



KNOWLEDGE, ATTITUDES AND PRACTICES: A STUDY  
ON MULTIPLE CONCURRENT  
SEXUAL PARTNERS AMONG MEMBERS OF 262  
BATTALION, MPACHA BASE, KATIMA MULILO,  
NAMIBIA

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**ABSTRACT**

HIV/AIDS is currently one of the most dangerous threats to human development in Namibia and it represents the leading cause of deaths among young adults. According to the United Nations Themes for HIV/AIDS (2010), Namibia ranks as one of the four most affected countries in the world, while Katima Mulilo had the highest HIV prevalence rate of 37.7 %, 2012 Sentinel Survey (MoHSS, 2012).

This study explored the sexual behaviour, knowledge, attitude and practices of the members stationed at the 262 Battalion, Mpacha Base, which is about 20 km from Katima Mulilo. The Jaipur Paradigm was used as the study's theoretical framework and was used to explore the vulnerability and susceptibility of the members of 262 Battalion by investigating the soldiers' attitudes and practices with regard to condom and contraceptive use; as well as multiple concurrent sexual partners through structured and semi-structured interviews.

In conclusion, the study addressed the level of understanding and awareness of the contributory causes of HIV/AIDS covering issues like knowledge, high risk behaviour and attitudes. The study recommends an increase in the level of understanding and awareness of the causes of HIV/AIDS through information, education and communication (IEC) campaigns and a need to develop and adopt the most relevant interventions to control the risky behaviour and misconceptions about

the contributory causes of HIV/AIDS by adopting policies aimed at improving health equality and social cohesion.

Finally, the NDF should consider combating disassortative mixing and high soldier mobility; by revising the current regimental base system, which does not cater for family or married quarters. As family quarters will improve the military bases' social cohesion, which is associated with informal sociability and the existence of a vivid community organizational life. As such, socially cohesive military bases will lead to low epidemic growth rates and a plateau of low HIV-prevalence.

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**ABBREVIATIONS AND ACRONYMS**

<b>262 BN</b>	A Military unit based at Katima Mulilo's Mpacha Base
<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ANC</b>	Antenatal Clinic
<b>ANOVA</b>	Analysis of Variance
<b>ARVs</b>	Anti RetroVirals
<b>BN</b>	Battalion
<b>HIV</b>	Human Immunodeficiency Virus
<b>HSS</b>	(the biennial national) HIV Sentinel Survey
<b>IEC</b>	Information, Education and Communication
<b>KAP</b>	Knowledge, Attitude and Practices
<b>MOHSS</b>	Ministry of health and Social Services
<b>NDF</b>	Namibia Defence Force
<b>NDHS</b>	Namibia Demographic and Health Survey
<b>PLWHA</b>	People Living with HIV/AIDS
<b>SADC</b>	Southern Africa Development Community
<b>STD</b>	Sexual Transmitted Diseases
<b>STIs</b>	Sexually Transmitted Infections
<b>UNAIDS</b>	Joint United Nations Programme on HIV/AIDS
<b>VCT</b>	Voluntary Counseling and Testing

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## **DEDICATION**

This research is dedicated to my wife, Mavis and my children, Nita, Lisa, Handel, Moono, Precious, Manga and Richard whose presence motivated me to work hard. I believe this dedication will help them emulate me and motivate them to reach greater heights in their studies, as the saying goes: “Education is Power”. So to them I say let my work inspire you to be the best you can be.

## **DECLARATION**

I, Mumba Thaddeus Mahela, hereby declare that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any other institutions of higher learning.

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Mumba Thaddeus Mahela

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Date

## **CHAPTER 1**

### **ORIENTATION TO THE STUDY**

#### **1.1. BACKGROUND**

Human Immuno-Deficiency Virus (HIV) /Acquired Immuno-Deficiency Syndrome (AIDS) pandemic is increasingly recognized as more than a health crisis. The socio-economic impact of the pandemic in Southern Africa has enormous consequences for human security. In 2004, an estimated 3.1 million people in the region became infected, while 2.3 million died of AIDS. Among young people aged 15 – 24 years, an estimated 6.9 % of women and 2.2% of men were living with HIV/AIDS at the end of 2004 (Whiteside 2006, p.10).

According to the National HIV sentinel survey (MoHSS, 2012), HIV prevalence amongst pregnant women attending antenatal clinic was 4.2% in 1999, increasing to 22% in 2002 and in 2012 the rate was 18.2 %. This provides an indication of infecting rates in the general adult population, with the highest rates amongst Namibians who are in their economically productive years (MoHSS, 2006; MoHSS, 2012).

HIV/AIDS, while continuing to be an important health issue, has evolved into a complex socio-economic emergency. HIV/AIDS primarily affects young adults, cutting a broad path through society's most productive layer and destroying a

generation of parents, whose death leaves behind orphans, dissocialized youth and child-headed households.

HIV/AIDS has a significant impact on the more educated and skilled segments of society because HIV/AIDS primarily infects productive young adults and the elderly. The stigma attached to HIV/AIDS adds to the obstacles encountered in mounting a response to AIDS, in addition to the discrimination already faced by infected individuals, it also increases social and economic vulnerability among women.

According to a concept paper prepared by the Centre for Conflict Resolution (CCR) of February 2006, HIV/AIDS was responsible for the deaths of approximately 500,000 people every year in Southern Africa (CCR, 2006, p.2). This figure however according to UNAIDS (2013) has since dramatically declined with 50% decline in HIV related deaths in Namibia from an estimate 9300 in 2001 to 5000 in 2012 (UNAIDS,2013, p.139)

The rationale of this study is to highlight and review literature, current practices, level of understanding and awareness with regard to multiple concurrent sexual partners in the Namibian Defence Force: 262 Battalion. The absence of conclusive statistics presents difficulties in assessing the extent to which HIV/AIDS has affected militaries in Southern Africa (CCR, 2006, p.2). However, with a prevalence rate of between 5 and 20 percent among the population of many SADC countries, it follows that the impact of HIV/AIDS on military personnel is high since

this group comprises the population most at risk behaviour of contracting HIV/AIDS (CCR, 2006, p.2; UNAIDS, 2013).

“By December 2003 over 100,000 HIV/AIDS cases were (officially) reported in Namibia by then, former deputy and now Health Minister Dr. Richard Kamwi who told the crowd assembled around the condom during the condom day on 24 November 2004 in Windhoek that, although the figures were extreme, it should be noted that it is only the tip of the iceberg” (IRIN Africa, 2004).

According to the United Nations (2010), Namibia ranks as one of the four most affected countries in the world (together with Botswana, Zimbabwe and Swaziland) with twenty percent of the adult population in the age of 15 – 49 years already HIV infected meaning, about 90% of those in the Namibian Defence Force fall within this age group.

Rupiya (2006) further mentioned that, a commitment by Southern Africa Development Community (SADC's) organ on politics, Defence and Security to finally recognize HIV/AIDS as an issue could turn the armed forces into “change agents” within wider society, while the Regions Armed forces test for HIV/AIDS. According to Rupiya (2006) SADC countries did not have the capacity to provide counseling services, improved nutrition and home- based care for their HIV/AIDS positive soldiers. With the military now more willing to open up about their HIV/AIDS status; policies could now be put in place to support the SADC military personnel in the fight against HIV/AIDS.

A staggering seven out of ten military deaths in South Africa are HIV/AIDS – related, according to government reports released in 2002. Uganda’s Defence force lost more soldiers to HIV/AIDS than to fighting in two decades of their war against the Lord’s Resistance Army. In Zambia, HIV/AIDS related illnesses have killed more military personnel since 1990’s compared to all its military operations combined (Rupiya, 2006).

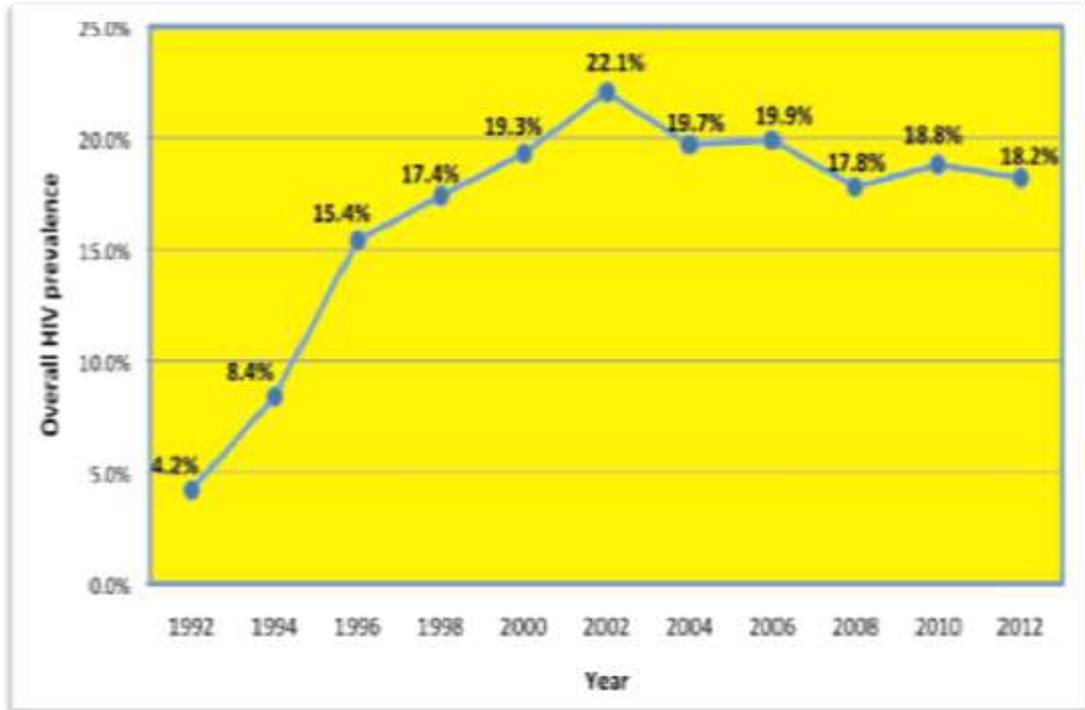
In August 2000, the Ministry of Defence of the Republic of Namibia initiated contacts with the Civil-Military Alliance to combat HIV/AIDS by holding Policy seminars to review the HIV/AIDS Policy of the Namibian Defence Force as part of the policy initiatives in trying to combat the further spread of HIV/AIDS in the Namibian Defence Force. The nature of work in a Defence force requires mental and physical fitness of which, HIV/AIDS reduces both and affects the readiness of military personnel affected for action.

An analysis of the above mentioned observations prompts issues and questions, which need to be resolved. This thesis intends to explore ways to manage HIV/AIDS in the Namibian Defence force, a case of the 262 Battalion as the first created unit of the Namibian Defence force. The thesis also aims to make recommendations to policy makers, programme coordinators and unit commanders dealing with HIV/AIDS Prevention in the Namibian Defence force.

The 2012 National HIV/AIDS Sentinel Survey was conducted in all of the 34 health districts in Namibia. A total of 8459 pregnant women attending Antenatal Clinics participated. Unlinked anonymous blood samples were collected from March 22 to September 6, 2010 and tested for HIV antibodies at Namibia institute of pathology in Windhoek. Data from other HIV/AIDS intervention programmes were also analyzed and triangulated with the sentinel surveillance to be 18.2% with a range from 9.6 % in Windhoek Central to 37.7% in Katima Mulilo.

HIV/AIDS in Namibia is primarily spread through heterosexual transmission. The epidemic curve of HIV/AIDS in Namibia is based on Antenatal Clinic prevalence data. Since 1992, the spread of HIV/AIDS infection continued to rise in the country, from the first sentinel surveillance in 1992 where the HIV/AIDS prevalence was 4.2%, the prevalence rose to 22% in 2002 with a first observed decline to 19.7% in 2004 and a progressive decline in 2008 at 17.8% as shown in Figure 1.1 below (MoHSS, 2012, p.1).

**Figure 1.1 HIV/AIDS Prevalence Rate in Pregnant Women, Bi-Annual Surveys 1992-2012, Namibia**



*Source: MoHSS, 2012, p.14.*

HIV/AIDS emerged in the 1980's as the most terrifying epidemic of our time. The National Policy on HIV/AIDS approved by the National Assembly on the 14<sup>th</sup> March 2007 amongst its five broad strategies calls for the “strengthening and expanding the capacity for local responses to mitigate Socio-Economic impacts of HIV/AIDS. Furthermore, one of the National Policy on HIV/AIDS objectives states that, all sectors of Government must ensure the provision of high quality services along the prevention, treatment and care continuum” (MoHSS, 2012, p.14).

The Namibian HIV/AIDS Charter of Rights (Legal Center, 2000) sets out the basic rights which all people should enjoy and not be denied to persons affected by

HIV/AIDS, as well as certain duties e.g. “the equal protection of the Law and equal access to Public and Private Facilities and benefits”.

Despite the decline noticed in the 2008 exercise, the 2010 survey report demonstrated that HIV/AIDS infection was still widespread throughout Namibia and increasing among some age groups.

## **1.2. STATEMENT OF THE PROBLEM**

HIV/AIDS is currently one of the most dangerous threats to human development in Namibia and it represents the leading cause of deaths among young adults. Despite the high HIV/AIDS prevalence rates reported by the 2012 Sentinel Survey, and in spite of the fact that Namibia has been concerned with impact of HIV/AIDS through policies and strategies. There has been little study of HIV/AIDS among members of the Defense Forces in Namibia and a lack of focus on HIV/AIDS in the Namibian Military, notwithstanding the fact that males of the Namibian Defence Force are blamed as perpetrators to the spread of HIV in country.

This study therefore looks at the members of 262 Battalion deployed at Katima Mulilo because according to the 2012 National HIV/AIDS Sentinel Survey conducted in all of the 34 health Districts in Namibia, Katima Mulilo recorded the highest prevalence rates in the country.

This study explores sexual behaviour; knowledge, attitude and practices with members of 262 Battalion taking into account their specific contexts of mobility, isolation and being among communities where they have greater economic and political power. In the end the research is geared on supportive positive knowledge, attitude and practices resulting in reduced risk of HIV infection and an improved environment for an effective HIV/AIDS response.

### **1.3. PURPOSE AND OBJECTIVES OF THE STUDY**

The purpose of the study is to explore sexual behaviour, knowledge attitude and practices within members of 262 Battalion.

The information reproduced here is specific to the NDF's 262 Battalion members based at Katima Mulilo, an important factor for providing important baseline information for HIV programmes in the work place.

### **1.4. OBJECTIVES**

The objectives of this study are:

- To examine the level of understanding and awareness (knowledge) of the contributory causes of HIV/AIDS in the Namibian Defence Force's 262 Battalion.
- To explore soldiers' attitudes and practices with regard to multiple concurrent sexual partners among the NDF' 262 Battalion members.

## **1.5. SIGNIFICANCE OF THE STUDY**

Aside from contributing to building a body of information about the knowledge, attitude and practices study on multiple concurrent sexual partners among members of 262 Battalion at Mpacha base, Katima Mulilo, this study will also provide information that can be used to support policy lobbying, networking and empowerment in this sector. This study will also provide useful information about the members of 262 Battalion, their sexual behaviour, knowledge, attitude and practices, which should be helpful for planning, strengthening or initiating HIV prevention programmes at the work place. The study effectively provides a departure point for policy initiation and formulation in the area of HIV/AIDS within the Namibian Defence force.

The information produced here is specific to members of 262 Battalion at Mpacha, Katima Mulilo, and an important factor for providing important baseline information to “Namibianize” programmes in the workplace.

## **1.6. LIMITATIONS OF THE STUDY**

The study is constrained by the following:

- Time and financial factors, which limited the researcher to conduct an in-depth study and physically arrange discussions with senior officers and policy makers in the area of managing HIV/AIDS in the Namibian Defence Force.
- Time allocated for the different stages in the research was inadequate.
- Lack of adequate funds to cater for all the activities of the study

## **1.7. DEFINITION OF KEY TERMS**

### **1.7.1 Information**

Information refers to data that is processed to bring forth meaningful information that can be used to acquire knowledge. This information is then ready for dissemination.

### **1.7.2 Knowledge**

For the purposes of this research, knowledge is defined as “the fact or condition of knowing something with familiarity gained through experience or association” (Webster’s Dictionary-online, 2009) knowledge includes the facts, skills and understanding that one gains through learning.

### **1.7.3 Attitudes**

Baron and Byrne (1984, p 126) define attitudes as, relatively lasting clusters of feelings, beliefs, and behaviour tendencies directed towards specific persons, idea, objects or groups”. This implies that an attitude is either positive or negative of course; people hold different attitudes towards HIV/AIDS.

### **1.7.4 HIV/AIDS**

HIV/AIDS is the acronym for Human Immune Virus and Acquired Immunodeficiency Syndrome. HIV is the virus that causes AIDS. It destroys and

attacks the body's immune system. AIDS is the end-product of HIV (Kalichman, 2003).

#### **1.7.5 Sexual Partner**

Sexual partners are people who engage in sexual activity together. The sexual partners may be in a committed relationship, either on an exclusive basis or not, or engage in the sexual activity on a casual basis. They may be on intimate terms as "lovers" or anonymous, as in the case of sex with a stranger, a one night stand, or a prostitute (SIAPAC, 2004).

#### **1.7.6 Multiple Concurrent Partners**

Multiple concurrent partners is having more than one sexual partner at a time, or moving from one sexual relationship quickly into another one. This creates a sexual network where men and women rapidly become linked to each other through the people they have had sex with recently (SIAPAC, 2004).

#### **1.7.7 Practices**

Practices refer to the acts or processes of doing something, in other words to do or perform habitually or customarily. Habitual or customary actions or acts such as condom use or sexual practices with casual and regular partners (SIAPAC, 2004).

### **1.7.8 Social Determinants of Health**

Social Determinants of Health – The SDOH are “the economic and social conditions that influence the health of individuals, communities and jurisdictions as a whole” (Raphael 2004, p.1).

### **1.7.9 Commissioned Officer (CO)**

An officer of the Namibian Defence Forces who has passed through the Namibian Military School Officer Cadet Programme or other Foreign Military Schools following which he/she was commissioned as an officer in the Defense Forces.

**Junior Commissioned Officer (JCO):** An officer of the following ranks in the Namibian Defense Forces: 2<sup>nd</sup> Lieutenant, Lieutenant, or Captain.

**Senior Commissioned Officer (SCO):** Major, Lieutenant Colonel, Colonel, Brigadier, Major General, Lieutenant General, General.

### **1.7.10 Non-Commissioned Officer (NCO)**

A recruit into the Namibian Defense Forces who goes through military training but is not commissioned after training.

