A 10-year retrospective review on mob justice fatalities examined at the Germiston Forensic Pathology Medico-legal Service

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Declaration

I Sajida Medar declare that this Research Report is my own, unaided work. It is being submitted for the Degree of Master of Medicine in the Department of Forensic Medicine and Pathology at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

.....

(Signature of candidate)

13th day of July 2018 in Johannesburg

Abstract

Mob justice fatalities are a gross violation of human rights in that they represent extra-legal punishment. There is a paucity of research relating to the demographics of at-risk groups, nature of injuries and the impact to the Forensic Pathology Service (FPS). This was a retrospective study over 10 years at Germiston Forensic Pathology medico-legal service. The objectives were to describe the demographics of the deceased, identify the profile of at-risk groups, describe the trends of the number of fatalities and causes of death over time, assess hospitalisation frequency, describe the nature and location of injuries sustained, and to report on ancillary investigations performed. Data was collected from the South African Police Service (SAPS) 180 scene investigation record form, hospital notes, final post mortem report, Notification of death (BI1663) form and additional statements. 354 cases were analysed. There was no clear trend in the number of mob justice fatalities. Six areas were highlighted to have a higher incidence of mob justice fatalities. The at-risk population was young to middle-aged black South African males. The majority of deaths were due to blunt force head injury, and were so severe that most deaths occurred within 24 hours of injury. A standardised operating procedure should be developed for uniformity in managing mob justice cases. Adequate resources should be distributed to appropriate departments to enable a reasonable turnaround time of ancillary investigations and high incidence areas should receive sufficient and appropriately skilled resources to engage with and monitor the respective communities to curb these killings.

Table of Contents

List of Figures

List of Tables

Nomenclature

SAPS	South African Police Service
FPS	Forensic Pathology Service
BI1663	Death notification form
D28	Hospital documentation of an unnatural death
VIC	Victim Identification Centre
HIV	Human immunodeficiency virus
AIDS	Acquired immunodeficiency syndrome
SAHRC	South African Human Rights Commission

CHAPTER 1

1 Introduction and Literature Review

1.1 Introduction

Violence is a serious public health and human rights challenge with a global, psychosocial impact across human lifespan (1). South Africa, a country not at war, faces an unprecedented burden of morbidity and mortality arising from violence (2). The current crime statistics report, composed by Statistics South Africa and the South African Police Service (SAPS), evaluated the trend of murders in South Africa over a 10 year period from 2006/2007 to 2015/2016 (3). The report listed murder as being at the apex of contact crimes and showed a steady increase in the murder trend from 2011/2012 onward. During 2014/2015 to 2015/2016, there was a 4.9% increase year-on-year in murders. The report further illustrated that Gauteng had the highest rate of contact crimes in the country, with a 3.3% increase in contact crimes from 2014/2015 to 2015/2016 (3).

It is detailed in the Bill of Rights in Chapter 2 of the South African Constitution that everyone has the right to freedom and security of their person, which includes the right to "not to be deprived of freedom arbitrarily or without just cause, to not to be detained without trial, to be free from all forms of violence from either public or private sources, to not to be tortured in any way and to not to be treated or punished in a cruel, inhuman or degrading way".(4) One form of violence prevalent in the East Rand community of Gauteng, South Africa is mob justice. Mob justice is a practice whereby a mob takes the law into their own hands in order to injure or kill a person accused of wrongdoing (5). Mob justice is therefore a violation of an individual's rights.

In South Africa, all unnatural deaths fall under the ambit of the Forensic Pathology Service as mandated by the Inquests Act (Act 58 of 1959) (6). The investigation into an unnatural death entails, among other activities, the conducting of post mortem investigations. This includes a detailed external and internal examination of the body and, where required, harvesting of evidentiary material (7). Death is not an inevitable outcome of mob justice attacks, but

evidence suggests that the majority of these attacks result in fatalities (8). Herbst *et al.*(9) concluded that mob justice fatalities create an additional burden on the forensic pathologist or forensic medical officer in terms of autopsy time, additional investigations and the completion of the autopsy examination report.

This study aimed to determine a profile of victims of mob justice fatalities from a forensic pathology point of view at the Germiston Forensic Pathology Medico-legal Service in the East Rand of Gauteng, South Africa.

1.2 Literature review

1.2.1 Definition and Countries in which reported incidents are observed

Mob justice is also referred to as vigilantism, which has been defined as "an organised attempt by a group of ordinary citizens to enforce norms and maintain law and order on behalf of their communities, often by resorting to violence, in the perceived absence of effective official state action through the police and courts". (10) It should not be mistaken for an act of self-defence, but rather a transgressor acting outside the law to administer justice to another transgressor (11). Adinkrah (8) indicated that mob justice killings is an outcome of spontaneous action taken by bystanders with intent to apprehend and punish a person accused of community infractions including theft, robbery, pick pocketing, witchcraft, child abduction and child murder.

Mob justice killings are a worldwide phenomenon (12-14), and constitute a social public health and legal problem (5). Published literature has reported events of this phenomenon in South Africa (9,13-21), Tanzania (5,14), Ghana (8,12), Nigeria (14), Ireland (20), Philippines (22), and England (23). In South Africa, mob justice attacks are also referred to as community assaults, bundu or kangaroo courts, mob killings and vigilante justice (9, 15).

1.2.2 Aetiology

In South Africa, mob justice incidents are seen to occur mainly in Black townships (13, 15, 18, 20). The term "township" refers to the underdeveloped residential areas bordering the typically urban areas that were reserved for Whites only (24). A reason for mob justice originating in the Black townships of South Africa during the Apartheid era stems from a

type of customary tradition of restorative justice known as 'lekgotla' (9,17,20). These were tribunals over disagreements, presided over by community seniors, who rendered a verdict. In the event of an accused being found guilty, punishment comprised physical retribution, payment of penalties and rendering of community service (9,20). Politicised youth in townships also established people's courts, where the accused were assumed to be guilty and punishment was administered extra-legally (20). In South Africa, the administration of physical punishment by a mob, prior to the 1980's, was not viewed in a negative light (15).

Another reason cited for mob justice attacks in certain areas, is that mob justice tends to emerge in communities where there are strained relations between the public and the police (5, 8, 16, 19). These are attributed to public perceptions of an increase in criminal activity and police inefficiency. Adinkrah (8) proposes that the public mistrust of the criminal justice system stems from corruption and unethical conduct within it and further proposes that a significant factor related to rising levels of mob justice in Ghana include the lack of sufficient resources for law enforcement agencies and the criminal justice system. This consequently results in these departments being understaffed, underequipped and underfinanced, therefore unable to provide adequate policing and effective crime prevention.

In keeping with the reason of lack of visible law enforcement, a mob justice attack occurred in 1993, on a council estate, in a medium sized English town, Macclesfield in Cheshire (23). In the summer of 1993 groups of teenagers, sometimes in excess of fifty, were seen to gather outside local shops. The sheer size of these groups was seen as being intimidating especially to the older community members. The already tense situation was heightened when there was a proliferation of car crimes on the estate, for which the teenagers were the prime suspects. It was believed by the older members of the community that police protection for resident's property was lacking. On the night of the attack, the victim was said to have been assaulted by 15 to 20 local residents, comprising both men and women. He sustained facial injuries, was stripped naked, handcuffed to a lamppost, doused in anti-freeze and petrol, had lit matches thrown at him, was photographed by and with his assailants, and had a car driven at him. The alleged vigilantes were later arrested, however no prosecutions ensued. In the following weeks, two themes stood out in the press coverage of the story, that being, addressing the attackers as frustrated but law-abiding citizens who acted out in defence of themselves and their property, and the reluctance to classify the vigilante attack as a crime (23).

Another perspective given in the paper by Seedat *et al.* (2) is that, historically in South Africa, policing in black areas was focused on the enforcement of apartheid laws, with very little common-law policing. This, in combination with poverty and unemployment, lead to crime flourishing (2). As the lines between criminal and community blurred, doubts emerged about whether communities wanted law enforcement (25). This has subsequently been linked to the under-development of parts of the criminal justice system, needed for successful apprehension and prosecution of criminals (26).

1.2.3 Incidence and At-risk groups

Mob justice fatalities constituted 1249 cases of 10000 forensic autopsy cases over a four year period, performed at the Department of Pathology at Muhimbili University College of Health Sciences in Dar es Salaam, Tanzania (5). A 10-year review of fatal community assault cases in Cape Town, South Africa, found that 424 cases of the total number of homicide related autopsies conducted was due to community assault (9). A research article by Adinkrah (8) in which the 10-year content analysis of homicide cases was reported in the *Daily Graphic*, which is a Ghanaian daily newspaper, showed that there were 46 reported incidents of vigilante homicides. The author concluded that this figure was probably an underestimation as the *Daily Graphic* might not have reported on all instances of vigilante killings, that there may have been misclassification of the deaths and that evidence might have been lost due to the body being in advanced stages of decomposition. It was also reported in this article that most deaths in Ghana were not autopsied, making it difficult to ascertain the exact cause of death (8).

Studies have reported that the at risk group of mob justice fatalities are more frequently men (5,8,9,14,17) and that the most common age group of victims ranged from young adults to middle aged adults (5,8,9,14,17). Ng'walali and Kitinya (5) conclude that their observation can be explained in that the youth in most cases fail to achieve financial independence and therefore resort to committing crimes. Another study conducted by Outwater *et al.* (14) on homicide deaths in Dar es Salaam in Tanzania, found that mob violence was largely directed against male thieves who are perceived as threatening social safety, stability or norms. Adinkrah (8) highlighted many reasons why females were highly under-represented as victims in vigilante murders, including that males more likely to commit serious and violent offences than females and that female offenders are treated more leniently than males by the

accusing public. The reason cited for the predominance of young people in this study by Adinkrah (8) is that the youth are more commonly perceived as being perpetrators of crime than are older people.

Another at risk group for falling victim to mob justice attacks is foreign nationals. South Africa has seen a spate of xenophobic attacks between 1994 and 2015 (27). Xenophobia is defined by the South African Human Rights Commission (SAHRC) as "the deep dislike of non-nationals by nationals of a recipient state". (27) South Africa attracts thousands of foreign nationals every year, being Africa's most industrialised country. These foreign nationals are seeking refuge from poverty, economic crises, war and government persecution in their home countries. The majority of foreign nationals in South Africa are from elsewhere on the continent, such as Zimbabwe, Malawi, Democratic Republic of Congo, Somalia and Ethiopia (27).

There are many reasons cited for xenophobic attacks (27). These range from the contestation for scarce resources, to the country's violent past, the inadequate service delivery and the influence of micropolitics in townships, improper procurement processes, and failure of early warning and prevention mechanisms regarding community-based violence. Local residents also claim that foreign nationals tend to accept lower wages and therefore do not participate in the struggle for better wages and working conditions and take jobs opportunities away from local South Africans. South Africans claim that foreigners are criminals, and should not have access to government services and should not be afforded police protection. Foreigners are also blamed for their businesses that take away customers from local residents. It is also believed by the locals that foreigners tend to spread diseases such as HIV/AIDS (27).

1.2.4 Modus Operandi

The modus operandi for mob justice includes beating, stoning, burning, shooting and stabbing (5,9,15,20). Stoning and burning were seen to be the most prevalent mode of killing in the study by Ng'walali and Kitinya (5), where 98.1 % of the cases autopsied had these methods employed. This is in contrast to the study by Herbst *et al.* (9), where it is reported that only 8% of the mob justice fatalities sustained burns, and that the leading cause of death was multiple blunt force injuries.

During the apartheid era in South Africa, a common method of administering punishment by burning was necklacing (15, 19, 20). This involved burning somebody alive with a petrol doused rubber tyre placed around the neck or body (15, 19, 20). Necklacing was widely associated with people's justice. This method was used for punishing "impimpis" or spies; those individuals accused of collaborating, informing or being a "sell-out" within the liberation movement (19). Members of the community commonly accused were councillors and police officers. This was predominantly "black-on-black" violence. Necklacing was not gender specific and a large number of victims were reported as being girlfriends of black policemen (19, 20). Police statistics illustrate that 700 to 800 people burnt to death from necklacing during 1985 to 1989 (28).

In Northern Ireland, commonly practiced forms of mob justice were breeze-blocking (which involved dropping blocks onto the limbs of an accused), beatings, shootings, tarring and feathering. The objective of tarring and feathering was to humiliate the suspected offender, in addition to inflicting pain (20).

1.2.5 Injuries sustained

The pattern of injury most commonly identified was blunt force injuries to the body and head (5, 8, 9, 17, 22). The study by Herbst *et al.* (9) concluded that the majority of the victims autopsied sustained blunt force trauma, in the form of abrasions, lacerations, skull fractures, contusions, closed brain injury and tramline bruises. The study also found that 8.5% of the fatal cases were hospitalised prior to death and that in their study, 10.1% of victims had the use of obvious ligatures on their hands and/or feet and/or neck.

