

HIV/AIDS Related Knowledge and Stigma in the Rustenburg Area of North-West Province: A representative cross-sectional survey



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Master of Health Promotion in the School of Applied Human Sciences, College of
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DECLARATION

I hereby declare that this dissertation titled, “HIV/AIDS Related Knowledge and Stigma in the Rustenburg Area of North-West Province: A representative cross-sectional survey” and submitted for the degree of Master of Health Promotion in the Faculty of Humanities, Development and Social Sciences, University of KwaZulu-Natal, South Africa is the result of my own independent work. And that the thesis has not been submitted before for any degree or examination in any other University. All the sources used or quoted have been indicated and properly acknowledged by complete references.



Olaoluwa Olusola Adewumi

February, 2013

DEDICATION

To the Almighty God, my Lord and the Saviour of my soul, who makes all things in my life beautiful in His time.

To my Husband who is one in a million.

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First and foremost, my ultimate thanks goes to my Lord and Saviour, Jesus Christ, who is the only immortal, invisible, all powerful and wise God. He has always been making all things beautiful in His own time in my life. I appreciate and love you so much, Lord.

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ABSTRACT

In response to the HIV epidemics since its onset in 1981, several preventive measures have been applied or employed to combat the epidemics. Up to date, the epidemics have reported limited success and/or increased incidence inspite of various interventions. It is widely known that stigma constitute a major setback to preventive interventions of this disease. This informed, amongst others, information, education and communication (IEC) interventions directed at combating HIV stigma through the enhancement and creation of awareness on HIV knowledge. However, lack of adequate and correct knowledge on HIV and AIDS is believed to be a main pre-cursor to HIV stigma. This cross sectional study therefore investigates and reports findings on the associations between HIV stigma and other relevant variables such as HIV related knowledge, exposure to mass media and some socio-demographic characteristics among representatives of the ethnic groups aged between 18 and 49 in the broader Rustenburg community (N = 351). The study utilized some data collected by the Aurum Institute of Health Research in partnership with the International AIDS Vaccine Initiative (IAVI) and the European Union. Data was analyzed using descriptive statistical methods and presented in figures and tables. Independent sample T-tests and ANOVA were employed to compare means while the Pearson's product moment was used to find the association between variables. A standard multiple regression analysis was applied to assess the predictors of HIV/AIDS stigma.

Findings from the study showed an adequate knowledge of HIV/AIDS as 72.8% scored more than 17 out of the 24 basic questions on HIV/AIDS correctly. The respondents' overall mean HIV/AIDS knowledge score was 18.22 ± 3.80 out of 24 points. However there was a deficit in knowledge on the preventive role of male circumcision in HIV transmission (27.6%) and the high chance of getting HIV infection from sexual intercourse with a recently HIV infected individual (48.4%). Misconceptions existed among the respondents about the association between ritual cleansing of widows and HIV transmission (43.0%) and the stopping of ART at will due to side effects (54.1%). With respect to knowledge acquisition, the leading source of information is the electronic media (52.9% for radio, 75.8% for TV and 81.4% for cell phone) while newspapers (17.2%) are a minor source. Regarding HIV stigma, the findings revealed that HIV stigma is intertwined with other contextual stigmas of gender and sexual immorality. There

was a high prevalence in the attribution of blame on female prostitution and promiscuity for the cause of HIV infection in this study. Furthermore, the findings in this study showed very pronounced negative stigmatising attitudes towards HIV infected women in the community especially in relation to child bearing. Levels of HIV/AIDS knowledge and AIDS stigma were influenced by education, perceived socio-economic status, living standard, media exposure, racial differences and employment status ($p < 0.05$). The study revealed that there was a significant main effect of age group (18-24, 25-35, 36-49), specifically with knowledge regarding HIV transmission and the physiological impact of HIV; social distance towards PLWHA and stigmatising attitude towards HIV infected women.

This study underscore the importance of developing and implementing stigma reduction interventions in the community to address attitudinal biases towards PLWHA especially regarding the females by encouraging social cohesion and support, HIV disclosure and involvement of role models, more greater awareness regarding PMTCT. Education on the importance of male circumcision and the long life usage of ART are also of utmost importance. To lend support to the current intervention measures on HIV/AIDS messages via a telephone helpline, there is need of sending text messages as a means of increasing HIV/AIDS knowledge should be encouraged. Finally, there is need for further explorative studies in acceptability, perceptions and barriers to male circumcision; the perceptions of ART and HIV infection and the relevance of ART in HIV stigma as well as AIDS stigma regarding childbearing and HIV infected women.

Findings from this study have implications for the reduction of HIV related stigma and prevention. It is hoped that these findings and recommendations will greatly inspire, influence and inform policy makers, communities, stakeholders, empower PLWHA to cope with stigma as well as reduce stigma prevalence in the study area in particular and South Africa. Areas of further research that require urgent attention are also highlighted.

Keywords: HIV/AIDS, HIV-related Knowledge, HIV-related Stigma, Intervention, HIV prevalence, PLWHA, Prejudice, Attribution, Social distance, Social Cohesion, Mass media

TABLE OF CONTENTS

	Page
Title Page	i
Declaration	ii
Dedication	iii
Acknowledgements	iv
Abstract	v
Table of Contents	vii
List of Tables	xii
List of Figures	xiii
List of Acronyms	xiv

Chapter One – Introduction

1.1	Background of Research Study	1
1.2	Research Problem	2
1.3	Research Aim	4
1.4	Research Objectives	5
1.5	Research Questions	5
1.6	Ethical Consideration	6
1.7	Structure of the Thesis	6

Chapter Two - Literature Review and Theoretical Framework

2.1	Introduction	8
2.2	HIV and AIDS: Epidemiological Updates, Impacts and Interventions	8
2.2.1	Update Assessment of the HIV/AIDS Epidemiological Situation	8
2.2.2	Impacts of HIV/AIDS.....	10
2.2.3	HIV/AIDS related Interventions	12
2.3	HIV/AIDS: Impediments to preventive measures to reduce the epidemics...	14
2.4	Understanding HIV/AIDS-related Stigma	17
2.4.1	Stigma Defined	17

2.4.2	Prevalence of HIV/AIDS-related Stigma	19
2.4.3	HARS: The Consequences of Stigma for PLWHA	20
2.4.4	The Construction of HIV/AIDS-related stigma (HARS)	23
2.4.4.1	Internal stigma	23
2.4.4.2	External or Enacted stigma.....	24
2.4.4.3	Multiple or Compound Stigma	26
2.4.5	Socio-demographic influences on HARS.....	27
2.5	Interventions directed to minimize HARS	29
2.5.1	Policy and Legislation	29
2.5.2	Facilitation of Social Cohesion	30
2.5.3	Information, Education and Communication (IEC)	31
2.6	Theoretical Framework of the Study	36
2.7	Conclusion	40

Chapter Three - Research Methodology

3.1	Introduction	42
3.2	Background to the Research site – Rustenburg area	42
3.3	Research Design and Sampling Method	43
3.3.1	Research Design	43
3.3.2	Research Sampling Method	44
3.3.3	Research Instrument and Measures used	45
3.3.4	Data Collection and procedure	46
3.4	Recoding Measurement Development and Scale Construction	48
3.4.1	Socio-demographic variables used in the study	48
3.4.2	Media Access	49
3.4.3	HIV and AIDS-related Knowledge	49
3.4.4	HIV/AIDS-related Stigma measures and Social Cohesion	50
3.5	Predictors of HIV/AIDS-related Stigma	51
3.6	Data Analysis	52
3.7	Conclusion	53

Chapter Four - Analysis of Results

4.1	Introduction	54
4.2	Demographic and Socio-economic Characteristics of the Participants	54
4.2.1	Demographic Characteristics of the Participants	54
4.2.2	Perceived Socio-economic Characteristics of the Participants	58
4.3	Association between the Socio-demographic Characteristics	61
4.4	Media Exposure	62
4.4.1	Available means of Electronic Information	62
4.4.2	Socio-demographic characteristics and exposure to media sources	62
4.4.3	Extent of Media exposure.....	64
4.4.4	Socio-Demographic Characteristics and extent of Media exposure	65
4.5	HIV/AIDS related knowledge	67
4.5.1	Knowledge regarding Transmission.....	67
4.5.2	Socio-demographic characteristics and HARK regarding mode of transmission	68
4.5.3	Media and Knowledge regarding Mode of Transmission.....	69
4.5.4	HIV Transmission myths	70
4.5.5	Socio-demographic characteristics and HIV Transmission myths	70
4.5.6	Media and HIV Transmission myths.....	71
4.5.7	Beliefs about ART.....	72
4.5.8	Socio-demographic differences regarding beliefs about ART	72
4.5.9	Media and Beliefs about ART.....	73
4.5.10	Beliefs regarding HIV/AIDS treatment and cure.....	73
4.5.11	Socio-demographic characteristics and Beliefs regarding HIV/AIDS treatment and cure.....	74
4.5.12	Media and Beliefs regarding HIV/AIDS treatment and cure	75
4.5.13	Views on the physiological impact of HIV	75
4.5.14	Socio-demographic characteristics and views on the physiological impact of HIV	76
4.5.15	Media and views on the physiological impact of HIV	77
4.5.16	Belief regarding HIV vaccines	77

4.5.17	Vaccine awareness and source of information	78
4.5.18	Socio-demographic factors and composite HIV knowledge index	79
4.5.19	Media and composite HIV knowledge index	79
4.6	HIV/AIDS Stigma	80
4.6.1	HIV/AIDS Stigma using Blame and Shame measure	80
4.6.2	Relationship between socio-demographic characteristics and HIV/AIDS Stigma using the Blame and Shame measure	82
4.6.3	Correlations between Media exposure, HIV Knowledge, the Blame and Shame Stigma measure	82
4.6.4	Social distance towards PLWHA	83
4.6.5	Relationship between socio-demographic characteristics and Social distance towards PLWHA	84
4.6.6	Correlations between Social distance towards PLWHA, Media exposure and HIV Knowledge	85
4.6.7	Stigmatised attitudes towards HIV infected women	86
4.6.8	Relationship between socio-demographic characteristics and Stigmatised attitudes towards HIV infected women	86
4.6.9	Correlations between Stigmatised attitudes towards HIV infected women and Media exposure, HIV knowledge	87
4.7	Social cohesion and the study population	88
4.7.1	Socio-demographic characteristics and Social cohesion	89
4.7.2	Association between Media exposure, HIV knowledge, HIV stigma and Social Cohesion	90
4.8	Predictors of HIV/AIDS stigma (Blame and Shame measure)	91
4.9	Conclusion	92

Chapter Five - Discussions, Conclusion and Recommendations

5.1	Introduction	93
5.2	Discussion	93
5.2.1	HIV/AIDS related knowledge	93
5.2.2	HIV/AIDS related stigma	101

5.2.3	HIV/AIDS related knowledge and HIV/AIDS related stigma	106
5.2.4	Media, HIV/AIDS related knowledge and HIV/AIDS related stigma	109
5.2.5	Predictors of HIV stigma (blame and shame)	110
5.3	Conclusion.....	111
5.4	Recommendations	113
5.5	Study Strengths and Limitations.....	116
5.6	Areas of further research.....	117
References.....		118
 Appendices		
A	Ethical Approval	148
B	Sample Questionnaire	150

LIST OF TABLES

Table	Description	Page
Table 3.1:	Descriptive statistics for socio-demographic characteristics	49
Table 3.2:	Descriptive statistics for the extent of media exposure	49
Table 3.3:	Descriptive statistics for HIV/AIDS knowledge measures	50
Table 3.4:	Descriptive statistics for HARS measures and social cohesion with Cronbach Alpha and Inter-Correlation Value	52
Table 4.1a:	Age, Gender and Race demography and Marital Status	55
Table 4.1b:	Education Status and Home Language	56
Table 4.2:	Perceived Socio-Economic status	60
Table 4.3:	Living Standard of Participants	61
Table 4.4:	Frequency of media exposure	64
Table 4.5:	Independent t-tests for Socio-demographic variables and frequency of media exposure	66
Table 4.6:	Frequency of HIV/AIDS knowledge regarding Mode of Transmission	68
Table 4.7:	HIV Transmission myths	71
Table 4.8:	Beliefs about ART	72
Table 4.9:	Beliefs regarding HIV/AIDS treatment and cure	74
Table 4.10:	Frequencies of views on the physiological impact of HIV	76
Table 4.11:	Belief regarding HIV vaccines	78
Table 4.12:	HIV vaccine awareness by information sources	78
Table 4.13:	HIV/AIDS Stigma (Blame and Shame measure)	81
Table 4.14:	Social distance towards PLWHA	84
Table 4.15:	Stigmatised attitudes towards HIV infected women	87
Table 4.16:	Pearson's correlation coefficients related to HIV knowledge and stigma	88
Table 4.17:	Frequency distribution of social cohesion items	90
Table 4.18:	Standard Multiple Regression Analysis for HARS (blame and shame)...	92

LIST OF FIGURES

Figure	Description	Page
Figure 2.1:	Cognitive-emotional model of HIV-related stigmatisation	19
Figure 2.2:	Attribution model of HIV related stigma as adapted from Heider (1958)	41
Figure 3.1:	Age distribution of individuals living in the Rustenburg Municipality ...	43
Figure 4.1a:	Age Distribution of Participants	57
Figure 4.1b:	Sex Distribution of Participants	57
Figure 4.1c:	Ethnic Distribution of Participants	57
Figure 4.1d:	Marital Status of Participants	57
Figure 4.1e:	Educational Level of Participants (Histogram)	58
Figure 4.1f:	Home Language of Participants	58

ACRONYMS

Acronym	Description
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
ART	Antiretroviral therapy/treatment
ARV	Antiretroviral (drugs)
CDC	United States Centers for Disease Control and Prevention
DoE	Department of Education, South Africa
DoH	Department of Health, South Africa
GCE	Global Campaign for Education
HARK	HIV and AIDS Related Knowledge
HARS	HIV and AIDS Related Stigma
HEI	HIV Equity Initiative, Haiti
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
HCT	HIV counseling and testing
IAVI	International AIDS Vaccine Initiative
ICW	International Community of Women Living with HIV/AIDS
IEC	Information, Education and Communication (Interventions)
ILO	International Labour Organization
IPPF	International Planned Parenthood Federation
LOT	Life Orientation Test (a statistical measure of optimism/pessimism)
MDG	Millennium Development Goals
MDGs	Millennium Development Goals
MRC	Medical Research Council
MSF	Médecins Sans Frontières
MSM	Men who have sex with Men
MTCT	Mother-To-Child –Transmission
NGO	Non-governmental organization
NICD	National Institute for Communicable Diseases

PEP	Post-Exposure Prophylaxis
PEPFAR	United States President's Emergency Plan for AIDS Relief
PLWHA	People Living With HIV or AIDS
PMTCT	Prevention Of Mother-To-Child Transmission (of HIV)
QA	Quality assurance
SABC	South African Broadcasting Corporation
StatsSA	Statistics South Africa
STI	Sexually transmitted infections
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session (on HIV/AIDS)
UNICEF	United Nations Children's Fund
VCT	Voluntary counseling and testing
WAR	Women against Rape, Botswana
WHO	World Health Organization

Chapter One

Introduction and Background

1.1. Background of Research Study

The report of the WHO/UNAIDS/UNICEF (2011) estimated a worldwide figure of about 34 million people living with HIV and AIDS (PLWHA) at the end of 2010. During 2010, 2.7 million people became newly infected with HIV. In the same year, an estimated 390,000 children acquired the infection from their HIV infected mothers during pregnancy, labour or delivery, or through breast milk. Around 68% of all the people living with HIV reside in Sub-Saharan Africa. This implies that 1 in 20 adults in Sub-Saharan Africa is living with HIV/AIDS. Globally, an estimated 7,400 people are infected daily with HIV and only one out of every three PLWHA, who is eligible for ARV treatment, has access to such treatment (WHO/UNAIDS/UNICEF, 2009). HIV/AIDS is therefore having a widespread impact on many parts of the African society with great effects on life expectancy, households, healthcare, education, productivity, economic growth and development (Collins & Leibbrandt, 2007; Mills, Kanter, Hagopian, Bansback, Nachega & Alberton *et al.*, 2011; UNAIDS, 2006). Southern Africa remains the most heavily affected by this epidemic. In three southern African countries, the national adult HIV prevalence rate now exceeds 20 percent. These countries are Botswana (24.8%), Lesotho (23.6%), and Swaziland (25.9%). South Africa, with a prevalence rate of 17.8% is home to the world's largest population of PLWHA (UNAIDS, 2010). HIV transmission in this region occurs primarily through heterosexual contacts, followed by mother-to-child transmission (PEPFAR, 2009). The estimated figure for HIV infected people in South Africa stood at 5.6 million at the end of 2010 (UNAIDS, 2011) with consequent increase in the death rate as reflected in the estimated 310,000 deaths reported in the same year (UNAIDS, 2011).

The level of HIV infections and AIDS related deaths differ from province to province in South Africa. Estimated HIV prevalence among antenatal clinic attendees at the end of 2010 for the provinces ranges from 39.5% in Kwazulu-Natal to 18.5% in the Western Cape (DoH, 2011). This shows that the epidemic is in different stages of development in each province and therefore a different approach is necessary to stem the course of new infections and deaths in each

province. The North West (NW) province, in which this research was conducted, has a mid-year population estimate of approximately 3,253,390 people in 2011 (Statistics South Africa, 2011) with nearly half a million being HIV positive, the fourth largest in South Africa. Precisely 30.6% of the population is estimated to be HIV positive in 2010 (DoH, 2011). The province also report 117 new HIV infections and 93 deaths per day (Nicolay, 2009). Bojanala district has the largest population in the NW province (approximately 1.3 million). The Rustenburg community is a fast growing community with HIV infection spreading rather rapidly. In a report by the WHO (WHO/UNICEF/UNAIDS, 2008) it was stated that some districts in this area, account for the second highest infections in the “major urban category division”. This disturbing discovery has motivated interventions from both national and international agencies/organizations to either control the endemic or prevent its spread. For example, the UNAIDS Outcome Framework 2009–2011 document (UNAIDS, 2009) identified nine key areas in order to achieve these goals. One of the key areas is the “removal of punitive laws, policies, practices, stigma and discrimination that block effective responses to AIDS”. Also, the universal access programme (WHO/UNICEF/UNAIDS, 2009) was developed with a global commitment to scale up access to HIV treatment, prevention, care and support. In the NW province, The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is providing funding to 58 partners that implement activities in facilities and communities (PEPFAR, 2009). Some of the focal points of their interventions include ART, prevention of mother to child transmission (PMTCT) and HIV counseling and testing (HCT).

1.2 Research Problem

Despite the above mentioned interventions and several others, there seems to be no notable decrease in the HIV epidemic in South Africa generally. For example, the Department of Health (DoH, 2011) reported that there is still no evidence of a decline in infections among pregnant women in South Africa, where estimated value of 30.2% of pregnant women aged 15-49 years accessing public health services tested HIV positive in 2010 (DoH, 2011). A number of the large scale HIV intervention initiatives in an effort to reduce the scale of HIV epidemics have not resulted in a substantial decrease in the prevalence and incidence of HIV. Dorrington and Johnson (2002) proposed that the total number of children in South Africa who would have lost their parent(s) to HIV and AIDS and any other causes (i.e. paternal, maternal and double

orphans) could reach an astonishing 5,700,000 by 2015. HIV/AIDS related stigma (HARS) has been reported as one of the most significant challenges to effectively fight the spread of HIV and AIDS and decrease the epidemics (Ogden & Nyblade, 2005; Parker & Aggleton, 2003). Fear of being identified with HIV because of stigma is linked with evading HIV/STD testing and medical care; unwillingness to disclose HIV seropositive status and change of risk behaviour to prevent infecting others; caring for PLWHA and non-adherence to HIV treatment. (Babalola 2007; Logie & Gadalla, 2009; Murphy, Austin & Greenwell, 2006; Venable, Carey, Blair & Littlewood, 2006; WHO, 2008). This explains why stigma is an important consideration for health policy and clinical practice. Research has shown that stigmatisation adversely impact on the psychological well-being of PLWHA and HIV prevention efforts (Stutterheim, Pryor, Bos, Hoogendijk, Muris & Schaalma, 2009).

Researchers have suggested that a reduction of HIV/AIDS related stigma (HARS) is a vital step in stemming the epidemic (Brown, Macintyre & Trujillo, 2003). One way to achieve this is through the dissemination of accurate and appropriate HIV/AIDS related knowledge (HARK) to individuals and communities (Brouard & Wills, 2006; Li, Li-Jung, Lin, Wu & Rotheram-Borus, 2010; Soul-city, undated). UNAIDS (2009b) advocated a comprehensive support for HIV information disseminations through education. It is believed that offering HIV and AIDS education in generalized and hyper-endemic settings especially in high risk areas will contribute to reducing HIV transmission and stigmatisation. The Global Campaign for Education (GCE) has estimated that universal primary education would prevent 700,000 new HIV infections each year (GCE, 2004). Good quality education that focuses on empowerment within safe and protective environments and that creates a circle of support within the community can have a sustained impact on reducing vulnerability and behaviours that create, increase or perpetuate risk (Bankole, Ahmed, Neema, Ouedraogo & Konyani, 2007; Guiella & Madise, 2007; Hogan, 2005). The South African government's National AIDS Plan provides guidance for addressing the epidemic on several levels, including primary prevention interventions, such as school-based programs, early detection of HIV infection through voluntary testing and counseling, the patient-care level, and various forms of individual and community-based care. There is a continuous focal point of information, education and communication (IEC) interventions through mass media and community outreach efforts especially targeted at populations at risk (DoH, 2006).

Well-planned and effective life skills or sex and HIV education interventions, even when provided for short periods, have been found to increase knowledge; facilitate positive attitudes towards prevention, develop skills and reduce sexual risk behaviours among the sexually active (Bankole, Ahmed, Neema, Ouedraogo & Konyani, 2007; Magnussen, Ehiri, Ejere & Jolly, 2004; Paul-Ebhohimhen, Poobalan & van Teijlingen, 2008). Maphoso (2008) reported on the success of HIV knowledge interventions in reducing the level of HIV-related stigmatising attitudes among the members of the South African police. Chinese governments and NGOs have made strong efforts to prevent and control the HIV/AIDS epidemic by increasing accurate knowledge about HIV transmission and reducing stigmatising attitudes towards PLWHA and Li *et al* (2010) reported on the success of HIV knowledge interventions in reducing the level of HIV-related stigmatising attitudes among the target population in China. As mentioned earlier, the study site, Rustenburg, is a fast growing community with HIV infection spreading rather rapidly as a result influx of people especially those seeking employment in the mining companies. Despite the fact that the WHO has reported the area as a high risk area with respect to HIV infection (WHO/UNICEF/UNAIDS, 2008), most intervention programmes (for example, PEPFAR, 2009) have not produced the desired effect in controlling or preventing the spread of the endemic as shown in the increased prevalence of HIV infections in the area (Lekgethwane, 2010). Increased knowledge through the intervention programmes has therefore not successfully help in decreasing stigma and other issues fuelling the epidemic. Moreover, since the intervention programmes recently done in the Rustenburg area, literature is very scarce on HARK and stigma in hence the need for this current study.

1.3 Research Aim

There is a strong need for policy makers, practitioners, communities, and PLWHA to better understand individual and collective strengths such as the resilience, resistance, solidarity, and empowerment that both help to cope with stigma and/or reduce its prevalence. Several interventions have been carried out by both government and NGOs mostly to increase HIV-knowledge of people so as to improve prevention and/or attitude to treatments. However, to develop health policy sensitive to the adverse effects of stigma, several kinds of innovative research are needed (Weiss & Ramakrishna, 2001). This study aims at assessing the impact of

HARK on HARS (both social stigma and self-perceived stigma) within the social setting under consideration. Specifically, this study will address the question: Does individual shame, blame and social distance towards PLWHA persist even after acquiring relevant HARK?

1.4 Research Objectives

The main objective of this study is to assess the impact of HARK on AIDS stigma at both individual and community-levels which include personal shame after infection, blame and social distance towards PLWHA. The specific objectives of the study are:

1. Investigate the knowledge and beliefs of people regarding HIV and AIDS (transmission, prevention including ARV treatment).
2. Investigate the extent of AIDS stigma in relation to blame, shame, social distance towards PLWHA and specifically, attitude towards women living with HIV/AIDS.
3. Assess the association between media exposure, HIV knowledge and/or HARS.
4. Assess the association between HIV knowledge and HARS.
5. Investigate the predictors of HARS in terms of demographic factors and different HARK components.

1.5 Research Questions

This study is set to find answers to the following research questions:

1. What is the HIV and AIDS related knowledge of the people regarding modes of transmission, prevention, ARV treatment and myths and other beliefs?
2. What is the extent of HIV and AIDS stigma in relation, to blame, shame and social distance towards PLWHA especially women with HIV and AIDS?
3. Is there any relationship between demographic variables, media exposure, HARK and HARS?
4. How well do demographic and HARK variables predict HARS?
5. Which is the best predictor of HARS?
6. If we control for possible effect of age and socially desirable responding, is our set of variables (demographic and HARK) still able to predict a significant amount of the variance in HARS?

1.6 Ethical Consideration

This study used secondary data from a larger study within the same study setting for which ethical clearance have been obtained from the University of KwaZulu-Natal ethical committee (see Appendix A). The larger study from where secondary data were obtained ensured that the principle of autonomy (Blanche & Durrheim, 2002) including voluntary participation, informed consent, freedom to withdraw from the research at any time and the participant's right of anonymity were all maintained. Moreover, the proposal for the current study went through necessary approval stages by Faculty of Humanities, Development and Social Sciences and the Ethics Committee of the University of KwaZulu-Natal. In addition, the larger study was approved by the International AIDS Vaccine Initiative (IAVI). Individual consent was also sought from each participant who provided written informed consent prior to being involved in the study. Participants were adequately educated on the purpose and implications of the study and those who agreed to participate were compensated financially for their time at the end of each interview. Anonymity of participants was maintained throughout the study.

1.7 Structure of the Thesis

Chapter one provides a brief overview of the extent of HIV/AIDS epidemics worldwide and in South Africa with emphasis on the North-West Province. Previous intervention efforts and some of the outcomes are summarized. The chapter then presents the research problems, aims and objectives as well as ethical considerations for the study.

Chapter two gives a more detailed review of background literature around the dissertation topic including the theoretical framework on which the study is based. The epidemic of HIV/AIDS globally, majorly focusing on South Africa are discussed while a comprehensive insight into the problem of stigma and its impacts on the HIV epidemic are given. Past research works and relevant literatures on HIV stigma, HIV related knowledge and the pros and cons of the HIV knowledge on HIV related stigma are critically reviewed. These were used to draw up the rationale for the current study while defining its scope and limitations. The rationale for choosing attribution theory as the theoretical framework and its application to HIV-related research are

extensively discussed. The chapter concludes by drawing up a framework for the study based on this theory.

Chapter three dwells on the research methodology adopted for the current study. It provides information on the study location, demographic setting and data collection method. The research design, sampling technique, data collection technique and instruments used as well as the motivation for choosing them are presented. The chapter concludes by describing the data analysis procedures.

Chapter four present how the results obtained from the analysis of the secondary data are summarized and presented both in tabular as well as pictorial forms. Each result and possible reasons for their trends are discussed briefly.

Furthermore, chapter five presents a detailed discussion on the results presented in the previous chapter with consideration of the theoretical framework employed in the study and other research studies. A summary of the overall study and conclusions reached and recommendations were also presented likely to inform possible future interventions. The contributions as well as specific recommendations and/or suggestions both for policy makers and future researchers are highlighted in this chapter.

A list of appendices including research instruments used, ethical approval documentation including informed consent documentation are appended to the dissertation.

Chapter Two

Literature Review and Theoretical Framework

2.1 Introduction

Since the early discovery of HIV/AIDS in the 1980s, the level of impact, interventions and research related to HIV/AIDS has grown considerably with great focus on the Africa continent (CDC, 2001). Research has focused on subjects such as the scientific, medical, social and demographic implications and preventive interventions to curb the spread of the epidemic. Despite much studies and interventions, the epidemiological updates still show a high prevalence of HIV and AIDS especially in the sub-Sahara countries (Meyer-Weitz, 2005; UNAIDS, 2010 & 2011). HIV and AIDS related stigma (HARS) has been identified as a major challenge that impacts negatively on interventions and efforts to curtail the spread. This chapter presents an overview of the epidemiological update, impacts and intervention of HIV and AIDS. The issue of stigma is specifically addressed with focus on the influence of HARK on HARS. A number of related works such as the socio-demographic issues in this area are reviewed and linked to the current study. The issue of mass media and its relation to HARS and HARK is considered as well. The chapter finally highlights the theoretical framework of attribution theory and how it helps to explain the relationship between HARKS and HARS.

2.2 HIV and AIDS: Epidemiological Updates, Impacts and Intervention

2.2.1 Update Assessment of the HIV/AIDS Epidemiological Situation

The HIV/AIDS pandemic, now approaching its third decade, shows little signs of lessening (Adekeye & Adeusi, 2011). HIV infection is ranked to be the fourth leading cause of death globally but the first leading cause of death in Sub-Saharan Africa and the most common cause of death among people aged 20-24 (Ashford, 2006; Patton, Coffey, Sawyer, Viner, Haller, Bose, *et al.*, 2009). HIV/AIDS accounts for more than 25 million deaths since its first discovery in 1981 (Jariwalla, Niedzwiecki & Rath, 2011). At the end of 2009, about 33.3 million PLWHA was estimated compared to about 8 million estimated in 1990 (Jariwalla *et al.*, 2011; WHO/UNAIDS/UNICEF, 2011). According to the global report of UNAIDS (2011), AIDS-related deaths in 2010 was 1.8 million with a total of 16.6 million under 18 year orphans as a result of loss of parent(s). A total of 2.7 million persons were newly infected with HIV at the end

of 2009 (UNAIDS, 2010). With more than 7000 new HIV infections per day in 2009, it was noted that HIV primarily affects those in their most productive years with around half of people acquiring new infection before age 25, through heterosexual transmission (Patton *et al.*, 2009).

Africa accounts for over 15 million of the over 25 million global HIV-related deaths reported as at the end of 2009 while nine countries in Africa have more than one tenth of the adult population aged 15-49 infected with HIV (WHO/UNAIDS/UNICEF, 2010; UNAIDS, 2010). Sub-Saharan Africa which consists of 12% of the global population has 68% of the total number of the global PLWHA making it the worst affected region (UNAIDS, 2011).

Southern Africa is the hardest hit region in the sub-Saharan Africa where the adult prevalence rate exceeding 20% in most countries within the region (UNAIDS, 2010). It is estimated that more than 30% of total world HIV population lives in Southern Africa (Simtowe & Kinkingninhoun-Medagbe, 2011). The region accounts for approximately 40% of the worldwide total number of women living with HIV and three countries in Southern Africa have at least one adult in five living with HIV as at the end of 2010 (UNAIDS, 2011). Swaziland has the highest prevalence of HIV infection with an estimated value of 25.9% among the population aged 15-49 years as at the end of 2009 (UNAIDS 2010).

