

The profile of patients with injuries due to alleged physical
Assault seen at the casualty Department of Schweizer- Reneke District
Hospital, North West Province, South Africa.

By

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DECLARATION

I, Dr Uzoma Francis Nwachukwu, hereby declare that the work on which this research is based is original (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being or is to be submitted for another degree at this or any other University.

Signature.....

Date: 31ST AUGUST 2010

DEDICATION

SOLELY DEDICATED TO MY LATE WIFE TOCHI,
FOR ALL THE ENCOURAGEMENT,
THE GREAT LOVE AND PEACE WE SHARED.

ACKNOWLEDGEMENTS:

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ACRONYMS & ABBREVIATIONS

ARVs.....	Antiretroviral
AIDS.....	Acquired Immunodeficiency syndrome
A& E.....	Accident & Emergency
HIV.....	Human Immunodeficiency virus
IPV.....	Intimate partner violence
STI.....	Sexually transmitted infection
SRDH.....	Schweizer-Reneke District Hospital

Definition of terms

Assault: The crime of attacking somebody physically (Sally W, 2000).

Apartheid: The former political system in South Africa in which only white people had full political rights, and other people, especially black people were forced to live away from white people, go to separate schools etc.(Sally W, 2000).

Assailant: A person who attacks somebody, especially physically (Sally W, 2000).

Blunt Injury: Injury occurring without a sharp edge or point (Sally W, 2000).

Contusion: Bruise, Injury to the body that does not break the skin (Nancy R, 1987).

Dichotomy: The separation that exist between two groups or things that are completely opposite to and different from each other (Sally W, 2000).

Forensic pathologist: a person who applies medical knowledge to the questions of law which deals with cause and nature of disease (Nancy R, 1987).

Haematoma: Swelling filled with blood (Nancy R, 1987).

Knopkierie: Afrikaner word for an African club with a large knob at one end, found mainly in Southern and Eastern Africa; which can be thrown at animals while hunting or for clubbing an enemy's head, or used as a walking stick in peaceful times.

Panga: Machete; broad heavy knife used as a cutting tool and as a weapon in Southern and Eastern Africa.

Questionnaire: written list of questions that are answered by a number of people so that information can be collected from the answers (Sally W, 2000).

Shebeen: An unlicensed establishment where alcoholic drinks are sold.

Tavern: A pub or an inn (Sally W, 2000).

Tsotsi: South African word for a thug.

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ABSTRACT

Aim:

The aim of the study was to establish the profile of patients due to alleged physical assault seen at the casualty department of Schweizer-Reneke District hospital.

Objectives:

- To determine the characteristics of patients with injuries due to alleged physical assaults.
- To document the pattern of injuries due to alleged physical assaults presented at the casualty department of Schweizer-Reneke District Hospital.
- To determine the circumstances that influenced the alleged physical assaults on these patients.

Design: This was a cross-sectional, descriptive study of victims of alleged physical assault.

Setting: Schweizer Reneke District Hospital, located in the Dr Ruth Segomotsi Mompati Health District, in the North West Province of South Africa.

Participants: Sixty-four (64) consenting patients, who presented at the casualty of Schweizer-Reneke District Hospital with injuries due to alleged physical assault, from the 1st of March 2010 to the 31st of August 2010, formed the sample.

Results:

The main findings were:

The majority of the victims were males (78%), with a mean age of 31 years. Fifty per cent of the injuries were inflicted on the head, in both male and female victims.

Sixty per cent of all injuries occurred between 19h00 - 05h59. In three-quarters (47) of the cases, the victims knew their assailants. Eighty three per cent of perpetrators were males and in 63% of assaults involving spouses, females were the victims.

Over a third (39%) of the incidents occurred on the streets and the bottle, (36%) of the cases; was the most common weapon of assault. Sixty six per cent of the victims were under the influence of alcohol. Ninety one per cent of the victims were treated in the casualty department and discharged. Only 9% were admitted and discharged within 48hours.

Conclusions:

The typical assault victim seen at the casualty department of Schweizer-Reneke District Hospital was a young man of an average age of 31 years, under the influence of alcohol, assaulted on the streets at night or in the early hours of the morning. He was most likely to have been assaulted on the head with a bottle. The female victim was most likely to be between the ages of 21 and 30 years, under the influence of alcohol, with injuries most likely inflicted by an intimate partner. The majority of victims were treated at the casualty department and discharged the same day.

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CHAPTER 1:

INTRODUCTION

1.1: OVERVIEW:

Definition:

Assault, for the purpose of this study, is defined as: the crime of attacking somebody Physically (Sally,2000).

Magnitude of the problem:

History has shown that humans are repeatedly capable of the most horrible deeds of torture, violence, homicide and genocide. That is why society has to supplement laws of nature (followed by most animal species) with codes, conventions, declarations and Laws (P de Villiers, 2009). Probably in recognition of this primitive capability of humans, the South African government enshrined in its constitution, the bill of rights, which deals with the freedom and security of the person, stating clearly that everyone has the right to be free from all forms of violence from either public or private sources, not to be tortured in any way and not to be treated or punished in a cruel, inhuman or degrading way (The Constitution, RSA, 1996).

The general perception, locally and internationally that the South African society is a very violent society, has been one of the greatest concerns of the South African government over the years. The government has embarked on various programmes to tackle this scourge. Various amnesties have been granted to people with legal and illegal firearms to return them. These firearms have been destroyed on many occasions in the past. This was aimed at reducing the number of firearms in order to reduce the incidence of violence.

The annual 16 Days of Activism for No Violence Against Women and Children, observed between the 25th of November and the 10th of December, is another such programme aimed at creating awareness about this societal malaise.

Women as victims of violence in South Africa:

Jewkes, et al reported in 1999 that 27% of the women in the Eastern Cape, 28% of the women in Mpumalanga and 19% of the women in the Northern Province, had been physically abused in their lifetime by a current or ex-partner (Jewkes *et al*, 1999).

Abrahams et al reported that in some Southern Cape rural communities, an average of 80% of rural women are victims of domestic violence, and in three Cape Town municipalities, approximately 44% of the men were willing to admit that they abused their female partners (Abrahams; Laubster; Jewkes; 1999). Matthews et al also reported that, in 1999 in South Africa, 8.8 per 100,000 of the female population aged 14 years and older, died at the hands of their partners; the highest rate ever reported in research anywhere in the world. (Matthews, *et al* 2004).

Context of violence in South Africa:

The history of South Africa is replete with violence. South Africa is known to be a very violent country. Overt violence is present in different forms and context, but especially in the political sphere. The level of overt violence can be gauged from the numbers killed between 1985 and 1987 when almost 3000 people died in street political violence, the majority of them at the hands of the security forces, and many more were injured(SAIRR, 1986).

The reverberation effects of the violent political history of South Africa manifest themselves in the present culture of violence in the country. In the major towns all over South Africa, the existence of gangs is common. Many were rooted in forms of rural youth organizations, for the purpose of fighting, control and discipline (Bonner, 1988).

In the Western Cape, the formation of gangs enabled dispossessed young coloured, to flaunt the culture that rejected them. Massive levels of unemployment for the urban black youths contributed to the culture of youth gang culture. In the harsh conditions of working-class life, a destructive “Tsotsi” culture emerged and by the 1940s, ethnically defined ruthless criminal gangs were an important feature of the township experience (Bonner,1988) The formation of these gangs was a response, not only to the lawlessness, but also to the social deprivation of the African working class life. Thus the poverty, insecurity, humiliation and harshness of working in a racist capitalist society, was alleviated to an extent by the excitement of fight, camaraderie in the fighting party and the fear they struck into others. There can be no doubt that the exhilaration of physical combat gave relief to a general condition of social deprivation (Bonner,1988).

The contemporary South African society is still replete with violence. There are frequent reports in the media of school violence, where pupils assault each other with different types of weapons, sometimes resulting in death. These violent acts interestingly have been known to cut across all socio-economic and racial groups in South Africa. On the 3rd of April 2010, Eugene Terreblanche, founder of Afrikaaner Weerstandsbeweging, was

murdered on his farm just outside Ventersdorp. He was attacked while sleeping, by two workers that worked on the farm. According to the workers they had gotten into an argument earlier upon which they responded with a panga and a 'knopkierie' (Johanna & Brandt, 2010). The incident in the Skierlik informal settlement in the North West province, where a teenager used his parent's firearm to shoot innocent people, killing many people in the process, is a clear manifestation that violence is very much part of the South African society. These experiences have unfortunately persisted and put various government officials and leaders of thought in a difficult situation. This has led to some prominent African National Congress (ANC), politicians to tinker with the idea of bringing back the death penalty in South Africa. Differing opinions, however consider this as an act of fighting violence with violence, which ultimately may lead to an entrenched culture of worse violence in the society.

External contributing factors:

Even beyond interpersonal assault, the import of environmental influence has been acknowledged in more elaborate conflicts. Many post-independent rebel movements in Africa have unleashed extremely brutal forms of violence, especially against the peasantry. Such violence, which has bewildered many observers, can neither be explained by reference to African culture nor as an expression of rational self-interest. Instead, it must be seen in light of the essentially urban issues that have fomented rebellion, which cannot however be successfully pursued in major towns, where incumbent regimes possess a monopoly on force. However incoherent their objectives, and however brutal

their methods, rebellions nonetheless reflect a serious urban malaise that needs to be addressed (Thandika, 2002). It becomes very significant that the influence of aggression and environmental risks be considered in attempts to understand the issue of physical assaults in the society. Fitzpatrick KM proved that victimization and witnessing violence were significantly related to aggressive behavior among sample of African-American youth. In addition the study confirms the significance of the environment and its potential role in predicting physical health, mental health, and social and behavioural outcomes for youths (Fitzpatrick, 1997).

The paradox of violence:

In the South African situation, various excuses have been given to explain this violent behaviour: poverty, the legacy of apartheid and colonization, substance abuse, urbanization, migrant labour etc. The researcher had thought that violence resulting from anger due to the legacy of apartheid, colonization, poverty, migrant labour, lack of service delivery, would be directed towards institutions, or at worst individuals would be affected in the process of violence against institutions. The researcher was intrigued to find that most violent acts were inter-personal, among people who were and still are victims of acts of poor service delivery, the legacy of apartheid and colonization; who live and experience life in the various poor communities; sometimes among family members, some times with no obvious provocation.

Personal experience:

The researcher grew up in South Eastern Nigeria, the Niger Delta of Nigeria; an area perceived locally and internationally as the hot-spot of violence in West Africa. The

researcher worked as a medical officer in the Central Niger Delta states of Rivers and Bayelsa for 5 years and experienced the violence and assault pattern.

The researcher has also worked in the rural district hospitals in South Africa from 2005 to 2010. The researcher has noted the common denominator of violence and poverty in the rural South African communities and the Niger Delta areas. The Niger Delta communities attribute their poverty and subsequent anger and violence to the obvious total lack of development and the environmental degradation of their communities by multinational oil-exploring companies, who extract petroleum products from the communities without developing the communities. In contrast to the researcher's experience in South Africa, most violence acts in the Niger Delta were directed towards institutions and multinational oil companies, rather than being inter-personal or towards family members. It was quiet interesting to note that the researcher had observed very minimal inter-racial assaults despite the perceived racial polarization and tensions commonly reported in the media.