At present, a commonly used instrument used for beatings and whippings in South Africa is a sjambok (29). The use of this instrument originated from, "Kangaroo courts" meting out punishment for an accused by beating using a sjambok, with sentences of up to 300 lashes and on occasion death (20). A sjambok is an instrument of about one meter in length and was historically constructed from rhino hide. A flexible synthetic material is now more commonly used in its manufacture (29). This tool imparts a distinctive injury pattern on the skin which includes tramline bruises and abrasions (29,30). Severe assault may result in skin necrosis (30). There is often no breach of the skin thereby concealing the extent of underlying muscle destruction (31).

Saukko and Knight (32) report that tram-line or railway line type bruising and abrasions occur when the skin surface is struck by a round object such as a pipe or a rectangular shaped object such as a cane. The resultant initial injury appears as two parallel lines of bruising or abrasion interspaced by an undamaged central region. This mechanism occurs as a result of the weapon sinking and compressing the skin in the centre on impact and pulling at the skin at the margins in an inward manner. The blood vessels at the margin then tear resulting in bleeding into the surrounding soft tissue. In the absence of underlying bone there is minimal tearing of the blood vessels at the margins (32).

1.2.6 Complication of soft tissue injury and commonly performed ancillary investigations

Herbst *et al.* (9) and Forgus (17) further highlighted complications that arose in victims of mob justice attacks, which included pneumonia, rhabdomyolysis and renal failure (9, 17). Rhabdomyolysis occurs as a complication of extensive blunt force soft tissue injury which can rapidly cause acute renal failure and death and is a consequence of muscle injury (17, 29-31). It results from the rapid breakdown of skeletal muscle fibres, which leads to the leakage of potentially toxic cellular contents into the systemic circulation (33-35).

There are many causes of rhabdomyolysis (33). These are classified as being either acquired or genetic. Acquired causes are further classified into non-traumatic and traumatic causes. Examples of rhabdomyolysis caused by non-traumatic, non-exertional causes are various drug toxicities, idiopathic inflammatory myopathies, exposure to temperature extremes and neuroleptic malignant syndrome. Examples of rhabdomyolysis caused by non-traumatic, exertional causes include extreme physical exertion, status epilepticus, crisis reaction of sickle-cell disease and status asthmaticus. Examples of traumatic causes of rhabdomyolysis include crush injury and high-voltage electrical injury. Genetic causes of rhabdomyolysis include inborn errors in glycogenolysis or terminal glycolysis, inborn errors in the pathway of short-, medium- and long-chain fatty acid oxidation and inborn errors in mitochondrial oxidative phosphorylation, patients with muscular dystrophy and malignant hyperthermia (33).

Rhabdomyolysis which occurs as a result of mob justice is traumatic in nature (31). It results in crush injury which can rapidly progress to crush syndrome. Crush injury and crush syndrome are not synonymous. Crush injury occurs as a direct injury resulting from crush

while crush syndrome (also referred to as myonephropathic syndrome) is a systemic manifestation of muscle cell damage resulting from crush with subsequent reperfusion (33,36). The severity of the condition is related to the magnitude and duration of the compressing force, and the bulk of muscle affected (31).

Irrespective of the cause of rhabdomyolysis the pathophysiologic mechanisms follow a common pathway (33). Within the muscle cell, there is normally a low intracellular sodium and calcium concentration and a high intracellular potassium concentration. Homeostasis of intracellular ions is maintained by pumps and channels in the sarcolemma (37). Direct injury to the sarcolemma or dysfunction of the sarcolemma ion pumps results in increased cellular permeability to sodium irons and consequently an increased intracellular calcium concentration. Increased mitochondrial calcium leads to an increased production of reactive oxygen species and upregulates the expression of pro-apoptotic factors thereby triggering apoptotic cell death (37). The increase in free ionised calcium in the cytoplasm in turn initiates a chain of reactions eventually leading to the destruction of the muscle cell (33, 37). Subsequently, large quantities of intracellular metabolites (potassium, phosphate and urate) and intracellular proteins (aldolase, myoglobin, creatine kinase, lactate dehydrogenase, and aspartate transaminase) leak into the extracellular space causing damage to adjacent capillaries, thereby inducing local oedema which increases intra-compartmental pressure leading to eventual regional ischaemia (33, 37-39). The ischaemia further augments energy depletion resulting in further destruction of capillaries (37). Circulating leucocytes adhere to the damaged capillaries, become activated and transmigrate to the destroyed muscle cells where they release reactive oxygen species and proteolytic enzymes, which ultimately aggravate cellular impairment (37, 40, 41). Of note in ischaemic injury, the destruction of the muscle cells occurs mainly during the phase of reperfusion (37, 42, 43). This phenomenon is attributed to the fact that oxygen in neutrophils are delivered to the destroyed muscular tissue during the reperfusion phase thereby accentuating the generation of radical oxygen species (37, 44, 45).

The typical triad of clinical features are myalgia, transient muscle weakness and pigmenturia (dark tea or cola-coloured urine) (31, 37). The pigmenturia is caused by an excessive amount of myoglobin in the urine (37, 46). Myoglobin is composed of globulin and a molecule of heme (37). The role of myoglobin is to transport oxygen to the mitochondria of skeletal and heart muscle in conditions of low partial pressure of oxygen (37, 38, 47). Myoglobin is

excreted mainly through the renal system. This is by a process of filtration at the renal glomerulus and then the majority is reabsorbed by the convoluted tubules with only a small quantity being excreted in the urine (37). In the event of rhabdomyolysis, myoglobinaemia ensues with resultant increased glomerular filtration of myoglobin. This higher concentration of myoglobin in the preurine increases the reabsorbing capacity of the glomerular epithelial cells in an attempt to limit the excretion of myoglobin into urine (37). When the concentration of myoglobin in the preurine exceeds the reabsorbing capacity of the glomerular epithelial cells, myglobinuria ensues (37).

The most important complication of rhabdomyolysis is acute renal failure (30). This is caused by the mechanical obstruction of myoglobin in the nephrons (30), leading to acute tubular necrosis (31). Other complications of rhabdomyolysis include cardiac arrhythmia leading to cardiac arrest, hepatic dysfunction, extremity compartmental syndrome and disseminated intravascular coagulation (31). Acute renal failure due to acute tubular necrosis can be determined by sampling of the kidney for histological analysis. This is done during autopsy.

South Africa has one of the highest alcohol consumptions in the world for all individuals who drink alcohol (2). Another ancillary investigation commonly performed is the taking of femoral blood for determination of the post mortem blood alcohol concentration. This is done because alcohol misuse is a major factor underlying homicides and unintentional injuries (2).

1.3 Problem statement

There is a paucity of forensic pathology research related to mob justice fatalities in South Africa. The current published literature focuses either on the social aspects of mob justice, delving into the possible reasons driving the attacks, or the clinical aspect which deals with the medical management of the victim.

At Germiston FPS bodies are frequently received with a history of death due to mob justice. The impact, however, of mob justice fatalities at this facility, pertaining to additional workload for the autopsy, the ancillary investigations, the communities in the catchment area which are most affected and risk profile of mob justice victims has not been analysed. There is no set guideline for the formulation of the cause of death or ancillary investigations to be

performed. Consequently, there are inconsistencies in the medico-legal investigations pertaining to mob justice fatalities.

A study of mob justice fatalities would be valuable in order to better plan for the facility resources and skills, to inform the creation of a standardised procedure when dealing with mob justice fatalities, as well as provide insights to the police for improved monitoring of potential areas where mob justice could occur.

1.4 Study Aim and Objectives

This study aimed to determine the profile of at-risk groups, common mechanisms of injuries sustained and complications of injuries from mob justice fatalities in the Germiston FPS over a 10-year period.

The objectives of the study were:

1. To describe the demographics of the deceased (race, sex, age, geographic location and citizenship) and profile of at-risk groups;
2. To describe the trends over time for the number of mob justice deaths, as well as the trend for the cause of death;
3. To report whether hospitalisation occurred and the duration of hospitalisation;
4. To describe the nature of injuries sustained (blunt force, sharp force, ballistic wounds, thermal injuries, asphyxial related deaths including the presence of ligature or ligature marks) and the location of the injuries; and
5. To report on whether any ancillary investigations were performed and the results thereof.

CHAPTER 2

2 Methodology

2.1 Research Question

What are the demographics, trends over time, hospitalisation and frequency thereof, injury patterns and ancillary investigations performed in mob justice fatalities at Germiston FPS?

2.2 Research Design

The study is a retrospective case file review over a 10 year period, from 1 April 2006 to 31 March 2016. These dates were selected for the study because at Germiston FPS, case files are stored on site from 1 April 2006 to present.

2.3 Materials and Methods

Site of study

This study was conducted at the Germiston FPS, located at 10 Long Street, Germiston, Gauteng, South Africa. It is one of eight medico-legal facilities in the southern cluster of Gauteng Forensic Pathology Service. This facility is located in the East Rand of Gauteng and is the busiest in terms of number of cases performed per annum. The site conducts an estimated 3000 medico-legal autopsies per annum, pertaining to deaths due to causes as stipulated in the Inquests Act (Act 58 of 1959) (6). The investigation into an unnatural death entails, among other activities, the conducting of post mortem investigations. This includes a detailed external and, where required, internal examination of the body and harvesting of evidentiary material in order for further investigation to be performed, including histological examination, blood alcohol analysis and toxicological analysis.

The mob justice cases reported at the police stations that fall within the Germiston FPS catchment and surrounding areas, as listed in Table 2.1, were included in the study.

Table 2.1 List of Police stations within the catchment and surrounding areas of Germiston FPS

1. Alberton 2. Alexandra 3. Bedfordview 4. Benoni 5. Boksburg 6. Brackendowns 7. Dawn Park 8. Diepsloot	9. Eden Park 10. Edenvale 11. Elsburg 12. Germiston 13. Ivory Park 14. O R Tambo International Airport 15. Katlehong	16. Kempton Park 17. Kliprivier 18. Kwa Thema 19. Mamelodi 20. Midrand 21. Norkem Park 22. Olifantsfontein 23. Primrose	24. Rabie Ridge 25. Reigerpark 26. Sandringham 27. Sebenza 28. Tembisa 29. Tokoza 30. Vosloorus 31. Zonkeizizwe

A geographic view of these stations is shown below (Figure 2.1), with each of the black tags representing the location of the police station. The numbers indicated in Figure 2.1 correspond to the numbers in Table 2.1.

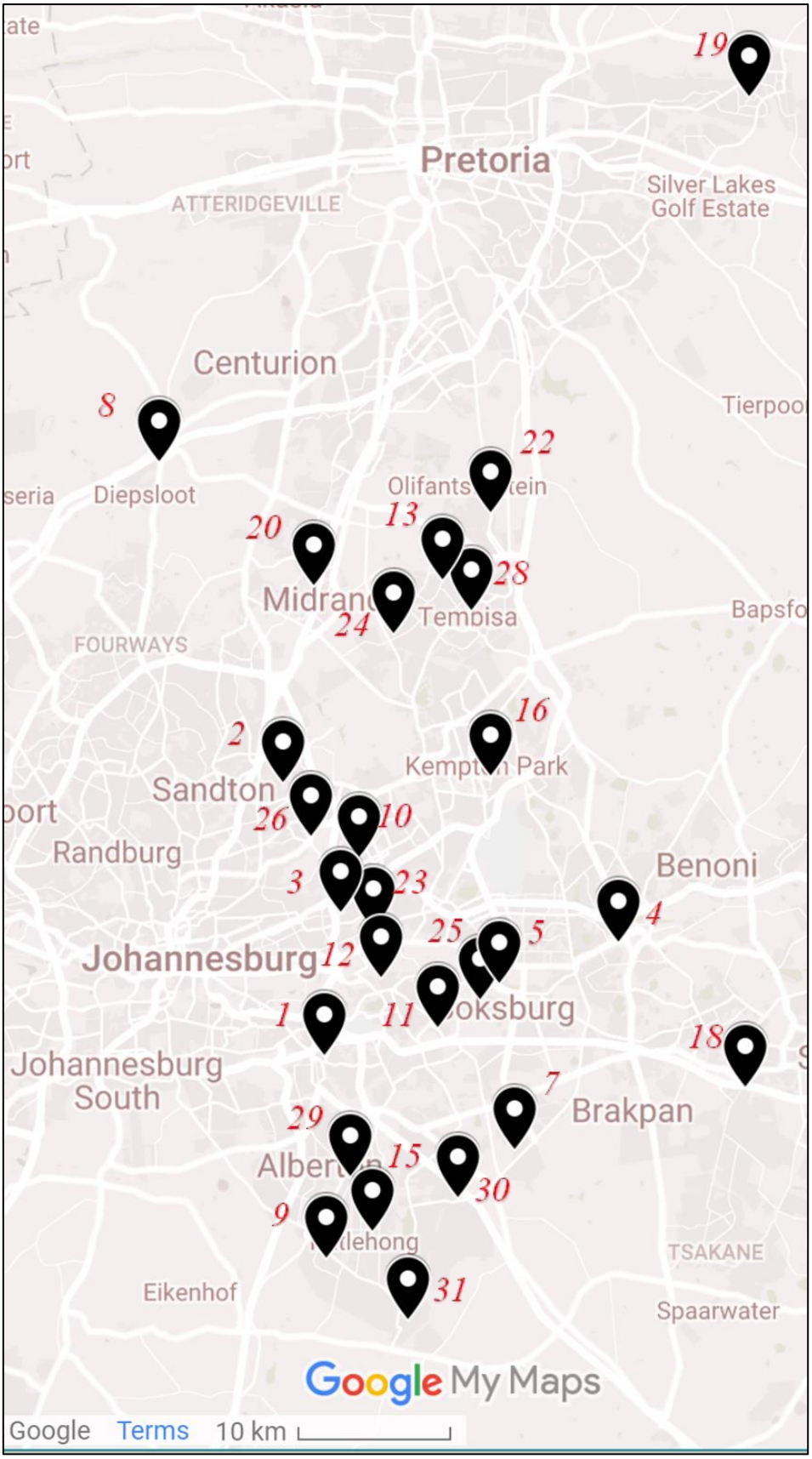

Figure 2.1 Geographic location of police stations listed in Table 2.1

2.4 Sample

The population comprised all cases received at Germiston FPS.