South Africa is estimated to have the largest number of PLWHA in the world with an estimated 5.6 million PLWHA as at the end of 2009 (UNAIDS 2010). It was estimated that in 2009, 310,000 South Africans died of AIDS (UNAIDS 2010). In 2010, the estimated under-five mortality rate (U5MR) for South Africa was about 57 deaths per 1,000 live births (UNICEF, 2011) and HIV/AIDS is claimed to be the leading cause accounting for 40% of the death (Bradshaw, Bourne & Nannan, 2003). HIV prevalence among pregnant women aged 15-49 is 29.4% (DoH, 2010). The estimated HIV prevalence among antenatal clinic attendees in the provinces ranged between 16.9% and 39.5% with a breakdown as follows: KwaZulu-Natal (39.5%), Mpumalanga (34.7%), Free State (30.1%), North West (30.0%), Gauteng (29.8%), Eastern Cape (28.1%), Limpopo (21.4%), Northern Cape (17.2%), and Western Cape (16.9%) in 2009 (UNAID, 2010). HIV prevalence among those aged two and older varies by province with the Western Cape (3.8%) and Northern Cape (5.9%) being least affected, and Mpumalanga

(15.4%) and KwaZulu-Natal (15.8%) mostly affected (DoH 2010; Dikgale, 2010). HIV/AIDS is more prevalent among female adults under the age of 40 in nearly all age groups. Roughly 4 in every 5 people with HIV/AIDS aged 20–24 are women, and only one third of people with HIV/AIDS aged 25–29 are men (Setswe, 2009).

The Rustenburg are the focus of the current study, is experiencing a high surge of HIV prevalence compared to other districts in the North West province (Lekgethwane, 2010). HIV prevalence has moved from 31.8% in 2008 to 34.9% in 2009 according to the National Antenatal Sentinel HIV and syphilis prevalence survey in South Africa (Lekgethwane, 2010) which is a big concern to the government as it affects productivity and performance in the district.

Looking at the epidemiological update of HIV, it is of note that the effects of the preventive measures seem minimal compared to the efforts put in by various donors. Stories about the global AIDS pandemic, and the impact that the disease is having in the developing world, are in the news almost every day.

2.2.2. Impacts of HIV/AIDS

AIDS, which is caused by the human immunodeficiency (HIV) virus, has resulted in a lot of human anguish globally especially in the continent of Africa. The HIV/AIDS epidemic has both short and long term impacts. The short term impacts are felt immediately as a consequence of the illness or death of the victim, while the long term impacts might take time to be noticed. Both forms of impacts are related to labour markets, productivity and welfare (Simtowe & Kinkinginhoun-Medagbe, 2011). According to UNAIDS (2010), the most apparent consequence of this catastrophe has touched on the health sector, households, children, agriculture, education, labour, economy and life expectancy.

The impact on the health sector is immense as more than half of the hospital beds in the sub-Saharan Africa are occupied by people with HIV-related diseases (UNAIDS, 2006). In South Africa, HIV-positive patients are reported to stay in hospital four times longer than other patients while PLWHA account for 60-70% of hospital expenditure in the country with the likelihood of shortage of hospital bed that might delay admission till the later stages of illness thereby reducing the likelihood of their recuperation (Ogbee, 2008). Subsequently, this has led to loss of

health workers from South Africa to richer countries as a result of increased workload and other reasons (Shisana, Hall, Maluleke, Stoker, Schwabe, Colvin *et al.*, 2003).

The epidemic has created lots of economic, and social hardship especially among the already impoverished households in sub-Saharan Africa (UNAIDS, 2006). Some women have been forced into prostitution due to increased financial burdens as a result of HIV/AIDS related death of the household bread winner or just simply because of the need to cater for other sick family members (Ogbee, 2008). Steinberg, Johnson, Schierhout and Ndegwa (2002) found that the spending patterns of poor households managing cases of family members who are sick from HIV or AIDS are adversely affected with major budget cuts for basic needs such as food, clothing, electricity and other services and that one-third of a household's monthly income goes on taking care of the sick.

Generally, HIV and AIDS have had negative impacts on different sector of country's economy including agriculture, education, and manpower (UNAIDS, 2010). A study in several Southern African countries has estimated that the combined impact of AIDS-related absenteeism, productivity declines, health-care expenditures, and recruitment and training expenses could cut profits by at least 6-8% (Simtowe & Kinkingninhoun-Medagbe, 2011). HIV/AIDS has cyclic effects on the education sector of the economy. As the HIV/AIDS epidemic worsens, the education sector is damaged, which in turn is likely to increase the incidence of HIV transmission (Ogbee, 2008).

Furthermore, AIDS has drastically reduced the life expectancy in countries that are highly hit by the epidemic especially in sub-Saharan Africa with average life expectancy fallen by as much as twenty years (UNAIDS, 2008). The impact of the AIDS epidemic is reflected in the dramatic change in South Africa's mortality rates (WHO/UNAIDS/UNICEF, 2009). The midyear population estimate of 2010 for South Africa revealed that the total number of deaths was 654,360 with a total number of AID deaths estimated as 281,404 (43%) compared to the total number of deaths in 2001 which was 526,052 with a total number of AID deaths estimated as 198,030 (37%) (Statistics South Africa, 2010). This is a strong indicator that AIDS is a major, if not the principal factor, in the overall rising number of deaths, therefore efforts are being made globally to prevent the spread of this disease. HIV/AIDS is a serious threat to our social and

economic development, and even to our very existence, therefore every effort must be made to bring the problem under control.

2.2.3 HIV/AIDS related Interventions

For some years, rich countries like USA, governments, NGOs, private and commercial sectors have been actively involved in intervention programmes to stem down the prevalence of the HIV epidemic in many countries (UNAIDS 2010). The whole aim of all these preventive measures is to reduce the spread of this deadly disease, thereby bringing the epidemic and its impact to a minimal level. Some of these preventive measures include:

a) HIV Counseling

HIV counseling and testing (HCT) by skilled workers has been among the top intervention programmes globally. South Africa had an official government launching of the HCT campaign in April 2010 with the goal to scale up awareness of HIV and mobilize people to seek free testing and counseling in health clinics (SANAC, 2010).

b) Health Education, Communication and Public Information

The creation of public awareness regarding HIV and AIDS by means of IEC programmes has been a major intervention strategy. Of great importance is HIV/AIDS prevention programmes targeted at schools with trained teachers providing life-skills-based education. In South Africa HIV and sex education exists in schools as part of the Life Orientation curriculum since 2002 (IRIN/Plus News, 2008). Also, effective HIV and AIDS education to bring about information and knowledge about HIV through mass media has been postulated and applied globally (UNESCO, 2009). Mass media campaign has formed part of South Africa government awareness campaign on HIV and AIDS (UNAIDS, 2004b). This is further discussed in section 2.5.3.

c) Medical intervention

Interventions in this category include:

- i) **Safe blood transfusion:** Enforcement of safe blood donation and transfusion is an important intervention strategy adopted in many countries. In this regards,

the WHO recently rolled out a number of recommendations to be followed in order to prevent the spread of HIV (WHO, 2009 & 2011).

- ii) ***Universal precaution practices:*** The Centre for Disease Control (CDC) recommended several universal precaution practices through appropriate policy measures that aim at prevention of HIV transmission in health care settings (CDC, 2011).
- iii) ***Male circumcision:*** Scientific trials conducted in South Africa have shown that male circumcision can reduce a man's risk of becoming infected with HIV during heterosexual intercourse by up to 60 percent (Auvert, Taljaard, Lagarde, Sobngwi-Tambekou, Sitta & Puren, 2005). This has led South African government to include voluntary medical male circumcision as vital part of the HCT campaign (Motsoaledi, 2010).
- iv) ***Antiretroviral treatment:*** The availability and accessibility of HIV treatment through the use of antiretroviral (ARV) treatment is the main goal of many governmental and non-governmental organizations. PEPFAR aims at providing ARV drugs for 2 million HIV-infected people, prevent 7 million new infections, provide care for 10 million individuals, and develop health system capacity in Africa, Vietnam and the Caribbean (UNAIDS, 2010). Research has shown that the use of ARV drugs given soon after exposure to HIV virus reduces the risk of transmission (Smiths, Grohskopf, Black, Auerbach, Veronese & Struble, 2005). As at the end of 2010, the WHO reports that South Africa has the largest ARV programme in the world (WHO/UNAIDS/UNICEF, 2011).
- v) ***Prevention of Mother- to-Child Transmission (PMTCT):*** PMTCT is presently a global initiative which includes the provision of prophylactic ARVs (UNAIDS, 2009). In 2010, South Africa joined the global list of nations involved in PMTCT based on WHO guidelines (National DoH, 2010)
- vi) ***Condom use and distribution:*** The provision, consistent and correct use of condoms has been shown to be highly effective at preventing HIV infection (Cayley, 2004; Santelli, Ott, Lyon, Rogers, Summers & Schleifer, 2006). This is one of the main thrust of government programme in South Africa, who provided free condom to the public through designated outlets including health centres.

- vii) ***Needle exchange programme:*** Needle exchange programme is one of the key measures in bringing the global epidemic under control among injecting drug users especially in the Western world (WHO/UNAIDS/UNICEF, 2010).
- viii) ***Treatment of Sexually Transmitted Diseases (STIs):*** There are also expanded and improved services to prevent and treat sexually transmitted diseases (CDC, 2005).

d) ***Organized work-based programmes***

The International Labour Organization (ILO) has been working on global HIV/AIDS policies and programmes for the workplace (ILOAIDS, 2008).

e) ***Community Level Intervention (CLI):***

CLI are interventions that focus on improving the risk conditions and behaviours in the community by attempting to alter social norms, policies, or characteristics of the environment. This type of interventions which include community mobilization, social marketing campaigns, community-wide events, policy interventions, and structural interventions have been receiving attention and funding (CDC, 2007).

The whole aim of all these preventive measures is to reduce the spread of this deadly disease, thereby bringing the epidemic and its impact to a minimal level.

2.3. HIV/AIDS: Impediments to preventive measures to reduce the epidemic

Although there is a 19% decline in the number of AIDS related deaths between 2004 and 2009 and a steady decline in the annual number of new infections as a result of a significant increase in the number of people receiving ARV with an overall growth of the epidemic in recent years, the number of new HIV infections continues to outstrip the numbers on treatments (UNAIDS, 2010). For instance, for every two people starting treatment, a further five become infected with the virus (WHO/UNAIDS/UNICEF, 2009). According to UNAIDS, the global epidemic is stabilizing but at an unacceptably high level (Julia, 2009). Research studies have highlighted some factors that militate against the effectiveness of the fight against HIV and AIDS epidemics.

Among these are inadequate funding, weak infrastructure, shortage of health workers especially in worst affected countries, low condom use, gender inequalities, inadequate access to ART, political or cultural attitudes and a lack of adequate and comprehensive dissemination of appropriate knowledge. A brief discussion on some of these impediment factors are given below.

a) *Funding*

Both government and NGO all over the world have been providing various level of funding support to combat HIV and AIDS epidemics. Some major source of funding include UNAIDS, PEPFAR, the Global Fund, World Bank and other private foundations and NGOs like the Bill and Melinda Gates foundation. Despite these, gross lack of and mal-distribution of funding for an effective response to interventions have been reported (WHO, 2008; Global HIV Prevention Working Group, 2007). Notwithstanding the rising annual number of HIV infections, most funds are spent on HIV/AIDS treatment rather than prevention programmes (Julia, 2009).

b) *Inadequate access to treatment*

According to WHO and UNAIDS, only about 7 percent of the nearly 6 million people in need of treatment receive it as a result of inadequate access, faulty and irregular supply of ART, especially in Africa (Jakopovich, 2008; UNAIDS 2004; UNESCO, 2004). For example, although South Africa has the largest ARV programme globally, access to treatment is still rather low. The latest WHO guideline reports only an estimated 55 percent of infected people as receiving treatment for HIV at the end of 2010 in South Africa (WHO/UNAIDS/UNICEF, 2011).

c) *Healthcare limitation*

Insufficiency of healthcare workers, medical supplies, and HCT services are contributing largely as impediments to HIV preventive measures (Global Health Council, 2010). This is compounded by the difficulty in finding enough donors and lack of amenities for thorough blood screening in many resource-poor countries therefore hampering blood safety (Takei; Amin, Schmid, Dhingra-Kumar & Rugg, 2009).

d) Political and cultural influence

Political or cultural attitudes are noteworthy impediments to HIV prevention. Some authorities have openly opposed certain preventive measure, for example, condom promotion, support of needle exchanges for injecting drug users, HIV and sex education to young people especially in schools (UNESCO 2009; UN Millennium Project, 2005; Vienna, 2005). Discriminatory laws and government views have constituted a detrimental force against HIV and AIDS education. For instance, homosexuality has been publicly denounced by President Robert Mugabe of Zimbabwe. This has made it difficult for AIDS organizations to target gay men with educational messages thereby causing death of lots of gay men as a result of ignorance and multiple stigmatisations of homosexuality and seropositivity (IRIN/PlusNews, 2006)

e) Lack of cooperation between AIDS programs, workplaces and schools

Lack or insufficient cooperation to provide education, information and prevention services to those at risk of infection, especially in the workplace and schools poses a challenge to HIV prevention (Global Health Council, 2010). Despite the introduction of HIV education in Life Orientation curriculum in South African's school, there are factors that negatively affect its effectiveness (see HIV/AIDS education in schools under Section 2.5.3).

f) Stigma

Stigmatisation has been identified as the main challenge in achieving set goals in the prevention of HIV (Global Health Council, 2010). PLWHA are often shunned or abused by community members, employers and even health workers. This acts of prejudice and blame cause more trauma and discouragement to PLWHA and subsequently prevents them from seeking HIV testing, treatment and care (UNAIDS, 2005). Stigma has been reported to be the main obstacle to using VCT services in Botswana (Wolfe, Weiser, Bangsberg, Thior, Makhema & Dickinso, 2006), South Africa, Tanzania, Zimbabwe, Thailand (Khumalo-Sakutukwa, Morin, Fritz, Charlebois, van Rooyen & Chingono *et al.*, 2008), and Uganda (Bwambale, Ssali, Byaruhanga, Kalyango & Karamagi, 2008), to mention a few. According to the UN Secretary-General, Ban Ki Moon (2008, para 7), "Stigma remains the single most important barrier to public action. It is a main reason why too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear

the social disgrace of speaking about it, or taking easily available precautions”. Norman Mabasa, the MEC for health and social development in Limpopo province of South Africa said that “stigma is a chief reason why the AIDS epidemic continues to devastate societies around the world” (Dube, 2012, para. 15). Stigma can be linked to a lack of adequate, appropriate and comprehensive knowledge about HIV and AIDS. According to the UNAID (2010) global report on the HIV epidemic, comprehensive and correct knowledge about HIV among young people has increased only slightly at 34% since 2008 which is about one third of the UNGASS target of 95%. The impact of stigma goes beyond PLWHA to reach broadly into society, both disturbing the functioning of communities and obscuring prevention and treatment of HIV. There is therefore the need to further examine the issue of HARS and HARK in order to better understand the interplay between them more closely hence this study.

2.4. Understanding HIV/AIDS-Related Stigma

Stigma is a phenomenon attached to many chronic health conditions such as mental illness, disability, cancer, tuberculosis, STDs, leprosy and epilepsy (van Brakel, 2006). It is an all-encompassing problem that influences health status globally and impacts negatively on the physical and psychological well-being of the affected individual (Cabe & Sorokin, 2002). HIV/AIDS is perhaps one of the most recent stigmatised diseased condition globally, hence the thrust of this research work.

2.4.1 Stigma defined

Stigma, linked to the original work of Goffman (1963), has been a subject of study among many researchers within the past two to three decades. Goffman (1963) described stigma as an undesirable or discrediting attribute that an individual possesses, thus reducing the individual’s status in the eyes of society. Stigma is linked to negative prejudices without examining whether there is any justification for such behaviour (Osman, 2007). According to the policy project of the Canadian HIV/AIDS Legal Network (2004), stigma is referred to as “a powerful and discrediting social label that radically changes the way individuals view themselves and are viewed as persons”. UNAIDS (2000) further defines stigma as the tagging of a person or a group of persons as being unworthy of inclusion in human community, resulting in discrimination and ostracization. Parker and Aggleton (2003), in their own terms, defined stigma as a social process

which has its origin in the structure, norms and values that rule everyday life in a society and in which people try to maintain social control by differentiating those who are normal from those who are not, out of fear of a disease.

HIV/AIDS is a highly stigmatised health condition and PLWHA are more likely to be discriminated against than patients with most other life threatening health conditions (Li, Wu, Zhao, Lin, Detels & Wu, 2007). Li *et al.* (2007) found that Chinese health professionals displayed more negative attitudes and less willingness to interact casually with a hypothetical patient with HIV/AIDS than one with Hepatitis B. Goffman and others highlighted some common attributes of diseases that facilitate stigmatisation. These include the existence of individual and moral responsibility for the disease; progressive and incurable nature of the disease; lack of proper understanding of the disease among the public; and the visible nature of symptoms of the disease (Goffman 1963; Herek 1999; Jones, Farina, Hastorf, Markus, Miller & Scott, 1984). These attributes all characterize HIV/AIDS infection. Firstly, people infected with HIV are often blamed for their condition and many people believe HIV could have been avoided if individuals had made better moral decisions. Secondly, although HIV is treatable, it is however progressive and incurable. Thirdly, HIV transmission is poorly understood by some people in the general population, causing them to experience fear in the presence of a HIV infected person. Finally, although asymptomatic HIV infection is hidden, the symptoms associated with HIV-related illness are very conspicuous (Nzioka, 2000). It has been reported that HIV-related symptoms may be considered repulsive, ugly, and disruptive to social interaction (Herek, 1999; Herek, 2002).

HARS therefore refers to prejudice, all unfavorable attitudes, beliefs, abuse, maltreatment, discrediting, discounting, devaluing, discriminating and policies directed toward people infected or suspected of being infected with HIV and/or AIDS (Brimlow, Cook & Seaton, 2003; Parker & Aggleton, 2003). This prejudice also extends to their close associates such as orphans or the children, friends and families of PLWHA, people involved in the care of PLWHA, social groups, professionals who provide HIV/AIDS services or advocacy groups and the communities with which they are associated (UNAIDS, 2005). Brimlow *et al.* (2003) have argued that the patterns of prejudice against these groups of people further buttress and strengthen existing social

inequalities, especially those of gender, sexuality, and race which are at the root of HARS. A cognitive emotional model of HIV-related stigmatisation is depicted in Figure 2.1.

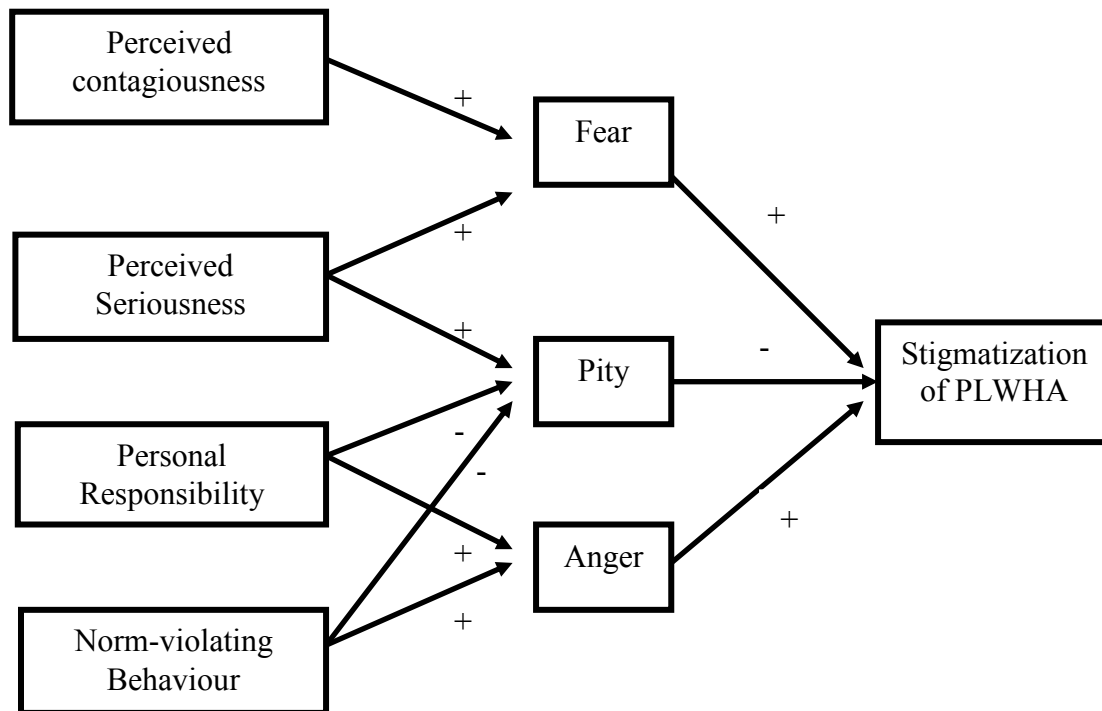


Figure 2.1: Cognitive-emotional model of HIV-related stigmatisation

(Source: Bos et. al., 2008, pp. 453)

2.4.2. Prevalence of HIV/AIDS-related Stigma

Various studies have been done globally on the prevalence of HARS. Numerous household surveys reported widespread stigmatising attitudes among the general population across all samples studied in different countries and settings including South Africa (Maughan-Brown 2006; Ndinda, Chimbwete, McGrath & Pool, 2007; Visser, Makin, Vandormael, Sikkema & Forsyth, 2009), Hong Kong (Mak, Mo, Cheung, Woo, Cheung & Lee, 2006), Jamaica (Norman, Carr & Jimenez, 2006), Nigeria (Babalola, Fatusi & Anyanti, 2009) and in a study done by Stephenson (2009) in Burkina Faso, Zambia and Ghana. One of the early national HIV prevalence study in South Africa (Shisana & Simbayi 2002), reported that 26% of respondents were unwilling to share a meal with an HIV-positive person, while nearly 18% indicated that they would not sleep in the same room with someone with AIDS (Shisana & Simbayi 2002).

Similar studies in other continents and countries portray the universal nature of the problem of HARS (Brickley, Hanh, Nguyet, Mandel, Giang & Sohn, 2008; Melchior, Nemes, Alencar & Buchalla 2007). A study done by Bogart, Cowgill, Kennedy, Ryan, Murphy, Elijah, *et al.* (2008) in USA indicated that 80% of the families investigated experience discrimination. Similar studies have shown 50-60% in China (Wang, Li, Stanton & McGuire, 2010) and 75% in Kenya (Odindo & Mwanthi 2008).

2.4.3. HARS: The Consequences of Stigma for PLWHA

The consequences of HARS are obviously severe and impact not only on PLWHA but also on their families and the communities. Ogden and Nyblade (2005) reported a number of consequences of stigmatisation of PLWHA as follows:

a) Loss of Income and Livelihood

People in formal employment or domestic workers have been dismissed upon disclosure of their positive HIV status while those in personal business have lost customer especially once they begin to show symptoms of HIV related diseases, for example, people selling goods or cooked food have their customers reduced (Ogden & Nyblade, 2005).

b) Loss of marriage and childbearing options

According to the study by Ogden and Nyblade (2005), PLWHA especially women have been deserted by their spouses upon disclosure of their HIV status while some unmarried PLWHA find it difficult to get a partner. Likewise, PLWHA are at times strongly discouraged from having children. A study in South Africa that investigated the attitude of the community attitudes towards sexual activity and childbearing by HIV-positive people (Myer, Morroni & Cooper, 2006), reported that only 13% of the 843 women interviewed in the study affirm that PLWHA could go ahead to have children if they so wished while 87% believe otherwise. In another study in Tanzania (Mbwambo, Kilonzo, Kopoka, Nyblade *et al.*, 2004), an individual in the focus group stated that women with HIV infection should not bear children while it was also reported that sanction may be taken by relatives against PLWHA if they bear children in contrary to family counsel.

c) Poor health care

Reports of HIV positive people receiving inferior care or none at all have been documented (Ogden & Nyblade, 2005). Such treatments include unnecessary referrals, deprivation of attention by medical personnel, discriminatory use of gloves in handling PLWHA and a failure to give the necessary injections (Ogden & Nyblade, 2005).

d) Withdrawal of caregiving in the home

Ogden & Nyblade (2005) has noted the case of discriminatory care by family members towards PLWHA due to fear of being infected, to be judged and receive moral condemnation, fear of experiencing the stigma of others, or a combination of these factors. This can also be linked to the impact of poverty and resource constrained that limit the extent of care a family is able to give to PLWHA as some perceived their case as “hopeless” (Ogden & Nyblade, 2005).

e) Internalized Stigma

Psychologically, HARS generates noteworthy distress in the form of depression, anxiety, and decreased self-esteem and even suicide (Lee, Kochman & Sikkema, 2002; Li, Lee, Thammawijaya, Jiraphongsa & Rotheram-Borus, 2009; Stutterheim *et al.*, 2009; Vanable *et al.*, 2006). This is the most profound consequences of HARS and it manifests as a loss of hope, feelings of worthlessness, and inferiority (Ogden & Nyblade, 2005).

f) Loss of Reputation

The reputation of the family can be closely tied to the behaviour of its children. Thus, when someone becomes HIV-positive, it paints a bad picture and reflects negatively on the family, who can lose respect of the community as a result (Ogden & Nyblade, 2005). HARS also negatively impacts social interactions, social network, social support and cohesion between PLWHA and others in the society (Lee & Craft, 2002; Lichtenstein, Laska & Clair, 2002).

g) Hindrances to HIV Preventive programme

HARS has been found to hamper HIV preventive programmes (UNAIDS, 2008). This occurs by hindering treatment adherence and condom use (Nyblade, Pande, Mathur, MacQuarrie & Kidd, 2003); acting as a barrier to HCT, care services, PMTCT uptake (Adeneye, Brieger, Mafe, Adeneye, Salami, Titiloye *et al.*, 2006; Hutchinson & Mahlalela 2006; Meiberg, Bos, Onya, & Schaalma, 2008; MacQuarrie, Eckhaus & Nyblade, 2009; Vermeer, Bos, Mbwambo, Kaaya, & Schaalma, 2009) and causing unwillingness to disclose a HIV status (WHO, 2008). A study found that participants who reported high levels of stigma were four times more likely to report poor access to care (Sayles, Wong, Kinsler, Martins, & Cunningham, 2009). Varga and Brookes (2008) studied the factors influencing teen mothers' enrollment and participation in PMTCT services in Limpopo province of South Africa and reported that pregnant adolescent girls in South Africa exhibits fear of judgmental and unsympathetic health care workers who sometimes gossip about their HIV status. This has made most teenage mother to hide their positive status from hospital staff in South Africa. Some refuse to take their ANC card, which indicates their HIV status, to the health facility or simply swap their ANC card with a friend who was HIV negative. Similarly, in Botswana where service is available at every antenatal centre in the country, more than half of the pregnant women refused HCT while close to 50% of those who tested positive did not go for treatment (CHG, 2008). Furthermore, fear of HARS have inhibited people from seeking treatment for infections that are closely associated with HIV, such as tuberculosis, skin rashes, and certain types of diarrhea, whether or not they have tested positive for HIV (Bond, Chilikwela, Clay, Kafuma, Nyblade & Bettega, 2003).

These consequences are majorly found in Africa (Fortenberry, McFarlane, Bleakley, Bull, Fishbein, Grimley, *et al.*, 2002; Valdiserri 2002) and undermine public health efforts to combat the epidemic. As the HIV epidemic affects so many people, especially in the sub-Saharan Africa. Therefore, decreasing HARS is a very important step in curtailing the epidemic. Given this situation, it is critical that interventions that effectively reduce HARS be identified and implemented.

2.4.4 The Construction of HIV/AIDS-Related Stigma (HARS)

Various classifications of stigma have been reported in the literature. Some authors argue that stigma consists of *internal stigma*, *external stigma* and *multiple stigma* (Jacoby 1994; Malcolm, Aggleton, Bronfma, Galvão, Mane & Verrall, 1998; Scambler, 2004). HARS arising through association with someone who is HIV positive is classified as *secondary stigma* (Parker & Aggleton, 2003). In UNAIDS (2000), HARS is considered as operating at three levels namely, *individual*, *community* and *institutional* levels hence its classification in this regard. Meanwhile, some early researchers (Herek & Capitanio, 1999; Snyder, Omoto & Crain, 1999) have tried to classify HARS into *instrumental* stigma which is a reflection of the fear and apprehension that are likely to be associated with any deadly and transmissible illness; *symbolic* stigma which is the use of HIV/AIDS to express attitudes toward the social groups or "lifestyles" perceived to be associated with the disease and *courtesy* stigma which is stigmatisation of people connected to the issue of HIV/AIDS or HIV positive people. However, for the purpose of this study, stigma will be classified primarily into internal, external and multiple stigmas.

2.4.4.1 Internal Stigma

This is also referred to as felt, self or perceived stigma. It occurs when PLWHA think that their personality and worth have been dented because of their HIV status since they also share in the same belief systems and norms as the rest of the community (Carter, 2002; ICRW, 2002). Internal HARS manifest itself in PLWHA in form of shame, fear, loss of hope, self-blame, self-hatred, feelings of worthlessness, guilt and inferiority, belief in a doomed future and isolation from the society, friends and family (Lee *et al.*, 2002, Scambler, 2004). Scambler (2004) argues that shame is a component of felt stigma. Felt stigma can be seen as a survival strategy to limit the occurrence of enacted stigma e.g. failure to disclose HIV status in order to avoid being ostracized. Valdiserri (2000) also argued that stigma at individual level manifests in form of identity crises, isolation, loneliness and low self- esteem. There is also a lack of motivation to practice prevention, seek for HCT and health care services (Nyblade & MacQuarrie, 2006; Parker & Aggleton, 2003).

2.4.4.2 External or Enacted stigma

Stigma at this level is a process that goes beyond perceptions and attitudes but goes into actions and follows a three-step pattern, namely: identifying those infected, creating a distance between oneself and “them,” and restricting or excluding “them” (Morrison, 2006). Gruskin and Tarantola (2008) put this type of stigma as the experience of discrimination and violation of human rights that PLWHA experience. It manifests in form of domination, avoidance, labeling, breaches in confidentiality, substandard and degrading treatment, isolation, blaming, differential treatment, prohibiting actions, oppression, harassment, accusation, exclusion, ridicule, resentment, social ostracism, violence, rejection, service denial, physical distance, indifference, and awkward social interaction (Greeff, Phetlhu, Makoae, Dlamini, Holzemer, Naidoo *et al.*, 2008; Shamos, Hartwig, & Zindela, 2009; Stutterheim *et al.*, 2009)

Social distance from PLWHA is then a form of enacted HARS which manifests in form of isolation involving social and physical exclusion characterized by reduction of daily social interactions, exclusion from family and community events, shunning or turning away by the public, breakdown in relationships (social exclusion), separating sleeping quarters, marking and separating eating utensils, separating clothing and bed linens, not being allowed to eat meals with the family, and even hiding an HIV-positive member of the family i.e. physical exclusion (Ogden & Nyblade, 2005). Physical violence, sometimes leading to murder, is the most acute example of isolation. HIV related murders have been reported in countries as diverse as USA, Brazil, Colombia, Ethiopia, India, South Africa and Thailand. One of the most widely known occurrence of HIV murder happened in Durban City, South Africa in December, 1998, when an AIDS activist, Gugu Dlamini, was stoned to death by her community members for openly disclosing her HIV status after speaking out openly on World Aids Day about her HIV status (PlusNews, 2011). This emphasizes the potential consequences of HARS and points to the collective and individual level of contribution needed to reduce stigma. The response of communities to PLWHA and the ways HARS is manifested in terms of social distance is dependent on the type of cultural system and where it fits along the continuum of individualism and collectivism which in turn determines the blame and shame components of HARS. The case of Gugu Dlamini is an example of stigma at the community level which manifests in form of ostracism, rejection and verbal and physical abuse. HARS can lead to pregnant women avoiding

HCT and subsequently breastfeeding their babies to avoid suspicion of their HIV status, thereby exposing these babies to HIV infection (MacQuarrie, Nyblade, Philip, Kwesigabo and Mbwambo, 2006).

