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Résumé

Fémicide-suicide intime en Afrique du Sud : étude rétrospective nationale

Objectif Certains hommes se suicident après avoir tué leur femme ou leur petite amie. On sait peu de choses de la fréquence de ce comportement ou du type de personne le plus susceptible de commettre un tel crime. La présente étude vise à examiner l'incidence et les schémas du fémicide-suicide intime en Afrique du Sud et à décrire les facteurs associés à une augmentation du risque de suicide après un fémicide intime (c'est-à-dire le meurtre d'un partenaire féminin intime).

Méthodes Une étude rétrospective nationale à partir de données mortuaires a été menée sur un échantillon aléatoire proportionné de 25 laboratoires de médecine légale pour identifier tous les homicides commis en 1999 sur des femmes de plus de 13 ans. Les données ont été recueillies à partir des dossiers mortuaires, des rapports d'autopsie et des interrogatoires de police.

Résultats Parmi 1349 auteurs de fémicide intime, 19,4 % s'étaient suicidés dans la semaine suivant le meurtre. Après un fémicide intime, la probabilité de suicide était plus grande si l'auteur était de race blanche plutôt que d'origine africaine (odds ratio, OR : 5,8 ; intervalle de confiance à 95 %, IC : 1,21-27,84) et exerçait une profession libérale ou était employé plutôt qu'ouvrier (OR : 37,28 ; IC à 95 % : 8,33-245,8). D'après la fraction attribuable, 91,5 % des meurtres commis par des détenteurs légaux d'arme à feux auraient pu être évités si leurs auteurs n'avaient pas possédé légalement une telle arme.

Conclusion L'Afrique du Sud présente un taux de fémicide-suicide intime qui dépasse les taux rapportés pour les autres pays. Cette étude met en lumière l'impact en termes de santé publique de la détention légale d'armes à feu dans les cas de fémicide-suicide intime.

Resumen

Feminicidio-suicidio de parejas en Sudáfrica: estudio retrospectivo nacional

Objetivo Algunos hombres se suicidan después de matar a su pareja, pero nos falta información sobre lo extendido del fenómeno y sobre el tipo de personas con más probabilidades de actuar así. La finalidad de este estudio fue examinar la incidencia y las modalidades del feminicidio-suicidio de parejas en Sudáfrica y describir los factores asociados al aumento del riesgo de suicidio tras el feminicidio de pareja (es decir, el asesinato de la mujer con la que se mantiene una relación íntima).

Métodos Se realizó un estudio retrospectivo nacional basado en depósitos de cadáveres en una muestra aleatoria proporcional de 25 laboratorios forenses a fin de identificar todos los asesinatos de mujeres de más de 13 años cometidos en 1999. Los datos analizados proceden de los registros de las morgues, los informes de autopsia y las entrevistas policiales.

Resultados De los 1349 feminicidas de su pareja, el 19,4% se suicidaron durante la semana siguiente al asesinato. El suicidio posterior al feminicidio de pareja era más probable cuando el autor era de raza blanca, por oposición a las personas de origen africano (razón de posibilidades, OR: 5,8; intervalo de confianza (IC) del 95%: 1,21–27,84); tenía un empleo como profesional u oficinista en lugar de como trabajador manual (OR: 37,28; IC95%: 5,82–238,93); o estaba en posesión legal de un arma de fuego (OR: 45,26; IC95%: 8,33–245,8, en comparación con las personas sin arma). La fracción atribuible muestra que un 91,5% de las muertes de los asesinos en posesión legal de un arma de fuego y de sus víctimas podría haberse evitado si hubiesen carecido de arma.

Conclusión Sudáfrica presenta una tasa de feminicidio-suicidio de pareja superior a las de otros países. Este estudio pone de relieve el impacto para la salud pública de la tenencia legal de armas de fuego en los casos de feminicidio-suicidio de parejas.

ملخص

قتل الصاحبات والانتحار في جنوب أفريقيا: دراسة وطنية استعادية

الهدف: ينتحر بعض الرجال عقب قتل صاحباتهم. والحق أننا لا نعرف الكثير عن مدى انتشار هذا الأمر، أو نوع الأشخاص الذي يحتمل إقدامهم بشكل أكبر على مثل هذا التصرف. ومن ثم فإن الغرض من هذه الدراسة هو التعرف على معدل وقوع حالات قتل الصاحبات والانتحار، وأنماطها في جنوب أفريقيا، وتوضيح العوامل المصاحبة لزيادة خطر الانتحار عقب قتل الصاحبات.

الطريقة: أجريت دراسة وطنية استعادية مرتكزة على محفظ الجثث، وشملت عينة نسبية معشاة لنحو 25 مختبراً شرعياً، بغية تحديد كل حالات القتل التي ارتكبت في عام 1999 ضد النساء فوق سن 13 عاماً. وجمعت المعطيات من واقع ملفات محفظ الجثث، والتقارير الخاصة بالتشريح، وتحقيقات الشرطة.