The sample comprised all cases of mob justice fatalities from 1 April 2006 to 31 March 2016. A total of 354 cases were analysed. Inclusion criteria for the sample were any deaths documented as a "mob justice fatality", "community assault" or "mob justice killing" in the Death Register from Germiston FPS.

Exclusion criteria for the sample were cases in which the final autopsy report was incomplete or unavailable. Following the conduction of the study, there were no cases which were excluded.

2.5 Data Collection

Information was gathered from the mortuary case files of the deceased. The sources of data were from:

- The SAPS 180 scene investigation record form, compiled by the SAPS officials;
- Any additional statements received either from family members, police investigators or forensic pathology officers;
- Any hospital notes added to the file or form D28 received from the hospital;
- The BI1663 death notification document to determine citizenship;
- SAPS VIC report to determine citizenship;
- Department of Health Forensic Chemistry Laboratories report for alcohol and toxicology testing;
- Addendum histology report if it was not included in the final post mortem report; and
- The final post mortem report.

Raw data was compiled onto a data collection sheet (refer to Appendix 1). The following information was collected from the case files of the deceased:

- The year and season (hot or cold) in which the death occurred. Hot season was defined as 1 September to 28/29 February, and cold season was defined as 1 March to 31 August;
- Age of the deceased, which were separated into ranges of 10-years;

- Sex of the deceased;
- Race of the deceased;
- The geographic area where the incident occurred, according to the police station in that area - (Refer to table 2.1);
- Citizenship of the deceased;
- Whether or not hospitalisation had occurred;
- If the deceased was hospitalised, the duration of the admission;
- Nature of injury: Blunt force, sharp force, thermal injury, ballistic or asphyxia;
- The presence of a ligature or ligature mark;
- Location of injury, as per body part. The subdivisions were head, face, anterior and posterior neck, anterior and posterior chest, abdomen, back, pelvis and buttocks, lower limb and upper limb;
- Head injury was further subdivided into the presence of scalp injury, skull fractures and intracranial traumatic injury;
- Whether tramline injuries were present or not, and the location thereof;
- The cause of death as listed in the final post mortem report; and
- Whether ancillary investigations were performed and the results thereof.

2.6 Data Analysis

Descriptive statistics (such as means, ranges, ratios, and frequencies) and graphs were used in all objectives for comparisons. Statistical tests were used as appropriate to meet the study objectives (where noted below).

Objective one (demographics and profile) was achieved by comparing racial groups, sex, age, citizenship and the location of the police station where the incident was reported to. The ages of the deceased were separated into ranges of 10 years for analytical purposes; 0 to 10 years, 11 to 20 years, 21 to 30 years and so on. Location was listed and analysed according to the various police stations falling within the catchment and surrounding area of the facility. Citizenship was determined by examining the BI1663 death notification form. In cases where the deceased was not identified, citizenship was determined following investigation by the SAPS VIC. In some cases VIC failed to positively identify the deceased and these were subsequently classified as an unidentified body or pauper and was buried as an unclaimed

deceased body in terms of section 68(b) of the National Act (Act 61 of 2003) and regulations 31 and 32 of the R363 regarding the rendering of Forensic Pathology Service.

Objective two (trends over time and cause) was met by comparing the number of deaths over time. This was done by comparing the annual number of deaths and the seasonal number of deaths. This was done by grouping deaths occurring from 01 September to 28 / 29 February of a given year as the hot season and deaths occurring between 1 March to 31 October of a given year as the cold season. The number of mob justice fatalities occurring within each year of the study period was then compared to determine the year with the highest number of these deaths. A t-test was used to determine if there was a significant difference in the number of mob-related deaths between the cold and hot seasons, using a significance level of $p=0.05$.

All causes of death, as listed in the final postmortem report issued by the forensic pathologist or medical officer who conducted the autopsy, were analysed. Due to the differences in wording of the causes of death, keywords were identified and grouped together for analysis purposes. There were no postulations made from injury patterns to formulate alternate causes of death for the purpose of the study.

Objective three (hospitalisation and if present, associated duration) was met by comparing the number of cases where hospitalisation did or did not occur. The data was further analysed to study the duration of the admission, with the results being given as an average number of hours for hospitalisation. The duration ranges used were less than 24 hours, between 24 and 48 hours, and greater than 48 hours.

Objective four (nature and location of injuries) was met by comparing the frequency of injuries sustained, i.e. blunt force (contusions, abrasions, lacerations and fractures), sharp force (incised wounds, penetrating incised wounds and chop wounds), ballistic, asphyxial related deaths (strangulation and hanging) and thermal injuries (burns) and the locations of the injuries. Location of injury on the body was classified into head, face, neck, anterior chest, posterior chest, abdomen, back, pelvis and buttocks, upper limb and lower limb. Similarly, the presence of tramline bruises and abrasions were classified according to the same breakdown of body part regions. The assessment of head injury was further divided into the presence of injury to the scalp, skull (fractures) and intracranial contents (lacerations, haemorrhages and complications thereof). The presence of a ligature or ligature mark was documented according to body region being around or on the wrists, ankles and neck.

Objective five (ancillary investigations) was met by analysing whether ancillary investigations such as the taking of blood for the determination of blood alcohol concentration, sampling of tissue and collection of body fluids for toxicological and DNA analysis, sampling of tissue for histological analysis, were performed. The results of performed investigations were further analysed.

Data was collected and analysed using Microsoft Excel spread sheets.

Ethics Clearance

Necessary ethics approval was obtained from The University of Witwatersrand Human Research Ethics Committee (Medical), Clearance certificate number M170830, and this certificate is included as Appendix 3 (page 48).

CHAPTER 3

3 Results

3.1 What are the demographics of the deceased and profile of at-risk groups?

(Objective 1)

The population over the 10-year period was 27833 decedents of which 354 cases (1.27%) were mob justice fatalities.

Only 2 females were found in the sample group, and both were South African.

All 354 cases analysed were Black victims. The average number of mob justice cases per year was 35.4, with 2014 experiencing a spike in the number of mob justice cases (n=49). Data for portions of the year were collected in 2006 (9 months) and 2016 (3 months) hence the seemingly deceptive low numbers (Figure 3.1).

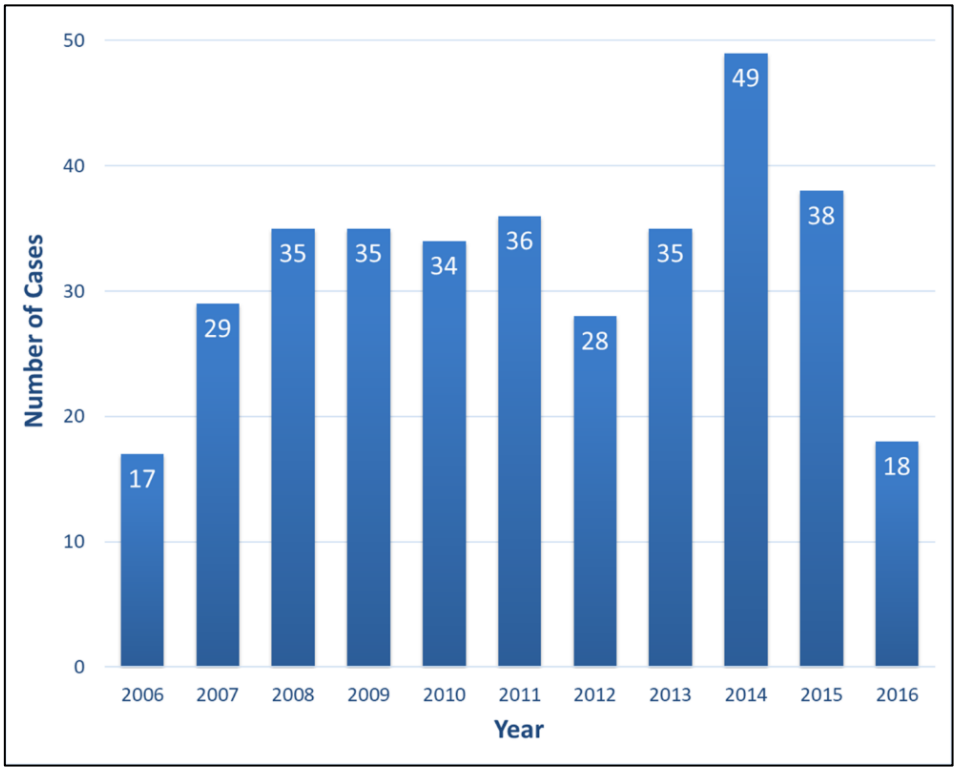

Figure 3.1: Number of mob justice fatalities per year

The largest proportion (49.2%) constituted deaths within the ages of 21 to 30 years (174 cases). This was followed by 21.5% (76 cases) in the 31 to 40 age group. There were no cases that involved people under the age of 11 years (Figure 3.2).

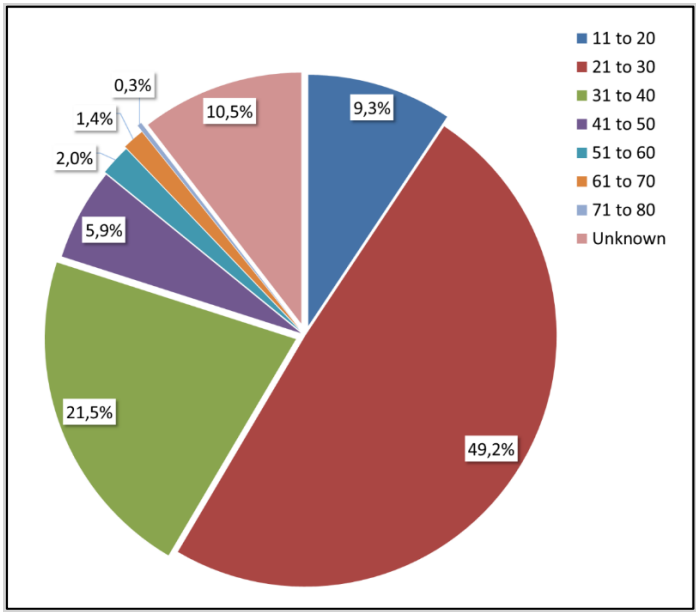

Figure 3.2: Percentage of Cases for Various Age Ranges (Years)

The highest number of deaths in terms of citizenship was South Africans (244), followed by Mozambicans (34) and then Zimbabweans (28) (Figure 3.3).

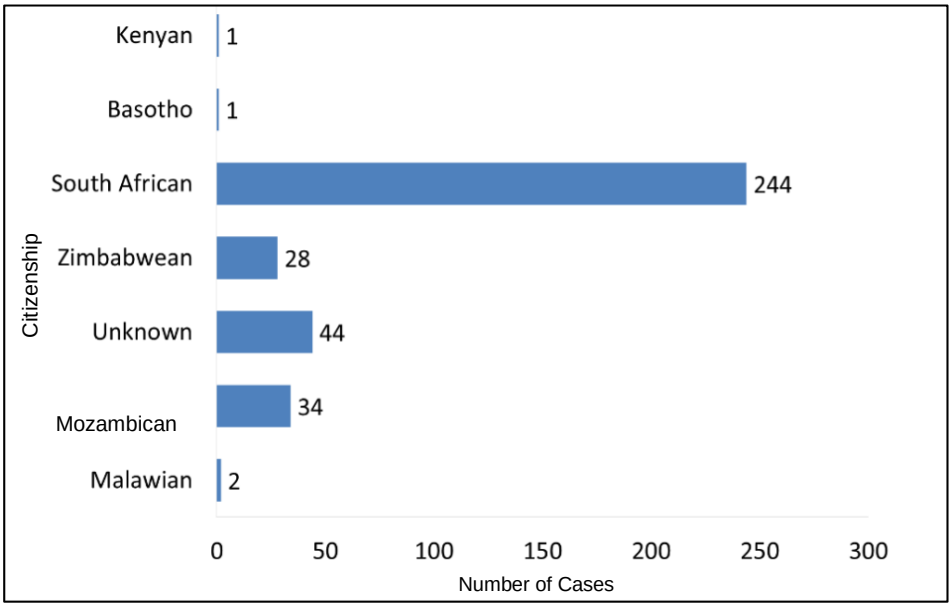

Figure 3.3: Citizenship of deceased

Tembisa was the police station that accounted for the most number of cases (69), followed by Kathelong (47) and Ivory Park (41) (Figure 3.4).

