

Femicide in the Eastern Metropole of Cape Town:

A 5-year retrospective analysis

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Declaration

I, Candice Wilscott-Davids, hereby declare that the work contained in this assignment is my original work and that I have not previously submitted it, in its entirety or in part, at any university for a degree.

Signed: Candice Wilscott-Davids

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Abbreviations

FPL	Forensic Pathology Laboratory
IPV	Intimate Partner Violence
GSW	Gunshot wound
VAW	Violence Against Women
WHO	World Health Organisation

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Extended Background

Introduction

Violence against women has been recognised by the United Nations (UN) and the World Health Organisation (WHO) as “not only an issue of human rights, but also a significant health issue”. [1][2] The definition for ‘violence against women’ used by the WHO is broad, ranging from verbal harassment on one end of the spectrum to femicide (defined as the killing of women), on the other.

Media reports play a significant role in highlighting the plight of the victims, nationally and internationally. The scope and severity of these crimes though, require more intense scrutiny to adequately understand and address the issue. In South Africa, the murder of women is not only a matter of statistics in a country already struggling with violent crimes [4], but one that has significant repercussions within communities, impacting issues of health, social development, education and justice.

Global perspective

In Chapter Four of the Global Burden of Armed Violence released in 2011[5], an estimated 66000 femicides were committed across the globe annually between 2004 and 2009, with the murder of women and girls thus being responsible for 17% of global homicides. A recent review of gender-based homicide from the UN report on global homicides released in 2019[6] has shown an increase in this number, with 87000 women being intentionally killed in 2017, which translates to a rate of 2.3 homicides per 100 000 in the global female population.

In a report done for the Small Arms Survey by M Nowak (drawing on data from the 2011 report by Alvizzi-Del Frate) [5] [7], it was noted that four out of the five global regions with the highest homicide rates, also rank as the highest for femicide. These regions are Southern Africa, South America, the Caribbean and Central America, all with a rate of >6 femicides per 100 000 female population annually. South Africa ranks fourth highest in femicide rates globally with a rate of 9.6 femicides per 100 000 female population. Due to insufficient data being available from low-income countries, the estimated figures might be skewed with rates possibly being higher than stated in the study [3].

A 2013 study [3] obtained data from 66 countries to assess the global prevalence of intimate partner homicide. This review found that 13.5% of all homicides were committed by an intimate partner, with women being six times more likely to be murdered by an intimate partner than men (38.6% vs 6.3%). Vazsonyi et al found that despite accounting for the minority of global homicides, (81% male vs 19% female), women were markedly more likely to be the victim of intimate partner homicide (82% female vs 18% male) [6]. Femicide has been shown to not only be committed by the intimate partner of the victim, but often perpetrated by those completely unknown [3].

In countries with high annual homicide rates (such as those in the Americas and Southern Africa), rates of femicide are noted to be high, while in countries with low annual homicide rates the inverse is true. Russia being an exception with high femicide rates despite low overall homicide rates [3]

The Global Burden of Armed Violence report reviewed available data regarding weapons used in femicide cases. Firearms were identified as being used in at least one third of femicides globally [5][7]. In countries with high levels of femicide a higher proportion of these crimes were committed with firearms. These findings are supported by the Global Burden of Disease 2015 (GBD 2015) study by Wang et al [8], where 295 causes of death in 195 countries were defined and assessed. In this study the global burden of deaths due to interpersonal violence remained stable from 2005 to 2015, yet deaths due to interpersonal violence using firearms increased by 6.3% globally. Studies done in the United States show that 55% of female homicide victims killed by men were shot and killed, 69% of these involved handheld weapons [9]

A study done in Ghana by Adinkrah [10] evaluated newspaper articles for reported femicide-suicide cases. The study showed 35 reported cases of femicide-suicide from 1990-2009 where shooting with a firearm and hacking with a machete were the most common methods of homicide.

Culture specific crimes and motives for femicide also warrant a mention in this review.

Dowry deaths are a phenomenon unique to the Indian subcontinent [1][11]. A dowry is a form of payment from the bride's family to the groom and his family. When the dowry is deemed insufficient the bride might be harassed to the point of murder or causing her to commit suicide. The cause of death in these cases is most commonly burning (either homicidal or self-immolation) though hanging and poisoning have also been described in recent years [11].

Belur et al [11] investigated dowry deaths in India and identified how social constructs, police action or inaction and flaws in the penal system all contribute to the large numbers of dowry deaths still seen in India today.

In the Middle East and Northern Africa (MENA) a specific type of femicide called "honour killings" are quite prevalent. Honour killing is the killing of a woman for a range of offences related to the misuse of female sexuality including marital infidelity and premarital sex [12]. According to the WHO an estimated 5000 honour killings occur annually worldwide with a higher prevalence in the Middle East, South Asia and also within migrant communities in Europe, North America and Australia [1]. A systematic review was done by Kulczycki et al [12] of the available literature on honour killings occurring in the MENA region. The study was prompted by the increase of honour killings in Europe due to the large numbers of immigrants from the Middle East and North Africa seeking asylum from conflict situations. Victims in these cases are mostly young females murdered by their male kin.