الموجودات: وجد أن من بين 1349 مرتكباً لحوادث قتل صاحباتهم، قام 19.4% بالانتحار في غضون أسبوع من ارتكاب جريمة القتل. وإن احتمال انتحار قاتل صاحبته من الجنس الأبيض، يكون أقوى من احتمال انتحار ذوي الخلفية العرقية الأفريقية (معدل الأرجحية: 5.8 بفاصل 95%، إذا تراوح معدل الأرجحية بين 1.21 و27.84)، وأن انتحار المهنيين أو ذوي الياقات البيضاء أكثر احتمالاً من انتحار العمال (معدل الأرجحية 37.28 بفاصل ثقة 95% إذ تراوح معدل الأرجحية بين 5.82 و238.93) وكذلك من يملكون سلاح ناري مرخص أكثر احتمالا ممن لا يملكون سلاح ناري مرخص (معدل الأرجحية 45.26 بفاصل ثقة 95% إذا تراوح معدل الأرجحية بين 8.33 و245.8). ويظهر الجزء المعزو إننا يمكنا أن نتفادى 91.5% من حالات انتحار مرتكبي جرائم قتل الصاحبات ممن يملكون سلاح ناري مرخص، ووفيات ضحاياهم، في حالة عدم امتلاك هذه المجموعة من الجناة سلاح ناري مرخص.

الاستنتاج: إن معدل قتل الصاحبات والانتحار في جنوب أفريقيا يفوق المعدلات المبلغة من البلدان الأخرى. وتوضح هذه الدراسة أثر امتلاك سلاح ناري مرخص على الصحة العمومية في حالات قتل الصاحبات والانتحار.

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PAPER| V

"I had a hard life": Exploring childhood adversity in the shaping of masculinities among men who killed an intimate partner in South Africa

Authors: Shanaaz Mathews[1], Rachel Jewkes[1], Naeema Abrahams[1]

[1] Gender and Health Research Unit, Medical Research Council

Address for all author correspondence:

Shanaaz Mathews

Gender & Health Research Unit

Medical Research Council

P.O.Box 19070, Tygerberg, 7505

South Africa

Abstract:
South Africa has a female homicide rate six times the global average, with half of murdered women killed by an intimate partner. Given the inextricably gendered nature of these intimate murders it becomes important to explore the masculinities of men who kill their partner and to reflect on the influences shaping these across their life course. This paper explores the childhoods of men who have killed an intimate partner drawing on 74 in-depth semi structured interviews with twenty incarcerated men as well as interviews with family and friends of both themselves and the victim. This study found that traumatic childhood experiences increases emotional vulnerability, resulting in these men feeling unloved, insecure and powerless. We argue that socialisation into gangs and engagement in criminal activities provide a chance to achieve respect, power and love which is otherwise denied, with harsher forms of masculinities being valourised. Based on accounts of relationships with mothers and fathers, it is proposed that psychological defence mechanisms are invoked in a response to trauma. This involves a suppression of emotions in order to maintain a parent-child relationship with marked cognitive dissonance which provides a space to perform acts of violence and cruelty. This study shows the need to acknowledge the influence adverse traumatic childhood experiences has on the formation of violent, harsher forms of masculinities. It is therefore important to strengthen current parenting practices to promote less violent forms of masculinities thereby promoting more gender equitable relationships.

Introduction

The South African female homicide rate is six times higher than the global average, and half of all murdered women are killed by an intimate partner (Abrahams, Jewkes, Martin, Mathews, Vetten & Lombard, 2009). Intimate partner violence generally is a widespread problem in South Africa. Targeted studies estimating that between 43% - 56% of women have experienced this (Abrahams, Jewkes, Laubser & Hoffman,. 2006; Dunkle, Jewkes, Brown, Yoshihama, Gray, McIntyre et al, 2004) and 42% of men report perpetration (Jewkes,Sikweyiya, Morrell & Dunkle, 2009). Preventing intimate partner violence and intimate femicide poses important challenges, and research has much to contribute. In North America, intimate femicide perpetration has been associated with preceding intimate partner violence, gun ownership, threats with weapons, stalking and alcohol use (Campbell, Glass, Sharps, Laughon & Bloom, 2007), but these epidemiological associations do not provide insights into the social processes underlying the problem. Given the inextricably gendered nature of intimate femicide, it seems essential to study the masculinities of men who kill their partner, and to reflect on the influences shaping these across the life course from childhood.

Masculinity, or male gendered identity, is socially constructed, fluid and dynamic (Morrell 2001). Masculinities are shaped through an intricate interplay of influences including culture, family, school, church, class and, in many settings, race. Historically, apartheid has had a devastating impact on family life in South Africa, as well as systematically impoverishing the country's black majority. Studies on fatherhood have shown that the migrant labour system particularly impacted on men's availability to their families resulting in fathers abandoning and neglecting their children (Morrell & Richter 2006). With child rearing practices gendered, and largely considered a women's domain (Morrell & Richter 2006), considerable space has been created for fathers to be absent and uninvolved in the care of their children. Over 40% of households in South Africa are female headed, however many children are not only raised without a father but also without a biological mother, with grandmother's or aunts taking on the parenting role (Coovadia, Jewkes, Barron, Saunders & McIntyre,2009). This increases children's vulnerability providing part of the explanation for the widespread exposure to adversity in childhood (Coovadia et al 2009). Given this context children often turn to others in their social environment

for affirmation Socialisation outside the home, including exposure to violence and gang culture is of particular importance in shaping identity during adolescence when social acceptance becomes paramount.