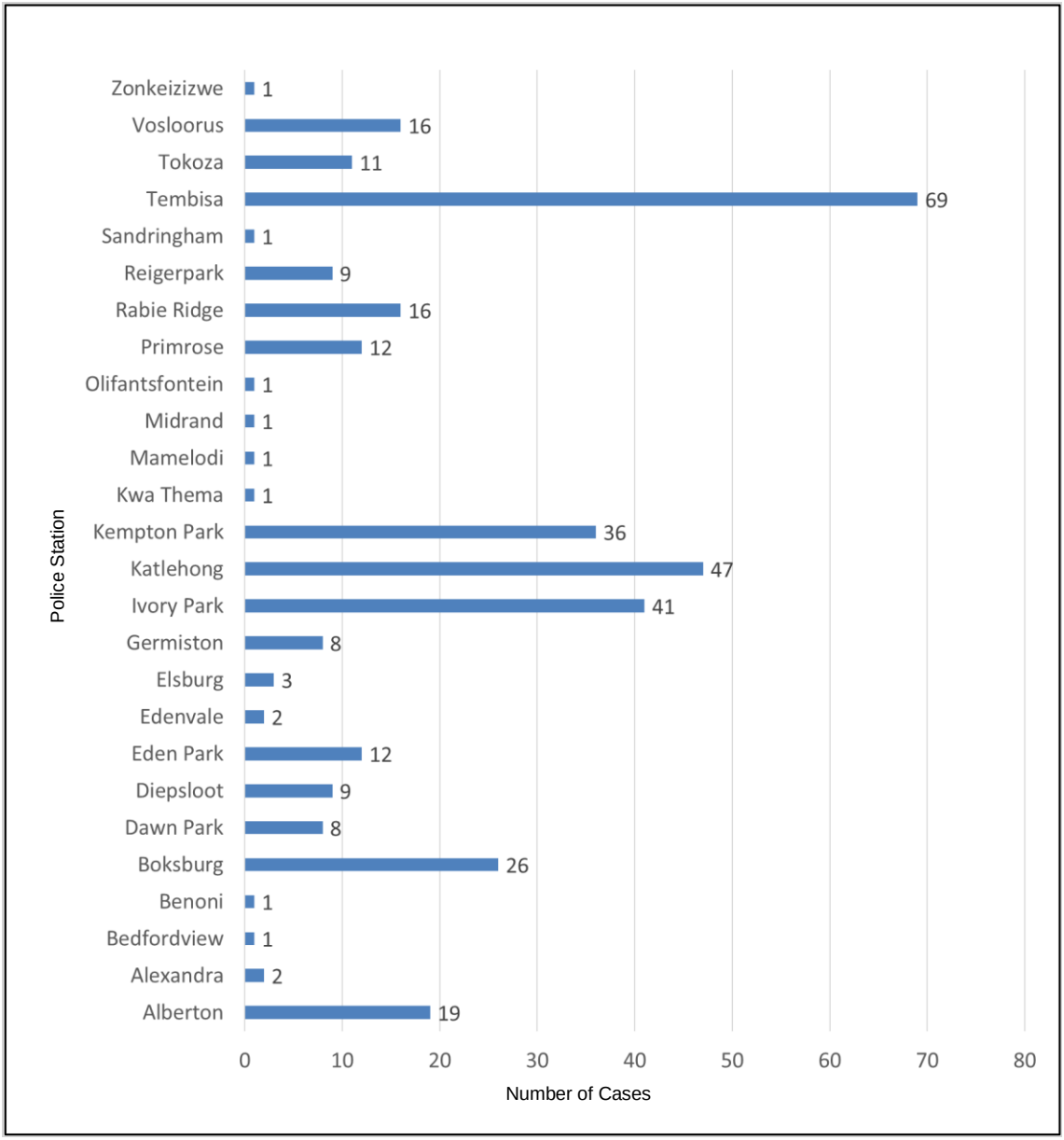

Figure 3.4: Number of Cases per Police Station

Cases falling into the northern catchment areas of Germiston FPS showed that Tembisa police station had the highest number of cases (69), Ivory Park had 41 cases (the third highest overall) and Rabie Ridge had 16 cases (Figure 3.5).

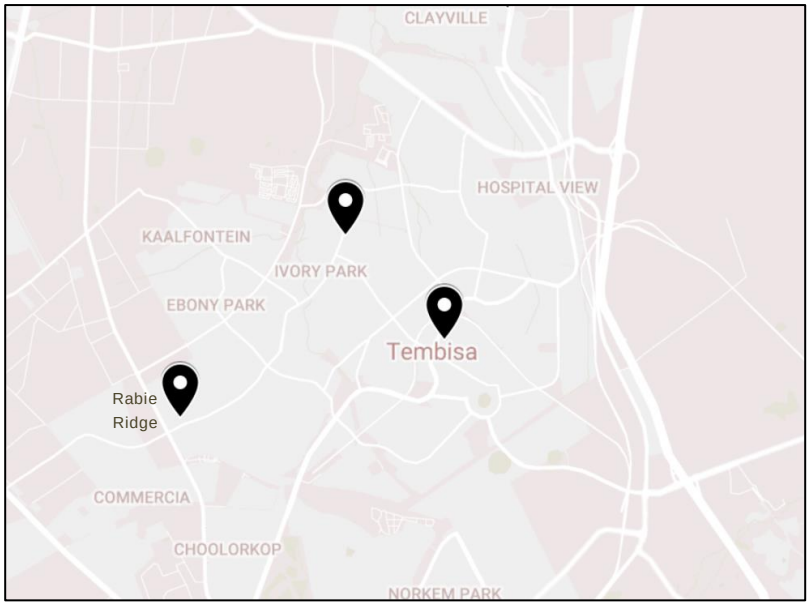

Figure 3.5: Map of Police Stations, showing Tembisa, Ivory Park and Rabie Ridge

Cases falling into the southern catchment areas of Germiston FPS showed that Katlehong contained the second highest number of cases (47 cases), and this station is in close proximity to 3 other stations that each reported more than 10 cases: Edenpark (12 cases), Tokoza (11 cases) and Vosloorus (16 cases) (Figure 3.6).

Figure 3.6: Map of Police Stations showing Katlehong, Eden Park, Tokoza and Vosloorus

3.2 What are trends over time for the number of deaths and cause of death?

(Objective 2)

With regard to the relationship between seasonality and the number of cases in the sample population, there are in general minor differences (162 hot season cases and 192 cold season cases). The exception to this is 2014, where the number of deaths in the cold season (31) was more than in the hot season (18) (Figure 3.7).

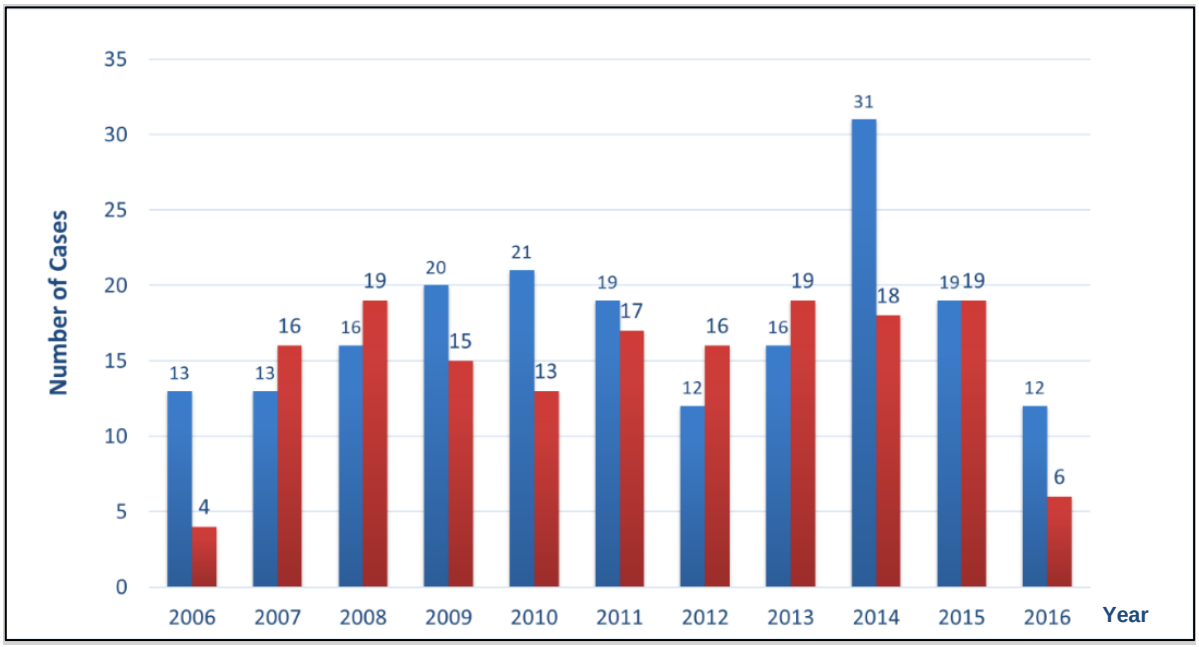

Figure 3.7: Number of Hot (red bars) and Cold (blue bars) Season Cases per Year

The two-sample t-test analysis was conducted. There was no significant difference (p=0.89) in the number of hot and cold season cases.

Blunt force head injury was the leading cause of death, and was represented in 136 cases (38.4%). This was followed by multiple blunt force injuries (76 cases or 21.5%) and blunt force soft tissue injury (58 cases or 16.4%) (Figure 3.8).

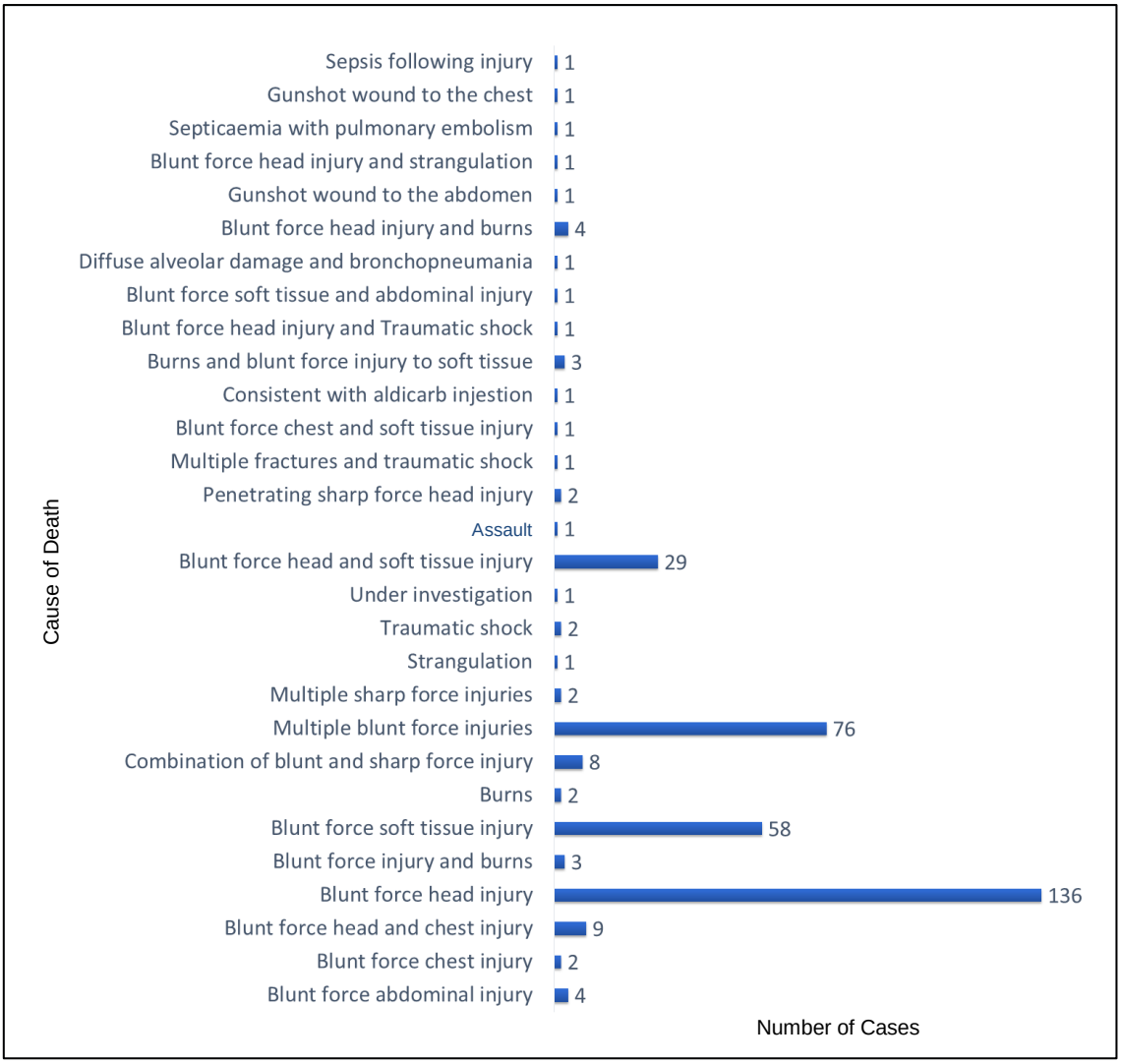

Figure 3.8: Number of Cases per Cause of Death

Under the cause of death listed as multiple blunt force injuries, there were 73 cases (96.1%) that contained head injury (scalp, skull and/or intracranial injury). Under the cause of death listed as blunt force soft tissue injuries, there were 47 cases (81.0%) that contained head injury (scalp, skull and/or intracranial haemorrhage (Figure 3.8). For the remainder there were 74 cases where head injury was present. The total number of cases with head injury was 283 of which 281 was blunt force head injury, and 2 were sharp force head injury.