**Junior Non-Commissioned Officer:** Private, Lance Corporal, Corporal or Sergeant.

**Senior Non-Commissioned Officer:** Staff Sergeant, Warrant Officer Class II, or Warrant Officer Class I.

## **1.8 CONCLUSION**

The foregoing chapter presented an overview of the sub-regional and national estimates of the prevalence of HIV Infection. It also introduced the purpose and the objectives of the study and stated the problem to be addressed and the significance of the study. The following chapter presents the literature review and theoretical framework of the study.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

In this chapter a review of different material was gathered in order to get the necessary information needed for the relevance of the study. It gives the general outline of the historical background of AIDS, AIDS in Namibia, Brief History of the Zambezi, Aids in the Zambezi and the Jaipur paradigm

#### **2.2 HISTORY OF AIDS**

AIDS (Acquired Immune Deficiency Syndrome) emerged in the 1980s as the most terrifying epidemic of modern times, likened to the “black death” or bubonic plague of the middle ages in Europe when millions died. Yet AIDS differs from the plaque in at least two crucial aspects; first, with the plaque, people became ill and died rapidly; with AIDS, the body’s immune system can fight the virus for a long time. AIDS, seen as a rare condition affecting homosexual men in the US around 1980, was only recognised as “a global health problem of paramount importance” six years later (Jackson, 2002, p.1).

Despite extensive research, the origins of HIV itself remain incompletely understood. HIV belongs to an unusual group of viruses called retroviruses that include leukemia viruses in humans, cats, cattle and some other animals. Retroviruses, including HIV, also belong to the lentiviruses, being slow to cause disease. More specifically, HIV is related to simian (monkey) immunodeficiency viruses (Jackson, 2002, p.2).

Exactly when, where and how HIV crossed over into humans is unclear. Evidence suggests it has happened several times (Jackson, 2002, p.3). The AIDS epidemic was in Europe reported the first cases among African patients of the world total of 263,051 cases reported to the World Health Organization (WHO) as of June 1990, 64,404 nearly 25 percent were from African Countries.

The different epidemiology profile of AIDS in Africa supports the hypothesis that heterosexual intercourse is the major mechanism of transmission. It is generally estimated that heterosexual intercourse and vertical (mother-to-child) transmission count for 80 percent cases in Africa. Sub-Saharan Africa, especially Southern Africa is the hardest hit region in the world (Jackson, 2000, p.8).

As we learn more about the life cycle of the HIV, it is becoming more possible to develop and test antiviral drug and immune system modular to halt progression of the retroviral infection and correct the immune deficiency (Volberding, 1986).

### **2.3 HISTORY OF AIDS IN NAMIBIA**

AIDS is the single largest threat to social and economic development in Namibia. The impact of the epidemic is being experienced at every level of society, affecting all individuals' families, communities and organizations. According to the National HIV sentinel survey (MoHSS, 2012), HIV prevalence amongst pregnant women attending antenatal clinic was 4.2% in 1999, increasing to 22% in 2002 and in 2012 the rate was 18.2 %. This provides an indication of infecting rates in the general adult population, with the highest rates amongst Namibians who are in their economically productive years (MoHSS, 2006; MoHSS, 2012).

According to the MoHSS 2012 HIV Sentinel Survey Report (2012, p.1), HIV surveillance forms a critical element in the expanded national response as it allows identification of the geographic and demographic sub groups most affected by HIV so that comprehensive and evidence-informed HIV prevention, treatment and care programmes can be targeted to these groups. In addition, surveillance activities allow the government to generate strategic information for monitoring HIV trends in various groups, evaluate the effectiveness of policies and programmes and inform further policy development and programme design.

HIV sentinel surveillance in pregnant women attending antenatal care (ANC) at public facilities has been conducted once every other year since 1992 in Namibia. The biennial national HIV Sentinel Survey (HSS) started with 8 facilities in 1992 and expanded to 14 facilities in 1994 to include smaller towns and some rural areas. The number of sites continued to expand and as of 2008, sentinel sites from all 35 districts were included to better represent regional diversity (MoHSS, 2012, p.1).

ANC-based sentinel surveillance is currently the key data source for HIV estimates in the country. The results of the HSS provide inputs for the Spectrum and other models which estimate and project national HIV prevalence, HIV incidence, estimated number of people living with HIV, need for anti-retroviral therapy (ART) and are thus essential for programme planning and evaluation. The HSS also provides the country with information on trends in HIV prevalence over time by geographic area and age group. The MoHSS and other stakeholders use this information to develop targeted prevention, treatment, care and support interventions. In addition, data from the HSS are essential in the absence of a population based survey or other biological data that is representative of the general population.

According to Jackson (2002, p.7), the contributing factors of particular importance are the following:

- The high mobility of individuals between different places in the country

- Cross-border travel
- High prevalence of sexual transmitted infections (STIs)
- Widespread alcohol and substance abuse
- Gender inequalities
- Poverty
- Certain cultural practices
- The disintegration of traditional family structures
- Intergenerational sex between older men and young women and;
- Ignorance (Jackson, 2008, p.8).

It is encouraging to note that several recent research findings (MoHSS, 2004; MoHSS, 2006; MoHSS, 2010, MoHSS, 2012) provides evidence that the HIV epidemic in Namibia may be beginning to stabilize, though the prevalence ratio is still alarmingly high. The most recent sentinel sero-survey of pregnant women done in 2012 revealed that, the high prevalence among women ranged from a high of 37.7% in Katima Mulilo to 9.6% in Windhoek Central (MoHSS, 2012, p.16)

The Ministry of Defence (MoD) and the Namibian Defence Force (NDF) estimates that the overall HIV prevalence in the country's armed forces is due to a number of factors which include patterns of deployment; the culture of risk-taking in the military; alcohol abuse; myths and misconceptions about HIV/AIDS; and the fact that soldiers are generally of an age of high sexual activity and it is thus common practice to have multiple sexual partners. The military is concerned that

widespread illness caused by HIV/AIDS will impact negatively on its operational readiness (Faiker, 2006, p.20).

The Namibia government strategic plan on HIV/AIDS 2004-2009 (Third Medium Plan) Set out the country's response to the epidemic. The plan aims to reduce and effectively manage HIV/AIDS, STIs, tuberculosis and malaria.

The NDF promotes the use of the female and male condom; provides intensive information, education and communication services; strengthens already established voluntary counseling and testing (VCT) Services; facilitates treatment of opportunistic infections through ARV therapy, as well as care and support for affected and infected members; carries out home-based care services; and monitors and assesses the magnitude and impact of the epidemic through research and surveillance studies.

According to Namibian newspaper (2006), the Chief of the Namibian Defence Force, Lieutenant General Martin Shalli mentioned that, the prevalence of HIV/AIDS among members of the Namibian Defence Force (NDF) poses a security risk to the effectiveness of the force's activities, but the force has put in place policies to help combat the scourge, NDF Chief Lieutenant-General Martin Shalli has said (New NDF chief maps out his role (The Namibian Newspaper, 2006).

Shalli (2006) said the awareness campaign against HIV/AIDS has paid dividends “because death rates among the NDF personnel have decreased dramatically, in recent years”. The policy of mandatory testing and routine HIV screening in the military are some of the legal challenges to effectively fight the disease. “This poses important questions about the human rights of people living with HIV/AIDS. It is not easy as you cannot go out questioning people about their status, it is a human right violation,” (New NDF chief maps out his role (The Namibian Newspaper, 2006).

#### **2.4 BRIEF HISTORY OF THE ZAMBEZI REGION**

The Caprivi Strip (now Zambezi Region) is in the North-East of Namibia, forms an arm stretching into the heart of Southern Africa almost as far as Victoria Falls. The region became part of German South West Africa in 1890, as a consequence of Germany demands for a corridor to Germany East Africa and the Zambezi River. In 1914 Southern Rhodesian troops occupied the area on behalf of the Allies. For about Fifteen years Caprivi (now Zambezi Region) was administered as part of Bechuanaland protectorate (present Botswana) until 1930, when Caprivi (now Zambezi Region) was incorporated into the South West African protectorate and administered, with the rest of Namibia, from South Africa (Fisse, 1991; Mbuende, 1986; Naeraa et al., 1993).

With the Bantustan system introduced by South Africa in 1960s, Caprivi (now Zambezi Region) became one of the ten homelands in Namibia. During the

fight between South African Troops and People's Liberation Army of Namibia (PLAN) fighters operating from Zambia, Caprivi (now Zambezi Region) was one of the heaviest militarized regions of Southern Africa (Fisse, 1991; Mbuende, 1986; Naeraa et al., 1993).

Zambezi Region is surrounded by four rivers that is, Zambezi, Chobe, Kwandu and Linyanti Rivers. The Trans Caprivi (now Zambezi Region) highway makes the region the transit to Botswana, Zambia, Zimbabwe, the Democratic Republic of Congo and other African countries.

The National sero survey that is conducted biannually shows that the Caprivi (now Zambezi Region) region has the highest prevalence rate of 37.7% that is according to the results of the 2012 HIV sentinel survey (MoHSS, 2012, p.23).

## **2.5 HIV/AIDS PROBLEM IN THE CAPRIVI (NOW ZAMBEZI REGION)**

According to the National Planning Commission Census 2001 Report (NPC, 2003, p.4), the Caprivi (now Zambezi Region) Region has a population of 79.826 of which 72% live in rural areas. Caprivi (now Zambezi Region) occupies a critical transportation and potential tourism niche in Namibia. Katima Mulilo, in Caprivi (now Zambezi Region), has the highest prevalence of HIV (37.7 % in 2012) of any of the ANC sites in the country (MoHSS, 2012, p.23). Among VCT

clients, those residing in Katima Mulilo are six times more likely to have HIV compared with residents of the capital city (MEASURE Evaluation, 2007).

A confluence of factors is working to make this one of the worst epidemics in Southern Africa. Caprivi (now Zambezi Region) is situated at a major international border that links four countries: Namibia, Zambia, Botswana, and Angola. The road that passes through Zambezi Region has heavy traffic to and from Southern Africa, from migrant workers, merchants, and truckers. As a result, the commercial sex industry has flourished at the border city of Katima Mulilo due to the increased cross border mobility of both people and vehicles. Seasonal floods and drought destroy crops making people rely on food handouts from government. During the flood season communities assemble in resettlement camps for five to six months. Villages are surrounded by water making it difficult to move from one area to another and making access to basic needs like money and food difficult (Mwilima, 2009, p. 2).

Other factors include low levels of condoms use, early initiation of sexual activity, low frequency of circumcision, and lack of HIV/AIDS knowledge contribute to the rapid spread of the virus throughout the region. Polygamy and multiple partnerships contribute as well. The 2006 NDHS reported that men were more likely to have more than two partners in a year's time than women (17.5% to 0.4%) (NDHS, 2006; Mwilima, 2009, p.25).

Commercial sex is likely a major driver of the HIV epidemic in Caprivi (now Zambezi Region). In Katima Mulilo especially, the commercial sex industry has flourished, and many of its clients are migrant men arriving from those countries with the highest prevalence of HIV in the world. Furthermore, male residents of Caprivi (now Zambezi Region) are more likely to participate in commercial sex than men of other regions of Namibia. Nearly 10 percent of men residing in Caprivi (now Zambezi Region) report paying for sex in the previous 12 months (national average of 1 percent). Of those who paid for sex, only 59 percent used a condom with that sex partner (NDHS, 2007; De la Torre et al, 2009, p.39).

### **2.5.1 Low Levels of Condom Use**

The NDHS 2007 reported that condom use in Caprivi (now Zambezi Region) is among the lowest in the country for men and women of all ages. Approximately half of sexual active women are using condoms at last sex with a non-marital, non-cohabiting partner, regardless of age. Men report slightly higher levels of condom use with their most recent non-marital, non-cohabiting partner (68%), but the levels are still far below the national average (78%) (NDHS, 2007).

### **2.5.2 Early Sexual Debut**

The NDHS (2007) reported that Three out of four youths in Caprivi (now Zambezi Region) are sexually active. Approximately one-third of young men and

one-fifth of young women in Caprivi (now Zambezi Region) report their first sexual encounter before the age of 15, a notably higher frequency than elsewhere in the country (Caprivi (now Zambezi Region) also has the lowest levels of premarital abstinence in the country (22 percent of young women and 14 percent of young men).

There is a rapid accumulation of partners among young men in this region, possibly because sex is initiated quite early. The proportion of men age 15 to 24 who report having had five or more sexual partners is twice as high in Caprivi (now Zambezi Region) than in the nation as a whole (40 percent versus 22 percent nationally). These data suggest that new infections occur at relatively young ages in the region (De la Torre et al., 2009, p.40).

### **2.5.3 Low Frequency of Circumcision in Caprivi (Now Zambezi Region)**

Infrequent circumcision in Caprivi (now Zambezi Region) may be accelerating the spread of HIV. Overall, 6 percent of men in Caprivi (now Zambezi Region) are circumcised (second lowest after Ohangwena), but among youth age 15 to 24, only 1 percent report being circumcised (De la Torre et al. 2009, p.40).

Male circumcision (mukanda) has not been practiced in Caprivi, but it is gaining acceptability. Yet practices that have helped to accelerate the epidemic, notably polygamy and boyfriends and girlfriends (Linyazi), to a lesser extent, widow inheritance (mayolo), remain common. In Caprivi, the inheritance system

is patrilineal and children inherit the property of their father. However, the tradition of wife inheritance remains strong and this is usually associated with the traditional ceremonies (mayolo) of identifying and giving the name of the deceased to a male relative (Kontio, 2010, p.11)

Caprivi (now Zambezi Region) Region has experienced the fourth largest percentage increase in the number of deaths at 1008% from 1999-2001 (NDHS, 2006). Caprivi (now Zambezi) Region has the second highest under-five mortality rate in the country. Fourteen percent of the children under fifteen have lost a mother, a father or both parents. Katima Mulilo had the highest HIV prevalence rate among pregnant women age 15-24 years with 21.5% women testing positive for HIV, the epidemic has hit the Caprivi (now Zambezi Region) Region very hard. Also essential to note is that a significant linear trend that was observed in Katima Mulilo from 2008 (40.3%), 2010 (46.6%), 2012 (51.8%), where prevalence appears to be increasing among older women aged 25 – 49 (MoHSS, 2012, p.23).

Further studies may be warranted in order to understand whether this is a real phenomenon and if so, whether the increasing prevalence is due to a rise in new HIV infections, increased survival or both. There is a need to determine how estimated ART coverage among HIV positive pregnant women may be associated with increasing or decreasing HIV prevalence, since the percentage of HIV positive who were already on ART for Katima Mulilo was 39.3% and 41.1% for Namibia (MoHSS, 2012, p.20).

Mbuche (1998, p.13) sites poverty, powerlessness of women and traditional beliefs which emphasize witchcraft over biological explanations of illness, as major contributing factors to the high rate of HIV. Traditional beliefs in witchcraft and traditional beliefs on transmission of disease such as Kahomo (translated Bone marrow infection). “Kahomo as an old problem is likened to AIDS”. If a lady was pregnant and gets a miscarriage or abortion before the time of birth and a man has sex with her while unclear, she is referred to have a bad blood of which a man could catch a disease called Kahomo. The symptoms are the same as AIDS. When this occurred, old people could prepare medicine to cleanse the woman for her to have sex with the man.

The spread of HIV/AIDS especially women’s vulnerability to HIV/AIDS follow from social, but also physiological factors (UNAIDS, 1998). Untreated Sexually Transmitted Diseases (STIs) can increase the probability of HIV transmission in both men and women by as much as ten times (UNAIDS, 1998).

However, because STIs in women are often asymptomatic, they are less likely to be treated. Behavioural factors complicates the situation, with women typically having poorer access to STI care, here I am referring to the Caprivi (now Zambezi Region) region in its entirety because of distance, cost, inadequacy of facilities and stigmatization deters soldiers and the community from seeking formal assistance.

## **THEORETICAL FRAMEWORK**

### **2.6.1 Introduction**

Nearly all research studies in the social and behavioural sciences, regardless of programmes, require a rationale or base for conducting research. This rationale is often called the theoretical framework (Radhakrishna, Yoder and Ewing, 2007, p. 62).

Sekaran (2000) defines a theoretical framework as a conceptual model of how one makes logical sense of the relationships among several factors identified to be important. In essence, the framework attempts to integrate key pieces of information, especially variables, in a logical manner, thereby conceptualizing a problem that can be tested.

The theoretical framework usually frames the bigger picture of a study identifies categories for literature review and directs research objectives. A typical theoretical framework provides a schematic description of relationships among independent, dependent, moderator, control and extraneous variables so that a reader can easily comprehend the theorized relationships (Radhakrishna et al., 2007, p.62). The theoretical framework of study also applies to descriptive studies as this current study (Chikukwa, 2008, p.8).

The goal of the descriptive researcher is to portray accurately the incidence, distribution and characteristics of a group or situation. In essence, it describes “What is” part of a group or situation. In descriptive research, several variables are

examined in order to describe a group or situation. Variables are not distinguished as independent, dependent, moderator or control. Descriptive research is conducted to identify variables that can later be studied in depth. Usually descriptive research does not involve testing a hypothesis.

In this study the framework of the study will be divided into 2 components, the first will consider determinants or contributory factor framework; the second will focus on the intervention framework. Tarlov (2012) presents the four conceptual frameworks which provide bases for constructing comprehensive public policy strategies for improving population health within wealthy (OECD) nations. The frameworks are (1) Determinants of population health, (2) Complex systems, (3) an intervention framework for population health improvement, and (4) Public policy development process. This study will only focus on two of these frameworks; (1) Determinants of population health and (3) an intervention framework for population health improvement.

Determinants of health are factors that contribute to a person's current state of health. These factors may be biological, socioeconomic, psychosocial, behavioural, or social in nature. Scientists generally recognize five determinants of health of a population (Raphael, 2003):

- Genes and biology: for example, sex and age;
- Health behaviours: for example, alcohol use, injection drug use (needles), unprotected sex, and smoking;

- Social environment or social characteristics: for example, discrimination, income, and gender;
- Physical environment or total ecology: for example, where a person lives and crowding conditions,
- Health services or medical care: for example, access to quality health care and having or not having medical aid (Raphael, 2004, p.3).

According to Benz (2005, p.12), Early attempts to explain the spread of STIs, including HIV/AIDS, relied heavily on behavioural and genetic explanations. However, it is plausible that sexual behaviour alone, or a “hyper sexualized African culture,” cannot explain HIV-prevalence rates between 25% - 38% of the adult population in some African countries, which are over fifty times that of the U.S., eighty times that of France and thousand times that of Cuba.

Buvé et al. (2001, p.130) provides empirical evidence which suggest that differences in risky sexual behaviour are outweighed by differences in factors influencing HIV-transmission probability. These factors are the so called “biological co-factors” of transmission. The authors conclude, that differences in HIV-prevalence in four Sub-Saharan African cities in Benin, Cameroon, Kenya and Zambia cannot be explained by differences in sexual behaviour. In particular, the higher incidence and prevalence of treatable bacterial STIs, which generally increase the risk for HIV-transmission due to lymphocyte activation and immunosuppression, is identified as an important biological co-factor of HIV-transmission in Sub-Saharan Africa.