South African research suggests that exposure of boys and girls to neglect, physical, emotional and sexual abuse in childhood is very common, similarly large numbers of children globally experience childhood adversity (Pinheiro 2006, Jewkes et al 2009). The notion of childhood adversity, or trauma, encompasses experiences ranging from neglect, abuse, orphaning, family dysfunction as well as witnessing violence in the family and community (Schilling, Aseltine & Gore, 2008). This poses a major threat to immediate and long-term psychosocial functioning (Edwards, Holden, Fellitti & Anda, 2003). Research mainly from developed countries has shown that the effects of adverse childhood experiences are cumulative, with risk of depression, suicidality, post-traumatic stress disorder, substance abuse as well as violent anti-social behaviour (Edwards et al. 2003; Schilling et al. 2008).

Abuse and neglect in childhood affect brain development, with impact on cognitive and psycholsocial adjustment, increasing the risk of violent and anti-social behaviour (Raine 2002). These pathways are mediated by a range of factors, including the MAOA genotype, whilst social support and having a higher IQ may provide some protection (Caspi, McClay, Moffit, Mill, Martin, Craig et al, 2002). Nevertheless, exposure to childhood trauma, including witnessing violence in the home, is associated with subsequent aggressive behaviour, particular rape and intimate partner violence perpetration (Malamuth, Linz, Heavey &Barnes, 1995, Jewkes et al 2009, Abrahams & Jewkes 2005).

Given the substantial problem of gender-based violence and the high prevalence of intimate femicide in South Africa, it is important to understand more about the social processes underlying men's perpetration. This paper explores the childhoods of men who have killed an intimate partner, drawing on interviews with incarcerated men. We argue that trauma in childhood increases emotional vulnerability, resulting in these men feeling unloved, insecure and powerless. We also maintain that in areas where gangs are prevalent, socialisation into these, and engagement in criminal activities, provides a chance to achieve love, respect and power, otherwise denied.

These harsher forms of masculinities become valourised. From accounts of relationship with mothers, we argue that the psychological defence mechanism invoked in response to trauma involves suppression of emotions to the point of demonstration of marked cognitive dissonance. This dissonance provides the emotional space for acts of violence and cruelty.

Methods

In-depth semi-structured interviews were undertaken with twenty incarcerated men. A cluster of interviews were conducted for each man by the first author with a total of 74 interviews. Two interviews of 1-2 hours duration were held with each interviewee in prison as well as between 1 and 3 interviews with friends or family members of themselves and the victim. The purpose of the interviews was to understand men who kill their partners, to explore how men explained their use of violence as well as how they perceived events leading to the act. This allowed the researchers to explore the incident and its context from different perspectives. Data were collected over an 18 month period from July 2006 to March 2008. For convenience, interviews were conducted at two prisons in the Western Cape Province of South Africa, the region with the highest homicide rate (Thomson 2004). Both prisons were located in rural areas of the province but housed a diverse group of men from both urban and rural settings.

The men were aged between 18 and 51 years at the time of the act, and between 21 and 61 years at the time of the interview. Using the apartheid race classification although White and African men were included, most were Coloured (a person of mixed origin). This over- representation of Coloured men is characteristic of the region, with violent crime and homicide rates excessive within this race group (Thomson 2004). All the men attended school but half did not complete junior school and only two completed high school. Half of the men had killed their wife, and half a girlfriend, while one man killed both his wife and daughter, and another his wife and step son.

The first interview explored the men's childhood including their family of origin, parenting during childhood, social setting in which they were raised, violence in

childhood, discipline, schooling, childhood friendships and relationship with siblings. This interview guided the planning and direction for the second interview, which explored the index relationship and murder. Interviews were conducted, in the preferred language of the respondent. Consent was obtained for interviews to be tape recorded. All interviews was transcribed verbatim and translated into English.

Opencode software was used in the analysis of data. This was an ongoing process and commenced before the second interview. Data was analysed inductively, with this technique characterised by a process of coding and sub-coding and interpretation of the findings through the development of mini-hypotheses, testing and modification of these hypotheses with reference to the data (Silverman 2001). All authors participated in coding and data analysis.