3.3 How prevalent was hospitalisation and associated admission duration?

(Objective 3)

There were 175 cases (49.4%), out of the total sample size of 354, where hospitalisation took place. The year 2009 had the highest number of hospitalisation cases (23 cases). There were 7 years in the study when the number of hospitalisation cases was above 15 per annum. Hospitalisation was assessed in hours. The mean length of hospitalisation stay was 115.6 hours, with a range of 15 minutes to 155 days, for all hospitalisation cases in the sample. This mean decreases to 64.4 hours, if 5 cases where admission duration was greater than 1000 hours, are excluded (Figure 3.9). With reference to the figure, it should be noted that 2006 and 2016 represent partial years only (9 months and 3 months respectively).

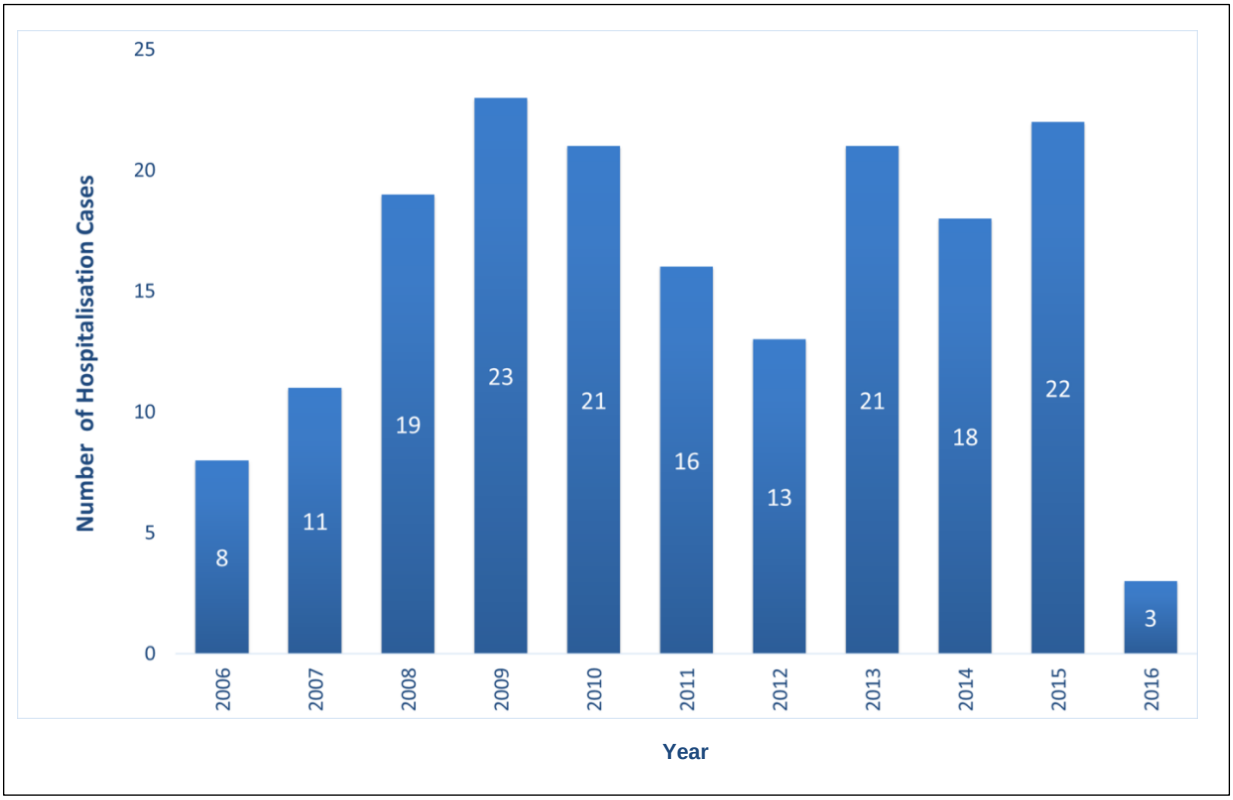

Figure 3.9: Number of Hospitalisation Cases per Annum

In the majority of hospitalisation cases (56.3% or 98 cases) the admission duration was less than 24 hours (Figure 3.10).

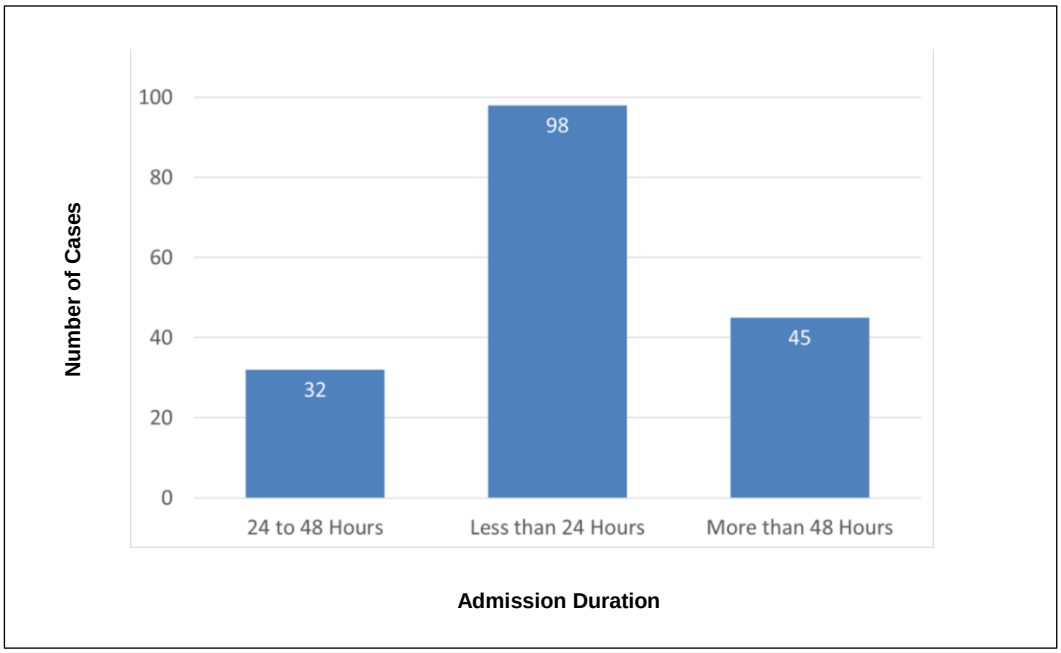

Figure 3.10: Admission Duration

3.4 What were the nature and location of injuries?

(Objective 4)

Multiple injuries were associated in 15.5% of the cases (53 cases). There were 349 reports of blunt force injury, making this the most common nature of injury.

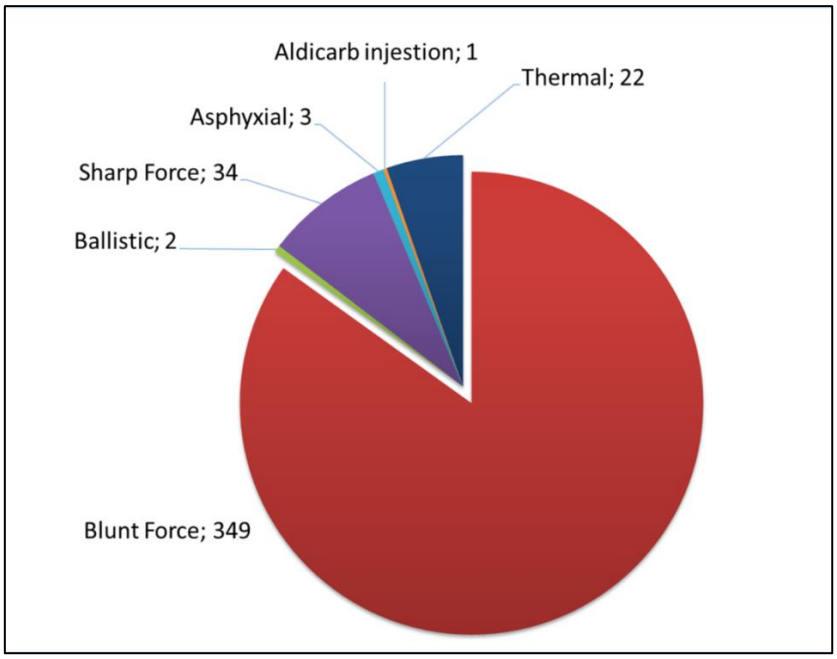

Figure 3.11: Number of Cases for Nature of Injury

(Analysis does not differentiate multiple locations of injury)

Head injuries were the most common injury (341 cases or 96.3%), followed by facial (72.6%) and posterior chest injuries (63.8%). Neck injuries were the least prevalent (14.1%) (Figure 3.12).

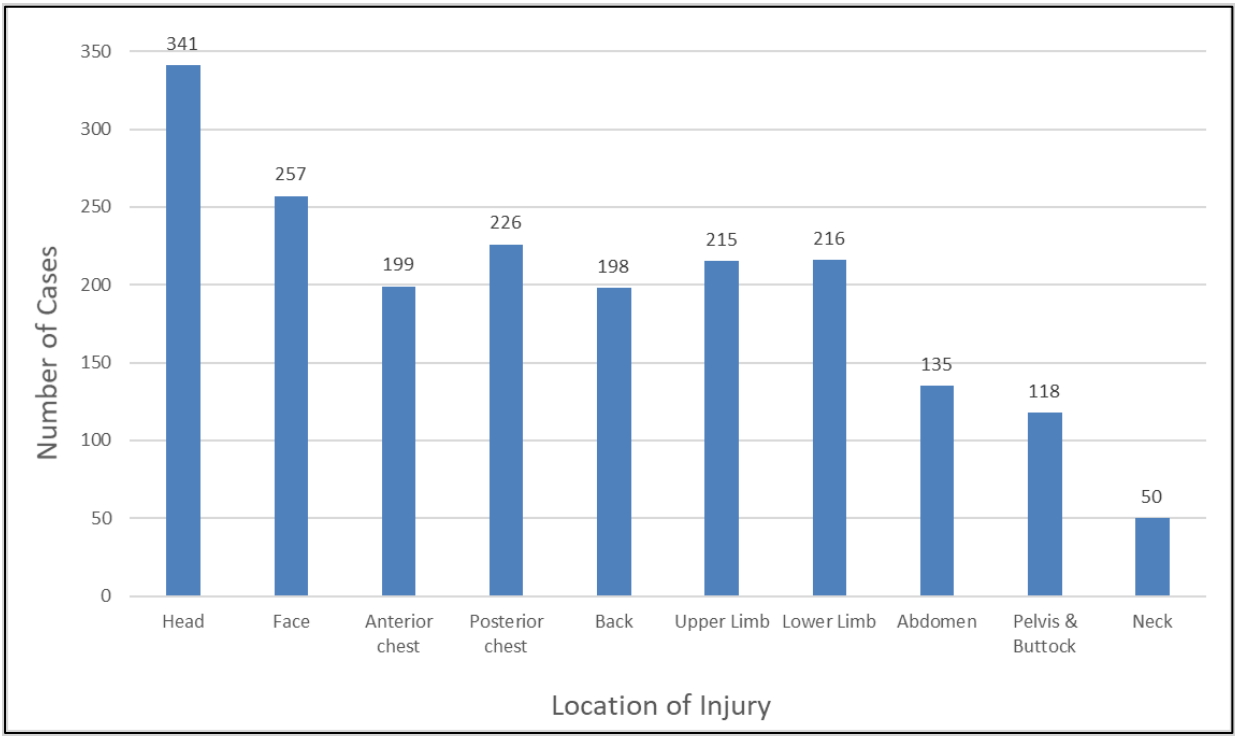

Figure 3.12 : Location of Injury: Number of Cases

(Analysis does not differentiate multiple locations of injury)

From the 354 deaths that were analysed, there were three types of head injuries noted, with multiple types of head injuries possible per case. The leading head injury type was scalp injuries (315 cases), followed by intracranial haemorrhages (299 cases) (Figure 3.13).