Setting

Schweizer Reneke District Hospital is a 68 Bed capacity, level 1 Hospital, located in Schweizer Reneke; in the Dr Ruth Segomotsi Mompati District of the North West Province. According to the "Statistics South Africa", census 2001 community profile, the total population of the District was 52104; females were 27615 while the males were 24489 (Stats SA,2007). The population is predominantly Setswana speaking black Africans.

The district is predominantly rural. Schweizer- Reneke District Hospital serves 7 clinics/CHC. The nearest referral hospital is Klerksdorp/Tshepong Hospital Complex, which is about 197Km away. The Schweizer-Reneke police station is about 1.5km from the Hospital. Most of the victims of assault seen are brought to the hospital by the police.

1.2: Problem statement.

Violent crimes have been a source of concern and often generating a lot of debate among South Africans. As a doctor, the researcher has noticed a trend in the pattern of patients who come to the Casualty Department of the Schweizer- Reneke District Hospital. It has captured the interest of the researcher that a substantial number of patients are victims of alleged assault.

The researcher made an observation that, about 40% of the patients seen in the emergency department of the hospital were victims of assault. He also observed that the majority of victims were seen at night, especially on weekends and public holidays, there were clinical signs of alcohol intake. The researcher reviewed the hospital record of the patients seen at the emergency department, from November 2008 to April 2009, and noted that 60% of victims were young males aged between 15 and 30 years. It becomes worrisome, when in some cases; the same patient became a victim of assault two to three times within a short period of time.

There is a high social and economic cost when young people, who constitute the bulk of the productive population, become victims of constant assault and the disabling

complications that follow such incidents. One can only imagine how much it has cost the already over stretched, resource limited, health sector to manage victims of this avoidable social malaise.

1.3: Justification of the Study:

Knowledge of the pattern of injuries and their severity could provide a stronger reason to give more empowerment to rural hospitals and their workers, with more equipment and trainings that are trauma based, for more prompt management of trauma, rather than relying on referrals to far off city based trauma centers. Understanding the nature of commonly occurring injuries in a rural hospital, would go a long way to assist in the strategic planning of district hospitals in terms of personnel training needs and resource allocation to the casualty departments.

The researcher also believes that a wider perspective could be identified, regarding the reason why interpersonal assaults are common, rather than attributing these to the easily given excuses.

In addition, the knowledge will go a long way in community education and empowerment in dealing with assault.

CHAPTER 2: LITERATURE REVIEW

Search Strategy:

Key Words: Assaults, Violence, International & World trend, Africa, South Africa.

Limits: Pubmed, 25 years, English, Articles, Books, Reviews.

Violence ordinarily implies the use of force to harm, injure or abuse others. It is destructive harm which includes not only physical assault that damages the body, but also, the many techniques of inflicting harm by mental or emotional means(Brian & Woffmann, 1990).

Historical perspective:

Human violence is as old as humanity, being rooted in its earliest myths and history. Being a purely human phenomenon, its existence is deeply enmeshed in human interactions, on both an interpersonal and intergroup levels. There are alternatives to violence, such as mediation and negotiation, and the process of problem solving itself (Brian & Woffmann , 1990). Failure to effectively use these alternatives ultimately leads to violence. The reverberating consequences of acts of violence have been known to have short and long term effects. Witnessing violence was related to the youth's reporting of intrusive thoughts and feelings, difficulties with concentration and vigilant or avoidant behavior. Violent victimization was correlated with feelings of despondency about having either a happy or long life, as well as feelings of being unloved, uncared for and afraid. Young boys and active problem solvers were more likely to report intrusive thoughts (Howard, et al, 2002).

These findings provide evidence that victimization and witnessing violence were significantly related to aggressive behavior among African- American youth. In addition, this study confirms the clinical significance of the environment and its potential role in predicting physical and mental health, as well as social and behavioral outcomes for the youth(Fitzpatrick, 1997).

WORLD TRENDS

At the international level, other than war, there are situations where political groups opposing a particular government have been banned from operating within the country concerned; as was the case in South Africa until recently. Such action has led to the establishment of external wings of political groups which continue to implement violent resistance in the countries from which they have been excluded, either through insurgents or through mustering of moral and /or financial resources from other governments. In this way inter group violence spans international boundaries. Depending on the political side taken, such acts are described as “terrorism” or treason, resistance or “freedom fighting” (Brian & Woffmann, 1990). The interactions between the African National Congress, and the Apartheid regime, the Al Qaeda network and the United States of American government are typical examples.

A few studies have been done on the pattern of injuries suffered by alleged physical assault victims of interpersonal violence. A study done in Scotland, at the accident and emergency department of the Royal Alexandra Hospital, showed precisely that 80% of

the assault patients were male and their mean age was 28 years (range 6 – 64). Men were assailants in over 90% of attacks. Alcohol had been consumed by 69% of the victims and 9% admitted to taking illicit drugs. The commonest place of assault was the street (44%) while women were more likely to be assaulted in their homes. Penetrating weapons were used in 23% of assault. 60% of all injuries were to the head and neck. 27% of the victims were admitted to hospital (Wright & Kariya , 1997)

In a study done at the Accident & Emergency department of Chorley and South Ribble Hospital Trust, Lancashire, England, 74% of the victims were male and 20% were female. 18% were below 16 years of age, 37% were aged between 16 – 24 years and 44% were 25 years and above. The commonest location of assault was on the streets for both men and women. A significantly greater proportion of women, (24%) than men, (10%) were assaulted at home. The majority of injuries, (73%) were inflicted by fists, the feet and the head, while the remaining injuries were caused by blunt objects: (15%), bottles; (6%), glass, (3%) and being bitten or scratched, (2%) (Howe & Crilly, 2002).

At West Midlands, UK, another study revealed that, 67.4% of assault attendees were male. The mean age of patients was between 27 and 29 years. Attendance peaked especially on Friday and Saturday nights. The most common injury was to the head. 75.3% of assault attendees were discharged home after an average stay in the hospital of two days. Those living in the most deprived areas were nearly four times more likely to

be admitted than those in least deprived areas (Downing , Cotterill & Wilsom ,2003). The important impact that violence has upon health, is reflected in the fact that in the United Kingdom, the National Health Service is now a partner with the police and the local government in the prevention of violence. It has been suggested that information from the Accident and Emergency (A & E) departments on violent assaults could assist in the development and evaluation of local preventive strategies (Sheperd , et al, 2000).

According to studies from the French General Health Insurance System, the population of the victims of violence was younger, characterized by a lower level of education, and a higher unemployment rate. Social vulnerability was associated with interpersonal violence, particularly with violence in the public and family areas (Sass, et al, 2009).

A similar study at the Accident and Emergency Department, Meyday University Hospital, Surrey, UK, showed that the assault victims made up 3.3% of the total new patient seen in the study period. The majority of victims were employed, single young men (78%) who had been drinking alcohol prior to assault (66%). They were assailed late at night on the streets, in pubs, and clubs. Female domestic assault was twice more common in this population than in previous British studies. Women were more extensively injured than men. Injuries were mainly to the face caused by punches and kicks. Overall, 72% of the fractures were facial (Fothergill & Hashemi, 1990).

The persistent association of violence victims with young age, alcohol, late nights, leaves one to wonder why this predictable social menace has remained unattended to across the

world. A Swedish study in Stockholm, showed that assault was mainly a problem of young men, especially late in the evening and many of the victims were drunk. Their median age was 25 years, Sixty-eight per cent arrived at the emergency department between 11pm and 4am, and in 44% of the cases, the victims were drunk. Blunt trauma of low-energy type predominated, 44% were hit by fists and 30% by kicks. Penetrating trauma occurred in 10% of the assaults (knives 8%), and a combination of blunt and /or cutting trauma (bottle/glasses) in 10% of the cases. 82% of the victims suffered an injury to the head. Two people died because of knife stab wounds (Bostrom , 1997).

A prospective study in the UK in 1990 showed that facial injuries were extremely common: 83% of all fractures, 66% of all lacerations and 53% of all haematoma were facial. The upper limb was the next most common site of injuries (14% of all injuries). 26% of the victims sustained at least one fracture and nasal fractures were the most frequently observed skeletal injuries, 27%, followed by zygomatic fractures, (22%) and mandibular body (12%), angle (12%) and condyle (9%). 17% of victims required hospital admission. Overall, the type of injuries observed correlated with the alleged weapon used, ($P=<0.001$) though 20% of victims who reported attacks with sharp weapons sustained only haematomas or fractures. Injury most often resulted from punching, (72% of assaults) or kicking (42% of assaults). Only 6% of victims reported injury with knives but 11% were injured by broken drinking glasses. Those who were kicked were the most likely to need hospital admission (Shepherd, 1990).

In another study (Wright&Kariya,1997) , 70% were male and 30% female victims. Victims were more likely to have been drinking and to admit to having been previously assaulted. Despite living in the same geographical area, the victims were more likely to be unemployed and had a higher mean deprivation score. These indicate that violence is associated with unemployment and the socio-economic status of the individual. They complement studies based on population data which have linked rates of violence to low income and social deprivation. (Wright & Kariya, 1997).

Gender differences:

In comparison with men, women are more likely to be assaulted in their homes (48% v 10%) , but were less likely to be assaulted with sharp weapons(7% v28%) and to require admission to hospital (P=0.005). Forty one percent (41%) of the women were victims of domestic assaults. The victims of domestic assaults were more likely to have been drinking (11%) and to have a history of previous assaults (63%). This group also had a higher mean deprivation score and rate of unemployment (Wright & Kariya , 1997).

From the Aarhus violence study of 1999-2000, 46% of the victims from the city centre were assaulted in public houses or on the streets nearby, compared to 5% in the district outside city centre. Women who experienced violence in the city were more frequently under the influence of alcohol than the victims from outside (Ingemann-Hnasen & Brink, 2004).

Characteristics of assault injuries:

Various characteristics of injury patterns have been identified in some studies as

predictors of assault related injuries, to alert health care workers about abuses in the communities because of the medico-legal implications. In another study (Janet L F *et al*, 1998) where 9% of all the women identified as victims of assault; most of those who knew their assailants were most likely to have been injured by their partners or former partners. Women with assault related injuries were more likely to be younger women, presenting between the hours of 6pm and 6am on Fridays, Saturdays or Sundays and to have had a greater history of prior presentations at the emergency department. Assault related injuries most commonly involved the head, with contusions, ill-defined signs and symptoms and open wounds. Women with assault related injuries were more likely to be discharged from the accident and emergency department without referral for follow up treatment and were more unlikely not to complete their treatment (Janet, *et al*, 1998).

Findings by Brink O, in Denmark, showed that 37% of the victims had more than one type of injury involving the head, neck and face. Injuries around the nose and mouth were significantly associated with male victims, while injuries to the neck were significantly more common among female victims. More injuries were as a result of assault with a blunt object among females, while the males much more frequently had open wounds. Injuries such as ecchymosed were significantly more frequent among female victims. Use of weapons such as blunt objects and blows with glass/bottles was associated much more with male victims, whereas strangulation attempts were significantly more frequent among women. The findings support former studies that head, neck and face injuries

might be considered as a marker of violence, thus staff at Accident and Emergency must consider anyone with these injuries as potential victims of violence (Brink, 2009).