According to UNAIDS, Questions & Answers II: basic facts about the AIDS epidemic and its impact (UNAIDS, 2005), “There is scientific evidence that a person with an untreated sexually transmitted infection (STI), particularly involving ulcers or discharge, is on average, six to 10 times more likely to pass on or acquire HIV during sex. The presence of an STI means that there is more chance of broken skin or membranes allowing the virus to enter or leave the body. The very same cells that the virus is seeking to infect will be concentrated at the site of the STI because these cells are fighting the infection (Mabey and Mayaud, 1997, p.18).

According to the early 2000s research, the risk for becoming HIV-infected from a single exposure is increased 10 to 300-fold in the presence of a genital ulcer caused by syphilis, chancroid or genital herpes.” Consequently, the high prevalence of STIs in Sub-Saharan Africa, might explain why there is a heterosexual HIV/AIDS epidemic in Sub-Saharan Africa but not in Western Europe (Mabey and Mayaud, 1997, p.18).

Approaches focusing only on the above-mentioned two factors (behaviour and the prevalence of biological co-factors (e.g. STIs)) to determine HIV-risk have been referred to as “Biomedical Individualism” or “Behavioural Lifestyle Approaches.” According to these theories, disease occurrence is based on individual lifestyle choices. Population disease patterns are the sums of these individual choices. It follows, that individuals can voluntarily alter their ways of living, which

would theoretically reduce their risk for HIV-infection (Fee and Krieger, (1993, p.1481); (Zierler and Krieger, 1997, pp.406, 407).

Conversely, Buvé et al. (2002: 2013), argues that the explanations relying only on these two factors do not account for considerable cross country variation in HIV-prevalence, for example, within the same region. Even the addition of other cofactors, such as differences in the date of introduction of the virus (the stage of the epidemic) cannot fully account for differences in national prevalence levels. For instance, HIV/AIDS epidemics in South Africa and Thailand both began in the early 1990s. However, by 1999, HIV prevalence in the general adult population of South Africa was 19.9%, whereas Thailand faced prevalence rates of only 2.2%. In addition, Berkman et al. (2000, p.6) posits that identifying risks at the individual level, even multiple risks, does not sufficiently explain interactions and pathways at that level, nor does it incorporate the social forces that influence risks to individuals.

Benz, (2005, p.13), suggest that a study published in 1949 by Sidney Kark, which put emphasis on the role of a third category of factors (“social forces”) in explaining differences in the spread of sexually transmitted infections (STIs) should be considered. This study argued that structural conditions or societal-level factors were the driving force behind the epidemic spread of Syphilis in Africa.

According to Kark’s (1949) study, social conditions in regions, specifically population mobility, provide fertile ground for the spread of STIs. It took decades for Public Health researchers to incorporate this central idea of socioeconomic and

cultural contexts into their attempt to systematically explain the spread of HIV/AIDS. Kark's study was then supported by a group of 30 students and professor, who met for a training workshop at the Indian Institute of Health Management and Research in Jaipur in 1995. The purpose of the meeting was to explain differences in the profiles of local HIV/AIDS epidemics in order to understand the heterogeneity of prevalence rates across countries and regions (Benz, 2005, p16).

### **2.6.2 The Jaipur Paradigm**

Barnett, Whiteside and 29 other Scientists developed the so called "Jaipur Paradigm", which serves as an econometric model to illustrate the interaction between HIV/AIDS and society. Its central premise is that with respect to HIV/AIDS, societies differ in their susceptibility and vulnerability to the disease. Where, Susceptibility refers to the level of risks for HIV/AIDS infection in a particular social environment, defined as those aspects of a society which make it more or less likely that an epidemic will develop. While, Vulnerability refers to those aspects of a society which influence the likelihood that an epidemic will have a serious impact on social and economic organizations (Benz, 2005, p.13).

The notion that a National level of HIV-prevalence depends on society's susceptibility as well as its vulnerability is crucial which is why this study relies on the Jaipur paradigm as its theoretical basis. The paradigm explains differences in the progress of HIV/AIDS epidemics through variations in countries' socio-economic

susceptibility, defined as variations in their level of wealth and social cohesion. Thus, the Jaipur paradigm applies a so called “Social epidemiology Perspective”, which considers social conditions as fundamental causes of disease. Social epidemiology examines how people are exposed to risky or protective factors and under what social conditions individual risk factors are related to disease.

According to this branch of epidemiology, the prospects for the health of every society are determined by social, political and economic forces that shape the environment (Benz, 2005, p17). The Paradigm predicts that it may take time for the epidemic to develop, but it will eventually reach very high levels, like in most parts of Sub-Saharan Africa. Countries that lack social cohesion and an equal distribution of wealth face difficulty in effectively responding to the epidemic. Thus, HIV-prevalence levels are also predicted to remain high.

In contrast, in poor countries with high levels of social cohesion (e.g. societies with strong religious cultures or good governance) HIV-rates are unlikely to rapidly increase. Country examples are Iran, Senegal, Cuba and India. These countries have all seen low epidemic growth rates and a plateau of low HIV-prevalence. Although they face high poverty-related susceptibility they are able to mobilize fast and effective responses due to high levels of social cohesion. Unified national planning, a public environment conducive to the social inclusion of people with HIV and those most at risk, strong and active civil society organisations and low levels of income inequality are all critical factors that assist in effective interventions.

Relatively rich countries with low levels of social cohesion are predicted to experience an epidemic, which will take off very rapidly (due to low levels of social cohesion) and reach extremely high levels. Examples are Botswana, Namibia, Cote d'Ivoire, the Dominican Republic and South Africa with high rates of labor-migration. However, as soon as these countries mobilize the financial means for an appropriate response, they will experience a rapid decline in HIV-prevalence. Thus, they face medium levels of susceptibility to HIV-infection and medium levels of vulnerability to the impact of AIDS (Gorbach et al. 2002, p. 36).

Given that rates of HIV have been shown to be higher among soldier communities than among civilians round the world, and taking into account the masculinized, macho culture that prevails in military settings, it has been argued that soldiers, more specifically male soldiers, are particularly vulnerable to HIV infection (Baylies and Bujra, 2004).

Prevalence rates in the Zimbabwean uniformed forces, for example, are estimated to be about 2-3 percent higher than in the general population, and 30 percent of Zimbabweans assigned for pilot training in China were sent back following HIV testing (Tamara and Nyameka, 2007;10;190).

In 2000, 8 to 10 thousand South African National Defence Force(SANDF) soldiers were tested and a 17 percent infection rate were found, similar in age and regional distribution to that of the civilian population at the time (Hoskins, 2004). There have been no comprehensive data gathered on the extent of the HIV/AIDS

infection in the SANDF since then, though the estimate for 2004 is 23 percent, which is considerably higher than the overall national rate (Tamara and Nyameka, 2007;10;190).

Recent reports regarding sexual abuse by South African National Defence Forces (SANDF) military men in UN peace-keeping forces in the Democratic Republic of Congo (DRC) (Holt and Hughes, 2004), including the allegation that 26 percent of sexual misconduct cases made against soldiers in UN forces in the DRC were against SANDF personnel (Tamara and Nyameka, 2007, p.190), add further urgency to the need to focus on male sexuality in the South African military. Reasons for the high prevalence of HIV in the military have been viewed as hinging around specific conditions of this work, which have particular implications for military men given the intersection of traditional constructions of male sexuality and these context.

The great irony is that we know how to prevent transmission of HIV, and it is neither technically difficult nor expensive. Most HIV transmission can be stopped by the widespread use of condoms and clean needles (only in terms of blood screening does prevention involve the use of costly technology). But for this to happen requires major changes in behaviour, both individual and collective, which in turn require support for programmes which often infringe cherished religious and cultural beliefs (Tamara and Nyameka, 2007, p.10).

One may ask why Southern Africa, a relatively stable and developed region in Africa, is so badly affected by the disease. The reasons are complex. Poverty and

instability perpetuate the spread of HIV/ AIDS, but are not the main impetus. For example, Botswana is one of the most stable, peaceful, and wealthy countries in the region, but has the highest infection rate (38.8%) in the world. Vast inequalities in income, rapid urbanization, and mobility appear to be the most important factors contributing to the spread of HIV/AIDS. The breakdown in social cohesion within society caused by war, conflict, and political instability throughout the region since independence has also served as fertile ground for HIV transmission (Heinecken, 2003, p. 281-300).

In South Africa, a comparatively wealthy country, the main factors spreading the epidemic are the breakdown of the social fabric of society as a consequence of apartheid, the migrant labour system, the good transport infrastructure leading to high population mobility, the large disparities in income, and the low level of education. Other factors include high levels of prostitution and sexually transmitted disease, resistance to condom use, and social norms permitting high numbers of sexual partners (Heinecken, 2003, pp.281-300).

Benz (2005, p.18) argues that the Jaipur Paradigm clearly underpins the importance of addressing underlying socio-economic factors in HIV-prevention. Most of the responses to the pandemic have focused on its biomedical and behavioural determinants. However, according to the Paradigm, distributing condoms, promoting abstinence and condom use or administering STI treatment without understanding how that particular society works is an ill-conceived strategy. “[The Jaipur Paradigm] provides justification for interventions at the socio-economic

level and adds weight to the view that governments have a substantial responsibility in this area ...This means addressing issues of equality, human rights and the construction of civil society” (Barnett et al. 2000: 1101).

In this research, susceptibility describes the extent to which individual, group and general social predisposition to virus transmission is increased. While, vulnerability, describes those features of a social or economic entity making it more or less likely that excess morbidity and mortality associated with disease will have deleterious impacts upon that unit as applied at different of levels; from individual to general.

Barnet and Whiteside (2005, p. 6) defined susceptibility, as those factors determining the rate at which the epidemic is propagated. Such factors maybe infrastructural (the development of a road), environmental (a drought or flood resulting in unusual population movements), cultural (a particular sexual practice or belief, or a change in these), economic (increased unequal distribution of income), or social (the operation of labour and associated housing markets in urban areas).

Barnett et al, (2000, p.1100), proposed the hypothesis that susceptibility and vulnerability of a society to HIV, and thereby the profile of its epidemic, are determined by two variables:

- (i) The degree of social cohesion; and
- (ii) The overall level of wealth of the society.

According to Benz (2005,p.12), the social cohesion concept refers to (1) the absence of latent social conflict (in form of inequality, racial/ethnic tensions, disparity in political participation or other forms of polarization) and (2) the presence of strong social bonds or high levels of “social capital”. Thus, cohesive societies are those that are richly endowed with stocks of social capital, which is associated with informal sociability, social trust, civic involvement in public affairs, high levels of volunteerism and the existence of a vivid community organizational life.

Benz (2005, p.12), conjectures that the authors of the Jaipur Paradigm themselves noted that social cohesion may be an expression of cultural homogeneity, it may be the product of good governance and a strong civil society, it may be related to a prescriptive religious culture, or it may be the result of a controlling authoritarian political system or military dictatorship. Though income inequality is mentioned as another important factor influencing the susceptibility to HIV-infection, it is not included as an additional variable to the model. It is argued that the level of income equity is already observed in the level of social cohesion as income inequality is negatively correlated with social cohesion.

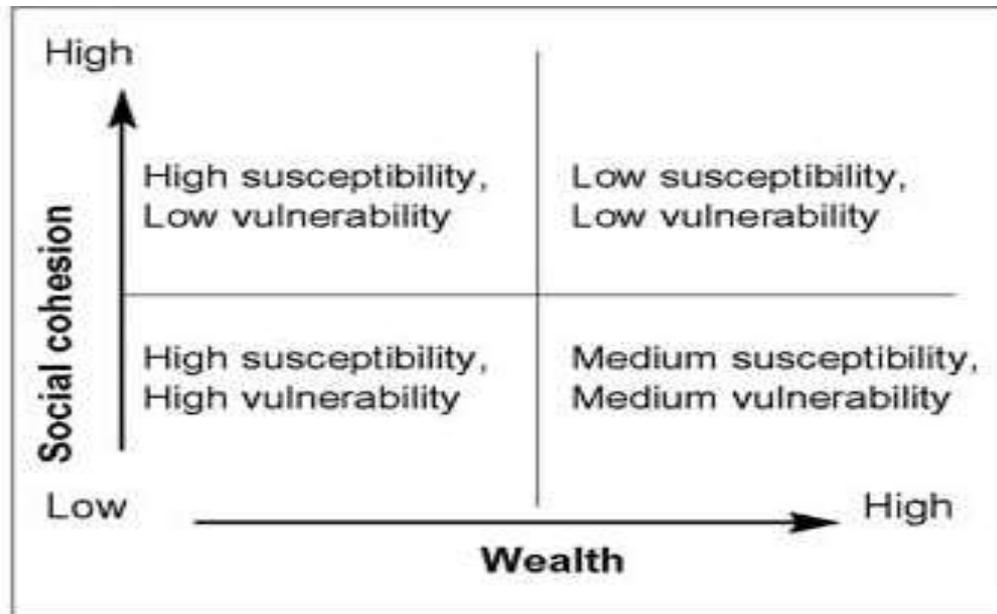
Wealth and income are relatively unproblematic concepts. Of considerable importance is Wilkinson's (1996) work on health and inequality which highlighted the relationship between general health, socio-economic inequality and the degree of social support available in a society. There is however no need to introduce inequality as an additional variable, as societies with low social cohesion and high wealth appear to have high Gini coefficients, indicating income inequality.

The degree of social cohesion factor is examined through the use of the HIV surveillance which forms a critical element in the expanded national response to HIV/AIDS as it allows identification of the geographic and demographic sub groups most affected by HIV so that comprehensive and evidence-informed HIV prevention, treatment and care programmes can be targeted to these groups (MoHSS, 2012, p.1).

In particular, disparities in the size of the gap or inequality in social and economic status between groups within a given population greatly affect the health status of the whole. The larger the gap is, the lower the health status of the overall population (Wilkinson, 1996; Wilkinson and Marmot, 1998).

Barnett, et al's (2000) hypothesis meriting further research looks at the relationship between social cohesion and level of wealth with the attributes of susceptibility and vulnerability as illustrated by the categorization of societies along the two axes of the Jaipur Paradigm (level of wealth and level of social cohesion) presented in Figure 2.1.

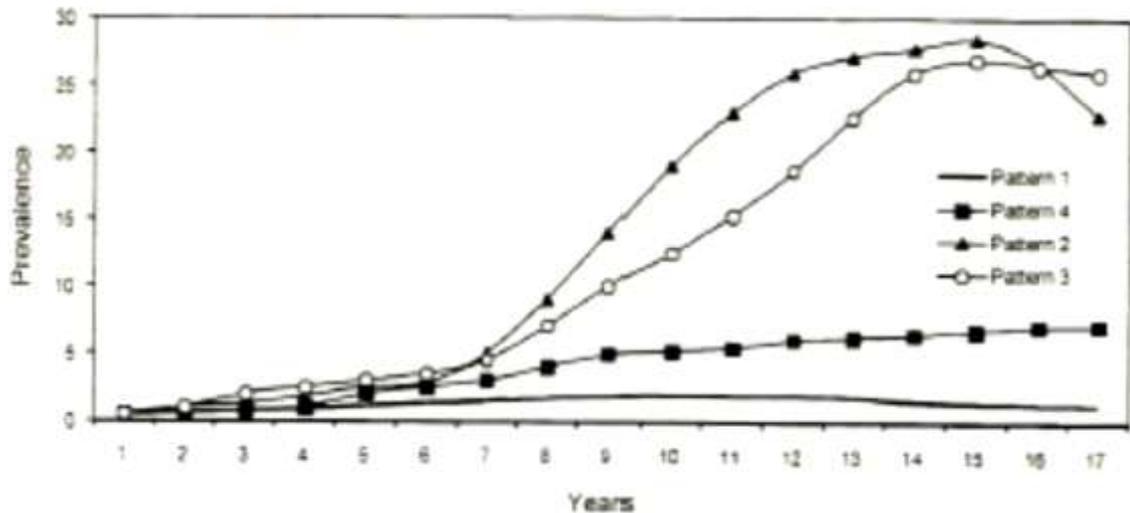
**Figure 2.1 The Two Axes of the Jaipur Paradigm**



(Barnett et al. 2000, p.1100)

Combining the two variables allowed the categorization of groups and societies along two axes into four broad 'types', each with a distinct epidemic pattern of HIV prevalence illustrated through a World Bank (1997) study of 72 countries, which showed that high urban adults' rates of HIV infection were strongly associated with low national income and unequal distribution of income. If these factors are indeed major influences on the gradient and peak of the epidemic, then one would logically expect to see four different epidemic curves as set out in Figure 2.2 (Barnett et al. 2000, p.1100).

**Figure 2.2 Hypothetical epidemic patterns of HIV**



(Barnett et al. 2000, p.1100)

From Figure 2.2 above Barnett et al, (2000) explain the four different epidemic curves as follows:

#### Type 1

Pattern 1 describes the epidemic in a society with high levels of social cohesion and high wealth; a slow growth is followed by a low peak and slow decline with low endemic prevalence. High social cohesion and high wealth – this describes most resource-rich industrialized societies.

#### Type 2

Pattern 2 is a society with low levels of social cohesion and high wealth; here the curve will show a sharp increase in prevalence followed, hopefully, by a sharp decline. Although the society is susceptible to infection in the early stages, wealth means it has the capacity to respond. Low social cohesion and high wealth – this

describes societies in transition or societies with a predominant migrant labour economy such as South Africa, Cote d'Ivoire, and the Dominican Republic.

### Type 3

Pattern 3 is a society with low levels of social cohesion and low income and; the epidemic may take time to gain momentum, but once it does so the curve will be exponential and the level of infection may remain high. Low social cohesion and low wealth – this describes countries experiencing civil war or economic collapse, such as Rwanda, Cambodia, or Haiti.