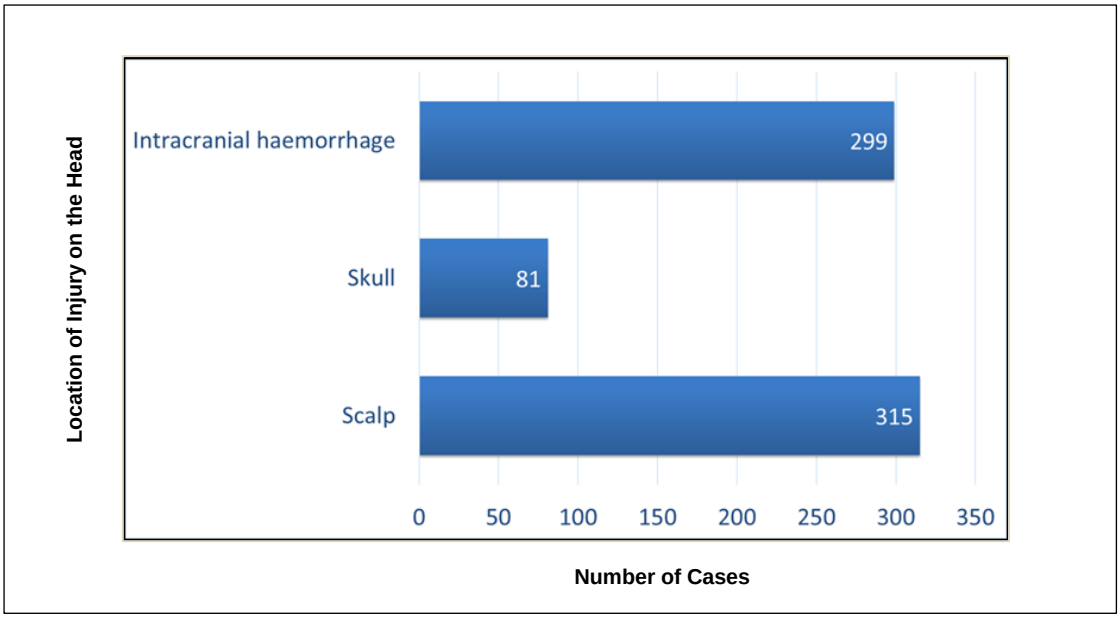

Figure 3.13 : Location of Injury on the Head

(Analysis does not differentiate multiple locations of injury)

Tramlines on the posterior chest were the most common (150 cases), followed by the back (136 cases) and lower limb (124 cases). Tramlines on the head and neck were the least common (26 and 23 cases respectively) (Figure 3.14) .

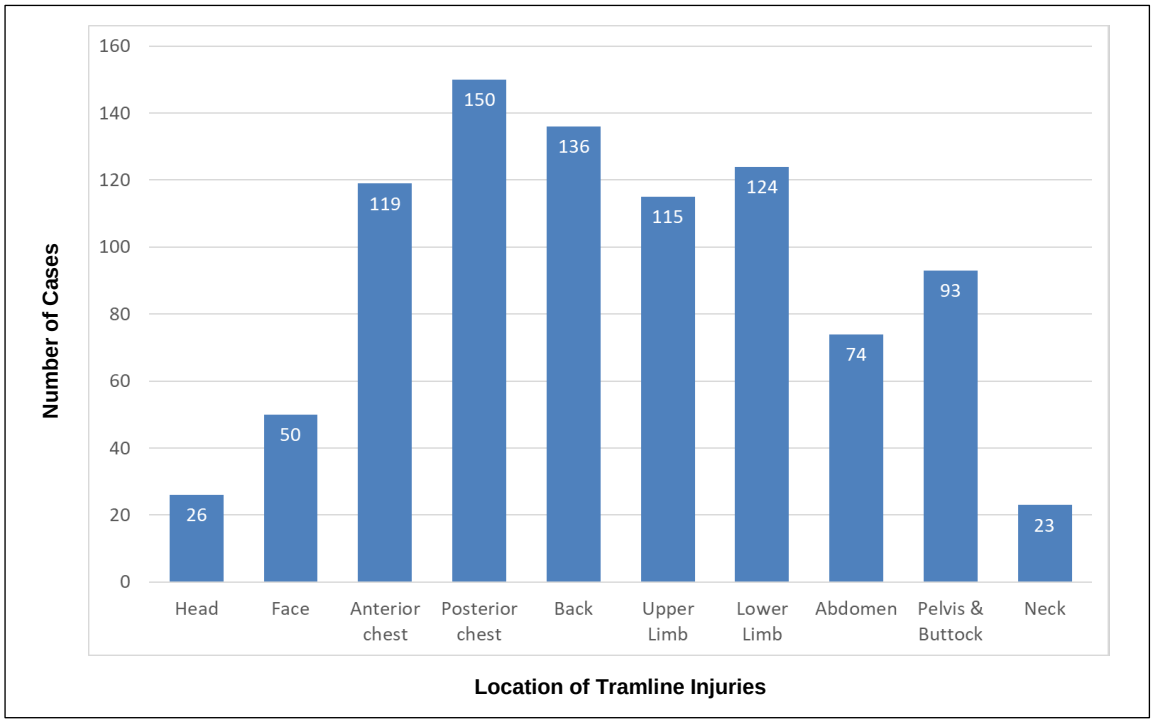

Figure 3.14 : Location of Tramline Injuries

(Analysis does not differentiate multiple locations of injury)

A total of 23 cases were identified where ligatures or ligature marks were present. These were present on the neck (6 cases), ankles (7 cases), wrists (9 cases) and neck and wrist (1 case).

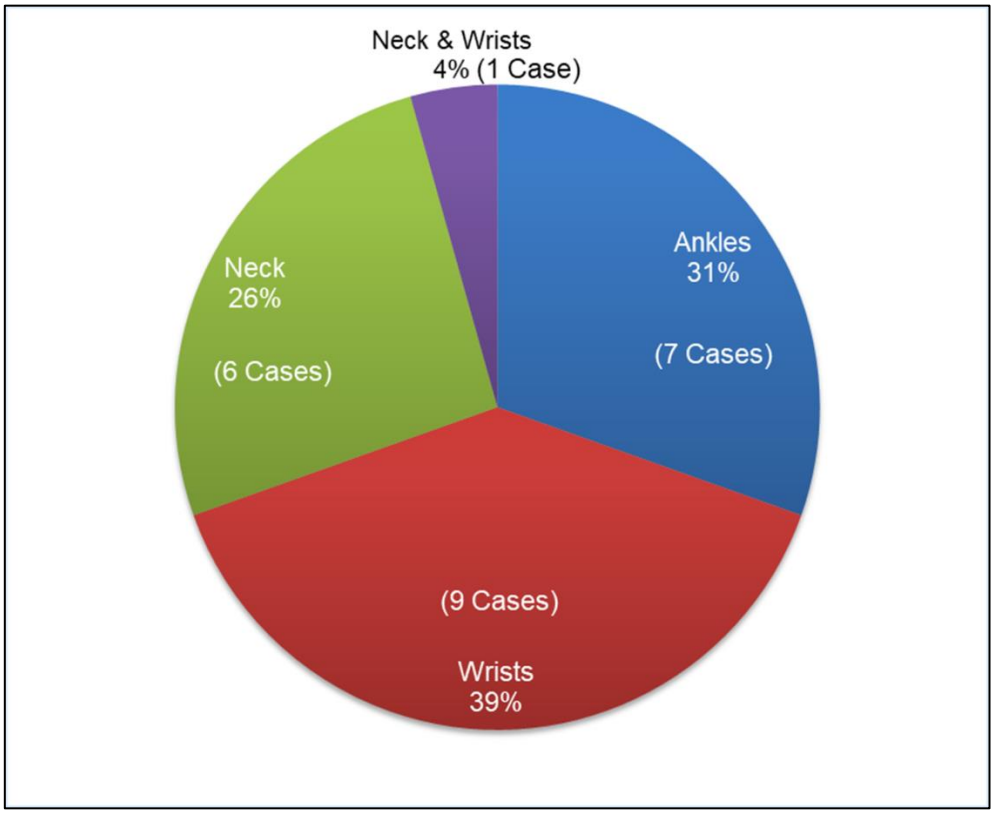

Figure 3.15 : Cases with presence of ligatures and/or ligature marks

3.5 How often ancillary investigations performed and what were the results?

(Objective 5)

In the study, 94 ancillary investigations were performed, on 80 cases (22,6% of the sample population). These were additional tests for alcohol, DNA, histology, toxicology or a combination of these. Alcohol testing was the most common (39 cases), followed by DNA testing (31 cases), with only 2 toxicology tests being noted (Figure 3.16).

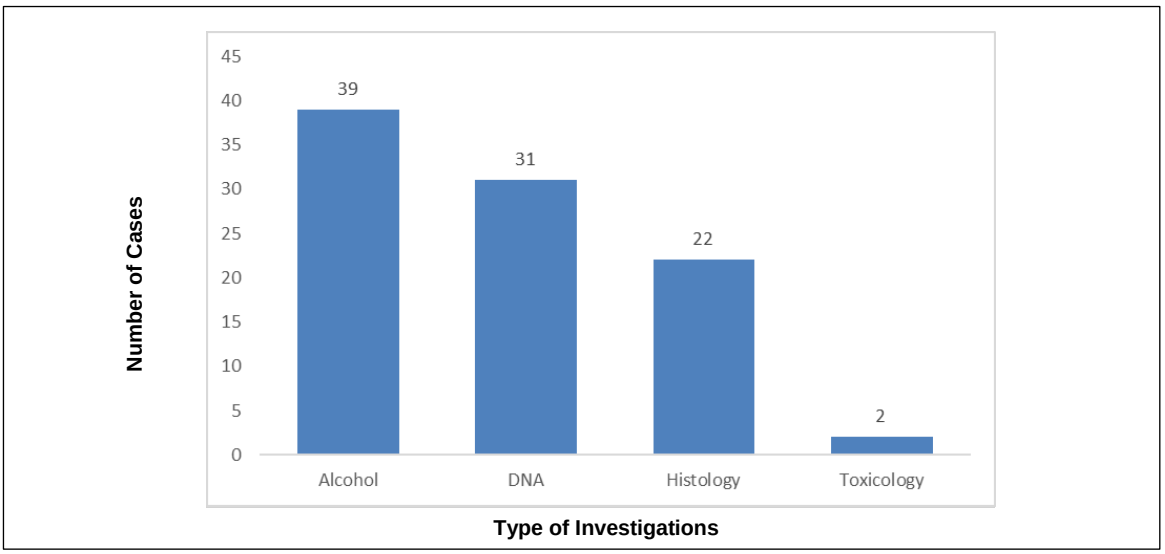

Figure 3.16 : Type of Investigations conducted

(Analysis does not differentiate multiple investigations performed per body)

70 out of the 80 cases (87,5%) did not have ancillary investigation results available in the mortuary docket. A blood alcohol concentration of 0.18 g/100ml blood corresponds to being moderately under the influence of alcohol (32). The remainder of the results are from histological testing and relate to complications following the assault (Figure 3.17).