Furthermore, this level of HARS may lead to the reduction of open support for HIV/AIDS activities both by the community and civil organizations (Rankin, Brennan, Schell, Laviwa & Rankin, 2005). In a South Africa study to determine the influence of AIDS stigma and discrimination and social cohesion on HIV testing and willingness to disclose status in rural KwaZulu-Natal, Abdool Karim, Meyer-Weitz, Mboyi, Carrara, Mahlase, Frohlich *et al.* (2008), reported the existence of inadequate social support for PLHWA among the participants as a result of HARS. This inhibits disclosure and therefore constitutes a barrier to care, support and prevention. Another study in Tanzania on HIV stigma by Nyblade, MacQuarrie, Phillip, Kwesigabo, Mbwambo, Ndega *et al.* (2005) revealed that 39.3% of respondents indicated a form of social distance towards people suspected to be living with HIV/AIDS (e.g. by isolation, harassment, loss of care and support, neglect, divorce, property loss, gossip, and loss of respect and standing with family and/or community). In another cross sectional study by Turhan, Inandi and Inandi (2006) on risk perceptions, knowledge and social distance towards PLWHA, nearly half of Turkish high school students were revealed to express a form of social distance towards PLWHA in form of feelings of discomfort at the prospect of contact with the latter. The Authors further noted that the desire for social distance towards people with HIV/AIDS in the study increased with age and grade.

Enacted stigma can be extended to partners, families, neighbours, friends and health care workers associated with or involved in caring for PLWHA. This is referred to as secondary or courtesy stigma. This 'secondary' stigma has played an important role in creating and reinforcing social isolation of those affected by the epidemic, such as the children and partners of PLHWA (Parker and Aggleton, 2003). Enacted stigma can also manifest at an institutional level (health facilities, schools, workplace, and government). Taking the workplace as an example, there may be termination of appointment, hostility, denial of gainful employment, forced resignation or retirement (UNAIDS 2000). In the health sector, the institutional level of HARS manifests in different ways. There may be delivery of low quality health care services, segregation of hospital

wards and beds, early discharge from the hospital, selective application of the universal precaution, labeling of materials used for the PLWHA (UNAIDS, 2008).

Furthermore, external HARS is also manifested in some of government policies at various levels in some of the countries in the world. Researchers have noted that laws, rules, policies and administrative procedures enforced in some societies against HIV/AIDS have led to more stigmatisation rather than protection of the “general population” as they were meant to (Kirp and Bayer, 1992 as cited in Parker & Aggleton, 2002). Such adverse legislation include compulsory screening and testing, compulsory notification of AIDS cases, restrictions of the right to anonymity, medical examination, quarantine and compulsory treatment of infected persons, isolation, limitations on international travel and migration, declaration of HIV status by tourists, mandatory HIV testing for individuals seeking work permits, denial of PLWHA carrying ARV drugs, and deportation of foreigners who are found to be HIV positive (China view, 2007; Gostin and Lazzarini, 1997; Malcolm *et al.* 1998; Tomasevski, Gruskin, Lazzaroma & Hendriks, 1992; Tumushabe, 2006). Ban Ki-moon, Secretary-General of the United Nations, admitted that "almost all (government legislations) permit at least some form of discrimination" (Ki-Moon, 2008, para 6). At the earlier stage of the epidemic, there were many reports of African students in Europe and Asia being detained or deported (Sabatier, 1988). These policies only helped to further stigmatise and create a false sense of security among individuals who are not considered at high-risk, thereby creating social distance.

2.4.4.3 Multiple or Compound Stigma

This is a form of HARS that is layered on top of preexisting stigmas such as homosexuality, prostitution, infidelity, injecting drug use and gender (Boer & Emons 2004; Herek, Capitanio & Widaman, 2002; Kalichman & Simbayi 2004; Nyblade 2004). For instance, in South Africa, AIDS was perceived as a poor black African women’s disease while in Mexico it was associated with homosexuality (Aids Alliance, 2010; Sontag, 1988; van der Vliet, 1996). In Barbados, HIV infection is still associated with homosexuality, promiscuity, and immoral or illegal sexual behaviours even though the major route of infection is heterosexual (Massiah, Roach, Jacobs, St. John, Inniss, Walcott, *et al.*, 2004). These pre-existing stigmas are part of the factors contributing to HIV stigma. Other contributing factors include the life-threatening nature of the disease, fear

of contagion, illness and death; misconceptions, lack of understanding of the illness, inaccurate information about route of transmission, irresponsible reporting by the media on the epidemic, incurability of AIDS etc. (Alonzo & Reynolds, 1995; Bos, Kok & Dijker, 2001; Foreman, Lyra & Breinbauer, 2003; Malcolm *et al.*, 1998; Parker & Aggleton, 2003).

2.4.5. Socio-demographic influence on HARS

Studies have shown that gender plays a major role in both susceptibility to HIV infection and stigmatisation of PLWHA (Morrison, 2006; De Bruyn, 2002). To start with, Morrison (2006) defines gender as a combination of symbolic, social, political, economic, legal, and cultural attributes assigned to a person as a result of his or her sex. Generally speaking, the significance of gender to health is revealed in differences and inequalities in women's and men's susceptibility to illness, health status, access to preventive and curative measures, burdens of ill-health and quality of care. This is true of HIV/AIDS as studies have shown that women who are HIV positive are much more stigmatised than men (Cloete, Strebel, Simbayi, vanWyk, Henda & Nqeketo, 2010; Leclerc-Madlala, 2002). What are the possible reasons for this trend? Or how do we explain this?

Aggleton and Warwick (1999) argue that the impact of HARS on women reinforce pre-existing economic, educational, cultural, and social disadvantages and unequal access to resources, information, power and services. Furthermore, in most cultures, women are expected to uphold and preserve the moral values of their communities hence a woman that is HIV infected is perceived as having failed to execute their social duties since those cultures closely associate HIV with sex and moral indecency. In a number of societies, women are erroneously perceived as the main transmitters of STIs, which they erroneously referred to as "women's diseases" (de Bruyn, 1992; Baden, 1992; Verdonk, Benschop, de Haes & Lagro-Janssen, 2009). Cloete *et al.* (2010) discovered that women who disclosed their status to spouses and family members could face divorce, being ejected from their home, or even subjected to violence.

Levin (2008) noted that despite the significant advances in HIV care to ensure safer pregnancy, fetal development, and delivery of uninfected children by HIV-positive women through PMTCT

over the past decade, the social stigma surrounding pregnancy and childbearing in HIV-positive women still remains strong. In a study on the community attitudes towards sexual activity and childbearing by HIV-positive people in South Africa, Myer *et al* (2006) found out that 77% of the participants felt HIV infected people should not have children. Mbwambo, *et al.* (2004) posits that sanction may be taken by relatives against PLWHA if they bear children in contrary to their counsel in Tanzania. Report also have it that more than half (59%) of HIV-positive women experience societal pressure to forego childbearing in USA (Squires, Hodder, Feinberg, Bridge, Abrams, Storfer, *et al.*, 2011).

Several studies done in various parts of the globe revealed that significant gender differential exists in terms of nature of HARS perceptions with women having less stigmatising attitudes compared to men. For instance, studies done in South Africa to determine the factors related to HARS showed that males blame PLWHA more for their condition than what females do (Forsyth, Vandormael, Kershaw & Grobbelaar, 2008; Ragimana, 2006). In another study done in India to assess media exposure, gender stereotype and contextual stigma perceptions about HIV and AIDS, it was revealed that women seems to have less stigmatising attitudes compared to men (Nanda and Pramanik 2010). On the other hand, the study done in Tanzania on health care providers (QAP Tanzania HIV stigma Study Team, 2007) and South Korea on students (Yoo, Lee, Kwon, Chung & Kim, 2005) to evaluate knowledge, attitude and practices towards PLWHA within these group of people, revealed that males had significantly lower stigma scores than females.

Stigmatising attitudes are impacted on by other factors such as race, socioeconomic status, level of education, age, area of residence, living standard, employment status etc. Several studies on HARS have reported cases of younger and more highly educated people typically manifesting lower levels of HARS than older people and those who are less educated (Forsyth. *et al*, 2008; Herek 1999; Ragimana, 2006). A study in South Africa by Visser, Makin and Lehobye (2006) on stigmatising attitudes of the community towards PLWHA reports race, knowing someone with HIV, living area, gender and age as the most important variables in explaining the level of personal stigma. The study discovered that white respondents were more stigmatising than other groups, while black respondents, who were exposed to the HIV epidemic to a much greater extent, were least stigmatising. Furthermore, people who knew someone with HIV were less

stigmatising than people who did not know someone. Earlier, Herek and Capitanio (1993 & 1997) in a random-digit telephone survey performed in USA to examine stigmatising attitudes about HIV/AIDS found that the female whites, higher level of education and those with annual incomes greater than \$40,000 had less stigmatising attitudes to PLWHA (Herek & Capitanio 1993; Herek & Capitanio, 1997).

2.5 Interventions directed to minimize HARS

A political declaration of HIV/AIDS was made by world leaders and governments in 2006 with a commitment to scale up programmes that will help to achieve a universal access to HIV prevention, treatment, care and support while also recognizing the damaging effects of HARS, and making major commitments to reducing these effects (MacQuarrie *et al.* 2009). Different studies have noted that decreasing HARS is a vital step in stemming the HIV epidemic (Bekele and Ali, 2008; Bos, Schaalma & Pryor, 2008; Brown *et al.*, 2003; Malcolm *et al.* 1998; UNAIDS 2000).

Different authors have suggested that for interventions aiming at reducing HARS to be effective, the following must be ensured: i) stigma must be dealt with at both a collective (National, Community) and individual level as everyone is at risk especially in many parts of sub-Saharan Africa (Brown, Trujillo & Macintyre, 2001); ii) stigma reduction efforts must be appropriate for age group, gender, family socioeconomic status, and AIDS experience in the family as studies have shown the effects of these on HARS (Lin, Zhao, Li, Stanton, Zhang, Hong, *et al.*, 2010). Studies have highlighted various strategies in which this can be achieved. These include, among others:

2.5.1 Policy and Legislation

Various countries now have legislation put in place to protect the rights of PLWHA from discrimination (Mann, Tarantolla & Netter, 1992; UNAIDS, 2010). In Ghana, the government has developed a National Workplace HIV/AIDS Policy which provide a framework for their strategy aimed at reducing the spread and mitigating the impact of HIV/AIDS on the workforce as well as protect and support the rights of workforce infected or affected by the virus (Ghana

AIDS Commission, 2004). A study on both South Africa and Mexico by Morrison (2006) suggested that to effectively reduce HARS, South Africa must address the issue of gender and economic inequality while in Mexico, there is a need to address the issue of homophobia. To this end, a National Stigma Strategy aiming at providing meeting the needs of PLWHA while combating the problem of HARS is being advocated also in South Africa (CSA, 2007). The report is currently being considered and implemented by the Department of Justice of South Africa.

Meanwhile, policies and legislation must not impact negatively on HARS but rather aim at reducing them. A set of regional policy on HIV related stigma and Discrimination was recently formed for the Carribean region by the Pan Caribbean Partnership against HIV and AIDS aiming at reducing HARS (PANCAP, 2010). In preparing the policy document, it was noted that:

“the legal and policy measures which have been adopted to respond to HIV have, in some cases contributed to stigma and discrimination. For example in the early stages, the national response to HIV and AIDS had often been justified as necessary to protect the ‘general population’ as distinct from ‘high risk populations’. By differentiating between the “general population’ and ‘high-risk populations” HIV and AIDS policies and programmes contributed to stigma and discrimination in that actions to prevent HIV spreading from the ‘high risk populations’ to the general population were prioritized and resulted in a lack of resources for those at greatest risk” (PANCAP, 2010, p. 8)

2.5.2 Facilitation of Social Cohesion

Social cohesion has many formal definitions. For the purpose of this study, two definitions will be considered. According to the Department for Children, Schools and Families of the United Kingdom, social cohesion will be defined as working towards a society in which, i) there is a common vision and sense of belonging by all communities; ii) the diversity of people's backgrounds and circumstances is appreciated and valued; iii) similar life opportunities are available to all; and iv) strong and positive relationships exist and continue to be developed in the workplace, schools and the community in general (DfCSF, 2007). Jensen (1998) also refers to social cohesion as the processes of building shared values and communities of interpretation, reducing disparities in wealth and income, and generally enabling people to have a sense that

they are engaged in a common enterprise, facing shared challenges, and that they are members of the same community.. DfCLG (2009) highlighted some benefits of social cohesion to include community empowerment; people helping each other out; coming together to solve problems and trusting one another; volunteering; equalities and perceptions of fair treatment; preventing crime and anti-social behaviour and necessary interventions; sense of belonging and having friends from different backgrounds. These all bring other benefits such as more efficient use of public resources; enhancing the quality of life of everyone in the community; community getting involved in solutions as well as public agencies; people from all generations having a sense of hope and positivity about their lives. In other words, social cohesion and social supports are interrelated as social cohesion brings about social support. Social support theory hypothesizes that social support can serve to protect individuals against the negative effects of stressors, such as discrimination against PLWHA as in this context, and by leading them to interpret stressful occasions less negatively (Galvan, Davis, Banks & Bing, 2008). Perceived social support from friends can help to provide guidance to those working to decrease the negative impact of HIV stigma among HIV-positive African Americans (Galvan *et al.*, 2008).

A study done in KwaZulu-Natal, South Africa by Abdool Karim, *et al.* (2008) revealed low levels of social distance towards PLWHA among the participants, which is suggestive of social cohesion. HARS and inadequate social cohesion were also found to limit access to voluntary HCT, inhibit disclosure of HIV status thereby acting as barriers to care, support and prevention. This shows the importance of social cohesion in alleviating HIV epidemics. Similarly, Fakolade, Adebayo, Anyanti & Ankomah (2009), in a study done in Nigeria, showed that there was a positive and significant association between level of perception about social support and accepting attitudes towards PLWHAs. However, Galvan *et al.* (2008) revealed an inverse relationship between HARS and perceived social support from family and friends.

2.5.3. Information, Education and Communication (IEC)

The information-based approaches involves the dissemination of information through written and/or verbal communication using information packet or leaflet, classroom-type, factual presentation, mass programmes, media advertisements, peer education and guided group discussions (Brown *et al.* 2001). The information presented often includes a factual description

of the disease, transmission modes, and methods of risk reduction. This study is looking at the effect of information-based approaches (focusing on media exposure) on HARS preventive measures. The essence of the information based approaches is to enhance HIV- related knowledge (HARK). The essence of improving HIV knowledge is to reduce stigma related to HIV/AIDS. Topouzis (1994) posits that attitude towards PLWHA is-directly linked to knowledge or the absence of knowledge.

a) ***Mass media***

This is intended for a large audience. It may take the form of broadcast media, as in the case of television and radio, or print media, like newspapers and magazines. Mass media campaigns are often utilized because of their ability to reach huge and diverse audiences in a cost-effective manner, giving such campaigns tremendous potential as a tool in fighting the spread of HIV/AIDS (Cohen, Wu & Farley, 2005). UNAIDS has been encouraging greater involvement of the mass media in responding to the epidemic. As a result, numerous HIV awareness campaigns using the mass media at the national, regional and local community levels have been launched in South Africa through government initiatives, private and non-governmental organizations over the past 15 years. In its survey on mass media (UNAIDS, 2004b), UNAIDS reported various mass media campaign in South Africa to include the *Soul City* an “edutainment” established in 1990 by Dr Garth Japhet; the *Community Health Media Trust* that gives a voice to PLWHA established in 1998 by two Cape Town men, Jack Lewis and Zackie Achmat; *Beyond Awareness*; *Khomanani*; *loveLife* and *Takalani Sesame* for small children launched in 2000 and viewed on both the TV and radio. A five-year old girl muppet called Kami who was an HIV-positive orphan whose mother died of AIDS joined the show in September 2002 with the primary role of humanizing and destigmatising PLWHA and opening up discussions about issues such as coping with illness and loss. This makes *Takalani* the first Sesame project to tackle the issue of HIV and AIDS and has demonstrated that it is never too early to challenge HARS. The mass media have also been employed with great frequency in other parts of the world to help prevent the spread of HIV/AIDS and HARS (see Bertrand, O’Reilly, Denison, Anhang & Sweat, 2006; Myhre & Flora, 2000; Palmgreen, Noar & Zimmerman, 2007; Singhal & Rogers, 2003).

The Nelson Mandela/HSRC household survey on HIV/AIDS prevalence, behavioural risks and mass media reported by Shisana and Simbayi (2002) carried out a comprehensive population-based research on HIV prevalence, impact of the mass media on knowledge, attitudes, and prevention strategies. The study revealed that better knowledge of HIV/AIDS has been shown to have a positive relationship to both prevention behaviours and PLWHA. The study also showed that the sub-populations which show deficits in knowledge match the sub-populations with poorest media and communications programme coverage of HIV/AIDS. It was evident in the study that the penetration of media and communications programmes is uneven in South Africa and matches a cluster of variables which are interrelated, including education, socio-economic status, place of residence (rural-urban) and race.

It has been argued that television campaigns usually produce the strongest impact in terms of HIV/AIDS awareness, transmission knowledge, interpersonal communication and behavioural change, as opposed to campaigns using other channels, such as radio or print media as television broadcasts reach greater numbers of the population (Keating, Meekers & Adewuyi, 2006; Sood & Nambiar, 2006 as cited in Li, Wu, Lin, Guan, Rotheram-Borus, Lu *et al.*, 2009). A study in Ghana in West African by Benefo (2004) further revealed that mass media exposure increases awareness and that exposure to multiple channels reinforces media messages about safe sex and HIV/AIDS. However, Benefo (2004) found that radio media seems to be the most powerful sources of information about the epidemic, reaching more people than television and print media and have larger effects on individuals' knowledge base and behaviour. In another study done in KwaZulu-Natal, South Africa, daily exposure to radio and television was reported to be 74% and 52% of the participants, respectively (Abdool Karim *et al.*, 2008). In this study, there was a significant gender difference with the males being more exposed to radio than females.

It is noteworthy that the effectiveness of interventions through mass media is influenced not only by the type of channel of delivery but also by the level of exposure to media messages. For example, a study of an HIV/AIDS mass media campaign in Kenya (Agha, 2003) revealed a dose-response relationship, whereby a higher intensity of exposure to campaign media led to more favorable outcomes such as safer sex, higher perceived self-efficacy in condom use negotiation and higher perceived condom-efficacy. There is considerable experimental evidence showing

that the mass media can be used for attitude and behavioural changes associated with HIV/AIDS (Bertrand, *et al.*, 2006; Benefo, 2004; Li, *et al.*, 2009). This effect is consequent to increase in knowledge about HIV/AIDS.

Li, *et al.* (2009) in a study done in China to identify the source(s) of HIV information for the general Chinese population and examine their association with HIV transmission knowledge and stigmatising attitude towards PLWHA, revealed that mass media sources (such as TV, newspapers and magazines), were more frequently identified as the channels for HIV information than interpersonal sources, such as friends and service providers. The study further found that exposure to multiple sources of HIV information (where at least one source is mass media) was significantly related to HIV knowledge and less stigmatising attitude towards PLWHA. Other studies done in Gabon, Nigeria, India also revealed same positive association between media exposure and HARK with reduction in HARS (Millerliri *et al.*, 2003 cited in Li, Wu *et al.*, 2009; Fakolade *et al.*, 2009). Furthermore, studies investigating the relationship between HARK and HARS in Tanzania among students (Klepp *et al.* 1997 cited in Brown *et al.*, 2003), Nigeria (Fakolade *et al.*, 2009), Israel among the Ethiopian immigrants (Venkataraman *et al.*, 1996 cited in Brown *et al.*, 2003), China among the general population (Li, Wu *et al.*, 2009) and Uganda/Kampala among commercial farmers and employees (Kiguli, 1996 cited in Brown *et al.*, 2003) revealed a decline in HARS among those with higher levels of HIV/AIDS awareness.

However, the HIV epidemic is still poorly controlled in the country despite the several forms of knowledge and education interventions aimed at reducing or eradicating HIV and AIDS related stigma. While HIV knowledge dissemination might have improved individual and community attitudes towards PLWHA, it is possible that some of HARK interventions might have had some negative impact, that is, leading to more stigmatisation of PLWHA rather than reducing it. For example, it has been reported in South Africa that the words used to describe HIV and AIDS in the media play an important role in shaping perceptions of PLWHA (Soul City, undated). Words such as 'victim', 'AIDS carrier' and 'sufferer' stigmatise PLWHA and create images of helplessness (CSA, 2007). Prejudices are perpetuated by media portrayal of HIV-positive people as emaciated, passive, helpless, hopeless and dying (Richter, 2001).

The role of the telephone in HIV/AIDS information dissemination has been reported (Shisana & Simbayi, 2002). Many interventions employed dedicated telephone helplines to both PLWHA and those at risk. Telephone helplines provide opportunities to increase understanding of information needs. Shisana and Simbayi (2002) reports that telephone helplines allow callers to explore HIV/AIDS in terms of their own particular concerns. It helps to increase awareness of available services amongst all groups including youth and adults. However, a South African household survey noted that urban respondents are considerably more likely to be aware of telephone helpline services than rural respondents (Shisana & Simbayi, 2002). In Nigeria, the National Action Committee on AIDS (NACA) in its HIV/AIDS public enlightenment campaign use cell phone messages in addition to the use of television and radio messages (Okechukwu, 2007).

b) *HIV/AIDS education in schools*

The Department of Education in South Africa introduced Life Orientation (LO) curriculum in schools first in 2002, five years after acknowledging its role in the fight against HIV/AIDS in 1997 (IRIN/Plus News, 2008). The quality of AIDS education in the country is however affected by a number of factors. These include the lack of training of teachers, reluctance of teachers and/or schools to provide AIDS education, training of the subject after school hours, shortage of trained teachers, and teachers' discomfort in teaching curriculum that contradict their values and beliefs (IRIN/Plus News, 2008, UNAIDS, 2004b). Other factors include poor role model at home which mitigates against HIV prevention messages received in the classroom, high dropout rate in schools and resistance of school management on what is being taught (Ahmed, Flisher, Matthew, Mukoma & Jansen, 2009). In Kenya, AIDS education was integrated into all subjects at school with a compulsory weekly HIV/AIDS lessons introduced into all primary and secondary curricula, which eventually resulted in the promotion of healthy behaviours and reduction of risk of infection as reported in a post-intervention evaluation done in 2000 (Kenya National AIDS Control Council, 2009).

c) HIV/AIDS education in the work place

Dr Peter Piot, former Executive Director of UNAIDS noted that the workplace is a key location for HIV/AIDS prevention and care programmes (ILOAIDS, 2008). Based on the estimation that nine out of ten PLWHA are in the working class, ILOAIDS (2008) submitted that educating people at work is then an important way of providing people with vital prevention information which can reach people who have previously missed out on HIV and AIDS education. This will further help people who are not infected to live healthily while maintaining their work. Therefore, workplace education is essential especially in occupations with increased risk of exposure to HIV infections such as health care workers and miners in particular who spend considerable periods away from home. The International Labour Organisation (ILO) advocates for HIV/AIDS policies and programmes in the workplace with the aim of protecting against discrimination through labour laws, promoting prevention initiatives within the workplace, and supporting PLWHA by ensuring access to social protection, treatment and care (ILOAIDS, 2008). Simon-Meyer and Odallo (2002) reported the need to involve PLWHA in creating awareness in the workplace in South Africa, as this encourages others to be more willing to discuss the problem. Companies are reportedly implementing HIV/AIDS programs that encourage workers to receive HIV tests, provide treatment to sex workers and distribute condoms (Global HIV Prevention Working Group, 2007). Gold Fields, the world's fourth-largest gold producer, estimated a loss of about \$5 per ounce of gold produced in South Africa due to HIV. The company recently launched a program that offers monthly prizes to workers who receive HIV tests (Henry J. Kaiser Family Foundation, 2007). However, workplace HIV and AIDS education is not universal and as a result, people are still unaware of the dangers of HIV, and those living with the virus are still subject to HIV related stigma and discrimination at work.

2.6. Theoretical framework of the study

Understanding of AIDS stigma will be informed by the literature on prejudice towards specific social groups i.e. PLWHA and attribution theory (ATT). ATT has been used as a theoretical framework for assessing societal reactions including stigma toward PLWHA (Cobb & De Chabert, 2002; Dowell, lo Presto & Sherman, 1991; McDonell, 1993; Seacat & Hirschman, 2011; Seacat, Hirschman & Mickelson, 2007).

ATT is a social psychology theory developed by Heider, Kelley, Jones and Ross (Baron & Byrne, 2003) which has been extensively used in health related research including HIV research. It is a social psychological model that attempts to explain and predict behaviours by focusing on the attitudes and beliefs of individuals. The theory was developed to explain the processes by which people infer the causes of behaviour and thus the ways they understand their own behaviour as well as the behaviours of others (Heider, 1958). In other words the main assumption guiding ATT is that people interpret behaviour in terms of its causes and these interpretations are significant in determining reactions to the behaviour (Kelley & Michela, 1980). The process of ATT is conceived as a three-step process in which people have (1) a perception of the action; (2) a judgment of intention; and (3) attribution of disposition. According to Heider (1958), there are basically two sources for our behaviour namely, those influenced by situational (external) factors and those influenced by dispositional (internal) factors. The attribution made by a perceiver determines his/her immediate emotional and behavioural responses toward the target he/she is evaluating (Weiner, 1995). According to Weiner (1995), attributing a negative event to some internal factor, (such as poor judgment, alcohol use) might lead a perceivers to respond with more negative emotions (anger) and decreased intentions to aid the target. On the other hand, attributing the negative event to the environment (e.g., accidental needle prick, wrong blood transfusion) might lead the perceiver to respond to a target with greater sympathy and increased intentions to help. ATT is therefore useful in explaining HARS as purposed in this study.

McDonell (1993) further stress that attributions consist of judgments made about self or others and concern the ways people understand the causes of events around them. This starts with a perceiver assessing an outcome (e.g., HIV diagnosis) and thereby constructing an attribution to aid in explaining the cause of that outcome (Weiner, Perry & Magnusson, 1988). ATT suggests that uncontrollable behaviours are less likely to be stigmatised than controllable behaviours. In order words, people might exhibit more positive attitudes toward individuals with problems that are biologically caused resulting in less stigmatisation than those whose problems are regarded as behaviourally caused who are likely to be more stigmatised (Dijker & Koomen 2003). Thus, attribution can be categorized as either external or internal attributions (Heider, 1958; Kelley,

1967, Nassar, Singhal & Abouché, 2005). Internal (dispositional) attributions implicate characteristics of the individual (such as ability, attitudes, personality, character mood, and effort) for having caused a particular behaviour, whereas external (situational) attributions implicate external factors (such as the task, other people, or luck) for causing an event or outcome to occur. Attribution processes seem to instigate behaviours such as information-seeking, communication, persuasion (Kelley, 1967).

Fear of knowing one's HIV status and disclosing it is linked to the attitude of the general population (e.g. community where he/she lives) to the 'negative lifestyle or behaviour' they presumed must have caused the infection. According to Dourard (1990), the marginalization of PLWHA occurs because gays, narcotics users, and sex workers engage in behaviours that are labeled deviant and are thus stigmatised. Bor, Miller and Goldman (1993) stated that "this marginalization is a direct consequence of their sexual orientation, sexual behaviour or drug use, fear of an infectious disease, as well as social unease with death and dying" (Bor *et al*, 1993, pp 191). ATT contributes to understanding how people infer negative attitudes to the cause of HIV and AIDS in PLWHA. Manifestation of HIV stigma (internal or external stigma- blame, shame social distance etc.) can be easily understood in terms of ATT as the two factors necessary for making attributions (dispositional factors and situational factors) are likely to be involved in the process. Theoretically, dispositional attributions are made when some characteristic of the individual (especially characteristics that are controllable) is thought to be responsible for their behaviour. Situational attributions are made when some aspect of the circumstance (uncontrollable circumstances) is responsible for the actor's behaviour (Nassar *et al.*, 2005). In accordance with ATT, fear of negative sanctions from the potential recipient of information may likely prevent some social group (such as PLWHA) from disclosing their HIV status (Herek & Glunt, 1988). In this case, dispositional attributions or attributions regarding the character (i.e. prostitution, promiscuity, homosexuality, injectable drug use) of the HIV-positive individual becoming infected in these ways may be made. Therefore, people might tend to make attributions about the HIV-positive individual based on the way he/she contracted the infection. For example, sex workers are considered participants in a deviant occupation; therefore, their behaviours and any subsequent illness are considered their responsibility. In addition, sex workers are often perceived as threats to the community thus resulting in their stigmatisation

(Alonzo & Reynolds, 1995). Prejudice linked to stigma towards PLWHA can therefore be as a result of people making attributions regarding their HIV status (consequences of their behaviour) linked to their behaviour (irresponsible) and attributions regarding their dispositions - promiscuous, “loose” etc. The causes of the behaviour that led to the HIV infection are seen as linked to internal factors (dispositions).

Stigmatisation can also occur at a personal level. PLWHA may themselves internalize the negative responses and reactions of others - a process that can result in self or ‘internalized’ stigmatisation. Self stigmatisation has links to ‘felt’, as opposed to ‘enacted’, stigma (discrimination), in that it primarily affects an individual’s or affected community’s sense of pride and worth (UNAIDS, 2005). For PLWHA, this may be manifested in feelings of shame, self-blame, and worthlessness which, combined with feelings of being isolated from the society, can lead to depression, self-imposed withdrawal and even suicidal feelings (UNAIDS, 2005).

Following the emergence of two-dimensional ATT, many studies have been conducted which observed patterns governing the type of attribution individuals tend to make in given situations. Three phenomena which are commonly observed when studying attributions are the actor-observer bias, the fundamental attribution error, and the self-serving bias. The actor-observer bias is the phenomenon where the perceived cause of an event follows from the particular perspective of the explainer. An observer of an individual’s behaviour displays a tendency to attribute the causes of that behaviour to internal characteristics of the actor whereas the person carrying out the act in question explains their own behaviour as having resulted from external circumstances (Jones & Nisbett, 1971). The fundamental attribution error refers to a general bias on the part of an observer, whereby individuals tend to explain the behaviour of others in terms of internal factors to a greater extent than situational factors (Heider, 1958; Gilbert & Malone, 1995). This bias is also manifested in explanations for group behaviour. Cohen (2011) describes fundamental attribution error *as* the tendency to over-estimate the internal and under-estimate the external factors when explaining the behaviours of others which may be a result of our tendency to pay more attention to the situation rather than to the individual especially when we know little about the other person. This might explain the occurrence of prejudice that leads to social stigma towards PLWHA. People may hold negative attitudes towards the prejudiced person while

he/she tend to explain their behaviour in terms of internal factors and negative dispositions. Finally, self-serving bias is a common pattern of explanation for personal success or failure. It refers to the tendency for individuals to explain success as internally derived and failure as resulting from external, situational factors (Donelson, 1987; Simpson, 1970). An individual infected with HIV might attribute the cause to the infidelity on the part of the partner or transfusion of an infected blood. These three patterns of attribution type exhibit fallacious and biased reasoning in action.

Dijker, Kok and Koomen (1996) posits that three types of emotions are important in reactions to PLWHA namely, fear, anger (irritation) and pity. Fear and irritation will lead to stronger stigmatisation, while pity causes a reduction in stigmatisation (Dijker *et al*, 1996). It is expected that accurate beliefs about HIV transmission through the impact of appropriate knowledge (through information) would diminish fear and irritation towards AIDS risk groups and enhance pity on PLWHA. This will also reduce feeling of shame at a personal level for PLWHA. Existing studies have provided considerable empirical support for ATT as an explanatory mechanism for anticipating perceivers' immediate emotional and behavioural responses toward PLWHA (Cobb & De Chabert, 2002; Seacat *et al*, 2007; Seacat and Hirschma, 2011). Furthermore, this body of research has largely supported the specified inter-relationships between attribution types (internal versus external) and emotional and behavioural responses (anger versus sympathy and helping behaviour) (Seacat and Hirschma, 2011) as specified in Weiner's Attribution-Helping Model (Weiner, 1995).

