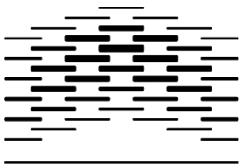

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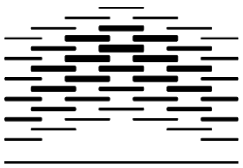

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Abstract

Background:

HIV, the virus that results in AIDS, is one of the most severe health and development challenges the world faces today. The continent most affected by HIV/AIDS is Africa. Strategies to fight HIV/AIDS have been implemented by governments, international agencies and NGOs. These strategies are most apparent in the 6th Millennium Development Goal and the 3rd Sustainable Development Goal. The East-African country of Uganda has successfully managed to reduce its HIV-prevalence from the early 1980s to 2005 through a multifaceted approach that has been hailed as a success story. However, since 2005 HIV-prevalence and incidence has risen. Critics are asking if Uganda is losing its fight against HIV.

Objective:

The objective of this study was to explore health workers' perceptions of the factors that they feel contributed to the "success story" of HIV prevention in Uganda in the past and what they believe are the factors explaining current trends in HIV incidence and risk factors in the Ruhiira cluster, western Uganda.

Method:

I conducted semi-structured in-depth interviews with nine purposefully selected health workers involved in the management of seven health centers in the Ruhiira cluster, sponsored through the Millennium Villages Project.

Results:

I found that health workers have different opinions regarding the Ugandan story. Factors such as disclosure, openness about the disease and public initiatives from the President were considered as important. The role of foreign donors and funding were also said to have been crucial. There were disagreements among health workers as to whether there had been an increase in HIV-incidence. However, the majority argued that HIV-incidence was on the rise. Health workers found that there had been changes in people's sexual behavior and that people did not follow the principles of Abstinence, Be faithful and Condoms as well as before. Health workers had concrete suggestions on how HIV-prevention could be improved. They argued that the government should strengthen and design accurate public campaigns, target groups at risk and continue the prevention of mother-to-child infection initiatives. Finally, health workers wanted better funding of the health sector and training of health workers.

Acknowledgements

The process of writing this thesis has been a combination of many factors. It has been challenging but also frustrating at times. Despite that, it has also been exciting, joyful, educative and has opened many doors that I at times believed were shut or difficult to access. I would like to take the opportunity to thank the people whom without their efforts I would not have been able to see this through.

I decided many years back that I had a strong wish to become a Master's student at a University level and the path to get there proved to be more difficult than I imagined before pursuing higher education. Without the love and support of my parents, my stepmom, my siblings and various friends and associates it would not have materialized. I am forever grateful for your persistent intentions of inspiring me to see this through.

I would like to thank The University College of Oslo and Akershus (HiOA), for accepting my application for the Master's Program in International Social Welfare & Health Policy. Big thanks go out to Student Coordinator Stuart Arthur Deakin for his understanding and trust through times when I found myself in different predicaments. Without his facilitation, I would most certainly not have completed the thesis. The various lecturers for the individual courses also deserve recognition and have been a source of inspiration and learning, not only for myself but for the entire group of fellow students.

It is impossible not to acknowledge the help of my fellow students in the program. Through discussions both outside and inside the class room they have most definitely broadened my horizons when it comes to understanding and appreciating other cultures on a whole new level. It has helped me grow both on a personal and academic level. However, one student stands out. Without the help of Mr. Ronald Tibiita, a native of Uganda I would not have been able to complete the field work in Western-Uganda in affiliation with the Millennium Villages Project. Ronald helped me with securing accommodation at The American Guest House in Mbarara, he picked me up from the airport and he played a pivotal role in persuading his superiors at the branch of MVP to grant me permission to conduct research. In addition, he made sure that I left Uganda safely on the day of my departure.

I would like to give me sincere thanks and appreciation to the entire staff at MVP for making me feel welcome throughout the stay in Mbarara and for facilitating my research. In this respect, it is important for me to thank Dr. Emma Atuhairwe, Health Coordinator at MVP and Mr. Lawrence Ssenkubuge, Team Leader at MVP.

It is important for to show gratitude for all the people associated with the Massachusetts General Hospital (MGH) Guesthouse in Mbarara. Not only did many become my friends, I would also travel with some of them around the Ruhiira cluster visiting different health facilities.

Lastly, I give my most honorable thanks to Mekdes Gebremariam who has been my supervisor from the start of the process. She helped me to find feasible research questions, develop the interview guide and supervised my drafts through most of the time. Her patience, understanding and belief gave me the necessary motivation, dedication and spirit to finish this project once and for all. Words cannot describe the magnitude of her efforts, and her commitment to my cause is something that I will forever be grateful. I would also like to thank my co-supervisor Heather Ames for her help and valuable advice in the latter process of finalizing the thesis. Her involvement has been crucial.