The common denominator of the risk profile of victims of violence has to a large extent been consistent with youthfulness, association with alcohol use and the tendency to fall victim at night. In a study done at the emergency department of the largest teaching hospital in the Canary Island, Spain, on victims of violence, it was found that 70% of the patients were male and 30% were female. The mean age was 28 and 30 years, respectively. In the distribution of age, the main group was that between 18 and 36 years. The face-neck was the anatomical location with the highest number of severe injuries, followed by the upper extremities (42% v26%, $p < 0.001$). Eight percent (8%) of the injured men presented with severe injuries, in contrast to 15% of women. Most patients, (94%) were discharged immediately after treatment. The admission of victims occurred predominantly at night and 35% of the patients were treated during the weekend (Nunez, et al, 2000).

In another study done in Jamaica, about 87.5% of the aggression on males and 74.5% on females were committed by males. However, there was more female/female than female/male violence. Weapons used ranged from guns to a variety of cooking wares, though knives were used most frequently, (34.8%) for stabbing of the victims. Head, neck and upper limb were the main sites of injury. Only 13.4% of all the injured had complications with 63% of these requiring hospitalization. Family members and

acquaintances contributed to about 84% of the violence. Instinctive spontaneous aggression aimed at maiming the victim, characterizes intimate partner violence (IPV) in Jamaica. The Jamaican taxpayer bears 90-94% of the cost of managing trauma injuries (Masingh & Ramphel, 1993). This brings to the fore one of the far reaching consequences of assaults in the community.

A study at Peshawar, Pakistan, on firearm injuries seen at the hospital revealed a predominantly male to female ratio (9.6:1). Most victims were in the age group of 15-35 years. Injuries were sustained most frequently in the abdomen and pelvis, (44.6%) and 67.6% of victims sustained internal injuries. There were on average (6.8%) deaths from firearm injuries (Shah, et al, 2008).

In the United States, firearms are used to commit homicide more frequently than all other methods combined; firearms are used to commit more than 1 million crimes each year (Kellermann, et al, 2001).

In a study in Colombia, between 11% and 67% of the victims consulted a health service facility and less than 32% reported the incident to an authority. Those involved in most types of physical violence tended to be young males, from lower middle social classes, with some degree of secondary education, single or divorced. Violence is not equally distributed throughout the population suggesting the possibility of identifying a

population at higher risk for the development of intervention programmes (Duque, Klervens & Ramirez, 2003).

In the Southern Italian city of Bari, fatal gunshot injuries were routinely encountered by forensic pathologists. This was mainly attributed to local organized crime groups which control a variety of illicit activities. Victims were mostly male and handguns were the most frequently used weapons (Solarino, Nicoletti & Di Volla, 2007).

An analysis of national trends in the United States between 1992 and 1995, indicates that non-fatal and fatal firearms-related injuries are declining in the United States, although the rates of firearm related deaths remain high, especially among males aged 15 and 24 years in relation to other leading causes of injury and death (Cherry, *et al*, 1998).

A similar study by Honkanen showed that the proportion of males was higher among assault cases. Victims were concentrated in the age range of 15 to 44 years. 50% of the cases were intoxicated, while the rate of chronic misuse of alcohol was 37%. 47% of the cases arrived at night and had sustained mostly minor injuries (Honkanen, Kiviluoto & Nordstrom, 1980).

A Dutch study on injury pattern in a trauma centre over a 24 year, period showed that while the incidence of injuries due to traffic and accidental falls had decreased, the rate of

injuries due to assaults had increased 2-fold. With respect to sex and age, the highest incidence rate occurred in men aged between 20-29 years. The overall male to female ratio was 1:8(Oskam, Kingma & Klasen,1994).

A San Francisco study, in 1987, showed that injury was a leading cause of death for Americans from infancy to middle age. In the distribution of blunt injuries, the mode injury was assault, 46%, stabbing, 42%, shooting, 12%. Single black males aged 18-44 dominated the sample. Injuries tended to occur in or near bars (82%), between 18h00 and 06h00 (79%) and were accompanied by alcohol intoxication (63%). Un- or underemployment was prevalent (56%). 38% of incomes were below the official poverty level. A history of previous violent encounters (mean number = 22) during the year before the injury and hospital treatment for previous injuries was common at (56%) (Sumner, Mintz & Brown , 1987).

A report from a regional hospital in Western Nepal, India, showed that the ratio of male to female assault victims was 3:1; the most commonly involved age group in males was 16-25years and 26-35 in females. Contusion (28.7%) was the commonest type of injury followed by incised wounds (25.7%). The most commonly used weapons were wooden sticks and clubs (21.5%), followed by kicks and punches (20.6%). The most frequently affected anatomical sites were the head and neck (57.06%), followed by upper limbs (17.74%) and the lower limb (10.5%). Assaultants of females were most commonly

spouses (40%), in-laws (14%). For males, it was unspecified known individuals (18%) followed by neighbors (11%). The maximum number of physical assault injuries occurred between evening and midnight (59.59%) (Subba, 2010).

In a study of (1,639) cases of violent assault in a Danish population of 275,000, over a one-year period, Most victims were young men. The incidence rose during evenings, nights and weekends, and assaults often occurred in or around bars and restaurants.

Women accounted for 64 per cent of all victims of assault in the home. The influence of alcohol was identified in 43 per cent of all cases. The fist was the most frequent agent of assault; the use of firearms was a very rare act of violence but was associated with death in three out of five cases. There were 10 deaths in all (Hedeboe, *et al*, 1985).

In New Zealand, the male gender and young age of victims, predominated as found in most studies, but the location of assaults showed an interesting difference. In this study, the rate for males was higher than for females, with males 20-24 years of age at the highest risk. Fights or brawls were the leading cause of hospitalization. The most common places of occurrence were private homes, followed by streets, highways, and licensed premises (Chambers, Fanslow & Langley, 1995).

According to the findings of a study on violence related injury done in Brazil, males comprised 72.8% of cases; while those aged 20 and 29 comprised 35.4%. Alcohol use was reported or suspected in 42.7% of cases, more commonly among males. Assault

victims comprised 91.4% of cases versus self-inflicted injuries, which accounted for 8.6%. Three quarters of the assault victims were male, while over half of the self – inflicted injury victims were females. The leading mechanism for assault was physical force /blunt objects (46.2%), whereas poisoning was the predominant mechanism for self inflicted injuries. Young males were more likely to have been victims of assaults and assaults were more likely to occur away from home (Gawryszewki, et al, 2008).

This shows a similar trend in comparison with a study done in Argentina where men aged between 20-24 years and 40-49 years were found to be the most frequent victims of deliberate violence, 13% and 11%, respectively. Elderly women greater than or equal to 60 years were rarely found to be victims of deliberate violence (2%). 21% of the male victims and 5% of the female were alcohol intoxicated when arriving at the emergency ward. The incidents took place in restraint or in the vicinity of restaurants for only 7% of the male victims. 55% of the male and 34% of the female victims were injured in the streets most often by non-acquainted men. 58% of the female victims had been subjected to deliberate violence at home, in the majority of the cases beaten by the spouse. 12% of the male and 8% of the female victims were estimated to be under the influence of drugs. The pattern of deliberate violence appears to be associated with socio-economic and cultural factors (Aalund, *et al*, 1989).

Even when a particular demographic group was studied, predictable trends have also been identified. A Norwegian study, focusing on women and violence, showed that 245 of

the assaulted victims were females (245 of a total of 994). 131 of the females were victims of domestic violence, while 102 were injured in public places. Women injured in public places tended to be younger and more likely to be under the influence of alcohol than those injured by domestic violence (Steen & Hunskar, 1997).

The consequences of interpersonal violence have also been shown to follow predictable trends. An epidemiological study on female suicide, revealed that New Mexican female suicide death rate was 8.2/100,000 persons per year, nearly twice the US rate of 4.5/100,000. Intimate partner violence was documented in 5.1% of female suicide deaths; in an additional 22.1% of cases, a male intimate partner fought with or separated from the spouse immediately preceding the suicide. Interpersonal conflict was documented in over 25% of case (Olson, *et al*, 1999).

TRENDS IN AFRICA;

A study in Kenya showed that patients recorded with firearm injuries, constituted 0.6% of the total number of patients seen at the casualty ward; including assault and non-assault cases. Of these, 58% were admitted and treated as in-patients. A firearm was used in 6.3% of the 6300 assault cases recorded in 2004. There were 370(87.9%) males and 49(11.6%) females, giving a male to female ratio 7: 1. The mean age was 29.7 years, within a range of 3-66 years. Firearm injuries affected all age groups but were largely an affliction of the young male adult in the 3rd and 4th decades of life. Female

victims were fewer and on average six years younger than the males. The lower extremities were the commonest targets among the survivors (Odhiambo, et al, 2008).

It is particularly interesting to note that even within a particular demography, the pattern of assault is comparable to the general profile of assault in the community. As observed in another study in Kenya on gender associated violence at a women's hospital, the patients' age ranged from 18 to 74 years, (mean 27.7 years). Most of the assaults were perpetrated at night. A stranger was the perpetrator in 75.1% and 2% of sexual and nonsexual assault respectively. An intimate partner was the perpetrator in the majority of nonsexual violence (86.5%). Most physical injuries were minor bruises and swellings. Sexual assaults were significantly associated with the single status of the victim, assault by more than one assailants (Saidi , Awori & Odula , 2008).

This compares with findings in a study of assault patients attending Quthing District Hospital, in rural Lesotho. Data were obtained from interviews of 321 male and 185 female clients, ranging in age from 11 to 87 years. Forty point nine percent(40.9%) of the men involved were young men aged between 20-29 years. Sixty two percent of the males and 82% of the females were married. Forty six percent of the men were unemployed and 87% of the females were housewives without a paid job. Seventy seven clients were prior assault victims, 23 men and 13 women were perpetrators before the incident, and 2 men and 1 woman had killed someone. Eight percent of 500 clients had female assailants; 89% had male assailants. Thirty percent, had assailants who were neighbours. In forty

percent of the female cases, the assailant was a husband or a partner, (26%) or a family relative, (14%). Men were assaulted by their partners or relatives in 17% of the cases. Most attacks occurred in the evenings, especially on weekends; Saturdays. The number of assault cases was high in the months of October and November. Fifty eight percent, were treated on the same day or within 24hours. At least 185 incidents involved alcohol. Fifty six percent of clients were assaulted with sticks. The second most common weapon was the knife, followed by stones and blows from hands and feet. Forty one percent of all cases had head wounds, and 13% had stab wounds. Women had fewer head wounds and fractures. Forty two men and 6 women died, many from head injuries (van GAA, 1993).

In other findings in Lesotho, 20.6% of all admissions of adult men were victims of deliberately inflicted injuries; while 11.4% were due to other (accidental) trauma. For women, these figures were 5.8% and 10.3% respectively. Post mortem examinations at the hospital allowed an estimation of the homicide rate of 40.9 per 100,000 in the catchment areas of the hospital. The age group of between 20 to 29 years constituted 40% of the assault patients. Knives and sticks caused the most severe injuries and the head received the more serious injuries in 67% of the cases. The group of assault victims needed considerably more care than other patients (van G AA, 1993).