For the purpose of this study, the potential recipient of information, the attribution a person make about PLWHA and various factors associated with PLWHA and their relationship with potential recipients of that information in analyzing blame, shame, social distance towards PLWHA are examined. An attribution model of HIV-related stigma was developed from the understanding of the ATT concepts by Heider (1958) and presented in Figure 2.2 as it applies to this study.

2.7 Conclusion

This chapter presented an extensive review of literature regarding HARS and the effect of HARK on HARS. It is generally agreed in that the issue of stigma is increasingly becoming

pronounced and has great effects on HIV prevention and treatment efforts. Moreso, HARS is more pronounced among female than males. Evidence points to an increased trend in global awareness and knowledge about HIV/AIDS which unfortunately has not prevented the occurrence of new infections which is increasing, most notably in sub-Saharan Africa. This underscore the need to investigate the effect of HARK on HIV stigma to see the impacts the former has made on the latter. Various forms of stigma and intervention directed at reducing stigma have been examined while ATT model was presented to further explain HIV stigmatisation behaviours.

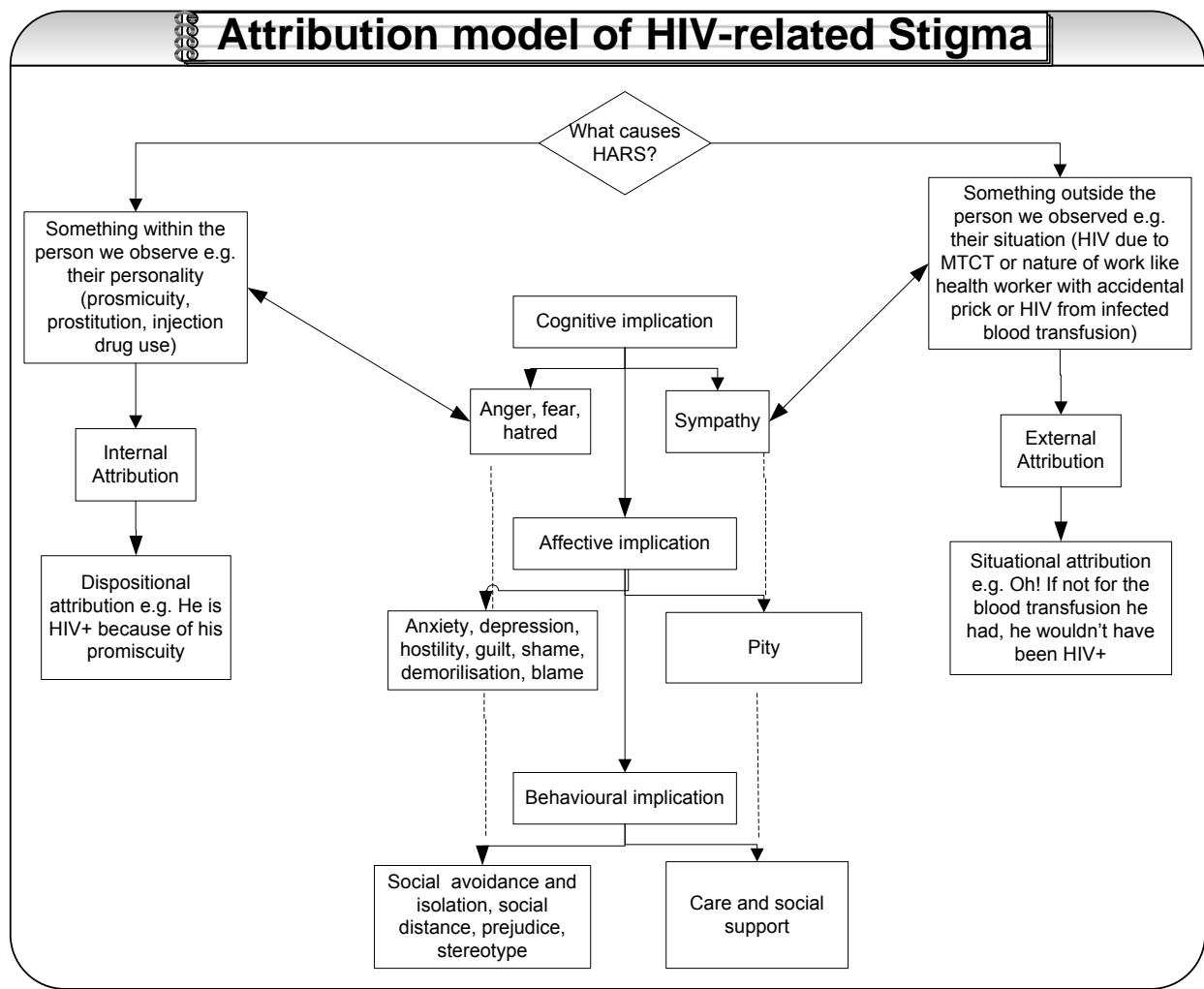


Figure 2.2: Attribution model of HIV-related Stigma as adapted from Heider (1958)

Chapter Three

Research Methodology

3.1 Introduction

This chapter outlines the research methodology for this study starting with details of the research site and its socio-economic and demographic characteristics. The process of data collection and generation are explained including the sampling methods and data collection procedure. The chapter provides information on measures, scale construction, data analysis methods as well as predictors of HIV stigma and knowledge used in the study.

3.2 Background to the Research Site – Rustenburg area

The current study is based in the Rustenburg community in the North-West Province of South Africa. Rustenburg has a population of 449,775 people comprising of 54.1% males and 45.9% females (Statistics South Africa, 2007; Statistics South Africa, 2011) and is located 166 kilometers from the South Africa commercial capital city of Johannesburg. The significant growth of the Rustenburg area is largely attributed to the impact of the world's four largest mines in the immediate vicinity of the town with approximately 97% of the total platinum production occurring in Rustenburg which provide around 50% of all formal employment in the area (BPDM, 2009 & 2010; RLM, 2012). Coincidentally, the major mining giant companies in Rustenburg, Impala Platinum and Anglo Platinum, have been very supportive of HIV and AIDS initiative and projects for some years. RLM (2007 & 2012) reports that over the last fifteen years the growth rate in the area fluctuated between 3.55-15.50%, which was at all times higher than the national growth rate (Rawson Properties, 2009; Golding Properties, 2009). These put constraints on the sampling method in the original study used as later discussed.

The population is predominantly composed of middle aged Setswana-speaking Batswana people with Bafokeng-Bakwena as the largest ethnic group. The Bafokeng Nation enjoy some dividends from the mining industry in form of royalty and compensation payments for land use which account for their relatively better standard of living compared to other tribal groups in South Africa. Much of this income has been used for local development projects such as schools, clinics, and roads.

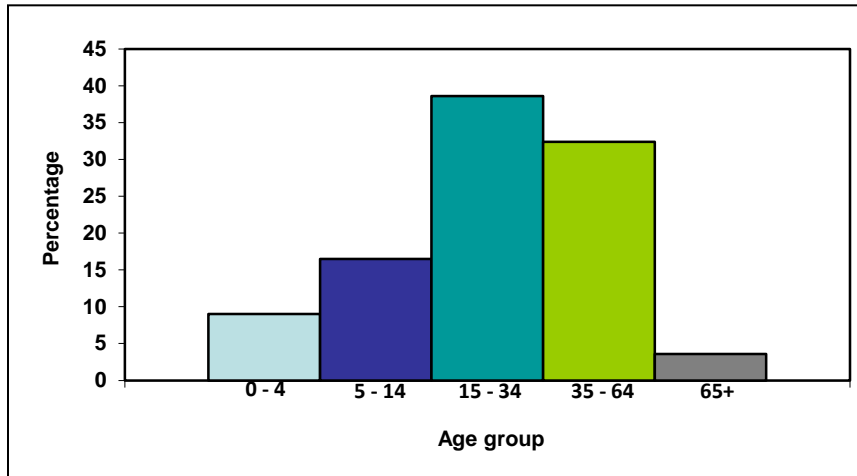


Figure 3.1: Age distribution of individuals living in the Rustenburg Municipality

The Rustenburg Municipality has a well-developed health-care infrastructure with a regional public hospital, a psychiatric hospital, a mine hospital, three private hospitals, three Community Health Centres (CHC), 18 PHC clinics, and 8 mobile clinics (Aurum, 2009). VCT is provided at fixed clinics with the provincial hospital serving as one of the three ART rollout sites in the NW Province. HIV testing, prevention, and treatment services are also available through several workplace health programmes, NGOs, and Aurum’s PEPFAR programme, which are all still in their early stages of implementation.

3.3 Research Design and Sampling Method

This section presents an overview of the research design, sampling method and instruments used in this study.

3.3.1 Research Design

The aims and objectives of the study were to describe the community’s beliefs about HIV/AIDS including HIV knowledge and stigma. In view of the aims and objectives, a quantitative research design using a cross sectional survey with a randomized cluster sampling method was considered useful. The study formed part of a range of HIV vaccine preparedness studies in the Rustenburg area during August 2008 conducted by Aurum Institute of Health Research in partnership with the International AIDS Vaccine Initiative (IAVI) and the European Union. It should be noted

that this study used some of the data that was collected in terms of the specific aims and objectives of this present study.

3.3.2 Research Sampling Method

The Rustenburg area is one of the fastest growing cities in South Africa, both from a population and economic growth perspective (RLM, 2012). Its phenomenal growth over the past 15 years fluctuated between 3.55% and 15.50%, which is at all times higher than the national growth rate (BPMD, 2010; RLM, 2012). As at the time of the initial data collection, existing statistical South African maps was out of date as their use would had result in under- sampling of the population, especially the new residents (Aurum, 2009). It was noted also that available sampling methods such as “spin-the –pen” followed by a “random walk” were found to be inadequate for the study as they would not yield a random sampling (Aurum, 2009). This informed the use of the 2007 update to the 2001 South African census to randomly select 16 Small Area Layers (SAL) out of the 142 SALs in Rustenburg, which were considered to provide adequate statistical power for the study. SALs are derived from geographical layers that comprise of units containing a large enough populations to decrease the risk of the possible identification of individuals when cross tabulation of variables is done (Grobelaar, 2005). To be classified as a SAL, a total number of 500 minimum populations is required per Enumeration Area.

In the initial study, the STATS SA maps of these 16 SALs were obtained and the maps were updated to the current conditions to avoid under-sampling of the people living in the newer structures. Subsequently, the inhabited structures were numbered, and the total number of structures per SAL was sent to a statistician in London School of Hygiene and Tropical Medicine in the United Kingdom who drew a random sample of 32 dwellings per SAL giving a sampled number corresponding to the selected structure within each SAL (Aurum, 2009; Meyer-Weitz, Kruger, Fielding, Latka, & Churchyard, 2009). This produced 512 dwellings in all. Respondents were enumerated and randomly selected among those aged 18-49 years from the sampled structures based on four eligibility criteria. The criteria are: a) Age: 18 to 49 years; b) having spent 4 or more nights of the last 7 nights on the stand; c) being physically and mentally able to

give informed consent; and d) availability for interview at some time during study period. The eligibility was determined by the interviewer after the enumeration. At the end, a response rate of 68.6% (351 out of 512) as against expected response rate of 78% (i.e. at least 400 respondents out of the 512) was achieved (Aurum, 2009; Meyer-Weitz, *et al.*, 2009). Similar response rate has been recorded in literature (for example, see Peretti-Watel, Spire, Obadia and Moatti, 2007; Herek, Capitanio and Widaman, 2003). This lower than desired response rate may stem from the fact that the project was on HIV and AIDS, which is highly stigmatized.

3.3.3 Research Instrument and measures used

The items of the questionnaire (see Appendix B) were developed through a meticulous literature review process combined with qualitative studies. Specifically, the frameworks and guidelines for the items used for measuring stigma were further refined by the UNAIDS measurements for stigma and discrimination and sexual behaviours and stigma items published by Kalichiman, Simbayi, Jooste, Toefy, Cain, Cherry *et al.* (2005). Also in developing the instrument, cognizance was taken of the specific aims and objectives of the study and the key questions to be answered by the research.

The questions of the survey questionnaire included closed-ended questions pertaining to the socio-demographic characteristics (sex, age, marital status, presence of primary partner in the household, level of education, living standard measures including access to TV and radio, employment status, and available social capital). Furthermore, questions relating to knowledge and beliefs pertaining to HIV/AIDS and related practices, perceived risk for HIV/AIDS, perceptions and experiences pertaining to HIV/AIDS stigma and discrimination, factors influencing VCT, and VCT history and experiences with VCT centers; sources from which health care is sought for STIs, family planning services, VCT and HIV/AIDS and previous experiences with health research. Items were also included to determine community perceptions of HIV vaccines. However, for this study, all the questions from the bio-demographic characteristics and only questions concerning access to media information and media exposure, HIV/AIDS knowledge and beliefs, perceptions and experiences pertaining to HIV/AIDS stigma and discrimination were used. This is based on the aim and objectives of the research study.

To ensure data quality (validity and reliability), the following were taken into consideration:

1. The questionnaire was prepared in English, and translated into Setswana and Afrikaans by professional translators. The translated versions were back translated independently to English to verify the accuracy of the translations.
2. The questionnaire was pre-tested among a small group of respondents of similar background and amended accordingly especially with special attention to clarity, cultural sensitivity and appropriate language and terminology.
3. After obtaining ethical clearance, the instrument was pilot tested with about 90 participants in a similar area not included in the sample. Pilot testing is defined as a trial run of procedures and instruments that one plans to use in a research work before implementation. In the conduct of conventional surveys, piloting of questionnaires is said to be significant prior to undertaking a full impact survey (Oksenberg, Cannell & Kalton, 1991). According to Presser and Blair (1994), the questionnaires are typically pre-tested by the field team workers who will conduct the surveys so that they fully understand the guidelines that are supplied to them and how to complete the questionnaires. Iraossi (2006) postulates that the basic goals of pilot testing include: a) evaluating the competency of the questionnaire; b) estimating the length of the survey or time to take the survey; and c) determining the quality of the surveyor. Hence, pilot testing was done to help test for the effectiveness of the measuring instrument (the questionnaire) used in this survey, ensure the acceptance of the programme or intervention by the local community and also to discover any sensitive issues that may disallow uptake of the intervention.

3.3.4 Data Collection and Procedure

The data collection for this study involved the use of a team of eleven (11) field workers who were well trained for the purpose of administering and interviewing the participants. Basically, the fieldworkers were trained on interviewing skill and ethics by the training manager of Aurum Institute of Health Research. The team is made up of seven Black and four White fieldworkers racially matched to the neighborhood of the research site. Preceding the actual data collection, the participants were acquainted with the aims and objectives of the study and the confidentiality

of the data. They were made aware of the necessity of voluntary participation and the right to withdraw from the study at any point in time, after which written informed consent were obtained. Consequently, the data was collected from the participants by using self-administered questionnaires linked with an administrative number with the help of the well-trained interviewer. The use of administrative number is to ensure anonymity.

The interview was done in the preferred language of each respondent. The team first administered the baseline questionnaire by reading the questions to the participant. The baseline questionnaire consists of demographic questions, HIV/AIDS attitudes and beliefs amongst other questions. Participants were then instructed to complete the questionnaire on sensitive and personal sexual behaviours by marking answers themselves and sealing it in an envelope. Participants completed the questionnaire that pertained to their sexual behaviours and for those that needed assistance, the interviewer read out each question to assist the participant in answering the questions. The completed questionnaires were handed back in a sealed envelope. Meanwhile, participants who wished to have further information on HIV/AIDS and/or seek counseling were handed HIV/AIDS education materials while some were referred to the local HIV counselors or social workers for counseling. They were then released and paid a transport fare of R30.00 each.

The secondary data used in this current study was based on the extraction of data from relevant research questions used in the large household survey on HIV vaccine trial preparation in Rustenburg municipality, North West province. The data extracted was in accordance with the stated research aims and objectives. The use of secondary data, or existing data that is freely available to researchers who were not involved in the original study, has a long and rich tradition in social sciences (Trzesniewski, Donnellan & Lucas, 2010). Secondary analysis is used to describe various analytical practices that use pre-existing data either to investigate new research questions or to re-examine primary study questions for purposes of corroboration (McCaston, 1998). Though secondary data are economical, Joselyn (1977) argues that these data need to be evaluated for availability (i.e. ensuring that the kind of data needed for the study is available and if it is not available then primary data must be used); relevance (the data must meet the requirements of the problem in the study); accuracy (by examining specification, methodology,

margin of error used and dependability of the source in the larger study); and sufficiency (adequate data should be available for the study). All these were considered and satisfied by the secondary data used for this research work.

3.4 Recoding, measurements development and scale construction

Recoding of the variables involved in socio-demographics characteristics, media exposure, HIV/AIDS related knowledge and stigma measures and social cohesion were done while scales were developed for HIV/AIDS related stigma and social cohesion sections.

3.4.1 Socio-demographic variables used in the study

The demographic variables used in this study included the age, gender, race, marital status, level of education and home language. The age of the respondents which ranged between 18 and 49 was recoded into three groups as 1=18-24 years, 2 =25-35 years and 3 =36-49 years based on the age categories used by the Department of Health and the HSRC-prevalence data for comparison. Four racial groups responded i.e. African, Coloured, Asian/Indian and White but for the purpose of analysis race was regrouped into two and recoded as 1 = Blacks and 2 = Whites. The Blacks included the African (the black), Coloured and Asian/Indian as there were only 1 Coloured and 1 Indian respondent in the study. Marital status included: Married, not married but living together, Single but have a steady partner, Single but have more than one partner and Single with no partners. The level of education ranged from no schooling to higher degrees i.e. Masters and higher degree.

The socio-economic variables included employment status, perceived socio-economic status, living standard, social grants received and number of dependent children. For the purpose of analysis, the employment status was grouped into two categories - unemployed (unemployed looking for work, unemployed not looking for work, unable to work, student/pupil/learner, and housewife) = 1 and the employed (part time workers, full time workers, self-employed and those employed by others) =2. The perceived socio-economic status of the respondents was measured on a scale 1-4 ranging from those under “not enough money for basic things like food and clothes” as 1 to those under “Have money to save or buy expensive things” as 4. Those with

higher scores were regarded as perceiving themselves in a better financial situation. The standard of living of the participants was measured by the working household amenities (TV, fridge, cell phone, telephone, electricity, private car, garden, radio) possessed. A composite measure was derived by allocating 1 point for each amenity. See table 3.1 for the descriptive statistics.

Table 3.1
Descriptive statistics for Socio-demographic characteristics

Measures	N	Minimum	Maximum	Mean	Std. Deviation
Financial situation	348	1	4	2.23	0.942
Living standard	350	0	8	5.13	1.400

3.4.2 Media access

There were 3 items used to assess respondents' access to source of information – TV, radio and cell phone. Four items were used to assess respondents' frequency of media exposure (watching TV, listening to radio, reading newspaper and checking cell phone messages) with a response options ranging from 1= never, 2= once a week, 3= few days in a week and 4 = everyday. A composite measure was developed for frequency of media exposure by summing the scores obtained by the individual items pertaining to TV, radio, newspaper and text messages. Respondents with higher scores on media exposure were assumed to be exposed more frequently to the media. The descriptive statistic is shown in Table 3.2.

Table 3.2
Descriptive statistics for the extent of media exposure

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Extent of media exposure	351	3	16	12.55	2.632

3.4.3 HIV and AIDS related Knowledge

There were 26 items altogether to assess HIV/AIDS related knowledge of the respondents: HIV myths about transmission (4 items), HIV modes of transmission (8 items), Effects of HIV

diseased condition (3 items), HIV treatment and cure (3 items), Beliefs regarding ART (3 items) and Beliefs regarding HIV vaccines (4 items). A 5-point Likert scale ranging from 1 (strongly agree), 2 (agree), 3 (disagree), 4 (strongly disagree) and 5 (Don't know) was used to rate the responses. For a correct response, a score of one point was allotted while zero was assigned to an incorrect or 'Don't know' response. The highest possible score for all knowledge items was 26. The descriptive statistics of HIV/AIDS Knowledge measures are shown in Table 3.3. Composite knowledge measures were determined by summing the responses obtained.

Table 3.3

Descriptive statistics for HIV/AIDS knowledge measures

Measures	No of		Min/Max	Mean	Std. Deviation
	items	N			
Composite HIV knowledge index	26	351	0/25	18.23	3.826
Myths about HIV transmission	5	350	0/5	3.73	1.212
Modes of HIV transmission	8	351	0/8	5.46	1.302
Effects of HIV diseased condition	3	350	0/3	2.25	0.854
Treatment and cure	3	350	0/3	2.40	0.790
Beliefs about ART	3	350	0/3	2.04	0.996
Beliefs about HIV vaccine	4	331	0/4	2.51	1.176

3.4.4 HIV/AIDS related stigma measures and social cohesion

Seven items were used to assess respondents' social distance to PLWHA while four items were used in assessing the attitude of the respondents to HIV infected women and nine items for HIV Stigma by using a 4-point Likert scale ranging from 1 (strongly agree), 2 (agree), 3 (disagree), and 4 (strongly disagree). Composite AIDS related stigma measures were developed based on the summing of the items after obtaining satisfactory Pearson's correlation coefficients and an inter-item reliability coefficient (Cronbach's alpha) of greater than 0.7 (see table 3.4). Items were recoded so that a higher score reflected higher levels of AIDS related stigma.

For measures on social cohesion, 7 items using a 4 point Likert scale ranging from 1= strongly agree to 4= strongly disagree. Measures were obtained by summing the 7 items after obtaining a satisfactory inter-item reliability coefficient with a Cronbach's alpha of, $\alpha = 0.704$. The items were recoded so that a higher score indicates higher level of social cohesion. The descriptive statistics of the scale is depicted in Table 3.4.

Cronbach's α (alpha) is a coefficient of reliability which is commonly used as a measure of the internal consistency i.e. how closely related a set of items are as a group. The Cronbach alpha coefficient of a scale should be above 0.7 for it to be considered reliable. However, Cronbach alpha values are sensitive to the number of items in the scale, hence low Cronbach values (e.g. 0.5) is obtained with a scale with less than 10 items (Pallant, 2005). In this case, Briggs and Cheek (1986) recommend the use of mean inter-item correlation for the items with an optimal range of 0.2 to 0.4. For measurements less than 7 items, the mean inter-item correlations are reported in Table 3.4. All scales and measures were built according to the 2/3 rule. If respondents had validly answered 2/3 of the questions in a scale they were counted. Those that answered less than 2/3 were classified as missing.

3.5 Predictors of HIV/AIDS related stigma

In order to ensure that there was no violation in the different analyses used for assessing relationships between the variables, the scatterplot was generated to check for any violation of the assumption of linearity, homoscedasticity and outliers for Pearson product-moment correlation coefficients analysis while for standard multiple regression, the standard co-linearity diagnostics was conducted to ensure there was no violation of the assumption of multicollinearity. The degree of correlation between the independent variables was not too high (< 0.7), however the degree of correlation between the dependent variable and the independent variables in the model was less than 0.3.

The independent variables used in the model yielded acceptable variance inflation factor values of less than 10 and Tolerance values of greater than 0.01. The residual scatterplot and the Normal Probability Plot of the regression standard residuals that were requested as part of the analysis to

check that there was no violation of the assumptions of outliers, normality, linearity, homoscedasticity, and independence of residuals as all the points lie in a reasonably straight diagonal line from bottom left to top right in the Normal Probability Plot (Pallant, 2005).

Table 3.4

Descriptive statistics for HARS measures and social cohesion with Cronbach Alpha and Inter-Correlation Value

Stigma Measures and Social Cohesion	No of items	N	Min	Max	Mean	Std. Deviation	Cronbach's	Mean Inter-
							Alpha	item correlation
Social distance towards PLWHA	7	337	7	28	12.12	3.726	0.776	
Attitude towards HIV infected women.	4	344	4	16	10.59	2.885	0.737	0.455
HIV/AIDS stigma (blame and shame)	10	349	10	40	22.20	5.817	0.793	
Social cohesion	7	351	0	28	20.03	4.919	0.704	

3.6 Data Analysis

The Statistical Package for Social Science (SPSS) software, version 15.0 and Microsoft Excel (version 2000) were used for the data analysis. Descriptive and inferential statistics were computed to gain an understanding of the data obtained from the study. The descriptive statistics was used to analyse the distribution of the variables used in the study. The descriptive statistics used were frequency, mean, range and standard deviation. The inferential statistics were computed to determine the associations between the variables of consideration in the study. Chi-square test was used to determine if there was any association between demographic characteristics and possession of source of media information. Furthermore, T-tests were conducted assess the mean difference between demographic groups (sex, race, employment status) and the extent of media exposure, HIV-related knowledge, HIV-related stigma (blame, shame, social distance towards PLWHA and attitude towards HIV infected women) and social cohesion. Pearson product-moment correlation coefficients were computed to explore the relationship between demography (age, educational level, financial situation and living standard

of the participants) and extent of media exposure, HIV-related knowledge, HIV-related stigma and social cohesion in the community. The Pearson product-moment correlation coefficients were also calculated to investigate relationships between media exposure, HIV-related knowledge, HIV-related stigma and social cohesion. One-way ANOVA was conducted to examine any significant differences in the mean scores for HIV-related knowledge and stigma and the three age groups. Finally, the standard multiple regression analysis was performed to determine the predictors of HIV stigma.

For all analyses, p-values of less than 0.05 were considered statistically significant. To assess internal consistency reliability among all scaled responses to multiple items (e.g. HIV-related stigma scale), Cronbach's alpha ($\alpha > 0.7$) and/or the inter-item correlation of .2 to .4 for scale of less than 10 items were applied, indicating that the questionnaire had good statistical reliability and that providers were largely consistent in reporting of attitudes.

3.7 Conclusion

This chapter gives the detail of the methodology used in this research study. The description of the study location was highlighted. The research design and sampling method, the instrument development involving the scale construction and measurements, data collection and procedure and the outline of the data analysis were all discussed under this chapter.

Chapter Four

Analysis of Results

4.1 Introduction

Data obtained from the questionnaire was analyzed using statistical technique. The socio-economic and demographic description of the sample is presented first followed by the description of media exposure and other sources of information among the participants. The level of HARK and HARS are then presented. Frequencies for all items and major findings of the statistical analyses carried out are presented in the form of tables and graphs with a brief description of the findings in accordance to the aims of this study and the research questions. Correlations between variables were tested two-tailed and statistical level of significances at $p \leq 0.05$ presented.

4.2 Demographic and Socio-economic Characteristics of the Participants

4.2.1 Demographic Characteristics of Participants

Demographic data of the 351 respondents is categorized according to age, gender, race, marital status, level of education and home language and shown in Table 4.1(a&b) and Figures 4.1(a-f). The age of the respondents ranged from 18-49 years with a mean age of 31.77 years, median age of 31 and a standard deviation of 8.76. A greater number (41.9 %) of respondents fell within the 25-35 age range while 32.2 % were in the 18-24 age range and 23.9% were within the ages of 36 and 49. Female respondents were in the majority at 60.4% (N=212), while male respondents comprised 39.6% of the survey sample. The majority were Black Africans (84.6%), followed by Whites (14.8%), Indians (0.3%), and Coloured (0.3%). The sample further has 39.7% (N= 139) of the respondents who indicated that they were either married or living with a partner; 33.9 % (N=119) were single with a steady partner, 3.4% (N=12), single with multiple partners, 21.7% (76), single with no partner and only 1.4% (N=5) were widows. Very few (3.7%) of the respondents have achieved university education or higher, 16.5% have a diploma or an occupational certificate. The majority (72.6%) had secondary education (grade 8-12), while 6.3% had a primary level education (grade 1-7). The home language of the majority of the participants

is Tswana (69.8%), followed by Afrikaans, 14.5% (n=51) while Swati is the language spoken by the smallest number of participants (0.9%).