Ethical approval for the study was obtained from the Medical Research Council's Ethics Committee. Given that the primary respondents were incarcerated men, informed consent was a key concern and care had to be taken that men did not feel coerced into the study. Contact was made with potential respondents via prison social workers. They were informed about the study by the researcher and given time to decide whether they wanted to participate. Written consent was obtained for the interviews and for the researcher to make contact with family and friends. All respondents were assured that all the information they shared was confidential. Given their past violence, interviewer safety had to be balanced against the right to confidentiality with respect to participation in the study. Interviews were either conducted with a window allowing a warden to be in sight, or with a warden stationed outside the room, but not in hearing distance of the conversation. Since the judicial process had been completed the information from the research could not be used against the men in court. Given the sensitive nature of the study all respondents were linked up with a prison social worker and, where necessary, were referred for psychiatric support. Importantly the safety and mental health needs of the researcher was of primary concern. Conducting research on sensitive issues requires a system of debriefing. This mechanism was built into the study to provide the researcher with a space to deal with issues of vicarious trauma.

The shaping of violent masculinities

This paper is largely about the shaping of violent masculinities. The men who were interviewed had all, by definition, used lethal violence, in addition nearly all (17 of 20) were perpetrators of multiple episodes of violence within their intimate relationship and fifteen of them had also been violent in their community. Eleven of these men had previous convictions for violence with eight having served time in prison prior to the killing of their intimate partner. Some of these offences were committed as a juvenile and they had spent time in a reformatory or had a suspended sentence. Only three did not appear to otherwise display 'violent masculinities', if physical and sexual violence are privileged in this notion. For them, the nature of their intimate relationship was important, as all three men displayed marked controlling behaviour in these relationships. These men were rather different from the others and we will discuss these in more detail later on, but most men had been generally violent, and not exclusively with the partner they killed.

***"Good"* mothers: complex relationships between mothers and sons**

The men described their childhoods as 'rough' or 'hard'. Talking about these experiences brought back strong memories and emotions, bringing some to tears. Mothers featured prominently in their accounts, and relationships with them were complex. Many described limited positive attention from mothers with many childhoods marked by neglect and abuse. Six of the men were not raised by their biological mother, which influenced their relationship with her. One was raised by his father, and had an emotionally strained relationship with his mother. Two men reared by their mothers spoke of physical and emotional abuse by them, four men had mothers who were emotionally unavailable and passive, and a further three men had mothers who either had problems with alcohol or suffered from depression. The latter is recognised to be associated with harsh and rejecting parenting experiences (Bordin, Duarte, Peres, Nascimento, Curto & Paula, 2009).

Poverty and economic insecurity is a feature of many single parent households, yet this also does not explain the men's experiences of mothering. A man described how his mother would leave them locked in the house over weekends when she went out with friends. Notably, he was unable to articulate how he felt about the way his

mother treated them. Similarly, another man (and his mother) described being left behind with neighbours when his family relocated. Talking about his mother he said:

> *Someone else would have hated a mother like this if I think back I could have hated a mother that allowed such things to happen to me, but what I can be grateful for I never felt hatred.*

A paradox existed between their presentation of their mothers and childhood experiences with most mothers presented as "good". Repression of feelings became evident, as one man started off his description of his mother as very religious and devoted to him, yet talking about his childhood he described multiple episodes of abuse, with his mother beating him *"that this arm was fractured".* For this man, like many others the need to maintain an ongoing relationship with his mother and family resulted in a repression of emotions. He continued to speak about his love for her. Nevertheless, not all mothers were "bad". Some had to act as mediators in attempts to protect their sons against the brutality of some fathers. Stepfathers further influenced the relationships between sons and mothers. Some men spoke about the anger and resentment they felt towards their mothers when she remarried or entered a new relationship. One man speaking about his mother said:

> *I was mad at my mother when she married my stepfather... I never went to live with my mother when she married again, I stayed with my grandparents.*

Although she was not an overtly poor mother, this affected his relationship with her. Experiences within the family influenced mother's emotional availability, as well as perceptions of mothers as "rejecting" or not protecting them. Such family stresses have been shown to influence violent and criminal behaviour in boys (Bordin et al 2009).

"Good"* sons: *"I helped her as a child"

Discourses of *a "good"*, caring son were a recurring theme in men's accounts of their relationship with their mothers and many presented themselves at an early age as playing a quasi-adult male role at home. This sense of responsibility for most was visible in the need to help their family financially, as many were raised in severe poverty. A man who left school in Grade 5 at the age of 15 explained:

My mother struggled a great deal and my brothers did well at school, we then decided that one of us should leave school to help my mother work, I was the one it was decided that I should go and work.

His earnings may have compensated for his sense of scholastic failure, winning him the respect of his siblings and mother and attaining a sense of success. Another man dreamt of *"changing the position"* of his family, *"freeing"* his family from poverty. He left school early to contribute to the family's income, but felt he never achieved this goal, which appears to have had a lasting impact on his sense of self worth. For most men there was no opportunity to study further or gain skills, thus they were locked in poverty with restricted access to stable employment. With attainment of a provider role critical for self-perceptions of masculine 'success' in South Africa, the lack of opportunities made achieving this difficult (Morrell 2001). For some men the only means they had available to provide for their families was through involvement in criminal acts.

Forgotten Fathers

The absence of fathers from the majority of these men's lives had a profound effect. Some never knew their fathers, while others had no meaningful relationship with them. For a number of men, there appeared to be a shroud of silence and secrecy about their biological fathers. Men spoke about mothers never speaking about their fathers and neither did they feel free to ask about them. This resulted in fantasies of their father, as one man talking about his father he said:

R: Now that was something she never spoke about.