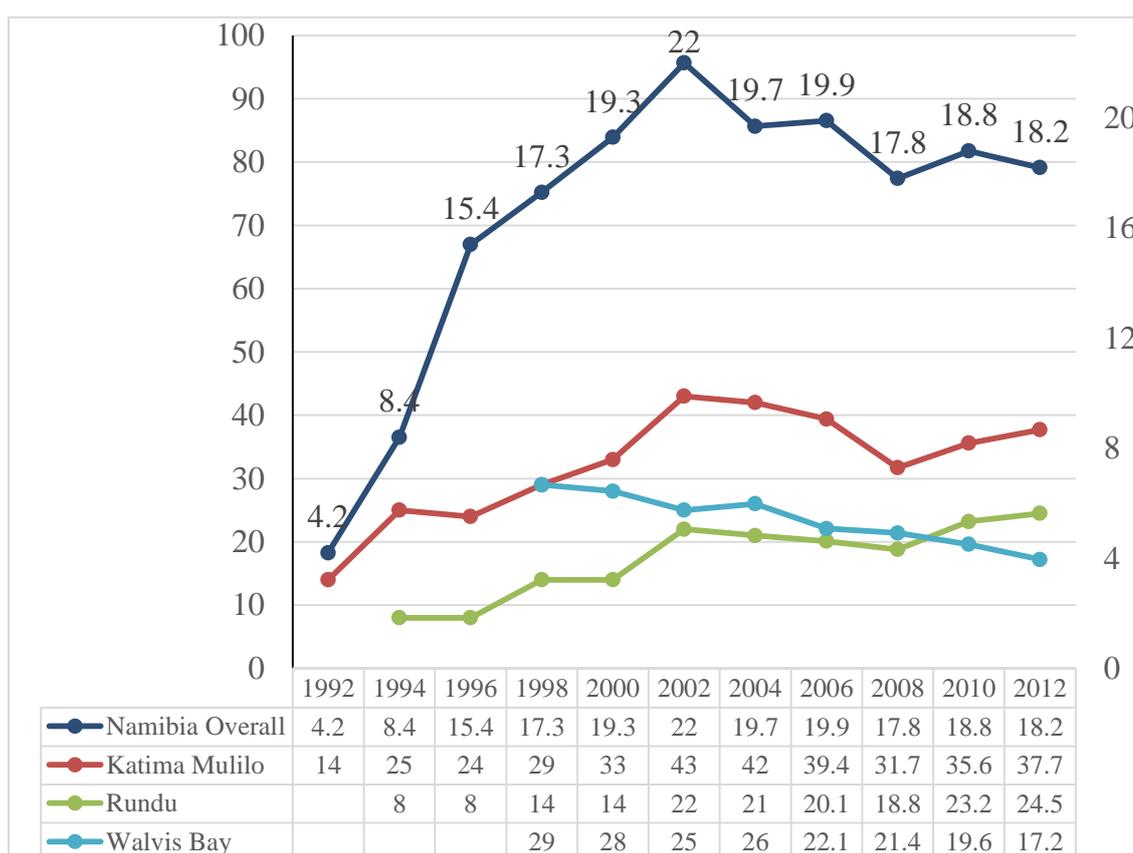
### Type 4

Pattern 4 is a society with high levels of social cohesion and low income. Here we might expect to see levels of infection kept in check by socially defined behaviour. Thus a slow growth in prevalence will characterize this society. High social cohesion and low wealth – this describes countries with strong religious cultures, good governance, or highly controlling political systems such as Iran, Senegal, or Cuba (Barnett et al, 2000, p. 1100).

There is evidence to support the hypothesis at the regional level in Namibia that this analytical tool can also be applied to sub-groups in society or geographic areas (Figure 2.3). For example truck drivers may enjoy relatively high income but the nature of their work may also mean that they are difficult to bring into the ambit of information, education, and communication (IEC) programmes. They could thus be said to have a low level of social cohesion or be subject to low levels of social

control. A young woman working as a bar-girl on the other hand, has both a low income and a low level of social cohesion/social control. As she may be marginalized and / or excluded in her society, she is less likely to be bound by rules of approved behaviour or be able to bind herself to these rules if she is to survive (Barnet et al, 2000, p.1100).

**Figure 2.3: HIV/AIDS Prevalence Rate in Pregnant Women Pattern of Selected Sites**



(MoHSS, 2012, p.20)

Figure 2.3 illustrates the HIV prevalence patterns of three sites, Katima Mulilo, Walvis Bay and Rundu. It is clear that Katima Mulilo and Rundu share a

similar pattern which is more of a Type 3 society. It is characterised by low levels of social cohesion and low income and; the epidemic may take time to gain momentum, but once it does so the curve will be exponential and the level of infection may remain high. Low social cohesion and low wealth – this describes the infrastructural development of the Trans-Capriivi Highway, environmental effects through seasonal flooding of Zambezi river resulting in unusual population movements; cultural practices in particular the Kahomo sexual practice or belief; economic effects through an increased unequal distribution of income.

The 1998 HIV Sentinel Survey shows that Walvis Bay and Katima Mulilo had the same prevalence rate of 29% (MoHSS, 2012, p.20). Walvis Bay has since shown a Type 2 pattern characteristic of society with migrant labour, while Katima Mulilo became a true Type 3 due to the Cessation Skirmishes of 1999 which resulted in latent social conflict in form of inequality, racial/ethnic tensions, disparity in political participation and other forms of polarization remnant of such threats of war.

As Public Policy analysts, we can take a leaf from how Uganda has managed to consistently report success stories in reducing both HIV incidence and prevalence. At the Nsambya sentinel surveillance site, where prevalence among ANC attenders fell from a peak of 29.5 per cent in 1992 to 15.4 per cent in 1996, in Mbarara the peak was 30.2 per cent in 1992, in 1996 it was 15 percent (Kayita and Kyakulaga, 1997).

It was no accident that this decline came at a time when the Ugandan society was restructuring itself and there was an expansion and strengthening of civil society, underpinned by efforts to introduce greater citizen confidence in government together with increased rates of economic growth. Many of the HIV and AIDS interventions may have contributed to slowing the epidemic - not because they were about AIDS, but because they were about building civil society and taking responsibility. Indeed, there is some local evidence (Barnett, T., fieldwork, 1993 - personal interviews in Uganda) that community action to confront the epidemic may have been a significant catalyst in the strengthening of civil society (Barnett and Whiteside, 1999, p.18).

A number of further points must be made about this paradigm and these according to Barnett and Whiteside (1999, p.18) are:

- Societies that are wealthy in aggregate but lack social cohesion often exhibit inequality in the distribution of that wealth.
- Societies can and do change. Social cohesion may break down or build up and countries may experience economic growth or decline.
- The paradigm shows that growth alone is not the solution. There also has to be economic and social development. This means addressing issues of equality, human rights and the construction of “civil society”.

HIV/AIDS interventions that ignore these issues may not be effective or sustainable in the long-term. Finally, it is a clear justification for the interventions at

the socio-economic and macro level, and adds weight to the view that governments have a substantial responsibility in this area.

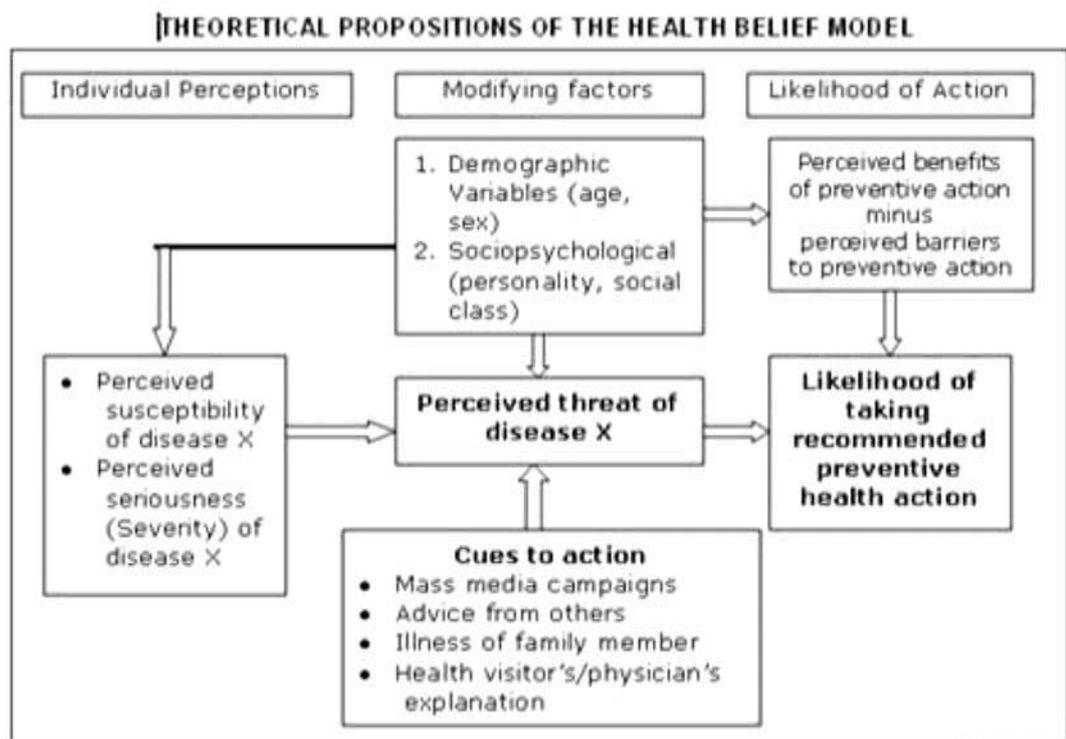
This study employs a social determinants of health framework based on the Jaipur Paradigm, which argues that societies' susceptibility and vulnerability to HIV/AIDS is determined by only two factors: their level of wealth and the degree of social cohesion (Benz, 2005, p.13).

The study examines how the levels of wealth represented by the rank and gender variables affect the susceptibility and vulnerability to HIV/AIDS of members of the 262 Battalion. The framework of study addresses the level of understanding and awareness of the contributory causes of HIV/AIDS in the Namibian Defence Force, covering NDF's 262 Battalion. The level of understanding and awareness of the contributory causes of HIV/AIDS covered issues like knowledge, high risk behaviour and attitude of the members of the 262 Battalion with regard to HIV/AIDS pandemic.

Benz (2005, p.19) critiques the Jaipur Paradigm, arguing that it only implicitly assumes that individual HIV risk behaviour is determined by socio-economic variables. More specifically, it implicitly assumes that the level of wealth and social cohesion is somehow causally related to HIV-transmission. However, increased vulnerability to HIV-infection does not necessarily and directly translate into higher rates of HIV-infection. Hence, interpreting a population-based association (between socio-economic variables and national HIV-prevalence) and inferring a

causal effect on individual-level processes (the risk for HIV-transmission) is problematic. Hence, we can then use the Health Belief Model (HBM) a social psychological model, to explain and predict individual health behaviour and compliment the Jaipur paradigm (Burke, 2012, p.1)

**Figure 2.4 Theoretical propositions of the Health Belief Model**



(Burke, 2012, p.1)

This study looks at the vulnerability and susceptibility of the members of 262 Battalion by exploring the soldiers' attitudes and practices with regard to condom and contraceptive use; as well as multiple concurrent sexual partners through structured and semi-structured interviews. These components also focus on the kind of sexual practices which put the 262 Battalion members at risk and their feeling about safe sex practices. This is crucial in order to develop strategies which will enable them to change their behaviour.

The HBM model focuses on the attitudes and beliefs of individuals and puts emphasis on the role of perceptions (perceptions of vulnerability to infection, perceptions of the seriousness of disease threat, etc.). The model was originally introduced in the 1950s by psychologists working in the U.S. Public Health Service (Hochbaum, Rosenstock, Leventhal and Kegeles). Since then, the HBM has been adapted to explain a variety of long- and short-term health behaviours, including sexual risk behaviours and the transmission of HIV/AIDS (Bloor (1995: 88-94).

Wilkinson's (1996) work on health and inequality which highlighted the relationship between general health, socio-economic inequality and the degree of social support available in a society. And Jackson's (2002, p.8), contributing factors such as the high mobility of individuals between different places in the country, the disintegration of traditional family structures, poverty, intergenerational sex between older men and young women and; ignorance. Areas such as Katima Mulilo with the Type 3 epidemic pattern will act as 'Trojan Horses' propagating the HIV epidemic in Namibia and its neighboring countries.

The Trojan horses at individual and regional level will most likely compound the HIV prevalence in the country through the efficiency of Namibia's Transport Corridors. The Walvis Bay Corridor of which the Trans-Capriivi Highway is part of has seen increase in traffic in recent years owing to stringent custom and excise policies in South Africa, which have seen SADC landlocked countries move to Namibia for their transport needs.

### **2.6.3 The Trojan horse Hypothesis**

The Trojan Horse Hypothesis partly discussed mechanisms linking conflict and HIV as numerous. In the case of HIV, soldiers having defeated an external enemy or completed their tour of duty in another part of their country often unwittingly introduce a lethal enemy into their communities and homes. For reasons given above, soldiers stationed far away from their homes face a significant risk of being infected with HIV, especially if they are posted to areas where the prevalence of the epidemic is high. Soldiers coming from communities with low prevalence levels are thus likely to abet the spread of HIV in their communities after they return from their tour of duty. As one researcher puts it, the HIV virus uses returning combatants as ‘Trojan Horses’ to enter a low-prevalence area and then spread itself among the civilian populations surrounding military bases (Shell, 2000, p.6).

Looking at the Trojan horse hypothesis in the Namibian context, one has to look at the soldier mobility research. Though a large part of the Namibian population is highly mobile, virtually no research linking the mobility of the Namibian population and the spread of the HIV has been done. Following the abolition of the control laws, rapid urbanization increased a pool of unemployed poor who search out new sexual partners for furtherance and security (Wang, 1993 p.11).

Wang (1993 p.11) correctly predicted that no city with an airport or sea port can consider itself completely safe from the introduction of AIDS. In the fragile and uncertain world which HIV/AIDS has wrought, geographical mobility on its own

whether one is a miner, student, yuppie or refugee-imposes an unsuspected vulnerability to HIV infection.

Webb and Simon (1995) investigated the social dynamics of the HIV-epidemic by examining the relationship between migration, military presence, and income in northern Namibia. Shell (2002), employed the Trojan horse hypothesis on how troop movements in Namibia affected the spread of the HIV both in Namibia and South Africa.

For rhetorical purposes the conjecture that HIV/AIDS is spread by military bases has been termed the Trojan horse hypothesis. The Trojan horse hypothesis in South Africa suggests that, AIDS vectors might have been internal, i.e. virtually embedded in South African communities that is, the South African National Defence Force military installations from near the inception of the pandemic in the early 1980s and conceivably, even earlier. From as early as 1976 South African apartheid soldiers invaded Angola and other neighboring HIV infected countries. These apartheid veterans returned from Namibia and South Africa in 1980s and early 1990s. Some tested HIV positive for example, the South African apartheid Military Army HQ in the Caprivi Strip then and now Zambezi Region was one of the world's AIDS hotspot as early as 1994 (Webb, 1997:106).

In 1994 the South African apartheid Military machine in Namibia had a 17.2 % prevalence as measured by blood donor tests (Webb 1997:1060). These returning veterans were only the first phase of the Trojan Horse Vector of HIV AIDS in South

Africa. Highways or mobility corridors have become one of the fastest ways of spreading HIV AIDS. The virus is not only a camp follower of Military campaign but also travels in style on civilian aircraft, railroads, high ways, roads and also spreads humbly by bicycle and on foot. Ironically, well developed transportation systems have become excelled corridor for accelerating infection (Webb, 1997:106).

Furthermore, the conditions of human warfare are the best friends of HIV/AIDS. Vulnerable people in the path of war have proved easy prey for HIV/AIDS which “travels along societies, fault lines, exploiting weakness and instability” (Van der Vliet, 1996:78). One of the main reasons HIV/AIDS has spread so rapidly is that the African Continent has been embroiled in 20 years of intermitted military and chronic civil violence. Wars and civil wars have been present in regions as diverse as Angola, Burundi, Congo, Eritrea, Ethiopia, Mozambique, Namibia, Ruanda, Somalia, South Africa, Sudan, Tanzania, Uganda, and Zimbabwe (Van der Vliet, 1996:81).

War creates the perfect conditions for the rapid transmission of HIV. Refugees, veterans and other persons in the path of war are unlikely to see the risk of HIV, as a significant, additional threat to their lives. War fits into the Jaipur paradigm well. If social cohesion is an obvious advantage in retarding the pandemic, then the breakdown of all social cohesion-wars-must have an accelerating effect on the pandemic (Van der Vliet, 1996:81).

Most critical, however, are extremely high infection rates of STI's and HIV among the armed forces. In a sexually-transmitted HIV epidemic (as is the case in Africa), the speed at which HIV spreads from people with a large number of sexual partners to those with very few partners depends on the extent of mixing between people with different levels of sexual activity. If people, such as young male soldiers, who have had large numbers of partners, then have sex with those who have had fewer partners – such as their wives or girlfriends (known as disassortative mixing) – the epidemic will achieve high levels of infection in the entire population (Confronting AIDS, 1999:68).

In this case soldiers serve as 'bridge populations' in the spread of HIV – they link people in groups that otherwise might not mix, such as partnerships between people with high-risk behaviour and those with very low-risk behaviour. Research has shown that mixing between different groups of different sexual behaviours 'can have a profound effect on the potential course of the HIV/AIDS epidemic' (Confronting AIDS, 1999:72).

This is the case where a soldier who has unprotected intercourse with sex workers and has either a wife or steady girlfriend and thereby may transmit HIV to a monogamous woman who would not otherwise be at risk. Even during peacetime, soldiers have STI rates two to five times greater than those of civilian populations. Those rates can soar to up to 50 times higher during armed conflict (VanBeelen, 2003, p.6).

For example, from 1989 to 1995 Liberia had been in a state of civil war in Monrovia, the capital, and feel within an area protected by foreign troops. A “Save the Children” research initiative was launched in 1994 due to concern over increasing HIV/AIDS prevalence in the town. Hundreds of women and young girls were involved in sex work with military personnel. Pre-menarche Liberian girls received gifts in the form of cash, food items and material rewards in return for sexual relations with military personnel. Younger girls demanded less in return for sex work than older girls, who demanded money rather than goods. The majority of the girls in the child sex work were involved for economic necessity in the absence of any other capacity or opportunities to earn income, (Elliott, 1996, p.254).

## **2.6 CONCLUSION**

According to the United Nations Themes for HIV/AIDS (2010), Namibia ranks as one of the four most affected countries in the world (together with Botswana Zimbabwe and Swaziland) with twenty percent of the adult population in the age of 15-49 years already HIV infected. The statistical results on the National HIV Sentinel Survey (2012) in the country range Caprivi (now Zambezi Region) at 37.7% prevalence. This state of affairs makes Caprivi (now Zambezi Region) with soldiers deployed as members of the community vulnerable because this makes HIV/AIDS a more immediate and acute issue for the Defence Force members. The loss of personnel compromises combat readiness, particularly an Army’s ability to deploy at short notice, and upsets the continuity of command and the efficacy of detachments.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter discusses the methodology and procedures that was used to carry out the study. It highlights the research design, population, sample and type of data collection that were followed for the study project.

#### **3.2 RESEARCH METHOD**

The study used both qualitative and quantitative research methods. Punch (1999, p.247) argues that generally the reasons for combining quantitative and qualitative methods are, “to capitalize on the strengths of the two approaches and to compensate for the weakness of each approach”. Considering this point of view on the combination of methods, a combination of quantitative and qualitative methods was selected for the research for this thesis. Qualitative methods were chosen to collect detailed ideas on the topic of this research, but due the necessity to understand the range of the topic and information on population characteristics, a quantitative method was also used.