The burden of assault injuries on the already over-stretched, resource limited, health system raises serious concern in Africa. The burden of assault in the African context

becomes even more alarming, when one considers that most assailants go unpunished because of the ineffective justice system. This may often discourage some victims from seeking redress. A study in Maiduguri, Nigeria showed that, of the 185 patients presenting at A&E with body injuries due to assaults during the period of the study, 108(58%) informed the police, the majority of whom, (38.9%) claimed an ‘instinctive reaction to do so’ as the reason for informing the police. A significant proportion, (61%) of those that did not inform the police claimed that the feeling that ‘nothing will come out of it’ as the reason for not informing the police. Only 41% of cases reported were recorded (Olasoji, *et al*, 2005).

THE SOUTH AFRICAN TREND;

In the South African context, a study done by Nkombua revealed that the typical victim of assault treated at Witbank Hospital, was an African male between the ages of 17 and 45 years. He would have been attacked during the night or over the weekend, most probably had been drinking; and he would have suffered minor injuries, mainly to the head and neck (Nkombua , 2007).

In a study done in Johannesburg on the pattern and profile of assault and victims, the findings were quite comparable to findings in other parts of the world. In this study, males, most of whom were aged between 20-24 years, constituted 83.9% of the victims and were most often attacked on the street. The majority of females were attacked at

home by a spouse or lover, and most incidents occurred between dusk and midnight on weekends. Injuries inflicted with sharp objects were the most frequent type, involving 52.2% of the male and 51.4% of the female victims. For the 1,282 victims resident in the area, this corresponded to the crude annualized incident rate per 100,000 of the population of 3,821 for coloureds, 1527 for blacks, 467 for whites, 433 for Asians and 1380 for all residents (Butchart & Brown , 1991).

CONCLUSION:

Interpersonal violence is as old as humanity, and cuts across all races and gender. Most appear not to be premeditated and people tend to use commonly available objects as weapons of assault on others. Most interpersonal assaults are nonfatal, but the burden it impacts on the society and the health sector is huge. A common influencing denominator seems to be alcohol ingestion.

In my view, greater portion of the assault could be curtailed, if more emphasis is given to preventive measures, like stricter control of alcohol sale and use, and the possession of knives in public places.

CHAPTER 3

METHODOLOGY

3.1: Aim of the study:

To establish the profile of patients with injuries sustained due to alleged physical assault, seen at the Casualty Department of Schweizer- Reneke District Hospital North West Province.

3.2 Objectives of the study:

- i. To determine the characteristics of patients with injuries due to alleged physical assault.
- ii. To document the pattern of injuries due to alleged physical assault at the Casualty Department of Schweizer- Reneke District Hospital North West Province.
- iii. To determine the circumstances that influenced the alleged physical assault on these patients.

3.3 Research Questions:

1. What are the characteristics of the patients with injuries due to alleged physical assault?
2. What is the pattern of injuries due to alleged physical assault on these patients?
3. What circumstances influenced the alleged physical assault on these patients?

3.4. Study Design.

This was a cross-sectional study of physically assaulted patients, who reported to the Casualty Department of Schweizer-Reneke District Hospital, North West Province, from the 1st of March 2010 to 31st August 2010.

3.5. Study Setting: This study was conducted at the Casualty Department of Schweizer-Reneke District Hospital, in the North West Province of South Africa. This Hospital serves a predominantly rural population.

3.6. Study Population: The study population constituted all identified patients of alleged physical assault seen at the Casualty Department of the Schweizer Reneke District Hospital, within the period of the study, March 2010 to August 2010.

3.7. Sampling: Convenient sampling was used. This period gave a representative size for the study. Figures from the information office of Schweizer -Reneke District Hospital, showed that from January 2009 to April 2009, a total of 208 people were treated for injuries due to alleged physical assault. Therefore, based on this figure, a sample size of 67 was calculated (de Vos, 2009). Patients who were 18 years and above, victims of alleged assault, and who had given written consent were included in the study.

3.8. Variables and measurement of variables.

Age of victims in years:

Age was categorized from 18 years, when subjects were able to give consent, to above 50 years. Patients above 50 years were categorized together because our experience shows that the elderly who are seen for assaults are not very remarkable.

Gender of victims:

For the purpose of the study this was categorized into Male and Female.

Time of assault:

This was grouped into two, according to the time victim was allegedly assaulted. Those assaulted between 06h00-18h59 were categorized as DAWN (day) and those assaulted between 19h00-05h59 are categorized as DUSK (night).

Site of Injuries:

The site of the body where injuries were identified were categorized as Head, Neck, Chest, Abdomen, Upper limb, Lower limb, Back.

Knows Perpetrator:

This is a dichotomized question of YES or NO, to verify if victim knew the assailant.

Relationship with the perpetrator:

If the victim knew the assailant, this served to categories the relationship the victim had with the assailant. The options were: Friend, Neighbor, Spouse (both married and unmarried intimate relationship), and Father (biological and step father), Child (biological and stepchild) and others (including cousins, ex-spouse, in-laws etc).

Gender of Perpetrator:

For the purpose of the study this was categorized as Male and Female.

Were you under the influence of alcohol?

This is a dichotomized question of Yes or NO, to verify if victim was under the influence of alcohol at the time of the assault.

Place of assault:

This identifies the area or place where the victim was when he or she was allegedly assaulted. This was grouped into: Home, Street, Shebeen, Tavern, and Others, which represents any other places outside the above identified places.

Did you also assault the perpetrator?

This was a dichotomized question to verify if the victim also showed aggression towards the assailant before, during and after the assault, as a form of defense or attack. This was a Yes or No answer.

What weapon was used to assault you?

This identified the type of weapon used in the attack. This was categorized into: Knife, Gun, Bottle, Stick, and Others which included fist, stones, wires etc.

Were you treated and discharged from the casualty?

This was a dichotomized question for a Yes or No answer. Yes represented subjects who were treated and discharged from the casualty, while No represented those who were either admitted in the ward or referred to another level of care depending on the severity of the injuries.

If admitted in the ward, for how long?

Those who were admitted in the ward, their length of stay at the hospital was categorized into: less than 24hours, 1-2 days, 3-5 days and more than 5 days.

3.9 Data Collection

The researcher administered the questionnaire to the patients, after the patients had been seen by the medical officer at the casualty and consented to participating in the study.

Disoriented patients had the questionnaire administered to them when they had sufficiently recovered.

The researcher was available to collect data everyday of the week, 24 hours a day.

After completing the questionnaire, the questionnaire was sealed and packed in a labeled container and stored away from the study site for safety.

Questionnaire

A standard questionnaire was designed taking into consideration: simplicity, appropriateness, multiple choices of answers and the choice to make comments to suit the purpose of this study. It was adapted from questionnaire by the Health and Safety Team, of The Highland Council, Corporate Services (Highland Council, 2001).

Questions were structured in a manner that indicated: the demographic characteristics of the assault victims, the factors associated with the assault, the characteristics of the injuries in relation to the part of the body, the weapon used in the attack, the hospital stay; (whether treated and discharged at the casualty unit or admitted, and the duration of admission).

The questionnaire was written in the English Language and translated into Setswana. (Appendix3).

The Setswana version was checked for accuracy in translation from the English language, before the final design of questionnaire.

A pilot questionnaire was administered to 5 study subjects, with a view to determining whether any modification would be necessary before administering it to a larger sample. Modifications were made according to the challenges identified from the pilot study.

Procedure

When patients of alleged physical assault arrived at the casualty, the researcher was informed by telephone by the nurse/ medical officer on duty. The researcher would then approach the patient with dignity and empathy, and the purpose of the study would be explained to them in the language they understood. This was done after the treating doctor has seen the patient.

It was emphasized that the choice to participate or not would not influence the quality of services the patient would receive at the institution.

Those who chose to participate signed a consent form.

The questionnaire was administered by the researcher after the treating doctor has seen the patient.

During the study, the researcher was available to administer the questionnaire every day of the week, 24 hours a day.

Anxious and/ or disoriented patients had the questionnaire administered to them when they had sufficiently recovered.

Study subjects had the choice of answering the questions in English or Setswana.

Inclusion:

- i. Patients of alleged physical assault seen at the Casualty Department of the Schweizer- Reneke District Hospital.
- ii. Patients who were 18 years and above, who were legally able to give consent.
- iii. Patients who had given written consent.
- iv. Patients who were able to understand and speak English and or Setswana languages.

Exclusion:

- i. All other assault cases not due to physical assault.

3.10 Data analysis:

All questionnaires were read through by the researcher.

- Questionnaires that were properly completed were analyzed as the study progressed.
- The variables were quantitatively put into categories.
- Each category of variables was coded. The data were captured in a spreadsheet (Ms excel) and transferred to the stata computer package for analysis.
- The categories were analyzed statistically with the variables with the assistance of a statistician, Mr. Godswill Akpomemie, a researcher with Reproductive Health and HIV Research Unit, RHRU and The University of Witwatersrand, Johannesburg.

- A critical analysis of the data was done. The data was analyzed and presented critically, drawing attention to any weakness in the study design, instrument of data collection and the sample (Bowling, 2005).
- The analysis began with the determination of the frequency distribution of each categorical variable, e.g. age, and descriptive statistics of each continuous variable. The second stage of the analysis involved cross tabulations of the outcome variable and each predictor variable to obtain proportions of patients according to the type of injuries corresponding to each category of the explanatory variable.

3.11 Reliability and Validity of the Study:

Reliability: defined as:- The consistency and dependability of a research instrument to measure a variable (Hilla, 2006).

For the measurement to be reliable, it has to be repeatable. This was ensured by administering the questionnaire to five study subjects with a view of determining whether any modification would be necessary before administering it to a larger sample.

Validity: defined as: - The ability of an instrument to measure the variable that it is intended to measure (Hilla, 2006). To ensure that the questionnaire measured what it intended to measure, questions were made as simple, clear and precise as possible.

Questions were in English and Setswana. The Setswana version was checked for accuracy in translation from the English language.

There are many threats to the reliability and validity of an investigation apart from the

questionnaire design and scale construction. These are known as bias and errors in the conceptualization of the research idea, and the design sampling and process of the study which can lead to systematic deviation from the true value (Bowling, 2005).

It was clearly stated that participating in this programme would not influence the quality of service rendered to the patient.

The questionnaire was administered only after the doctor has seen the patient.

Patient had a choice to participate or not.

3.12: Study Bias. Defined as: - Any influence that produces a distortion in the results of a study or that strongly favours the outcome of a particular finding of a research study (Hilla, 2006).

The types of bias likely to be encountered are;

Recall Bias: this relates to respondents' selective memories in recalling past events, experience and behaviours (Bowling , 2005) This was minimized by allowing respondents time to recollect events, by providing adequate privacy and administering questionnaire only when patient was in a stable mood.

Response style Bias. This refers to a person's manner of responding to questions, often known as 'yes-saying' to items regardless of their content (Bowlinh , 2005) This was minimized by reducing questions that were strictly dichotomized to YES and NO. Many options to questions were given.