Prologue

Uganda had been of special interest for me for quite some time. Not only because it was the first country I visited in Africa (2001), but also due to what I had read about the country's response to the HIV epidemic. How Uganda had managed to curb further infections where other of its African neighbors failed, was quite intriguing. However, what really got my attention was after I read that the HIV incidence had started to increase. This was at a time when the issue of Uganda was heavily debated in Norwegian media, particularly because of the strict anti-gay bills that were introduced in the country. As it happened, I started to discuss Ugandan politics and HIV-related matters with a classmate from MIS who happened to come from Uganda.

It became clear to me that the issue of the rising HIV-incidence was something that I wanted to investigate further, though I did not know how to approach it. My classmate was due to travel back to Uganda a few months later where he would participate in a UN-related program intending to work with TB and HIV-related topics, in Mbarara West-Uganda. He suggested that I come down there to work with him and the team of the organization which was called Millennium Villages Project. He would handle the practical arrangements necessary for me to be able to conduct a field study.

I believe this experience has been beneficial to me as a person and I hope it can contribute to future research in the domain. I believe it would be possible for another researcher to conduct this study again and come up with comparable results.

As promised I am going to forward the thesis to my partners in the field and I hope they will find the results interesting.

I have followed the advice of my supervisors. All potential mistakes are my fault.

Petter Asplin Sørlie, May 14^{th,} 2017.

Abbreviations

ABC – Abstinence, Be Faithful, Condoms

AIDS - Acquired Immune Deficiency Syndrome

ART - Antiretroviral Therapy

ARV – Antiretroviral

CD4 - Cluster of Differentiation 4

GDP – Gross Domestic Product

HIOA - Oslo & Akershus University College of Applied Science

HIV- Human Immune Virus

IMF - International Monetary Fund

LMIC – Low Middle Income Country

MDG - Millennium Development Goal

MSEM – Modified Social Ecological Model

MIS - Masters of International Social Welfare & Health Policy

MVP- Millennium Villages Project

PEPFAR - President's Emergency Plan for AIDS Relief

PHPs - Private health practitioners

PMTCT- Prevention of Mother–to-Child Transmission

STDs – Sexually Transmitted Diseases

TCMPs Traditional and Complementary Medicine Practitioners

UN – United Nations

UNMHCP - The National Minimum Health Care Package

UNAIDS - Joint United Nations Programme on HIV/AIDS

USAID - United States Agency for International Development

WHO – World Health Organization

WMA- The World Medical Association

Chapter 1: Introduction

1.1 Statement of the problem

HIV, the virus that leads to AIDS, is a devastating development and health challenge globally (PEPFAR/Aidsgov, 2016,1; ICAD, 2015,1). The virus was identified in the early 1980's, and by 1985 the World Health Organization (WHO) had begun developing a strategy for coping with the growing problem of HIV/AIDS (Hardee et al., 2012,2). The WHO's strategy centered around three strategies: the prevention of HIV infections, a diminishing of the social and personal magnitude of HIV infection and the unification of national and international efforts against AIDS. Since then, the virus has taken the lives of an estimated 34 million people. According to WHO, around 36.9 million people globally were living with HIV towards the end of 2014. Moreover, 2 million people were infected with the virus and 1.2 million people succumbed to AIDS-related causes in 2014 (UNAIDS, 2015,1). According to Higgins et al. (2010) women are more exposed to infection than men.

The biggest number of individuals infected by HIV live in low- and middle-income countries (LMICs) and the continent most affected by HIV/AIDS is Africa (Aidsgov, 2016). According to the WHO, Sub-Saharan Africa had 25.8 million infected people in 2014 (WHO, 2015). Moreover, Sub-Saharan Africa accounts for almost 70 percent of the global total of new HIV infections. In 2014, 1.5 million new HIV infections were calculated in the region (UNAIDS, 2014). The HIV prevalence for Sub-Saharan Africa is 4.7% but fluctuates greatly between sub-regions as well as within individual countries (UNAIDS, 2014) Swaziland has the highest HIV prevalence of any country worldwide (27.4%) while South Africa accounts, proportionally, for the largest epidemic of any country with 5.9 million people living with HIV.

Several steps to curb and potentially eradicate HIV/AIDS have been taken, especially in Africa, The Caribbean, Latin-America and South-East Asia (Gayle & Hill, 2001). When countries from all regions came together in New York at the beginning of this century to carve out a new global development agenda, one of the most significant outcomes was to include health (Kaiser Family Foundation, 2015). The sixth Millennium Development Goal recognized the historical impact of the AIDS epidemic and called for global efforts to slow and eventually reverse the spread of the virus. This goal inspired several agencies, donor's, NGO's and authorities worldwide (UNAIDS, 2013). By arranging several high-profile meetings, the United Nations General Assembly created goals, strategies and targets to accelerate the progress of MDG 6, with the intention of achieving the following 10 objectives by 2015 (UNAIDS, 2013):

1. *Reduce sexual transmission of HIV by 50% by 2015*

2. *Halve the transmission of HIV among people who inject drugs by 2015*

3. *Eliminate HIV infections among children and reduce maternal deaths*

4. *Reach 15 million people living with HIV with lifesaving antiretroviral treatment by 2015*

5. *Halve tuberculosis deaths among people living with HIV by 2015*

6. *Close the global AIDS resource gap*

7. *Eliminate gender inequalities and gender-based abuse and violence and increase the capacity of women and girls to protect themselves from HIV*

8. *Eliminate HIV-related stigma, discrimination, punitive laws and practices*

9. *Eliminate HIV-related restrictions on entry, stay and residence*

10. *Strengthen HIV integration* (UNAIDS, 2013).