Saunders et al (2003, p.96) describes a cross-sectional design as ‘the study of a particular phenomenon (phenomena) at a particular time’. Cross-sectional research involves the measurement of all dependent variables for all cases within a specific

timespan. One advantage of a cross-sectional research design is that it is more economical in time and cost than other designs. This cross-sectional design was used to examine the level of understanding and awareness (knowledge) of the contributory causes of HIV/AIDS in the Namibian Defence Force's 262 Battalion and to explore soldiers' attitudes and practices with regard to multiple concurrent sexual partners among the NDF' 262 Battalion members.

An exploratory research design using a mixed design approach was employed to investigate the existing knowledge, attitudes, and practices related to HIV/AIDS by members of 262 Battalion at Mpacha base in Zambezi Region. "Explorative research is conducted to gain insight into a situation, phenomenon, community or individual" Bless & Higson- Smith (1995) (As cited in De Vos, Strydom, Fourche & Deport, 2005, p.106). Qualitative research through a small scale survey was conducted to provide background information on the context and subjects of the study. In addition, findings from qualitative data were cross-checked with the findings from quantitative questionnaires to enhance the validity of findings from the various sources. This approach of combining data from more than one method is called 'triangulation' (De Vos, Strydom, Fouche and Delport, 2005, p.350).

This research was aimed at collecting data on knowledge, attitude and practices on multiple concurrent sexual partners among a sample group of members from 262 Battalion. The research design seeks answers to the research question (Polit and Hungler, 1997, p.153). The design is a general plan or blue print that describes how the research will be conducted. It focuses the kind of study proposed and its

desired result. It begins with a problem or question and in the context of logic of research, determines what kind of evidence will address the research question adequately (Mouton, 2002, p.56).

### **3.3 RESEARCH DESIGN**

Research design focuses on the research process tools and procedures utilized. Beginning with the tasks it must accomplish, namely data collection and sampling, it focuses on individual steps in the research process, trying to employ objective, i.e. unbiased, procedures (Mouton, 2002, p.56).

#### **3.3.1 The questionnaire**

Closed-ended questions and a few descriptive, explanatory type questions were asked (see Annexure 2). The questionnaire explored background characteristics (independent Variables) which include gender, age, nationality, formation or unit, rank, marital status, number of children, Academic qualification, and the dependent variables included knowledge, attitudes and sexual practices relating to HIV/AIDS.

#### **3.3.2 Variables**

Independent variables used were gender, age, rank, marital status, number of children and academic qualification. The dependent variables used were knowledge, attitude and sexual practices (KAP) of HIV/AIDS.

### **3.4 STUDY POPULATION**

A population is any defined group that is selected as a subject for research. If a population can be defined from oxygen molecules in the universe to supercomputers in the world, then it can be subjected to study and analysis (Melville and Goddard (1996, p.29). A study population includes all the members, or units, of its distinguishing criteria, whether they are people, objects or events, (Chandler, 1991).

The population of the current study is defined as all members of 262 Battalion based at Mpacha Base, Katima Mulilo. The study population consisted of one military company consisting of 119 participants randomly selected by military company rank ratios.

#### **3.4.1 Inclusion Criteria**

To be included in this study, military personnel had to be based at Katima Mulilo's 262 Battalion, Mpacha Base. Both commissioned and non-commissioned officers from the Namibia Defence Force were included in the study. According to Reed (2004, p.1), the NDF rank distribution follows the standard composition of an infantry battalion as other countries in Africa and the rest of the world.

In Namibian military terminology, personnel below the commissioned officer level (other ranks) are known as "men" regardless of their sex. The other ranks are

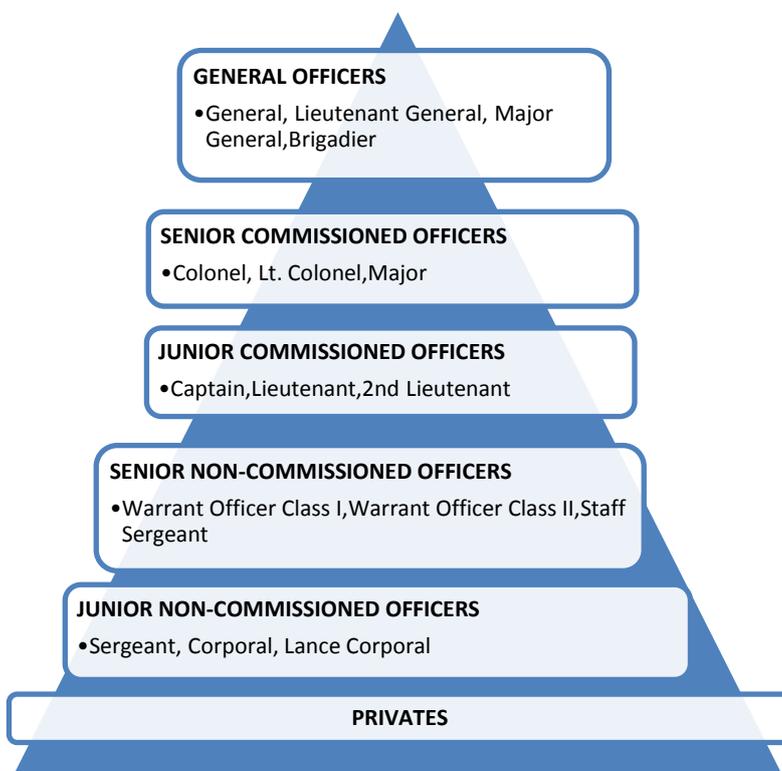
regarded as military personnel who joined the Defense Forces as recruits at the lowest rank to warrant officers at the highest rank. This group can be further subdivided into: 1) non-commissioned officers (NCOs); and 2) rank and files. The NCOs are recruits who graduate as privates after an initial period of training. The highest rank to which they can aspire to be promoted is Warrant Officer. Occasionally, however, because of exceptional service and diligence to duty, they may be commissioned as officers. The ranks and files are juniors ranging from recruits to sergeants.

The officers are also known as commissioned officers (COs). This group can be further subdivided into: 1) junior commissioned officers (JCOs), whose ranks are from 2<sup>nd</sup> Lieutenant to Captain; and 2) senior commissioned officers (SCOs), from Major to Colonel (See Figure 3.1 below).

### **3.4.2 Exclusion Criteria**

This study excluded the Brigade Headquarters Personnel under which the 262 Battalion operates.

Figure 3.1: Rank Structure in the Namibian Defence Forces



### 3.5 RELIABILITY

Reliability can be defined as the accuracy or precision of an instrument. In general reliability refers to the extent to which independent administration of the same instrument (or similar instrument) consistently yields the same results under comparable conditions. The concept of reliability in relation to research can be looked at from two sides, how reliable is an instrument? Or how unreliable is it? The first question focus on the ability of an instrument to produce consistent measurement. While, the second question focuses on the degree of inconsistency in the measurement made by an instrument (De Vos, 2002, p.168).

In order to ensure consistency in the measurement of attributes and to check that every notable change would be observable and not due to the measurement process, the instrument was tested for reliability. The instrument was subjected to a test – retest technique. The Cronbach's Alpha was used to test reliability of the questionnaire scale by using "Analyse → Scale → Reliability Analysis command" in SPSS v.22. This tested the internal consistency of the scale if an item was deleted. This test was based on the assumption that the phenomenon to be measured remains unchanged at two times of testing and that any change is the result of random error. (De Vos et al, 2005, p.168)

### **3.5.1 Sampling Procedures**

A Sample, thus, comprises elements of the population considered for actual inclusion in the study, or it can be viewed as a subset of measurements drawn from a population in which we are interested. One studies the sample in an effort to understand the population from which it was drawn.

As such, the researcher is interested in describing the sample not primarily as an end in itself, but rather as a means of helping him/her to explain some facet of the population. Alternatively, a sample is a small portion of the total set of objects, events or persons which together comprise the subject of our study. Kerlinger (1986,p. 110) states that random sampling is that method of drawing a sample of a population so that all possible samples of fixed (n) have the same probability of being selected (De Vos et al, 2005,p.199).

A stratified random sample selection was applied using gender and rank. The ranks of the respondents were used as proxies for their socio-economic status. The rank distribution for an infantry Battalion is pyramidal in nature and is identified by two lines of military occupation (see Figure 3.1 above). Private rank is the largest group representing the first entry rank in military occupation. Following is the Corporal rank, where one Corporal will be in charge of 12 privates, forming a section.

The Sergeant rank is in command of a platoon, which consists of 3 sections. The Warrant officer is the administrative person in charge of 3 platoons, which is a company. In a company there is one Staff Sergeant assisting the Warrant officer. The Lieutenant is the officer in charge of the platoon at command level, assisted by a Sergeant. The Captain is the commander for a company. Major is an administrative function and deputizes the Battalion Commander. Therefore, the sampling was stratified on the basis of 4 companies representing the 262 Battalion.

In order to get a fair male to female representation sample from the total population of four military companies of 262 Battalion. The probability of selecting a woman at any given rank segment was 1, so as to allow more woman representation in the study population. A sample size of 119, which is representative of a company of the Members of 262 Battalion was selected using stratified random sampling based on their gender and rank.

### **3.5.2 Data Collection**

A six page questionnaire of closed-ended questions was developed to investigate sexual behaviours of a sample group of the Namibian Defence Force's 262 Battalion members. The questionnaire consisted of a brief opening paragraph introducing the aim of the study and the anonymity of the data collection to the sample group of the 262 Battalion members.

A minimum number of 120 questionnaires were required so as to have a complete sample study group. However, a total of 125 questionnaires were prepared and distributed among 125 participants. With the requirements of a minimum of 120 questionnaires, a total of 125 questionnaires were administered to a sample group of the 262 Battalion members. This was done in 3 days i.e. from 28 November to 30 November, 2013. 262 Battalion member's participation and completion of the questionnaire was on a voluntary basis of course, after the company commanders have explained to their companies.

The terminology in the questionnaire was designed such that the phrasing and emphasis encouraged participants to give definite answers rather than general answers. The questionnaires consisted of straight forward questions whereby possible alternatives were given as answers in which respondents were required to choose from. The questionnaires were hand delivered to 125 participants. The questionnaires were made up of close-ended questions. Close-ended questions allow respondents to write in an optional response if they choose to. Open-ended questions

on the other hand, are a good way of giving respondents an opportunity to answer in their own words. Unlike open-ended, close-ended questions are easy to standardize and data gathered makes up for statistical analysis using SPSS V.22. The down side to close-ended questions is that, they are difficult to write.

The knowledge sections of the questionnaire included about their knowledge of HIV/AIDS, whereas, the attitude section investigated their attitudes towards HIV/AIDS and the practices section investigated their practices on concurrent multiple sexual partners.

### **3.5.3 Study Area**

#### **Area Selection**

One of the major constraints of this analysis is the lack of quality HIV/AIDS data. Although estimated figures are based on all available data (UNAIDS, 2000; or Walker and Grassly and Garnett and Stanecki and Ghys, 2004: 2183), including surveys of pregnant women, population-based household surveys as well as other surveillance information surveillance systems vary in completeness and implementation among countries (Garcia-Calleja et al. 2004). Thus, the quality of the databases for the estimation of national prevalence rates as well as the estimation method itself can be criticized.

This study employs the 2012 National HIV/AIDS Sentinel survey data which was conducted in all of the 34 health districts in Namibia. Data from other

HIV/AIDS intervention programmes were also analyzed and triangulated with the sentinel surveillance to be 18.2 % with a range from 9.6 % in Windhoek Central to 37.7% in Katima Mulilo (MoHSS, 2012, p.2).

The study selected Mpacha Base as the area of study because of its geographical location in Katima Mulilo with highest prevalence rates (37.7%). The other military bases in Namibia are in areas such as Rundu (24.5 %) and Windhoek (9.6%), which did not have HIV prevalence as high as Katima Mulilo.

### **3.6 DATA ANALYSIS**

After the respondents finished filling in the questionnaires, the questionnaires were collected for analysis. The data were transferred directly from the completed questionnaires to the prepared SPSS v22 computer database matching the format used for the questionnaires. Data entry was combined with validation whereby range, structure, and consistency checks were pre-programmed in order to ease the detection and immediate correction of errors. At this stage, questionnaires with gross errors that could not be resolved were rejected. All respondents' questionnaires were given computer-derived codes that were specific for each respondent.

Data analysis commenced immediately following data entry, cleaning, and checking of the data. Each questionnaire was checked systematically, meaning each questionnaire was handled one at a time. Statistical analyses were performed going through the following stages:

- Univariate analyses: Descriptive analyses were done for the important variables, including frequencies of some of the identified risk factors, and construction of indicators.
- Bivariate analyses: These allowed for examination of the distribution of some key outcome variables according to respondent characteristics that were suspected to be associated, such as age, gender and rank.

For data presentation, Tables for each question were used. Each question was categorized into sections. One table only catered for one question responses.

### **3.7 VALIDITY**

According to De Vos et al (2005, p. 160), validity refers to the extent to which an empirical measure accurately reflects the concept it is intended to measure. In other words, as stated by Gravetter and Forzano (2003), “The validity of a measurement process measure the variable it claims to measure” (De Vos et al, 2005, p. 104)

Thus the definition of validity has two aspects to be taken into consideration, namely: that the instrument actually measures the concept in question, and that the researcher has tried to strengthen the validity of the study by consulting the 262 Battalion Commanders at all levels and their men. During the consultation period,

the design of the interview guide was discussed in detail and pre-tested in order to refine the data collection plan and the procedure that was to be followed.

In this study face validity and content validity were determined, while criterion validity did not apply. To establish face validity, the questionnaire was submitted to two supervisors for this thesis. They were asked to evaluate the questions and the thesis outline in relation to the objectives of the study. Confirmation from them ensured that the questions actually assessed the test characteristics identified by the researcher (Hulley et al, 2001, p.241), to establish validity, existing literature and policies on HIV/AIDS were referred.

Validity was assessed in such a way that, the selected sample size of the 262 Battalion members was representative a military company of the 262 Battalion (De Vos et al, 2005, p162).

### **3.8 ETHICAL CONSIDERATIONS**

Conducting research implies the acceptance of responsibilities. A researcher is responsible for fellow researchers, to respondents, society as a whole and, most importantly, to himself (Melville & Goddard, 1996, p.113). A high professional standard regarding confidentiality was strictly maintained. De Vos (2002, p.64) identifies ethical issues that are of utmost importance for the researcher. A written consent was obtained from the Ministry of Defence and members of 262 Battalion to conduct a study.

The participants received written information about the purpose and objectives of the study to help them make informed decisions about whether or not to participate. Participants were assured that any information they would divulge would be treated with confidentiality and respect for privacy (Brink & Wood, 2001, p.301). 262 Battalion members' names were not recorded on the instrument and all forms of identification that could make it possible to trace responses to participants, were eliminated by use of codes.

### **3.8.1 Permission**

Permission to conduct the study was sought from the Ministry of Defence Permanent Secretary and Chief of Defence Force Office. The written proposal was reviewed by the University of Namibia Post Graduate Committee to ensure that it conformed to ethical standards of scientific research. Before individuals were recruited as participants, their written consent was obtained.

### **3.8.2 Participant protection**

De Vos (2002, p.64) cites the view of Dane (1990, p.44) that a researcher has an ethical obligation to protect a participant against any form of harm that could result from their participation in a study. It is the obligation of the researcher to inform a potential participant about the research study beforehand, and to protect participants conscientiously and completely. It is difficult to determine whether a

participant could potentially incur harm during a study and the possibility should not be rationalized away by saying that the study might benefit them in some way.

### **3.8.3 Informed Consent**

A researcher is obliged to obtain informed consent from all participants. The researcher provided adequate information regarding the purpose and procedures of the study, about the rights of the participants. Information was also supplied to establish the credibility of the researcher. Participants were informed consent that they could withdraw from the study at any time. In this study, informed consent was sought when the questionnaire was administered, using a participant information leaflet.

### **3.8.4 Deception of participants**

De Vos (2002, p.66) cites the view of Loewenberg and Dolgoff (1988, p.70) that a researcher is guilty of deception when he or she provides information to another person that is not true. He further explain that the difference between deliberate and unintentional deception should be clarified, as it is possible for a researcher to be unaware of the falsity of a piece of information imparted. Such a possibility needs to be discussed candidly with participants during or immediately after a query concerning the truth of any information is raised. To ensure participants would not be deceived the researcher provided an information leaflet will all the information about the research as well as official letter from UNAM outlining the research topic of this researcher.

### **3.8.5 Right to privacy and voluntary participation**

In an increasingly public and transparent world, scientists need to be extremely vigilant that their actions or statements do not violate a subject's rights to privacy. The right to privacy is expressed more concretely through the following principles. A person has the right to:

- Refuse to be interviewed;
- Refuse to answer questions;
- Not be interviewed at meal time;
- Not be interviewed at night; and
- Not be interviewed for a long duration (Mouton, 2002, p.243).

De Vos (2002, p.67) cites the views of Singleton, et.al. (1988, p.454) that privacy is a participant's right to decide to whom, when, where and to what extent his attitudes, beliefs and behaviour may be revealed. Privacy is synonymous with self-determination and confidentiality. Self-determination refers to an individual's right to decide voluntarily whether or not to participate in research (Polit & Beck, 2004, p.732). It is the responsibility of the researcher to obtain informed consent from a participant whenever information of a private nature is solicited in a study.

In this study participants were given information about the objectives of the study through participants information leaflet. Their informed consent was sought

after they had read and understood the purpose and objectives of the study. The participants were assured that their responses were private and confidential.

### **3.8.6 Anonymity**

Informants have the right to remain anonymous. That right should be respected both when it has been promised explicitly and also when no clear agreement to the contrary has been made (Mouton, 2002, p.243). Anonymity is preserved when a person's acts or statements are revealed without a disclosure of his or her identity (Le Beau, 1998, p.33). In this study the participants' responses were anonymous as no name of participant or company was recorded on any questionnaire.

### **3.8.7 Confidentiality**

All participants in the study were assured that the information and opinions they shared would be treated with strictest confidentiality. They were assured that data would only be used for the stated purpose of the research and that no other person would have access to interview data. This condition is reflected by Le Beau (1998, p.33), who states that confidentiality entails that information shared by someone is not divulged to others. No name of participant or their enterprise was recorded on any questionnaire.

## **CHAPTER 4**

### **PRESENTATION AND ANALYSIS OF FINDINGS**

#### **4.1 INTRODUCTION**

This chapter presents the findings of the study. This chapter further uses the presented findings to explore the susceptibility and vulnerability of members of 262 Battalion to HIV/AIDS, as a result of their sexual behaviour, knowledge, attitude and practices with regard to HIV/AIDS. The Chapter begins with the demographic information which includes gender, age, nationality, rank, marital status, number of children and academic qualification. It continues to analyze the results of the respondents' knowledge, attitude and practices with regard to HIV/AIDS.