I: Have you wondered about him?

R: Yes, I did especially in my teen years, growing up. But now what was the hardest part was to create your own dad. I want my dad to be that... I always wanted my dad to be a police man. So my dad was police man working on the borders of South Africa...That was the image I created. A lot of my school buddies I would tell this to.

Creating a fantasy father was a way of dealing with his need to have a "normal' family. Other men spoke about attempting to make contact with their fathers during adolescence and their need to be accepted by them. Emotional distress as result of undisclosed and denied paternity has been described in other South African research (Nduna & Jewkes in press).

Some men described their families as *"never really a real family"* and yearned to belong to an idealised, *"normal"* family. A man whose parents were divorced said:

> *This did not make me feel normal because going to school at Goodhope there are a lot of children that come out of, sort of, normal families both their parents are present. ... So I could not talk and I felt sort of left out and that angered me.*

His struggle to fit in with his peers, accentuated by his family, appears to have had a profound psychological impact as he went on to describe two suicide attempts during adolescence.

"This is how I was beaten": **Discipline and abuse**

Where fathers were around, they featured strongly in accounts of discipline. Men who were raised in rural areas particularly described strict discipline and in some instances extreme punishments. One man talked about being severely beaten after being sent on an errand to buy drugs for his father and losing some of it. He spoke of feelings of extreme powerlessness in the face of the violence, saying:

> *R: He pulled me by my shoulder, by my upper arm and he pulled me from my mother and then he started hitting me with this thing* [a leather strapped soaked in salt water]. *As I am sitting here today I am 43 years old and the mark is still here today.*
>
> *I: How did you feel?*
>
> *R: I cannot explain, no one could help me, I called for help but nobody could help me. I just had to endure the pain until he decided it was enough at the time he decided it was enough I could not move.*

Some men were exposed to violence towards their mothers, impacting on their own sense of safety, with many *"scared"* of their fathers'. A man described how the expression on his father's face was an indication that violence would follow. Others spoke about needing to flee with their mothers when their fathers became violent. One man spoke of the sadness his beating caused:

> *What stands out for me was the time he smacked me I was a child and was very depressed I went and cried in the bushes.*

The violence used in disciplining children appeared to reflect the low status of children within families. Not only did it make men feel powerless, but in the face of their mothers' abuse, these feelings were further exacerbated by a sense that they should, but could not, protect their mothers. Where mothers were not around, some men experienced exploitation by relatives. A man described being raised in a very strict environment by his grandparents, expressing that he was always made to feel *"responsible"* and left school early to help provide for the family which appears to have impacted on his self esteem.

Severe beatings were seen to cause low self-esteem resulting in emotional insecurities. The oldest man interviewed talked about an incident when his father caught him smoking at the age of 13 saying:

> *I saw him with the strap, I realised there is major trouble. I do not remember him saying anything…. . He took me by the one arm, he beat me with his left hand, that's right, he was left handed. He beat me over my neck over my back until I was lying on the floor and his words to me was I will beat you to death you too bad to be alive. This had a huge impact on me, after this in a way I developed an inferiority complex.*

He explained that his low self esteem lead him to be drawn to violent forms of masculinity.

Whilst chiefly talking of beatings by fathers, it is conceivable that some men could have had more difficulty talking about beatings by mothers. A few spoke about mothers and punishment. One explained that his mother sought out other male figures in their community to create fear in him, and took him to the police station to be disciplined. Whilst he perceived that the police had abused him, he was unable to talk about his feelings towards his mother. He appeared to have repressed his emotions, although he was crying he went to great lengths to tell me, he was *"not holding something against her"*, he was feeling *"hatred"*. Only one man spoke of severe abuse by his mother, this treatment by her was corroborated by his sister. He said:

> *Now ma'am you see my fingers my mother would take my fingers and put it in the oven not these ovens that you get today, but the ones that use wood. She took my hands and placed it in the oven.*

Although he felt he was treated differently to his other siblings he continued to talk about his love for his mother and expressed the feeling that she only tried to discipline him. Repeating the paradox of their mother's representation, which can be understood as a feature of cognitive dissonance, stemming from the emotional trauma they had experienced as children. For some this appears to be a defensive mechanism that allowed them to pursue an ongoing relationship with their mothers or abusive parents.

Abuse also occurred at school and was not only experienced as corporal punishment. Two men described sexual abuse by teachers. One explained being sexually abuse by a teacher at the time of his father's death, when he was most vulnerable and feeling out of control. The only person he disclosed the abuse to was his wife, when he experienced sexual dysfunction, which again made him feel less of a man and not in control. Similarly, another man also experienced sexual abuse just after his father's death, when he moved back to his mother. This man attempted to minimise his experience by representing himself as being in control. He rationalised that he was using the situation to *"get what he wanted"* materially. Importantly, he presented himself as having the power to end the relationship when he felt it was no longer serving its purpose. However, in his account he talks about two suicide attempts during this period, highlighting his psychological and emotional vulnerability with possible fantasy elements to the power he described having in this relationship. In his story he repeatedly presented himself as sexually deviant, providing multiple accounts of sexual violence towards young girls and girlfriends. In contrast to the other men, he killed a much older intimate partner during his adolescence. Of note he was one of the few men who raised our concern about his mental status, as he appeared to possibly be psychopathic, expressing fantasies of hurting others and no evidence of remorse.