Table 4.1a
Age, Gender and Race Demography, and Marital Status

Characteristics	Frequency	Percentage (%)
Age		
18 – 24	84	23.9
25 – 35	147	41.9
36 – 49	120	32.2
Total	351	100
Gender		
Male	139	39.6
Female	212	60.4
Total	351	100
Race		
African (Black)	297	84.6
Coloured	1	0.3
Indian	1	0.3
White	52	14.8
Total	351	100
Marital Status		
Married	102	29.1
Living together	37	10.6
Single (steady partner)	119	34.0
Single (multiple partners)	10	2.9
Single (no partner)	75	21.4
Widows	7	2.0
Total	350	100

Table 4.1b

Education Status, Home Language

Characteristics	Frequency	Percentage (%)
Educational Level		
No schooling	3	0.9
Grade 4 to 5	3	0.9
Grade 6 to 7	19	5.4
Grade 8 to 9	39	11.1
Grade 10-12	216	61.5
Diploma/Occupational certificates	58	16.5
First Degree/Higher diploma	12	3.4
Honours/Masters/Doctorate	1	0.3
Total	351	100
Home Language		
Twana	245	69.8
Sotho	11	3.1
Zulu	5	1.4
Xhosa	14	4.0
Swati	3	0.9
Pedi	4	1.1
Tsonga	10	2.8
English	4	1.1
Afrikaans	51	14.5
Other	4	1.1
Total	351	100

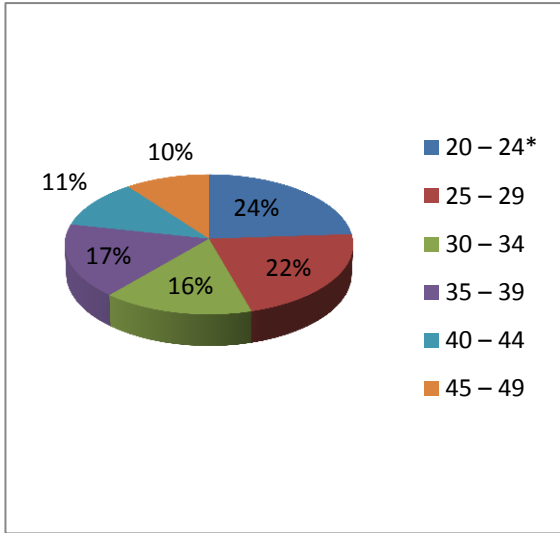


Figure 4.1a: Age Distribution of Participants

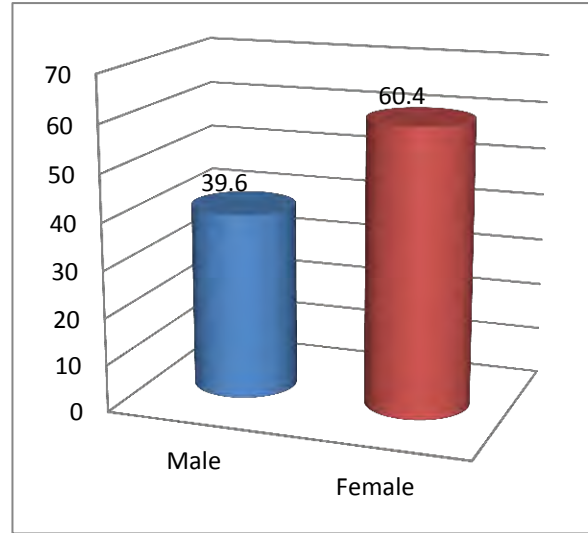


Figure 4.1b: Sex Distribution of Participants

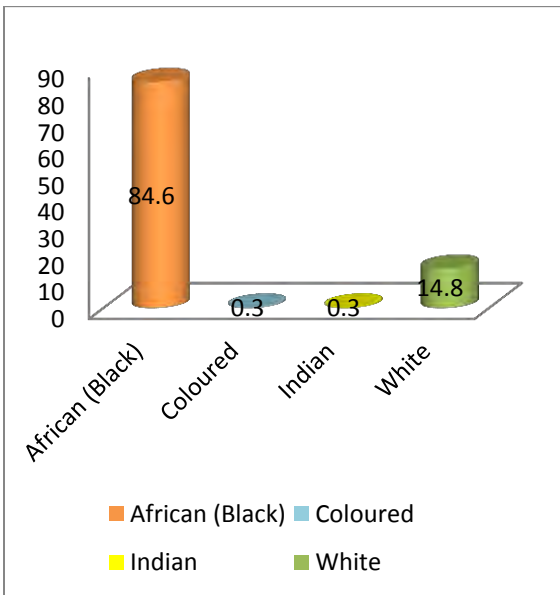


Figure 4.1c: Ethnic Distribution of Participants

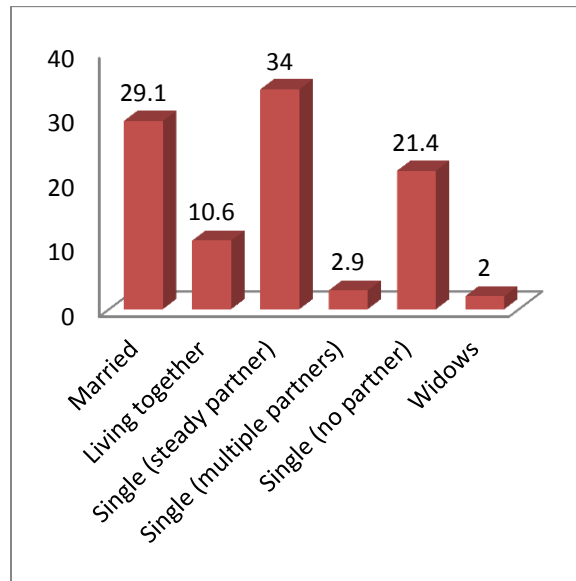


Figure 4.1d: Marital Status of Participants

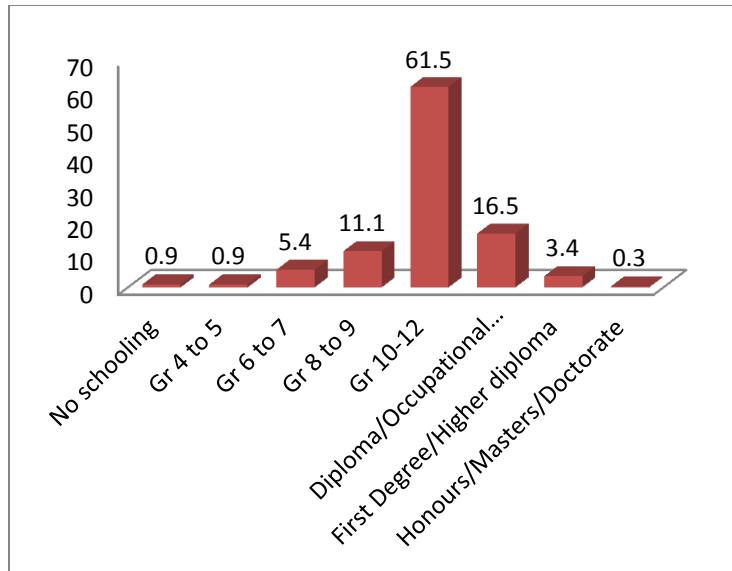


Figure 4.1e: Educational Level of Participants (Histogram)

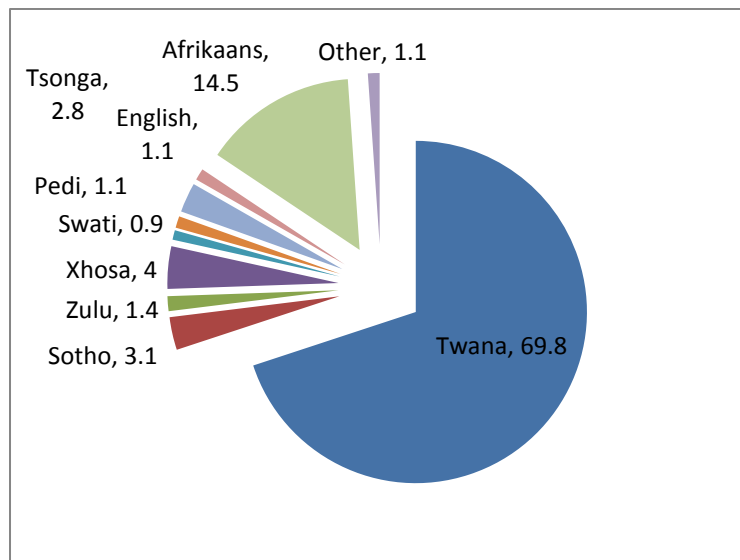


Figure 4.1f: Home Language of Participants

4.2.2 Perceived socio-economic characteristics of the participants

The socio-economic characteristics of the respondents is categorized according to the employment status, household financial state, social grant received, the number of dependants and the standard of living as shown in Tables 4.2 and 4.3. Unemployment as reported by the

participants was 53.9%. These included those in the following categories - unemployed looking for work, unemployed not looking for work, unable to work, student/pupil/learner, and housewife). Those employed (part time, full time, self-employed or those employed by others) were 44.4%. The unemployment rate in this study could be regarded as high to moderate as more than half of the participants are not gainfully employed. Looking at the respondents perceived socio-economic status, 36.2% reported having money for food and clothes but short of many other things, while 27.9 % (n=127) have money for basics but not for expensive items. 25.0% (n=88) reported not having an adequate amount of money for even the basics. Only 10% (n=35) of these participants have sufficient to save and buy expensive items.

From the responses of the participants, collection of various grants within the household ranged from 3.2% to 29.6%, with 23.6% getting pension, 7.7% getting disability grants, 29.6% collecting child support grants and only 3.2% getting foster grants. Regarding those who have dependants (both personal and foster children) in the household, the majority of the participants (70.1%) had at least one or more of their own children as dependants while 45.1% have other children (one or more) dependent on them (see Table 4.2).

An assessment of the standard of living of the participants (depicted in Table 4.3) through household amenities revealed that 96.9% have electricity; 88.3% have a cellphone; 87.5% have a television; 85.8% have a fridge; and 84.6% have access to the radio. Few of the participants are in possession of a house telephone (19.3%), a private car (38.7%) and a vegetable garden (12.6%).

Table 4.2

Perceived Socio-Economic status

Characteristics	Frequency	Percentage (%)
Employment Status		
Unemployed	160	45.6
Students	29	8.3
employed	156	44.4
Others*	6	1.7
Total	351	100
Household financial state		
Not enough money for basics	88	25.0
Money for food and clothes only	127	36.2
Have money for basics	98	27.9
Have money to save and expensive items	35	10.0
Others	3	0.9
Total	351	100
Social Grant		
Pension N=347	82	23.6
Disability Grant N=347	27	7.7
Child Support Grant N=348	103	29.6
Foster Grant N=347	11	3.2
Dependants		
Dependence (own children)		
No children	105	29.9
One child	87	24.8
Two children	74	21.1
Three+	85	24.2
Total	351	100.0
Dependence (other children)		
No children	191	54.9
One child	89	25.6
Two children	38	10.9
Three+	30	8.6
Total	348	100

* Missing responses were added to the "Others" category for the purpose of analysis.

Table 4.3

Living Standard of Participants*

Response/ Frequency	TV	Fridge	Cell Phone	Telephone	Electricity	Private Car	Vegetable Garden	Radio
Yes	87.5	85.8	88.3	19.3	96.9	38.7	12.6	84.6
No	12.5	14.2	11.7	80.7	3.1	61.3	87.4	15.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* *Household amenities used as a measure of standard of living of the participants*

4.3 Association between the Socio-demographic characteristics

Independent-sample t-tests were conducted to compare the mean difference of age, level of education, perceived socio-economic status and living status for gender, race and employment status groups:

a) *Level of education:*

- i) *Gender:* There was no significant difference among the genders for the level of education.
- ii) *Race:* There was a significant difference between the Whites ($M = 6.44$; $SD = 0.725$) and the Blacks [$M = 5.87$; $SD = 0.986$; $t(349) = -4.001$, $p < 0.001$] with the Whites having higher levels of education than the Blacks.
- iii) *Employment status:* There was a significant difference between the employed ($M = 6.13$; $SD = 1.022$) and the unemployed [$M = 5.80$; $SD = 0.904$; $t(349) = -3.164$, $p = 0.002$] with the employed more likely to report a higher level of education.

b) *Living standard:*

- i) *Gender:* There was no significant difference among the genders regarding living standard of the participants.
- ii) *Race:* There was a significant difference between the Whites ($M = 6.27$; $SD = 0.843$) and the Blacks [$M = 4.93$; $SD = 1.384$; $t(108.038) = -9.432$, $p < 0.001$] with the Whites having a better standard of living than the Blacks.

iii) *Employment status:* There was a significant difference between the employed ($M = 5.41$; $SD = 1.452$) and the unemployed [$M = 4.89$; $SD = 1.310$; $t(327.545) = -3.530$, $p < 0.001$]. The Whites reported a higher living standard than the Blacks.

c) *Perceived socio-economic status:*

i) *Gender:* There was no significant difference among the genders for the perceived socio-economic status.

ii) *Race:* There was a significant difference between the Whites ($M = 3.35$; $SD = 0.814$) and the Blacks [$M = 2.03$; $SD = 0.819$; $t(346) = -10.672$, $p < 0.001$] with the Whites perceived a higher socio-economic status than Blacks.

iii) *Employment status:* There was a significant difference between the employed ($M = 2.44$; $SD = 0.939$) and the unemployed [$M = 2.05$; $SD = 0.908$; $t(346) = -3.933$, $p < 0.001$] with the employed reported a higher perceived socio-economic status than the others.

4.4 Media exposure

4.4.1 Available means of Electronic Information

The majority of the participants have access to a TV, cellphone and radio (87.5%, 88.3% and 84.6% respectively) with only 19.3% having a telephone at home (see Table 4.3).

4.4.2 Socio-demographic characteristics and exposure to media sources

Chi-square tests for independence with Yates Continuity corrections for gender, race, and employment status and independent-samples t-tests for age, level of education, perceived socio-economic status and the living standard of the participants were conducted to assess possible significant differences between the socio-demographic characteristics and access to available means of electronic information (TV, radio and cellphone). The Chi-square tests for independence revealed the following results:

- a) *Gender*: There was no significant differences among the genders for access to TV ($\chi^2 = 0.000$, $df = 1$, $p = 1.000$), cellphone ($\chi^2 = 0.008$, $df = 1$, $p = 0.928$) and radio ($\chi^2 = 1.381$, $df = 1$, $p = 0.240$).
- b) *Race*: Race was found to be significantly related to TV access ($\chi^2 = 7.458$, $df = 1$, $p = 0.006$), and having cellphone ($\chi^2 = 6.799$, $df = 1$, $p = 0.009$), with the Whites having more access to the media sources.
- c) *Employment status*: This was not significantly associated with access to TV ($\chi^2 = 0.342$, $df = 1$, $p = 0.559$), cellphone ($\chi^2 = 3.268$, $df = 1$, $p = 0.071$) and radio ($\chi^2 = 3.633$, $df = 1$, $p = 0.057$).

The result of the independent-samples t-tests for age, level of education, perceived socio-economic status and living standard regarding exposure to media sources are as follows:

- a) *Age*: The age of the participants was not significantly associated with all the three means of electronic information (TV, cellphone and radio).
- b) *Level of education*: There was a significant difference in the level of education and access to TV. Those having access to a TV ($M = 6.02$, $SD = 0.965$) were more educated than those with no access [$M = 5.52$, $SD = 0.927$; $t(349) = 3.188$, $p = 0.002$]. There was also a significant difference between those with access to a cellphone ($M = 6.01$, $SD = 0.952$) and those with no access [$M = 5.56$, $SD = 1.050$; $t(49.10) = 2.580$, $p = 0.013$]. There was however no significance difference with access to radio and level of education.
- c) *Perceived socio-economic status*: The perceived socio-economic status was significantly associated with all the three means of electronic information. The participants having access to a cellphone ($M = 2.32$, $SD = 0.934$), TV ($M = 2.31$, $SD = 0.936$) and radio ($M = 2.29$, $SD = 0.954$) were of higher perceived socio-economic status than those with no access to a cellphone [$M = 1.54$, $SD = 0.674$; $t(62.589) = 6.657$, $p < 0.001$], TV [$M = 1.66$, $SD = 0.776$; $t(346) = 4.416$, $p < 0.001$] and radio [$M = 1.87$, $SD = 0.785$; $t(82.173) = 3.519$, $p = 0.001$] respectively.
- d) *Standard of living*: The standard of living was also found to be significantly associated with the three sources of electronic media. The participants having access to a cell phone ($M = 5.37$, $SD = 1.220$), TV ($M = 5.46$, $SD = 1.097$) and radio ($M = 5.41$, $SD = 1.222$) perceived a higher living standard than those with no access to a cellphone [$M = 3.34$, SD

= 1.389; $t(349) = 9.827, p < 0.001$], TV [$M = 2.84, SD = 1.119; t(349) = 14.769, p < 0.001$] and radio [$M = 3.67, SD = 1.297; t(349) = 10.081, p < 0.001$] respectively.

4.4.3 *Extent of Media exposure*

From the response of the participants, 52.9%, 75.8%, 17.2% and 81.4% actually listen to radio, watch TV, read newspapers and receive text messages everyday respectively whereas 14.0%, 10.8%, 19.5% and 10.8% never listens to the radio, watch TV, read newspapers nor receive text messages respectively. This shows that more people watch TV and check their text messages everyday while very few read newspaper daily. The frequencies of media exposure are presented in Table 4.4. In addition, most of the respondents (65.5%, $N = 205$) did not change their cell phones in the past year. Majority of the respondents (70.9%) scored above the mean (12.55) on the media exposure measure with score ranging between 12.55 ± 2.632 (see Table 3.3).

Table 4.4

Frequency of media exposure

Item/ Frequency	Radio		TV		Newspaper		Text messages	
	N	%	N	%	N	%	N	%
Never	49	14.0	38	10.8	68	19.5	37	10.8
Less than Once/week	38	10.9	13	3.7	125	35.8	8	2.3
Few days a week	78	22.3	34	9.7	96	27.5	19	5.5
Everyday	185	52.8	266	75.8	60	17.2	280	81.4
Total		100		100		100		100

4.4.4 *Socio-Demographic Characteristics and extent of Media exposure*

Pearson's correlation coefficient analyses were conducted to determine the association between the socio-demographic characteristics (level of education, age, perceived socio-economic status and living standard) of the participants and the extent of media exposure:

- a) *Composite media exposure*: The composite media exposure scores revealed a positive significant correlation with level of education ($r = 0.293$, $p < 0.05$), perceived socio-economic status ($r = 0.280$, $p < 0.05$) and living standard ($r = 0.436$, $p < 0.05$). On the other hand, a negative significant correlation was found between age and the composite media exposure score ($r = -0.125$, $p < 0.05$).
- b) *Level of education*: A significant positive correlation was found between the level of education and exposure to TV ($r = 0.217$, $p < 0.05$), cell phone messages ($r = 0.239$, $p < 0.05$) and reading of newspaper ($r = 0.309$, $p < 0.05$).
- c) *Living standard*: There was a significant positive correlation between living standard and watching TV ($r = 0.366$, $p < 0.05$), listening to the radio ($r = 0.181$, $p < 0.05$), checking cell phone messages ($r = 0.310$, $p < 0.05$) and reading newspapers ($r = 0.245$, $p < 0.05$) respectively.
- d) *Perceived socio-economic status*: A significant positive correlation was also reflected between perceived socio-economic status and watching TV ($r = 0.198$, $p < 0.05$), checking cell phone messages ($r = 0.287$, $p < 0.05$) and reading newspapers ($r = 0.161$, $p < 0.05$) respectively.
- e) *Age*: The results show that the older the participants, the less frequently exposed they were to TV ($r = -0.110$, $p < 0.05$), and reading newspapers ($r = -0.133$, $p < 0.05$). There was no significant association between age and listening to radio and checking cell phone messages.

Independent-sample t-tests conducted to compare the frequencies of media exposure of the participants for gender, race and employment status revealed that the males ($M = 3.32$, $SD = 0.948$) were found to listen to radio more often than the females [$M = 3.02$, $SD = 1.157$; $t(332) = 2.588$, $p = 0.01$]. The males ($M = 2.58$, $SD = 0.962$) also read newspapers more than the females [$M = 2.32$, $SD = 0.997$, $t(347) = 2.453$, $p = 0.015$]. There was however no significant difference

between gender and watching TV and checking cell phone messages. The study also revealed that the Whites watch TV and check their cell phone more regularly than the Blacks. There was no significant difference between employment status and extent of watching TV, reading newspapers, listening to the radio except in checking text messages (see Table 4.5 for details).

Table 4.5

Independent t-tests for socio-demographic variables and frequency of media exposure

Demographic Variables	Variables		Means	SD	Df	t-values	*p
Gender	Listening to radio	Male	3.32	0.948	331.69	2.588	0.01
		Female	3.02	1.157			
	Watching TV	Male	3.45	1.001	349	-0.894	0.372
		Female	3.54	0.980			
	Reading Newspaper	Male	2.58	0.962	347	2.453	0.015
		Female	2.32	0.997			
Checking Text Messages	Male	3.59	1.003	342	0.148	0.883	
	Female	3.57	0.949				
Race	Listening to radio	Black	3.14	1.086	348	0.039	0.969
		White	3.13	1.103			
	Watching TV	Black	3.45	1.027	98.86	-3.036	0.003
		White	3.79	0.667			
	Reading Newspaper	Black	2.41	0.966	347	-0.751	0.453
		White	2.52	0.960			
Checking Text Messages	Black	3.52	1.020	137.01	-3.930	0.000	
	White	3.88	0.511				
Employment Status	Listening to radio	Unemployed	3.07	1.156	348	-1.330	.184
		Employed	3.22	.997			
	Watching TV	Unemployed	3.55	.981	349	.942	.347
		Employed	3.45	.997			
	Reading Newspaper	Unemployed	2.38	1.014	347	-.946	.345
		Employed	2.48	.962			
Checking Text Messages	Unemployed	3.43	1.079	333	-2.983	.003	
	Employed	3.74	.797				

*P=sig. (2-tailed)

4.5 HIV/AIDS related knowledge

The frequencies of the responses of the participants regarding all the various HARK measures (knowledge regarding transmission, transmission myths, beliefs about ART, beliefs regarding treatment and cure, views on the physiological impact of HIV and beliefs regarding HIV vaccines) are represented in Tables 4.6 to 4.12. The relationships between the socio-demographic characteristics (race, gender, employment status, age, level of education, perceived socio-economic status and living standard) and the HIV/AIDS knowledge measures were examined using independent sample t-tests and Pearson correlation coefficient analyses. A one-way between-groups analysis of variance (ANOVA) was also conducted to explore the mean difference of the different age groups (18-24years, 25-35years and 36-49years) on HIV/AIDS knowledge measures. The respondents' overall mean HIV/AIDS knowledge score was 18.22 ± 3.8 out of 24 points. It should be noted that in subsections 4.5.4 to 4.5.6, people with higher level of correct HIV knowledge are presumed to exhibit little or no HIV transmission myth.

4.5.1 Knowledge regarding Transmission

The majority of the participants (92.6%) were aware that one can get HIV/AIDS from unprotected sex while 79.9% knew that it is easy to get HIV/AIDS if one has an STI. Similarly, most of the participants (70.7%) knew that a baby can become HIV infected if breastfed by an HIV infected mother. More than half of the participants (77.0%) also agreed to the fact that one cannot be infected by HIV by taking care of PLWHA while 81.0% knew that HIV infected partners need to have protected sex by using condoms to avoid re-infection. Furthermore, majority of the respondents (71.9%) agreed that the chances of having HIV infection is more in those having multiple sexual partners than those having just one sexual partner at a time. Nevertheless, about half of the participants (51.3%) believed that the chance of becoming infected with HIV is very little with sexual intercourse involving a recently infected HIV individual. Participants' knowledge concerning HIV transmission and male circumcision was poor as 72.3% did not agree to the fact that the chances of getting infected with HIV are reduced by male circumcision. The frequencies of items pertaining to mode of HIV transmission are presented in Table 4.6.

Table 4.6

Frequency of HIV/AIDS knowledge regarding Mode of Transmission

Statements	Correct		Incorrect	
	N	%	N	%
A baby can become HIV infected through breastfeeding if the mother is infected	248	70.7	103	29.3
Your chance of getting AIDS is very small when you have sex with someone who has recently been infected with HIV	170	48.7	179	51.3
One can get HIV/AIDS from unprotected sex (not using condoms when having sex)	324	92.6	26	7.4
If you have a STI it is easy to get HIV/AIDS	279	79.9	70	20.1
If a man had his penis circumcised by a doctor, he is less likely to get HIV infection in future	97	27.7	253	72.3
Once both sexual partners are infected with HIV/AIDS they do not need to use condoms	282	81.0	66	19.0
If you have different sexual partners during the same time period, your chance of getting HIV/AIDS is bigger than when you keep to one partner and then move on to the next partner later	251	71.9	98	28.1
You could become infected if you care for a person living with HIV/AIDS	267	77.0	80	23.0

4.5.2 Socio-demographic characteristics and HARK regarding mode of transmission

An Independent samples t-test was conducted to assess race, gender and employment status differences in the mean scores of knowledge regarding transmission. Pearson correlation coefficient analysis was also conducted to evaluate its relationship between age, level of education, perceived socio-economic status and living standard of the participants. The results are as follows:

- a) There was a significant difference between the Whites ((M = 2.58; SD = 0.667) and the Blacks [M = 2.20; SD = 0.871; $t(84.7) = -3.620$, $p < 0.001$], with the Whites having more knowledge than the Blacks. There was no significant difference in gender and employment status.

- b) HIV/AIDS knowledge regarding mode of transmission was significantly positively correlated only with level of education ($r = 0.114$, $p < 0.05$), with more educated participants having higher knowledge on HIV modes of transmission than the less educated. There was no significant association with age, living standard and perceived socio-economic status.

A one-way between-groups ANOVA was conducted to explore the mean difference between age groups (18-24years, 25-35years and 36-49years) on knowledge regarding HIV transmission. There was a statistical significant difference at $p < 0.05$ level in LOT scores for the age groups with knowledge regarding HIV transmission ($F(2,348) = 3.178$, $p = 0.043$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for age group 18-24 ($M = 5.25$, $SD = 1.71$) was significantly different from age group 36-49 ($M = 5.46$, $SD = 1.129$). Age group 25-35 ($M = 5.40$, $SD = 1.474$) did not differ significantly from either group 18-24 or 36-49. Despite reaching statistical significance, the actual difference in mean scores between the groups for the three HIV knowledge measures was quite small. The effect size, calculated using eta squared, was 0.02.

4.5.3 Media and knowledge regarding mode of transmission

The results of the independent samples t-test to examine the mean differences among those with access to TV, radio and cellphone regarding knowledge of HIV transmission and the Pearson product – moment correlation coefficient between the extent of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and knowledge regarding HIV mode of transmission are as follows:

- a) *Available means of electronic information:* The t-test shows that there was higher knowledge regarding mode of transmission with those having a TV ($M = 5.52$, $SD = 1.232$) than those having no TV [$M = 5.05$, $SD = 1.670$; $t(349) = 2.296$, $p = 0.022$]. There was no significant difference between mean scores for radio and cellphone access pertaining to transmission knowledge.
- b) *Extent of media exposure:* There was positive significant correlation between knowledge on modes of transmission and frequency of watching TV ($r = 0.117$, $p < 0.05$), reading

newspaper ($r = 0.141$, $p < 0.05$) and checking cellphone messages ($r = 0.122$, $p < 0.05$) but not with listening to the radio. In other words, those that watch TV, read newspapers and check cell phone messages more frequently were more knowledgeable on HIV modes of transmission than those with less exposure.

4.5.4 HIV Transmission myths

The majority of the respondents knew that HIV cannot be contracted by touching an infected person (92.6%) and by using the same toilet with infected persons (86.0%) through mosquito bites (68.2%) and sharing cups, knives or forks with infected persons (84.2%). However, only 43.3% of the participants gave correct answer to the statement “One can get HIV/AIDS by having sex with a widow who has not done a cleansing ritual”. These are shown in Table 4.7.

4.5.5 Socio-demographic characteristics and HIV Transmission myths

Independent samples t-test was conducted to assess race, gender and employment status differences in the mean scores of transmission myths about HIV. Pearson correlation coefficient analysis was also conducted to evaluate its relationship between age, level of education, perceived socio-economic status and living standard of the participants. The results are as follows:

- a) The t-test shows that there was a significant difference in race groups with the Whites ($M = 4.19$; $SD = 1.227$) having higher score than the Blacks [$M = 3.65$; $SD = 1.2237$; $t(347) = -3.031$, $p = 0.003$]. The employed participants ($M = 3.89$; $SD = 1.155$) also had higher HIV knowledge score than the unemployed [$M = 3.60$; $SD = 1.249$; $t(347) = -2.193$, $p = 0.029$]. These results indicate that the Whites and the employed have more HIV-related knowledge thus disregarding HIV transmission myths. There was however no significant difference in gender.
- b) There was a positive significant correlation between HIV Transmission myths and level of education ($r = 0.210$, $p < 0.05$), living standard ($r = 0.192$, $p < 0.05$) and perceived socio-economic status ($r = 0.258$, $p < 0.05$) of the participants indicating that those with higher levels of education, living standards and perceived socio-economic status have more

HIV-related knowledge thus disregarding HIV transmission myths. There was no significant relationship between this and the age of the participants.

A one-way between-groups analysis of variance conducted to explore the impact of the different age groups (18-24years, 25-35years and 36-49years) on HIV Transmission myths revealed no significant difference in the three age groups.

Table 4.7

HIV Transmission myths

Statements	Correct		Incorrect	
	N	%	N	%
One can get HIV/AIDS from touching others who are infected.	323	92.6	26	7.4
One can get HIV/AIDS by using the same toilet as someone with HIV/AIDS.	300	86.0	49	14.0
One can get HIV/AIDS from mosquito bites	238	68.2	111	31.8
One can get HIV/AIDS by sharing cups, knives or forks with someone with HIV/AIDS	294	84.2	55	15.8
One can get HIV/AIDS by having sex with a widow who has not done a cleansing ritual	151	43.3	198	56.7

4.5.6 Media and HIV Transmission myths

The results of the independent samples t-test to examine the differences in the mean scores of available electronic information sources and HIV transmission myths as well as Pearson product –moment correlation coefficient that investigated the relationship between the level of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and HIV transmission myths are as follows:

- a) *Available means of electronic information:* There was a significant difference in HIV transmission myths between those having TV (M = 3.83, SD = 1.146) and cell phone (M = 3.09, SD = 1.168) compared with those without a working TV [M = 3.05, SD = 1.447; $t(49.65) = 3.393, p = 0.001$] and cell phone [M = 3.17, SD = 1.395; $t(47.74) = 2.789, p = 0.002$]. This indicates that those having TV and cell phone have higher HIV-related

knowledge thus exhibiting less HIV transmission myths. No significance difference was found in the mean scores for radio.

- b) *Extent of media exposure:* HIV transmission myths and frequency of watching TV ($r = 0.220, p < 0.05$), reading newspaper ($r = 0.109, p < 0.05$) and checking cell phone messages ($r = 0.122, p < 0.05$) were found to be positively significantly associated. This indicates that those with higher media exposure have more HIV-related knowledge thus exhibiting less HIV transmission myths. There was no significant association found between HIV transmission myths and listening to radio.

4.5.7 Beliefs about ART

More than half of the respondents (68.9%) correctly disagreed with the statement “People with HIV/AIDS do not need to go on ART if they eat well” and 81.6% correctly disagreed with the statement “Once people start feeling better on ART they do not need to continue with treatment” while fewer participants correctly disagreed with the statements “ART should be avoided because of negative side-effects”. The frequencies for these items are depicted in Table 4.8.

Table 4.8
Beliefs about ART

Statements	Correct		Incorrect	
	N	%	N	%
People with HIV/AIDS do not need to go on ART if they eat well	241	68.9	109	31.1
Once people start feeling better on ART they do not need to continue with treatment	284	81.6	64	18.4
ART should be avoided because of negative side-effects	190	54.4	159	45.6

4.5.8 Socio-demographic differences regarding beliefs about ART

Independent samples t-tests were conducted to assess race, gender and employment status differences in the mean scores of beliefs about ART. Pearson correlation coefficient analyses

were also conducted to evaluate its relationship with age, level of education, perceived socio-economic status and living standard of the participants. The results are as follows:

- a) There were no significant difference in race, gender and employment status mean scores on beliefs about ART scores as indicated by the t-tests.
- b) The Pearson's correlation indicated that the participants' beliefs about ART was found to be higher in those with higher level of education ($r = 0.218$, $p < 0.005$) and those with a higher perceived socio-economic status ($r = 0.180$, $p < 0.005$). The age and living standard of the participants had no significant relationship with beliefs about ART.

A one-way between-groups analysis of variance conducted to explore the impact of the different age groups (18-24years, 25-35years and 36-49years) on beliefs about ART revealed no significant difference in the three age groups.

4.5.9 Media and Beliefs about ART

The results of the independent samples t-tests to examine the differences in the mean scores for those with access to electronic information sources and beliefs about ART and the Pearson product-moment correlation coefficient that investigated the relationship between the extent of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and beliefs about ART revealed no significant difference in the mean scores for the three available means of electronic information and the extent of media exposure and beliefs about ART.

4.5.10 Beliefs regarding HIV/AIDS treatment and cure

Most participants (86.0%) knew that having sex with a virgin will not cure a person of HIV/AIDS and 79.4% knew that traditional healers are not able to cure AIDS while 74.6% of the participants were aware that AIDS is treated by using ART. This is shown in Table 4.9

Table 4.9

Beliefs regarding HIV/AIDS treatment and cure

Statements	Correct		Incorrect	
	N	%	N	%
Having sex with a virgin will cure a person of HIV/AIDS	301	86.0	49	14.0
Traditional healers cure AIDS	277	79.4	72	20.6
AIDS is treated by Anti-retroviral therapy	261	74.6	89	25.4

4.5.11 Socio-demographic characteristics and Beliefs regarding HIV/AIDS treatment and Cure

Independent samples t-tests were conducted to assess race, gender and employment status differences in the mean scores of beliefs about HIV treatment and cure. Pearson correlation coefficient analyses were also conducted to evaluate its relationship with age, level of education, perceived socio-economic status and living standard of the participants. The results are as follows:

- a) There was a significant difference between knowledge about treatment and cure and the race of the participants with the Whites ($M = 2.69$; $SD = 0.506$) having higher knowledge than the Blacks [$M = 2.34$; $SD = 0.820$; $t(104.759) = -4.113$, $p < 0.001$]. There was no significant difference in scores among the males and females and among the employment status groups.
- b) Knowledge on treatment and cure was found to be significantly, positively correlated to the level of education ($r = 0.284$, $p < 0.001$), perceived financial status ($r = 0.288$, $p < 0.001$) and living standard ($r = 0.302$, $p < 0.001$). The relationship between ages of the participants was not significantly correlated with knowledge on treatment and cure.

A one-way between-groups analysis of variance conducted to investigate the association between the different age groups (18-24years, 25-35years and 36-49years) and Beliefs about treatment and cure revealed no significant difference among the three age groups.