The association of alcohol or drug intoxication with violent crime is widely recognised. Khuns et al in performing a meta-analysis of studies covering 13 countries [13], found that 35% of homicide victims were intoxicated with alcohol at the time of death with a higher proportion of female homicide victims testing positive compared to males (48% vs 28%). Another meta-analysis reviewing results of cocaine, marijuana and opiate toxicology studies in homicide victims [14], noted that cocaine was the most commonly identified drug (11%) compared to marijuana and opiates (6% and 5% respectively).

Local Perspective

In post-apartheid South Africa, the Constitution of 1996 has been hailed as one of the most inclusive pieces of legislation in the world today. Within this, the rights of all South Africans are enshrined within the Bill of Rights [15]. In the context of this study sections 9-12 of the Bill of Rights should be considered. In these sections it is highlighted that every person in South Africa has the right to equality, human dignity, freedom and security of person, and the right to life.

Many of those living in South Africa are denied these basic rights by others, with women and children comprising the most vulnerable groups. Many advances have been made in South African legislation in terms of women's rights and violence against women. The Sexual Offences and Related Matters Act 32 of 2007 has broadened previous definitions of sexual assault and rape whilst abolishing older terminology [16]. The act further makes provision for the adoption of a national policy framework which not only regulates all matters within the act but also how sexual offences are handled by different institutions [17]. Despite our constitution being hailed as the most progressive globally and with advancements in the country's legal framework, the prevalence of sexual crimes committed against women [4,18,19] continues to rise.

South Africa has an estimated mid-year population for 2021 of 60,14 million people [20] with the province of the Western Cape accounting for 7,113 776 million people (11.8%), 51% of these being female. According to the latest published statistics 454 014 deaths occurred in South Africa in the year 2018 with the Western Cape contributing 10.7% of these deaths (n=48 376) [21]. With regards to unnatural deaths 54 161 were recorded nationally in 2018 with 11.58% recorded in the Western Cape (n=6276).

The 2018/19 Victims of Crime Survey (VOCS) shows that reports of sexual offences nationally decreased between the 2014/15 and 2018/19 periods from 53 617 to 52 420, but this was not found to be statistically significant [22]. Statistics from the South African Police Service (SAPS), indicate that sexual offences increased by 1.7% in the 2019/20 period compared to the previous years (53 293 reported incidences) [23]. Homicides similarly increased by 1.4% for the 2019/2020 period (21325 compared to 21022 for 2018/19).

An analysis of the VOCS data[38]with focus on victims of selected contact crimes was released in 2016. Some key findings pertinent to this study show that females experience sexually related crimes more often than their male counterparts (28.7%) while female headed households are more likely to fall victim to murders compared to male headed households (61.4% vs 38.6%) The Domestic Violence Act 116 of 1998[24] addresses the high incidence of domestic violence in South Africa. It is important legislation to consider in the light of recent statistics showing that 56% of female homicides committed in the country are at the hands of an intimate partner.

According to a retrospective South African multicentre study [19], 19.8% of female homicides in 2009 were identified as sexual homicides - translating roughly into 1 in 5 femicide deaths being of a sexual homicidal nature. A comparative study of femicide of the years 1999 and 2009 show a decrease in femicide rates in 2009[26]. The study further highlights that the incidence of femicides committed by an intimate partner and suspected rape homicides did not decrease despite a decrease in the overall female homicide rates.

In a national study regarding femicides, stab injuries were the leading cause of death in 1999 and 2009 followed by blunt force injuries and gunshot related injuries.[18][26][27]

Western Cape statistics for the year 2013 show that the 2nd leading cause of death in the province can be attributed to interpersonal violence (10.3% of all deaths) [28]. The statistics further reveal that the Tygerberg district of the Cape Town metropole show inter-personal violence as the leading cause of death compared to other sub-districts. With regards to female deaths specifically, intentional injuries were the 9th most common cause of death in this district [28]

Research done by Molefe retrospectively analysed data from 2000-2009 from the Salt River Mortuary in the Western Cape [29]. Her results showed that femicide rates for the Western Metropole of the Western Cape were consistent with national averages in 2009 [19][29]. A majority of femicide victims in this study died from gunshot wound related injuries with stabs being the second leading cause of death. In cases where sexual homicide was suspected the cause of death was mostly asphyxia. Suffla et al specifically investigating female homicidal strangulation in four major South African cities between 2001 and 2005[30], found that the incidence of strangulation had decreased in all cities except for Cape Town [25].