Losing a parent: *"searching for love in other places"*

Loss of a parent either through death, divorce or separation was a common childhood experience and appeared to have had a lasting impact on the affected men. Many were left emotionally vulnerable, as most mothers were unable to provide a supportive environment to mediate the effect of such losses with this crisis creating

chaos for most families. The social context in which most of these men were raised was characterised by insecurities at both the physical and emotional level which were further exacerbated by loss. This impacted on how they experienced childhood and the development of a secure identity. The men not only spoke about the emotional impact of loss but also the long-term psychological consequences.

A man who lost his father when he was nine spoke about how this not only affected him emotionally but he continued to struggle at school. He suffered another tragedy during adolescence when his stepfather committed suicide and his mother had a "nervous breakdown". For some men loss was multiple. A man who was reared by his father after his parents' divorce when he was young, describes himself as *"falling apart emotionally"* and attempting suicide twice after his father's death during adolescence. For another his parent's divorce resulted in him living as a street child at the age of seven. He explained:

> *The one person who loved me, he was rejected, this is how it came that I grew-up and searching for love in other places I ended up with the wrong people in the end....my father was rejected so according to me what should I be doing at home?'*

He seems to have internalised his father's rejection and the psychological impact of his father's loss was compounded by the rejection and abandonment by his mother. This resulted in him feeling unloved and getting involved in crime and violence, spending several periods of his adult life in prison. In his *"search for love"*, he sought affirmation from others which appeared to be a pathway to crime and gang involvement, one through which he also gained power and respect.

School: *"for me, was not a good thing"*

Schooling is an important aspect of childhood and progress at school is often a measure used to assess social development. Notably most men left school early and few presented schooling as a rewarding experience, but as alienating and violent. Some men spoke about finding school *"difficult"* and not making progress. Men described teachers as unable to provide a supportive environment with some teachers having had a negative impact on these men's self esteem. One man who left school at the age of 12 in grade 2 spoke about his struggles at school and said:

I found the sums very hard and I could not copy it correctly ....he would see the flop and I would get beaten... I decided school was not for me

Importantly this teacher appeared not to recognise his intellectual limitations and failed to provide the necessary academic support which left him discouraged, influencing his self worth. Receiving regular beatings from teachers at school, for him and others, explained the decision to leave school early. He further described involvement in criminal activities soon after leaving school, he said: *"I got 6 lashes and then 8 lashes with a cane for theft"*, as he was too young to serve time in prison. For him this was the beginning of his involvement in a life of crime and serving time in prison.

Another man whose educational attainment was 5 to 6 years behind his peers explained:

I was never happy at school, I was always the biggest in class and I always felt uncomfortable .... I never made friends at school, I did not worry with friends, I did not have friends.

For some men these struggles at school led to further social isolation and social incompetence. A number of men reported that they did not *"fit in"* as they felt teachers made them feel different, while peers at school would also ridicule them. This social isolation was also evident in relationship with peers outside school as very few described lasting meaningful childhood friendships.

In contrast some men described themselves as *"good students"* academically but their social context was such that they dropped out of school early. One man spoke about being suspended from school at the age of 12 when he was in grade 6, he said:

I completed nearly the whole year, but the last term things started unravelling. The alcohol and drugs I used made me lose interest.

Influences within their social setting affected choices they made which directly impacted on schooling. For some men the experience of moving to an urban area during adolescence meant being exposed to a free township lifestyle. One man explained what this was like for him:

Things changed when my father sent me from Oudsthoorn to live with my aunt. I was no longer in my parents' home, I was now in my aunts' home

in Cape Town. Life in the Cape was very different to Oudsthoorn you cannot compare the two. I felt I had my freedom, you see, my parents were always very strict and they had rules. I felt I was free.

This experience of sudden "freedom" was quite overwhelming for most as it happened at a time when they were struggling to establish their identity. This man continued to explain how the change in his social context and the increasing influence from outside his family got him involved with drugs, alcohol and deviant peers, which in turn resulted in him dropping out of school early.

The struggle to attain social competence and to establish and test social positioning is evident with some men describing involvement in fights at school and within the neighbourhood. One man said:

I loved getting into fights and using sharp objects, I started ruling at school. Because I was always involved in fights, more people started liking me and this elevated me to a different level and I started being in control of that group at school.

He presented himself as enjoying the use of violence and within this violent self, saw himself as having power, respect and even affection, from others which affirmed his self worth, with evident social rewards for his emerging violent identity.