There has been substantial progress when it comes to the mobilization of HIV/AIDS funding worldwide, though funding is still short of the targeted 22-24 billion dollars yearly. In 2012, about 18,9 billion dollars were available for programs in low and middle income countries (Kaiser Family Foundation, 2015).

The Sustainable Development Goals (SDGs) were founded at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. The SDGs replace the Millennium Development Goals (MDGs) (UNDP, 2017). The aim was to create several universal goals that will counter the environmental, political and economic difficulties in our world. SDG 3 covers the challenges and goals related to HIV/AIDS. It argues that Goal 3 should work to; *Ensure healthy lives and promote well-being for all at all ages* (UN, 2017). Further, it argues that the world should strive to;

1. "*By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases".*

2. *"Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all".*

3. " Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all".

4. "Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States".

5. "Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks". (United Nations, 2017)

UNAIDS (2013) argues that the attention that has been devoted to HIV/AIDS must be maintained in the years and decades to come. Measures that have been successful should be built upon and protected in future health and development goals. Further, there is a need to revise and consider those strategies that have not been up to mark and set new goals to aim for. Finally, the world should consider both negative and positive elements of former strategies, to provide a clearer way forward when it comes to curbing and eradicating HIV, especially in Sub-Saharan Africa, according to Ubesie (2012).

The context and focus of this thesis is the East-African country of Uganda. The initial incidents of HIV/AIDS in Uganda originate to 1982 in the Rakai district. Since then, the epidemic has had a devastating effect leaving over two million people infected. Half of these have died, making it one of the most heavily affected countries in the world (Okware et al., 2005, 625; Kiweewa, 2008, 53; UNAIDS, 2015). Moreover, the annual incidence of new AIDS cases was 140 000 in 2013 and that year there were 1,6 million people living with HIV and 63,000 AIDS-related deaths in the country (Avert, 2015). In 2016, the incidence dropped slightly according to UNAID (2016). Notwithstanding, the case of Uganda is often termed a success story. Since the first cases of AIDS-related deaths in the early 1980's the President of Uganda, Yoweri Museveni took swift action to combat the increasing epidemic in the country. Scientists agree that strategies related to the ABC model (Abstain, Be faithful, Condoms) have brought success in reducing the burden of the disease in Uganda. In this light, Uganda has often been viewed as an example to follow for countries with similar HIV/AIDS problems. Moreover, Uganda's fight

against HIV is often hailed as a success story (Kiweewa, 2008, 53; Okware et al., 2005, 625). However, since 2005 Uganda has experienced a significant rise in the yearly amount new HIV-infections throughout the country.

Through conducting qualitative interviews with nine health workers in the district of Ruhiira in Western Uganda and then comparing the data with a targeted literature review, this study has sought to shed light on health worker's perceptions of HIV incidence and risk factors in Ruhiira the four main research objectives will be presented in section 1.2.

This study is relevant because it explores health workers' views on factors behind the successful HIV reduction in Uganda in the past, as well as current trends in HIV incidence. It can be argued that it fills a gap in research, as very few qualitative studies have focused on this specific topic of health workers' perceptions in Uganda.

Knowledge of factors that influence HIV incidence is crucial, as it can provide useful information that can be used in efforts aimed at combating HIV. The health workers in this qualitative study have important experiences dealing with HIV on an everyday basis and thus their views could potentially be interesting to policy makers. Health workers have knowledge about key epidemic factors such as what constitutes risk behavior and risk groups on a grassroots level and can contribute their thoughts on what is being and what should be done in HIV-prevention in their setting. I believe this makes the nature of my study relevant in its context.

1.2 Study objectives

The general objective of this study was to explore health workers' perceptions of the factors they feel have contributed to the "success story" of HIV prevention in Uganda in the past and what they believe are the factors explaining current trends in HIV incidence in the Ruhiira cluster.

The specific research objectives were:

1. To explore health workers' perceptions of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past

2. To explore their views on current trends in HIV incidence in their setting (including high-risk groups)

3. To explore their views on recent changes in HIV-related risk behaviors or in prevention strategies in their setting

4. To explore their views on what can be done to improve HIV/AIDS prevention in their setting

1.3 Structure of the thesis

This thesis is divided into 7 chapters. A brief overview of chapters 2-7 is provided below.