A national study of female homicide victims in 2009 showed that 62% of cases were intoxicated at the time of death, with blood ethanol concentrations above 0,05g/100ml [31]. Similarly, Molefe found 41% of femicide victims had concentrations of more than 0.05g/100ml [29].

There is a lack of research regarding drug intoxication in victims of femicide. Tiemensma and Davies (2017) investigated at the prevalence of drugs in living victims of suspect drug-facilitated sexual assault.[32] In this study 67% of patients tested positive for drugs and or ethanol, of which 48% tested positive for more than one drug. The most common drugs identified were methamphetamine, methaqualone, diphenhydramine, and cocaine. The role between intoxication with both alcohol and/or illicit drugs is noted, though the exact nature of the relationship needs further investigation.

Conclusion

The literature presented thus far, briefly illustrates the complexity of the femicide phenomenon. A paucity of data available on femicides in Africa, and sexual homicides globally, highlights the importance of continuing research. Differences in research methodology, definitions and sampling, and the fact that international research may not be directly comparable or applicable in the South African context pose hurdles to future research. This study aims to fill data gaps locally and is especially significant as the first study of its type to be undertaken at the Tygerberg Forensic Pathology Laboratory (FPL). Local data, specifically with regards to victim demographic profile, causes of death and traumatology patterns, will assist in the understanding of gender-based violence, importantly in identifying possible at-risk communities and individuals, and serve to inform future interventions strategies.

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Publication-ready manuscript

The following manuscript has been prepared for submission to Forensic Science International. The journal's aims and scope, as well as author guidelines are given in Appendix A.

Femicide in the Eastern Metropole of Cape Town: A 5 year retrospective analysis

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Abstract

Background:

Violence against women continues to be a global health problem with femicide being its most severe form, especially in a country with one of the world's highest homicide rates.

Aim:

To evaluate the female homicide cases at the Tygerberg Forensic Pathology Laboratory, identifying the demographic profile of victims, leading causes of death, patterns of injury and prevalence of sexual violence.

Methods:

A retrospective analysis was done of post-mortem reports at the Tygerberg Forensic Pathology Laboratory of women over the age of 18 years and included only those where deaths were the result of homicide, between 2013-2017. Data was collected from the autopsy file and post-mortem report, which included supporting documentation, as well as alcohol and toxicology results where available.

Results:

For the study period, 324 cases of female homicides were identified. The median age of victims was 35 years, with more victims in the younger age category of 18-29 years (128 cases). Victims were noted to be mostly of black (n=158) or coloured (n=148) ethnicity and deaths occurred mainly in lower socio-economic areas. Gunshot wounds were the leading cause of death accounting for 34% of cases, followed by sharp force (31.8%) and blunt force trauma (21.3%). Injuries were mostly localised to the head in cases of gunshot wounds and blunt force trauma whereas sharp force injuries were mainly concentrated to the chest. A suspicion of sexual assault was raised in 14.5% of cases, with 28% of those exhibiting genital injuries. A statistically significant higher prevalence of sexual assault was found in the younger age group (18-29 years) (p-value= 0.024). Blood alcohol results were positive in 113 cases, with 9 cases having reported blood alcohol concentrations above 0.3g/100ml.

Conclusion:

South Africa is plagued by multiple forms of violent crimes with femicide being the worst form of violence against women. In the cohort investigated, young females in low socio-economic areas were shown to experience the greatest burden of this crime. Gun violence was shown to heavily contribute to the burden of deaths with contact crimes from blunt and sharp force trauma also being highly prevalent. The prevalence of sexual violence was explored and the influence of alcohol in these cases were also noted. This study serves as a pilot from which to explore all these variables in further detail and hopes to inform future health and justice initiatives such as a femicide death review.

Abstrak

Agtergrond:

Geweld teen vroue bly 'n wêreld-wye gesondheids-kwessie. met vrouemoord die ergste vorm daarvan, veral in 'n land met een van die hoogste moordsyfers ter wêreld.

Doel:

Die evaluering van die vrouemoord gevalle by die Tygerberg Medies-Geregtelike Laboratorium, om die demografiese profiel van slagoffers te identifiseer, identifikasie van die hoofoorsake van dood, beserings patrone, en die voorkoms van seksuele geweld.

Metodes:

Retrospektiewe analise was gedoen van nadoodse verslae te Tygerberg Medies-Geregtelike Laboratorium van vroue oor die ouderdom van 18jaar, slegs waar die dood as gevolg van moord was, tussen 2013-2017. Data was verkry vanaf nadoodse verslae, insluitend stawende dokumente, asook alkohol en toksikologie uitslae waar beskikbaar.