Criminal and Gang Involvement

For many, the absence of a male influence at home, led them to seek male affirmation and camaraderie within their social setting, as argued by Barker (1998) in reflecting on masculinity in Brazil. Involvement in crime and risk taking behaviour during adolescence was common in many accounts. Although not all men were involved in gangs, crime and violence marked most of their accounts. Involvement in crime was often linked to drug and alcohol abuse, common features of many South African communities. One man said:

We were involved in housebreaking and theft. It would depend on where I was and the friends I was with ... on the Cape Flats I will be involved in drugs and theft... I was 12 years old, I received a 5 year suspended sentence, I just went to court and came home again.

Peer group pressures associated with a need to belong influenced his behaviour and introduced him to drugs and crime.

Some men spoke of a more violent form of risk taking through gang involvement. For these men family and school started having less of an influence, except where family members were also gangsters. Gaining a sense of self worth and respect by being a gang member for most was a means of affirmation, as families were unable to provide the positive attention they desired. Two young men explained involvement in gang activity from the age of 12, with both introduced to gangs through older brothers. While others talked about being introduced into gang activity by older men or peers at school. Within this context these young men got socialised into adopting accentuated violent and anti-social masculinities. This form of masculinity glamorised toughness and strength that translated into the ready use of violence and substance abuse. A young man explained:

> *I was a famous person... in the gangs and through gang activity. In other words I was a leader of the mongrels in Lavender Hill. From 14 years old I took on a leadership position until the age of 22 when I was sentenced.*

Induction into this lifestyle also meant the early involvement with drugs, alcohol and violence. The rituals attached to becoming a gang member were therefore pathways to manhood. The majority of men presented themselves as "real" men who were involved in risk taking behaviour, including using drugs and multiple forms of criminal activities. One man talked about his gang activity at the age of 16 and said:

> *I decided that I had to buy in my own things and later on I bought my own firearms, ammunition and I bought my own drugs as well and I started my own gang. As I established my own gang I started becoming famous. People started to hear about me many people wanted to get to know me, even gang leaders wanted to get to know me.*

Another said:

> *I just wanted to entertain because I had some money, understand. ... I was16 years old, I was no longer living with my parents and they knew of my activities. In other words my brother and I we had our own house. We were living and trading from there. ...Yes, I was 16 I led a very fast life.*

The attraction to exercise power in gangs seemed to compensate for the men's relatively powerless position within their families. Whether these men's accounts of being a famous gangster and drug dealer were a true, or exaggerated representation is unknown, but the meaning they attached to these depictions are nevertheless

important. Thus they presented an exaggerated violent masculinity. (see R Connell 1987 pg 197, emphasized femininity)

Not all men presented involvement in crime and violence as an element of their childhood. This experience appears to be racially and class bound. Most men were racially classified "coloured", living in poverty stricken working class townships which influenced their discourse of masculinity. The few men who were classified "white" did not describe involvement in crime and violence as a part of their childhood. Although crime and violence was not a part of their social context, the childhood of "white" men was still touched by adverse experiences. Only one man described a childhood that was free from hardship. Speaking about his childhood he went to great lengths to describe his *"normal"* childhood saying:

> *I almost had, can I say a perfect, my folks had been great. I mean between us er the three of us, my sister and brother and myself, we would sort of gang up the normal sort of teasing ... it was normal.*

This man did not describe himself as violent in his intimate relationship, yet in exploring his intimate relationship there appears to be marked controlling behaviour. The other men had childhoods which were marked by multiple traumatic experiences, with one losing his father at a critical stage in his life as well as having a mother who appears to have suffered from depression as well as having his step father commit suicide. Similarly the third man was raised in a very strict household with severe physical punishment used as a means of discipline, while his mother also suffered from depression. Although these men were seemingly protected from violence within their social environment, emotional vulnerabilities due to multiple losses was common. For these men "coping" emotionally involved learning to dissociate, and in many ways this influenced their intimate relationship with women in adulthood.

For the men interviewed, the traumatic childhood experiences had an intense impact on their self worth and emotional wellbeing. The response to trauma inflicted by those who were meant to provide love and protection appears to have been a marked suppression of true emotions, most visible in their cognitive dissonance. Low self-esteem and the need for "love" emerged as pathways to crime, gangs and

violence. A complex interplay of social and emotional factors thus influenced the forging of their identities, as one man poignantly explained:

> *If I compare me to a child who had both parents, love and support what would my future have held, I could have made a success of my life.*

Discussion

These men's representations of their childhood have provided insights into the influence childhood experiences have on the construction of their violent masculinities. Traumatic childhood experiences emerged as a feature which indelibly shaped these men's sense of self. Seidler (2007) argues that the emotional vulnerabilities of men is a neglected area in the discourse on masculinities. In this paper we come to see how the subjectivity of childhood experiences psychologically influence men's performance of masculinities. This is not an excuse for men's use of violence rather a means to understand forces that shape their male identity and practices.