Chapter 2 presents a review of relevant literature in the context of HIV in Uganda. It starts out by defining key concepts that I use in the thesis. Next, it moves on to describe the nature of the HIV/AIDS epidemic and its consequences on sustainable development in Sub-Saharan Africa. I then provide a detailed overview of what many scholars believe to be key epidemic drivers in Sub-Saharan Africa and connect them to what is happening in Uganda. Further, I describe the Ugandan health system. Then the reader is introduced to the history of HIV in Uganda and what many refer to as the Ugandan "success story" of HIV-prevention. Finally, the chapter finishes by describing the current HIV situation in Uganda and how there has been an increase in HIV-incidence and prevalence.

Chapter 3 presents the Methodology for the qualitative study in Ruhiira. First, the reader is given short facts about geography, history, demography and economy in Uganda. Then, I present the research setting along with the duration of the research and research partners. Further, I explain my choice of method before I describe methodological steps such as sampling strategy and data analysis in detail. The chapter finishes by reflecting on ethical issues connected to the study and a section with reflexivity.

Chapter 4 presents the theoretical framework for the thesis; namely The Modified Social Ecological Model. Chapter 6 discusses several aspects of this theory further.

Chapter 5 presents the results of the qualitative interviews. This section organizes the most important findings into categories and themes and presents quotes from the nine health workers who participated in the study.

Chapter 6 provides a discussion of the most important findings from the qualitative study and brings in relevant literature to analyze them.

Finally, chapter 7 provides a conclusion of the study and gives suggestions and recommendations for further research.

Chapter 2: Literature review

A targeted literature review has been an integral part of this study. A literature review is an organized way of reviewing or assessing documents that are both printed and in electronic edition (Bowen, 2009). Given that I felt I was not able to interview as many informants as I would have liked the importance of obtaining relevant literature grew in strength. I have supplemented the data from my interviews with a targeted literature review. I feel that this process has allowed me to obtain an adequate amount of data to discuss my objectives.

During the timeline of this project (October 2014 to May 2017), I have been looking for existing research on the topic. I have looked at articles, journals, e-books, and online newspapers. Among the most commonly used search terms were: "HIV Risk factors in Sub-Saharan Africa", "HIV globally", "HIV in Uganda", "HIV prevalence/incidence in Uganda", "The history of HIV", "ABC in Uganda", "HIV Stigma Uganda", "HIV prevention Uganda", "Risk factors HIV Uganda", "The Health System in Uganda" etc. I have also ordered and analyzed relevant articles and PhD studies that I accessed through the university library and a few research databases such as Research Gate and Medscape. Given that most of the data searches have been focused on Uganda and/or HIV/AIDS-related topics the literature review has been targeted and specific.

I have used various databases to access literature about my topic. I have used pubmed.org, which is an online archive with access to medical journals and articles. I have also looked through the online University Library portal called Bibsys where I have managed to find relevant information. Bibsys has given recommendations to other online archives such as unaids.org, who.org, un.org, avert.org, globalis.no and afrika.no. Finally, Google scholar has proven to be a useful for finding relevant literature.

Printed books concerning HIV in Uganda have been difficult to find in Norway. The books have often been broad and generalizing and with an emphasis on Sub-Saharan Africa in general. The printed books I have been using have mostly related to field studies and methodology, thought I have also used books covering Africa and sociological topics.

I have been critical in terms of looking at authorship, the target group and publishers. After completing data analysis of the interviews that I conducted, I looked at matching key themes to existing literature.

There are instances where I have used grey literature. Grey literature is literature that is produced by all levels of government, academics, business and industry in print and electronic copies, not supervised by commercial publishers (Health Knowledge, 2017). I feel using grey

literature has benefited my study, as I have accessed information from various sources such as government health agencies, Non-profit organizations, universities, research centers, international agencies, health institutions and professional organizations and groups interested in topics regarding the HIV/AIDS pandemic.

The studies included in this literature review are mostly quantitative in nature and did not investigate the views and perceptions of health workers. For the most part, they explored social phenomena connected to key epidemic drivers and socio-economic and cultural factors related to the HIV/AIDS epidemic. They also assessed policies, such as the Abstinence, Be Faithful and Condoms campaigns and other initiatives in Uganda. I found that qualitative studies specific to health worker's perceptions of health worker's perceptions on HIV incidence and risk factors were limited.

2.1 Key concepts: Incidence and Prevalence

Incidence and prevalence are two terms closely related to trends and statistics in the HIV-pandemic. These are statistical terms, and although I am conducting a qualitative study, they are important to explain for the reader. Since both will be used regularly in this thesis. I present their definitions below.