4.5.12 Media and Beliefs regarding HIV/AIDS treatment and Cure

The results of the independent samples t-test conducted to examine the differences in available means of electronic information sources and mean scores regarding HIV/AIDS treatment and cure as well as the Pearson product–moment correlation coefficient that investigated the relationships between the levels of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and beliefs regarding HIV/AIDS treatment and cure are as follows:

- a) *Available means of electronic information sources:* More knowledge on HIV treatment and cure was shown by the participants in possession of a TV (M = 2.46, SD = 0.737), cell phone (M = 2.45, SD = 0.761) and radio (M = 2.46, SD = 0.740) than those without a TV [M = 1.95, SD = 0.999; $t(348) = 4.016$, $p < 0.001$] cell phone [M = 1.98, SD = 0.880; $t(348) = 3.702$, $p < 0.001$] and radio [M = 2.07, SD = 0.968; $t(348) = 3.314$, $p < 0.001$] respectively.
- b) *Extent of media exposure:* There was a positive significant correlation between knowledge on HIV/AIDS treatment and cure and frequency of listening to the radio ($r = 0.177$, $p < 0.001$), watching TV ($r = 0.211$, $p < 0.001$), reading newspaper ($r = 0.182$, $p < 0.001$), checking cell phone messages ($r = 0.220$, $p < 0.001$).

4.5.13 Views on the physiological impact of HIV

The majority (83.6%) of the respondents correctly agreed with the statement that said “People with HIV/AIDS are easily infected with other diseases like TB” with 76.5% knowing that HIV breaks down the body’s resistance to fight diseases and just barely over half of the participants (66.3%) correctly agreeing with the fact that an HIV blood test done after three months of infection will show if a person is infected with HIV. These are presented in Table 4.10.

Table 4.10

Frequencies of views on the physiological impact of HIV

Statements	Correct		Incorrect	
	N	%	N	%
An HIV blood test, three months after infection, will show if someone is infected with HIV	232	66.3	118	33.7
People with HIV/AIDS are easily infected with other diseases like TB	290	83.6	57	16.4
HIV breaks down the body's resistance to fight diseases	267	76.5	82	23.5

4.5.14 Socio-demographic characteristics and views on the Physiological impact of HIV

Independent samples t-tests were conducted to assess race, gender and employment status differences in the mean scores of views regarding the physiological impact of HIV. Pearson correlation coefficient analyses were also conducted to evaluate its relationship between age, level of education, perceived socio-economic status and living standard of the participants. The results are as follows:

- a) The Whites ($M = 2.58$; $SD = 0.667$) had higher levels of knowledge on the physiological impact of HIV than the Blacks [$M = 2.20$; $SD = 0.871$; $t(84.712) = -3.620$, $p < 0.001$]. There was also a significant difference between the unemployed ($M = 2.17$; $SD = 0.865$) and the employed [$M = 2.35$; $SD = 0.833$; $t(347) = -1.978$, $p = 0.049$] with the employed having higher mean knowledge scores. There was no significant difference among gender groups.
- b) There was a significant positive correlation between views regarding the physiological impact of HIV with increased age ($r = 0.209$, $p < 0.001$), level of education ($r = 0.135$, $p < 0.05$), perceived socio-economic status ($r = 0.185$, $p < 0.001$) and living standard ($r = 0.119$, $p < 0.05$) of the participants.

A one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of the different age groups (18-24years, 25-35years and 36-49years) on participants' views on the physiological impact of HIV. There was a statistically significant difference at the $p < 0.05$

level in LOT scores for the age groups ($F(2, 347) = 7.902, p < 0.001$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the three age groups 18-24years ($M = 1.94, SD = 0.896$), 25-35years ($M = 2.33, SD = 0.848$), 36-49years ($M = 2.38, SD = 0.780$) were significantly different from each other. Despite reaching statistical significance, the actual difference in mean scores between the groups for this HIV knowledge measure was quite small. The effect size, calculated using eta squared, was 0.04.

4.5.15 Media and views on the physiological impact of HIV

The results of the independent samples t-tests to examine the differences in available means of electronic information and the mean scores regarding views on the physiological impact of HIV as well as the Pearson product –moment correlation coefficient that investigated the relationship between the extent of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and views regarding the physiological impact of HIV are as follows:

- a) *Available means of electronic sources of information:* Those possessing TV ($M = 2.29, SD = 0.832$) had a higher mean score on knowledge regarding the physiological impact of HIV than the participants without a TV in the household [$M = 1.98, SD = 0.963; t(348) = 2.290, p = 0.023$]. There was also a significant difference in the mean scores between participants having working cell phones ($M = 2.29, SD = 0.848$) and those without [$M = 2.00, SD = 0.866; t(348) = 2.039, p = 0.042$].
- b) *Extent of media exposure:* A significant positive association was found between knowledge on the physiological impact of HIV and watching TV ($r = 0.108, p < 0.05$); and checking cell phone messages ($r = 0.113, p < 0.05$).

4.5.16 Beliefs regarding HIV vaccines

From the participants' response on statements about HIV vaccines, 69.8% of the participants were of the opinion that future HIV vaccines could help in the total protection of people from getting HIV while 58.1% agreed to the fact that HIV vaccine would protect people from being easily infected by HIV/AIDS. This is depicted in Table 4.11.

Table 4.11

Belief regarding HIV vaccines

Statements	Correct		Incorrect	
	N	%	N	%
A future HIV vaccine could help in total protection from getting HIV N = 242	169	69.8	73	30.2
An HIV vaccine will protect people from being easily infected by HIV/AIDS N = 246	143	58.1	103	41.9

4.5.17 Vaccine awareness and source of information

As seen in Table 4.12, few of the 351 participants were aware of HIV vaccines (42.7%, N = 150). The group of participants who were aware of HIV vaccines reported that they received information about HIV vaccines from the radio (74.3%), followed by television (67.8%), clinic/hospital (55.6%) and then newspapers/magazines (54.2%). Information was also obtained from community meetings and community leaders (22.1% and 34.3% respectively). The least reported sources was from Aurum Health (7.1%), while community members accounted for 17.7%.

Table 4.12

HIV vaccine awareness by information sources (N = 341)

	Frequency	
	N	%
Awareness of HIV vaccine	150	42.7
Source of information of HIV vaccine		
Radio	107	74.3
Television	97	67.8
Clinic/Hospital	79	55.6
Newspaper /Magazine	77	54.2
Community members	48	34.3
Community meetings	31	22.1
Community leaders	25	17.7
Aurum Health	10	7.1

4.5.18 Socio-demographic factors and composite HIV knowledge index

Independent-sample t-tests to compare the mean differences on the composite HIV/AIDS knowledge index in terms of gender, race and employment status groups; and Pearson correlation coefficients of the composite HIV/AIDS knowledge scores with age, level of education, perceived socio-economic status and living standard variables were conducted. The following results are presented:

- a) There was no significant difference in the mean composite HIV knowledge scores for the gender and race groups. The employed ($M = 18.80$ $SD = 3.467$) had higher mean score on the composite HIV knowledge index than the unemployed [$M = 17.85$, $SD = 3.845$; $t(347) = -2.400$, $p = 0.017$].
- b) There was a significant positive linear relationship between the composite HIV/AIDS knowledge index and age ($r = 0.116$, $p < 0.05$), level of education ($r = 0.227$, $p < 0.001$), perceived socio-economic status ($r = 0.231$, $p < 0.001$) and living standard ($r = 0.173$, $p < 0.001$) variables. Thus the more educated and the better the standard of living and perceived socio-economic status the higher the knowledge about HIV/AIDS in general.

The one-way between-groups analysis of variance conducted to explore the mean difference of the different age groups (18-24years, 25-35years and 36-49years) revealed a significant difference of the age groups on the composite HIV knowledge index ($F(2,348) = 2.936$, $p = 0.054$). Post hoc comparisons using the Turkey HSD test indicated that the mean scores for the age groups 18-24years ($M = 17.44$, $SD = 3.334$), 25-35years ($M = 18.24$, $SD = 4.260$) and 36-49years ($M = 18.75$, $SD = 3.498$) were significantly different from each other.

4.5.19 Media and composite HIV knowledge index

The results of the independent samples t-tests to examine the mean differences among those with access to electronic information on the composite HIV knowledge index and the Pearson product – moment correlation coefficient that investigated the relationship between the levels of media exposure (as measured by the frequencies of listening to radio, watching TV, reading newspaper and checking of cell phone messages) and the composite HIV knowledge index are as follows:

- a) *Available means of electronic sources of information:* The independent samples t-test showed that there was higher mean score on the composite HIV knowledge index for those that had a TV (M = 18.55,SD = 3.559), cell phone (M = 18.42,SD = 3.800) compared with those without a TV [M = 15.93,SD = 4.756, t(349) = 4.363, p < 0.001] and cell phone [M = 16.73,SD = 3.702, t(349) = 2.686, p < 0.001] while there was no significant difference between those having radio (M = 16.36,SD = 3.904) and those without radio (M = 15.92,SD = 4.510,t(347) = 0.727,P = 0.468).
- b) *Extent of media exposure:* HIV knowledge was found to be significantly, positively correlated to the frequency of watching TV (r = 0.199, p<0.001), reading newspapers (r = 0.150, p<0.001), checking text messages (r = 0.159, p<0.001) and listening to the radio (r = 0.154, p<0.001). There was also a significantly positive correlation with a composite media exposure scores (r = 0.268, p< 0.001), implying that generally, the more exposed the participants were to the media, the more knowledgeable they were about HIV/AIDS.

4.6. HIV/AIDS Stigma

In this section, the HIV-related stigma measures (blame and shame, stigmatised attitudes towards HIV infected women and social distance towards PLWHA) will be investigated. The frequencies are presented in Tables 4.13 to 4.16.

4.6.1 HIV/AIDS Stigma using the Blame and Shame measure

The section addresses the perceptions of the respondents about those people living with HIV in the community. This domain encompasses items on judgment, shame and blame for HIV infection. It also entails labeling, and devaluing of PLWHA. About a quarter of the respondents considered HIV/AIDS as a punishment from God (25.7 %) and 41.6% (n = 144) blamed female prostitutes for spreading the HIV infection in the community while only 13.3% believed that those who have HIV/AIDS must have done something wrong and deserve to be punished, 13.3% were of the opinion that people with AIDS are cursed. Also less than half of the respondents

(28.7%) supported the statement that migrants are to be blamed for spreading HIV/AIDS while 28.0% supported the statement that foreigners are to be blamed for spreading HIV/AIDS. On the other hand, more than half of the participants (59.2%) attributed HIV infection to promiscuity while 71.6% supported the statement that those who contracted HIV infection from unprotected sex are to be blamed.

From the responses of the participants regarding statements measuring HIV/AIDS stigma using questions relating to shame, 48.8% of the participants agreed that they will be ashamed if they were HIV infected but only 38.8% said they would be ashamed if a family member is HIV infected. The responses of the participants regarding the items of the HIV/AIDS stigma measure is shown in Table 4.13.

Table 4.13
HIV/AIDS Stigma (Blame and Shame measure)

Statement/Measuring Index	Strongly disagree		Disagree		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%
Blame								
HIV/AIDS is a punishment from God.	159	46.0	98	28.3	43	12.4	46	13.3
It is the female prostitute who spread HIV in the community	109	31.5	93	26.9	79	22.8	65	18.8
People who have HIV/AIDS must have done something wrong and deserve to be punished	176	50.7	125	36.0	27	7.8	19	5.5
People who have AIDS are cursed	164	47.1	138	39.7	27	7.8	19	5.5
Migrants are to blame for spreading HIV/AIDS	114	33.0	132	38.3	63	18.3	36	10.4
Foreigners are to blame for spreading HIV/AIDS	124	36.2	123	35.9	58	16.9	38	11.1
Shame								
People get HIV because they are promiscuous	50	14.6	90	26.2	106	30.9	97	28.3
I would be ashamed if I were infected with HIV	72	20.7	106	30.5	92	26.4	78	22.4
I would be ashamed if someone in my family had HIV/AIDS	88	25.3	125	35.9	80	23.0	55	15.8
If someone has contracted HIV through unsafe sex, it is their own fault.	37	10.6	62	17.8	130	37.2	120	34.4

4.6.2 Relationship between socio-demographic characteristics and HIV/AIDS Stigma using the Blame and Shame measure

Bivariate correlation using the Pearson correlation coefficients between HIV/AIDS Stigma (Blame and Shame measure) and socio-demographic characteristics (level of education, age, perceived socio-economic status and living standard) of the participants and independent sample t-tests conducted to compare HIV/AIDS stigma (blame and shame) for gender, race and employment status groups revealed:

- a) A negative significant correlation between HIV stigma (blame and shame) and the level of education ($r = -0.271$, $p < 0.001$), perceived socio-economic status ($r = 0.221$, $p < 0.001$) and living standard ($r = -0.186$, $p < 0.001$) were found implying that the higher the level of education, perceived socio-economic status and the living standard of the participants, the lower the stigma (blame and shame) towards PLWHA. There was no significant correlation between age and HIV Stigma (blame and shame).
- b) There was a significant difference in the stigma scores for males ($M = 23.21$, $SD = 5.80$) and females ($M = 21.54$, $SD = 5.75$; $t(347) = 2.655$, $p < 0.001$) with males having higher HIV stigma score than the females, however the magnitude of the differences in the means was very small ($\eta^2 = 0.02$). There was no significant difference in HIV scores for the race and the employment status groups.
- c) A one way between-groups analysis of variance conducted to explore the impact of age grouping (18-24 years; 25-35 years and 36-49 years) on the HIV/AIDS stigma (blame and shame) also showed no significant difference in the age group.

4.6.3 Correlations between Media exposure, HIV Knowledge, the Blame and Shame Stigma measure

Pearson's correlation coefficient was used to explore the degree of relationship between HIV/AIDS stigma using the Blame and Shame measure, composite media exposure, HIV knowledge and social distance towards PLWHA and stigma regarding HIV infection women.

- a) *Composite media exposure*: A negative significant correlation between composite media exposure scores and HIV/AIDS stigma using the Blame and Shame measure ($r = -0.247$, $p < 0.001$) was found.
- b) *HIV Knowledge*:
- i) The Pearson's correlation found a significant, negative relationship between the composite HIV knowledge index and HIV/AIDS stigma (blame and shame) ($r = -0.171$, $p < 0.001$), indicating that as general HIV knowledge increases, HIV stigma (blame and shame) decreases.
 - ii) HIV/AIDS stigma measure has a significant negative relationship with *beliefs about ART* ($r = -0.201$, $p < 0.001$), *beliefs regarding HIV/AIDS treatment and cure* ($r = -0.225$, $p < 0.001$) and *HIV transmission myths* ($r = -0.215$, $p < 0.001$), recalling from subsection 4.5 that HIV transmission myths is presumed to be absent or little where there is high level of correct HIV-related knowledge. Hence, the significant negative relationship between HIV/AIDS stigma and HIV transmission myths indicated that the higher the level of correct HIV-related knowledge that exhibit little or no transmission myth, the lower the level of stigma manifested. There was no significant relationship between the stigma measure and *knowledge regarding transmission, views on the physiological impact of HIV* and *beliefs regarding HIV vaccines*.
- c) *Other measures of HIV Stigma*: There was a positive significant correlation between HIV/AIDS Stigma using blame and shame and social distance towards PLWHA ($r = 0.442$, $p < 0.001$) and a negative significant relationship with stigmatised attitudes towards HIV infected women ($r = -0.383$, $p < 0.001$).

4.6.4 *Social distance towards PLWHA*

Disagreement with the six statements pertaining to social distance towards PLWHA was prevalent, ranging from 76.0% to 90.8%. The majority (90.8%) of the participants disagreed with the statement "I am scared to touch someone with HIV/AIDS because I might get infected" and 85.0% disagreeing with the statement "I will not buy food from someone who I think has

HIV/AIDS”. The descriptive statistics of the items regarding social distance toward PLWHA are shown in Table 4.14

Table 4.14
Social distance towards PLWHA

Statements	Strongly Disagree		Disagree		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%
People with AIDS can work with children	24	7.0	51	14.8	176	51.2	93	27.0
A person who has AIDS should not be allowed to work with others	167	48.0	136	39.1	29	8.3	16	4.6
People who have HIV/AIDS should be isolated	196	56.2	122	35.0	22	6.3	9	2.6
I am scared to touch someone with HIV/AIDS because I might get infected	199	57.0	118	33.8	24	6.9	8	2.3
School learners with HIV put other learners in their class at risk of infection	172	49.6	123	35.4	35	10.1	17	4.9
I will not buy food from someone who I think has HIV/AIDS	158	45.7	136	39.3	36	10.4	16	4.6
I believe it is my right to refuse contact with people with HIV/AIDS because you never can know if you can get infected	144	41.3	121	34.7	59	16.9	25	7.2

4.6.5 Relationship between socio-demographic characteristics and Social distance towards PLWHA

The Pearson correlation coefficients between social distance towards PLWHA and socio-demographic characteristics (level of education, age, perceived socio-economic status and living standard) of the participants and independent sample t-tests conducted to assess the mean difference among gender, race and employment status groups on the social distance measure revealed:

- a) A significant negative correlation with level of education ($r = -0.170$, $p < 0.001$), perceived socio-economic status ($r = -0.163$, $p < 0.001$), living standard ($r = -0.174$, $p < 0.001$) and social distance towards PLWHA. No correlation was found between social distance and age of the

participants. However, a one way between-groups analysis of variance conducted to explore the mean difference between age groupings (18-24 years; 25-35 years and 36-49 years) on the social distance towards PLWHA measure showed a statistically significant difference at the $p < .05$ level in LOT scores for the age groups ($F(2, 334) = 3.477, p = 0.032$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for age group 25-35 years ($M = 11.54, SD = 3.855$) was significantly different from age group 36-49 ($M = 12.75, SD = 3.764$). Age group 18-24 ($M = 12.24, SD = 3.300$) did not differ significantly from either group 25-35 or 36-49. Despite reaching statistical significance, the actual difference in mean scores between the age groups were quite small with the effect size, calculated using eta squared equals 0.02

- b) A significant difference between the Blacks ($M = 11.98, SD = 3.548$) and the Whites [$M = 13.08, SD = 4.536; t(334) = -1.929, p = 0.05$] with regards to social distance was found with a small magnitude of the difference in the means (eta squared = 0.02). There was however no significant difference in the mean scores for gender and employment status groups.

4.6.6 Correlations between Social distance towards PLWHA, Media exposure and HIV Knowledge

Pearson correlation coefficient tests were used to measure the relationships between composite media exposure, HIV Knowledge and Social distance towards PLWHA. The results are:

- a) *Composite media exposure:* There was a negative significant correlation between composite media exposure and social distance towards PLWHA ($r = -0.283, p < 0.001$).
- b) *HIV Knowledge:*
 - i) There was a negative, significant relationship between the composite HIV knowledge index and social distance towards PLWHA ($r = -0.289, p < 0.001$).
 - ii) Social distance towards PLWHA was significantly negatively related to *knowledge regarding transmission* ($r = -0.158, p < 0.001$), *beliefs about ART* ($r = -0.172, p < 0.001$), *beliefs regarding HIV/AIDS treatment and cure* ($-0.270, p < 0.001$), *HIV transmission myths* ($r = -0.267, p < 0.001$) and *views on the physiological impact of HIV* ($r = -0.109, p < 0.001$).

c) *Other measures of HIV Stigma:* There was a negative significant relationship with stigmatised attitudes towards HIV infected women ($r = -0.332$, $p < 0.001$).

4.6.7 Stigmatised attitudes towards HIV infected women

The views of the participants about HIV infected women were also assessed. The responses to statements relating to stigmatised attitudes towards HIV infected women in their community are shown in Table 4.15. A substantial group (40.3%) agreed that people in their community feel that women with HIV/AIDS should not have babies because the baby might become an orphan while 52.4% agreed that in their community people feel that women with HIV/AIDS do not have the right to have a baby as they are probably to blame for their infection. The majority (85.0%) of the respondents supported the statement “Women with HIV/AIDS who fall pregnant should be forced to have an abortion” while 58.7% supported the statement “Women with HIV/AIDS who want to have babies are irresponsible”.

4.6.8 Relationships between socio-demographic characteristics and Stigmatised attitudes towards HIV infected women

Bivariate correlation using the Pearson correlation coefficients between stigmatised attitudes towards HIV infected women and socio-demographic characteristics (level of education, age, perceived socio-economic status and living standard) of the participants were conducted as well as independent sample t-tests to compare the mean scores for stigmatised attitudes for gender, race and employment status groups. The results are as follow:

a) A significant negative correlation between stigmatised attitude towards HIV infected women, and age ($r = -0.204$, $p < 0.001$) and level of education ($r = -0.118$, $p < 0.05$) were detected. There was not a significant relationship between living standard, perceived socio-economic status, gender, employment status and stigmatised attitudes towards HIV infected women.

A one way between-groups analysis of variance conducted to explore the mean difference of age groupings (18-24 years; 25-35 years and 36-49 years) on stigmatised attitudes towards HIV infected women showed a statistically significant difference at the $p < .05$ level in LOT

scores for the age groups ($F(2, 341) = 6.975, p = 0.001$). Post-hoc comparisons using the Tukey HSD test indicated that the mean scores for the three age groups 18-24 years ($M = 11.20, SD = 2.884$), 25-35 years ($M = 10.87, SD = 2.809$), 36-49 years ($M = 9.82, SD = 2.836$) were significantly different from each other. Despite reaching statistical significance, the actual difference in mean scores between the age groups was quite small. The effect size, calculated using eta squared, was 0.04.

- b) The tests showed a significant difference in the mean scores for Blacks ($M = 10.89, SD = 2.67$) having more positive stigmatising attitudes towards HIV infected women than the Whites [$M = 8.90, SD = 3.45; t(62.36) = 3.959, p = 0.001$]. The difference in the mean scores was small (eta squared = 0.04).

Table 4.15

Stigmatised attitudes towards HIV infected women

Statements	Strongly Disagree		Disagree		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%
In my community people feel that women with HIV/AIDS should not have babies because the baby might become an orphan	89	26.0	115	33.6	100	29.2	38	11.1
In my community people feel that women with HIV/AIDS do not have the right to have a baby as they are probably to blame for their infection	66	19.2	97	28.3	125	36.4	55	16.0
Women with HIV/AIDS who fall pregnant should be forced to have an abortion	21	6.1	31	9.0	148	42.8	146	42.2
Women with HIV/AIDS who want to have babies are irresponsible	70	20.3	72	20.9	119	34.6	83	24.1

4.6.9 Correlations between stigmatised attitudes towards HIV infected women and Media exposure, HIV knowledge

Pearson's correlation coefficient tests were used to measure the relationships between the composite media exposure measure, HIV knowledge index and stigmatised attitudes towards HIV infected women. The results showed:

- a) *Composite media exposure*: A positive significant relationship between the composite media exposure measure and stigmatised attitudes towards HIV infected women ($r = 0.136$, $p < 0.050$).
- b) *HIV Knowledge*:
- i) There was not a significant relationship between the *composite HIV knowledge index* and stigmatised attitudes towards HIV infected women ($r = 0.025$).
 - ii) Stigmatised attitudes towards HIV infected woman was not found to be significantly related to any of the HIV related knowledge measures.

Table 4.16

Pearson's correlation coefficients related to HIV knowledge and stigma

SNo	Variables	1	2	3	4	5
1.	Blame and shame		-0.383**	0.442**		
2.	Attitudes towards HIV women	-0.383**		-0.332**	-0.296**	-0.363**
3.	Social distance towards PLWHA	0.442**	-0.332**		0.442**	0.285**
4.	HIV transmission myths	-0.215**	0.093	-0.267**	-0.202**	-0.154**
5.	Knowledge regarding Modes of Transmission	-0.082	0.051	-0.158**	-0.110*	-0.011
6.	Beliefs regarding HIV/AIDS treatment and cure	-0.183**	0.057	-0.270**	-0.225**	-0.057
7.	Views on the physiological impact of HIV	-0.041	-0.077	-0.109	-0.111*	-0.067
8.	Beliefs about ART	-0.201**	0.073	-0.172**	-0.182**	-0.152**
9.	Beliefs regarding HIV vaccines	0.079	0.080	-0.050	0.048	0.099
10.	Composite HIV knowledge index	-0.171**	0.068	-0.289**	-0.244**	-0.125*

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

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

4.7 Social cohesion and the study population

The level of social cohesion of the community seems to be very low as depicted by the responses given by the participants. More than half of the participants (69.1%) disagreed to the fact that most people in the community will be willing to help them when in need and 69.0% reported that no friend will be willing to lend them money if they need it urgently while only 45.6% (less than

half of the participants) have trust in their community leaders. Looking at the social cohesion and the issue of HIV/AIDS infection, 77.4% of the participants disagreed with the statements “I know many people who will support me should I have HIV/AIDS” while 74.8% did not agree with the statement “In my community people will invite a person infected with HIV/AIDS to social occasions”. Precisely 81.2% reported that people would not encourage those with HIV/AIDS to seek treatment in their community. Only 22.2% of the participants agreed to the statement that people in their community would support those with HIV/AIDS. The frequency distribution of these items is depicted in Table 4.17.

4.7.1 Socio-demographic characteristics and Social cohesion

Bivariate correlations using the Pearson Correlation coefficient analysis between social cohesion in the community and socio-demographic characteristics of the participants revealed no significant correlation between social cohesion and age ($r = -0.055$), level of education ($r = 0.058$), perceived socio-economic status ($r = 0.075$) and living standard ($r = 0.104$).

The independent sample t-tests conducted to compare the mean scores on social cohesion for gender, race and employment status groups revealed no significant differences in scores for the Blacks ($M = 20.06$, $SD = 4.650$) and the Whites [$M = 19.88$, $SD = 6.297$; $t(61.30) = 0.193$, $p = 0.848$]; for males ($M = 20.06$, $SD = 4.369$) and females [$M = 20.01$, $SD = 5.258$; $t(349) = 0.086$, $p = 0.932$] and for the unemployed ($M = 20.05$, $SD = 4.829$) and the employed groups [$M = 20.01$, $SD = 5.036$; $t(349) = 0.084$, $p = 0.933$].

Table 4.17

Frequency distribution of social cohesion items

Statements	Strongly Disagree		Disagree		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%
Most people in my community will be willing to help me if I need help	83	23.9	157	45.2	75	21.6	32	9.2
I trust my community leaders	50	14.7	135	39.7	105	30.9	50	14.7
I have friends who will be willing to lend me money if I need it urgently	109	31.2	132	37.8	73	20.9	35	10.0
I know many people who will support me should I have HIV/AIDS	130	37.7	137	39.7	49	14.2	29	8.4
In my community people will invite a person infected with HIV/AIDS to social occasions	90	26.9	160	47.9	55	16.5	29	8.7
In my community people encourage those with HIV/AIDS to seek treatment	150	42.7	135	38.5	37	10.5	8	2.3
In my community people support those with HIV/AIDS.	98	27.9	162	46.2	58	16.5	20	5.7

4.7.2 Association between Media exposure, HIV knowledge, HIV stigma and Social cohesion

The Pearson's Correlation coefficient analyses were conducted to assess the association between social cohesion in the community, Media exposure, HIV knowledge and HIV stigma. The results revealed the following:

- a) *Composite media exposure:* There was a positive, significant relationship between social cohesion and the composite media exposure measure ($r = 0.179$, $p < 0.001$).
- b) *HIV Knowledge:*
 - i) Composite HIV knowledge index of the participants was significantly, positively associated with social cohesion in the community ($r = 0.206$, $p < 0.001$).
 - ii) There was no association between social cohesion and transmission myths ($r = 0.104$), views on the physiological impacts of HIV ($r = 0.046$), beliefs regarding

ART ($R = 0.056$), beliefs about HIV vaccine ($r = 0.102$) and treatment and cure ($r = 0.088$); but there was a positive, significant correlation with knowledge regarding transmission ($r = 0.175$, $p < 0.05$). This implies that as the knowledge regarding HIV transmission increases, the social cohesion with PLWHA also increases.

- c) *HIV stigma*: There was no significant association between social cohesion and stigmatised attitudes towards HIV infected women ($r = 0.067$), value stigma ($r = -0.049$). There was however a negative significant association between social cohesion and social distance towards PLWHA ($r = -0.131$, $p < 0.05$) indicating that as the social cohesion in the society decreases, the social distance towards PLWHA increases.

4.8 Predictors of HIV/AIDS stigma (Blame and Shame measure)

A standard multiple regression analysis was conducted to assess the predictors of HIV stigma (blame and shame). The model used in this study (independent variables: gender, level of education, perceived socio-economic status, living standard, composite media exposure scores, HIV transmission myths, beliefs about ART and beliefs regarding HIV/AIDS treatment and cure) reaches statistical significance ($p < 0.0005$), and it explains 14.6% of the variance in HIV Stigma (blame and shame). Out of these eight independent variables included in the standard multiple regression model, the variables making a statistically significant unique contribution to the prediction of HIV Stigma (blame and shame) are beliefs about ART ($t = -2.337$, $p = 0.020$), gender ($t = -3.133$, $p = 0.002$) and level of education ($t = -2.516$, $p = 0.012$) and composite media score ($t = -2.189$, $p = 0.029$). The independent variable, gender, made the largest unique contribution ($\beta = -0.157$) compared to level of education ($\beta = -0.141$), composite media score (-0.134), and belief about ART ($\beta = -0.124$). The square of Part correlation coefficients for gender, level of education, composite media score and belief about ART yielded 0.024, 0.016, 0.011 and 0.014 respectively indicating that gender, level of education, composite media score and belief about ART uniquely explained 2.4%, 1.6%, 1.1% and 1.4% of the variance in HIV stigma (blame and shame) respectively. This is represented in Table 4.18.

Table 4.18

Standard Multiple Regression Analysis for HARS (blame and shame)

Variables	β	t	Sig	95% CI*	
				LL	UL
Gender	-.157	-3.133	.002	-3.035	-.694
Level of education	-.141	-2.516	.012	-1.504	-.184
Perceived socio-economic status	-.071	-1.223	.222	-1.138	.265
Living standard	-.065	-.995	.321	-.801	.263
Transmission myth	-.079	-1.412	.159	-.907	.149
Beliefs regarding treatment and cure	.003	.060	.952	-.818	.869
Beliefs about ART	-.124	-2.337	.020	-1.332	-.114
Composite media score	-.134	-2.189	.029	-.561	-.030

Keys: *CI = confidence interval; LL = lower limit; UL = upper limit*

4.9 Conclusion

In this chapter, the findings obtained and observations made from various statistical tests and analyses were presented. Results of statistics test were presented in tabular form and illustrated with graphs where necessary. The next chapter will further discuss these results and draw useful conclusions from them.

Chapter Five

Discussions, Conclusion and Recommendations

5.1 Introduction

This study has taken an in-depth look at the effects of HIV/AIDS related knowledge (HARK) on HIV/AIDS related stigma (HARS) among participants of different ethnic groups, socio-economic status, employment status and educational levels and age groups between 18 to 49 years in the Rustenburg community. The overall aim of the study was to better inform stakeholders on better ways to curb HARS through dissemination of appropriate and adequate HARK which is likely to lead to a reduction of prevalence of stigma towards PLWHA. The study investigated HARK and HARS with a hope of contributing to emerging empirical evidence regarding the relationship between HARK and HARS and how these may shape decisions in future interventions by government and other stakeholders.

This final chapter seeks to explain the results of the analysis presented in the previous chapter. The discussions are hinged on the set objectives as highlighted in chapter one, previous studies as well as related works in the literature. The chapter then ends with some useful conclusions and recommendations for stakeholders and suggestions for further research.