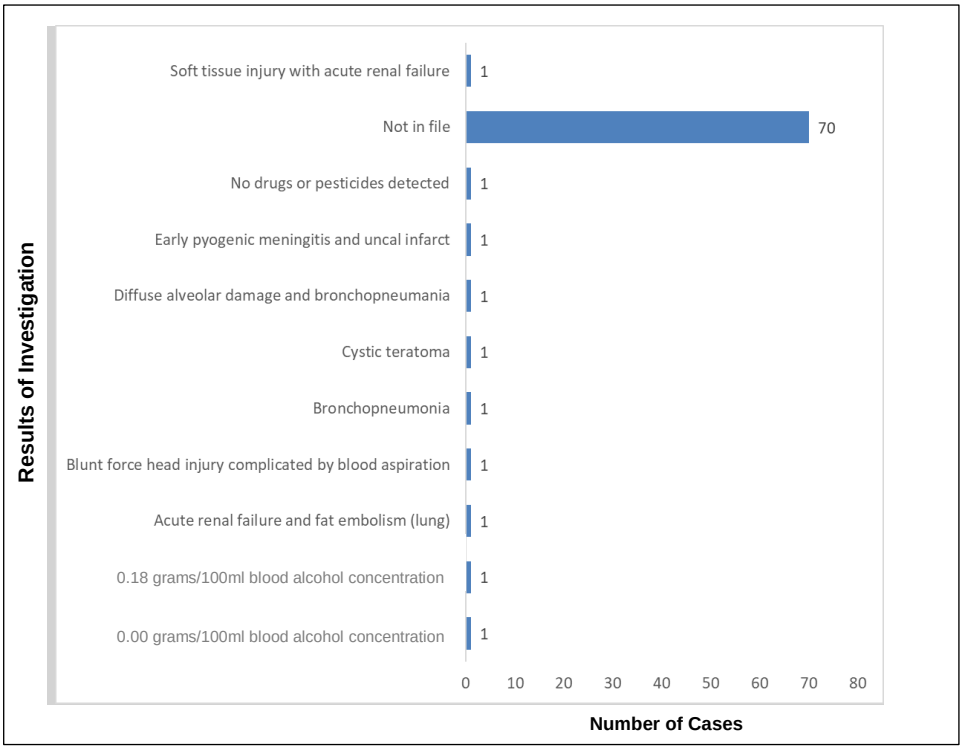

Figure 3.17 : Results of Investigations

CHAPTER 4

4 Discussion

4.1 Number of Cases

Germiston FPS had a total of 354 mob justice fatalities. Ng'walali and Kitinya found that there were 1249 cases of mob justice fatalities at their facility (5) and Herbst *et al.* found that there were 424 cases of mob justice fatalities at their facility (9). This study and that of Ng'walali and Kitinya used the population as the total number of autopsies performed (5), while Herbst *et al.* used a population of homicidal deaths (9). The average annual number of mob justice cases for this study, Ng'walali and Kitinya (5) and Herbst *et al.*(9) is 35.4, 312.3 and 42.4 respectively. This shows that Germiston FPS has the lowest annual average number of mob justice cases when compared to these two studies.

4.2 Demographics of Victims

The deceased in all 354 cases were Black. Historically, these communities administered punishment on alleged offenders in their townships (13, 15, 18, 20). This is possibly why mob justice fatalities were not seen in any other race group.

The finding of males to be the majority of victims is in keeping with other studies (5, 8, 9, 14, 17). There were two females which were noted in the sample size, which did not fit the profile of the at-risk group. The first was a 65 year old female reported from Kathelong SAPS in 2007. She was admitted to hospital for 11 days and had multiple tramline injuries and burns. The cause of death was listed as septicaemia. The second female demised in 2006. This case was reported to the Alberton SAPS. She sustained tramline injuries to the back and upper limb; blunt force injuries to the head and incised wounds to the chest and abdomen. The cause of death was listed as a combination of blunt force and sharp force injuries.

Studies have highlighted the at-risk group to be young, middle-aged adults (5, 8, 9 14, 17). This is possibly related to the high-unemployment rate in South Africa, which entices criminal activity in young to middle-aged adults. Germiston, being in the East Rand of

Gauteng, is an urban area. Migration of youth from rural to urban centres in search of employment is a common occurrence, and in the event of the youth being unable to secure jobs, there is a resolve for them to resort to crime (5).

There were no victims under the age of 11. This is consistent with studies by Herbst *et al.*(9) and Forgus *et al.* (17) which indicated that children are not exposed to mob justice. This finding may imply that the community is more forgiving of transgressions committed by children in this age group, or that they do not commit crimes which warrant this type of punishment being administered.

It was found that 9.3% of victims (33 cases) were between the age group of 11 and 20 years. This is consistent with the finding of a study conducted by Herbst *et al.* (9) where teenagers were noted to fall victim to mob justice attacks. Possible reasons for this could be poor socio-economic circumstances, resorting to crime in order to fund addictions like drugs and alcohol, acting under the influence of drugs and alcohol, and teenage peer pressure.

The number of non-South African victims is unexpectedly low, considering the spate of xenophobic attacks which occurred in increased numbers during 2008, 2010 and 2013 (27). A possible reason for this is that the geographic areas of these attacks were not centred around the Germiston FPS cluster, and/or that the attacks may not have been severe enough to cause death.

In this study, 2014 had the highest number of mob justice fatalities. This could be due to the mob justice prevalence that ensued following the incident on 27 February 2013, when eight South African police officers tied a 27 years old Mozambican man, Mido Macia, to the back of a police van and dragged him down the road. Subsequently, the man died in a police cell from head injuries (27). The incident happened in Daveyton, East of Johannesburg, South Africa. This event could have lead local community members to act out against foreign nationals living in their communities.

For foreign national cases, Ivory Park has the most number of cases (16), followed by Tembisa (14). This is possibly due to the high numbers of foreign nationals living in these areas, and when xenophobic attacks did arise, these communities may have been more unwelcoming to foreigners.

There were 44 cases classified as 'unknown' citizenship, and these are unidentified bodies or paupers whose positive identification could not be determined following investigation by SAPS VIC. This resulted in the demographics of the individual being unknown where citizenship could not be determined. These cases may include a significant number of non-South African citizens. Without this understanding, it would be difficult to formulate the appropriate responses by law enforcement, humanitarian agencies and South African international relations.

4.3 Geographic Dispersion of Cases

The highest number of reported cases was from Tembisa. This is in keeping with the origins of restorative justice performed in townships in South Africa during the apartheid era. Alexandra and Mamelodi police stations, however, does not follow this trend, with only two and one cases reported respectively. The reason why these cases do not follow the trend may be because these stations (Alexandra SAPS and Mamelodi SAPS) are not typically served by Germiston FPS. It is likely that the death occurred in an area served by Germiston FPS, but the initial incident occurred in an area served by the Alexandra and Mamelodi SAPS.

Considering the geographic locations of these police stations, it is noted that Tembisa, Ivory Park and Rabie Ridge collectively represent 35.6% of all cases reported, with the 3 stations being within 5km of each other. Further, 24.3% of cases have been reported by four stations in close vicinity (Edenpark, Tokoza, Vosloorus and Katlehong). These 4 stations are within 7km of each other.

This study has highlighted that above two regions consist of seven police stations that represent 59.9% of the total population in the study. These regions appear to be hotspots for mob justice and can be isolated for suggested interventions. It is proposed that these two areas be focused on to deal with the challenges of mob justice, which could include applying the necessary resources and skills related to, for example, education, community engagement and monitoring.

4.4 Cause of Death

There is a difference in the formulation of the causes of death as given in the autopsy report with a total of 29 different causes of death being listed. Some of these causes of death at first

glance may appear to be that of a natural cause, such as diffuse alveolar damage and bronchopneumonia and septicaemia with pulmonary embolism. Each of these cases had the deceased being hospitalised approximately eight days after sustaining blunt force injuries to the extremities, torso, head and face.

A single case had the cause of death as being listed as assault. The deceased in this case was admitted to hospital for 13 days after sustaining blunt force injuries to the head, posterior chest and extremities. According to hospital records he died from sepsis related complications. In general, assault is not commonly used by the forensic pathologist or forensic officer when describing the cause of death following a medico-legal autopsy. Similarly, traumatic shock was listed in the cause of death for four cases, where all four had extensive blunt force soft tissue injury with tramline injuries. Traumatic shock tends to describe the mechanism of death, rather than the cause and is frequently used in the clinical setting and is not commonly used when describing the cause of death in the medico-legal setting. A single case was found to be listed as being under investigation. The deceased in this case was not hospitalised. At autopsy he was found to have blunt force injury to the head and face with deep scalp haemorrhage and intracranial haemorrhage. Tissue samples for histology and a blood sample for alcohol analysis were taken. The results of these investigations were not in the mortuary case file. It is unclear why the cause of death was not given in the context of the injuries which were sustained. These cases illustrate that a standardised method of describing mob justice fatalities is needed.

There were 21 cases with burns noted on the body. These burns ranged from second degree burns to charring of certain body parts. There was no single case where the entire body was charred. Only one of these cases was found to have been necklaced with a tyre. This case was also noted to have tramline injuries to the anterior and posterior chest, back and buttocks. This deceased was found to have ingested paraffin. He was admitted to hospital for eight hours. The case was from 2015 and was reported to Boksburg SAPS. Given that there was only a single case in 10 years where necklacing was evident, this tends to indicate that one of the typical methods of meting out punishment to alleged offenders in South African townships is declining. This is consistent with Herbst *et al.*(9), who found that burns were present in 8% of the cases, and that necklacing accounted for only 0.9% of the cases. This is however, in contrast with Ng'walali and Kitinya (5) who reported 48.1% of their cases to be as a result of burning.

There were only 2 cases in the sample where gunshot injuries were noted. This could possibly be due to firearm related fatalities not being classified as mob justice attacks by the SAPS officials at the scene. It could also relate to the spontaneity of a mob attack and that most members of a community do not carry firearms. A similar finding with a low incidence of gun related injuries was seen in the study by Herbst *et al.*(9)

The case which had the cause of death as being listed as "consistent with Aldicarb ingestion", which is a carbamate poison, was admitted as a mob justice fatality as per the SAPS 180 document. This individual was found to have no injuries on examination of the body during autopsy. There is no further documentation in the file on whether this case was listed erroneously or whether this person was made to ingest poison by a mob.

The finding of blunt force head injury as being the leading cause of death is not in keeping with Herbst *et al.*(9), who found that the leading cause of death was multiple injuries.

4.5 Hospitalisation Cases

The finding that 49.2% of the fatalities had been hospitalised and that from this set 56.3% die within the first 24 hours, illustrate that the injuries sustained from mob justice attacks are severe enough to result in death within a short period of time. Herbst *et al.*(9) found that of the victims of mob justice, only 8.5% were hospitalised. This finding is substantially different from this study. One possible reason is that there are fewer deaths at the scene of the incident, in the Gauteng South cluster, when compared to Cape Town.

An expected complication arising from blunt force soft tissue injury sustained as a result of beatings by a sjambok is traumatic rhabdomyolysis. In a study by Rosedale and Wood (30), it was illustrated that with early diagnosis of traumatic rhabdomyolysis by monitoring of serum potassium, creatinine and creatine kinase and skilful management and institution of appropriate therapy of the patient results in favourable outcomes for the patient.

4.6 Location of Injuries

In this study there were 283 cases of the 354 where head injury was present. This makes the head the leading location of injury. The possible reasons for this could include the victim not being able to defend their head and relatively easy access to the head during the time of attack.

4.7 Tramline Injuries

Tramline injuries were most prevalent on the posterior chest and back. Oftentimes these injuries were noted to be overlapping each other indicating multiple strikes with the weapon and curving around the lateral aspects of the body indicative of a weapon which is flexible and able to curve around the body. Due to these areas being in close contact with bone the resultant injury was seen to be extensive with large areas of soft tissue having been seen to be haemorrhagic.

The mechanism of death in blunt force soft tissue injury due to sjambok beating is hypovolemic shock resulting from exsanguination. The presence of tramline injuries on head, neck and face are relatively lower compared to the rest of the body, with head and neck being least observed. A possible reason is that hair masks the appearance of tramline injuries. A possible reason for the low number of neck tramline injuries is that the individual, when under attack, is able to move the neck more freely to better protect it. Figures 4.1 and 4.2, illustrate typical injuries caused by a sjambok. Figure 4.1 illustrates the external injuries, and Figure 4.2 the soft tissue injury. Both Figures 4.1 and 4.2 are photographs taken from the same case during autopsy performed by the author. The orientation of the body in Figure 4.2 was that the head is to the right and the buttock is to the left of the picture. There was extensive subcutaneous haemorrhage and intramuscular haemorrhage.

Figure 4.18: Bruising and abrasions following beating with a sjambok

Figure 4.19: Blunt force soft tissue injury on right lower back and posterior chest

4.8 Ligatures or ligature marks

The presence of either ligatures or ligature marks were noted on the neck, wrists and ankles. There were 23 cases out of the sample of 354 where ligatures or ligature marks were identified. This analysis shows that ligatures were not commonly used in mob justice attacks. A possible reason for this could be that mob justice attacks do not take place in a vicinity where rope or other pieces of material, which can be used as a ligature, is present.

4.9 Ancillary Investigations

There were 87.5% of ancillary investigation results that were not in the file. This could either be due to the results not being received, or misfiled. The reasons for results not being received could include administrative delays or lack of resources to complete the investigations timeously. The administrative system is also a manually based one and requires the management of a large number of cases in various stages of completion to be processed and overseen by various staff members.

The majority of cases had blood alcohol concentration being tested. This is consistent with findings that alcohol misuse is a major factor underlying homicides and other unintentional injuries (2).

4.10 Recommendations

Based on the results from this study the following recommendations were made. A standardised operating procedure should be developed to assist medical officers and pathologists in the formulation in the cause of death in mob justice cases. Adequate resources should be distributed to appropriate departments to enable a reasonable turnaround time of ancillary investigations. Areas in which higher incidents of mob justice fatalities have occurred should receive sufficient and appropriately skilled resources to educate, engage and monitor the respective communities to curb these types of killings.

4.11 Limitations

A search of literature produced three articles in which forensic autopsy findings are reported on for mob related fatalities. These articles and their findings are commented on frequently in the literature review section.