Sampling Bias: It occurs when samples are not carefully selected. Sources of sampling bias can be: - the time of the day, or year when the sample was collected, the place in which they were gathered, the language used, the extent to which personal views colour

the data, the researcher being guided by preference in the selection of research subjects (Hilla, 2006)

This bias was minimized by:

- providing enough privacy and other conducive environment for the patients and adhering strictly to the inclusion criteria.
- Asking neutral, concise and clear questions in the questionnaire.
- Communicating in the language the patients were very comfortable with.
- Explaining the purpose of the questionnaire fully to the patients.

Non-response bias: This is due to the difference in the characteristics between the responders and non-responders to the study. Non-response is a major source of potential bias, as it reduces the effective sample size, resulting in loss of precision of the survey estimates (Bowling, 2005) This was minimized by the researcher administering the questionnaire himself to those who had consented and met the criteria for inclusion.

Pilot Study: This is a small-scale study conducted prior to the main study on a limited number of subjects from the population at hand. Its purpose is to investigate the feasibility of the proposed study and to detect possible flaws in the data collection instrument (Hilla, 2006). The validity of the questionnaire data depends on the shared assumptions and understandings of the questions and response categories.

Research has shown that respondents may interpret questions, including questions on health status, in different ways to the investigator. Pre-testing of questions should therefore include asking people to describe what they are thinking of when they listen, or read, each question, and about how they interpret it (Bowling, 2005). Pilot

questionnaires were administered to five (5) study subjects with a view to determine whether any modification was necessary before administering it to the larger study sample.

3.13: Ethical considerations.

Authorizations:

Permission to conduct the study was obtained from the Departmental Research Committee, Department of Family Medicine and Primary Health Care, University of Limpopo,(Medunsa Campus)and the Chief Executive Officer of Schweizer Reneke District Hospital.

Confidentiality:

The Identity of the assault victims was kept confidential; no names were required for the demographic data analysis.

Informed consent:

The consent of the patients was sought for and obtained with a written informed consent form.

CHAPTER 4

Results of the study.

1. Response rate:

The investigator approached and asked a total of 72 patients who were victims of assault to participate in the study. 5 declined to sign consent, 2 were 14 years and 16 years respectively. Sixty five patients, who met the inclusion criteria, signed the informed consent form. 64 patients (representing 98.5% response rate) actually participated by responding to the interviewer-based questionnaire and thus provided data for the study. One consenting patient changed his mind during questionnaire administration.

2. Characteristics of patients.

2.1 . Gender:

Of the 64 patients with assault injures, 78 %(50) were male and 22 %(14) were females.

2.2. Age groups:

The majority of patients were aged between 21-40 years, (figure 4.1) with a mean age of 31 years. Of the 14 females, 64 % (9) were in the age group of between 21-30 years, whereas of the 50 males, 36 % (18) belonged to the 21-30 years of age group and 34% (17) were in 31-40 years of age group.

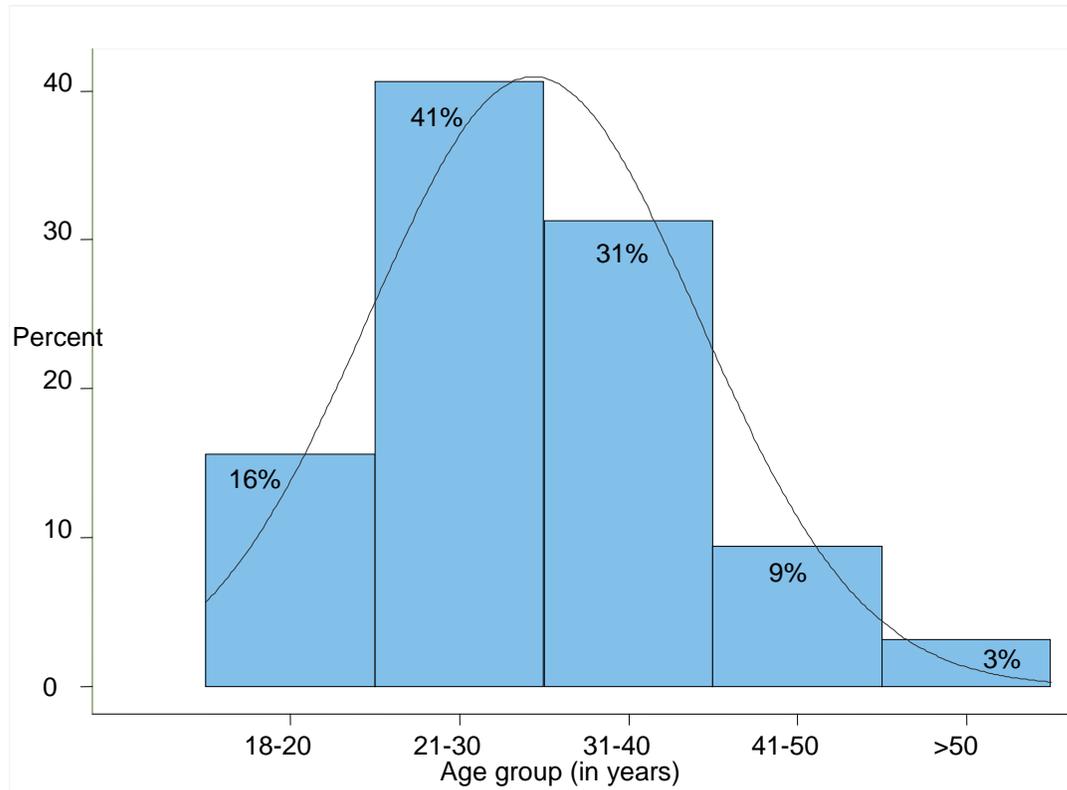


Figure 1. Age group of the participants.

3. Pattern of injuries

Injuries to the head only, accounted for half of the total injuries and 19% (12) were inflicted on the upper limbs among the sampled patient (table 4.1). About 10% (7) of the injuries were inflicted on more than one part of the body classified as head and neck, head and limb.

Site of Injury	Number of patients		Total N (%)
	Male N (%)	Female N (%)	
Head	23 (46)	9 (64)	32 (50)
Neck	2 (4)	0 (0)	2 (3)
Chest	4 (8)	1 (7)	5 (7)
Back	3 (6)	1 (7)	4 (6)
Head and neck	2 (4)	2 (15)	4 (6)
Head and upper limb	2 (4)	0(0)	2(3)
Head and lower limb	1 (2)	0 (0)	1 (2)
Upper limb	12 (24)	0 (0)	12 (19)
Lower limb	1 (2)	1 (7)	2 (3)
Total	50 (78)	14 (22)	64 (100)

Table 1. Site of injury by gender of patient.

Over 60% (43) of the injuries occurred at night or in the early hours of the morning (19H00 – 05H59). Looking at each site of injury: 78%(25) of head only injuries; 100%(2) of neck injuries, 20%(1) of chest injuries, 50%(2) of back injuries, 75%(3) of head and neck injuries and 100%(2) of lower limb injuries occurred at night. The chest had the highest proportion 80%(4), of injuries occurring during the day (06H0018H59). Injuries of the lower limb and those classified as head and lower limb did not occur during the day. Injuries of the back and upper limb occurred equally (50%) during night and day. There was a higher odds of head only injury occurring at night compared to injuries to other parts of the body (OR=2.77; CI = [0.93-8.26]), though this difference was not statistically significant.

Perpetrators of physical assaults.

	Frequency	Percentage	Cum.
4. Spouse	8	16.00	16.00
2. Child	5	10.00	26.00
3. Father	1	2.00	28.00
4. Friend	6	12.00	40.00
5. Neighbour	9	18.00	58.00
6. Other	21	42.00	100.00
Total	50	100.00	

Table 2. Victims’ relationship with perpetrators

About half of the patients knew the perpetrators of their physical assaults. Of these, the perpetrator was identified by the patient as a spouse (16%), child (10%), father (2%), friend (12%), neighbour (18%), and others (42%). Among those patients whose perpetrators were a spouse, 63% (5) were females and 37% (3) were males. Eighty percent of those assaulted by their children were males. The only patient assaulted by a father was a female. Eighty-three (83%) of those assaulted by a friend were males, and 17% were females. Also, 67% of patients with neighbours as perpetrators were males. Only 11% of the patients with perpetrators classified as others were females. Eighty-three percent (54) of the perpetrators were males. Of these, 69% (37) were known to their victims. All the female perpetrators (10) were known to their victims. Male perpetrators were responsible for 84%(27) of all the 32 head only injuries documented in this study. Table 4.2 shows the pattern of injuries by gender of perpetrator.

Site of Injury	Number of perpetrators		Total N (%)
	Male N (%)	Female N (%)	
Head	27 (50)	5 (50)	32 (50)
Neck	1 (2)	1 (10)	2 (3)
Chest	4 (7)	1 (10)	5 (7)
Back	4 (7)	0 (0)	4 (6)
Head and neck	4 (7)	0 (0)	4 (6)
Head and upper limb	2 (4)	0 (0)	2 (3)
Head and lower limb	1 (2)	0 (0)	1 (2)
Upper limb	10 (19)	2 (20)	12 (19)
Lower limb	1 (2)	1 (10)	2 (3)
Total	54 (84)	10 (16)	64 (100)

Table 3. Pattern of injuries by gender of perpetrator.

Among those physical assaults perpetrated by the spouse, females suffered 80% (4) of those assaults that occurred at night; males were victims of 75% of assaults perpetrated by children at night. The only assault by a father on a female victim occurred during the day. Among assaults perpetrated by friends, 80% of the males

were victims at night. All the females and males (83%) assaulted by a neighbour differ in the time of assault; 100% of these females at night and 83% of these males during the day ($\chi^2 = 5.63$; $p=0.048$). Overall, females had higher odds of knowing the perpetrators of physical assaults on them compared to males (OR = 6.11; CI = {0.74-50.29}), this was not statistically significant. There was no difference among the different age groups in knowing their physical assault perpetrators. Also, there was no difference between patients with head injuries and those with injuries in other parts of the body in knowing their perpetrators.

a. Circumstances of physical assault.

Place of assaults	Frequency	Percentage	Cum.
Home	17	26	26.56
Street	25	39	65.63
Shebeen	8	13	78.13
Tervan	14	22	100.00
Total	64	100	

Table 4: Places of assaults.

66% (42) of the victims were reportedly under the influence of alcohol at the time of the physical assault. Of these, 83% (37) were male victims and 17% (7) were females. Physical assaults reportedly occurred on the street (39%), at home (26%), in taverns (22%) and shebeens (13%).

Of the assaults at home, there were 65% males and 35% females, in the tavern, 86% were males and 14% were females, on the street, 92% were males and 8% were females, and in the shebeens, 50% were males and 50% were females. Among the sampled patients, weapons reportedly used to inflict injuries were: - the bottle (36%), the knife (29%), sticks (6%) and others (28%).

Among the victims reportedly under the influence of alcohol, the highest proportion (42%) of the females were in the age group 21-30 years. The highest proportion (40%) of the males were in the age group 31-40 years. Also, 60% of the female compared to 31% of the male perpetrators reportedly used the bottle as a weapon during the physical assaults. The stick as a weapon was used by 7% of male perpetrators compared to female perpetrators who never used stick.