2.1.1 Incidence

Incidence is:

> *"the number of instances of illness commencing, or of persons becoming ill or dying or being hurt 'during a given period in a specified population" (Last 2001).*

Usually, the incidence rate, points to the rate at which events occur in a population (Last 2001). Hence, incidence usually measures something within a set number of people and in a set period (Rothman 2002). With incidence, we can be told how many new cases of a certain illness have occurred in a population, or it can explain how patterns of a condition within a population fluctuate over time. For example, if we want to uncover how many people were infected with HIV in Uganda in 2016.

2.1.2 Prevalence

Prevalence gives an estimate of a number at a specific point in time (Jekel et al 2001). We may want to know how many people are infected with HIV in a country at a given time. However, prevalence can only tell us what is happening at a time point. Accordingly, the prevalence of HIV-infected people in Uganda in 2016 accounted for the number of new cases during a given time as well as those already infected.

2.2 Key epidemic drivers in Sub-Saharan Africa and Uganda

The Sub-Saharan region has become a high-risk environment for the spread of infectious diseases, such as HIV/AIDS, Ebola and Malaria (Lau & Muula, 2004, 403). According to UNAIDS (2014), the HIV epidemic has affected the most impoverished parts of the world. Inungu & Karl (2006) suggest that poverty, disease, famine, political and economic instability, and widespread inequalities are contributing to spread the HIV epidemic. Globally HIV infection is most common in the marginalized groups. In Sub-Saharan countries, HIV is present in the general population as well as marginalized groups. Awolowo (2007) argues that Sub-Saharan Africa's vulnerability to the HIV pandemic has been impacted by several factors. Throughout history, Sub-Saharan Africa has been in a unique state of socio-economic turmoil. There has been a combination of sustained political disruption, exploitation and bad governance since the end of colonial rule. These factors have led to income inequality and a lack of social cohesion, as well as unfair organization of international trade according to Lau & Muula (2004, 403).

Mah & Halperin (2010) suggest that concurrent partnerships compared to serial partnerships can increase the size of an HIV epidemic, the speed at which it infects a population, and its persistence within a population. Multiple and concurrent partnerships occur when a person is involved in more than one sexual partnership at the same time. Concurrent relationships can take different forms such as people having a steady partner with affairs on the side, intergenerational and transactional sexual relationships and polygamy. Concurrent partnerships enable HIV to spread quickly within large sexual networks (Beyrer, 2007).

Associated with the HIV/AIDS pandemic are rising rates of co-morbidity and mortality that have major economic and social implications that are a threat to development Mondal & Shitan (2013) argues. Further, Hove, Ngwerume & Muchemwa (2013) claim that poverty and hunger is increasing, children become orphans, the education sector is deteriorating, people are isolated and life expectancy is decreasing. Taraphdar, Guha & Haldar (2011) argues that treatment of HIV/AIDS patients should be accompanied with other means to strengthen their physical, mental, and social wellbeing.

Cultural and socioeconomic features apparent in most sub-Saharan African countries have played, and still play a part in the spread of the HIV infection. (Buve, et al., 2003, 2011). Epstein & Morris (2011) argue that to improve HIV prevention in southern Africa, we need a better understanding of the key epidemic drivers.

This section of the thesis will look at socio-economic and cultural factors, some of the key drivers of the HIV/AIDS epidemic in Sub-Saharan Africa. The aim is to show how these factors relate to the HIV/AIDS situation in Uganda, following the increasing HIV incidence in the country. Later in the thesis, I will use these factors to frame the context of incidence trends in Uganda.

2.2.1 Stigma

Stigma in general was described by Goffman (1963) as a strong discouraging attribute that changes the infected from acknowledged to an estranged individual prone for rumors and mockery. This corresponds with Link & Phelan (2001, 363-385). Up until recent times, many sub-Saharan African governments have hesitated to acknowledge the comprehensiveness of the continent's HIV epidemic according to Inungu & Karl (2006). Moreover, many governments have considered AIDS as an obstacle to investment and tourism. Further, the lack of political stability in some sub-Saharan African countries has also made it difficult to spearhead an effective public response to HIV/AIDS. The silence regarding the HIV/AIDS epidemic has led to insufficient public debate and continued stigmatization of infected individuals according to Goliber (2002).

Initially, the official response to HIV/AIDS in Sub-Saharan Africa was influenced by several factors such as cultural and religious customs and taboos related to sexuality. This has limited the ability to hold open discussions about an epidemic that primarily runs through sexual contact. For example, Inungu & Karl (2006) claim that various religious factions of sub-Saharan Africa believe that AIDS is a divine penalty for those who have acted in a sexual way that is not approved by their religion.

Kouyoumdjian, Meyers & Mtshizana (2005) argue that stigma, inadequate knowledge and emotional distress may prevent parents, kin and others from discussing HIV with children. In addition, fear of infection has influenced how healthcare providers treat HIV-positive patients. As a result, HIV-treatment often does not meet required standards. If people have AIDS-like symptoms they would rather claim to suffer from a less stigmatized illness, such as cancer or tuberculosis. Stigma further delays HIV testing, a vital first step to treatment and other preventative measures (Inungu & Karl, 2006). It can also prevent pregnant women from going for HIV testing, leading infected mothers to make their children vulnerable to HIV infection through labor or breast-feeding suggests WHO (2009).

HIV stigmatization persists despite better access to antiretroviral therapy (ART), according to research from Uganda published in the online edition of AIDS (Carter, 2014). Levels of stigma

among people in Uganda initiating ART went up between 2007 and 2012. Chan et al. had similar findings in their 2015 study (2015, 87). Many people reported they generally expected people with HIV to face stigma (Carter, 2014). Prejudices and social discrimination are some of the main causes for specific parts of Uganda's population, such as sex workers and men who have sex with men, to avoid seeking health care or HIV testing. Moreover, many people in Uganda living with HIV are targets of negative judgement.

A quantitative study called "The People Living with HIV Stigma Index" from 2013 reported experiences of both external and internal stigma (UNAIDS, 2013). The index reported that the most common forms of external stigma and discrimination targeted towards people living with HIV are gossip 60%, verbal harassment, insults and or threats 37%, and sexual rejection 21.5%. Outlining the common forms of internal stigma faced by both men and women living with HIV, the index lists low self-esteem 67%; self-blame 50%; shame 50%; guilt 50%; and blaming others 50% (UNAIDS, 2013). Experiences of all forms of internal stigma were higher among females compared to males in Uganda. The prevalence of adult women aged 15-49 who reported meeting some form of discriminatory attitude was listed at 80.3% in 2011 according to UNAIDS (2013).

Lastly, Shapiro et al. (2003) & Thorne & Newell (2003) propagate that if stigma associated with HIV/AIDS is not acknowledged and approached appropriately, prevention efforts to halt its spread will not succeed

2.2.2 Poverty

According to the 2016 Poverty Assessment by The World Bank, Uganda has managed to reduce its financial poverty. The amount of the Ugandan population living beneath the national poverty line decreased from 31.1% in 2006 to 19.7% in 2013. Moreover, the country managed to reduce the share of its population living on $1.90 per day or less, from 53.2% in 2006 to 34.6% in 2013. This economic development was amongst the most positive in the domain in the Sub-Saharan region (World Bank, 2016).

Poverty is a crucial factor in the transmission of HIV/AIDS in Sub-Saharan Africa according to Buve, Bishikwabo-Nsarhaza & Mutangadura (2002). For about 20 years, several Sub-Saharan countries have experienced slow or stagnant economic growth, says Mufune (2014). According to the World Bank (1993), the average annual growth of GDP in this region was negative 1,2% between 1980 and 1991. In the same period, structural adjustment programs from the World Bank and the IMF tried to limit non-productive spending also including cuts in social services. Buve, Bishikwabo-Nsarhaza & Mutangadura (2002) suggest that unemployment

followed privatization of public sectors, and that this policy lead to further impoverishment of sub-Saharan countries. Remaining public sector workers experienced a diminishing purchasing power and the provision of social services went down. As a result, during the 1990s the total of public expenditure on health represented only 1-7 % of the African gross domestic product (Buve, Bishikwabo-Nsarhaza & Mutangadura, 2002, 2015).

A low GDP, is often linked to increased HIV infection levels. However, that is not always the case as demonstrated by Buve, Bishikwabo-Nsarhaza & Mutangadura (2002). Some of the countries in sub-Saharan Africa such as Botswana, Namibia and South Africa that have the highest GDP also account for the highest rates of infections. It could be important to take into consideration the level of inequality in these countries. In Namibia for example, white people enjoy access to prestigious universities and enjoy a standard of living comparable to European standards whereas the black population in general are very poor, according to Jabbar (2011).

Buve, Bishikwabo-Nsarhaza & Mutangadura (2002) argue that under conditions of severe poverty, the risk of HIV infection assumes a position of less concern in people's daily life. Desperate women sell their bodies in exchange for food, money and further commodities. Moreover, young people who grow up in poverty have limited access to schools and their prospects for the future are limited. Moreover, they lack recreational facilities. As a result, it was found that sex becomes an opportunity to kill time (Buve, Bishikwabo-Nsarhaza & Mutangadura, 2002).

As a rule, the decline of health, education and other social services due to financial constraints implies weaker opportunities for HIV prevention (Buve, Bishikwabo-Nsarhaza & Mutangadura 2002). Lagarde, Caraël & Glynn (2001) argues that people with little education and access to health services have an inadequate knowledge of safe-sex information, and the use of condoms is associated with a certain amount of education. A quantitative study by Maharaj & Cleland (2005) showed that having secondary- or tertiary-level education influenced the use of condoms. The lack of basic health services also weakens the opportunity to manage sexually transmitted diseases, provide reproductive health and quality care for the already infected groups says Buve, Bishikwabo-Nsarhaza & Mutangadura (2002).

Even though Uganda has managed to reduce poverty, it is still a big problem. GDP per capita was estimated to be $2100 in 2015 according to the CIA Factbook (2015). It is one of the most heavily indebted countries in the world and has been hit hard by structural adjustment programs (Stock, 2004). Cuts in the public sector effected the health and education sector negatively. A Ministry of Finance and Uganda AIDS Commission study funded by UNDP (2014) stated that

Uganda's economic growth rate would stagnate by 1.2% because of HIV's impact on Uganda's labor force and the costs that households bear in caring for infected members.

Finally, the costs of longer hospitalizations, the purchase of drugs, the depletion of personal savings for treatment costs, loss of productive hours while caring for the sick and the expense of Ugandan funerals force individuals and households down the poverty ladder in Uganda due to HIV/AIDS (SAFAIDS, 2012).

2.2.3 Migration

Migration is often considered a "flight from poverty", where people leave their hometown or country (Mbirimtengerenji, 2007). HIV infection rates are often higher in urban areas than in rural. Hence, it does not come as a surprise that HIV infections in rural areas often come from urban sources, and migration is regarded as a major risk factor (Beyrer, 2007); (Lagarde et al., 2003, 744-752). People changing residence is associated with a higher risk for HIV infection in the rural population, further resulting in riskier sexual behavior among those who migrate (Nunn et.al, 1995, 503-506).

This kind of migration began during the colonial times (Jochelson et al., 1991). Such a migration disrupts habitual social limits on and the control of sexual behavior. When married, people travel without their spouses, they can increase their risk for extramarital sex with commercial sex workers that usually have a higher rate of HIV infection (Inungu & Karl, 2006). Military personnel, transport workers, mine workers, construction workers, agricultural farm workers, informal traders, domestic workers, and refugees are the most vulnerable groups at risk of contracting HIV in terms of migration (Lagarde et al., 2003:744-752).

Green (2015) identifies two migratory groups in Uganda as at risk; fishermen and truck drivers. According to the International Organization for Migration (IOM), the HIV infection rates of fishing communities in Uganda are as much as four times higher than the national average. With a HIV prevalence of 7.2 percent, this puts HIV rates for fishing communities at 20 percent to 30 percent (Russo & Zimmerman, 2015). Further, national estimates put the number of long-distance truck drivers in Uganda at more than 31,500 and their HIV prevalence as high as 32 per cent following an article published in The Observer in by Ninsiima (2014). Behaviors among long- distance truck drivers contribute to a high prevalence of HIV.

Factors noted in the report from the HIV/Aids knowledge management and communication capacity building initiative, include inconsistent condom use and hesitation to seek treatment for sexually transmitted infections (Ninsiima, 2014). Further, the report states that although the

majority of long- distance truck drivers are aware that engaging in unprotected sex and having multiple sexual partners increases the risk of acquiring HIV, protected sex is largely inconsistent. This may be due to factors such as truck drivers having money to spend, working irregular hours and high consumption of drugs and alcohol that lead to risky sexual behavior (McCree, Cosgrove & Stratford et al., 2010). Also, truck stops usually do not have facilities that offer condoms and healthcare services for treating STIs and HIV. In addition, it has been found that sex workers and impoverished women gather at truck stops to sell sex, alcohol and food (de Vries, van de Klundert & Wagelmans, 2013).

2.2.4 Commercial sex

Mbonye, Nalukenge & Nakamanya (2012) claim that various young women on the African continent become sexually intimate with different male friends or clients in exchange for financial support. Bambgbose (2002, 569-585) argues that the prevalence of HIV throughout Africa is substantially higher for commercial sex workers than the general population. A quantitative study by Morison, Weiss & Buve et al. (2001) found that the frequency of HIV in the sex work industry was 75% in Kisumu, Kenya, 69% in Ndola, Zambia, 55% in Cotonou, Benin and 34% in Yaounde, Cameroon.

The trend is similar in Uganda. Since HIV/AIDS was identified, commercial sex workers have been found to be one of the biggest groups at risk of HIV infection (UNAIDS, 2004; UNESCO, 1999; Nyanzi & Nyanzi, 2004; STD/AIDS control program, 2003).

Wabwire (2006, 20) argued that the number of people involved in commercial sex is increasing in Uganda, especially in Kampala. The research showed that this was due to increasing poverty and unemployment. Sentumbwe & Nantege (2002) reported that in a sample of 500 commercial sex workers in Kampala, a majority admitted that they earned their living primarily through sex work. Other small scale studies have indicated that the number of sex workers in the Ugandan capital of Kampala is considerably high and estimated to be between 2500 and 5000 in 2002 (New Vision, 2002).