Uitslae:

Vir die studie periode was 324 gevalle van moord op vroue geïdentifiseer. Die mediaan ouderdom van slagoffers was 35-jaar oud met meer slagoffers in die jonger ouderdomsgroep van 18-29jaar (128 gevalle). Slagoffers was Meestal van die swart of kleurling rasse groepe, en gevalle was meestal by tien polisie stasis gerapporteer, meeste van die in armer gebiede. Skietwonde was the hoof oorsaak van dood, met 34% van gevalle dood hieraan, gevolg deur skerp trauma (31.8%) en stomp trauma (21.3%). Beserings was gelokaliseer aan die kop in skietgevalle en stomp trauma, waar skerp trauma beserings meer op die bors gekonsentreer was. In 14,5% van gevalle was daar 'n vermoede van seksuele aanranding, met 28% van daardie gevalle wat genitale beserings toon. Statistiese betekenisvolheid was gevind in die van jonger ouderdoms-groepe en die voorkoms van seksuele aanranding. (p-waarde=0.024). 'n Positiewe bloed-alkohol vlak was gevind in 113 waaruit daar 'n vlak bo 0.3g/100ml was in 9 gevalle gerapporteer was.

Afsluitings:

Vrouemoord is die ergste vorm van geweld teen vroue, en bly so in 'n land wat deur veelvuldige vorms van geweld beplaag word. Jong vroue in lae sosio-ekonomiese areas het die grootse las van hierdie geweld, in hierdie kohort, gedra. Wapengeweld was bewys om sterk bydrae tot die doodsyfer, met kontak misdade in die vorm van stomp en skerp-trauma ook hoogs prevalent. Die voorkoms van seksuele geweld en die rol van alkohol in hierdie gevalle was ook ondersoek. Hierdie studie dien in sigself as 'n geloodse ondersoek vir toekomstige bydrae in die besonderhede van die verskeie veranderlikes, en hoop om toekomstige gesondheids en regs inisiatiewe, soos 'n vrouemoord doodshersiening, te help stig.

1. Introduction

Violence against women has been recognised by the United Nations and the World Health Organisation as not only a global health issue but an issue of human rights[2][3]. The World Health Organisation (WHO) defines violence against women in a wide spectrum ranging from verbal harassment and abuse at one end, to femicide or the killing of women on the other[2]. The murder of women is not a matter of crime statistics in a country struggling with violence, but one that has significant repercussions within communities impacting issues of health, social development, education and justice[4].

Alvizzi-Del Frate, postulated that 66000 femicides occur annually across the globe, translating into women and girls comprising 17% of all homicides in the world[5].

In South Africa interpersonal and sexual violence is an issue which continues to increase in its magnitude. In the Western Cape province, and the City of Cape Town specifically, interpersonal violence is the second leading cause of death[18]. In a study performed in the Western Metropole of the City of Cape Town between 2000 and 2009, the incidence of femicide was 12.4/100 000 females which was consistent with the national average[6]. Molefe et al. found that gunshot wounds were the most common cause of death whereas nationally it was found to be blunt force trauma related. Sexual homicides nationally have also been found to be on par with global averages of 3-4/100 000 females(7)(8). Studies have also noted the link between homicide victims and levels of intoxication with alcohol or other drugs, inferring a possible causative association [9-13].

The City of Cape Town, with an estimated population of 4 004 793, is the capital of the Western Cape province, South Africa [14]. The City is served by two Forensic Pathology Laboratories (FPL). The Tygerberg FPL, serving the Eastern Metropole of the city, was the research centre for this study. Over the five-year study period, a total of 6278 homicide cases were admitted to the FPL.

This study aims to identify the demographic profile of femicide victims in the Eastern Metropole of the Cape Town as well as leading causes of death, injury patterns and prevalence of sexual violence.

2. Methods

A retrospective, descriptive study of female homicide admissions to the Tygerberg Forensic Pathology Laboratory (FPL) was conducted for the five-year period from January 2013 to December 2017.

2.1. Study population

Inclusion criteria:

- All cases of unnatural adult female deaths (over the age of 18 years) due to suspected homicide admitted to the Tygerberg Forensic Pathology Laboratory from 1 January 2013 to 31 December 2017 according to the regulations stated in the Inquests Act (Act 58 of 1959).

2.2. Data collection

All unnatural deaths of females were identified using the institutional death register. Post-mortem reports for the period of interest, matching inclusion criteria, were retrieved and analysed for

- Epidemiological profiles of the adult female homicide victims including age, race, marital status, pregnancy and South African Police Service Station where the crime was reported.
- Leading causes of death.
- Specific injury types.
- Prevalence of sexual violence.

2.3. Data analysis

Data was acquired through review of post-mortem reports, contemporaneous notes and supplementary documentation for each case meeting the inclusion criteria.

All data was captured on a spreadsheet utilizing Microsoft Excel® with a descriptive analysis of the data performed using the IBM SPSS Statistics 27® program.