#### **4.2 RESULTS OF THE STUDY**

Data analysis commenced immediately following data entry, cleaning, and checking of the data. Each questionnaire was checked systematically, meaning each questionnaire was handled one at a time. Statistical analyses were performed going through the following stages

### 4.3 DEMOGRAPHIC INFORMATION

#### 4.3.1: Sex Distribution of Participants

**Table 4.1 Sex Distribution of Participants**

Sex	Frequency
	# (%)
Male	79 (66.4)
Female	40 (33.6)
Total	119 (100)

As can be seen in Table 4.1, the sample was predominantly male (66.4%); whereas women are still a significant minority in the Namibia Defence Force (33.6%). Hence, all efforts in the sample collection and design were aimed at surveying all women at the base.

The high male to female ratio in the army is due to past perceptions that the military embodies masculinity, male sexuality and practices in broader society. This masculine or macho culture that prevails in military settings in the past favoured more men than women during recruitment. It has been argued that soldiers, more specifically male soldiers, are particularly vulnerable to HIV infection, as consequence of the masculine identity of the profession (Baylies and Bujra, 2004).

### 4.3.2 Age of Respondents

**Table 4.2 Ages of Respondents**

<b>Age</b>	<b>Frequency # (%)</b>
18 - 21 yrs.	0 (0)
22 - 25yrs	12 (10.1)
26 - 30yrs	15 (12.6)
31 - 35yrs	30 (25.2)
36 - 40yrs	23 (19.3)
41 and above	39 (32.8)
<b>Total</b>	<b>119 (100.0)</b>

Table 4.2 shows that the age of the respondents ranged between 22 - 41 years and above. Respondents from the age of 41 years and above were 32.8% as compared to respondents from 22-25 years who were 10.1 %. This means that 262 Battalion is predominantly staffed by aged members with average age of 39. This is possibly due to the fact most NDF members were former freedom fighters who were assimilated into the army. And, the fact that the Army has not made any recruitment in the last 3 years and this evident from the null value on the 18 – 21 years age group.

This age distribution could be good for 262 Battalion if the 41 and above members are not involved in intergenerational sexual encounters. There is a worrying trend of Senior Commissioned officers marrying their junior members, mainly due to

the fact that they are spending too much time away from their wives and family. The other reason was that of power and authority impressed upon on these junior wives, who will respect them more due to their high rank.

As De la Torre et.al (2009, p. 40) suggests that new infections occur at relatively young ages in the Caprivi (now Zambezi Region). This is mainly due to the rapid accumulation of partners among young men in this region, possibly because sex is initiated quite early. The proportion of men age 15 to 24 (which is about 10 % of the sample from 262 Battalion) who report having had five or more sexual partners is twice as higher in Zambezi Region than in Namibia as a whole (at 40 % versus 22 % nationally)(De la Torre et.al, 2009, p.40).

### 4.3.3 Rank Distribution

**Table 4.3 Rank Distribution**

<b>Rank</b>	<b>Frequency # (%)</b>
Private	60 (50.4)
Lance Corporal	28 (23.5)
Corporal	12 (10.1)
Sergeant	12 (10.1)
Staff Sergeant	1 (0.8)
Warrant Officer	1 (0.8)
Lieutenant	3 (2.5)
Captain	1 (0.8)
Major	1 (0.8)
<b>Total</b>	<b>119 (100)</b>

Analyzing the different rank that the 262 Battalion has, the lowest rank in the Army is the Private (50.4%). The analysis further indicates that the military structure is organized in a pyramid form, meaning the bottom part consisting of privates has more personnel in relation to the top. Corporal Ranks follow with 23.5% & 10.1%, Corporals are in charge of 12 privates, which is a section. The Sergeant rank (10.1%) is in command of a platoon, which consist of 3 sections and every company has one Staff Sergeant (0.8%). The Warrant officer (0.8 %) is the administrative person in charge of 3 platoons, which is a company. The Lieutenant (2.5%) is the officer in charge of the platoon at command level, assisted by a Sergeant. The Captain (0.8%) is the commander for a company.

Major is an administrative function and deputizes the Battalion Commander. The Battalion Commander is the head of the Battalion. Therefore, this demography is representative of the pyramid of rank in the Namibian Defence Forces Battalion Structures. According to Reed (2004, p.1) the NDF rank distribution follows the standard composition of an infantry battalion in other countries in Africa and the rest of the world.

Benz (2005, p.12), conjectures that the authors of the Jaipur Paradigm themselves noted that social cohesion may be an expression of cultural homogeneity and it is argued that the level of income equity is already observed in the level of social cohesion as income inequality is negatively correlated with social cohesion.

Hence, the pyramidal structure of rank distribution in the military may be construed to negatively impact the social cohesion within the NDF, as there is high income inequality between the Non- Commission Officers (NCOs) ( Privates to Sergeant) (90.8%) and Commissioned Officers (COs) (Staff Sergeant to Major) (9.2%).

#### 4.3.4 Marital Status

**Table 4.4 Marital Status**

<b>Marital Status</b>	<b>Frequency</b>
	<b># (%)</b>
Married	45 (37.8)
Engaged	11 (9.2)
Separated	1 (0.8)
Divorced	2 (1.7)
Widowed	4 (3.4)
Single	56 (47.1)
<b>Total</b>	<b>119 (100.0)</b>

Analyzing the respondents' marital status, it shows that 37.8% respondents are married while 47.1 respondents registered single; followed by engaged (9.2%) widowed (4.1%), divorced (8%) and separated (0.8%). The institution of marriage embodies social cohesion and enhances the presence of strong social bonds which makes 262 Battalion; with 37.8 % married face medium levels of susceptibility to

HIV-infection and medium to high levels of vulnerability to the impact of AIDS, as the married officers are living away from their families, as there are no married quarters in any of the NDF bases (Benz, 2005, p.35).

#### 4.3.5 Respondents' Number of Children

**Table 4.5 Respondents' Number of Children**

<b>Respondents' Number of Children</b>	<b>Frequency # (%)</b>
None	11 (9.2)
One Child	22 (18.5)
Two children	23 (19.3)
Three Children	14 (11.8)
Four Children	12 (10.1)
More than four children	37 (31.1)
<b>TOTAL</b>	<b>119 (100)</b>

Table 4.5 shows that about 31.1% of the Respondents had more than four children, while 10.1% of respondents had only four and those with three children were 11.8%. This brings a total of 53% of respondents having 3 or more children, which could be an indicator of an absence of family planning interventions and reflects an anti-contraceptive behaviour and/or no condom use attitude from more than 50% of the respondents, which may be reflective of a resistance to condom use among the respondents. The trend can be construed as high risk sexual behaviours.

### 4.3.6 Academic Qualifications

**Table 4.6 Academic Qualifications**

<b>Academic Qualifications</b>	<b>Frequency # (%)</b>
Grade 10	56 (47.1)
Grade 12	59 (49.6)
Diploma	3 (2.5)
Degree	1 (0.8)
<b>TOTAL</b>	<b>119 (100)</b>

From Table 4.6 above, 47.1% of the respondents' only have Grade 10 or less qualifications, while those with Grade 12 was 49.6% and 2.5% was for Diploma level and at Degree level only 0.8%. This indicates that, the level of education is low whereby, Grade 12s dominates. Low level of education was identified as one of the main factors associated with the spread of the epidemic in South Africa, together with other factors such as large disparities in income, resistance to condom use, and social norms permitting high numbers of sexual partners (Heineken,2003, pp.281-300).

### 4.3.7 Demographic Summary

The results showed that on average a male member of the 262 Battalion is a Corporal at 33 years with at least a Grade 12 qualification and has 3 children. While, a female member has 2 children, is a Private and completed Grade 12. Furthermore,

a married male member of 262 Battalion is > 41 years old Sergeant with > 4 children. And, a married female member is a 33 year old Private with 3 children. A single male member is a 30 years old Lance Corporal with 2 children; and a single female member is 33 years old, holds the Private rank with 3 children.

**Table 4.7 Demographic Summary**

Demographic Summary		Male	Female	Total
Private	Grade 10	8	18	26
	Grade 12	20	13	33
	Degree	0	1	1
Lance Corporal	Grade 10	11	1	12
	Grade 12	10	4	14
	Diploma	1	1	2
Corporal	Grade 10	6	0	6
	Grade 12	5	1	6
Sergeant	Grade 10	8	0	8
	Grade 12	3	0	3
	Diploma	0	1	1
Staff Sergeant	Grade 10	1		1
Warrant Officer	Grade 10	1		1
Lieutenant	Grade 10	1		1
	Grade 12	2		2
Captain	Grade 10	1		1
Major	Grade 12	1		1
<b>Total</b>	Grade 10	37	19	56
	Grade 12	41	18	59
	Diploma	1	2	3
	Degree	0	1	1
	<b>Total</b>	<b>79</b>	<b>40</b>	<b>119</b>

Table 4.7 shows the demographic summary results and further tests were done on the cross tabulated variables in order to assess extent of association between

the variables and Pearson Correlation test association was used. The results show that there is statistically significant negative but weak relationship between rank and gender ( $r = -0.364$ ,  $p \leq 0.001$ ), this implies that there are fewer females at top ranking positions in the 262 Battalion. On the other hand there is a medium positive relationship between rank and age ( $r = 0.424$ ,  $p \leq 0.001$ ), which implies that the promotion to high ranks in the 262 Battalion is significantly related to age.

These results show a bias based on age, education and gender on rank and promotion, with older males ( $r = 0.421$ ,  $p \leq 0.001$ ) with low education ( $r = -0.554$ ,  $p \leq 0.001$ ) having higher military ranks; while, young females ( $r = -0.364$ ,  $p \leq 0.001$ ) with high levels of education ( $r = -0.554$ ,  $p \leq 0.001$ ) are promoted to senior NCO ranks. The results show that female members have higher educational qualifications than their male counterparts at the same rank.

These gender and social inequalities according to Mbuhe (1998, p.13) and Jackson (2002, p.7) are some of the contributory factors to HIV, together with the powerlessness of women; intergenerational sex between older men and young women; the high mobility of individuals between different places and ignorance (Jackson, 2008, p.8).

#### **4.4 KNOWLEDGE AND AWARENESS OF HIV/AIDS**

It is known that patients with STI symptoms consult a wide range of health care providers, including public, private, informal, and traditional sources of care. The

effective treatment, control, and prevention of STIs have been recognised as major strategies in the prevention of HIV and ultimately HIV/AIDS (UNAIDS, 2000).

#### 4.4.1 Knowledge of Sexual Transmitted Infections (STIs)

In this study, the respondents were asked whether they had ever heard of any infections that could be transmitted sexually, most of the respondents (95.8%) affirm that they had knowledge of STIs, while 4.2 % had no knowledge. Those who had knowledge were then asked to mention these STIs and the findings are indicated below in the Table 4.9.

**Table 4.8 Knowledge of Sexual Transmitted Infections (STIs) by Gender and Rank**

Knowledge of Sexual Transmitted Infections (STIs)		Male # (%)	Female # (%)	Total # (%)
Private	Yes	25	31	56
	No	3	1	4
	Total	28	32	60
Lance Corporal	Yes	22	6	28
Corporal	Yes	11	1	12
Sergeant	Yes	10	1	11
	No	1	0	1
	Total	11	1	12
Staff Sergeant	Yes	1		1
Warrant Officer	Yes	1		1
Lieutenant	Yes	3		3
Captain	Yes	1		1
Major	Yes	1		1
<b>Total</b>	<b>Yes</b>	<b>75 (63)</b>	<b>39(32.8)</b>	<b>114 (95.8)</b>
	<b>No</b>	<b>4 (3.4)</b>	<b>1 (0.8)</b>	<b>5 (4.2)</b>
	<b>Total</b>	<b>79 (66.4)</b>	<b>40 (33.6)</b>	<b>119 (100)</b>

The 4.2% who had no knowledge represent the other ranks and files statistic. In Namibian military terminology, personnel below the commissioned officer level (other ranks) are known as “men” regardless of their sex. The other ranks are regarded as military personnel who joined the Defense Forces as recruits at the lowest rank to warrant officers at the highest rank. This group can be further subdivided into: 1) non-commissioned officers (NCOs); and 2) ranks and files. The NCOs are recruits who graduate as privates after an initial period of training. The highest rank to which they can aspire to be promoted is Warrant Officer. Occasionally, however, because of exceptional service and diligence to duty, they may be commissioned as officers. The ranks and files are juniors ranging from recruits to sergeants.

#### 4.4.2 Level of Sexually Transmitted Infections Awareness

**Table 4.9 Sexually Transmitted Infections Awareness by Gender**

<b>Sexually Transmitted Infections Awareness by Gender</b>	<b>Males # (%)</b>	<b>Females # (%)</b>	<b>Total # (%)</b>
Cannot Name The Type	10 (8.4)	4 (3.4)	14 (11.8)
Gonorrhea	4 (4.1)	1 (0.8)	5 (4.2)
Syphilis, Cancroid, Chlamydia/Genital warts	1 (0.8)	2 (1.7)	3 (2.5)
HIV/AIDS	42 (35.3)	26 (21.8)	68 (57.1)
HIV/AIDS and 1 other type	2 (1.7)	1 (0.8)	3 (2.5)
HIV/AIDS plus 2 or more other STIs	20 (16.8)	6 (5)	26 (21.8)
<b>Total</b>	<b>79 (66.4)</b>	<b>40 (33.6)</b>	<b>119 (100)</b>

From Table 4.9 on the previous page, the majority of the respondents (88.2%) knew about STIs, with 11.8% who knew of STIs but could not name a specific type. The results show that the males (16.8%) are more familiar with the different types STIs than the females (5%). The females had a greater combined awareness on HIV/AIDS when taken as a percentage of the total of all females at 82.1% compared to males' combine HIV/AIDS awareness of 81 %. However, the Levene's Test of Homogeneity of Variances showed that  $F(2,383)$  is significant ( $0.043, p < 0.05$ ) therefore equal variances were not assumed during the Analysis of Variance (ANOVA) test. The ANOVA analysis for STI awareness by gender showed that the mean of the two gender groups were not significantly different ( $F(5) = 0.784, p = 0.564$ ) hence gender has no significant relationship with STI Awareness ( $r = -0.036, p = 0.694$ ).

#### **4.4.3 Knowledge of HIV/AIDS**

HIV/AIDS knowledge levels were classified by judging respondents' answers about the existence of HIV and AIDS, the nature of the relationship between HIV and AIDS related illnesses, how long it took for HIV infection to lead to AIDS related illnesses and how HIV/AIDS is transmitted.

Respondents were asked a series of questions to establish their level of understanding of HIV/AIDS. The first question was whether they understood that there was a relationship between HIV infection and AIDS related illnesses. 92.4% indicated that the two were definitely related, with 2.5% indicating that the two were

not related, and an additional 5% indicated that they did not know whether there was a relationship between the two. Those who indicated there was a relationship were asked to determine what the relationship was. 85.7% noted that HIV led to AIDS, while the remainder indicated that HIV and AIDS was 'the same thing', and 5.9% stated that they did not know their relationship.

Respondents were also asked how long it took for HIV infection to lead to AIDS related illnesses. Assuming the 'correct' response was at least six years, only 15.1% of the respondents gave the correct response. The most common response was 'do not know' (39.5%), followed by within weeks/just a few months (21.8%). Combining these, this means that only 17 (14.3%) of all respondents could correctly state the relationship between HIV and AIDS and who could indicate how long the asymptomatic period was. The results show that the Privates with Grade 10 [8 (7.56%)] and Grade 12 [7(5.9%)] qualifications were the most knowledgeable in this regard followed by a Grade 12 Lance Corporal and a Grade 12 Major with 1 (0.8%) each.

Accordingly, non-parametric statistical tests were done to get an initial sense of the data for the knowledge of HIV/AIDS; of particular interest was the Pearson correlation ( $r$ ) which was used on each of the questionnaire statements with gender, rank and education. The simple correlations of most the questionnaire statements were fairly modest in size, though many were significant.

Table 4.10 on the next page, presents the correlated variables on knowledge of HIV/AIDS with emphasis on those, which had statistical significance. The results shows two relationships that warrant further analysis and these include; the relationship between HIV and AIDS versus Age/Rank ( $r = 0.221/0.187$ , 95% Confidence Interval), and the relationship between knowledge of HIV Transmission and Sexually Transmitted Infections Awareness ( $r = 0.436$ , 95% Confidence Interval).

Table 4.10 also shows the positive association between rank and age, and that relationship is also evident in their association of the knowledge between HIV and AIDS. Further, analysis using One-way ANOVA analysis for the knowledge on the relationship between HIV and AIDS by rank showed that the mean differences between groups were significantly different ( $F(8) = 2.716$ ,  $p = 0.009$ ) and by age ( $F(4) = 2.747$ ,  $p = 0.032$ ), the differences were significant at 95% Confidence Interval, however, post hoc tests showed that the differences were only significant when compared with the > 41 years age group.

**Table 4.10 Correlated Knowledge of HIV/AIDS**

Pearson Correlation		1	2	4	7	9a	10
1. What is your gender?	r						
	p						
2. How old are you?	r	-0.065					
	p	0.483					
4.Rank	r	-0.364	<b>0.421**</b>				
	p	0	0				
7. Highest Academic Qualification	r	0.065	-0.554	-0.083			
	p	0.484	0	0.369			
9a.If Yes, What infections are you aware of?	r	-0.036	0.03	0.086	-0.13		
	p	0.694	0.744	0.352	0.17		
10. Is there a relationship between HIV and AIDS?	r	-0.118	0.14	-0.062	-0.08	-0.062	
	p	0.202	0.128	0.505	0.387	0.5	
10a. What is the relationship between HIV and AIDS?	r	-0.163	<b>0.221*</b>	<b>0.187*</b>	-0.15	-0.099	<b>0.648**</b>
	p	0.077	0.016	0.042	0.107	0.285	0
10b. How long does it take AIDS to develop?	r	<b>0.227*</b>	-0.086	<b>-.311**</b>	0.017	0.141	-0.162
	p	0.013	0.353	0.001	0.855	0.127	0.078
11. How can the HIV/AIDS virus be spread	r	-0.096	-0.082	-0.033	0.042	<b>0.436**</b>	-0.052
	p	0.3	0.376	0.72	0.648	0	0.572

\*\* Correlation is significant at the  $p < 0.01$  level (2-tailed)/ 98 % Confidence Interval

\* Correlation is significant at the  $p < 0.05$  level (2-tailed)/ 95 % Confidence Interval

#### 4.4.4 Methods of HIV/AIDS Transmission

It is well known that the future trend of the HIV pandemic to a large extent depends on the level of HIV/AIDS awareness and knowledge in both civilian and military populations. Furthermore, an appreciable level of knowledge of the modes of transmission of HIV and how to prevent it are important prerequisites for

behaviour change (UNAIDS, 2000). For this reason, most national programmes, including Namibia's, put a great deal of effort into information, education, and communication (IEC) campaigns. In this study, the respondents were asked how HIV could be spread. The findings are indicated in the following table:

**Table 4.11 Knowledge of Method of HIV/AIDS Transmission by STI Type Awareness**

Knowledge of the Method of HIV/AIDS Transmission by STI Type Awareness	Cannot name type # (%)	Gonorrhoea # (%)	Syphilis, Cancroid, Chlamydia or Genital warts	HIV/AIDS # (%)	HIV/AIDS and 1 other type # (%)	HIV/AIDS plus 2 or more other STIs	Total # (%)
Do not know	3 (2.5)	1 (0.8)	1 (0.8)	3 (2.5)	0	1 (0.8)	9 (7.6)
Sex without a condom with someone HIV+	7 (5.9)	2 (1.7)	2 (1.7)	52	2 (1.7)	3 (2.5)	68 (57.1)
Sex even with a condom with someone HIV+				1 (0.8)	1 (0.8)		2 (1.7)
Contaminated needles/razors				1 (0.8)			1 (0.8)
Kissing someone who is HIV+	1 (0.8)						1 (0.8)
Blood transfusion				1 (0.8)			1 (0.8)
Contact with a bleeding cut with someone HIV+	2 (1.7)	1 (0.8)		4 (3.4)			7 (5.9)
Sex without a condom with many partners				3 (2.5)		1 (0.8)	4 (3.4)
4 or more correct methods of Transmission	1 (0.8)	1 (0.8)		3 (2.5)		21 (17.6)	26 (21.8)
<b>Total</b>	<b>14 (11.8)</b>	<b>5 (4.2)</b>	<b>3 (2.5)</b>	<b>68 (57.1)</b>	<b>3 (2.5)</b>	<b>26 (21.8)</b>	<b>119 (100)</b>

Respondents tended to note sexual intercourse without a condom (57.1%) as a key means of transmission, although some mentioned four or more methods of transmission (21.8%) such as any unprotected sex or inconsistent condom use and contaminated needles/razor blades or from mother to unborn child/during childbirth,. Many others noted coming into contact with a bleeding cut with someone HIV+ (5.9%).