All the 14 cases of injury that occurred in taverns were reportedly under the influence of alcohol. The occurrences of physical assault differed across different places when the perpetrator was under the influence of alcohol. Although the difference was not statistically significant, injuries were 4.2 times more likely to occur in the shebeens compared to home.

In 79% (51) of the cases of physical assault, the victim reportedly did not assault the perpetrator while in 21% (13) did. Among those who assaulted their perpetrators, 85% (11) were males. Bottles (31%) and knives (31%) were involved and 61% occurred in the street. Also, where the victim reportedly assaulted the perpetrator, the perpetrator was a child (22%), a friend (33%), a neighbour (11%) and other relationship to the victim (33%).

Management of patients.

About 91% (58) of the patients received immediate treatment for their injuries in the casualty, and were never admitted in hospital. Of the 9% (6) that were admitted in hospital for their injuries, 67% (4) spent 1-2 days and 33% (2) spent less than 24hours before been discharged.

CHAPTER 5

DISCUSSION

The information obtained from the 64 patients who had completed the questionnaires, yielded quite interesting results. I believe these results will go a long way in helping to understand the profile of patients of physical assault seen at the institution.

The results are comparable to other studies done in different parts of Africa and the world. This may not necessarily reflect the experience in other parts of South Africa, even though similarity would be noted.

Gender and Age:

At the Royal Alexandra Hospital in Scotland, (Wright&Kariya2007), it was found that 80% of assault victims were male, with an average age of 28 years. Assaultants were predominantly male, (90%), in comparison with another study at A & E Chorley and South Ribble Hospital Trust, England(Howe & Grilly,2002) where 74% of the victims were male and 20% female, the majority of victims, (44%), were 25 years and above. This compares to a Spanish Study in Canary Island (Nunez S, 2000) where: - 70% of the victims were male and 30% female, with a mean age of between 28 – 30 years. These tend to concur with the findings at Schweizer-Reneke District Hospital (SRDH) by the researcher, where the majority of the victims,(78%), were male with a mean age of 31 years, and females constituting 22% victims. According to the result of findings in a study done in Argentina, a South American country,(Aalund *et al*, 1989), noticeable differences exist with the SRDH study; where men aged between 20–24 years and 40–49 years were found to be the most frequent victims of deliberate violence at 13% and 11% respectively; while in the SRDH, the age range of 21–30 years and 31–40 years were the

most affected at 41% and 31% respectively, 63% of spousal assault victims were female and 37% male in the SRDH study, while 58% of spousal assault victims were female in the Argentine study.

A study in Jamaica (Masingh&Ramphel, 1993), revealed an interesting comparison.

There was more female to female violence than female to male, in SRDH, male to male and male to female aggression predominated.

Another study (Odiambo,2008) in Nairobi, Kenya, an African state, that shares interesting socio-economic circumstances with South-African, shows gender distribution of the victims, 87.9% male and 11.6% females with average age of 29.7 years.

The findings by the researcher at SRDH concurs with a study at Witbank Hospital,(Nkombua,2007) where the typical victim of assault was an African male between the age of 17 and 45 years, and a Johannesburg study,(Butchart& Brown, 1991) where males, most of whom were aged between 20 to 24 years were victims, though younger than the average of 31 years at SRDH.

Comparing findings at SRDH with other studies in Denmark,(Hedeboe et al, 1985), Illinois, Chicago(Fitzpatrick, 1997) and Stockholm, Sweden,(Bostrom, 1997) the common denominator remains: the predominance of young male victims.

Place of assault:

The researcher found out from this study, that the most common place of assault was on the street, (39%), this compares well with the Scottish study (Wright & Kariya, 2007), where the commonest place of assault was on the street (44%) but women were more

likely to be assaulted in their homes. Another study (Howe & Grill, 2002) in England revealed that, assaults were also most likely to occur on the street.

A difference was noted in a Danish study (Hedeboe, *et al*, 1985) where assaults most often occurred in or around bars and restaurants.

Time of assault:

The findings in this research where assaults most likely occurred at night (67%), and 91% of patients treated and discharged from the casualty, compares very well with the other studies; (Janet L *et al*, 1998) where victims were seen between 6pm and 6am, Spanish study,(Nunez S *et al*, 2000), assaults mostly occurring at night and patient discharged from the hospital after being treated, Danish study, (Hedeboe *et al*, 1985), where incidents arose during the evenings and nights. A Swedish study in Stockholm (Bostrom,1997) agrees that assault is mainly a problem of young men, especially late in the evening, 68% ,arriving at the emergency department between 11pm and 4am attacked during the night, Witbank Hospital, (Nkombua, 2007), where victims were attacked during the night, and Johannesburg study, (Butchart & Brown, 1991) where most incidents occurred between dusk and midnight.

Influence of alcohol:

Influence of alcohol made an interesting finding in the studies and compared well with the researcher's findings in SRDH; 43% of all cases in Danish study (Hedeboe, 1985), 41% in Swedish study (Bostrom, 1997), 69% in Scottish study(Wright & Kariya, 2007), and 42% in SRDH. While in Argentina (Aalund *et al*, 1989), 21% of male victims and 5%

of female victims were under the influence of alcohol, in SRDH, 52% of male and 14% of females were under the influence of alcohol.

Relationship of perpetrator and victims:

While it is generally acknowledged that intimate partner violence (IPV) is common in South Africa, it is interesting to note that in Kenya (Saidi, *et al*,2008), while an intimate partner was the perpetrator in the majority of non-sexual violence at 86.5%, in the SRDH study, only 16% of victims were assaulted by intimate partners, of which 63% were female and 37% were males. While fifty eight percent (58%) spousal assault victims were female in Argentina(Aalund *et al*, 1989), another study(Janet L F *et al*), found out that 9% of all women identified as victim of assault, were most likely to have been injured by their partners or former partners. In Jamaica,(Masingh & Rampheh,1993), family members and acquaintances contributed to about 84% of the violence, while in SRDH, over 88% was contributed by family members and acquaintances.

In comparison with events in the past (SAIRR, 1986), where the level of overt violence can be gauged from the numbers killed between 1985 and 1987, when almost 3000 people died during street political violence; the majority at the hands of the security organs, the researcher found in this study that the majority, of the perpetrators were known to the victims: - neighbours, friends, fathers, children and spouses. The tendency of the assailant to be known to their victim seems to reflect the new face of violence in South-Africa, as reported (Johanna, 2010), Eugene Terreblanche, founder of Afrikaner Weerstandsbeweging, was murdered on his farm outside Ventersdorp by two workers that worked on the farm.

Site of Injury:

The researcher found out that injuries involving the head and the neck constituted 64% of all injuries. This concurs with findings in other studies in Witbank (Nkombua, 2007), Scotland (Wright & Kariya, 2007, Spain (Nunez S *et al*, 2000), England (Howe & Grilly, 2002), and Sweden (Bostrom, 1997), where injuries involving the head and /or neck were the commonest. However, a difference was noticed with the study in Nairobi, Kenya (Odhiambo, *et al*, 2008), where the lower extremities were the commonest sites of injuries.

The findings that the head, neck and face injuries might be considered as marker of violence, thus staff at Accident and Emergency must consider anyone with such injuries as a potential victim of violence (Brink, 2009), is supported by the observation of this researcher where head and neck injuries constitute 59% of all injuries. This is particularly important to screening intimate partner violence (IPV), as the researcher noted that 63% of spousal assault victims were female.

Weapons of assault:

The findings in this study where stabbing with bottles (36%) and knives (28%), were commonest weapons of assault compares well with findings in San Francisco (Sumner *et al*, 1987), where stabbing occurred in 42% of cases and in Jamaica (Masingh& Ramphel, 1993 where knives (34.8%) were used. A contrast was however, observed in the England study (Howe & Grilly, 2002), where fists and feet, (73%), were used. Another UK study, (Fothergill &Hashemi, 1990) and finding in Denmark (Hedeboe *et al*, 1985), also showed the use of punches and feet predominating as weapons of assaults. While in Sweden

(Bostrom, 1997), blunt trauma of lower energy type predominated, 44% were hit by fists and 30% by kicks.

It is interesting that firearms were used in Nairobi, Kenya (Odhiambo, et al, 2008), 6.3%, San Francisco (Summer et al,) 12%, and in Chicago (Fitzpatrick, 1997) where firearms were the leading weapons of assaults and cause of death, while firearms did not play any role in this study.

Another interesting finding was in Western Nepal, India, (Subba et al, 2010) where it was noted that contusion, (28.7%), was the most common type of injury, followed by incised wounds, (25.7%), with wooden sticks and clubs, (21.5%), followed by kicks and punches as the weapons used. It is the researcher's observation in SRDH that stabbing with a broken bottle, (36%) and the knife, (28%) predominated.

CONCLUSION:

The researcher's findings concur with the other studies, in which there was congruency in assault victims being predominantly young males, who would have been assaulted by someone known to them, on the street, in the night, most likely under the influence of alcohol, and sustaining most injuries on the head and/or neck.

However, victims in this study and victims in San Francisco and Jamaica are more likely to be stabbed with sharp object like bottles and knives, unlike their European counterparts who would have suffered injuries due to punches and kicks.

CHAPTER 6:

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions.

The majority of assaults occurred on the streets more than any other places, involving mainly young males in the active productive age group and the female victims were young women of child bearing age. 66% of the victims were under the influence of alcohol, bottles and knives were the most commonly used weapons of assaults, and almost all victims at drinking places were under the influence of alcohol.

In most cases of assault, perpetrators were people well known to the victims and lived in the same community. Males were more likely to be the perpetrators in assaults involving intimate partners. . Assault by family members constituted a remarkable proportion (>28%) of all assaults.

The majority of assaults occurred at night or in the early hours of the morning and victims was most likely to be assaulted on the head.

6.2: Recommendations.

1. The Health and social development department should recognize that interpersonal physical assault is a serious public health problem in Schweizer Reneke Town.
2. Health care workers in Schweizer Reneke should be expectant of head injuries and acquaint themselves with the necessary skills required in the immediate management of such injuries.
3. The police needs to patrol streets and drinking places in Schweizer Reneke more frequently, especially at night and in the early hours of the morning.
4. There is a need for more public enlightenment campaigns about personal safety precautions, especially on the streets, drinking places and at night, in the Schweizer Reneke communities, aimed at reducing the risk of exposure to assaults.
5. More stringent measures need to be considered in the regulation of the sale and consumption of alcohol in Schweizer Reneke. This will have a positive impact, considering the dangers alcohol poses in the communities. This will help in reducing the chances of being assaulted.
6. Campaigns against alcoholism should be given the same vigor as the campaign against HIV/AIDS.
7. Legislations and enforcement of rules on possession of knives as weapons in public places should be strengthened.

8. Serious consideration must be given to changing the containers of commonly sold alcoholic drinks from breakable bottles to cans and plastic materials, to reduce the rate of injuries resulting from assaults with bottles.
9. Health care workers should be alert and vigilant, and consider head injuries as a possible marker of interpersonal assault, and screen for intimate partner violence (IPV) when female patients present with head injuries and take the necessary action.

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Appendix1 Approved research Proposal.
Appendix2..... MREC Clearance Certificate.
Appendix3.....Standardized questionnaire.
Appendix4.....Consent forms.

Appendix 1

UNIVERSITY OF LIMPOPO (MEDUNSA CAMPUS)

RESEARCH PROTOCOL

TITLE. The profile of patients with injuries sustained due to alleged physical assault seen at the Casualty of Schweizer Reneke District Hospital, North West Province.

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INTRODUCTION

Assault, for the purpose of this study, is defined as, crime of attacking somebody physically.⁽¹⁾

The bill of rights dealing with freedom and security of the person, states that everyone has the right to be free from all forms of violence from either public or private sources.⁽²⁾ Schweizer -Reneke District Hospital is 68 Bed capacities, level 1 Hospital, located in Schweizer- Reneke, in the Dr Ruth Segomotsi Mompati District of the North West Province. According to the “Statistics South Africa”, census 2001, community profile, the total population of the District is 52104, females constituting 27615 and male population 24489⁽¹⁵⁾. The population is predominantly black Africans and Setswana speaking. The district is predominantly rural. Schweizer Reneke District Hospital serves 7 clinics/CHC. The nearest referral hospital is Klerksdorp/Tshepong Hospital Complex, which is about 197Km away. There is Schweizer- Reneke police station about 1.5km to the Hospital. Most of the victims of assault seen are brought to the hospital by the police.

1. The study problem

Violent crimes have been a source of concern and often generating a lot of debate among South Africans.

As a doctor, I have noticed a trend in the pattern of patients who come to the Casualty of the Schweizer -Reneke District Hospital. It has captured my interest that a substantial number of patients are victims of alleged assault.

I, Dr Nwachukwu, have made an observation that, about 40% patients seen in the emergency department of the hospital are victims of assault. I also observed that majority of the victims were seen at night, especially on weekends and public holidays, there were clinical signs of alcohol intake. I reviewed the hospital record of the patients seen at the emergency department, from November 2008 to April 2009, and noted that 60% of victims were young males aged between 15 and 30 years. It becomes worrisome, when in some cases, I see the same patient being victim of assault two to three times within a short period of time.

There is a high social and economic cost when young people, who constitute the bulk of the productive population, become victims of constant assault and the disabling complications that follow such incidents.

2: LITERATURE REVIEW

Violence ordinarily implies the use of force to harm, injure or abuse others. It is destructive harm including not only physical assault that damage the body, but also, the many techniques of inflicting harm by mental or emotional means⁽³⁾ Human violence is as old as humanity, being rooted in its earliest myths and history. Being a purely human phenomenon, its existence is deeply enmeshed in human interactions, on both an interpersonal and intergroup levels. There are alternatives to violence, such as mediation and negotiation, and process of problem solving itself.⁽³⁾

Failure to effectively use these alternatives ultimately leads to violence.

At the international level, other than war, political groups opposing a particular government have been banned from operating within the country concerned, as was the case in South Africa until recently. Such action has led to the establishment of external wings of political groups which continue to implement violent resistance in the countries from which they have been excluded, either through insurgents or through mustering of moral and /or financial resources from other governments. In this way inter group violence spans international boundaries. Depending on the political side taken, such acts are described as “terrorism” or treason, resistance or “freedom fighting.”⁽³⁾ The interactions between the African National Congress, and the Apartheid regime, the Al Qaeda network and the United States of American government are typical examples. Few studies have been done on the pattern of injuries suffered by alleged physical assault victims of interpersonal assault. A study done in Scotland at the accident and emergency department of the Royal Alexandra Hospital precisely shows that 80% of assault patients were male and their mean age was 28 years (range 6 – 64), men were assailants in over 90% of attacks. Alcohol had been consumed by 69% of the victims and 9% admitted to taking illicit drugs. The commonest place of assault was the street (44%) but women were more likely to be assaulted in their homes. Penetrating weapons were used in 23% of assault. 60% of all injuries were to the head and neck. 27% of the victims were admitted to hospital.⁽⁴⁾ A study done at the Accident & Emergency department of Chorley and South Ribble Hospital Trust, Lancashin, England, 74% of victims were male and 20% were female, 18% were below 16 years, 37% aged 16 – 24 years and 44% were 25 years and above. The commonest location of assault was the street for both men and women. A significantly greater proportion of women (24%) than men (10%) were assaulted at home. The majority of injuries (73%) were inflicted by fists, feet and heads, while the remaining injuries were caused by blunt objects (15%), bottles (6%), glass (3%) and being bitten or scratched (2%).⁽⁵⁾ Downing A et al, found at West Midlands, UK that 67.4% of assault attendees were male, mean age of patients was between 27 and 29 years, attendance peaked especially on Friday and Saturday nights. The most common injury was to the head. 75.3% of assault attendees were discharged home with average stay in the hospital as two days. Those living in the most deprived areas were nearly four times more likely to be admitted than those in least deprived areas.⁽⁶⁾

The important impact that violence has upon health is reflected in the fact that in the United Kingdom the National Health Service is now a partner with police and local government in the prevention of violence. And it has been suggested that information from accident and emergency (A & E) departments on violent assaults could assist in the development and evaluation of local preventive strategies.^(7, 8)

The history of South Africa is replete with violence. South Africa is known to be a very violent country. Overt violence is present in different forms and context, but especially in the political sphere. The level of overt violence can be gauged from the numbers killed between 1985 and 1987 when almost 3000 people died in the street political violence, the majority of them at the hands of the security forces, many more were injured.⁽⁹⁾

The reverberation effects of violent political history of South Africa manifest in the present culture of violence in the country. In the major towns all over South Africa, the existence of gangs is common. Many were rooted in forms of rural youth organizations, for the purpose of fighting, control and discipline.⁽¹⁰⁾

In the Western Cape, the formation of gangs enabled dispossessed young coloured, to flaunt the culture that rejected them. Massive levels of unemployment for the urban black youths contributed to the culture of youth gang culture. In the harsh conditions of working-class life, a destructive “Tsotsi” culture emerged and by the 1940, ethnically defined ruthless criminal gangs were an important feature of township experience.⁽¹⁰⁾ The formation of these gangs was a response, not only to the lawlessness, but also to the social deprivation of African working class life. Thus the poverty, insecurity, humiliation and harshness of working in a racist capitalist society, was alleviated to an extent by the excitement of fight, camaraderie in the fighting party, the fear they struck into others. There can be no doubt that the exhilaration of physical combat gave relief in general condition of social deprivation.⁽¹⁰⁾

The contemporary South African society is still replete with violence. There are frequent reports in the media of school violence, where pupils assault each other with different types of weapons, sometimes resulting in death.

The recent incident in Skierlik informal settlement in the North West province, where a teenager used his parent’s firearm to shoot innocent people, killing many people in the process, is a clear manifestation that violence is very much part of the South African society.

In the South African context, a similar study done by Nkombua revealed that a typical victim of assault treated at Witbank Hospital was an African male between the ages of 17 and 45. He had been attacked during the night or over the weekend, also probably been drinking. He would have suffered minor injuries, mainly to the head and neck.⁽¹¹⁾

3: Purpose of study

To establish the profile of patients due to alleged physical assault seen at the Casualty of Schweizer- Reneke District Hospital North West Province.

4: Objectives.

- i. To determine the characteristics of patients with injuries due to alleged physical assault.
- ii. To document the pattern of injuries due to alleged physical assault at the Casualty of Schweizer Reneke District Hospital North West Province.
- iii. To determine the circumstances that influenced the alleged physical assault on these patients.

5: RESEARCH QUESTIONS.

1. What are the characteristics of the patients with injuries due to alleged physical assault?
2. What is the pattern of injuries due to alleged physical assault on these patients?
3. What circumstances influenced the alleged physical assault on these patients?

6. Methods.

This will be a cross-sectional study of physically assaulted patients attending the Casualty of Schweizer-Reneke District Hospital, North West Province during the period 1st September 2009 to 31st December 2009 .

6.1 Materials:

Questionnaire

A standard questionnaire will be designed, taking into consideration, simplicity, appropriateness, multiple choices of answers and the choice to make comments to suit the purpose of this study. This will be adapted from questionnaire by Health and Safety Team, of The Highland Council, Corporate Services, Revised 2001⁽¹⁶⁾

Questions will be structured in a manner to indicate the demographic characteristics of the assault victims, the factors associated with the assault, the characteristics of the injuries, in relation to the part of the body, the weapon used in the attack, the hospital stay, i.e. whether treated and discharged at the Emergency unit or admitted, and the duration of admission.

The questionnaire will be written in English Language and translated to Setswana. (Appendix 1).

The Setswana version will be checked for accuracy in translation from the English language, before the final design of questionnaire.

A pilot questionnaire will be administered to 5 study subjects with a view of determining whether any modification will be necessary before administering it to a larger sample.

Procedure

When patients of alleged physical assault arrive at the casualty, the researcher will be informed telephonically by nurse/ medical officer on duty. The researcher will approach the patient with dignity and empathy, and the purpose of the study will be explained to them in the language they understand. This will be done after the treating doctor has seen the patient.

It would be stated that the choice to participate or not would not influence the quality of services patient would receive in the institution.

Those who choose to participate would sign informed consent form.

The questionnaire will be administered by the researcher after the treating doctor has seen the patient.

During the study, the researcher will be available to administer the questionnaire every day of the week, 24 hours a day.

Anxious and/ or disoriented patients will have the questionnaire administered to them when they have sufficiently recovered.

Study subjects will have a choice of answering the questions in English or Setswana.

6.2. Study Population: The sample will constitute all identified patients of alleged physical assault seen at the Casualty of the Schweizer -Reneke District Hospital, within the period from September 2009 to December 2009.

6.3. Sampling: Convenient sampling will be used. This period, I believe will give a representative size for the study. Figures from the information office of Schweizer-Reneke District Hospital, shows that from January 2009 to April 2009, a total of 208

people were treated for injuries due to alleged physical assault. Therefore, based on this figure, a sample size of 67 was calculated⁽¹⁷⁾

Inclusion:

- i. Patients of alleged physical assault seen at the Casualty of the Schweizer- Reneke District Hospital.
- ii. Patients who are 18 years and above, who are legally able to give consent.
- iii. Patients who have given written consent.
- iv. Patients who are able to understand and speak English and or Setswana languages.

Exclusion:

- i. All other assault cases not due to physical assault

6.3 Data Collection

The researcher will administer the questionnaire to the patient, after the patient has been seen by the medical officer at the casualty and given consent to the researcher to participate in the study.

Disoriented patients will have the questionnaire administered to them when they have sufficiently recovered.

The researcher will be available to collect data everyday of the week, 24 hours a day. After completing the questionnaire, the questionnaire will be sealed and packed in a labeled container and stored away from the study site for safety.

6.4 Data analysis

- All questionnaires will be read through by the researcher.
- Questionnaires that are properly filled in will be analysed as the study progresses.
- The variables will be quantitatively put into categories.
- Each category of variables will be coded. The data would be captured in a spreadsheet (Ms excel) and transferred to state computer package for analysis.
- The categories will be analyzed statistically with the variables with the assistance of a statistician, Mr. Godswill Akpomemie, a researcher with Reproductive Health and HIV Research Unit, RHRU and The University of Witwatersrand, Johannesburg.
- A critical analysis of the data will be done. The data should be analyzed and presented critically, drawing attention to any weakness in the study design, instrument of data collection and the sample.⁽¹³⁾
- Analysis will begin with the determination of the frequency distribution of each categorical variable, e.g. age, and descriptive statistics of each continuous variable. The second stage of the analysis will involve cross tabulations of the outcome variable and each predictor variable to obtain proportions of patients according to the type of injuries corresponding to each category of the explanatory variable.

6.5: Reliability and Validity: Reliability: The consistency and dependability of a research instrument to measure a variable⁽¹⁴⁾. For the measurement to be reliable, it has to be repeatable. This will be ensured by administering the questionnaire to five study subjects with a view of determining whether any modification would be necessary before administering it to a larger sample.

Validity: The ability of an instrument to measure the variable that it is intended to measure⁽¹⁴⁾. To ensure that the questionnaire measures what it intends to measure, questions will be clear and precise. Questions will be in English and Setswana. The Setswana version will be checked for accuracy in translation from the English language. There are many threats to the reliability and validity of an investigation apart from the questionnaire design and scale construction. These are known as bias and errors in the conceptualization of the research idea, and the design sampling and process of the study which can lead to systematic deviation from the true value.⁽¹³⁾

It would be clearly stated that participating in this programme would not influence the quality of service rendered to the patient.

Questionnaire will be administered only after the doctor has seen the patient.

Patient would have a choice to or not to participate.

6.6: Bias. Any influence that produces a distortion in the results of a study or that strongly favours the outcome of a particular finding of a research study⁽¹⁴⁾

The types of bias likely to be encountered are;

Recall Bias: this relates to respondents' selective memories in recalling past events, experience and behaviours⁽¹³⁾. This will be minimized by allowing respondents time to recollect events, by providing adequate privacy and administering questionnaire only when patient is in a stable mood.

Response style Bias. This refers to a person's manner of responding to questions, often known as 'yes-saying' to items regardless of their content⁽¹³⁾. This will be minimized by asking questions that are not strictly dichotomized to YES and NO. Many options to questions will be given.

Sampling Bias: It occurs when samples are not carefully selected. Sources of sampling bias can be the time of the day, or year when the sample was collected, the place in which they were gathered, the language used, the extent to which personal views colour the data, the researcher being guided by preference in the selection of research subjects⁽¹⁴⁾

These biases will be minimized by providing enough privacy and other conducive environment for the patient.

By asking neutral, concise and clear questions in the questionnaire.

Communicating in the language the patients are very comfortable with.

Purpose of the questionnaire will be fully explained to the patients.

Non-response bias: This is due to the difference in the characteristics between the responders and non-responders to the study. Non-response is a major source of potential bias, as it reduces the effective sample size, resulting in loss of precision of the survey estimates⁽¹³⁾. This will be minimized by the researcher administering the questionnaire by himself to those who have consented and met the criteria for inclusion.

Pilot Study: This is a small-scale study conducted prior to the main study on a limited number of subjects from the population at hand. Its purpose is to investigate the feasibility of the proposed study and to detect possible flaws in the data collection instrument.¹⁴ the validity of the questionnaire data depends on the shared assumptions and understandings of the questions and response categories.¹³

Research has shown that respondents may interpret questions, including questions on health status, in different ways to the investigator. Pre-testing of questions should therefore include asking people to describe what they are thinking of when they listen, or read, each question, and about how they interpret it.¹³

Pilot questionnaires will be administered to five (5) study subjects with a view to determine whether any modification will be necessary before administering it to the larger study sample.

7. Ethical considerations

Permission to conduct the study will be sought from the Departmental Research Committee, Department of Family Medicine and Primary Health Care, University of Limpopo,(Medunsa Campus), Head of Department of Health North West Province, the District Manager and Chief Executive Officer of Schweizer- Reneke District Hospital. Identity of the assault victims will remain confidential; no names will be required for the demographic data analysis. Consent of the patients will be sought and obtained with a written informed consent form.

Appendix3.

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Appendix1 Standardized questionnaire for patient's interview.

Appendix2 Letter seeking permission of the study site.

Appendix3Consent form.

IMPLEMENTATION

This study is estimated to begin on the 1st of September 2009 and be completed on the 30th of March 2010.

Making arrangement with medical officers and professional nurses at the casualty unit.....	2 Weeks
Collection of data.....	17 Weeks
Data analysis and draft write up.....	4 Weeks
Final write up.....	9 Weeks

BUDGET

Personnel.....	R300
Materials.....	R1200
Logistics.....	R300
Data processing.....	R900
Printing.....	R800
Total Estimate.....	R3500

UNIVERSITY OF LIMPOPO
Medunsa Campus



MEDUNSA RESEARCH & ETHICS COMMITTEE

CLEARANCE CERTIFICATE

P O Medunsa
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0204
SOUTH AFRICA

MEETING: 06/2010

Tel: 012 - 521 4000

PROJECT NUMBER: MREC/M/142/2010: PG

Fax: 012 - 560 0086

PROJECT :

Title: The profile of patients with injuries due to alleged physical assault seen at the casualty of Schweizer Reineke District Hospital

Researcher: Dr U Nwachukwu
Supervisor: Dr J Makhubu
Co-supervisor: Prof GA Ogunbanjo
Hospital Superintendent: Dr OL Moalusi (Schweizer Reineke Hospital)
Department: Family Medicine & PHC
School: Medicine
Degree: M Med (Family Medicine)

DECISION OF THE COMMITTEE:

MREC approved the project.

DATE: 06 August 2010

Abraham

PROF N EBRAHIM
DEPUTY CHAIRPERSON MREC



Note:

- i) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
- ii) The budget for the research will be considered separately from the protocol. PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

QUESTIONNAIRE

CONFIDENTIAL

TOPIC: The profile of patients with injuries due to alleged physical assault, seen at the Casualty of Schweizer-Reneke District Hospital, North West Province.

This questionnaire is for academic purposes. It is intended to assist health care workers to care for our patients better.

Please mark X in the box provided.

- | | | | |
|--|-------------------------------|-----------------------|---------|
| 1. Age of victim in years..... | 18- 20 | 21-30 | 31-40 |
| | 41—50 | >50 | |
| 2. Gender of victim.....Male | Female | | |
| 3. Time of assault.....Dusk | (06h00 to 18h59) | Dawn (19h00 to 05h59) | |
| 4. Site of Injuries.....Head | Neck | Chest | Abdomen |
| | Upper limb | Lower limb | Back |
| 5. Knows Perpetrator | Yes | No | |
| | (If YES, go to next question) | | |
| 6. Relationship with perpetrator | Friend | Neighbor | Spouse |
| | Father | Mother | Child |
| | Others | | |
| 7. Gender of Perpetrator | Male | Female | |
| 8. Were you under the influence of alcohol | Yes | No | |

QUESTIONNAIRE:

CONFIDENTIAL / KHUPAMARAMA

Setlhogo : tshobokanyo ya motswa setlhabelo o bonweng mo lefapheng la di kgobalo mo Schweizer – Reneke Hospital.

Dipotso tse re dirisetsang go ithuta ka tsona. Lebaka e le go thusa badiri ba lefapha la boitekanelo go thusa ba gobadi botoka.

Tshwaya mo le bokoseng

1. Dingwaga tsa motswa setlhabelo.....

, 18-20yrs , 21-30yrs , 31-40yrs , 41-50yrs , >50yrs

2. Bong jwa motswa setlhabelo.....Monna Mosadi

3. Nako ya kgobalo.....Mesong Phirimane

4. Serwe se se utlwisitsweng botlhoko, Tlhogo thamo
Sehuba Mmele

Dirwe tse di kwa godimo Dirwe tse di motlase Mokotla

5. A otlwaelane le mo gogobatsi?.....Ee Nyaa

(fa karabo e le ee araba potso e latelang)

6. Kamano ya gago le mogogobatsi.....Tsala Moagisanye

Molekane Rraago Mmaago Ngwana wa gago

Tse dingwe

7. Bong jwa mogobatsi.....Monna Mosadi

8. A o ne o le ka fa tlase ga kgatelelo ya nnotagi.....Ee Nyaa

9. Lefelo la kgobalokwa gae Mo mmileng

Lefelo la bojalwa Tse dingwe

10. A o ile wa itwela kgotsa go iposuloetsa.....Ee Nyaa

11. Ke sebetsa se fe seo se dirisitsweng go go tlasela?.....Thipa

Tlhobolo Botlolo thobane Se sengwe

12. A o tthatlhabilwe wa tswa wa gololwa go ya gae?.....Ee Nyaa

(fa karabo e le ee, araba potso e latelang)

13. Fa o oketswe mo bookelong, o nnile nako ee kae?.....<24hrs/letsatsi

letsatsi go ya go a mabedi(1 – 2 days) , matsatsi a mararo go ya go a

matlhano (3-5 days) , go feta malatsi a matlhano (>5days)

Ke a lebo

APPENDIX 4:

CONSENT FORM

INTRODUCTION

This study is about profile of patients with injuries due to alleged physical assault seen at Casualty of Schweizer- Reneke District Hospital. As part of M Fam Med course that I am pursuing, I want to explore the type of injuries that people sustain and the circumstances surrounding these incidents. This will assist me in planning for a better care for our patient.

This study is confidential; your name will not be written down or published.

Your decision to participate or decline to participate will not influence the quality of care you will get from the hospital.

Could you please participate by answering my questions?

If you agree to participate, please be as honest as possible and answer the questions in full.

I----- hereby give consent to participate in answering to the questionnaire as part of the research project.

Dr U F Nwachukwu, has given a full explanation of the importance of the study, and has assured me that quality of care will not be compromised, whether or not I take part in the study.

My consent is freely given on the understanding that it may be withdrawn at any time.

	NAME	SIGNATURE	DATE
Participant			
Witness			
Researcher			

LEKWALO LA TUMELANO

TSHIMOLOGO

Thutiso mabapi le seemo sa botswa setlhabelo jwa tiriso dikgoka mo Bookelong jwa Schweizer-Reneke. Karolo ya serutwa sa (M. Family Med.) eo ke ithutang yona, ke sekaseka mefuta ya dikgobalo tse di dikulugileng dikgobalo tsa tiriso dikgoka. Se sekanthusa go ka rulaganya go tlhabolola thuso e re e fang batswa setlhabelo.

Ke kopa o tseye karolo go araba dipotso tse ke tlileng go gobotsa tsona.

Mateng a lesedi la tshekatsheko e ke khupamarama, leina la gago ga le kitla le tlhagisiwa kgotsa go kwalwa gope.

Fa o tsaya karolo, le fa o sa e tseye karolo gago kitla go tshwaetsa kelotlhoko / kalafo eo tla e fiwang ka gope mo bookelong.

Fa o araba dipotso ke kopa o arabe nnete ee feletseng.

Nna _____ ke letlelela go nna karolo ya dipatlisiso ka go araba dipotso mo projekeng e no.

Dr. U.F Nwachukwu o ntlhaloseditse ka botlalo, botlhokwa jwa dipatlisiso, le gore kelotlhoko / kalafo e ketla e fiwang ga e tshwaetsege ka gope.

	Leina	Signature	Letlha
Motsaya karolo			
Paki			
Motsamaisi wa projeke			