Men described childhoods characterised by hardship, at both structural and social levels. Childhood adversity, is a common feature of life for many children in South Africa. The difference for these men was located in the emotional experiences of mothering. Childhood was marked by neglectful and abusive parenting practises and emotionally unavailable mothers. Yet a contradiction existed in these men's representation of their mothers compared to their subjective experiences. Theoretically abusive parenting experiences impact on a child psychologically, causing dissociation and an inability to link their experiences to emotions similar to the effects of post traumatic stress disorder (Howe 2005). It is proposed that this cognitive dissonance acts a protective mechanism allowing these men to "cope" emotionally. Thus some men presented idealised constructions of their mothers, drawing on a cultural model of a nurturing and caring mother. For many these painful experiences were internalised and influenced how their male identity was constructed. Drawing on a psychoanalytic discourse such emotional vulnerabilities can result in the formation of harsher forms of masculine identity, with showing emotion construed as a sign of weakness (Frosh, Pheonix & Pattman, 2003; Seidler 2007). Thus some men presented their dissonance as a sign of their strength, as

their vulnerable emotional state provides a context in which acts of violence can be perpetrated without consideration of its impact on victims. Conversely, in developing an understanding of men who have come to take on a caring, "softer", masculinity in South Africa, it was shown that the key feature is the ability to maintain an active connection with their emotions (Morrell & Jewkes: Personal Communication, 16 September 2009). Significantly men in relation to their mothers positioned themselves as a "good" son who cared about their family's well being and had "perfect" mothers. Whilst this may have been presented to signify that they were traditionally "successful men", it may also be a sign of the dissonance between reality and the representations of their childhoods.

The social context in which most men were raised permitted fathers to be completely absent or uninvolved, as child rearing in South Africa is still considered a women's domain (Morrell & Richter 2006). A study with men in South Africa has shown that men who rape were more likely to have an absent father and when he was around he was more likely to be viewed as "unkind" (Jewkes et al 2009). Similarly the absence of a positive emotional relationship with a father or father figure for most of these men further influenced their formation of identity. For most the psychological impact of an absent father was lasting, as families were unable to mediate the impact of this absence. The perceived rejection and abandonment by a father is thus internalised. Frosh and colleagues (2003) argue that it promotes the need to maintain a "hard, virile" masculinity. The absence of a male influence for some meant that they searched for male affirmation outside the home, leading to an identification with accentuated, violent models of masculinities (Barker 1998). Another possible pathway becomes evident as some men were not only rejected by fathers but also by mothers leaving these men emotionally vulnerable, feeling unloved, abandoned and "searching for love". Although gang and crime involvement can be construed as a means of positioning themselves in a struggle to establish their identity, it was a way of attaining the respect and camaraderie which was not forthcoming from parents or parental figures. Central to adopting this violent form of masculinity is the power and self-respect these men attained through their status within a gang (Bourgois 1996). It is therefore not the violence as such but rather gaining respect and power which was seen by them as an important part of being a man.

To develop an understanding of masculinities in South Africa it is important that the diversity of these men is taken into account (Morrell & Ouzgane 2005). Not all men presented childhoods marked by violence and crime. This divide appears to be racially defined as such experiences appear to be missing from the accounts of White men. Although these men did not share similar structural hardships, traumatic childhood experiences appear to be a common factor influencing the shaping of their masculinities. A traumatic experience such as the death of a parent and the mental health of mothers during childhood increases their emotional vulnerabilities, which later influenced their emotional relationship with women. Harsh and rejecting parenting experiences associated with severe discipline and abuse as well as maternal depression has been described to increase the risk for externalising, anti-social behaviour as well as internalising mental health problems (Bordin et al 2009). However understanding pathways to violent masculinities is complex as there is no linear relationship between traumatic childhood experiences and adopting violent masculinities. A limitation of this paper is inherent in the analysis of only the childhoods of these men as there are other factors within their environment as well as in early adulthood which further influence the shaping of masculinities. A further limitation to the study is that the interviews were conducted with incarcerated men who had time to reflect on the meaning of relationships. Furthermore, some had been through counselling which allowed them to make meaning of some of the events in their lives. Thus the prison experience, as well as the interview process, might have influenced how men represented their childhoods. The data collection approach allowed us to corroborate many of the circumstances described with other relatives.

Conclusion

Traumatic childhood experiences in the form of poor parenting, absent fathers, neglect and abuse have a profound impact on identity formation and highlight the importance of recognising emotional vulnerabilities in the discourse on masculinities. The experience of poor parenting practises and abuse during childhood made these men feel powerless, "inferior" and unloved thus turning to influences outside the home like gangs and crime as means to attain the respect, power and love that was not forthcoming in the home. This paper shows that such traumatic experiences can lead to a suppression of emotions in order to maintain a parent- child relationship

with cognitive dissonance acting a protective mechanism to deal with such trauma. The pathway to taking on harsher forms of masculinities is thus influenced by these traumatic emotional experiences within the home, turning to gangs and crime is a means of gaining love, respect and power. This study has shown the need to acknowledge the impact adverse childhood experiences have on the formation of violent forms of masculinities. It is therefore critical to reduce children's emotional vulnerabilities by engaging in strategies to strengthen current parenting practises to promote the development of less violent gender equitable relationships.

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