Table 4.11 above, shows the cross tabulation of Methods of HVI/AIDS versus STI Awareness; were the respondents who indicated that HIV Virus can be spread through having sex without a condom, with someone who is HIV + represents the majority of respondents who knew that HIV/AIDS [52 (43.7%)]. Others cited blood transfusion (0.8%) confusing it with sharing needles, as well as Touching and handling someone who is HIV + without wearing hand gloves (4.1%), or Kissing someone who is HIV + (2.5%), or even Using the same toilet (1.7%) and Mosquito bites (0.8%).

These are just some of the misconceptions and myths about HIV/AIDS which seriously affect the society's attitude towards people infected and affected by the pandemic. These attitudes weaken the social cohesion of a community, as communities victimize and stigmatize those with HIV/AIDS.

There was no significant difference ( $F(8) = 2.06, p = 0.332$ ) between the males and females, when it comes to knowledge of the method of HIV transmission. For most of the part, respondents were quite informed about key aspects of how HIV is not spread, of concern were those respondents who did not know (7.6%) the methods of HIV transmission.

These respondents who 'did not know' were mainly males (6.7%) and one female (0.8%). The males included Grade 10 (5.9%) and Grade 12 (0.8%) Non-Commissioned Officers with 2.5% Privates and 0.8% at each of the NCO ranks from

Lance Corporal to Staff Sergeant. While, a female Lance Corporal has a Diploma (0.8%).

Furthermore, the findings are in tandem with reviewed literature because the respondents have the knowledge on the transmission of HIV, and it is neither technically difficult nor expensive to impart this knowledge. Most HIV transmission can be stopped by the widespread use of condoms and clean needles (only in terms of blood screening does prevention involve the use of costly technology). But for this to happen requires major changes in behaviour, both individual and collective, which in turn require support for programmes which often infringe cherished religious and cultural beliefs (Tamara and Nyameka, 2007;10;189).

#### **4.5 PRACTICES**

Practices measured included contraceptive methods and condom use and the results are presented in Table 4.12. Respondents were asked whether they had ever used contraceptives; if so, which types. Overall, 91.6% of all respondents had used at least one contraceptive at least once in their lifetime. The most used contraceptives in descending order were; the male condom (36.6%), the injection (20.5%), the pill (19.6%); withdrawal (6.3%) and the female condom (4.5%).

**Table 4.12 Contraceptive Methods by Reasons for using Condom and Gender**

Contraceptive Methods by Gender		Reason for using condoms						Total
		Avoid pregnancy	Partner wanted to/decided to	Avoid HIV/AIDS	Avoid other STIs	Other	Avoid pregnancy, HIV/AIDS, STIS	
Male	none	0	0	1 (1.4)	0	1 (1.4)	0	2 (2.7)
	Male condom	3 (4.1)	1 (1.4)	19 (25.7)	6 (8.1)	1 (1.4)	7 (9.5)	37 (50)
	IUD/Loop	1 (1.4)		1 (1.4)			1 (1.4)	3 (4.1)
	Foam/Jelly			1 (1.4)				1 (1.4)
	injection	1 (1.4)		2	1 (1.4)	2		6 (8.1)
	Withdrawal	0		3 (4.1)			3 (4.1)	6 (8.1)
	Pill	4 (5.4)		6 (8.1)	1 (1.4)		2	13 (17.6)
	Douche			1 (1.4)				1 (1.4)
	Sterilisation		1 (1.4)	1 (1.4)				2 (2.7)
	Diaphragm			1 (1.4)				1 (1.4)
	Female condom			1 (1.4)			1 (1.4)	2 (2.7)
	<b>Total</b>	<b>9 (12.2)</b>	<b>2 (2.7)</b>	<b>37 (50)</b>	<b>8 (10.8)</b>	<b>4 (5.4)</b>	<b>14 (18.9)</b>	<b>74 (100)</b>
Female	none			1 (2.6)				1 (2.6)
	Male condom	1 (2.6)		1 (2.6)	1 (2.6)	1 (2.6)		4 (10.5)
	injection	7 (18.4)		9 (23.7)		1 (2.6)		17 (44.7)
	Withdrawal			1 (2.6)				1 (2.6)
	Pill	5 (13.2)					4 (10.5)	9 (23.7)
	Douche			1 (2.6)				1 (2.6)
	Long term abstinence						1 (2.6)	1 (2.6)
	Sterilisation			1 (2.6)				1 (2.6)
	Female condom	1 (2.6)		2				3 (7.9)
	<b>Total</b>	<b>14 (36.8)</b>		<b>16 (42.1)</b>	<b>1 (2.6)</b>	<b>2 (5.3)</b>	<b>5 (13.2)</b>	<b>38 (100)</b>
Total	none			2 (1.8)	6 (5.4)	1 (0.9)		3 (2.7)
	Male condom	4 (3.6)	1 (0.9)	20	7	2	7	41
	IUD/Loop	1 (0.9)		1 (0.9)			1 (0.9)	3
	Foam/Jelly			1 (0.9)				1 (0.9)
	injection	8 (7.1)		11 (9.8)	1 (0.9)	3 (2.7)		23
	Withdrawal			4 (3.6)			3 (2.7)	7 (6.3)
	Pill	9 (8.0)		6 (5.4)	1 (0.9)		6 (5.4)	22
	Douche			2 (1.8)			0	2 (1.8)
	Long term abstinence			0			1 (0.9)	1 (0.9)
	Sterilisation		1 (0.9)	2 (1.8)				3 (2.7)
	Diaphragm			1 (0.9)				1 (0.9)
	Female condom	1 (0.9)		3 (2.7)			1 (0.9)	5 (4.5)
	<b>Grand Total</b>	<b>23 (20.5)</b>	<b>2 (1.8)</b>	<b>53 (47.3)</b>	<b>9 (8.0)</b>	<b>6 (5.4)</b>	<b>19 (17.0)</b>	<b>112 (100)</b>

While, condoms were mentioned as a form of contraception, a follow up question on whether they had ever used a condom indicated that 91.6% of all the

respondents had used a condom at least once but not necessarily for the purpose of contraception. Only some of the respondents had done so for the purpose of contraception (20.5%), avoidance of HIV/AIDS (47.5%) was indicated as the leading reason for condom use, 8% for the avoidance of other STIs (besides HIV) and 17% of the respondents gave all three reasons.

The male condom was the contraceptive of choice for 50% of males, while the injection was the contraceptive of choice for 44.7%. The pill is also a popular choice of contraception for both males (17.6%) and females (23.7%). These results are in tandem with literature, as condom use in Zambezi Region is among the lowest in the country for men and women of all ages - with approximately half of sexually active women using condoms at last sex with a non-marital, non-cohabiting partner, regardless of age. Men report slightly higher levels of condom use with their most recent non-marital, non-cohabiting partner (68%), but the levels are still far below the national average (78%) (De la Torre et al., 2009, p.39).

The respondents who had used a contraceptive other than a condom were asked whether they had combined condom use and other contraceptive use. Overall, 65.2% indicated that they had done so, but some had not. Those who had were asked if they had used both contraceptive the last time they had sex. 61.2% had done so, most commonly using condoms with the pill (29.4%) and injection (26.5%). Condom and withdrawal was also modal at 11.8%. The females mainly used condoms and injection (53.4% of all females) and the condom/pill combination (28.6% of all females). Simultaneously, for the males three combinations were modal and were as

follows; condom/IUD Loop (11.4% of all males), condom/ withdrawal (20%) and condom/pill combination (34.3%).

A test of association was carried out on condom use variables and the demography factors of interest. It was noted that there is statistically significant relationship ( $r = 0.237$ ,  $p = 0.003$ ) between the rank of the respondents and the variable “condom use” (measured by the question – ‘In last sexual intercourse did you use a condom and other contraceptive’). Further inference analysis was done using One-way ANOVA, to examine whether there are significant differences in the use of a condom and other contraceptive; and the different rank groups.

The results of the Chi-Square inferred that there was a statistically significant difference between the means of the rank groups in the utilization patterns of condom use. Differences in the socio-economic classes of respondents could in part explain the reasons for the differential utilization patterns of condom use, although there is clearly the rank effect, which may signal a change in the culture or acceptability of condom use among younger cohorts.

However, rank levels may affect respondents’ ability to appreciate the importance of the personal efforts needed to protect themselves from contracting STIs, including HIV, with condoms. Potentially, income levels may affect the ability to procure condoms. Since it is well known that unprotected sex propagates the spread of HIV in most countries, increasing condom use by making them readily

available and accessible are prerequisites for any successful HIV/AIDS control programme (UNAIDS, 2000).

Also, the importance of mounting effective health education programmes within each arm of service cannot be over-emphasized. A measure of the extent to which respondents practiced safe sex was ascertained by what proportion of them used condoms the first and last time they had sex with their partners.

#### **4.6 ATTITUDES ON GENERAL SEXUAL ISSUES AND HIV/AIDS**

The questionnaire included only 15 attitudinal scale statements (Likert), which were designed to guide the respondents to respond negatively by choosing the strongly disagree/disagree rating. The strongly disagree/ disagree rating is of particular interest because the questionnaire statements took into account the determinants of non-changing behaviour in the presence of a relatively high level of knowledge about HIV/AIDS. Hence, a positive attitude to the general sexual issues and HIV/AIDS is reflected by *Strongly Disagree (5)/Disagree (4)* with the questionnaire statements.

The Likert scale values of ‘Strongly Agree’ (1); ‘Agree’ (2); ‘Do not know’ (3); ‘Disagree’ (4); ‘Strongly Disagree’ (5) were coded and inputted in the SPSS™ v.22 as nominal values. The Attitudinal findings are presented in Table 4.13 below.

**Table 4.13 Descriptive Statistic of Attitudinal Statements by Gender**

General Sex Issues and HIV/AIDS Attitudes	Male			Female			Total		
	Mean	Grouped Median	Skewness	Mean	Grouped Median	Skewness	Mean	Grouped Median	Skewness
It is unrealistic to believe that, even with risk, young soldiers will abstain in great number	<b>3.0</b>	3.1	-0.06	<b>2.88</b>	2.84	0.17	<b>2.95</b>	2.95	0.01
If one is in a long-term relationship, it is really impossible to refuse sex, including sex without a condom, even if you fear that they have a sexual infection	<b>3.1</b>	3.4	-0.45	<b>3.53</b>	3.64	-0.85	<b>3.22</b>	3.52	-0.60
When a woman is dependent on a man economically, he has the right to demand sex	<b>3.4</b>	3.7	-0.88	<b>3.85</b>	4.13	-0.71	<b>3.53</b>	3.84	-0.85
A woman cannot contract a sexual disease if she is having sex for the first time	<b>3.9</b>	4.1	-1.85	<b>4.35</b>	4.38	-1.07	<b>4.08</b>	4.21	-1.87
It is unrealistic to believe that high numbers of soldiers would abstain from sex for a long time	<b>3.1</b>	3.1	-0.12	<b>3.98</b>	4.25	-1.21	<b>3.36</b>	3.63	-0.42
In our culture, it is understood that married man can still have other sexual partners	<b>3.1</b>	3.3	-0.45	<b>2.93</b>	2.89	0.20	<b>3.04</b>	3.19	-0.20
Young soldiers are often afraid to ask others about sexual advice, because they fear that they would be viewed as sexually inexperienced	<b>3.0</b>	3.4	-0.58	<b>2.70</b>	2.57	0.19	<b>2.91</b>	3.20	-0.31
People who get a sexual disease often deserve it, they have been promiscuous	<b>3.6</b>	3.8	-1.29	<b>3.88</b>	4.03	-1.88	<b>3.71</b>	3.94	-1.45
AIDS is really only a problem in other areas, it's not here among the soldiers.	<b>4.3</b>	4.4	-1.45	<b>4.33</b>	4.36	-1.02	<b>4.30</b>	4.38	-1.41
If a soldier is known to have the AIDS virus, they should be isolated even if they do not show signs of illness.	<b>4.3</b>	4.3	4.29	<b>4.23</b>	4.26	-0.87	<b>4.27</b>	4.31	-1.10
It is not risky to have unprotected sex because I can tell if someone has HIV/AIDS virus	<b>4.3</b>	4.4	-1.01	<b>4.33</b>	4.36	-1.02	<b>4.33</b>	4.36	-1.00
There is really nothing one can do to protect oneself from the AIDS virus, it is just fate.	<b>4.2</b>	4.3	-1.29	<b>4.23</b>	4.26	-0.87	<b>4.18</b>	4.28	-1.32
As long as you only have one sexual partner at a time, there is no need to worry about getting AIDS	<b>3.9</b>	4.1	-1.01	<b>4.00</b>	4.14	-1.20	<b>3.95</b>	4.12	-1.06
We have received many confusing messages about AIDS	<b>3.3</b>	3.4	-0.34	<b>3.35</b>	3.41	-0.13	<b>3.29</b>	3.41	-0.23
If another soldier had the AIDS virus and worked in the canteen, I would be careful not to get my food from them if possible	<b>4.1</b>	4.2	-1.29	<b>4.20</b>	4.23	-0.87	<b>4.15</b>	4.23	-1.30

Table 4.13 above presents the descriptive statistics of the attitudinal statements by gender. A positive or good attitude to the general sexual issues and HIV/AIDS is reflected by Strongly Disagree (5)/Disagree (4), which means a grouped median or mean above 3. However, a mean equal or less than 3 implies lack of knowledge or a negative attitude from the respondents. In order to understand the distribution of the population, the table also shows the skewness of the distribution. The values of skewness should be zero in a normal distribution. Positive values of skewness indicate a pile-up of scores on the left of the distribution (more scores for the Strongly Agree/Agree ratings), whereas negative values indicate a pile-up on the right (meaning more scores for the strongly disagree/disagree rating). The further the value is from zero, the more likely it is that the data are not normally distributed.

Findings suggest that there are some attitudinal statements of concern. There are as follows in descending order of frequency in percentage for the strongly agree/agree ratings;

- 50.4 % (mean = 2.95, skewness = 0.01), felt that young soldiers would not abstain in great number,
- 45.3 % (mean = 3.04, skewness = -0.20) felt that married men can having other sexual partners was acceptable in their cultures.
- 44.5 % (mean = 2.91, skewness = -0.31) also felt that young soldiers were afraid to ask about sexual advice from their peers, fearing that this would be embarrassing, reflecting inexperience.
- 38.7% (mean = 3.29, skewness = -0.23) felt that, they were receiving many confusing messages about AIDS.

- 37.0% (mean= 3.36, skewness = -0.42) felt that soldiers in general would not be likely to abstain for any period of time.
- 35.3% (mean= 3.22, skewness = -0.60) felt that, in a long term relationship, it was impossible to refuse sex.
- 26.9% (mean = 3.53, skewness = -0.85) felt that, man who have economically dependent women have a right to demand sex.
- 15.1% (mean = 3.95, skewness = -1.06) felt that, there is no need to worry about AIDS, if you have one sexual partner at a time.

On the other hand, virtually all knew at 97.5% (mean = 4.33, skewness = -1.00) that it is risky to have unprotected sex because you cannot tell if someone has the AIDS virus. And, the remainder of the statements, mostly Attitudes of respondents towards HIV/AIDS with a mean above 4, all had over 90% disagreeing or strongly disagreeing with those statements.

Non-parametric statistical tests were then done to get a sense of the data for the General Sex Issues and Attitudes of respondents towards HIV/AIDS; the Pearson correlation ( $r$ ) was used on each of the questionnaire statements with the attitudinal statements. The simple correlations of most the questionnaire statements were fairly modest in size, though many were significant. The results were then categorized into four factors focusing on the statistically significant relationships. These factors are categorized into, Attitudes of respondents towards HIV/AIDS, Risky behaviour, Knowledge and Awareness, Cultural/Traditional Attitudes.

#### 4.6.1 Attitudes of Respondents towards HIV/AIDS

The Ministry of Defence (MoD) and the Namibian Defence Force (NDF) estimate that the overall prevalence of HIV in the country's armed forces is higher than 19.7 percent. The NDF believes that this is due to a number of factors which include patterns of deployment; the culture of risk-taking in the military; alcohol abuse; myths and misconceptions about HIV/AIDS; and the fact that soldiers are generally of an age of high sexual activity and it is thus common practice to have multiple sexual partners. The military is concerned that widespread illness caused by HIV/AIDS will impact negatively on its operational readiness (Faiker, 2006, p.20).