Records at Germiston FPS are kept from 1st April 2006. This was used as the start date of the study; as a result 2006 has a partial year (9 months of data). Similarly, the end point of the study was 31 March 2016 (3 months of data for the year).

In cases where bodies are not positively identified, the deceased is buried as a pauper. This results in loss of demographic information.

There may have been instances where deaths have resulted from mob justice attacks, but due to poor police information, inconsistent recording by FPS officers and non-standardised forms and recording of information, there may have been missed cases.

As a retrospective study the files which were examined had a variety of pathologists conducting the post-mortem examination. This resulted in various examination techniques and use of different terminology in formulating cause of death. The administrative system is a manual one, hence the location of files, monitoring of outstanding ancillary test reports and management of the entire system is cumbersome and problematic.

CHAPTER 5

5 Conclusion

Mob justice fatalities accounted for 1.2% of the cases at Germiston FPS. There was no clear trend in the number of mob justice fatalities over the 10-year period. There were six areas in the Germiston FPS catchment area in which mob justice fatalities were highly prevalent. The risk population was identified as being young to middle-aged black South African males. There was no statistical difference in mob justice fatalities with regard to seasonality. The majority of deaths were due mainly to blunt force head injury, and were so severe that most deaths occurred within 24 hours of the injury. Ancillary investigations were ineffective in determining the cause of death in mob justice fatalities at Germiston FPS.

Mob justice fatalities are a gross violation of human rights in that it represents an extra-legal punishment. With the South African constitution, these cases should be non-existent.

CHAPTER 6

6 References

1. Bowman B, Stevens G, Eagle G, Langa M, Kramer S, Kiguwa P, Nduna M. 2015. The second wave of violence scholarship: South African synergies with a global research agenda. *Soc Sci Med*., 146:243-8.

2. Seedat M, Van Niekerk A, Jewkes R, Suffla S, Ratele K. 2009. Violence and injuries in South Africa: prioritising an agenda for prevention. *Lancet*. 374(9694):1011-22. DOI:10.1016/S0140-6736(09)60948-X [Accesed 26 June 2017]

3. SAPS. 2016. Crime situation in South Africa 1 April 2015 - 31 March 2016. Available from: www.saps.gov.za/services/final-crime-stats-release-02september2016.pdf. [Accessed 18 March 2018]

4. South African Government.2018. Constitution of the Republic of South Africa, 1996 - Chapter 2: Bill of Rights. Available from: http://www.gov.za/documents/constitution/chapter-2-bill-rights. [Accessed 05 March 2018]

5. Ng'walali PM, Kitinya JN. 2006. Mob justice in Tanzania: a medico-social problem. *Afr Health Sci*., 6(1):36-8.

6. Department of Justice SA. 1996.The Inquests Act 58 of 1959 1996. Available from: http://www.justice.gov.za/legislation/acts/1959-58.pdf. [Accessed 18 March 2018]

7. South African Government.2018. Regulations regarding the rendering of forensic pathology service. Available from: https://www.gov.za/sites/default/files/27464f_0.pdf. [Accessed 18 March 2018]

8. Adinkrah M. 2005. Vigilante homicides in contemporary Ghana. *J Crim Justice.*, 33(5):413-27.

9. Herbst CI, Tiemensma M, Wadee SA. 2015. A 10-year review of fatal community assault cases at a regional forensic pathology facility in Cape Town, South Africa. *S Afr Med J*., 105(10):848-52.

10. Abrahams R. What's in a name? Some thoughts on the vocabulary of vigilantism and related forms of "Informal criminal justice". London: Ashgate, 2003.

11. Miller MK. 2013. Relationship between religious characteristics and responses to vigilantism. *Pers and Individ Dif.,* 55(5):496-501.

12. Tankebe J. 2009. Self-Help, Policing, and Procedural Justice: Ghanaian Vigilantism and the Rule of Law. *Law Soc Rev*. 43(2):245-70.

13. Super G. 2016. Volatile Sovereignty: Governing Crime through the Community in Khayelitsha. *Law Soc Rev*. 50(2):450-83.

14. Outwater AH, Campbell JC, Mgaya E, Abraham AG, Kinabo L, Kazaura M, Kub J. 2008. Homicide death in Dar es Salaam, Tanzania 2005. *Int J Inj Contr Saf Promot.* 15(4):243-52.

15. Buur L, Jensen S. 2004. Introduction: Vigilantism and the Policing of Everyday Life in South Africa. *Afr Stud*. 63(2):139-52.

16. Petrus TS. 2015. Enemies of the “state”: Vigilantism and the street gang as symbols of resistance in South Africa. *Aggress Violent Behav*. 22:26-32.

17. Forgus S, Delva W, Hauptfleisch C, Govender S, Blitz J. 2014. Community v. non-community assault among adults in Khayelitsha: A case count and comparison of injury severity. *S Afr Med J*. 104(4):299.

18. Oomen B. 2004. Vigilantism or Alternative Citizenship? The Rise of Mapogo a Mathamaga. *Afr Stud*. 63(2):153-71.

19. Jensen S, Buur L. 2004. Everyday Policing and the Occult: Notions of Witchcraft, Crime and "the People.". *Afr Stud*. 63(2):193-211.

20. Monaghan R. 2008. Community-Based Justice in Northern Ireland and South Africa. *Int Crim Justice Rev*. 18(1):83-105.

21. Candy G. 2012. Conceptualizing vigilantism. *Focaal*. 2012 (64):129-32.

22. Kowalewski D. Cultism. 1991. Insurgency, and Vigilantism in the Philippines. *SA: Sociol Anal*. 52(3):241-53.

23. Girling E, Loader I, Sparks R. 1998. A telling tale: a case of vigilantism and its aftermath in an English town. *Br J Sociol*. 49(3):474-90.

24. Training For Township Renewal Initiative. 2007. Townships in the South African Geographic Landscape –Physical and Social Legacies and Challenges. Available from: http://www.treasury.gov.za/divisions/bo/ndp/TTRI/TTRI%20Oct%202007/Day%201%20-2029%20Oct%202007/1a%20Keynote%20Address%20Li%20Pernegger%20Paper.pdf. [Accessed 18 March 2018]

25. Steinberg J. Thin Blue Line. Jeppestown: Jonathan Ball Publishers, 2008.

26. Altbeker A. A country at war with itself. Jeppestown: Jonathan Ball Publishers, 2007.

27. South African History Online. 2015. Xenophobic violence in democratic South Africa. Available from: http://www.sahistory.org.za/article/xenophobic-violence-democratic-south-africa [Accessed 18 March 2018]

28. Truth and Reconciliation Comission. 1998.The TRC Report. Available from: http://www.justice.gov.za/trc/report [Accesses 18 March 2018]

29. Bowley DMG, Buchan C, Khulu L, Boffard KD. 2002. Acute renal failure after punishment beatings. *J R Soc Med*. 95(6):300-1.

30. Rosedale KJW, D. 2011. Traumatic rhabdomyolysis (crush syndrome) in the rural setting. *S Afr Med J*. 102(1):37.

31. Smith WA, Hardcastle TC. 2011. A crushing experience: The spectrum and outcome of soft tissue injury and myonephropathic syndrome at an Urban South African University Hospital. *Afr J Emerg Med.*1(1):17-24.

32. Saukko P., Knight B. Knight's Forensic Pathology Fourth Edition. CRC Press, 2015.

33. Zutt R, van der Kooi AJ, Linthorst GE, Wanders RJA, de Visser M. 2014. Rhabdomyolysis: Review of the Literature. *Neuromuscul Disord.* 24(2014):651-659.

34. Sauret JM, Marinides G. Wang GK. 2002. Rhabdomyolysis. *Am Fam Physician*. 65(5):907-12.

35. Adams EC. 1980. Differentiation of myglobin and hemoglobin in biological fluids. *Ann Clin Lab Sci*. 10(6):493-9.

36. Greaves I, Porter KM. 2004. Consensus statement on crush syndrome. *Accident Emerg Nurs.* 12:47-52.

37. Giannoglou GD, Chatzizisis YS, Misirli G. 2007. The syndrome of rhabdomyolysis: Pathophysiology and diagnosis. *Eur J Intern Me.* 18 (2007):90–100.

38. Zager RA. 1996. Rhabdomyolysis and myohemoglobinuric acute renal failure. *Kidney Int*. 49:314–26.

39. Lindner A, Zierz S. 2003. Rhabdomyolysis and myoglobinuria. *Nervenarzt*. 74:505–15.

40. Le Bras M, Clement MV, Pervaiz S, Brenner C. 2005. Reactive oxygen species and the mitochondrial signaling pathway of cell death. *Histol Histopathol*. 20:205–19.

41. Wardle EN. 2005. Cellular oxidative processes in relation to renal disease. *Am J Nephrol*. 25:13–22.

42. Turrens JF, Beconi M, Barilla J, Chavez UB, McCord JM. 1991. Mitochondrial generation of oxygen radicals during reoxygenation of ischemic tissues. *Free Radic Res Commun*.12–13:681–9.

43. Malinoski DJ, Slater MS, Mullins RJ. 2004. Crush injury and rhabdomyolysis. *Crit Care Clin.* 20:171–92.

44. Vanholder R, Sever MS, Erek E, Lameire N. 2000. Rhabdomyolysis. *J Am Soc Nephrol*.11:1553–6.

45. Cooper CE, Vollaard NB, Choueiri T, Wilson MT. 2002. Exercise, free radicals and oxidative stress. *Biochem Soc Trans.*30:280–5.

46. Warren JD, Blumbergs PC, Thompson PD. 2002. Rhabdomyolysis: a review. *Muscle Nerve*. 25:332–47.

47. Beetham R. 2000. Biochemical investigation of suspected rhabdomyolysis. *Ann Clin Biochem*. 37:581–7.

CHAPTER 7

7 Appendices

7.1 Appendix 1: Data Collection Sheet

Study Number						
Year	2006	2007	2008	2009	2010	2011
	2012	2013	2014	2015	2016	
Month*	Hot season	Cold Season		**Sex**	Male	Female
Age				**Citizenship**		
Race	White	Indian	Black	Coloured	Asian	Not Indicated
Police station	Alberton	Bedfordview	Boksburg	Brackendowns	Dawn Park	Eden Park
	Edenvale	Elsburg	Germiston	Ivory Park	Katlehong	Kempton Park
	Kliprivier	Norkem Park	Olifantsfontein	Primrose	Rabie Ridge	Reigerpark
	Sandringham	Sebenza	Tembisa	Tokoza	Vosloorus	
Hospitalisation	Yes	No		**Admission Duration**		
Presence of ligature / marks						
Nature of Injury And Type	Blunt force	Sharp force	Ballistic	Asphyxial	Thermal	Multiple
Location of injury						

Cause of death (PM report)				
Ancillary investigation	Yes	No	**What investigation**	
Results of investigation				

*Hot season is 1 Sept to 28/29 Feb; Cold season is 1 Mar to 31 Aug

7.2 Appendix 2: HOD Approval Letter

University of the Witwatersrand
Faculty of Health Sciences
Department of Forensic Medicine & Pathology
Forensic Pathology Service: Southern Gauteng

Adjunct Professor Jeanine Vellema
Head Clinical Department / Chief Specialist
Tel: 011 - 489 1653/54/69
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University of the Witwatersrand
Faculty of Health Sciences
HREC(M)

02 August 2017

TO WHOM IT MAY CONCERN

RE: RESEARCH REQUEST BY DR SAJIDA MEDAR (STUDENT NUMBER: 701034)

Permission is hereby granted for Dr Sajida Medar to conduct her research as proposed at the Germiston Forensic Pathology Service (FPS) Medico Legal Mortuary Facility. She is granted access to the case files and their documents for the purposes of her research as outlined in her proposal.

She also understands that the strictest patient confidentiality must be maintained and that all data must remain anonymous and unlinked.

Thank you very much for your consideration of this motivation.

Yours sincerely,

.....

Prof Jeanine Vellema
Adjunct Professor and Head of Department of Forensic Medicine & Pathology
Wits Faculty of Health Sciences
Head Clinical Department / Chief Specialist
Forensic Pathology Service: Gauteng Southern Cluster

25A Hospital Street, (c/o Kotze Street), Braamfontein. Private Bag X9, Braamfontein, 2017
- 1 -

7.3 Appendix 3: Ethics Clearance Certificate

R14/49 Dr Sajida Medar

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170830

NAME: (Principal Investigator)	Dr Sajida Medar
DEPARTMENT:	Forensic Medicine and Pathology Germiston Forensic Pathology Service
PROJECT TITLE:	A 10-Year Retrospective File Review on Mob Related Fatalities Received at the Germiston Forensic Pathology Medico-Legal Service
DATE CONSIDERED:	25/08/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	C.A. Keyes and S.J. Stuart
APPROVED BY:	1/9/2017 Professor C. Penny, Co-Chairperson, HREC (Medical)
DATE OF APPROVAL:	31/08/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 301, Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in August and will therefore be due in the month of August each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES