PREVALENCE OF PTSD, DEPRESSION, AND ANXIETY AMONG FEMALE SURVIVORS OF RAPE FOLLOWING POST ELECTION VIOLENCE 2007 DECEMBER NAIROBI-KENYA

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DECLARATION

I, Nyaga Immacolata declare that this dissertation is my original work and that it has not been present for the award of any degree to any other university.

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LIST OF ABBREVIATIONS

BDI---------- Becks Depression Inventory

BAI---------- Beck Anxiety Inventory

CAPS---------- Clinician Administered Posttraumatic Stress disorder scale

DTC---------- Diagnostic treatment and counseling

PMCT---------- Prevention mother to child

VCT---------- Voluntary counseling and testing

UNHCR---------- United Nations human commission for refugees

UNFPA---------- United Nations population fund

NVAW---------- National violence against women

FIDA ---------- Federation of women lawyers Kenya

PRC---------- Post rape care

PEP---------- Post exposure prophylaxis

ABSTRACT

Background

Sexual violence has been termed one of the most traumatic experiences that can happen to a human being. In times of war and civil strife, sexual violence becomes more prevalent.

The sexual violence and rape incidents that happened in Kenya following post election violence of 2007 resulted, among other psychiatric conditions, into anxiety in particular posttraumatic stress disorder (PTSD) and depressive disorders in this group, the extent of PTSD, depression and other psychological disorders remained unknown.

Study objective

The study sought to establish the prevalence of PTSD, Panic and depressive disorders and also detect HIV status before and after rape if known among female survivors of rape aged 21-63 years following 2007 December post election violence attending a city council clinic.

Method

This was a cross sectional descriptive study with 2009 participants who were joining consecutively.

Four research instruments were used: A social demographic profile post rape care information questionnaire prepared by the researcher. Impact of Event Scale-R (IES)

Beck's depression inventory (BDI) Beck's anxiety inventory (BAI) and Beck's suicidality (BSS). Only those who met the inclusive criteria were recruited in the study

Results

A higher prevalence of PTSD, Panic and depressive disorders among 2009 survivors was established. PTSD was found to be 90.4%; Depressive disorder was 70-8% panic disorder was 55.1%.

Suicidal ideation 9.6%, suicidal plans 28.2% and suicidal attempts 2.4%. There were no significant statistical differences in those who were HIV+ (Positive) and those who were HIV- (Negative) among those who had received post exposure prophylaxis and those who had not.

Conclusion and recommendations

Among 209 study participants interviewed, there is high prevalence of PTSD, depression and panic disorder compared to other studies done by others elsewhere. There is need for a structured psychological care for this group in an established special centre on a gender based violence Health facility set up, where their privacy and security is guarded (Woodley Nairobi city council clinic).

CHAPTER ONE

1.0 Introduction

Sexual violence has been termed one of the most traumatic experiences that can happen to a human being. Infact, rape has been found to be the most prevalent of the sexual violence Doda et al, (2005). According to Shives (1990), over 80% of all rapes are violent, planned aggressive acts not based on physical attractiveness or age and statistics show that rape victims range in age from approximately 3 months to over 90 years.

1.1 Background information

1.1.1 Sexual violence and rape

World Health Organization defines sexual violence as any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or to traffic or otherwise directed against a persons sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work (WHO). In times of war and civil strife sexual violence becomes even more prevalent. This is what happened in Kenya 2007 during the post election violence both to rural and urban women and children. Sexual violence in Kenya is an offence punishable by the law cap 47 of sexual offenses Infact, prior to this disaster; Kenya had passed a new sexual offences bill to an act.

The Kenya Sexual Offences Act, 2006 cites under sexual violence

(a) Direct or indirect contact between the genital organs of a person or, in the case of a female, her breasts and buttocks or any other part of the body, with that of another person, including any part of the body of an animal;

(b) Exposure or display of the genital organs of a person to another person without the consent of that person; or

(c) Exposure or display of any pornographic material to any person against his or her will, but does not include an act which causes penetration; under this act rape is defined

(1) A person commits the offence termed rape if—

(a) He or she intentionally and unlawfully commits an act which causes penetration with his or her genital organs;

(b) The other person does not consent to the penetration; or

(c) The consent is obtained by force or by means of threats or intimidation of any kind.

(2) In this section the term "intentionally and unlawfully" has the meaning assigned to it in section 47 of this Act.

(3) A person guilty of an offence under this section is liable upon conviction to imprisonment for a term which shall not be less than ten years but which may be enhanced to imprisonment for life.

Attempted rape is defined as any person who attempts to unlawfully and intentionally commit an act which causes penetration with his or her genital and organs is guilty of the offence of attempted rape and is liable upon conviction for imprisonment for a term which shall not be less than five years but which may be enhanced to imprisonment for life (The Kenya Sexual Offences Act, 2006). Different countries have different sexual offences acts and legal definitions of rape differ from state to state (Simons, 1994). Sex offenses are not crimes of passion, but rather a violent aggression and hostile act to degrade, dominate, humiliate and terrorize the survivor and can happen anywhere at any time (Verdene, 1990) According to Kornblum, men who have power through the legal system to define what constitutes rape, typically consider this as a sort of assault trivial or even blame the victim for having provoked it (Kornblum, 2003). While rape is an act of aggression rather than sexual passion, most rape incidents are premeditated. It is not as a result of a rapist's spontaneous submission to his sexual urges because, many rapists will ignore or reject willing sexual partners and feel satisfied with sex that they force on an unwilling victim. In fact, half of all the rapists have been found to be married. (Rathus et al, 1989).

It has become almost a cliché to say that rape is not a sexual act but an act of aggression because this claim makes an important point by emphasizing the violence involved in rape. According to Kendall, there are many kinds of rape for one single theory to cover. Rape includes varied activities such as assaults against women in dating situations, single impulsive rape, and multiple vicious, premeditated and sadistic rapes. All these however, have at least one thing in common sexual aggression (Kendall et al, 1995)

Whatever the physical basis for sexual violence, learned attitudes undoubtedly play a role where at least the influence of culture is part of it. According to Rathus & Nevid our cultures socialize men into becoming rapist males who are often reinforced for aggressive and competitive behavior that could be said to be asserting culturally expected dominance over women (Rathus & Nevid 1998)

Similarly during socialization of children, women may be socialized into the victim role. The stereotypical feminine role encourages passivity, nurturance and promote the belief that violence is inappropriate for women (Groth et al, 1990). This was evidenced by Beth Mayer (1984), in a research that found rape victims to be less dominant and less self assertive than non victims. Their behavior is more consistent with what society expects of women. (Mayer in Rathus 1989) According to a sociologist Clair Renzetti, an influential editor on violence against women, most young women do not believe that they are at risk of rape, especially date rape and when they are raped; do not label the event as rape. They place most of the blame for the bad date on themselves and feel that they did something that helped make it happen. Even drunk women who are raped often blame themselves. Ashamed and hurt, they are most often deeply negatively affected by what happened to them (Kornblum et al 2000).
Shives said that there is no typical rape victim profile because every woman is a potential victim regardless of age, race or social economic status. (Shives 1990)

1.1.2 Myths about rape

Rape in most cultures is surrounded by what can be called myths. Common myths that are also associated with rape seem to protect the perpetrator. These contribute to too many victims not seeking treatment or talking about it. For example, rape victims are often believed to have been seductive or otherwise to have asked for their victimization (Biere & Scott 2006) According to Brehm myths that people believe about rape include a woman will pretend she doesn't want to have sexual intercourse because she doesn't want to seem loose, but she is really hoping the man will force her. Another myth is that if a woman engages in necking and petting and she lets things get out of hand it is her own fault if her partner forces sex on her, or that many women have unconscious wishes to be raped and may then unconsciously set up a situation in which they are likely to be attacked. In the majority of rape cases the victim is said to be promiscuous or has a bad reputation (Brehm et al., 1996). According to Shives, some of the myths which people have about rape are that, attractive women provoke men to rape them. If a woman struggles, rape can be avoided and no woman can be raped against her will, or only women with bad reputations or who are friendly to strangers outside their homes are raped. Women cry rape to get revenge and most sexual assaults involve black men raping white women (Shives et al, 1990).

1.1 3 Problems that hinder many rape victims from reporting the crime

Kornblum, on sexual harassment, reported that in some patriarchal societies, women who have been raped may be beaten or killed by their own husbands, fathers or brothers who feel dishonored by the violation of their woman (Kornblum, 2003). Though rape is usually thought to be committed by strangers it may also be committed by someone the victim knows but most such rapes are never reported (Lendry,1994).Rape reporting procedures are lengthy and involving and can be very frustrating to a victim when trying to seek help (FIDA, 2008). In Kenya, for example police medical examination form otherwise known as P3, requires that the victim first report to the police. Here a police officer will fill in part one of that forms, requesting a medical examination from a health facility to examine the victim. It has been reported that only one doctor serves the entire Nairobi province and this can take one to two weeks to get the doctors signature on the form which is mandatory for it to be legally admitted in court. In cases where P3 forms are only obtained in Police stations. Victims have been discouraged from seeking justice because of the ill treatment from the officers and there is also little support from these officers to help victims deal with trauma of rape (FIDA, 1999). According to Shepard, there are two assumptions of many rape laws: women will lie about whether a rape has taken place and unless evidence of rape is produced no prosecution can occur, therefore for women raped without witness or for women who submit to rape because of the threat of violence there is often no legal protection (Shepar, 1996).

1.1.4 Psychological impact of sexual violence

It has been found that sexual assault and rape can be particularly devastating and traumatizing events, and are substantial risk factors for PTSD among women in general population (Kessler,1995) in Briere (2006).Other common risk factors include other forms of anxiety and depression and substance abuse.

1.1.5 Rape trauma

This has been said to be characterized by an acute phase of disorganization and a longer phase of reorganization in a victim's life. The acute phase of rape trauma occurs when the victim is disrupted by the crisis and displays emotional reactions of anger, guilt, embarrassment, humiliation, denial, shock, disbelief or fear of death (Ryder, 1990).Several weeks later these

reactions give way to deeper more long term feelings of reorganization that cause the rape survivor to change the daily life patterns, experience reoccurring dreams support from friends and family and feel the need to talk about the assault, refuse counseling or develop irrational fears. Further, PTSD is a common consequence of assaults and rape and estimates of risk PTSD (Foll & O'Neill, 2006).

1.1.6 Rape and HIV

For survivors of rape and sexual assault, the thought of becoming HIV infected can greatly add to their psychological distress. The actual risk of HIV infection without intervention is difficult to quantify, but it is thought to be considerably higher than from unprotected consensual sex as a result of violent penetration and lack of lubrication, resulting in both microscopic and often also mucosal tears.

The HIV prevalence among men who rape is generally considered to be higher than that of general population although, actual figures are not known in Kenya, because the number of arrests is minimal (UNFPA, 2004).

1.1.7 Post traumatic stress disorders (PTSD)

According to the Diagnostic statistical manual (DMS- IV) a diagnosis of Post traumatic stress disorders is made if the following criteria are met: an exposure to a traumatic event in which both of the person experienced, witnessed or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others and the person's response involved intense fear, helplessness, or horrors. The traumatic event is persistently re-experienced with recurrent and intrusive distressing recollections of the event including images, thoughts apperceptions, and dreams of the event or feeling as if the traumatic event were recurring (a sense of reliving the experience). The person has persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness which was not present before the trauma where the person tries to avoid thoughts, feelings or conversations associated with the trauma. The person experiences difficult falling asleep or staying asleep, irritability, or outbursts of anger difficult concentrating hyper vigilance and exaggerated startle response and the duration of the disturbance symptoms is more than one month. These symptom disturbance causes clinically

significant distress or impairment in social occupation or other areas of functioning (DSM IV, 2005). Infact women who have been found to face higher rates of poverty, divorce and unemployment and rape are likely to have the symptoms of PTSD. They suffer Post traumatic reactions, cognitive distortion and coping for the individual especially the one exposed to traumatic event of rape is difficult. Normal recovery is determined in part by psychological processes she employs following the event (Wolfe and Kimberling in Koch 2006). According to Perking et al in Koch, PTSD persists longer for women because women show clinically significant disruption in health status like sexual dysfunctions, eating disorders, Somatization, with substantial cormobidity substance.

1.1.8 Anxiety

The term anxiety is used to describe feelings of uncertainty, uneasiness, apprehension or tension that a person experiences in response to unknown object or situation. A flight or fight response is an attempt to avoid the dangerous situation. When the experience of anxiety is prolonged, intense, distressing and unwanted, however it interferes with an individual's functioning and becomes an anxiety disorder. Common complains linked to anxiety disorders are persistent tension, nervousness, heart palpitations sweating, trembling, dizziness and problems with concentration (Kendall et al,1995).

1.1.9 Depression

The term depression is used variously when describing the experiences of mood. At any given point in time 15-20 percent of adults suffer significant levels of depressive symtomatology and 12 per cent experience depression severe enough to require treatment at some time in their lives. Depression has been estimated to account for 75 percent of psychiatric hospitalizations (Hawton et al., 1995).

The term is often used to designate a complex pattern of deviations in feelings, cognition and behavior that is not represented as discrete psychiatric disorder (Rush, 1982).

This cluster of signs and symptoms is sometimes conceptualized as a psychopathological dimension ranging in intensity from mild to severe and an adequate description of the pathological mood must convey both the presence of painful emotion and the absence of pleasure (anhedonia) (Beck et al., 1979). However, not all patients who report the absence of

pleasure consider themselves depressed. For example, the painful dimension of depressive experience during illness is usually related to anxiety, guilt, anguish and restlessness. Although depression is one of the most common psychiatric disorders affecting all segments of society and one of the mood disorders not all conditions are defined by intense emotional states as well as related behavioral cognitive and physical symptoms (Whybrow et al 1984). The term affective disorders may also be applied to such conditions but depression is termed to be abnormal when it lasts longer and is more pronounced than expected after certain distressing conditions. Beck viewed depression as a disturbance of cognition that influences the affective motivational behavioral and vegetative manifestations (Beck, 1979).

Depression is a non specific emotional reaction to personal adversity which is seen as a variety of clinical and non clinical settings. Its description appears to be subjectively close to that of anxiety. This is an indication of psychic conflict and pain which leads to arousal, restlessness difficulty falling sleep and unpleasant dreams.

People who are exposed to traumatic events are at risk of developing a major depressive disorder. In deed depression is one of the most common cormobidity disorders for PTSD. Some symptoms of major depression like insomnia, psychomotor agitation and decreased inability to concentrate, overlap with symptoms of PTSD which may complicate assessment. (Gelder et al, 2006). The mood state that many trauma survivors present with are chief complains of depressed mood and they may not initially report history of trauma exposure (Ezra Susser et al) the most influential contemporary psychological approach to mood has been cognitive. It supposes that critical part of what determines mood tone is thinking and reflection. Beliefs and assumptions will clearly influence how one thinks because abnormal beliefs or habits of thought can provide an explanation for why optimistic or depressive interpretations might be made of events (Beck & Greenberger et al, (2006). When people become clinically depressed they feel sad and are often tearful they are troubled by guilt believing that they are letting people down. They may become more irritable than usual more anxious and tense (Herman and Lewis, 1992). When depression is at its worst they may lose the ability to react emotionally and find that good and bad feelings alike are lost in numbness and it becomes difficult to enjoy or to be interested in normal activities. They have symptoms of being down and sad; they feel everything is dull, gray and flat, nothing is enjoyable and they have lost their ability to feel pleasure. They are irritable and guilt and feel they have nothing to look forward. Kendall et al.,

(1995). For various reasons, the vast majority of women with histories of rape do not seek treatment and several disorders are significant in the later days in the life of the assaulted woman. These are depression, alcohol and substance abuse, panic disorders and post traumatic stress disorders (Koch, 2006)

1.2 Problem Statement

The year 2007 December post election violence in Kenya left many female rape survivors in Kibera informal settlement with shame and guilt, manifestations of psychiatric symptoms. This was observed by community based health workers in Woodley- City Council Clinic where about 209 female survivors of rape 2007 post election from Kibera sought psychological support. Observation by health workers at the clinic indicated that although medical treatment was given to the rape survivors, depressive symptoms PTSD and other anxiety symptoms were not given adequate psychological support.

According to human rights group, at least 1000 women across Kenya were raped during chaos that followed the country's December, 2007 elections. It was reported that many of these rapes were perpetrated by police and general service unit (GSU) officers (Kenya amnesty International report, 2009). The UNHCR reported that the highest incidents of rapes in Kenya were witnessed in 2007 post election violence in most parts of the country. (UNHCR report 2008). An estimated 1200 victims of sexual assault who included women, men as well as girls and boys were reported (UNHCR report, 2008). According to the police spokesman 200 rape cases were reported to police but only 15 cases made it to court with only 12 convictions. It was further reported that these incidents occurred only at the camps for those who were displaced by the violence. (Kenya Amnesty International report, 2008) the number of rape cases reported in Nairobi women's gender recovery center was 341 which was a quarter of the one thousand women rapes reported in the country. A survey done by Masiga in February revealed that more than 1000 people were raped among them 267 women (Masiga February, 2008).

Another one by Kweyu reported that among the rape survivors, 148 were women below 18 years and 258 were above 18 years while children as young as one year and women as old as 65 years were raped Kweyu on 9th April 2008 .Generally, it was observed that majority of the women who were raped in Nairobi resided in the informal settlements such as Kibera, Mathari,

and Kawangware where the violence was intense (Care Kenya 2008). In Kibera reports from various non-governmental organizations indicated incidents of rape. Center for human immune virus and research (CHIVR), University of Nairobi recorded 39 women treated for rape who have proven records and 100 who were treated but did not have treatment records (UON CVIVR Report, 2008). A report from Care Kenya indicated that 300 rape cases that Care Kenya was involved with were committed in December 2007 by men with uniform (Care Kenya report 2008). This was alarming, given that most health facilities where rape survivors sought treatment could not give health reports due to the logistics involved. (JMN December 2007 rape survivor). Because rape is a strong predicator of post traumatic disorders which is classified among the anxiety disorders too survivors should be helped at their time of need. However, due to the political instability at the time, some rape survivors failed to seek or received inadequate psychological treatment. Therefore, there was need for a study to establish the psychological impact of rape in order to develop and implement intervention strategies in such situations.

1.3 General objective of the study

The study sought to establish the prevalence of PTSD, depression and other anxiety among the survivors of rape following 2007 post election violence and access to post rape care.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The review of this study is organized according to variables of rape, rape among women and girls, rape globally, rape in Kenya, myths on rape and HIV, and Rape statistics.

It is difficult to determine the actual incidence and motives of rape because many rape victims fear to tell anyone about the rape since disagreement also exists about what behaviors and circumstances constitute rape. Due to shame and secrecy associated with being a victim of rape or sexual assault in many cultures, it is likely that some victims do not identify themselves in research studies and as a result the prevalence quoted is probably under estimates. While many studies have looked at the prevalence of rape internationally, very few have been done regionally and locally. In the chapter we will look at studies that have generated data on sexual violence and rape at the international level, at the regional level (Africa) and at the local level (Kenya)

2.1.1 Rape

Ledry undertook a study to establish the prevalence of sexual violence in women he found out that on the average, out of every ten women born in a country, four would be raped at some point in their life." (Ledry1994). A WHO report, on reducing risks and promoting healthy life: reported that rape and domestic violence accounts for 5% to 16% of healthy years of life lost by women of reproductive age This indicates that rape is a contributory factor to reproductive health risks of women globally. (WHO report 2002), Kilpatrick & Edmunds carried a survey on date rape in 35 Universities, they revealed the startling findings that, 1 out of 8 women reported having been raped and the out of the 8 raped, half reported the rapist were first dates, casual dates or romantic acquaintance. (Kilpatrick at al 1992).A similar research done by Wiehe & Richards on date rape reported that a woman is far likely to be raped on date than by a stranger. They further reported that there are 14-25 % chances that a woman will be the victim of rape during her life time, with half a million sexual assaults against women each year in United States (Wiehe & Richards 1995). Ellis did a study inquiring into the prevalence and causes of sexual aggression and found out that the prevalence of rape by uniformed crime reports (UCR) that was derived from citizen reports to police in United States, estimated annual rate of rape to be about

70 per 100,000 women per year, from 25 per 100,000 women reported in 1950. This was almost four times the rate reported in 1940. He further reported that the prevalence of completed rape in 1973 in the United States was 3 to 4 times higher than UCR estimated, that is, 200 per 100,000 women. (Ellis 1989). Another study conducted by Koss, Gidycz et al focused on the scope of rape among college students: They reported that 285 of women experienced a rape at the age of 14 years and 85 of college males admitted having committed rape at least once. A similar study done by Ellison on prevalence of rape in San Francesco: reported that over a life time approximately 24% of women will be raped and 20% will experience an attempted rape (Ellis1989).A study conducted by Coon, whose objective was to investigate the reporting of rape by survivors, he reported that out that 7 women will be raped, but because many rapes will go unreported, the true figure is probably one in four (Coon 2004).

Hensilin did a sociological study on the prevalence of rape and found out that each year 2-3 of every 1000 females aged 12 years and over in the entire United States are raped (Heinslin 2003). A report on human rights in Punjab stated that a woman was raped every 6 hours while another is gang raped every four days in that country, yet only 321 rape cases were reported to the police (human rights report 2003). A report by population council indicated that in the year 2007 rape comprised 16 % of all sexual violence directed to women (Population Council Report 2007).

2.1.2 Rape statistics

Globally incidents of rape have been witnessed in different countries but because the rate of reporting and convictions vary considerably in different jurisdictions, many rapes may not be reported. Idiacola and Anson carried a research on violence, inequality and human freedom to identify how rape was reported to police in the USA. They found out that in a report by federal bureau of investigations, only 20% of rapes were reported to police and the rate of clearance was significantly lower which was 47%(Idiacola &Anson2004).In a report by the United states Bureau of justice statistics of 1999, it was estimated that 91% of united states rape victims were female and 9% were male, with 99% of the offenders being male.(UNICEF 2006 Bender conducted a research on rape conviction and reported that 84% of the reported rapes never result to conviction and in 88% of reported rapes, the assailant is not incarcerated. (Bender & Leone 1995).A study by Tijaden & Thoennes in the United States on psychological injuries, revealed that an estimated 14.8% of women and 2.1% of men had experienced a completed rape while 2.8

% of women and 0.9 men had suffered attempted rape over their life time (Koch & O'Neill 2006).Golding conducted a study on repercussions on rape victims. He reported that during rape the victim experiences fear, shock, disbelief and extreme anxiety and suspiciousness with psychological reactions (Golding 1996).A survey done in United States by National Violence against Women (NVAW) showed that 0.3% of women and 0.1% of men had been raped in the twelve months prior to the survey. In the same country, a national women's study found out that rates of Post traumatic stress disorders were highest among women whose traumas included rape or assault. (Norris et al 2004 in O'Neill. In another survey by NVAWS in childhood sexual abuse in the United States, it was found that 9% of women and 1.9% of men were raped before the age of 18 years. Rape has been used as a way of exercising power. Hall &Barongan conducted a study which objective was to look at motivation of rape. They reported that rape is a crime of sex but a rapist will use sex as a way to demonstrate power and control over the victim, where in such cases, there is little that is sexually satisfying about rape to the rapist but instead, the pleasure comes in forcing someone else to be submissive (Hall & Zubrongan 1997)"According to Zurbriggen in (Hall) anger can be used as motivation for rape. A survey done by AID Oxfam International on sexual abuse in Iraq on 1,700 women, in the year 2003, found out that 55% of the women had been raped since the United States soldiers were deployed to that country Inger (1999).A study carried out by Koss in 2003 on adult sexual assault and rape found out that, 734 women and 62 men had been raped in one year only. Koss et al (2003).

2.1.3 Myths on Rape and HIV

Rape has been used as a myth to cure AIDS. A belief common to South Africa holds that sexual intercourse with a Virgin will cure a man of HIV or AIDS. South Africa has the highest number of HIV–Positive citizens in the world with official figures indicating that one in eight South Africans is infected with the Virus. (IRIN Africa 2009) A University of Durban –Westville anthropology lecturer, reported the myth that sex with a virgin girl is a cure for AIDS is not only confined to South Africa because other researchers in Zambia, Zimbabwe and Nigeria have reported the myth to exist in these countries and it has been blamed for the high rate of sexual abuse against young children (IRIN 2009). Feldman has reported sexually transmitted diseases in rape victims to have Psychological distress, a medical condition acquired through sexual contact (Feldman 2002) Social economic factors have been found to be a source of rape a times. A study

done by Simons indicated that out of every 1000 women 12 years and older are raped globally each year with the high risk group coming from low social economic background.(Simon et al 1994).

2.1.4 Rape among women and girls

Rape is one of the major sexual violence directed towards women globally and from time immemorial it has been used and regarded as spoils of war. During periods of armed conflicts, women and girls are forced to free their homes and are often caught in vicious cycle of rape and other assaults as they run for refuge. Reports done by UNCHR on conflicts and wars indicate that rape is common in countries affected by wars and natural disasters (UNCHR 2006).The systematic rape of as many as 80,000 women by the Japanese soldiers during the six weeks of the Nanking Massacre is an example of such atrocities. During war II an estimated 200,000 Korean and Chinese women were forced into rape and prostitution in Japanese military brothels. In another report by UNICEF, 200,000 women were raped during the Bangladesh liberation war by the Pakistan army though this has been disputed by Indian academic Sarmila Bose. A report on abuses against women stated that at least 20,000 Bosnian women were raped by Serb forces during the Bosnian war (Idiacola 2004). A similar report has been done by Unicef (UNICEF report 2006).A news report on BBC on sexual violence in the United Kingdom on 12 November 2007, there were 85,000 women raped in United Kingdom in the previous year. The report further stated that one of every 200 women in the UK was raped in year 2006. (IRIN UK 2007) In Africa the prevalence of rape has been high as revealed by various studies. South Africa has the highest number of rape cases. It is estimated that 500,000rapes are committed annually in South Africa. Reports on sexual violence in South Africa indicate that a woman born in South Africa has greater chance of being raped than learning how to read. (IRIN Africa (2009) Most of these rape incidents had occurred during political violence www.amnesty.org. A survey conducted by the community of Information, empowerment and transparency on sexual violence stated that one in three of 4,000 women questioned, reported they had been raped in the past year. In a related survey conducted among 1,500 school children in Soweto Township a quarter of the boys interviewed reported that gang rape was fun. 25% of South African men questioned in the survey admitted to raping a woman.(IRIN Africa 2009). Another study by Medical research council (MRC) estimated 500,000 rapes are committed annually in South Africa. In the

year 2000, 67,000 cases of rape and sexual assaults against children were reported in South Africa (IRIN Africa 2007). In Rwanda during the infamous genocide, the prevalence and intensity of rape was estimated that between 250 -500 million women were subjected to rape, including gang rape (UNHCR1999).A report by UNICEF on war rape stated that an estimated 500,000 women were raped during the 1994 Rwandan genocide and many were held as sex slaves. The report further states that it is estimated that more than 200,000 females living in the democratic Republic of Congo today were raped in the recent conflicts UNICEF (1996). During periods of armed conflict many women and girls are internally displaced and raped .A study conducted by Amnesty international to displaced women in Darfur who had suffered rape , indicated that a wide spread of stigma of rape kept many women silent (UNHCR 2006)

2.1.5 Rape in Kenya

In Kenya, cases of rape have been witnessed overtime. In 1998 a number of reported rape cases in Dadaab refugee camps were 106 in a population of 106,000 people (Ellisberg & Heise 2002).According to official Kenya Police statistics, in every 26 minutes a woman is raped. In the year 2007 eight hundred and seventy six (876) cases of rape were reported. In year 2006 twenty nine (29) rape case were reported. In year 2005, there were 1365 rape cases which were reported according to the VOA news. www.Voanews.com. However, this may not be an indication of a decrease since many cases of rape are going unreported. A study was done by FIDA in 6 of 8 provinces in Kenya on gender violence women and girls, on 1,664 women of between (17-77) years, concluded that 79.6% of Kenyan adult women surveyed, had been sexually abused including rape. (FIDA,2008). A report by UNICEF stated that in Kenya, reported cases of sexual assault and rape doubled within days of post election conflicts. (UNICEF 2008) A report by United Nations leased on 1st February 2008 indicated that rape was being used as a weapon in Kenya as the country rolled in ethnic violence since the December elections (Geneva 01 February 2008) A survey of rape victims was conducted in Nairobi women's Hospital between December 27th and January 20th which described the cases of 152 women ,children and men who were sexually assaulted during the violence that broke out after Kenya's disputed presidential election at the end of December. Included in the cases surveyed 12 were men and 63 children below 18 years and the rest were adult females (Voa, Report 2008) A United Nations Humanitarian spokeswoman, reporting in Kenya after post election, he reported that sexual

violence was a symptom of the collapse of the social order. This was described as horrific cases of sexual abuse, gang rape, extreme physical brutality and severe psychological trauma and rape was being used as a tool to terrorize families, individuals and precipitate their expulsion from their communities in which they lived (Elizabeth Byrs 2008). Another report by United Nations Agencies reported that many survivors were reluctant to report the sexual attacks against them because they had no confidence in the ability of the police to protect them (UNA 2008). United Nations reported cases of sexual assault were grossly underestimated and the real number of rape victims was believed to be much higher than the officially reported figures (UN report 2008).Another report by Unicef reported that women in camps for displaced people reported rape and sexual abuse were happening on large scale, with women and children who had been raped, threatened with reprisal if they talked of their experiences (Veronique taveau 2008). Many survivors had no access to even the most minimal health and psychological support, leaving them vulnerable to wide spread trauma and potential negative health outcomes, including HIV/AIDS (Byrs 2008). For women who are Victims of rape, recovery from the violation is typically arduous and draining. When they are unable to get treatment to prevent possible HIV infection, the process is even more fraught however, what is known as post-exposure prophylaxis (PEP) reduces the chance of HIV infection when a woman is raped. The anti-HIV treatment was available in Just seven of 73 government district hospitals in Kenya and one of eight provincial hospitals.(health Kenya 2000). Since studies of Psychological impact have not been available in Kenya to provide the prevalence of PTSD, depression and anxiety in relation to rape following civil strife there is need for study in this area.

2.2 Specific objectives

(i) To determine social demographic profile of the survivors of rape.

(ii) To determine the prevalence of PTSD among the rape survivors.

(iii) To determine the prevalence of other anxiety symptoms in general.

(iv) To determine the prevalence of depression.

(v) To determine HIV status before and after the rape if known.

(vi)To study determine access to post rape care.

2.3 HYPOTHESIS

2.3.1 The null hypothesis

The prevalence of PTSD, depression and anxiety in female rape survivors of the 2007 post election violence attending a Nairobi City Council Clinic is not higher than that of the general population.

2.3.2 Alternative hypothesis

The prevalence of PTSD, depression and anxiety in female rape survivors attending a City Council Clinic following the year 2007 post election violence is higher than the general population.

2.4 Significance of the study

Very few studies in Africa and in Kenya have looked at the psychological impact of rape in situations of civil unrest. This study in this area will emphasis the importance of protecting civilians especially women and children during civil strive and availing them of the necessary support in case of traumatic experiences like rape. This study will be useful to the Ministry of health and particularly the division of mental health, and other mental health service providers and health service planners

HAPTER THREE

0 STUDY METHOD

1 Study design

e study design was a cross sectional descriptive study. It was a population study.

2 Study area

e study was done at the Woodley clinic where the female rape survivors sought Psychological pport. Woodley clinic is a City Council health facility managed by a health board and the OH Nairobi City Council. It offers integrated health services such as Antenatal, post natal, nily planning, PMCT, child health, immunizations, urban slum program, adolescence productive health programs, DTC, VCT Mental health services and is a field practical ching facility for students who are in their urban public health experiences.

is in Dagoretti District and serves a population target of 12,000 people who attend the clinic thin a year. Most of them come from the Kibera informal settlements. The Health facility is nificant in its own way by being one of the oldest and the only City Council clinic which was ving the Kibera community until early years of 1990 when other small private owned health ilities started coming up. It was opened in 1946 by Mayor Woodley as a maternal child health ility for the colonial residents (White thorn, 1948).

ter independence it was reserved for the senior civil servants and their families who were nding on appointments on Tuesdays and Fridays and with the other days reserved for the non rking people. It started its integrated services in 1983 to date. The facility is the entry point to bera for the urban slum project that is one of the biggest city council projects in conjunction h UNFPA, Pathfinder, University of Nairobi (STI/HIV program).

Scope of the study

e study was confined to the female rape survivors from Kibera who sought psychological pport at the Woodley city council clinic following post election violence that started in cember 2007.

Study population and sample size

is was a population study and the study sample was all 209 female rape survivors from the age 18 years from Kibera who sought psychological support, HIV care, and treatment, in Woodley

Clinic between January and May 2008. Some social intervention was done to this group where each subject was given a small amount of (Ksh 3000) to reorganize their lives because most of them had lost their property. This intervention was done by the center for human immune virus and research program. The group was coming together once in a month and was sharing by narrating to each other their ordeal with the guidance of a clinic nurse

3.5 Inclusion criteria

Female rape survivors who reported at the Woodley Clinic, at the given time who were above 18 years, and were willing to give consent.

3.6 Exclusion criteria

The exclusion criteria was female rape survivors attending the Woodley clinic that reported after May, or were under 18 years, or were not residing in Kibera at the time, or were not willing to give consent.

3.7 DATA COLLECTION INSTRUMENTS

3.7.1 Social demographic profile

A questionnaire developed by researcher that included; the serial No, Age, residential village during the attack, current residential village, and marital status.

3.7.2 Beck Depression Inventory (BDI-II)

The BDI is a series of questions that was developed in 1961, adopted in 1969 and copyrighted in1979,to reflect revision in the fourth edition text revision of the Diagnostic and Statistical Manual of mental Disorders (DSM IV-TR).This series of questions was developed to measure the intensity, severity and depth of depression in patients with psychiatric diagnosis. Its long form is composed of 21 questions each designed to assess a specific symptoms common among people with depression. The 21-question is a multiple choice with four responses and each response is assigned a score ranging 0-3 indicating the severity of the symptom. Individual questions of the BDI assess mood, pessimism, and sense of failure, self dissatisfaction, guilt, punishment, self dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal,

body image, work difficulties, insomnia, fatigue, appetite, weight loss, bodily preoccupation and loss of libido

3.7.3 Reliability of BDI

This test has been used for 35 years to identify and assess depressive symptoms and has been reported to be highly reliable regardless of the population. It has a high coefficient alpha, (0.80).Its construct validity has been established and it is able to differentiate depressed from non depressed patients. For BDI-II the coefficient alphas (0.92) for out patients and (0.93) for the college students were higher.

3.7.4 BAI-I .Becks anxiety inventory

Beck anxiety inventory consists of 21 questions about how the subject has been feeling in the last week expressed as common symptoms of anxiety such as numbness, hot and cold sweats or feelings of dread).Each question has the same set of four possible answer choices which are arranged in columns and are answered by making the appropriate one with a cross. The BAI has a maximum score of 63

0-7 minimal level of anxiety, 8-15 mild anxiety, 16-25 moderate anxiety

26- 63 severe anxiety. Note-Women with anxiety disorders tend to score 4 points higher than men with anxiety.

3.7.5 Impact of Event Scale -Revised (IES-R) (Weiss & Marmar, 1997)

Note: This is the IES-R not the 15 item version (IES). The IES-R was developed by Daniel S. Weiss and Charles R. Marmar in 1997 to parallel the DSM-IV criteria for PTSD. The original IES was developed prior to the adoption of Posttraumatic Stress Disorder as a legitimate diagnosis in the DSM-III published in 1980, and only tap 2 of the 4 criteria set out for PTSD in the DSM-IV: intrusion and avoidance (Weiss & Marmar, 1997). IES-R was intended to tap hyper arousal cluster of symptoms, the 4th criterion for PTSD. The IES-R is similar to IES in that it is a self-report measure designed to assess current subjective distress for any specific life event. The IES-R has 22 items, 7 items having being added to the original 15-item IES (Weiss & Marmar, 1997). The 7 items comprise 6 that tap hyperaousal symptoms such as: anger and irritability, heightened startle response, difficulty concentrating, hyper vigilance; and 1 new

intrusion item that tap the dissociative-like re-experiencing when experiencing true flash-back. The hyperaousal subscale and the new intrusion item along with the existing intrusion and avoidance subscales parallel the DSM-IV criteria for PTSD. The 7 items were randomly interspersed with the existing 7 intrusion and 8 avoidance items. The only modification to the IES items was the bifurcation of the item "I had trouble falling asleep or staying asleep" into "I had trouble falling asleep" (assigned to the hyperaousal subscale), and "I had trouble staying asleep" (retained in the intrusion subscale). Respondents are asked to rate each item in the IES-R on a scale of 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit) and 4 (extremely) according to the past 7 days.

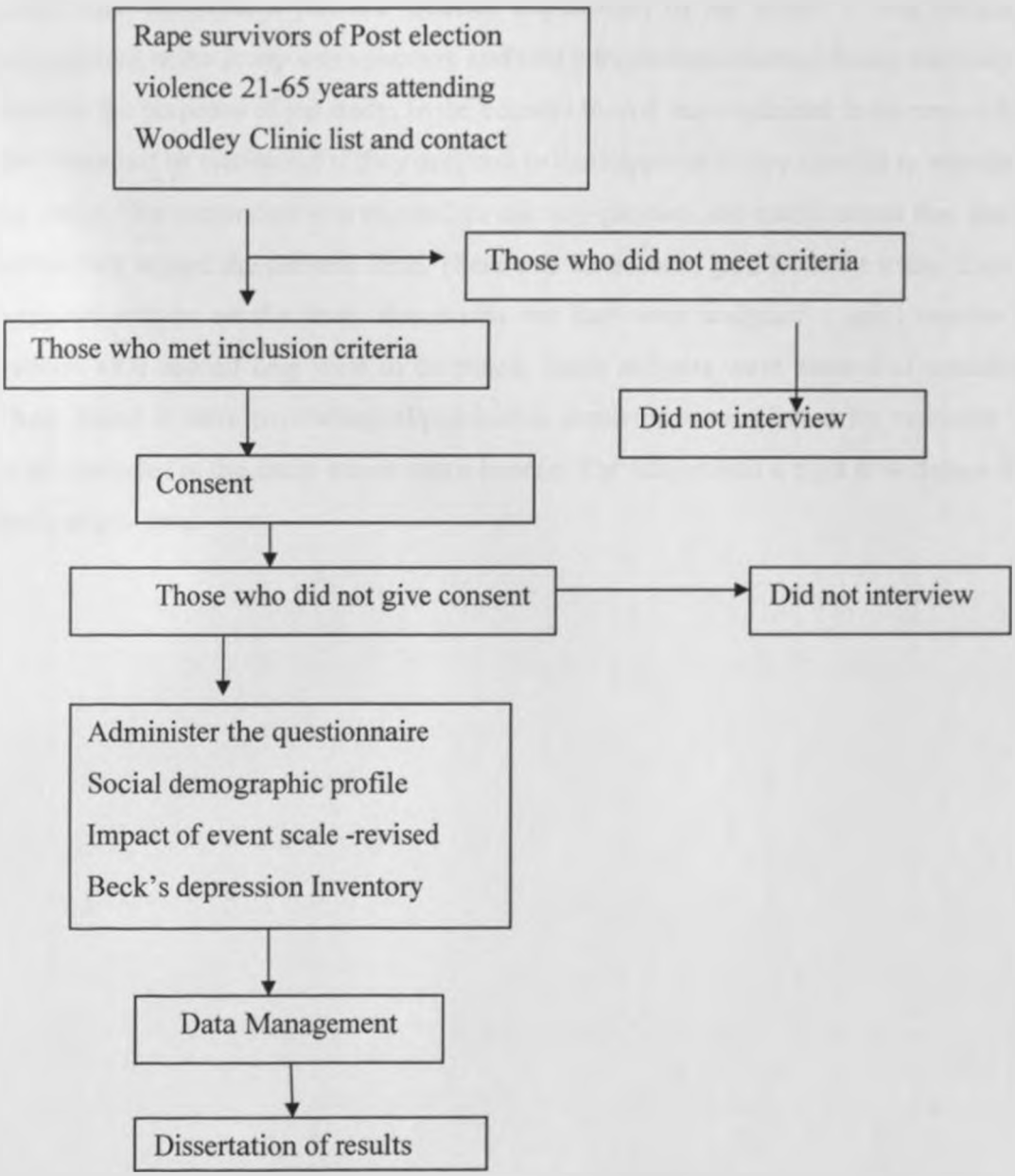
Reliability: In their study of 4 different population samples, Weiss and Marmar (1997) reported that the internal consistency of the 3 subscales was found to be very high, with intrusion alphas ranging from .87 to .92, avoidance alphas ranging from .84 to .86, and hyperaousal alphas ranging from .79 to .90 (Briere, 1997).

Validity: Criterion (or Predictive) Validity: Weiss and Marmar noted that the hyperaousal subscale has good predictive validity with regard to trauma (Briere, 1997). The intrusion and avoidance subscales, which are original IES components, have been shown to detect change in respondents' clinical status over time and detect relevant differences in the response to traumatic events of varying severity (Weiss and Marmar, 1997, Horowitz et al, 1979).

3.8 STUDY PROCEDURE

The researcher has been working with the women at the clinic and has their contact address including those who have moved. Patients will be called to the clinic as needed and any who might have problems closing their business will be visited. Interview duration will be 45minutes per every subject and the number of subjects to be interviewed will be 5 per day for two months (200)

3.9 Flow chart illustrating methodology



ETHICAL CONSIDERATIONS

3.10 Consent

A written informed consent was sought from all research subjects before including them in the study. This followed a full and detailed explanation of the study. It was explained that participation in the study was voluntary and that information collected during the study will be used for the purposes of the study. In the consent form it was explained to the respondents that they were not be victimized if they declined to participate or if they decided to withdraw from the study. The respondent was allowed to ask any question and clarifications that was needed before they signed the consent form. There was no material gain from the study. Their names were not written on the study documents but they were assigned a serial number so that patients who needed help were to be traced. Study subjects were assured of confidentiality. Those found to have psychological/psychiatric problems were referred for treatment whether or not included in the study which was a benefit. The subject had a right to withdraw from the study at any time.

3.11 TIME SCHEDULE

Activity	Mar-Aug	S	O	N	D	J	F	M	A	M	J	J	A
Proposal writing	x												
Proposal presentation			x	x									
Approval by Ethic committee					x			x					
Pre testing questionnaire									X				
Data collection and analysis										X	x	x	
Discussion of results												x	x
Submission of draft													x
Submission of final dissertation													x

3.12 Data analysis

Data collected was statistically analyzed using a software SPSS (statistical package for social sciences). Student version 11.5

CHAPTER FOUR

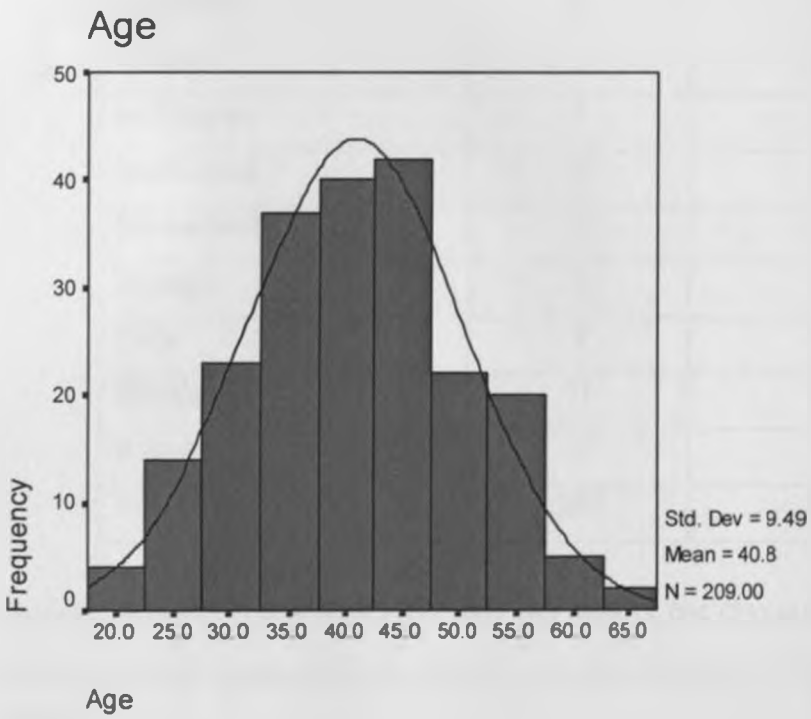
4.0 RESULTS

A total of 209 female survivors of rape who met the inclusive criteria over the three months study period were interviewed using 4 self administered questionnaires.

The study was done in the months of April to June. The respondent's ages ranged from 20-63 years with a mean of 40.8 and a standard deviation of 9.48. Distribution by age groups was as per figure 1.

Figure: 1

Social demographic profile



Range 20-63; mean 40.8, standard deviation 9.48.

Majority were from 35- 45 years, the group in general population is women of bearing age. Most, 59.8% (125) had primary level of education compared with few 40.2% (84) who had secondary /college level. Among this population majority were running their own business 66.5% (137). Most of the population was in the low income group which is indicative of other factors of PTSD, depression/anxiety.

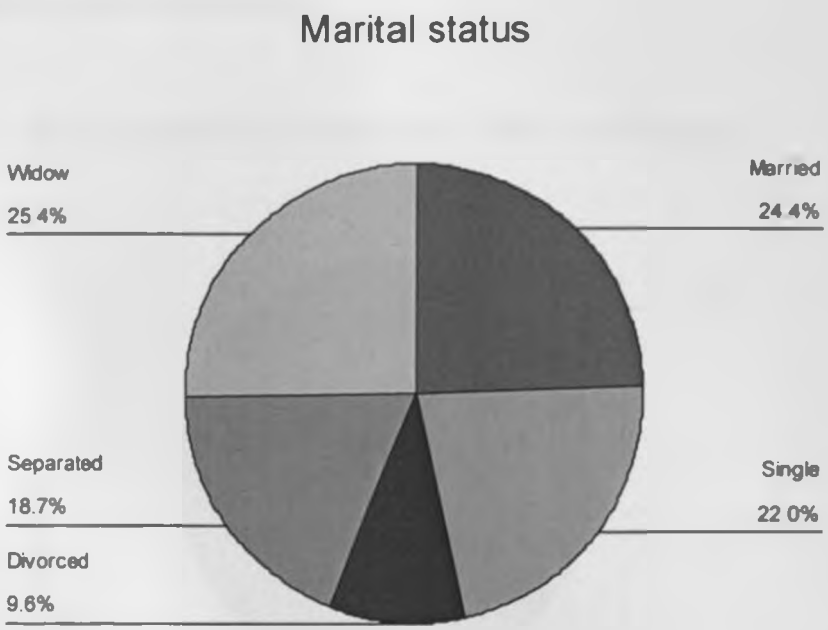
Table 1: Residential village during the attack

	(n)	%
DO	5	2.4
Fort Jesus	4	1.9
Gatwikira	9	4.3
Karanja	8	3.8
Kianda	41	19.6
Kibera	6	2.9
Kichinjio	1	.5
Lindi	23	11.0
Line saba	53	25.4
Makina	14	6.7
Makongeni	3	1.4
Mashimoni	19	9.1
Mwombeni	1	.5
Olympic	3	1.4
Raila	2	1.0
Silanga	11	5.3
Soweto	6	2.9
Total	**209**	**100.0**

Majority 25.4% (53) was from Line Saba and lindi 11.0% (23) villages.

From the study these were the heavily invaded villages by loud youths and uniformed officers.

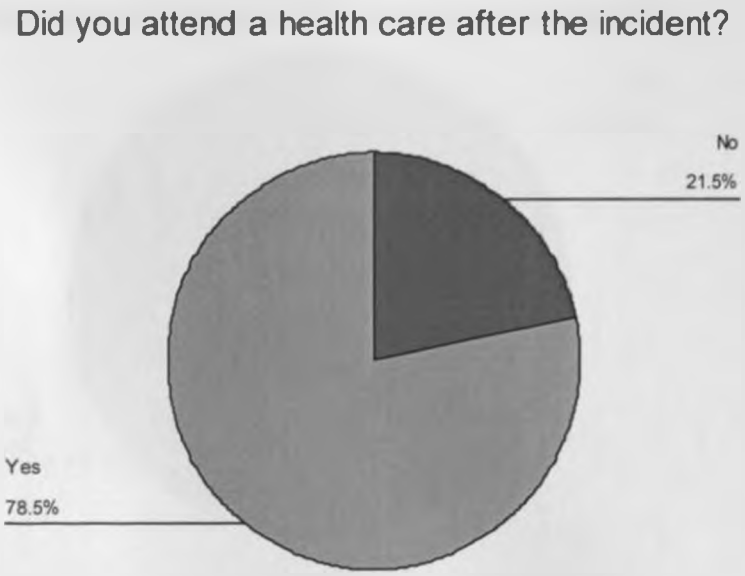
Figure: 2



The marital status includes widows (25.4%), followed by married (24%), then single (22.0%), separated 18.7 % and finally divorced 9.6%.

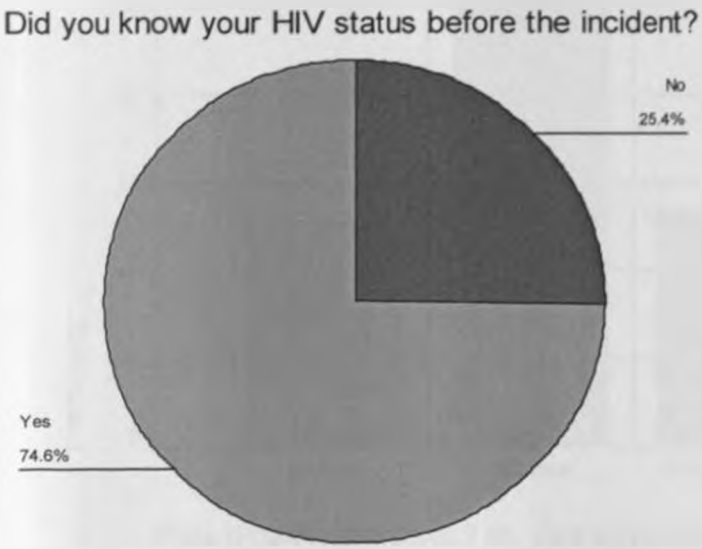
Figure: 3

Post rape care information



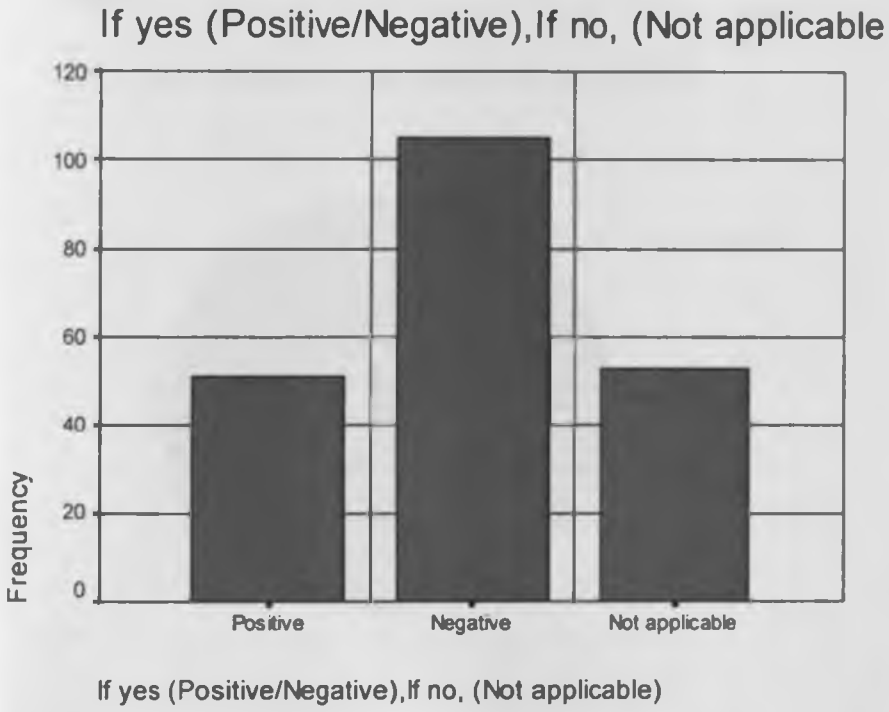
Majority, 78 .5 % (164) sought psychological and medical intervention but few, 21.5 (45) did not. Among the population majority 80.4% (168) sought psychological and medical intervention within 72 hours- and others 53.1 (111) between 4 - 3 months. This implies that in times of social strive seeking medical intervention may not be the priority but physical safety is.

Figure: 4



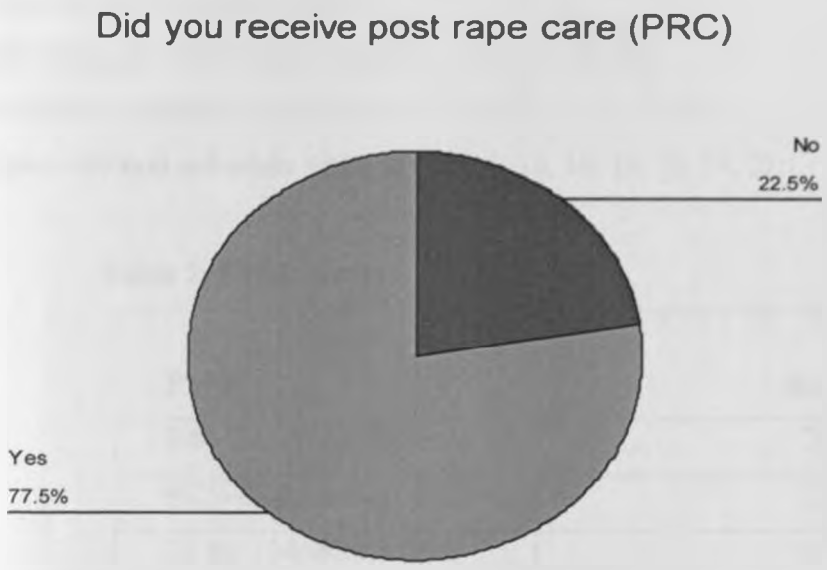
Majority 74.6 (156) knew their HIV status before the incident but few had not known. This implies that HIV education and VCT/PMCT awareness has a positive impact in the target population.

Figure: 5



Most 50.2 % (105) of those who knew their HIV status before rape had tested Negative and few 24.4% (51) positive. However, 25.4 % (53) did not respond to the question,hence not applicable. Among this population 78.5% (164)of those who visited a health worker for medical or psychological reasons received post exposure prophylaxis but a significant number 21.5% (45)did not .This could be a reflection of those who sought health care between 4 days -3 months since PEP is not effective after 72 hours

Figure: 6



Majority 77.5% (162), of those who visited a health worker for medical or psychological reasons received post rape care but few did not 22.5% (47) did not. Post rape care is most effective within 72 hours.

IMPACT OF EVENT SCALE INSTRUMENT REVISED VERSION (IES-R)

Using the IES-R scale for PTSD

Intrusion sub scale= sum of items 1, 2, 3, 6, 9, 16, 20:

Avoidance subscale =sum of item 5, 7, 8, 11, 12, 13, 17, 22:

Hyper -arousal sub scale =sum of items 4, 10, 14, 15, 18, 19, 21:

Table 2: PTSD scores

PTSD	**(n)**	**%**
0-8 - Sub-Clinical Score	20	9.6
9-25 –Mild scores	22	10.5
26-44 – Moderate Score	68	32.5
44+ - severe score	99	47.4
PTSD (prevalence)	**189**	**90.4**
Total	**209**	**100.0**

90.4% had PTSD and 9.6 % had no PTSD.

Table3: PTSD Intrusion, Avoidance and hyper arousal scores and PTSD combined

	PTSD intrusion scores		Avoidance score		Hyper arousal score	
	(n)	%	(n)	%	(n)	%
0-8 - Sub-Clinical Scores	22	10.5	17	8.1	24	11.5
9-25 - Mild Scores	130	62.2	59	28.2	85	40.7
26-44 – Moderate Scores	56	26.8	133	63.6	98	46.9
44+ - severe Scores	1	0.5	0	0.0	2	1.0
Total	**209**	**100.0**	**209**	**100.0**	**209**	**100.0**

62.2% (130) of the study subjects scored in the range 9-25(mild symtomatology) on the intrusion. 26.8 % (56)scored in the range of 26-44 (moderate symtomatology) 0.5 (1) scored in the range of 44+(severe symtomatology) for PTSD.

For Avoidance, 63.6 % (133) subjects scored moderate symtomatology, 28.2% (59) scored mild and 8.1 % (17) scored sub clinical symtomatology.

Hyper arousal, 46.9 (98) scored moderate symtomatology, 40.7% (85) scored 9-25 mild symtomatology and 1.0 % (2) scored severe and 11.5 % (24) 0-8 scored sub clinical.

Table 4: A Comparison between Age and PTSD

		PTSD companied								Total	
		0-8 – Sub Clinical scores		9-25 - Mild scores		26-44 – Moderate scores		44+ - severe scores			
		n	%	n	%	n	%	n	%	n	%
Age	20-29	2	2.2	1	10	4	30.8	25	14.1	32	15.3
	30-39	0	0	6	60	3	23.1	56	31.6	65	31.1
	40-49	3	33.3	1	10	5	38.5	66	37.3	75	35.9
	50+	4	44.5	2	20	1	7.7	30	18	37	17.7
Total		9	100	10	100	13	100	177	100	209	100

$x2=14.889$ df=9 p=.094

The age category with the highest PTSD scores 44+was in 40-49 years 37.3% (66) followed by age category 30-39 years with 31.6% (56). There is no significant statistical difference between age category and PTSD scores.

Table 5: A Comparison between Marital status and PTSD Scores

	PTSD								Total	
	0-8 - Sub-scores		9-25 - Mild scores		26-44 – Moderate scores		44+ - sever scores			
	n	%	n	%	n	%	n	%	n	%
Married	1	11.1	0	0	2	15.4	48	27.1	51	24.4
Single	2	22.2	2	20	4	30.8	38	21.5	46	22.0
Divorced	2	22.2	2	20	4	30.8	12	6.8	20	9.6
Separated	1	11.1	3	30	2	15.4	33	18.6	39	18.7
Widow	3	33.3	3	30	1	7.7	46	26.0	53	25.3
	9	99.9	10	100	13	100	177	100	209	100

χ^2=17.720 df=12 p= .124

27.12 % (48) married had severe PTSD followed by widows who were 26.0% (46). There was no statistically significant difference between marital status and PTSD scores

Table 6: A Comparison between Marital status and avoidance scores

Variable name	Avoidance Scores				Total	
Marital status	0-8 - Sub-Clinical range		9-25 - Mild range			
Married	(n)	%	(n)	%	(n)	%
	4	7.8%	47	92.2%	51	100.0%
Single						
	10	21.7%	36	7 8.3%	46	100.0%
Divorced						
	12	40.0%	20	60.0%	32	100.0%
Separated						
	8	20.5%	31	79.5%	39	100.0%
Widow						
	13	24.5%	40	75.5%	53	100.0%
Total						
	43	20.6%	166	79.4%	209	100.0%

X^2 =10.222; df = 4; p=0.037

Most 79.4 %(166) had mild range and 20.6(43) had sub-clinical range.

There was statistically significant difference between marital status and PTSD scores.

Table 7: A Comparison between Marital status and Intrusion scores

Variable name	PTSD - Intrusion scores								Total	
Marital status	0-8 - Sub-Clinical range		9-25 - Mild range		26-44 - Moderate		44+ - sever ranges			
Married	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
	1	2.0%	36	70.6%	13	25.5%	1	2.0%	51	100.0%
Single	4	8.7%	24	52.2%	18	39.1%	0	.0%	46	100.0%
Divorced	6	30.0%	9	45.0%	5	25.0%	0	.0%	20	100.0%
Separated	5	12.8%	24	61.5%	10	25.6%	0	.0%	39	100.0%
Widow	6	11.3%	37	69.8%	10	18.9%	0	.0%	53	100.0%
Total	22	10.5%	130	62.2%	56	26.8%	1	.5%	209	100.0%

x^2=20.930; df= 12; p=0.051

Most 62.2 %(130) had mild range and 26.8 %(56) had moderate while 10.5 %(22) had sub clinical range and 0.5% (1) had severe range. There is a marginal significant statistical differences between PTSD-intrusion for the married and the widow (p=0.051).

Table 8: A Comparison between Marital status and Hyper-arousal

Variable name	PTSD - Hyper-arousal								Total	
Marital status	0-8 - Sub-Clinical range		9-25 - Mild range		26-44 – Moderate		44+ - sever ranges			
Married	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
	3	5.9%	23	45.1%	25	49.0%	0	.0%	51	100.0%
Single										
	5	10.9%	16	34.8%	25	50.0%	2	4.3%	51	100.0%
Divorced										
	3	15.0%	10	50.0%	7	35.0%	0	.0%	20	100.0%
Separated										
	7	17.9%	14	35.9%	18	46.2%	0	.0%	39	100.0%
Widow										
	6	11.3%	22	41.5%	25	47.2%	0	.0%	53	100.0%
Total										
	24	11.5%	85	40.7%	98	46.9%	2	1.0%	209	100.0%

x^2=12.178; df=12; p=0.432

Sub clinical range 11.5 (24) mild range 40.7 %(85) moderate range 46.8 (98) severe range 1.0% (2).There is no statistically significant difference between marital status and PTSD hyper arousal (p>0.05).

Table 9: A Comparison between HIV if yes (positive /Negative) Not applicable and PTSD Scores

	PTSD scores							
	0-8 - Sub-Clinical scores		9-25 – Mild Scores		26-44 – Moderate		44+ -severe Scores	
	n	%	n	%	n	%	n	%
Positive	1	11.5	4	40	4	30.8	42	23.7	51	24.4
Negative	2	22.2	3	30	6	46.1	94	53.1	10	50.2
Not tested	6	66.7	3	30	3	23.1	41	23.2	53	25.4
Total	9	100	10	100	13	100	177	100	209	100

x2=10.956 df=6 p= .090

53.1 %(94) were negative and scored severe PTSD scores, followed by those who were positive 23.7 %(42)

There was no statistically significant difference between those who were HIV positive /negative/not applicable

Table 10: Beck's depression inventory scale (BDI)

Becks depression inventory scale (BDI)	**(n)**	**%**
0-13 – Normal	61	29.2
14-17 – Mild	20	9.6
18-27- Moderate	55	26.3
28+ - Severe	73	34.9
Clinically Significant Depression symptoms	**148**	**70.8**
Total	209	100.0

34.9% (73) who responded had 28+severe depression scores and, 26.3 % (55) 18- 27 had moderate while 9.6 %(20) had mild score but 29.2 (61) 0-13 were normal.70.8had significant depression symptoms (mild to severe depression)

Table 11: A Comparison between marital status and Becks depression scores

Variable	Beck's depression inventory Scale (BDI)								Total	
Marital status	0-13 – Normal		14-17 – Mild		18-27- Moderate		28+ - Severe			
Married	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
	17	33.3%	4	7.8%	14	27.5%	16	31.4%	51	100.0%
Single										
	16	34.8%	4	8.7%	11	23.9%	15	32.6%	46	100.0%
Divorced										
	4	20.0%	3	15.0%	8	40.0%	5	25.0%	20	100.0%
Separated										
	9	23.1%	5	12.8%	11	28.2%	143	5.9%	39	100.0%
Widow										
	15	28.3%	4	7.5%	11	20.8%	23	43.4%	53	100.0%
Total										
	61	29.2%	20	9.6%	55	26.3%	73	34.9%	209	100.0%

x^2=7.498; df= 12; p= 0.823

43.4 %(23) of the widowed had severe depression as opposed to 32.6%(15)single and 31.4%(16)married .However there is no significant statistically difference between Beck depression scores and marital status (p>0.05).

Table 12: A Comparison between Known HIV status after the incident and Beck's Depression scores (see also fig 4)

Beck's depression inventory scale (BDI)	Did you know your HIV status after the incident?						Total	
	Positive		Negative		N/A			
0-13 – Normal	22	10.5%	36	17.2%	3	1.4%	61	29.2%
14-17 – Mild	5	2.4%	13	6.2%	2	1.0%	20	9.6%
18-27- Moderate	22	10.5%	33	15.8%	0	.0%	55	26.3%
28+ - Severe	35	16.7%	36	17.2%	2	1.0%	73	34.9%
Total	**84**	**40.2%**	**118**	**56.5%**	**7**	**3.3%**	**209**	**100.0%**

X^2 =8.623 df=6 P= 0 .196

Positive 40.2% (84) negative 56.5 %(118) N/A 3.3 %(7)

There is no statistical significant between those who knew their HIV status and Beck's depression ($p>0.05$).

Table 13: Beck's Suicidality Scale

Suicidal ideation	**(n)**	**%**
0-No Suicidal	189	90.4
1-8suicidal ideation	20	9.6
Total	**209**	**100.0**
Suicidal Plans	**(n)**	**%**
0- No Suicidal Plans	200	95.7
1-13 - Suicidal Plans	9	4.3
Total	**209**	**100.0**
Suicidal Attempts	**(n)**	**%**
0- No Suicidal Attempts	204	97.6
1-3 - Suicidal Attempts	5	2.4
Total	**209**	**100.0**

90.4% (189) clients had no suicidal ideation, 9.6 % (20) had suicidal ideations. 71% (150) had no suicidal plans, 28% (59) had suicidal plans.2.4% (5) had suicidal attempts and 97.6% (204) had no suicidal attempts. Note the contradiction although 90.4% (189) denied having suicidal ideas, when asked about suicidal plans later (suicide in this community is a taboo)

Table 14: Beck anxiety inventory (BAI)

Becks anxiety Inventory	(n)	%
0-21 - Low anxiety	94	45.0
22-35 – Moderate	53	25.4
36+ severe	62	29.7
Total	209	100.0

45.0 % (94) had low anxiety and 29.7% (62) had 36+ severe anxieties while 25.4 % (53)22-35 moderate anxiety.

Table 15: Comparison between Marital status and Becks anxiety inventory scores

Variable name	BECK ANXIETY INVENTORY (BAI)						Total	
Marital status	**0-21 - Low anxiety**		**22-35 – Moderate**		**36+ severe**			
Married	**(n)**	**%**	**(n)**	**%**	**(n)**	**%**	**(n)**	**%**
	19	*37.3%*	*17*	*33.3%*	*15*	*29.4%*	*51*	*100.0%*
Single								
	24	52.2%	6	13.0%	16	34.8%	46	100.0%
Divorced								
	12	60.0%	3	15.0%	5	25.0%	20	100.0%
Separated								
	17	43.6%	12	30.8%	10	25.6%	39	100.0%
Widow								
	22	41.5%	15	28.3%	16	30.2%	53	100.0%
Total								
	94	**45.0%**	**53**	**25.4%**	**2**	**9.7%**	**209**	**100.0%**

x^2=8.647; df= 8; p=0.373

45 %(94) had low anxiety 29.7 % (62) had sever anxiety 25.4% (53) had moderate anxiety. There is no significant statistically difference between Beck's anxiety and marital status **(p>0.05).**

Table 16: Comparison between Known HIV status after the incident and Beck anxiety

BECK 'S ANXIETY INVENTORY (BAI)	Did you know your HIV status after the incident?						Total	
	Positive		Negative		N/A			
	(n)	%	(n)	%	(n)	%	(n)	%
0-21 - Low anxiety	34	16.3%	55	26.3%	5	2.4%	94	45.0%
22-35 – Moderate	25	12.0%	26	12.4%	2	1.0%	53	25.4%
36+ severe	25	12.0%	37	17.7%	0	.0%	62	29.7%
Total	84	40.2%	118	56.5%	0	3.3%	209	100.0%

$X^2 = 4.913$ df=4 P = 0.296

Positive 40.2 % (84) Negative 56.5 % (118) N/A 3.3% (7)

There is no statistically significant differences between those who are positive, those who were negative and those who did not know their status with becks anxiety.

Table 17: Correlations between age and score on PTSD, BDI and BAI scale

		Age	Cut off point of BAI	Cut off point BDI	PTSD
Age	Pearson Correlation	1	-.218(**)	-.175(*)	-.081
	Sig. (2-tailed)	.	.001	.011	.244
	N	209	209	209	209
cut of point of BAI	Pearson Correlation	-.218(**)	1	.708(**)	.254(**)
	Sig. (2-tailed)	.001	.	.000	.000
	N	209	209	209	209
Cut off point BDI	Pearson Correlation	-.175(*)	.708(**)	1	.215(**)
	Sig. (2-tailed)	.011	.000	.	.002
	N	209	209	209	209
PTSD Hyper	Pearson Correlation	-.081	.254(**)	.215(**)	1
	Sig. (2-tailed)	.244	.000	.002	.
	N	209	209	209	209

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

There is a significant statistical difference: between age and BDI and BAI scores ($p=0.011$, $p<0.001$), where age negatively correlated with BDI scores; meaning that the participants who were younger in the study scored high on BDI compared to old participants. There was also a positive correlation between BAI and BDI ($p<0.001$) and PTSD ($p<0.001$); participants who scored high on BAI, also scored high on BDI and PTSD scales.

Table 18: Narrative results on rape perpetrators

Perpetrator	(n)	%
Uniformed officers	74	35.4
Youths	103	49.3
Person Known to survivor	17	8.1
Neighbors	15	7.2
Total	209	100

From the respondent's narratives, this study found out that the rapist was a uniformed officer, a youth, a former cohabiting friend or a person known to them. Majority of the perpetrators used physical force on the survivors. Some received some kind of injuries which were factors that increased the distress.

CHAPTER FIVE

5.0 DISCUSSION

The study found higher prevalence rates than similar studies done locally by Onyacha, which had a prevalence of 74.1% on psychiatric morbidity among sexually abused children. Another study by Kigamwa on psychiatric morbidity among sexually abused females among medical in-patients in KNH found a prevalence morbidity rate of 22% referral rate for psychiatrist attention. A similar study by Ndetei on traumatic experiences of Kenyan secondary students on a sample of 1110 students had a prevalence of 50.5% full PTSD and 34% partial PTSD. This high prevalence rate can be explained in the fact that the study took place during the referendum time in Kenya when people were traumatized. At the time of the interview also, some participants lost their property through a fire that burnt 31 houses in Kibera. This exacerbated and re-traumatized them.

Note that there is a discrepancy in suicidal ideations and plans that is contradicting. Although 90.4% denied having suicidal ideas when asked about suicidal plans, 9.6% had plans and 2.45 had attempted. This can be explained by the fact that suicide is a taboo.

Studies also done in developed world by Kilpatrick and Resnick(2006)on a sample of 1500 women found lifetime conditional rates of PTSD to vary from 10%-39% with higher rates among rape and assault victims. From this study, this high prevalence rate positivity related also to DSM IV –positivity of BDI, BAI, IES inventories as revealed in the results. This confirms that traumatic events that are persistently re-experienced with re -current and intrusive distressing re-collections cause other psychological problems (complications). The findings on BDI scores indicating a presence of depressive disorder among the participants was found to be higher than a study done by Hawton et al (1995) which concluded that at any given point in time 15-20 percent of adults suffer significant levels of depressive symtomatology. The symptoms as indicated by BDI score, again was much higher compared to Hawton et al (1995) who did a study on sexual assault and reported 12% of the subjects experienced depression, severe enough to require treatment at some time in their lives. Scores on anxiety as indicated by the BAI were higher than that of the general population which is at(29.7%).This is similar to a study done by Lee & Young that reported up to 93% of the general population

could be defined as having experienced a traumatic event, yet only 5-12% of the population ever develops PTSD. Unlike Kendall et al (1995) who showed that for various reasons, the vast majority of women with histories of rape did not seek treatment and had several disorders significant in the later days, the Author found out that the participants in this study 78.5% had sought treatment from various health facilities in Nairobi.

5.1 EDUCATION

Many of the survivors had a primary school level of education while few had post primary education. Education in the categories of women had a role to play in seeking for help. Those with secondary education had knowledge of seeking psychological intervention early and therefore reduced psychological symptoms.

5.2 MARITAL STATUS

Majority of the survivors were widows, who had lost the husbands in HIV/AIDS before the violence. The others were the married, the single, the separated and the divorced formed. The marital status has a marginal significant statistics association with risk of depression PTSD and anxiety on the married and the widows.

5.3 POST RAPE CARE

Most survivors attended health care within a period of 72 hours which is a good time for post rape prophylaxis to have a positive effect. Those who attended within 0-72 hours received post exposure rape care and post prophylaxis care. From the study the researcher found out that those who sought medical or psychological help later, did so because they had acquired a sexually transmitted infection. From the study it was found out that many survivors sought help late because they got mixed up when they lost their small scale businesses, homes and property therefore, to them security was a priority to health.

5.4 HIV STATUS INFORMATION

Most respondents were HIV negative, 50.2 % however some did not know their status. From the study the results found out that of those who were positive, 74.6% were widowed through HIV/AIDS and were on ARVS. The study found out that during the period of violence their

ARV drugs were misplaced within the confusion as they moved from one village to the other and they did not maintain compliance for more than two weeks. This is similar to a survey by Byrs (2008)who reported that many survivors had no access to even the most minimal health and psychological support leaving them vulnerable to wide spread trauma.

5.5 LIMITATIONS

The study took place in Woodley City council clinic hence bias against those who did not seek psychological or medical help yet they are in the community. A few survivors especially those who knew their perpetrators were reluctant to participate in the study. About 14.8 percent participants who had high PTSD score experienced another kind of trauma a week before the scheduled interview in a fire that was set by a group of youths following conflict between two youths of different ethnicity, therefore this re-traumatization could have exacerbated the symptoms. This requires consideration when utilizing the results. This is similar to O'Neil et al (2006) who reported that daily stressors particularly interpersonal conflict have robust effects on mood within members of general population and most individuals appear to "bounce back" rather quickly from short-lasting daily stressors with mood returning to usual levels on the day following such stressors.

5.6 CONCLUSION/RECOMMENDATIONS

With evidence of the results from the study, there is a high prevalence rates among the survivors of rape following post election violence 2007 December. There is need for a structured psychological care for this group. Survivors of rape are very sensitive patients that have their own unique needs that need to be met in a structured management. There is need for an establishment of a special centre on gender based violence in Woodley clinic for this group of people in a health facility set up where their privacy and security is guarded. This is similar to Ellsberg and Heise (2002) who reported on violence referral that in areas where specific violence related services are available research teams have developed detailed directories that interviewers can use to make referrals. With the high numbers of PTSD in the study on survivors of rape, there is need for evaluation in the larger population by professional mental health personnel not only on rape but also other factors that cause PTSD, depression and anxieties to people who were affected by post election 2007 December.

5.7 AREAS OF FURTHER STUDY

A longitudinal study on children whose parents were pregnant in the months from November 2007 – May 2008 should be carried to assess the Psycho trauma impact effects from mother to child that could be hidden. Study with control group would compare and confirm the findings in this particular study and with a larger size sample using clinical administered posttraumatic scale (CAPS) for DSM-IV-R to confirm the speculation that rates high in the inventories used. A review of our policies governing psycho trauma interventions in times of social strife should be done with a structured uniformity for all stake holders who deal with psycho trauma in times of social strife.

BUDGET

UNIT	TOTAL Shs.
Pens, pencils rubbers ,note books, 4 A papers .credit cards	32, 500
Lab top computer/printer	150 000
Lunches for researcher and two assistant @500 per day x 20 days	30, 000
Computer work typing and printing of Proposal 12copies	70, 000
Data analysis by SPSS version 11.5	60 000
Printing /binding, final thesis 12 copies	80,000
Traveling cost	30,000
Total budget	**452, 500**

REFERENCES

American, Psychiatric, Association. (2005).*Quick reference to the Diagnostic criteria DSM-IV-TR.* Washington DC: APA

Beck, A. (1979).*Cognitive therapy of depression* .4th edition .The Guilford press: New York

Briere, J. & Scott, C. (2006).*Principles of trauma therapy*: A guide to symptoms evaluation and treatment: Sage publications

Brehm, S., & Kassim, S. (1996).*Social Psychology*. 3rdedition. Mifflin press Company

Caren, A., &Fay, J. (1984). *Attitudes why men and boys have sex*: A reveal why date rape is common today: 4th edition

Doda, A.,& Kirasi.,M.Olumbe et al. (2005).*Concise text and manual of forensic medicine*: Medical law and ethics in east Africa .Independent medico-legal publishers

Ellis, L. (1989). *Theories of rape.* The inquiries into causes of sexual aggression. New York printing press

Ellsberg, M., & Heise L. (2002). *Ethical considerations for researching violence against women*:

Ethical considerations or researching violence against women. A practical guide for researchers and activists WHO.PATH

Everly, Jr., & Lating M.J (1995) *Psychotraumatology:* Key papers and core concepts in post traumatic stress. New York and London: Plenum Press.

Ezra,S. & S.Everly et al (2006). *Psychiatric epidemiology* :Searching for causes of mental disorders .Oxford University press.

Feldman.R.S. (2002). *Understanding psychology:* 6th edition .Mc Graw Hill Press

FIDA, (2008).*Gender based domestic violence in Kenya* .A study of the Coast, Nairobi, Nyanza and western province of Kenya. 2008 publication

Groth, et al (1989) in Charles, M.(1990).*Annotated instructors edition psychology.* An introduction 7th edition .prentice hall Press

Greenberger, &Denis, P.(1995) .*Mind over mood.* Change how you feel by changing the way you think. The Guilford press New York

Hall, G.,&Barongan, C. (1997). *Prevention of sexual aggression*: social cultural risk and protection factors. American psychology

Hawton, K.Sakovskism, Paul.C. et el (1995).*Cognitive behavior therapy, for psychiatric problems. A practical guide*

Heinslin, M.J.(2003).*Sociology.* A down to earth approach. 6th edition. Boston New York Press

Herman, L.J. (1992) *Trauma and recovery*: The aftermath of violence from domestic to political terror. Basic books

International Human rights *report* (2002). Publication

Inger & Skyjelsbaek (1999). *Broken-broken dreams*: violence against women part two.

Kessler, R.C (2000). *Post traumatic stress disorder*: The burden to the individual and to the society. Journal of clinical psychiatry (51)

Kessler (1995).in Biere J. & Scott (2006) .*Principles of trauma therapy*: A guide to Symptoms, evaluation and Treatment: University of Californian. Sage, publications.

Kendall, C.& Hammen C.(1995). *Abnormal psychology:* Houghton Mifflin Company Boston Toronto, Princeton, New Jersey Printed in USA.

Kilpatrick, D. G., Veron, and L.J., & Best, C.L (1992) .*Factors predicting psychological distress among rape victims*: The study and treatment of posttraumatic stress disorder New York: Plenum.

Koch. Douglas & O'Neil, L.M (2006). *Psychological injuries*: Forensic assessment, treatment, and law, Oxford University Press.

Kornblum W (2003) *Sociology in changing world* .6th edition, Thomson wads worth press.

Koss, M.P. (1985). *The hidden rape Victim*: Personality attitudes and situational characteristics. Psychology of women quarterly Report.

Koss M.P, Gidycz, C.A., & Wisniewski, N, (1987). The *scope of rape*: Incident and prevalence of sexual aggression and victimization in national sample of higher education student's a journal of consulting & clinical psychology

Sexual aggression and victimization in national sample of higher education student's .A journal of consulting &Clinical psychology

Koss et al (1987) in Rathus, A.S (1998) *Psychology and challenges of life*: Adjustment growth 4th edition Holtrinehart and Winston Lisa, 2008 reports for VOA Geneva

Majitenyi 15 May 2009. *Daily Nation*. All Africa.Com

Myer B.M (1987) in Rathus.S.A. (2004) *Psychology:* concepts and connections brief version Belmont Thomson Wardswoth

Population council *report* 2007

Rathus S.A, Nevid S.J (1989).*Psychology and challenges of life:* Adjustment and growth 4th edition Holt Rinehart and Winston

Ryder V (1990) Contemporary living .family life education consultant .The good heart –Wilcox Company

Ryder V (1985).*Parents and their children:* Family life education consultant .the good heart – Wilcox Company

Rathus et al. (1989).*Psychology and the challenges of life adjustment and growth.* Holt Richart and Winston 4th edition

SimonsA.J .Kalichman S. Santrock W J. (1994).*Human adjustment:* Brown Benchmark

Shepard.M.J (1996*).Sociology:* 6th edition West publishing company

Shives, l.R. (1990).*Basic concepts of psychiatric*: Mental health nursing. 2nd edition Philadelphia J.B Lippincot Company

The Kenya sexual offences Bill (2006).*A bill enacted by parliament of Kenya.*

UNHCR,(2006).T*he state of the world's refugee's human displacement in the new millennium.* Oxford University

UNFPA. (2004) *National guidelines*; Medical management of rape and sexual violence

Ursano R J Bell C Benedek M. et al (2004).*American psychiatric association practice guidelines.* Practice guideline for the treatment of patients with acute stress disorder and post traumatic stress disorder. Work group on ASD and PTSD

World Health Organization, http;//wikipedia.org/wiki//sexual violence UNICEF (1996) *the state of the world's children report*

Veronique .T. (2008) UNICEF report
www.amnesty.org uk/news.details.International country report. South Africa

www.Voanews.com/english/2009-05-voa27cfm
Ward, A. C (1995) *Attitudes towards rape feminist and social psychological perspectives.* Sage publications

White Thornton.L.W.,Silberman.L, Anderson P.R (1948).*Nairobi Master plans for colonial capital London.* His, Majesty stationery office.

Whybrow, Peter et al (1984).*Towards a new psychobiology:* Plenum Press New York

Zurbriggen. E. L. (2000) *Social motives and cognitive power*; predictors of aggressive sexual behavior .A journal of personality and social psychology

APPENDICES

Appendix I

Consent explanation

My name is Immacolata Nyaga, a master's student in clinical psychology at the department of psychiatry of the University of Nairobi. I am collecting data on the prevalence of PTSD, depression and anxiety and its relationship with 2007 post election. The study forms part of the requirement for the award of the degree and study is trying to find out how big the problem is, then recommend for intervention. I am therefore requesting you to kindly participate in this study. The study may cause some discomfort because it will remind you of some undesirable feelings and reactions due to painful experiences you went through. Confidentiality will highly be observed. The information gathered will be kept confidential as allowed by the ethical laws. To participate in this study please note that your consent is voluntary and you may withdraw from the study at any time without any penalty. After you read the explanations you may ask any questions that are not clear to you.

Consent form

I, the undersigned do hereby volunteer to participate in this study. The nature and purpose of the study have been explained by Immacolata Nyaga

I understand that all information gathered will be used for the purpose of this study only.

Signature----------Date----------serial no----------

Appendix II

Social demographic profile

Serial No

Age----------

Number of years of formal education----------

Occupation----------

Residential Village during the attack----------

Current residential village----------

Marital status

Married ( ) Single ( ) Divorced ( ) Separated ( ) Widow ( )

Post rape care information

1. Did you attend a health care after the incident?
2. If yes
3. How many hours after the rape incident .....
4. Did you know your HIV status before the incident .....

If yes

Positive ( )

Negative ( )

5. Did you receive post exposure prophylaxis (PEP)
6. Did you receive post rape care (PRC?)

APPENDIX III

IMPACT OF EVENT SCALE-REVISED

INSTRUCTIONS: Below is a list of comments made by people after stressful life events. Please check each item, indicating how frequently these comments were true for you **DURING THE PAST SEVEN DAYS** with respect to the event. If they did not occur during that time, please mark the "not at all" column.

	The perpetrator if known	Not at all	Yes in the past 1 week	Yes but in the last on month	Yes but not in last month	Rarely	Some-times	Often
1.	Any reminder brought back feelings about it							
2.	I had trouble staying asleep							
3.	Other things kept making me think about it							
4.	I felt irritable and angry.							
5.	I avoided letting myself get upset when I thought about it or was reminded of it.							
6.	I thought about it when I didn't mean to							
7.	I felt as if it hadn't happened or wasn't real.							
8.	I stayed away from reminders about it.							
9.	Pictures about it popped into my mind.							
10.	I was jumpy and easily started.							
11.	I tried not to think about it.							
12.	I was aware that I still had a lot of feelings about it, but I didn't deal with them.							
13.	My feelings about it were kind of numb							
14.	I found myself acting or feeling like I was back at that time. I had trouble falling asleep.							
15.	I had waves of strong feelings about it.							
16.	I tried to remove it from my memory							
17.	I had trouble concentrating.							
18.	Reminders of it caused me to have physical Reactions such as sweating, trouble breathing, nausea, or a pounding heart.							
19.	I had dreams about it.							
20.	I felt watchful and on-guard.							
21.	I tried not to talk about it.							

Impact of Event Scale-Revised scoring Information

Intrusion Subscale=sum of items 1, 2, 3,6,9,16,20 (score 0-28)

Avoidance Subscale=sum of items 5,7,8,11,12,13,17,22 (score 0-32)

Hyper-arousal Subscale=sum of items 4,10,14,15,18,19,21 (score 0-28)

Total stress score

Intrusion subscale +avoidance subscale+ hyper-arousal subscale= 28+32+28= 88

0-8 sub-clinical range
9-25 mild range
Moderate range

44+ severe ranges

APPENDIX IV

BECK'S INVENTORY TESTS

Section 1: (BECK'S DEPRESSION INVENTORY Scale (BDI)

Now I would like to ask you about your feelings. Some people feel sad, some people feel happy and some people have feelings somewhere in the middle. [SHOW VISUAL ANALOGUE SCALE OF FACES WITH FEELINGS] It is normal to feel all of these feelings. Please tell me honestly which statement in each group best describes the way you have been feeling during the past two weeks, including today.

The first groups of statements are about …

1. **Sadness**

   I do not feel sad..... 0

   I feel sad much of the time.....1

   I am sad all of the time.....2

   I am so sad or unhappy that I can't stand it----------3

   DK..... 7

   Refused..... 8

The next statements are about REPEAT THIS LEAD IN FOR ALL GROUPS]

2. **Pessimism**

   I am not discouraged about my future 0

   I feel more discouraged about my future than I used to be. 1

   I do not expect things to work out for me 2

   I feel my future is hopeless and will only get worse 3

   DK..... 7

   Refused..... 8

3. **Past Failure**

I do not feel like a fail.....0

I have failed more than I should have 1

As I look back, I see a lot of failure..... ..2

I feel I am a total failure as a person.....3

DK.....7

Refused.....8

4. **Loss of Pleasure**

I get as much pleasure as I ever did from the things I enjoy ...0

I do not enjoy things as much as I used to 1

I get very little pleasure from the things I used to enjoy 2

I can not get any pleasure from the things I used to enjoy 3

DK.....7

Refused.....8

5. **Guilty Feelings**

I do not feel particularly guilty.....0

I feel guilty over many things I have done or should have done 1

I feel quite guilty most of the time.....2

I feel guilty all of the time..... 3

DK.....7

Refused 8

6. **Punishment Feelings**

I do not feel I am being punished.....0

I feel I am being punished.....1

I expect to be punished.....2

I feel I am being punished.....3

DK..... 7

Refused.....8

7. Self -Dislike

I feel the same about myself as ever-.....0

I have lost confidence in myself..... 1

I am disappointed in myself..... 2

I dislike myself..... 3

DK..... 7

Refused.....8

8. Self-Criticalness

I do not criticize or blame myself more than usual.....0

I am more critical of myself than I used to be.....1

I criticize myself for all of my faults.....2

I blame myself for everything bad that happens.....3

DK.....7

Refused.....8

9. Suicidal Thoughts

I do not have any thoughts of killing myself 0

I have thoughts of killing myself, but I would not carry them out 1

I would like to kill myself 2

I would kill myself if I had the chance 3

DK..... 7

Refused.....8

10. Crying

I don't cry anymore than I used to.....0

I cry more than I used to.....1

I cry over every little thin.....2

I feel like crying, but I cannot cry.....3

DK.....7

Refused..... 8

11. Agitation

I am not more restless or wound up than usual	0
I feel more restless or wound up than usual	1
I am so restless or agitated that it is hard to stay still	2
I am so restless or agitated that I have to keep moving or doing something	3
DK	7
Refused	8

12. Loss of Interest

I have not lost interest in other people or activities	0
I am less interested in other people or things than before	1
I have lost most of my interest in other people or things	2
It is hard to get interested in anything	3
DK	7
Refused	8

13. Indecisiveness

I make decisions about as well as ever	0
I find it more difficult to make decisions than usual	1
I have much greater difficulty in making decisions than I used to	2
I have trouble making any decisions	3
DK	7
Refused	8

14. Worthlessness

I do not feel I am worthless	0
I do not consider myself as worthwhile and useful as I used to	1
I feel more worthless as compared to other people	2
I feel utterly worthless	3
DK	7
Refused	8

15. Loss of Energy

I have as much energy as ever..... 0

I have less energy than I used to have 1

I do not have enough energy to do very much..... 2

I do not have enough energy to do anything 3

DK..... 7

Refused..... 8

16. Changes in Sleeping Pattern

I have not experienced any change in my sleeping pattern 0

I sleep somewhat more than usual 1a

I sleep somewhat less than usual 1b

I sleep a lot more than usual 2a

I sleep a lot less than usual 2b

I sleep most of the day 3a

I wake up 1-2 hours early and can't get back to sleep 3b

DK..... 7

Refused..... 8

17. Irritability

I am no more irritable than usual 0

I am more irritable than usual 1

I am much more irritable than usual 2

I am irritable all the time..... 3

DK..... 7

Refused..... 8

18. Changes in Appetite

I have not experienced any change in my appetite 0

My appetite is somewhat less than usual 1a

My appetite is somewhat greater than usual 1b

My appetite is much less than before 2a

My appetite is much greater than usual 2b

I have no appetite at all 3a

I crave food all the time 3b

DK..... 7

Refused..... 8

19. Concentration

I can concentrate as well as ever .. 0

I can not concentrate as well as usual ... 1

It is hard to keep my mind on anything for very long ... 2

I am irritable all the time 3

DK..... 7

Refused..... 8

20. Tiredness or Fatigue

I am no more tired or fatigued than usual 0

I get more tired or fatigued more easily than usual 1

I am too tired or fatigued to do a lot of the things I used to do 2

I am too tired or fatigued to do most of the things I used to do 3

DK..... 7

Refused.....

21. Loss of Interest in Sex

I have not noticed any recent change in my interest in sex 0

I am less interested in sex than I used to be 1

I am much less interested in sex now 2

I have lost interest in sex completely 3

DK..... 7

Refused..... 8

APPENDIX V

Section 2: BECK'S SUICIDALITY SCALE (BSS) AND HOPELESSNESS SCALE

Please carefully read each group of statements below. Circle the one statement in each group that best describes how you have been feeling for the past week, Including today. Be sure to read all of the statements in each group before making a choice.

BSS A

1.	I have a moderate to strong wish to live. I have a weak wish to live. I have no wish to live.	6	I have brief periods of thinking about killing myself which p ass quickly. I have periods of thinking about killing myself which last for moderate amounts of time. I have long periods of thinking about killing myself.
2.	I have no wish to die. I have a weak wish to die. I have a moderate to strong wish to die.	7.	I rarely or only occasionally think about killing myself. I have frequent thoughts about killing myself, I continuously think about killing myself.
3.	My reasons for living outweigh my reasons for dying. My reasons for living or dying are about equal. My reasons for dying outweigh my reasons for living.	8.	I do not accept the idea of killing myself. I neither accept nor reject the idea of killing myself. I accept the idea of killing myself.
4	I have no desire to kill myself. I have a weak desire to kill myself. I have a moderate to strong desire to kill myself.	9.	I can keep myself from committing suicide. I am unsure that I can keep myself from committing suicide. I cannot keep myself from committing

			suicide.
5	I would try to save my life if I found myself in a life-threatening situation I would take a chance on life or death if I found myself in a life-threatening situation I would not take the steps necessary to avoid death if I found myself in a life-threatening situation.	1 0.	I would not kill myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc. I am somewhat concerned about killing myself because of my family, friends, religion, possible injury from an unsuccessful attempt, etc. I am not or only a little concerned about killing myself because of my family, friends, religion, possible injury from 0. an unsuccessful attempt, etc.
	If you have circled the zero (0) statements in both Groups 4 and 5 above, then skip down to Group 20. If you have marked a 1 or 2 in either Group 4 or 5, then open here and go to Group 6.	1 1.	My reasons for wanting to commit suicide are primarily aimed at influencing other people, such as getting even with people, making people happier, making people pay attention to me, etc. My reasons for wanting to commit suicide are not only aimed at influencing other people, but also represent a 0. way of solving my problems. My reasons for wanting to commit suicide are primarily based upon escaping from my problems.
12.	I have no specific plan about how to kill myself.	1 7.	I have not written a suicide note. I have thought about writing a suicide note or have started to write one, but have not completed it.

	I have considered ways of killing myself, but have not worked out the details. I have a specific plan for killing myself.		I have completed a suicide note:
13.	I do not have access to a method or an opportunity to kill myself. The method that I would use for committing suicide takes time, and I really do not have a good opportunity to use this method. I have access or anticipate having access to the method that I would choose for killing myself and also have or shall have the opportunity to use it.	1 8.	I have made no arrangements for what will happen after I have committed suicide. I have thought about making some arrangements for what will happen after I have committed suicide. I have made definite arrangements for what will happen after I have committed suicide.
14.	I do not have the courage or the ability to commit suicide. I am unsure that I have the courage or the ability to commit suicide. I have the courage and the ability to commit suicide.	1 9.	I have not hidden my desire to kill myself from people. I have held back telling people about wanting to kill myself. I have attempted to hide, conceal, or lie about wanting to commit suicide.
15.	I do not expect to make a suicide attempt. I am unsure that I shall make a suicide attempt. I am sure that I shall make a suicide attempt.	2 0.	I have never attempted suicide. I have attempted suicide once. I have attempted suicide two or more limes. If you have previously attempted suicide, please continue with the next statement group.

APPENDIX VI

Section 3: BECK ANXIETY INVENTORY (BAI)

I would like to ask you some different questions about how you have been feeling. Please listen to each group of statements carefully, look at the choices on this card [SHOW CARD], and then tell me which statement from the card best describes the way you have been feeling during the past two weeks, including today.

[CARD]

0 = Not At All

1 = Mildly - but it did not bother me much.

Not At All

2 = Moderately - it was not pleasant at times

3 = Severely – it bothered me a lot

1. Numbness or tingling

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

2. Feeling hot

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

3. Wobbliness in legs

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

4. Unable to relax

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

5. Fear of the worst happening

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

6. Dizzy or lightheaded

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

7. Heart pounding/racing

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

8. Unsteady

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

9. Terrified

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

10. Nervous

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	

11. Feeling of choking

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

12. Hands trembling

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

13. Shaky

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

14. Fear of losing control

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	

15. Difficulty breathing

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

16. Fear of dying

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

17. Scared

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	8

18. Indigestion or discomfort in abdomen

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

19. Faint

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

20. Face flushed

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

21. Sweating (not due to heat)

Not At All	0
Mildly but it did not bother me much	1
Moderately - it was not pleasant at times	2
Severely – it bothered me a lot	3
DK	7
Refused	8

22. Is there anything else that you feel or think about that is bothering you?

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123.
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: NCST/RR1/12/1/MAS/101/3

Date: 20th May 2010

Ms. Immacolata Mathiga Nyaga
University of Nairobi
P. O. Box 30197
NAIROBI

Dear Madam,

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Prevalence of PTSD, Depression and other anxiety symptoms among female survivors of rape following post election violence 2007 Nairobi, Kenya"*** I am pleased to inform you that you have been authorized to undertake your research in ***Nairobi Province*** for a period ending ***31st December, 2010.***

You are advised to report to **the Provincial Commissioner, the Provincial Director of Education and the Medical Officer of Health, Nairobi Province** before embarking on your research project.

Upon completion of your research project, you are expected to submit two copies of your research report/thesis to our office.

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The Provincial Commissioner
Nairobi Province

KENYATTA NATIONAL HOSPITAL
Hospital Rd. along, Ngong Rd.
P.O. Box 20723, Nairobi.
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP", Nairobi.
Email: KNHplan@Ken.Healthnet.org

Ref: KNH-ERC/ A/441

30th March 2010

KENYATTA NATIONAL HOSPITAL
APPROVED
30 MAR 2010
ETHICS & RESEARCH COMMITTEE

Nyaga Immacolata M.
Dept. of Psychiatry
School of Medicine
University of Nairobi

Dear Immacolata

RESEARCH PROPOSAL: "PREVALENCE OF PTSD, DEPRESSION AND OTHER ANXIETY SYMPTOMS AMONG FEMALE SURVIVORS OF RAPE FOLLOWING POST ELECTION VIOLENCE 2007 NAIROBI, KENYA" (P368/12/2009)

This is to inform you that the KNH/UON-Ethics & Research Committee has reviewed and **approved** your above revised research proposal for the period 30th March 2010 29th March 2011.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the deadline given Clearance for export of biological specimens must also be obtained from KNH/UON-Ethics & Research Committee for each batch.

On behalf of the Committee, I wish you a fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of the data base that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely

DR. L. W. MUCHIRI
AG. SECRETARY, KNH/UON-ERC

c.c. Prof. K. M. Bhatt, Chairperson, KNH/UON-ERC
The Deputy Director CS, KNH
The Dean, School of Medicine, UON
The Chairman, Dept. of Psychiatry, UON
The HOD, Records, KNH
Supervisors: Dr Muthoni Mathai,Dept.of Psychiatry, UON
Dr. Lincoln Khasakhala, Dept of Psychiatry, UON

CITY COUNCIL OF NAIROBI

TOWN CLERK
TELEGRAM:"MUNICIPALITY"NAIROBI
TELEPHONE: 224282

EXT 2387

CITY HALL
P. O. BOX 30075
NAIROBI
KENYA

DEPARTMENT OF HUMAN RESOURCES MANAGEMENT

Ref: CCN/HRM/22/VOL III/6946/10

Date: 17TH MAY 2010

IMMaculata M. Nyaga
University of Nairobi
P.O Box 30197
NAIROBI

RE: RESEARCH

Reference is hereby made to your research letter dated 16/04/2010 on the above subject.

The City Council of Nairobi has approved your request subject to the following:-

1. The period of research will be three (6) months w.e.f. 24/05/2010 to 20/12/2010.
2. You will be attached to the Public Health Department
3. You are expected to adhere to the rules and regulations pertaining to your research.
4. That during your study there will be no cost devolving on the Council.
5. That you undertake to indemnify the Council against any claim that may arise from your research.
6. You are expected to be decently dressed at all times;
7. You are required to submit a copy of the final research document within three (3) ~~weeks~~/month after completion.

CITY COUNCIL OF NAIROBI

SHAURI KWA WANANCHI

MEDICAL OFFICER OF HEALTH
TEL: 2224281/2219849/2218119/2219432/
2210382/2224292/91 Ext. 2390
D/L: 2248316
Website: Citycouncilofnairobi.go.ke

P.O BOX 30108-00100
CITY HALL
NAIROBI.

PUBLIC HEALTH DEPARTMENT

PHD/MOH/R.1 VOL.1 (77)/10

27TH MAY, 2010.

NYAGA IMMACOLATA M. (F05-05292)
UNIVERSITY OF NAIROBI
P O BOX 30197
NAIROBI

RE: REQUEST FOR AUTHORITY TO CARRY OUT RESEARCH ON PREVALENCE OF PTSD IN DEPRESSION & OTHER ANXIETY SYPMTOTS FEMALE SURVIVORS OF RAPE FOLLOWING ELECTION VIOLENCE 2007, IN NAIROBI PROVINCE.

Reference is made to the above subject matter.

I write to inform you that permission is granted but the following shall apply during your period of research.

- The period of research will be (6) six months w.e.f. 24th May, 2010 to 20th December, 2010.
- Payment of K.shs.5, 000 (Five thousand shillings only) research fee.
- You will be expected to adhere to the rules and regulations pertaining to the City Council of Nairobi.
- That during your research there will be no cost devolving to the Council.
- That you undertake to indemnify the Council against any claim that may arise from the research.
- A copy of the research findings must be submitted to the office of the undersigned.
- You will operate from Woodly Clinic, Dagoretti District.

By a copy of this letter the DMOH's Dagoretti and Langata are requested to accord you the necessary assistance.

Dr. R. K. Ayisi HSC

DR. ROBERT K. AYISI, HSC
MEDICAL OFFICER OF HEALTH
/tn

C.C. - Langata & Dagoretti District