**Table 4.14 Attitudes of Respondents towards HIV/AIDS**

Pearson Correlation (r)		Age	Rank	Marital Status	Children	Education	HIV/AIDS Transmission	Condom Use	It is unrealistic to believe that high numbers of soldiers would abstain from sex for a long time
AIDS is really only a problem in other areas, its not here among the soldiers.	r	0.878	0.215	-0.424	0.532	-0.608			0.187
	rsq	77.1%	4.6%	18.0%	28.3%	37.0%			3.5%
	p	0	0.019	0	0	0			0.042
If a soldier is known to have the AIDS virus, they should be isolated even if they do not show signs of illness.	r	0.86	0.229	-0.429	0.502	-0.651			
	rsq	74.0%	5.2%	18.4%	25.2%	42.4%			
	p	0	0.012	0	0	0			
It is not risky to have unprotected sex because I can tell if someone has HIV/AIDS virus	r	0.854		-0.437	0.475	-0.626		0.202	
	rsq	72.9%		19.1%	22.6%	39.2%		4.1%	
	p	0		0	0	0		0.028	
There is really nothing one can do to protect oneself from the AIDS virus, it is just fate.	r	0.889	0.264	-0.424	0.545	-0.653			
	rsq	79.0%	7.0%	18.0%	29.7%	42.6%			
	p	0	0.004	0	0	0			
As long as you only have one sexual partner at time, there is no need to worry about getting AIDS	r	0.837		-0.358	0.503	-0.525			
	rsq	70.1%		12.8%	25.3%	27.6%			
	p	0		0	0	0			
We have received many confusing messages about AIDS	r	0.826		-0.393	0.48	-0.564	-0.181	0.221	
	rsq	68.2%		15.4%	23.0%	31.8%	3.3%	4.9%	
	p	0		0	0	0	0.048	0.016	
If another soldier had the AIDS virus and worked in the canteen, I would be careful not go get my food from them if possible	r	0.82		-0.373	0.484	-0.64	-0.183	0.213	
	rsq	0.6724		0.1391	0.234256	0.4096	0.033489	0.04537	
	p	0		0	0	0	0.046	0.02	

Table 4.14 above presents the Pearson correlation ( $r$ ) and the variability ( $r^2$ ), square of the Pearson correlation ( $r$ ) which can be used to interpret variability in the Attitudes of respondents towards HIV/AIDS. The results show that the age of the respondents has a high positive association with the Attitudes of respondents towards HIV/AIDS and that age is contributes the highest variability in Attitudes of respondents towards HIV/AIDS with values between 67 – 79% (c.f Table 4.14). It therefore follows that the young soldiers are more susceptible to HV/AIDS, while young female soldiers are more vulnerable to the pandemic due to low levels of wealth and low social cohesion.

Accordingly, the Jaipur Paradigm; which serves as an econometric model to illustrate the interaction between HIV/AIDS and society; premise that with respect to HIV/AIDS, societies differ in their susceptibility and vulnerability to the disease. Where, Susceptibility refers to the level of risks for HIV/AIDS infection in a particular social environment, defined as those aspects of a society which make it more or less likely that an epidemic will develop. Vulnerability refers to those aspects of a society which influence the likelihood that an epidemic will have a serious impact on social and economic organizations (Benz, 2005, p.13).

These conditions include hyper sexual young soldiers; who even with risk, will not abstain (mean = 2.95, skewness = 0.01), and show negative attitudes in the presence of a relatively high level of knowledge about HIV/AIDS. Additionally, these young soldiers (22 – 35 years) felt that they were receiving many confusing messages about AIDS (38.7%).

This susceptibility of young soldiers to the HIV/AIDS leaves the army more vulnerable because as the young soldiers fall sick or die and the aged or senior members retire, the Namibian Defence Force is left weak with a high recruitment turnover rate. Benz (2005, p.35), argues that the high susceptibility of new military recruits to HIV infection has been attributed to their relatively low levels of maturity combined with high levels of testosterone.

The situation is further compounded by intergenerational sex between older men and young women, especially, if it occurs within the military ranks. There is a worrying trend of Senior Commissioned officers marrying their junior members, mainly due to the fact that they are spending too much time away from their wives and family. The other reason was that of power and authority impressed upon on these junior wives, who will respect them more due to their high rank.

#### **4.6.2 Risky Behaviour**

Given that rates of HIV have been shown to be higher among soldier communities than among civilians round the world, and taking into account the masculinize, macho culture that prevails in military settings, it has been argued that soldiers, more specifically young male soldiers, are particularly vulnerable to HIV infection (Baylies and Bujra, 2004).

The findings support literature, as 50.4 % (mean = 2.95, skewness = 0.01), felt that young soldiers would not abstain in great number, and some 37.0% (mean= 3.36, skewness = -0.42) felt that soldiers in general would not be likely to abstain for any period of time.

These findings shows that more than half of the soldiers at the 262 battalion do not believe the young soldiers can abstain from sex, which according to the epidemiology profile of AIDS in Africa supports the hypothesis that heterosexual intercourse is the major mechanism of transmission. It is generally estimated that heterosexual intercourse and vertical (mother-to-child) transmission count for 80 percent cases in Africa. Sub- Saharan African, especially Southern African is the hardest hit region in the world (Jackson, 2000, p.8).

The Health Belief Model (HBM) has been adapted to explain a variety of long- and short-term health behaviours, including sexual risk behaviours and the transmission of HIV/AIDS. According to the HBM, an individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity); that person has to understand that he or she may be vulnerable to a disease or negative health outcome. (Perceived threat); lastly the individual must realize that behaviour change can be beneficial and the benefits of that change will outweigh any costs of doing so. (Perceived benefits and barriers) (Bloor (1995, p. 88-94).

The HBM model focuses on the attitudes and beliefs of individuals and puts emphasis on the role of perceptions (perceptions of vulnerability to infection, perceptions of the seriousness of disease threat, etc.). The results of the attitudinal statements indicate that the young soldiers are not perceptive of their vulnerability to infection, as shown by the high positive correlations between the statements and age.

For instance, the statement that ‘If one is in a long-term relationship, it is really impossible to refuse sex, including sex without a condom, even if you fear that they have a sexual infection’; the statement indicated that 35.3% (mean= 3.22, skewness = -0.60) felt that, in a long term relationship, it was impossible to refuse sex, even with the perceived threat of infection, which makes it imperative to combat disassortative mixing. Where, If people, such as young male soldiers, who have had large numbers of partners, then have sex with those who have had fewer partners – such as their wives or girlfriends (known as disassortative mixing) – the epidemic will achieve high levels of infection in the entire population (Confronting AIDS, 1999, p.68).

In this case soldiers serve as ‘bridge populations’ or Trojan Horses in the spread of HIV; as they link people in groups that otherwise might not mix, such as partnerships between people with high-risk behaviour and those with very low-risk behaviour. Research has shown that mixing between different groups of different sexual behaviours ‘can have a profound effect on the potential course of the HIV/AIDS epidemic’ (Confronting AIDS, 1999, p.72).

Our results clearly show that there is a clear difference between the behaviours of young soldiers and older soldiers. The Jaipur Paradigm, implicitly assumes that individual HIV/AIDS risk behaviour is determined by socio-economic variables. More specifically, it is implicitly assumed that the level of wealth at all levels from individual to country, and social cohesion is somehow casually related to HIV-transmission (Zierler and Krieger, 1997, p.406, 407).

According to this paradigm, the young soldiers' risky behaviour is determined by socio-economic variables, which are level of wealth and social cohesion. On one hand, their level of wealth suddenly increases as they start working in the Army, and being based in Caprivi (now Zambezi Region) region, were three out of four youths are sexually active leaves them highly susceptible. Approximately one-third of young men and one-fifth of young women in Caprivi (now Zambezi Region) are reported to have their first sexual encounter before the age of 15, which is notably a higher frequency than elsewhere in the country. This ranks Caprivi (now Zambezi Region) with the lowest levels of premarital abstinence in the country, at 22 percent of young women and 14 percent of young men (De la Torre et al., 2009, p.40). As a result, these low levels of premarital abstinence are leaving the new recruits highly vulnerable.

#### **4.6.3 Knowledge and Awareness**

There is a rapid accumulation of partners among young men in this region, possibly because sex is initiated quite early. The proportion of men aged 15 to 24

who reported having had five or more sexual partners is twice as high in Caprivi (now Zambezi Region) as in the nation as a whole 40% versus 22% nationally (De la torre et al., 2009, p.40). In such an environment, it is then reasonable to assume that 44.5 % (mean = 2.91, skewness = -0.31) felt that young soldiers were afraid to ask about sexual advice from their peers, fearing that this would be embarrassing, reflecting inexperience

This then leads to lack of knowledge, as the macho young males hide their ignorance fearing embarrassment, as a result, 38.7% (mean = 3.29, skewness = -0.23) felt that, they were receiving many confusing messages about AIDS confusing messages about HIV/AIDS. Hence, the Army needs to sensitize the new recruits and continually do awareness programs targeting the young soldiers. The information, education and communication (IEC) campaign programs should target the masculine psyche of the young soldiers, for example, macho man knows his HIV status or visuals depicting macho man asking for advice to get the correct information. This will help to address the low levels of maturity and the high levels of testosterone in the young recruits which usually result in risky behaviour, such sex with multiple partners or purchased sex (Benz (2005, p.35).

#### **4.6.3 Cultural or Traditional Attitudes**

Mbuche (1998, p.13) sites poverty, powerlessness of women and traditional beliefs, which emphasize witchcraft over biological explanations of illness, as major contributing factors to the high rate of HIV. It is known that patients with STI

symptoms consult a wide range of health care providers, including public, private, informal, and traditional sources of care. The effective treatment, control, and prevention of STIs have been recognised as major strategies in the prevention of HIV and ultimately HIV/AIDS.

In this study, 45.3 % (mean = 3.04, skewness = -0.20) felt that married men can have other sexual partners was acceptable in their cultures. This statement is positively correlated ( $r = 0.407$ ,  $p = 0.00$ ) to the 35.3% (mean= 3.22, skewness = -0.60) felt that, in a long term relationship, it was impossible to refuse sex. These results show a multi-cultural background of the army with half of the respondents feeling strongly against a polygamous culture. Cultural/traditional attitudes can also be attributed to the 44.5 % (mean = 2.91, skewness = -0.31) that felt, young soldiers were afraid to ask about sexual advice from their peers, fearing that this would be embarrassing, reflecting inexperience.

Overall, the results (at least 90% of the respondents) show positive HIV/AIDS infected and affected people will not be victimized. The statements, mostly on Attitudes of respondents towards HIV/AIDS with a mean above 4, all had over 90% disagreeing or strongly disagreeing with stigmatization and isolation. The HIV/AIDS attitudes include, the attitude of soldiers to virgin girls is encouraging (mean = 4.08, skewness = -1.87); There is also general disagreement amongst the respondent with regard to the views that if another soldier had the AIDS virus and worked in the canteen they would not get food from them (mean = 4.15, skewness = -1.30).

According to the Jaipur Paradigm, cultural sensitivities of the region can be used to increase the levels of social cohesion by using for example communication strategies that caters for both traditional and western medicine. Although the communities may face high poverty-related susceptibility they will be able to mobilize fast and effective responses due to high levels of social cohesion. Unified national planning, a public environment conducive to the social inclusion of people with HIV and those most at risk, strong and active civil society organizations and low levels of income inequality are all critical factors that assist in effective interventions.

#### **4.7 DISCUSSION OF FINDINGS**

Overall the findings showed that on average a male member of the 262 Battalion is a Corporal at 33 years with at least a Grade 12 qualification and has 3 children. Whilst a female member has 2 children is a Private and completed Grade 12. Furthermore, a married male member of 262 Battalion is > 41 years old Sergeant with > 4 children. And, a married female member is a 33 year old Private with 3 children. A single male member is a 30 years old Lance Corporal with 2 children; and a single female member is 33 years old, holds the Private rank with 3 children.

The results show that the Privates with Grade 10 and Grade 12 qualifications were the most knowledgeable in this regard followed by a Grade 12 Lance Corporal and a Grade 12 Major. These results showed biases based on age, education and

gender with regard to rank and promotion; with lowly educated older males occupying higher military ranks as Commissioned Officers; while, young educated females occupy Non Commissioned Officers ranks. Results also showed that female members have higher educational qualifications than their male counterparts at the same rank.

The intervention awareness programs and information should target the masculine psyche of the young soldiers, for example, macho man knows his HIV status or visuals depicting macho man asking for advice to get the correct information. This will help to address the low levels of maturity and the high levels of testosterone in the young recruits which usually result in risky behaviour, such sex with multiple partners or purchased sex (Benz (2005, p.35).

The Attitudes of respondents towards HIV/AIDS show that the Namibian Defence Force has done a lot of education and awareness programs that are slowly impacting on the attitudes of the respondent with at least 84.5 % aware of the contributory causes of HIV/AIDS. Victimization and stigmatization has been effectively reduced, as shown by at least 92.5 % of the respondents, who felt strongly against discrimination and isolation of those infected and affected by HIV/AIDS, thus showing an improved social cohesion in the 262 Battalion community.

The Ministry of Defence (MoD) and the Namibian Defence Force (NDF) estimate that the overall prevalence of HIV in the country's Defence Force is higher than 19.7%. The NDF believes that this is due to a number of factors which include

patterns of deployment; the culture of risk-taking in the military; alcohol abuse; myths and misconceptions about HIV/AIDS; and the fact that soldiers are generally of an age of high sexual activity and it is thus common practice to have multiple sexual partners. The military is concerned that widespread illness caused by HIV/AIDS will impact negatively on its operational readiness (Faiker, 2006, p.20).

All age groups should be targeted for risk actions, as there is a degree of risk to soldiers deployed at Katima Mulilo given approximately one-third of young men and one-fifth of young women in Caprivi (now Zambezi Region) are reported to have their first sexual encounter before the age of 15, which is notably a higher frequency than elsewhere in the country. The NDF members need to be sensitised as they are a workforce with skills and experience, and the military has already invested in their training and development.

The Ministry of Defence (MoD) and the Namibian Defence Force (NDF) estimate that the overall prevalence of HIV in the country's armed forces is higher than 19.7 percent. The NDF believes that this is due to a number of factors which include patterns of deployment; the culture of risk-taking in the military; alcohol abuse; myths and misconceptions about HIV/AIDS; and the fact that soldiers are generally of an age of high sexual activity and it is thus common practice to have multiple sexual partners. The military is concerned that widespread illness caused by HIV/AIDS will impact negatively on its operational readiness (Faiker, 2006, p.20).

The Namibia government strategic plan on HIV/AIDS 2004-2009 (Third Medium Plan) set out the country's response to the epidemic. The plan aims to reduce and effectively manage HIV/AIDS, STIs, tuberculosis and malaria. The NDF promotes the use of the female and male condom; provides intensive information, education and communication services; strengthens already established voluntary counselling and testing (VCT) Services; facilitates treatment of opportunistic infections through ARV therapy, as well as care and support for affected and infected members; carries out home-based care services; and monitors and assesses the magnitude and impact of the epidemic through research and surveillance studies.

#### **4.8 CONCLUSION**

The chapter presented and discussed the results from the investigation done to explore the susceptibility and vulnerability of members of 262 Battalion, as a result of their sexual behaviour, knowledge, attitude and practices with regard to HIV/AIDS. The discussion of the findings in this chapter was linked to the literature review.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 CONCLUSIONS**

It can be concluded that the level of understanding and awareness to the contributory causes of HIV/AIDS in the Namibian Defence Forces, is moderate to low given that the young soldiers who make the biggest percentage of soldiers have low levels of understanding, making the more susceptible to HIV/AIDS. In addition, some still have misconceptions and partial knowledge of the modes of transmission of HIV and practice invalid preventive measures. HIV/AIDS health education campaigns need to focus on these issues.

The Attitudes of respondents towards HIV/AIDS were positive given that the Namibian Defence Force has done a lot of education and awareness programs, which are slowly impacting on the attitudes of the respondent with at least 81 % aware of the contributory causes of HIV/AIDS. Victimization and stigmatization has been effectively reduced, as shown by the at least 90 % of the respondents, who felt strongly against discrimination and isolation of those infected and affected by HIV/AIDS, thus showing an improved social cohesion in the 262 Battalion community.

## 5.2 RECOMMENDATIONS

It has now been established that military personnel are among the most susceptible populations to STIs, including HIV/AIDS, resulting in infection rates up to 2–5 times higher than among the civilian population. HIV/AIDS is, therefore, a harsh reality that needs to be tackled with all the available resources at the earliest possible time. To preserve the lives of military personnel and the future peace and security of the nation, the following are Information, Education and communication (IEC) program recommendations based on the findings:

- STIs and HIV Prevention Education Programmes should be conducted regularly (i.e. before, during, and after deployment) among military personnel to reinforce health promoting behaviours encouraging condom use in particular through behaviour change and communication (BCC) programmes,.
- Maintain senior leadership engagement in HIV/AIDS, by maintaining the profile of HIV/AIDS with Commanding Officers through directives on the issue from the Battalion Commander. As well as, ensuring that the soldiers have the means to maintain communication with their family and friends at home by constructing family quarters for the married members.
- Ensuring that the messages on sexual exploitation, abuse and risky behaviour are clearly and directly conveyed, and understood by the rank and file as well as the command structure. Educational programmes should focus on changing military personnel's perception of risk for HIV/AIDS. Condom promotion activities

should be mounted using social marketing strategies that are adapted to the local, social, economic, and cultural sensitivities of the country.

- There should be policies guiding the regular supply and distribution of condoms to military personnel. It would seem particularly important to ensure that soldiers are provided with a constant supply of condoms as well as education to motivate them to use condoms with every sexual act.
- The number of HIV pre- and post-test counseling sites should be increased in military health facilities, preferably offering services free or at a cost that is affordable to the lowest ranking personnel. Counseling should focus on those behaviours that are common among personnel that put them at risk for HIV/AIDS.
- Military personnel living with HIV/AIDS should be assured of the confidentiality of their HIV test results and protection of job security, employment, and possibility of advancement in rank at least until medical discharge from the service. There should be social and psychological care and support given to military personnel and their dependents who are infected with and/or affected by HIV.

### 5.3 FUTURE RESEARCH

Future research is needed on discussing the question how HIV/AIDS might threaten internal and external security of severely affected societies. For instance, AIDS related loss of military personnel negatively affects continuity at the command level and within the ranks. It also increases costs for recruitment and training of young and often inexperienced successors. Overall military preparedness and stability is reduced, particularly in military administrations.

It is recognised that behavioural surveillance is a key element of HIV/AIDS surveillance systems. Ideally, information from behavioural surveillance should complement biological surveillance. Hence, to maximize the benefits of behavioural surveillance in the military, there is an urgent need for biological studies to determine the prevalence of STIs/HIV in the military.

Further research is also needed to quantify the prevalence and incidence of HIV/AIDS in the military so that effective treatment and control measures can be put in place. It is also necessary to conduct longitudinal studies on military personnel in the regional bases in order to ascertain the hazard ratios of risky sexual behaviours.

Finally, Future research is needed on other areas such as:

- Contributing factors to risky behaviours among young recruits leading to HIV infection.

- The impact of AIDS on the uniformed forces sector remains one of the least researched areas in Namibia. Research on soldier mobility and the Trojan Horse Hypothesis in the Namibian Defence Forces.

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**ANNEXURE 1: PARTICIPANT INFORMATION AND INFORMED  
CONSENT**



**ANNEXURE 2: QUESTIONNAIRE**











**ANNEXURE 3: LETTER FROM MINISTRY OF DEFENCE**