2.4. Ethical considerations

The data was anonymised to ensure privacy and confidentiality of subjects' personal information, with each subject assigned a unique identifier. Ethics approval was obtained from the Health Research Ethics Committee of Stellenbosch University (S18/10/276). The study was also approved by the Manager of Medical Services and Chief Executive Officer of Tygerberg Hospital.

3. Results

For the study period of January 2013 to December 2017, 17 472 cases were admitted to the Tygerberg FPL with 6278 classified as homicides (35.9%). Female homicides accounted for 324 (5.2%) of these cases.

An increase in cases was noted over the study period with 52 (16%) cases reported in 2013, increasing to 75 (23%) cases in 2017, the highest number being 78 (24%) reported in 2016. The ratio of female homicides to the total homicides for the study period was 1:19. This ratio did not significantly differ between the years, with only 2016 seeing an increase to 1:17.

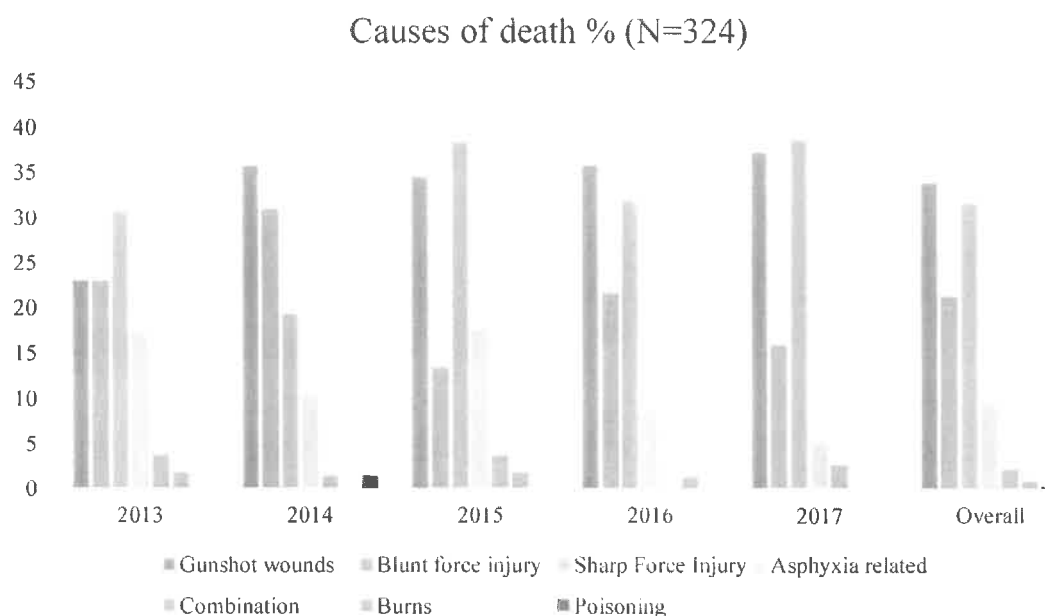
Table 1 illustrates the demographic profile of victims per year of the study period and includes the causes of death for the allocated variables.

Table 1: Demographic profile of female homicide victims (N=324) including the cause of death and suspicion of sexual assault per variable

	Total (N)	Cause of Death						Sexual Assault (n=47)
		Gunshot (n=111)	Blunt force trauma (n=69)	Sharp force trauma (n=103)	Asphyxia- related (n=31)	Burns (n=3)	Combined methods (n=7)	
<u>Age (years)</u>								
<i>18-29</i>	128	46	19	46	12	3	2	27
<i>30-39</i>	99	30	25	31	10	0	3	11
<i>40-59</i>	76	28	21	21	6	0	0	8
<i>>60</i>	19	7	4	3	3	0	2	1
<i>Unknown</i>	2	0	0	2	0	0	0	0
<u>Ethnicity</u>								
<i>Black</i>	158	51	25	64	15	2	1	24
<i>Coloured</i>	148	58	37	35	13	1	4	19
<i>White</i>	12	2	5	2	1	0	2	3
<i>Unknown</i>	6	0	2	2	2	0	0	1
<u>SAPS station¹</u>								
<i>Kraaifontein</i>	52	13	6	26	5	1	1	6
<i>Khayelitsha</i>	34	15	6	10	3	0	0	4
<i>Delft</i>	38	22	5	9	2	0	0	7
<i>Harare</i>	32	5	7	12	7	0	1	8
<i>Mfuleni</i>	28	10	4	13	1	0	1	4
<i>Parow</i>	17	4	5	7	1	0	0	1
<i>Elsies River</i>	16	7	2	4	2	1	0	1
<i>Kleinvllei</i>	16	8	2	5	1	0	0	1
<i>Bishop Lavis</i>	13	8	2	1	2	0	0	1
<i>Ravensmead</i>	12	7	1	2	2	0	0	1

(1 reflects only the ten police stations with the highest number of cases from the data set)

Victims were noted to be in a relationship in 35.8% of cases (either married or had a partner), with the relationship of 33% of victims being unknown. The remaining victims were noted to be single, divorced or married. Paucity of information existed regarding the relationships between the victims and the alleged perpetrators. Pregnancy was confirmed in 2.7% of cases.