5.2. Discussion

5.2.1. *HIV/AIDS related knowledge*

The findings in this study revealed that the participants have relatively high or adequate levels of knowledge on basic HIV/AIDS information as between 66.3% and 92.6% scored more than 18 of the 22 basic questions on HIV/AIDS correctly. This satisfactory levels of knowledge on HIV/AIDS is supported by previous studies that reported high knowledge levels in other parts of South Africa (Anderson & Beutel, 2007; Dijkstra, Kangawaza, Martens, Boer & Rasker 2007; Peltzer & Seoka, 2004; Peltzer, Matseke, Mzolo & Majaja, 2009; Shabani, 2011) and other part

of the world such as USA, Canadian, Thai, Nigeria and China (Adekeye and Adeusi, 2011; Buskin, Li, Yin, Yu & McGough, 2002).

This high level of knowledge may be attributed to the numerous awareness campaigns at national, regional and local community levels commenced in South Africa through government initiatives, private and non-governmental organizations over the past 15 years (UNAIDS, 2005). These include the *Soul City Project* which started in 1994 to educate people about AIDS through radio, print media, television, dramas and soap operas to promote HIV/AIDS messages; the *Beyond Awareness campaign* which concentrated on informing young people about AIDS through the media between 1998 and 2000; the *Khomanani* ('caring together') campaign run by the AIDS Communication Team (ACT), a group that was set up by the government in 2001; *love Life*, the most prominent HIV prevention campaign in South Africa which targets young people, integrating HIV prevention messages into their culture; and the Sesame street programme called *Takalani Sesame* in South Africa for children which is the first sesame project to embark upon the issues of enlightening children on HIV and AIDS (Human Sciences Research Council, 2009; Dheimann, 2011). Takalani sesame project portrays the fact that it is never too early to deal with HARS. Kincaid, Storey and Babalola (2009) argued that prior to 2007, the awareness of the risk of HIV infection from concurrent sexual partners was low. Epidemiologists began recommending more attention to this risk. By mid-2008, mass media programmes were already addressing this threat in South Africa (and other countries), and the 2009 South African HIV/AIDS Communication Survey has already shown a significant increase in knowledge of concurrent sexual partners as a risk factor (Kincaid *et al.* (2009). No other intervention can reach more than half of a population with new information and behaviour change promotion within such a short period of time.

In addition, the introduction of the Life Orientation Curriculum in schools (from grade 4) by the Department of Education in 2002 empowers South African learners with knowledge, skills, attitudes and values that will assist them to cope with the challenges of life including relevant HARK (DoE, 2002). The curriculum emphasise, among others, HIV/AIDS prevention (skills that teach youths how to avoid contracting HIV/AIDS) and coping with HIV/AIDS (skills that teach youths how to cope when they or a close person has HIV/AIDS).

It was also observed that respondents are knowledgeable about the mode of transmission which includes unprotected sexual contact (92.6%) and mother-to-child through breast milk (70.7%). There is also high levels of knowledge on factors that can increase the chances of HIV transmission including multiple sexual partners (71.9%) and having STI (79.9%) while many are aware that HIV cannot be transmitted by caring for PLWHA. The great majority know that there is need to use condoms when both sexual partners are infected. In comparison to the study done by the Nelson Mandela Foundation commissioned project on South African National HIV Prevalence, HIV Incidence Behaviour and Communication Survey conducted by the HRSC, CADRE and MRS in 2005 (Shisana, Rehle, Simbayi, Zuma, Jooste, Pillay-van-Wyk *et al.* 2008), 81.3% of the respondents aged 12-14 and 88.8% of respondents who were above 50 years are aware that HIV is transmitted sexually while 68.1% of those between 12-14 years and 76.5% of those who were 50 and above knew that HIV could be transmitted from mother to child while 60% of the respondents in all age categories knew HIV could be reduced by having fewer sexual partners.

In this study, only 27.7% of the participants knew that medical circumcision decreases the likelihood of HIV infection, while 48.7% knew that the chance of getting AIDS is very high when one has sex with someone who has recently been infected with HIV. The findings on male circumcision in another study done in North West in the second national HIV communication survey done in 2009 also revealed that levels of knowledge were low in respect of HIV risk reduction provided by male circumcision (Johnson, Kincaid, Laurence, Chikwava, Delate & Mahlasela, 2010). This signifies a lack of knowledge pertaining to the role male circumcision plays in preventing HIV transmission and the increased risk of getting infected when one has sexual intercourse with a recently infected HIV partner who most likely looks healthy and even probably will test negative depending on the duration of infection and the type of HIV screening method used. This suggests an insufficient attention to communication messages in this respect. Moreover, migration, low perceptions of risk, multiple concurrent sexual partnerships, intergenerational sex, low condom use, excessive use of alcohol, and low rates of male circumcision have been mentioned as some of the drivers of the epidemic in South Africa (USAID, 2010).

An observational study by Auvert *et al.* (2005) showed that male circumcision may provide reduce risk of HIV-1 infection and also provide protection against HIV-1 infection. In a randomized, controlled intervention trial conducted in a general population of South Africa, male circumcision was found to provide a degree of protection against acquiring HIV infection which is equal to what a vaccine of high efficacy would have achieved (see Auvert *et al.*, 2005). This has led the South African government to make medical male circumcision available in all the nine Provinces (USAID, 2010). This study further suggests the need for increased attention in educating the people on the importance and the need for male circumcision in combating HIV/AIDS. However, for effective results, the place of culture and cultural orientation of the people needs to be taken into consideration. In some regions of South Africa, male circumcision is more than just a male reproductive issue but a cultural issue. Also one of the major concerns about male circumcision as an HIV preventive measure is that while it does not offer 100 percent protection from HIV, it could promote risky behaviour among people who undergo the procedure who might have a false belief that they are fully protected against HIV infection (Curran, 2007; Melville, 2010). Communication, education and involvement of key tribal leaders in discussions about male circumcision therefore need to be intensified by stakeholders in order to achieve the needed success.

Also of importance is the issue of knowledge about various types of available HIV screening methods and the earliest time each of these methods can detect HIV infection in the blood. More emphasis should also be placed on the use of protective means during sexual intercourse, stressing the fact that a sexual partner may be recently infected though tested HIV negative.

Furthermore, there is the need to engaged adequately trained, experience and appropriate mass media personnel in the different mass media in order to ensure responsible and constructive media output on HIV/AIDS. Ill-informed or irresponsible journalism can lead to reinforcement of misconceptions about HIV/AIDS rather than contributing towards a better informed public (IOM, 2006; Meyer-Weitz *et al.*, 2009). This underscores the need for extensive HIV/AIDS training for those involved in mass media campaigns on HIV/AIDS (IOM, 2006).

Although most of the respondents had correct knowledge on treatment and cure and the role of ARV in this study, some areas of knowledge in these regards are inadequate. Recent studies by researchers in South Africa (Eaton and Flisher, 2000; Shisana. *et al*, 2005) and other African countries (Bisika, Sulzbach, Benson & Tsui, 2004; Slonim-Nevo & Mukuka, 2005; Smith, 2004; Terry, Mhloyi, Masvaure & Adlis, 2006) also confirmed reasonable levels of HIV/AIDS knowledge, but with some important gaps. Many of the respondents (86.0%) know that having sex with a virgin cannot cure HIV/AIDS while 79.4% are sure that traditional healers cannot cure AIDS.

With regards to ART, 74.6% know that AIDS can be treated by ART. The need to start ART is acknowledged by only 68.9% of the participants while 81.6% know the importance of continuing ARV even when PLWHA are clinically better. These findings can be compared with another study done in the second national HIV communication survey in 2009 in North West where high levels of knowledge of ARVs as treatment for HIV/AIDS was found with 67.7% understanding that ART treatment is for life (Johnson, *et al*, 2010). This high level of knowledge can be attributed to the recent ART roll out and scale up programmes in the country (South Africa) accompanied by awareness campaigns. The South African government endorsed the use and roll out of free antiretroviral treatment (ART) in public health facilities in August 2003 and in the last five years, South Africa has established the largest ART program in the world, with close to 1 million people on ART at the end of 2009 (USAID/South Africa, 2011). Nevertheless, close to half of the respondents in this study (45.6%) believe that ART should be stopped because of its negative side effects. This indeed indicates a need to include and emphasise what must be done by PLWHA in cases of ART side effects. When preparing to start treatment in the ART scale up therefore, awareness campaign is important and must stress the fact that side effects are unpredictable and may occur at any time and may be very severe. This then underscore the fact that those on treatment must report all symptoms during appointments with their doctor while severe or unexpected happenings or symptoms should be reported immediately while leaving the decision on what steps to take on ART side effects to the doctor. The campaign should also emphasise, as earlier mentioned, that the advent of ART has made HIV infection a manageable chronic diseases, just like other diseases such as diabetes and high blood pressure.

Concerning myths and misconceptions, this current study reveals a decline in the majority of the myths believed by people in previous studies. In contrast to this study, 99.3% of the participants in Iraq still believe that HIV can be transmitted by mosquitoes (Siziya, Muula & Rudatsikira, 2008). However in comparison to this study, Anderson, Sandström, Mola, Amoa, Andersson & Yaueib (2003) and Mazloomy and Baghianimoghadam (2008), reported that 36% and 20.3% believed that HIV can be transmitted by mosquitoes in New Guinea and Iran respectively. Myths on the transmission of HIV from touching, toilet, and sharing of utensils are greatly reduced as showed by this study. Interestingly, the misconception about getting HIV/AIDS by having sex with a widow who has not done a cleansing ritual was still held by more than half of the participants in the study. This misconception implies that men can have sex with traditionally cleansed widows without fear of being infected with HIV. This finding supports other studies which affirmed that widowhood rites are mandatory from a cultural perspective (Ambasa-Shisanya, 2007, Tabane & Delpont, 2009). For instance, the use of “professional cleanser” who engages in ritual sex for the cleansing of a widow has been reported as common practice in some communities in Africa and Asia, (Ambasa-Shisanya, 2007; Tabane & Delpont, 2009; UNAIDS/UNFPA/UNIFEM, undated). Nevertheless, these rites could put the lives of the people involved in the ritual in danger through infection with HIV (LaFRANIERE, 2005; Ambasa-Shisanya, 2007, Agot, Vander Stoep, Tracy, Obare, Bukusi, Ndinya-Achola *et al.*, 2010). However, in the new era of HIV campaigns, widow cleansing is challenged as some widows, political and tribal leaders are starting to speak out publicly against this so-called sexual cleansing and attributing it to the vast spread of HIV in sub-saharan Africa (LaFRANIERE, 2005; Emily, 2003; Ligomeka, 2003).

Furthermore, findings of this study show an increase in HIV/AIDS knowledge among those with higher levels of education, perceived socioeconomic status, and living standard. The level of education coupled with exposure to media might have contributed to an increase in HARK among the participants. This might also be due to mass media interventions in South Africa (Coulson, 2002). The findings mirror similar studies on HARK among educated South Africans where youth who have completed more grades in school are found to have received more knowledge on HIV/AIDS than others (Eaton and Flisher, 2000) and among women in Iraq (Siziya *et al.*, 2008) where low level of education and socioeconomic status were associated with

inadequate HIV/AIDS knowledge (Siziya *et al.*, 2008). Exposure to multiple sources of HIV information (where at least one source is mass media) has been reported as significantly related to HIV knowledge and in some cases less stigmatising attitudes towards PLWHA (Schenker, 2006; Li, Wu *et al.*, 2009; Abdool Karim & Abdool Karim, 2005; Abdool Karim, Harrison & Meyerweitz, 2008). If we take education status to serve as a proxy for socioeconomic status, then people with higher levels of education are expected to be more knowledgeable about HIV/AIDS prevention than those with less education (Maswanya, Moji, Horiguchi, Nagata, Aoyagi & Honda, 1999; Peltzer & Promtussananon, 2003). Generally, the current study and previous ones suggest that media interventions and campaigns to increase knowledge about HIV/AIDS may be having an effect on behaviours, and underscores the importance of assessing knowledge about HIV/AIDS prevention regularly (Tillotson & Maharaj, 2001; MacPhail & Campbell, 2001; Peltzer & Promtussananon, 2003; Slonim-Nevo & Mukuka, 2005).

High levels of unemployment and an inadequate welfare system have led to widespread poverty, which renders people more vulnerable to contract HIV in South Africa (Rose-Innes, 2006). This study found that employed participants are more knowledgeable about HIV/AIDS than the unemployed who are more than 50% of the studied population. The higher levels in HIV/AIDS knowledge amongst the employed can be attributed to the steps taken by the employers, NGOs, and other stakeholders in workplace HIV and AIDS awareness programmes as previously discussed (see also TBCA, 2002). Lower educational levels and being unemployed had been significantly associated with lower levels of knowledge. (Peltzer, Matseke, Mzolo & Majaja, 2009). A study by Nattrass (2004) suggests that the high unemployment rates and poverty experienced in South Africa contribute to the high HIV infection levels. Daily struggles for survival may override any concerns about contracting HIV; increased violence, low levels of respect for self and others, which contributed to a lack of motivation to protect lives. The low levels of formal education and literacy because of poverty negatively influence access and use of information (Rose-Innes, 2006).

Ironically, it has been reported that socio-economic development and poverty relief can sometimes drive the epidemic especially when such is linked to labour migration, rapid

urbanisation, and cultural modernisation – all of which occur to a significant extent in South Africa (Rose-Innes, 2006). In another study on the analysis of AIDS knowledge in a Cambodia Demographic and Health Survey, lower levels of wealth were associated with poorer AIDS knowledge among women in reproductive age, even after the influence of education was taken into account (Bloom, River Path Associates & Sevilla, 2002). Furthermore, the 2004 Survey of Elderly in Cambodia (SEC) involving 1273 interviews with persons aged 60 and older, reports an association between lower economic status and poorer knowledge among older Cambodians even after controlling for educational levels (Knodel, Kim, Zimmer & Puch, 2005). Knodel & Zimmer (2006), in another Cambodian study of older persons, reported that lower exposure to mass media (radio and television) accounts for much of the association between poverty and poor HARK.

The findings in this study further reveals racial difference in HARK with greater knowledge about HIV/AIDS among the Whites than the Blacks especially in measures such as treatment and cure, the effects of HIV, modes of transmission, and transmission myths. This is consistent with previous similar studies (Anderson and Beutel, 2007; Peltzer, Cherian & Cherian, 2000; Peltzer, & Promtussananon, 2005). Despite numerous HIV/AIDS education and prevention programmes targeting various racial/ethnic groups in South Africa (James, Reddy, Ruiter, Taylor, Jinabhai, van Empelen *et al.*, 2005), there remain important racial differences in knowledge of HIV/AIDS preventive methods and how that knowledge is used (Anderson and Beutel, 2007). It has also been reported that black youth are more likely than others to know about condoms as a prevention method, but they tend to be less knowledgeable about other preventive methods. And even though knowledge about condoms is high among Blacks, there may be cultural and practical barriers (e.g., low perceived risk of HIV infection, or differential access to condoms) that prevent Blacks from using them (Eaton, Flisher & Aarø, 2003; Marahaj, 2006). One possible explanation might be as a result of the commonly known wide gap in the level of education, socioeconomic status and living standard between the Whites and the Blacks that still remains since the era of the apartheid (Anderson and Beutel, 2007). This underscores the need for more culturally sensitive prevention programmes that not only increase people's knowledge about HIV/AIDS prevention but also assist them in acting upon that knowledge. Furthermore, there might be the need to further bridge the racial gap in South Africa as in some developed

countries (Peruga, 1992). Peruga (1992) reports no discrepancies in the level of knowledge about HIV transmission modes between Black and White Americans. He however reported racial differences in the level of AIDS knowledge on preventive measures which was attributed primarily to differences in educational attainment and not essentially to race.

5.2.2. HIV/AIDS related Stigma

One of the underlying objectives of this study was to examine HARS. The study indicated various levels of stigmatising and discriminatory attitudes among the study participants. The least stigmatising attitude (blame, shame, and judgment) observed was on the item i.e. PLWHA are cursed and need to be punished for doing something wrong (14.4% suggested on both items). There was, however, a high prevalence of blame for HIV infection on immorality (prostitution, promiscuity) in this study. This finding is consistent with studies done in South Africa (Mbonu, van den Borne & De Vries, 2009; Petros, Airhihenbuwa, Simbayi, Ramlagan, & Brown, 2006) and other parts of the world. In other words, this finding regarding the high prevalence of value stigma, is consistent with previous studies in other parts of the world (Ragimana, 2006; Herek *et al.*, 2002; Letamo, 2004). The literature on stigma indicates that you need to increase knowledge to reduce stigma. The fact that they blame people for HIV (promiscuous) supports the stigma literature that link HIV to immorality and deep seated fear of contracting HIV (Bos *et al.*, 2001; Foreman *et al.*, 2003; Malcolm *et al.*, 1998; Parker and Aggleton, 2003; Pryor *et al.*, 1999). This can be explained by internal or dispositional ATT and the three phenomena of ATT (actor-observer bias, the fundamental attribution error, and the self-serving bias). The participants, who are the observers in this study, attributed controllable internal characteristics of the actors (PLWHA) to the cause of the HIV infection. The internal characteristics as indicated in this study were prostitution and promiscuity. Attributing a HIV infection to sexual immorality as indicated in this study (internal factor) might have led some of the participants (14.4%) to respond with more negative emotions (cursing and judgment as stated earlier) and blaming. This also explains why HIV infection can lead to possible manifestations of shame as indicated in this study (explained further later). On the other hand, the attribution of blame on female prostitution and promiscuity may be a reflection of the background history of the study area, Rustenburg known as the world largest source of platinum. The industrial (mining) nature of Rustenburg

attracts migrant laborers from all over Southern Africa who mostly live without family members, hence the area thrive with female sex workers who are out to make a living through sex work (Nkandela, 2006). This situation is compounded by the high unemployment rate, especially among women and existing socio-cultural inequalities in the community that allow men to have more than one sexual partner thus forcing women to be dependent on men for economic survival (Setswe and Skinner, 2008). This situation in the Rustenburg area may also inform the responses of the participants in blaming HIV/AIDS on migrants, foreigners, female prostitution, unprotected sex, and promiscuity.

This study also revealed that many of the participants would be ashamed if they or family members were HIV infected. This indicates that there may be problems in seeking HCT or disclosing their HIV status which may influence HIV prevention negatively.

This study further found that levels of stigma relating to social distance were generally low among the study participants. This corroborates similar recent findings as reported in Abdool Karim *et al.*, (2008) and Meyer-Weitz, Abdool Karim, Mboyi, Carrara, Frohlich & Abdool Karim (2008). In contrast, a high prevalence of stigma (47-71%) relating to social distance was revealed in an earlier study in South Africa as reported by Ragimana (2006). The decrease in social distance to PLWHA in the study population may be as a result of their high levels of knowledge about HIV transmission modes.

Social cohesion in the community was found to be low. The study also revealed a negative correlation between social cohesion and social distance towards PLWHA and HIV related shame. The negative correlation between social cohesion and shame in this study can be compared to the study of Abdool Karim *et al.* (2008) on the influence of AIDS stigma and discrimination and social cohesion on HIV testing and willingness to disclose HIV in rural KwaZulu-Natal, South Africa. Low levels of social distance towards PLWHA, and insufficient social support for PLWHA were found. The low social cohesion together with high levels of

HIV related shame found in this study may result in a reduced desire to go for HIV voluntary counseling and testing (HCT), thus hindering the disclosure of one's HIV status and thereby less likely to seek preventive measures, care and support which fuel the HIV epidemic. This is therefore indicative of the need to focus on information necessary to encourage and strengthen community cohesion.

In addition, social cohesion was found to only have a positive correlation with exposure to mass media and knowledge regarding HIV transmission. This finding may explain the reason why despite the low social cohesion in the study community, the social distance towards PLWHA was relatively low in this study.

Furthermore, the findings in this study show very pronounced negative stigmatising attitudes towards HIV infected women in the community. The high level of stigmatising attitudes towards HIV infected women in this study is consistent with findings in other studies elsewhere e.g. among the Chinese population in Hong Kong (Lau and Tsui, 2007). Studies done in South Africa, Tanzania and USA also supported views against childbearing in HIV infected women (Myer *et al* 2006; Squires *et al*, 2008, Ogden & Nyblade, 2005). The fact that HIV is transmitted through heterosexual means and from mother to child through breast feeding, may contribute to the stigmatising attitudes towards HIV infected women. In addition, AIDS orphans (children under age 14 who have lost mother and/or father to HIV/AIDS) were estimated to be about 1.9 million (UNAIDS, 2010). Studies have also shown that 70% of the orphans in the country are maternal orphans (children who have lost their mothers), consequently putting pressure on other relatives who take up the responsibility of becoming the primary care givers and having other negative consequences for these orphans (Atwine, Cantor-Graae & Bajunirwe, 2005; Ng'anjo & Diwouta, 2010; Monasch and Boerma, 2004; USAID/SCOPE-OVC/FHI, 2002). HARS have generally been linked to gender-related stigma (Parker & Aggleton, 2002; UNAIDS 2000). Aggleton and Warwick (1999) reported that the impact of HARS on women reinforces pre-existing economic, educational, cultural, and social disadvantages and unequal access to information services and rights. In addition, media based HIV and AIDS education particularly

targeted at specific risk groups, such as female prostitutes, men who have sex with men or injecting drug users can fuel stigmatising attitudes towards HIV infected women. This calls for the media and health educators to rethink the content and quality of HIV communication in respect to HIV women, child bearing and PMTCT.

This study showed associations between age, level of education, perceived socioeconomic status, living standard, race, gender and employment status and HARS. There was a reduction in the social distance towards PLWHA and value stigma (blame, shame and judgment) and stigmatising attitudes towards HIV infected women among the respondents with an increased level of education, living standard and perceived socioeconomic status. This may be due to the increased frequency of media exposure and HIV knowledge among these groups of participants as the study also revealed a reduction in the level of value HIV stigma and social distance with increased reported media exposure and HARK. More so, those with higher levels of education, living standard and perceived socioeconomic status were more exposed to the media and were found to be more HIV knowledgeable. The negative correlation between level of education, socioeconomic status and living standard found in this study is consistent with various other studies (Herek and Capitanio 1993; Herek and Capitanio, 1997; Forsyth *et al*, 2008; Ragimana, 2006).

Some studies done in different parts of the world revealed significant *gender* difference in stigmatising attitudes. For example, studies done in India and South Africa relating to HARS and gender showed that women seems to have less stigmatising attitudes compared to men (Ragimana, 2006; Forsyth *et al*, 2008; Nanda & Pramanik, 2010). Another random-digit telephone survey performed in the USA that examined stigmatising attitudes about HIV/AIDS, found that White females had less stigmatising attitudes to PLWHA than others (Herek and Capitanio 1993; Herek and Capitanio, 1997). This is consistent with the current findings where males were found to blame more and reported to be more ashamed if HIV infected, than the females. These findings corroborate the existing gender inequality and male dominance in South African society and culture (Ngubane, 2010). The society accords women with lower status than

men with the latter believing that the former are inferior and should be under men's control (Health24, 2009).

In terms of the association between race and HARS, this study revealed a racial difference in HARS with Blacks showing greater stigmatising attitudes towards infected women and Whites showing greater social distance towards PLWHA. The relationship between racism, racial discrimination and HIV/AIDS has not thoroughly been explored in the literature (Bharat, 2002). According to Maughan-Brown (2004), racial differences are also salient in predicting both the magnitude of HARS and its determinants. However, this finding could be explained by the differences in factors like cultural beliefs, level of education, economic status and living standard between these race groups in South Africa. Bharat (2002) noted that the linkage between race and HIV/AIDS cannot be seen in isolation from the dimensions of gender, class and sexual orientation. Although earlier stigma research findings in South Africa indicated that Black people, poor people and uneducated people tend to stigmatise more than White or Indian people, rich and/or educated people (Shisana & Simbayi, 2002), possibly due to higher levels of education. There is a conflicting racial difference in the HIV stigma measures used in this study. The racial difference in the results of the two measures of HIV stigma (social distance towards PLWHA and stigmatising attitudes towards HIV infected women) may be linked to notions of individualism and collectivism. Kegeles, Coates, Christopher & Lazarus (1989) noted that societies with cultural systems that place greater emphasis on individualism might perceive HIV/AIDS as the result of personal irresponsibility and thus blame individuals for contracting the infection. The notions of shame and collective responsibility of collectivist culture can lead to increased and compounded issues around stigma. It is therefore necessary to consider the issue of cultural systems in terms of individualism and collectivism in developing and implementing stigma reduction interventions. Agic (2004) noted that individualistic and collectivist cultures should have a different focus for stigma reduction campaigns, with the collectivist cultural communities responding less to messages promoting benefits for the individual and more to messages promoting the benefits for the family and community.

Aggleton and Warwick (1999) argue that the impact of HARS on women, reinforce pre-existing economic, educational, cultural, and social disadvantages and unequal access to resources,

information, power and services. Furthermore, in most cultures, women are expected to uphold and preserve the moral values of their communities hence a woman that is HIV infected is perceived as having failed to execute their social duties as HIV is associated with sex and moral indecency. In a number of societies, women are erroneously perceived as the main transmitters of STIs, as they are erroneously referred to as “women’s diseases” (de Bruyn, 1992; Baden, 1992; Verdonk, Benschop, de Haes & Lagro-Janssen, 2009). Cloete *et al.* (2010) discovered that women who disclosed their status to spouses and family members could face divorce, being ejected from their home, or even be subjected to violence

5.2.3 HIV/AIDS related knowledge and HIV/AIDS related stigma

As stated earlier, the findings in the study revealed an association between HARK and HARS. From the study, as general HIV knowledge increases, blame, shame, judgment and social distance towards PLWHA with exception of stigmatising attitudes towards HIV infected women, decrease. The negative attitude to women despite increased HARK might not be unconnected to the gender roles assigned generally to men and women in the society which are significantly defined both structurally and culturally in such ways that create, reinforce, and perpetuate relationships of male dominance and female subordination. Through the process of socialization within the family, in educational institutions and other social spheres, male and female are conditioned to behave in certain ways and to play different roles in the society (Njogu and Orchardson-Mazrui, 2008). The society has so much encouraged people to conform to these established cultural norms by being rewarded or punished for their behavior. The conditioning and stereotyping have the effect of querying the capability of women to carry out certain tasks. If this is repeated regularly, it makes it become a norm and thus very difficult to remove from the mental frames of people even in the face of increased education and knowledge. This is probably what has spilled over to the issues of gender and HIV stigma. In essence, this current study argues that cultural and social factors intervene in the translation of HIV knowledge into attitudinal change.

Many studies in the past have also suggested a substantial decrease in HARS over time (France, 2001; Moon, Mitchell & Sukati, 2002). Quantitative studies in South Africa pointed to

significant correlations between increased levels of knowledge and decreased stigma (Jo Stein, 2003; MacQuarrie *et al.*, 2009). This suggests that appropriate education on HIV/AIDS is what is needed to deal with HARS, specifically education regarding modes of HIV transmission, myths, ART, treatment and cure. The negative correlation detected between ART beliefs and HIV stigma may be due to the fact that the availability of ART has led to a “normalisation” of HIV. Patients on ART are recovering and able to look after themselves and resume work thereby reducing burden-related stigma as people see them as “normal” since they are looking healthy and able to work (Roura, Wringe, Busza, Nhandi, Mbata, Zaba *et al.*, 2009; Tazama Project 2011). Moreover, PLWHA often realise that they are not the only ones with HIV through their interactions with health professionals and other people living with HIV at clinics, hence reducing self-stigma. It was widely assumed that the increasing awareness and availability of ART would lead to a reduction of stigma, as it would transform HIV from a “*death sentence*” to a chronic manageable condition. Furthermore that it would lead to less dependency and a higher productivity of people living with HIV. It was also predicted to lead to an increase in the uptake of HIV testing as the disease would be progressively seen as “*any other disease*” (Tazama Project, 2011). In contrast to these findings, in a longitudinal study regarding ART roll-out in South Africa, Maughan-Brown (2010) showed that in spite of the provision of ART by the public sector, and HIV preventive messages, an increase in stigma was noted among the sample. Roura, Urassa, Busza, Mbata, Wringe and Zaba (2009), also found in another study in Tanzania that though ART roll-out led to the reduction of self-stigma and an increase in HCT uptake, there was an increase in blaming attitudes towards PLWHA because of the general perception among the community leaders that as PLWHA using ART regain health, they increasingly get involved in sexual relations, thereby spreading the disease.

Despite the relatively high level of HARK of respondents in this study, the existing levels of stigma is a concern. This supports the findings of other studies where some level of HARS was found, despite various forms of HARK (Nomusa 2011; Zou, Yamanaka, John, Watt, Ostermann & Thielman, 2009). On the contrary, some studies have shown a drastic reduction in stigma with increased knowledge (Fakolade *et al* 2009; Li, Lee *et al.*, 2009). Many factors may contribute to these findings. From this study, it is noteworthy that while HARK seems to play an important

role in decreasing stigma, knowledge on the HIV preventive measure may help to reduce HIV risk, knowledge may not be sufficient to eliminate or reduce blame for the infection. Moreover, in the South African studies of Stein (2003) and Maughan-Brown (2004), they have questioned the findings that suggest a negative correlation between HARK and AIDS stigma, implying that in South African where people have high levels of HIV related knowledge, AIDS stigma is not a problem whereas conventional wisdom and the current findings tells us that stigma remains a problem. Stein (2003) and Maughan-Brown (2004) therefore concluded that the low levels of stigma reported in these surveys has more to do with how stigma is being measured rather than with an overall reduction of HARS. A study on stigma in America used a stigma scale that assess the extent of stigma in a far greater variety of ways than the South African measures and found higher levels of stigma (for example, negative feelings towards PLWHA, support for punitive AIDS policies, avoiding contact with PLWHA) despite increased educational interventions (Herek, 2002). Studies on HARK must therefore not only seek to measure stigma at the level of personal attitudes, beliefs and/or behavioural intentions, but also measure whether these beliefs and intentions result in value stigma (blame, judgment, etc.) or not. The meta-analysis of Crawford (1996) suggests that greater expressions of stigma were obtained with measures of intended social interaction than with attitudinal measures.

Furthermore, it is not impossible that the stigmatising and discriminatory perceptions of HIV infected individuals are not adequately addressed in education campaigns, especially sexual transmission of HIV and those related to PMTCT. Metaphors related to HIV and AIDS sometimes reinforce stigma and re-affirm social inequalities, thus rendering already stigmatised groups even more stigmatised and promoting stigmatisation e.g. words like 'promiscuous' and 'risky' assign shame and blame and gives impression of a moral tone that reinforces a third person's notion of 'them' and first person notion of 'us' (Ogden & Nyblade, 2005; Smart, undated). Similarly, words such as 'victim', 'AIDS carrier' and 'sufferer' stigmatise people living with HIV and create images of powerlessness. Prejudices will be perpetuated from the media that portrays HIV-infected persons as helpless and hopeless (CSA, 2007; Richter, 2001).

5.2.4 Media, HIV/AIDS related knowledge and HIV/AIDS related stigma

In an earlier study done in North West during the second national HIV communication survey in 2009, radio and television were the most popular mass media used by people in North West, with over 80% of people watching TV or listening to the radio (Johnson *et al.*, 2010). Similarly, in this study, the major sources of media information were television, cell phones and radio (87.5%, 88.3% and 84.6% respectively). This confirms the patterns observed in many other studies where TV and radio were identified as the primary sources of HIV and AIDS information (Benefo, 2004; Keating *et al.*, 2006; Sood & Nambiar, 2006; Li, Wu *et al.* 2009; UNAIDS, 2004). The positive correlation between access to media as sources of information (especially TV) and HIV related knowledge (knowledge regarding mode of transmission, HIV Transmission myths, knowledge on HIV treatment and cure and knowledge on the physiological impact of HIV), demonstrates the influence of the media in this regard. Television campaigns are reported to produce the strongest impact on knowledge, HIV/AIDS awareness and behavioural change, as opposed to campaigns using other channels, such as the radio or print media, as television broadcasts reach the majority of the population (Keating *et al.*, 2006; Sood & Nambiar, 2006). However, in a study done in Ghana, the radio seems to be the most powerful source of information about the epidemic, reaching more people than television and print media and have larger effects on individuals' knowledge base and behaviour (Benefo, 2004). The exposure to radio in this study is however low in comparison to TV, a likely result of greater access to electricity as 96.9% of the participants reported to have electricity. It should be noted that greater access to media is further influenced by SES and level of education.

Exposure to multiple media sources were significantly related to HIV knowledge and less stigmatising attitudes toward PLWHA in this study. This highlights the crucial role of mass media education in influencing HIV knowledge and attitudes, especially in the context where HIV/AIDS remains a serious problem. Accordingly, education and prevention programs would be more effective if multiple sources of the media such as television programs, radio, internet sites, and posters are used to disseminate information. In recent reviews of HIV prevention programmes in resource-poor settings, mass media campaigns have been found instrumental in

this regard (Li, Wu *et al.*, 2009; Li *et al.*, 2010; Hamra, Ross, Orrs & D'Agostino, 2006; Meundi, Amma, Rao, Shetty, & Shetty, 2008).

Studies have shown that the effectiveness of interventions through mass media is influenced not only by the type of media source one has access to, but also by the extent of media exposure (Agha, 2003). This emphasizes the importance of mass media in improving and increasing HARK which has been shown in various studies to have an effect in reducing HIV risk behaviours and stigma thereby curbing the HIV epidemic. The composite media exposure scores in this study revealed a positive significant correlation with levels of education, perceived socio-economic status and living standard. This mirrors the finding in a study in Bangladesh on the impacts of media exposure, where place of residence, educational level, economic status, geographical region and number of living children appeared to be the most important variable determining mass media exposure (Islam & Saidul Hasan, 2000). Interestingly, media exposure also seems to facilitate social cohesion. Thus the use of media including cellular communication is valuable in developing and maintaining social networks. Another finding worth noting is the fact that exposure to newspapers by the study participants is very low as only 17% read newspaper daily with 20% never reading newspaper. Nevertheless, the males seem to read newspapers more often than the females. This is consistent with another study done in North West during the second national HIV communication survey of 2009 (Johnson *et al.*, 2010), where men were significantly more likely to access magazines than women. The print media may therefore be a useful media through which men in the study area can be reached.

5.2.5 Predictors of HIV stigma (blame and shame)

The predictors of HARS in terms of blame and shame in this study are congruent with the above discussions. The predictors were beliefs about ART, gender, level of education and a composite media exposure measure with the independent variable, gender, making the largest unique contribution. In other studies around the world, independent variables such as perceived social support (cohesion), educational level, HARK on transmission myths, attributions of patient responsibility for illness, were various predictors of HARS (Bekele and Ali, 2008; Galvan *et al.*,

2008; Seacat, Litt & Daniels, 2009; Sorsdahl, Mall, Stein & Joska, 2011). The predictive power of male gender in relation to other predictors of HIV stigma in this study, confirms and reveals the gravity of gender inequality and male dominance in the South African society and culture especially amongst the dominant Black population (Ngubane, 2010). As mentioned earlier, in South Africa, the society accords women with lower status than men while the men believe that the women are inferior to them and should be under their control (Health 24, 2009).

5.3 Conclusion

The findings of the present study are of relevance to efforts in the alleviation of HARS among the people in the growing area of Rustenburg where there is a daily increase in migration due to the mining companies. The findings also provide the government, NGOs and various companies, media organizations and the educational departments possible avenues for the mitigation of HARS in terms of addressing HARK, gender inequalities and ways to motivate for PMTCT without contributing to the stigmatisation of women

Radicalized living standard (that is, extreme inequalities in the standard of living between the highly privileged and the lower class people), education inequalities and associations with HIV/AIDS knowledge and stigma, remain challenges in the South African context. The greater access to electricity and media including TV suggest that some progress have been made to elevate historically disadvantaged people's living standard.

The findings of the study highlighted a number of beliefs and perceptions about HIV/AIDS that were perceived to contribute to stigmatisation attitudes. Although some of the issues that were linked to HIV stigma in this study are consistent across studies, especially with regards to its entrenchment in socio-economic status, racial and gender differences, the generally held supposition that HIV is transmitted by sinful sexual relationship seems prevalent in blaming female prostitution and promiscuity for HIV. This may make mitigation of HARS a challenge as HIV/AIDS is thus perceived to be a consequence of immorality. This supports attribution theory as HIV infection is being attributed to sexual immorality. The blame for the involvement in

unprotected sex for spreading HIV may be attributed to the high levels of knowledge regarding the need to use condoms when having sex. The generally low prevalence of social distance towards PLWHA in this study may be attributed to the high levels of knowledge on HIV transmission modes among the participants, especially pertaining to casual transmission.

The study also confirms previous findings regarding the negative correlation between increased HIV/AIDS knowledge and a decrease in HIV stigma. Despite the relatively high knowledge of HIV/AIDS, stigmatising views towards HIV infected women are evident and is a concern. The role of racial and gender difference on HARS in the study population suggests the need to further examine issues of culture, societal norms and identity in the study area.

Beliefs about ART, gender, level of education and media exposure, were found to be predictors of HARS (blame and shame) with gender, making the largest unique contribution. Furthermore, despite the high levels of knowledge reported, some gaps are evident. The protective role of male circumcision should be advocated in education interventions and the role of the mass media in this regard is important. In addition, the increased risk of contracting HIV infection when one has sex with newly infected individuals is another knowledge gap in need of address. The greater risk of being infected by a recently infected HIV individual due to higher viral load needs to be understood, thus highlighting casual sex as posing greater risk for HIV infection.

Considering the findings in the study regarding decisions to seek ART and possible side effects, awareness campaign on ART should make known that similar to most drugs, ART can cause side effects which may be mild or severe and on rare occasions life threatening. It is however a known fact that once started, ART must be taken for life and that every dose missed may increase the risk of drug resistance, making the drug ineffective. It is therefore important that people on ART get every necessary help needed to lessen the impact of side effects by either treating the side effects or switching to an alternative ART and this, can only be decided by a doctor. Since ART side effects may occur at any time and can be very serious, it is necessary that

all warning signs be made known during clinics appointments or reported immediately if very severe.

5.4 Recommendations

From the current study, the following recommendations are proposed:

Due to the relatively high prevalence of “shame” revealed in this study, support groups, should be encouraged as one strategy to discourage HARS in the community. PLWHA should be encouraged to give testimonies and share their experiences in dealing with the disease to help other PLWHA to realise that they are not alone. Often disclosure and open communication can reduce the associated shame that accompanies the disease and help others to come to terms with the disease and possible HIV stigma which in turn may escalate the epidemic.

Celebrities or elites in the community should be encouraged to speak openly, compassionately and non-judgmentally about HIV/AIDS, thereby dispelling the culture of silence and acknowledging the presence of the disease in the community. It has been argued that sharing of a HIV positive status might also encourage greater openness about the infection and creates conducive environment and a culture of concern and care for PLWHA. Disclosure by celebrities and elites in the society who are looking healthy and are successful in society increases the visibility while decreasing stigma associated with HIV/AIDS with a resultant acceptance and support for PLWHA.

Furthermore, the influence of community leaders cannot be underestimated as they command moral authority and can therefore act as agents of change in reducing HIV stigma. Religious organizations can also preach tolerance and acceptance of the PLWHA. The normalization of the disease as a result of ART making HIV infection a chronic disease can be highlighted with reference to other diseases such as diabetes and hypertension. .

The study has established that even though the participants are knowledgeable about HIV/AIDS, they still exhibit stigmatising attitudes towards HIV infected women, especially pertaining to childbearing. The participants should be more informed on HIV infection and PMTCT which gives hope to HIV infected women in having a chance of giving birth to HIV free babies. More effort should be put into the PMTCT awareness campaign, with emphasis on the attitudes and beliefs that prevent the total adherence to the guidelines outlined in PMTCT, and improved knowledge of safer feeding practices. This is a critical area as new infections amongst babies are almost entirely preventable. New Governmental guidelines on earlier initiation of ARV therapy for pregnant women and the introduction of a two-drug regimen for PMTCT will substantially reduce HIV transmission during pregnancy and labour. Safer infant feeding practices would complete the picture in terms of giving HIV positive mothers a greater chance of rearing HIV-free children. Every effort to take PMTCT to the primary care level is made possible by the Department of Health so that these opportunities can be given to every HIV pregnant woman.

This current study has important implication for HIV/AIDS Information, Education and Communication (IEC) intervention pertaining to the importance of male circumcision in sexual and reproductive health. The importance of male circumcision in reducing the risk of HIV infection needs to be emphasized. The limitation of male circumcision should also be emphasized in order not to encourage HIV risk behaviour (male circumcision offers only partial protection against HIV infection). Male circumcision on its own will not win the battle against HIV. Being circumcised is not a license to irresponsible sexual behaviour and multiple sex partners. Therefore a need exists to advocate for the generally known preventive messages along with medical male circumcision. The study recommends the provision of IEC materials in raising awareness among students, workers, those attending health care services and community gatherings about male circumcision (its importance and limitations). Pregnant mothers who attend ante-natal care services should be informed about the advantages of circumcision. As these women are empowered, one is indirectly empowering the nation. It should however be noted that male circumcision practices are largely culturally determined in South Africa with strong beliefs and opinions surrounding its practice. It is therefore important to acknowledge cultural and personal biases in circumcision practices as this may influence different

interpretations of the information provided on male circumcision. Involvement of community leaders and significant role models could prove to be influential in this regard. For policy development on male circumcision, more research is needed pertaining to the psychosocial and cultural dimensions related to this practice.

In addition, gender inequality needs to be put at the heart of HIV prevention policies. Women are victims of a gender-discriminatory society whose organizational barriers are considerably compromising the worldwide fight against HIV/AIDS. Therefore the need to tackle issues of gender-inequalities, especially in South Africa will help to empower women to take responsibility for their health.

Based on the present study, it is also recommended that the currently implemented HIV/AIDS related educational campaigns on ART, especially at the clinic, may need to emphasize the importance of lifelong intake of the drug because of the chronic nature of the disease, to avoid the consequent resistance and transmission of resistant strain of HIV which will compound the already escalated HIV epidemic by advising on the right steps to take when ART side effects are encountered. Depending on the severity of the side effects, reporting immediately or on an appointment day to see the doctor who will decide on the right action to take, must be stressed. Furthermore, HIV/AIDS programs should educate the public on the heightened HIV infection risk of engaging in casual sexual relationships as newly infected partners might pose a greater risk. Information regarding the “window period” and the likelihood of transmission during this period should be emphasized...

Since the majority of the participants received and checked their cell phone for text messages daily, there may be opportunities to use text messages to disseminate HIV/AIDS related knowledge. This lends support to the current intervention directed at providing HIV/AIDS messages via a telephone helpline. The significant role of TV as medium of information and social changes highlights the continued use of TV, through edutainment programmes, to address knowledge gaps and stigma.

Finally, in view of the fact that the rate of reading newspaper which is part of the means of disseminating HIV knowledge and awareness is very low, the use of regularly available slips like salary slips, bills from the municipalities e.g. utility bills, bills from SARS etc. can be used to carry very short but enlightening messages on HIV/AIDS.

5.5 Study Strengths and Limitations

The strengths and limitations of this study need to be considered when interpreting the results presented in the study. Study strengths include the use of well-developed instruments based on qualitative findings and conducted using language best understood by the participants. The representative samples were selected through random selection which makes the findings generalizable to the area.

Despite the important findings of this study, there are limitations. The study was limited in that data were obtained using a cross-sectional survey and correlational method of analysis, limiting any inferences of causality between the compared variables until further verification from experimental designs or studies with longitudinal assessments from participants. Also, participants were selected only from one geographical region of South Africa (Rustenburg area in North West province of South Africa). Thus, findings have limited generalizability to other areas in South Africa. Though questionnaires are frequently used to study big samples of people relatively easily and examine a large number of variables including behaviours and feelings which have been experienced in real situations, participants may not respond honestly to some of the questions asked, either because they cannot remember or because they wish to present themselves in a socially acceptable manner. Social desirability bias can be a big problem with self-report measures as participants often answer in a way to portray themselves in a good light and therefore do not respond honestly to the questions.

5.6 Areas of further research

In the course of this research, we identified the following areas for further research:

- a) Explorative study to establish the experiences of stigma and discrimination faced by PLWHA in the study community.
- b) A detailed exploration on the in-depth knowledge of the study population on PMTCT could be useful to understand the stigma against HIV infected women.
- c) Detailed explorative study among HIV infected women regarding childbearing and related stigma, needs to be carried out.
- d) In view of the potentiality that male circumcision has as a protective tool in preventing HIV, there is a need to further explore acceptability, perceptions and barriers to male circumcision, especially among this study area with mixed cultural backgrounds.
- e) In depth explorative studies on stigmatising attitudes generally among the Whites and the Black females.
- f) Also of importance is an explorative study on the perception of ART and HIV infection and the relevance of ART in HIV stigma.

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Appendix A - Ethical Clearance



RESEARCH OFFICE (GOVAN MBEKI CENTRE)
WESTVILLE CAMPUS
TELEPHONE NO.: 031 – 2603587
EMAIL : ximbap@ukzn.ac.za

01 SEPTEMBER 2008

PROF. A MEYER-WEITZ (11471)
PSYCHOLOGY

Dear Prof. Meyer-Weitz

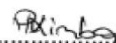
ETHICAL CLEARANCE APPROVAL NUMBER: HSS/0257/08

I wish to confirm that ethical clearance has been approved retrospectively for the following project:

"HIV/AIDS and related behaviors baseline survey – Bojanala District"

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Yours faithfully


.....
MS. PHUMELELE XIMBA

cc. Dr. J Frohlich
cc. Mr. R Hamilton
cc. Dr. M Latka
cc. Prof. G Churchyard
cc. Dr. K Fielding



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18 July 2011

Mrs O O Adewumi
c/o Mr A O Adewumi
School of Computer Science
Private Bag X54001
4000 DURBAN

Dear Mrs Adewumi

PROTOCOL: HIV/AIDS Related Knowledge and Stigma: A Cross-sectional based Study in Rustenburg Community of Bojanala District in North-West Province
ETHICAL APPROVAL NUMBER: HSS/1016A/2010 M: Faculty of Humanities & Social Sciences

In response to your application dated 10 September 2010, Student Number: **210546158** the Humanities & Social Sciences Ethics Committee has considered the abovementioned application and the protocol has been given **FULL APPROVAL**.

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Professor Steve Collings (Chair)
HUMANITIES & SOCIAL SCIENCES ETHICS COMMITTEE

SC/sn

cc: Prof. A Meyer-Weitz (Supervisor)
cc: Ms S van der Westhuizen

Postal Address:

Telephone:

Facsimile:

Email:

Website: www.ukzn.ac.za

Founding Campuses:

■ Edgewood

■ Howard College

■ Medical School

■ Pietermaritzburg

■ Westville

Appendix B

Sample Questionnaire

KABP BASELINE SURVEY

FOR THIS QUESTIONNAIRE I WILL ASSIST YOU BY READING OUT THE QUESTIONS TO YOU SO THAT YOU MAY MARK THE ANSWERS YOURSELF AND THEN SEAL THE QUESTIONNAIRE IN THE ENVELOPE. THIS WILL ENSURE ANONYMITY AND CONFIDENTIALITY OF YOUR ANSWERS.

1. Sex of respondent (*Mark self*)

Male	1
Female	2

2. How old are you? (In years)

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3. How would you describe yourself? (*Read out options*)

African	1	Coloured	2	Asian/Indian	3	White	4	Other?.....	5
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4. What is your home language? (*Mark appropriate response*)

Tswana	1	Pedi	7
Sotho	2	Tsonga	8
Zulu	3	Venda	9
Xhosa	4	English	10
Siswati	5	Afrikaans	11
Ndebele	6	Other	12

5. What is the highest level of education that you have obtained (*Mark appropriate response*)

No schooling	1
Up to Std 1 (From Grade R to Grade 3 Junior Primary School)	2

Std 2, 3 (Grade 4-5 Junior Primary School)	3
Std. 4, 5 (Grade 6-7 Senior Primary School)	4
Std 6, 7 (Grade 8 and 9 Junior Secondary)	5
Std 8-10 (Grade 10-12 Senior Secondary)	6
Diploma(s)/ Occupational certificates	7
First Degree/ Higher diplomas	8
Honours/Master's degree/Doctorate	9

6. For how long have you been living in this area? (*Read out options*)

Less than one year	1
One to two years	2
Longer than two years	3

7. How would you describe your employment situation? (*Read out options – make sure that you get the answer that best describe their employment situation*)

Unemployed looking for work	1
Unemployed not looking for work	2
Unable to work - Receive social grant	3
Student/pupil/learner	4
Self-employed – part time less than 40 hours per week	5
Self-employed – full time 40 hours or more per week	6
Employed, less than 40 hours per week	7
Employed, full time (40 hours or more)	8
Other, specify	9

8.1 I am going to read a number of statements to you. Which one best describes your household situation? (*Mark only one*)

a	Not enough money for basic things like food, clothes	1
b	Have money for food and clothes but short on many other things	2

c	We have the basics but not enough money for expensive items	3
d	Have money to save or buy expensive things	4
e	Other (specify)	5

8.2 I am going to read you a list. Please tell me if your household has the following things that are in a working condition? (*Ask each question*)

	Household amenities	Yes	No
a	Does your household have a working TV?	1	2
b	Does your household have a working fridge?	1	2
c	Does your household have a working cell phone?	1	2
d	Does your household have a working telephone?	1	2
e	Does your household have working electricity?	1	2
f	Does your household have a working private car?	1	2
g	Does your household have a vegetable garden?	1	2
h	Does your household have a working radio?	1	2

9. Now I am going to ask you about the people in this household who get a social grant. (*Read each statement ; code number*)

	Number of people getting a social grant	
a	How many people get a pension?	
b	How many people get a disability grant?	
c	How many children get a child support grant?	
d	How many children get a foster care grant?	

10. How many of your own children are dependent on you? (*Mark one response*)

No children	0
One child	1
Two children	2
More than two children	3

11. How many other children (not your own) are dependent on you? *(Mark one)*

No other children	0
One child	1
Two children	2
More than two children	3

12. Now I'm going to read a list, please tell me which one best describes your relationship status? *(Read each statement select one)*

a	Married (civil magistrate /traditional /religious)	1
b	Not married but living together	2
c	Single but have a steady partner	3
d	Single but have more than one partner	4
e	Single with no partners	5
f	Other (specify):	

13. Does your partner live with you?

Yes	1
No	2
Don't have partner	3

13.1 If No (2): Now I am going to read you a list, please tell me which statement best describes how often do you see your partner? *(Read options and mark one)*

Less than once a month	1
About once a month	2
About two to three times a month	3
About four times a month	4
More than four times a month	5

14. Now I am going to read you a list, please tell me how often you do the following? (*Read out each option*)

		Never	Less than once a week	A few days a week	Every day
a	How often do you listen to the radio?	1	2	3	4
b	How often do you watch TV?	1	2	3	4
c	How often do you read the newspaper?	1	2	3	4
d	How often do you check your cell phone messages	1	2	3	4

14.1 How often have you changed your cell phone number in the last year?

..... Times	
-------------	--

15. Have you ever heard about Aurum Institute for Health Research?

Yes	1	
No	2	Go to Question 18

16. Where did you hear about Aurum Institute for Health Research? (*Mark all*)

		Yes	No
a.	Local radio?	1	2
b.	Local newspaper?	1	2
c.	Attended a community meeting?	1	2
d.	Community leaders?	1	2
e.	Clinic?	1	2
f.	Community members?	1	2
g.	Communal activities?	1	2
h.	From a person working for Aurum Health in the community)	1	2

i.	Other? Specify:	
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17. In which of the following activities is Aurum Institute for Health Research involved? (*Read all options and mark each*)

		Yes	No
a	Contraceptives	1	2
b	Community development	1	2
c	The development of HIV/AIDS vaccines	1	2
d	HIV/AIDS counselling	1	2
e	Medical care for people with HIV/AIDS	1	2
f	Doing research	1	2
g	Other? Specify:		

18. Have you been involved in any of the following activities in the past 6 months?

		Yes	No	Unsure
a	Participated in any communal activities/meetings in which the work of Aurum Health was discussed?	1	2	3
b	If Yes: How many meetings did you attend in the past 6 months in which the work of Aurum Health was discussed?	Number:		

19. Have you ever heard about HIV-vaccines?

Yes	1	
No	2	Go to Question 20

19.1 IF YES: Where did you hear about HIV-vaccines? (*Read out all options and mark each one*)

		Yes	No
a	Radio	1	2
b	Newspaper or magazine	1	2
c	Television	1	2

d	Through a community meeting that I attended	1	2
e	Through community leaders	1	2
f	At the clinic/hospital	1	2
g	From community members	1	2
h	Aurum Institute for Health Research	1	2
i	Others, specify:		

20. I am going to read out some knowledge statements about HIV/AIDS. Please tell me to what extent you agree or disagree with the following statements? Please answer with one of these 4 options: strongly agree, agree, disagree, strongly disagree.

(Read each statement. Do not skip a statement! Mark only the Don't know option when the participant tells you that he/she doesn't know)

	Statements	Strongly agree	Agree	Disagree	Strongly Disagree	Don't know
a.	A baby can become HIV infected through breastfeeding if the mother is infected	1	2	3	4	5
b.	Your chance of getting AIDS is very small when you have sex with someone who has recently been infected with HIV	1	2	3	4	5
	Statements	Strongly agree	Agree	Disagree	Strongly Disagree	Don't know
c.	One can get HIV/AIDS from touching others who are infected.	1	2	3	4	5
d.	One can get HIV/AIDS from unprotected sex (not using condoms when having sex)	1	2	3	4	5
e.	If you have a STI it is easy to get HIV/AIDS.	1	2	3	4	5
f.	One can get HIV/AIDS by using the same toilet as someone with HIV/AIDS.	1	2	3	4	5
g.	One can get HIV/AIDS from mosquito bites	1	2	3	4	5
h.	One can get HIV/AIDS by sharing cups, knives or forks with someone with HIV/AIDS	1	2	3	4	5
i.	If a man had his penis circumcised by a doctor, he is less	1	2	3	4	5

	likely to get HIV infection in future.					
j.	An HIV blood test, three months after infection, will show if someone is infected with HIV	1	2	3	4	5
k.	People with HIV/AIDS are easily infected with other diseases like TB	1	2	3	4	5
l.	Having sex with a virgin will cure a person of HIV/AIDS	1	2	3	4	5
m.	HIV breaks down the body's resistance to fight diseases	1	2	3	4	5
n.	Traditional healers cure AIDS	1	2	3	4	5
o.	AIDS is treated by Anti-retroviral therapy	1	2	3	4	5
p.	A future HIV Vaccine could help to protect people from getting HIV	1	2	3	4	5
q.	ART should be avoided because of negative side-effects	1	2	3	4	5
r.	People with HIV/AIDS do not need to go on ART if they eat well	1	2	3	4	5
s.	Once people start feeling better on ART they do not need to continue with treatment	1	2	3	4	5
t.	Once both sexual partners are infected with HIV/AIDS they do not need to use condoms	1	2	3	4	5
u.	An HIV-vaccine will protect people from being easily infected by HIV/AIDS	1	2	3	4	5
v.	It is safe to participate in medical research to develop a HIV-vaccine	1	2	3	4	5
w.	HIV-vaccine development should be a government priority	1	2	3	4	5
x.	If you have different sexual partners during the same time period your chance of getting HIV/AIDS is bigger than when you keep to one partner and then move on to the next partner later.	1	2	3	4	5
y.	One can get HIV/AIDS by having sex with a widow who has not done a cleansing ritual	1	2	3	4	5

21. Now I am going to read you statements about relationships between men and women. Please tell me the extent you agree or disagree with the following statements by using one of these 4 options: strongly agree, agree, disagree, strongly disagree. (*Read each statement. Do not skip a statement!*)

	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
a	Men have many lovers because it is in their nature to do so	1	2	3	4
b	Men have lovers to get energy that enables them to satisfy their primary partners	1	2	3	4
c	Women these days say that they need to have more than one sex partner	1	2	3	4
d	Men feel ashamed of their wives and want young lovers to take around to their friends	1	2	3	4
e	If men do not have lovers their friends laugh at them	1	2	3	4
f	Women who are financially independent do not want to commit themselves to one relationship	1	2	3	4
g	The families of young people who work do not want them to get married because they are afraid to lose their income	1	2	3	4
h	Men often force women in subtle ways to have sex with them even if they do not want to.	1	2	3	4

22. I would like to hear your views about condom use. Please tell me to what extent you agree or disagree with the following statements? As before, answer with one of the 4 options: strongly agree, agree, disagree, strongly disagree.

		Strongly agree	Agree	Disagree	Strongly Disagree
a	One should only use condoms with new partners	1	2	3	4
b	I can not afford to buy condoms.	1	2	3	4
c	I am able to convince my partner to use condoms even if he or she does not want to.	1	2	3	4
d	Government condoms are not safe to use	1	2	3	4

23. I am going to make some statements about your community. Please tell me to what extent do you agree or disagree with the following statements by using the same options as before: strongly agree, agree, disagree, strongly disagree.

		Strongly agree	Agree	Disagree	Strongly Disagree

a	Most people in my community will be willing to help me if I need help	1	2	3	4
b	People in my community do not care about others	1	2	3	4
c	I trust my community leaders	1	2	3	4
d	People in my community gossip a lot about others	1	2	3	4
e	Conflict in my community is caused by differences between men and women	1	2	3	4
f	I have friends who will be willing to lend me money if I need it urgently	1	2	3	4
g	I know many people who will support me should I have HIV/AIDS	1	2	3	4

24. I am going to read you some statements about having social contact with people living with HIV/AIDS. To what extent do you agree or disagree with the following statements by using the same options as before: strongly agree, agree, disagree, strongly disagree.

	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
a	You could become infected if you care for a person living with HIV.	1	2	3	4
b	People with AIDS can work with children.	1	2	3	4
c	A person who has AIDS should not be allowed to work with others.	1	2	3	4
d	People who have HIV/AIDS should be isolated	1	2	3	4
e	I am scared to touch someone with HIV/AIDS because I might get infected	1	2	3	4
f	School learners with HIV put other learners in their class at risk of infection	1	2	3	4
g	I will not buy food from someone who I think has HIV/AIDS	1	2	3	4
h	I would be reluctant to take care of a family member with HIV/AIDS in my home	1	2	3	4
i	I believe it is my right to refuse contact with people with HIV/AIDS because you never know if you can get infected	1	2	3	4

25. We would like to know more about the community's attitudes towards people with HIV/AIDS. Please indicate to what extent you agree or disagree with the following statements by using the same options as before: strongly agree, agree, disagree, strongly disagree.

	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
a	In my community people will invite a person infected with HIV/AIDS to social occasions.	1	2	3	4
b	Where I live, people will leave their partners if the partner got HIV/AIDS.	1	2	3	4
c	In my community people feel that women with HIV/AIDS should not have babies because the baby might become an orphan.	1	2	3	4
d	In my community people feel that women with HIV/AIDS do not have a right to have a baby as they are probably to blame for their infection.	1	2	3	4
e	Women with HIV/AIDS who fall pregnant should be forced to have an abortion	1	2	3	4
f	Women with HIV/AIDS who want to have babies are irresponsible	1	2	3	4
g	In my community people encourage those with HIV/AIDS to seek treatment	1	2	3	4
	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
h	People are accepting AIDS as part of everyday life because most people have a family member with HIV/AIDS.	1	2	3	4
i	In my community the people tend to isolate not only the individual with HIV/AIDS but also their families	1	2	3	4
j	In my community people support those with HIV/AIDS	1	2	3	4

26. I would like to know how you feel about HIV/AIDS. Please indicate to what extent you agree or disagree with the following statements by using the 4 options: strongly agree, agree, disagree, strongly disagree.

		Strongly Agree	Agree	Disagree	Strongly Disagree
a	HIV/AIDS is a punishment from God.	1	2	3	4
b	It is female prostitutes who spread HIV in the community.	1	2	3	4
c	People get HIV because they are promiscuous.	1	2	3	4
d	I would be ashamed if I were infected with HIV.	1	2	3	4
e	I would be ashamed if someone in my family had HIV/AIDS.	1	2	3	4
f	People who have HIV/AIDS must have done something wrong and deserve to be punished.	1	2	3	4
g	People who have AIDS are cursed.	1	2	3	4
h	Migrants are to blame for spreading HIV/AIDS	1	2	3	4
i	If someone has contracted HIV through unsafe sex, it is their own fault.	1	2	3	4
j	Foreigners are to blame for spreading HIV/AIDS	1	2	3	4

27. Now I'm going to read a list of ways that people in your community might get to know if someone has HIV. For each statement tell if you think this is true or false. (*Ask each question and mark each. Only mark "Don't know" if respondent says this*)

		True	False	Don't know
a	The infected person tells his/her status?	1	2	3
b	From general rumours/gossip?	1	2	3
c	From the HIV-positive person's family?	1	2	3
d	From the HIV-positive person's employer?	1	2	3
e	From the HIV-positive person's friends/neighbours?	1	2	3
f	From the health care worker where the person got tested?	1	2	3
g	The person looks ill and has lost a lot of weight?	1	2	3
h	Seeing the person visiting a clinic where they provide	1	2	3

	treatment for HIV/AIDS (ART)			
i	Other (specify):			

The next few questions are about seeking health care.

28. If you wish to seek contraceptive services where would you prefer to go? (*Read out the different options and mark only one option*)

To the local Government clinic or hospital?	1
Local Private doctor?	2
Government clinic or hospital in another area?	3
Private doctor in another area?	4
Your workplace?	5
Traditional healer?	6
Mobile clinic?	7

29. If you wish to seek services for the treatment of STIs where would you prefer to go? (*Read out the different options and mark only one option*)

To the local Government clinic or hospital?	1
Local Private doctor ?	2
Government clinic or hospital in another area?	3
Private doctor in another area?	4
Your workplace?	5
Traditional healer?	6
Mobile clinic?	7

In the next section I am going to ask you some questions about VCT

30. If you wish to take a HIV-test (VCT) where would you prefer to go? (*Read out the different options and mark only one option*)

To the local Government clinic or hospital?	1
Local Private doctor?	2
Government clinic or hospital in another area?	3
Private doctor in another area?	4
Your workplace?	5
Community organisation?	6
Mobile VCT clinic?	7

31. Please tell me to what extent you agree or disagree with the following statements about taking a voluntary and confidential medical test for HIV infection. Please use the 4 options: strongly agree, agree, disagree, strongly disagree.

	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
a	If I become infected with HIV, I won't know how to share this test result with my partner.	1	2	3	4
b	If I become infected with HIV, the people that are important to me might victimize me.	1	2	3	4
c	I would rather not know my status and wait till I get ill before taking a HIV test.	1	2	3	4
d	I do not think that I will be able to cope with knowing my HIV-status.	1	2	3	4
	Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
e	I do not want to know my HIV-status now.	1	2	3	4
f	To learn that you have HIV/AIDS is like receiving a	1	2	3	4

	death sentence.				
g	There is no point in knowing your HIV-status because you can not do anything about it.	1	2	3	4
h	I do not think that I will be able to accept a HIV-positive status	1	2	3	4
I	There is no point knowing your HIV status because its too hard to live with such a big secret	1	2	3	4
j	Getting an HIV test is like being judged about your lifestyle	1	2	3	4

THANK YOU VERY MUCH FOR YOUR PARTICIPATION THUS FAR! WE ONLY NEED TO COMPLETE A SHORT QUESTIONNAIRE NOW.