Graph 1: Leading causes of death in the study population for the study period

For the year 2013, sharp force trauma was the leading cause of death accounting for 30.8% of all deaths. This changed dramatically in 2014 with gunshot wounds being the leading cause of death and accounting for 35.8% of cases (N=67, n=24)

Gunshot wounds were the leading cause of death over the study period (n=111), with sharp force trauma (n=103) and blunt force trauma (n=69) being second and third respectively.

Of the asphyxia-related deaths (n=31), manual strangulation was the most commonly reported mechanism followed by ligature strangulation, smothering, choking, and traumatic asphyxia.

In the seven cases where death was cited as due to a combination of mechanisms, blunt trauma was present in combination with: asphyxia (n=5); gunshot wounds (n=1); and sharp force trauma (n=1).

Specific injuries identified included blunt force injuries, sharp force injuries and gunshot wounds with subdivisions in both the blunt force and sharp force trauma categories. The presence of defensive injuries was noted, as well as regions where fractures were sustained.

Table 2 represents the number of specific injuries per body region.

Table 2: Regional distribution of injuries reflected as number of injuries per body region

	<u>Head</u>	<u>Neck</u>	<u>Chest</u>	<u>Abdomen</u>	<u>Back</u>	<u>Upper Limb</u>	<u>Lower Limb</u>	<u>Genital</u>
<u>Gunshot wounds</u>	54	19	43	18	29	45	18	1
<u>Sharp force trauma</u>								
<i>Incisions</i>	16	12	9	0	4	35	6	0
<i>Stab wounds</i>	19	39	60	8	35	39	15	2
<u>Blunt force trauma</u>								
<i>Contusions</i>	71	17	36	7	17	62	42	4
<i>Abrasions</i>	94	40	22	16	27	80	50	1
<i>Lacerations</i>	66	2	0	0	0	13	8	8
<i>Chop wounds</i>	1	1	0	0	0	0	0	0
<i>Blunt Penetrating Injuries</i>	1	0	1	0	0	1	3	1

In the blunt force category, abrasions were the most common wound type (48.7%), with the head being the most common location for injuries, except blunt-penetrating injuries.

With regards to sharp force injuries, stab wounds were more common than incised wounds (33% vs 13%) with incised wounds mostly reported in a distribution suggestive of a defensive nature. Stab wounds were most commonly localised to the chest, neck and upper limb areas.

Of the 111 gunshot wound cases, 47% sustained single shots, with the remaining cases shot between two and eighteen times. Most gunshot wounds involved the head (48%).

Seven (7) cases sustained burn wounds to the body, 4 of these were fire-associated and 3 due to hot liquids. The liquids involved were hot oil, hot water, and "the content of a boiling pot". In 5 of the 7 cases, the victims were set alight or burnt by their intimate partners. In only 3 of these cases were burns considered to be the cause of death.

Sexual assault was suspected in 47 cases (14.5%), based on the history given in supporting documentation or the performance of the Sexual Assault Evidence Collection Kit at autopsy. Genital injuries were noted in 13 of these cases. A statistically significant correlation was noted between the younger age group (18-29years old) and suspected sexual assault, in comparison with the other age groups (p -value=0.024). No statistical correlation was found between the cause of death and suspected sexual assault.

Blood alcohol concentration analysis was requested in 254 cases, with results available for 226 cases. Of these, 113 cases tested positive for alcohol, with 11 cases having a concentration of 0.01-0.04g/100ml; 42 cases with a concentration of 0.05-0.15g/100ml; 51 cases with a concentration of 0.16-0.3g/100ml; and 9 cases with a concentration above 0.3g/100ml. The highest blood alcohol level recorded in this study was 0.39g/100ml in a

single case. An association was noted with regards to the younger age groups (18-29years) and the presence of alcohol in collected samples, but this did not reach statistical significance.

Toxicological analysis was requested in 4 cases with results for 2 cases available at the time of data collection. In one case of fire burns a carboxyhaemoglobin of 4% was reported and in a second case a pesticide and insecticide drug screen were negative.

4. Discussion

This study is the first examining cases of female homicides in the Eastern Metropole of Cape Town. In the literature, femicide itself is defined in various ways and relates specifically to the killing of women, though cohesion between different definitions used has been found to be lacking, specifically in reference to establishing the motive behind why such murders take place [2,5]. Many references state that the term should only be used when the motive for killing has been established to be due to the sex of the individual [5,16,20]. Here, we have used the term femicide to indicate specifically the killing of women, regardless of intent, as the information for this was not forthcoming from the resources examined.

The demographic distribution of victims in this study reflects the demographics of the population of the City of Cape Town in terms of ethnicity, with higher percentages of black and coloured households in comparison to other race groups [14]. In these groups a higher population is also present in poorer communities where higher levels of crime are present and echo the finding of a 2016 special report by the United Nations, where it was found that women in informal settlements are one of the subgroups more vulnerable to violence [15]. These findings underscore the importance of local and regional interventional strategies to address crimes such as femicide in communities.

The age group at greatest risk of femicide was identified as those aged between 18-29 years, which is comparable with national and international studies [2,3,6,7,8,12,15,17]. Molefe suggests that factors making this group more susceptible may include increased alcohol misuse compounding underlying poor socioeconomic stressors and intergenerational abuse [6]. The finding of an association between younger age (18-29 years) and alcohol intoxication in this study, supports this suggestion. With regards to degree of intoxication, the current study found 31% of cases were had an alcohol concentration above 0.05g/100ml, which is lower than other Cape Town based femicide studies by Molefe (41%) or Matthews et al. (62%) [6,23].

The 18-29 year age group was statistically more likely to have had a suspicion of sexual assault than other age groups. The suspicion was informed by data garnered at the death scene by police and FPS staff, and presumptively in cases where a SAECK was performed at autopsy. Given the latter criteria, a degree of bias may have been present where pathologists have had a lower threshold to perform SAECK's in younger compared to older victims. Similar to this study, Molefe found that suspected sexual homicides occurred in the younger adult age group, though no statistical difference was found with the 18-29 and 30-39 year age groups contributing near equal number of cases [6].

Gunshot fatalities accounted for the majority of deaths in this study, in keeping with findings at another large mortuary in the City of Cape Town [6]. Both studies reported sharp force injuries as the second most common cause. Nationally, sharp force trauma has been identified as the leading cause of death in female homicide, with gunshot wounds only the third most common [7]. This difference may be attributed to regional variation in criminal behaviour and represent a consequence of the higher burden of gang-related crime and gun violence reported in Cape Town in comparison to the rest of South Africa [19]. This is supported by Nowak, who noted that in countries with higher proportions of gun violence, a greater proportion of women are killed by this method [16].

More research, including of a prospective and comparative nature, is needed in order to assess which risk factors those of younger ages are exposed to, which could place them at higher risk of physical violence. The trend with regards to alcohol concentrations as mentioned as well as the circumstances in which the deaths occurred would be two areas of focus. To be able to establish the specific motives and perpetrators, further co-operation must be sought from other role players including the judicial services and the SAPS with the establishment of a Femicide Death Review process needed not only for the specific metropole but also provincially and at a national level. In a higher vulnerability category for sexual violence. Outcomes of the performance of the SAECK in these cases, including positive DNA results and turnaround times for these results, and their influence on conviction rates is another focus point for possible future retrospective research opportunities with the mentioned role players.

Limitations experienced in this study included the lack of uniformity with regards to the reporting of multiple wounds and special injury types, specifically regarding blunt force trauma. For this the author suggests that regular internal audits of post-mortem reports should be used and consistent reporting methods enforced in cases where blunt force trauma is present. Information regarding possible perpetrators of these crimes were only present in a small number of cases. Corroboration of these perpetrators will need to be sought through co-operation with both SAPS and the NPA as many cases can still be seen as sub judice. A lack of information at and following autopsy regarding cases and circumstances can also play a role, and here the pathologist as well as SAPS show a lack of possible communication channels being available. Due to this lack of data, future studies are needed in collaboration with the various named role-players to establish the burden of intimate partner violence in this portion of the metropole.

5. Conclusion

South Africa is plagued by multiple forms of violent crimes with femicide being the worst form of violence against women. In the cohort investigated, young females in low socio-economic areas were shown to experience the greatest burden of this crime and gun violence was shown to heavily contribute to the burden of deaths.

Within this study sexual assault was suspected in 1 in 7 cases. In a country known to have high rates of sexual crimes this finding is not surprising, albeit a very concerning one. Further pertinent findings were that those in younger age groups (<40years) showed to be highest at risk for death, sexual violence and showed a higher use of alcohol. A need for deeper insights exists into the drivers of this increased vulnerability and directed

interventions are required to reduce this risk. This coupled with the lack of data regarding perpetrators and the judicial outcomes of these cases, is why this author suggests a femicide death review process to be started at institutional and provincial levels. This process would assist in identifying at risk areas where further interventions would be needed and should include all role-players from the relevant governmental bodies.

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Conflict of interest

The authors have no conflicts of interest to declare.

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Glossary of terms

The following definitions were used:

Femicide:

The intentional, unlawful killing of a woman or girl regardless of victim-perpetrator relationship.

Homicide:

The intentional, unlawful killing of one person by another.

Manner of death:

The circumstances surrounding the death which can be classified into unnatural (homicide, suicide, accident), natural or undetermined.

Authorised medical practitioner:

As defined by the National Health Act (Act 61 of 2003) it is a medical practitioner registered as a forensic pathologist or medical practitioner in terms of the Health Professions Act (Act 56 of 1974) and who has been authorised to perform post-mortem examinations or autopsies.

Rape:

As defined by the Sexual Offences and Related Matters Amendment Act (Act 32 of 2007) it is the non-consensual, unlawful and intentional sexual penetration of one person by another.

Sexual homicide:

Homicide associated with evidence of sexual behaviour or activity by the perpetrator which may have occurred before, during, after or throughout the murder as observed at the crime scene or on the victim's body.

Underlying cause of death:

The underlying injury or disease that led to the sequence of events which ultimately led to death.

Violence:

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation(15)

Interpersonal violence(15):

Refers to violence between individuals with the following subdivision important to this text:

Family and Intimate partner violence: violence between family members and intimate partners (spouse, boyfriend, ex-husband etc)

Annexure AFemale homicides per SAPS Station per year (2013-2017)

SAPS station	Study year					Total cases
	2013	2014	2015	2016	2017	
Belhar	0	0	2	0	1	3
Bellville	2	3	1	1	0	7
Bellville- South	0	0	0	1	0	1
Bishop Lavis	2	2	3	4	2	13
Bothasig	1	0	0	0	0	1
Brackenfell	1	2	1	0	1	5
Delft	2	13	5	7	11	38
Durbanville	0	0	1	0	1	2
Elsies River	4	3	4	3	2	16
Goodwood	0	2	0	0	0	2
Gordon's Bay	1	0	0	1	0	2
Harare	6	5	5	8	7	31
Khayelitsha	6	4	8	10	6	34
Kleinvlei	4	3	1	2	6	16
Kuilsriver	1	1	1	0	0	3
Kraaifontein	8	10	13	9	12	52
Lingeletu-West	0	1	2	2	4	9
Lwandle	0	1	0	3	3	7
Macassar	0	0	0	3	1	4
Mfuleni	6	4	2	10	7	29
Nyanga	1	0	0	1	0	2
Parow	3	2	0	7	5	17
Ravensmead	1	3	2	3	3	12
Somerset West	0	1	0	0	2	3
Strand	1	0	0	1	0	2
Other (rural)	2	3	0	1	0	6

(SAPS stations with the highest number of female homicide cases highlighted in bold)



22/07/2021

Project ID: 8761

Ethics Reference No: S18/10/276

Project Title: Femicide in the East Metropole of Cape Town: A 5 year retrospective analysis of adult female homicides at Tygerberg Forensic Pathology Laboratory

Dear Dr C Wilscoff-Davids

We refer to your request for an extension/annual renewal of ethics approval dated 15/07/2021 14:37.

The Health Research Ethics Committee reviewed and approved the annual progress report through an expedited review process.

The approval of this project is extended for a further year.

Approval date: 22 July 2021

Expiry date: 21 July 2022

Kindly be reminded to submit progress reports two (2) months before expiry date.

Where to submit any documentation

Kindly note that the HREC uses an electronic ethics review management system, *Infonetica*, to manage ethics applications and ethics review process. To submit any documentation to HREC, please click on the following link: <https://applyethics.sun.ac.za>.

Please remember to use your Project Id 8761 and ethics reference number S18/10/276 on any documents or correspondence with the HREC concerning your research protocol.

Please note that for studies involving the use of questionnaires, the final copy should be uploaded on Infonetica.

Yours sincerely,

Ms Brightness Nxumalo
Coordinator: Health Research Ethics Committee 2 (HREC 2)

National Health Research Ethics Council (NHREC) Registration Number:
REC-130408-012 (HREC1)•REC-230208-010 (HREC2)

Federal Wide Assurance Number: 00001372
Office of Human Research Protections (OHRP) Institutional Review Board (IRB) Number:
IRB0005240 (HREC1)•IRB0005239 (HREC2)

The Health Research Ethics Committee (HREC) complies with the SA National Health Act No. 61 of 2003 as it pertains to health research. The HREC abides by the ethical norms and principles for research, established by the World Medical Association (2013) Declaration of Helsinki, Ethical Principles for Medical Research Involving Human Subjects; the South African Department of Health (2006) Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa (2nd edition); as well as the Department of Health (2015). Ethics in Health Research: Principles, Processes and Structures (2nd edition).

The Health Research Ethics Committee reviews research involving human subjects conducted or supported by the Department of Health and Human Services, or other federal departments or agencies that apply the Federal Policy for the Protection of Human Subjects to such research (United States Code of Federal Regulations Title 45 Part 46); and/or clinical investigations regulated by the Food and Drug Administration (FDA) of the Department of Health and Human Services.