HIV prevalence increased among sex workers from 28,2% in 2001 to 47,2% in 2003 (STD/AIDS Control Program 2003). Wabwire (2006,20) argues that there are several possible explanations, relating to a study from the STD/AIDS Control Program published in 2003. Condom use is largely inconsistent for this group even though 99% reported to ever have used a condom. 19,7 % of the commercial sex workers participating in the study reported having children two years and below. This puts children at greater risk of infection from birth. Further, 82% of the commercial sex workers reported consuming alcohol regardless of their religious

affiliation and 12,4 % had consumed drugs such as marijuana and cocaine. Commercial sex workers have also been found (in the study) to be a driver of the epidemic, especially since 12,3% reported to have stable partners (STD/AIDS Control Program, 2003).

A parallel to commercial sex/prostitution is the notion of transactional sex among females. Transactional sex involves the trading of sex for presents and other favors (Wabwire, 2006:19). Some families in Uganda often go as far as being the initiators of the arrangement. Worst-case scenario could be that girls are forced into marriages with such men after suffering serious sexual exploitation. This often results in unprotected sex and unwanted pregnancies (Kyaddondo, Nakkazi, & Siu, 2005; Asiimwe, Kibombo & Neema, 2005; Bukuluki & Walakira, 2005).

2.2.5 Concurrent relationships and polygamy

In various corners of Africa, polygamy is a sociocultural custom practiced to strengthen the status and survival of widows and orphans inside a strong family structure (SAhistory, 2006). In urban contexts and other places where polygamy is not that common, men may have extramarital sexual partners and sex with sex workers. Epstein & Morris (2011) argue that formal polygamy should ideally not be dangerous, if no member of the polygamous arrangement has outside partners. However, Mitsunaga et al., (2005, 478-488) & Caldwell (2000,117-135) found that that men having three or more wives have a higher risk of practicing extramarital sex

A similar kind of social rite is prevalent in parts of Uganda, as reported by Mbirimtengerenji (2007). Apparently, it is believed that when a man has only one wife, he is a bachelor. Thus, people consider that it is beneficial to have more than one wife, since if one goes away to visit her parents, another will stay behind. In Uganda, polygamy has been normalized and diseases connected to sex can even be considered as male status symbols, particularly in the Muslim society says Mbirimtengerenji (2007). Nevertheless, President Museveni warned in 2000 that there may be a danger in having multiple sex partners. He also added that although Islamic scriptures encourage polygamy, it contradicts the approved international AIDS control measures putting more people at risk of contracting HIV.

2.2.6 Widow inheritance

Widow inheritance is another custom that has been blamed for the growing rates of HIV infection. It is the concept that a widow needs socio-economic support after her husband’s death (Lau & Muula, 2004). In many sub-Saharan African countries, a man's belongings, including his wife, are passed on to his adult sons or brothers after his death. The fate of such widows

ranges from disinheritance and deprivation of property by force to the obligatory participation in risky rituals finds Luke (2006). In this custom, widows agree to marry their husband's younger brother to continue being a member of the family (Widow's Rights International, 2006). If she refuses, she is expelled and left to care for her children by herself.

Widow inheritance is prevalent among the Baganda group in Uganda, which is the largest ethnic group making up 16.9% of the population. With an absence of state provision or a welfare system of any sort, this cultural institution exists to protect both the widowed and the orphaned. However, sexual rituals related to the widow inheritance ceremonies are often forcefully put upon widows and go against their health and reproductive rights (Nyanzi & Mbodu, 2008). The Ugandan Succession Act does not guarantee equal inheritance rights for women, so a woman's access to land and property rights depends on her marital status (Loftspring, 2007).

Research has shown that these customs are gradually disappearing in Uganda, as found by Loftspring (2007). When people have a reason to believe that the husband died of AIDS, most are aware that a sexual relationship with the widow could lead to infection (Loftspring, 2007,1-39). However, some still engage in relationships with the widows/widowers even though they know that the husbands died of HIV/AIDS, putting themselves at risk.

2.2.7 Circumcision

Halperin & Bailey (1999, 354) argue that mass male circumcision is viewed as a method of halting the AIDS pandemic in sub-Saharan Africa. Data from their study has shown that countries in which fewer than 20% of males are circumcised, have a higher prevalence of HIV infection. On the other hand, countries in which more than 80% of males are circumcised, have a lower prevalence of HIV infection. Moreover, preliminary results from a South African randomized trial showed that male circumcision could reduce the risk of infection by up to 70%. Inungu, Malone & Betts (2005) indicates that 70% is a level of protection far better than the 30% risk reduction set as a target for an AIDS vaccine.

Notwithstanding, Bollinger et al. (2011) argue that mass circumcision campaigns may divert resources from proven prevention programs, result in more complications, increase risk-compensation behaviors, and put women at higher risk for HIV. They argue that adult males could believe that circumcision offers them immunity from HIV, raising ethical concerns about promoting adult male circumcision. Still, the national target for Uganda was to circumcise 4.2 million adult males by 2015 (Galukande et al., 2015). Health workers in Kampala reported in 2010 that an increasing number of women wanted their men to be circumcised. Even so, many women feared that if their men were circumcised, they would go out and have unprotected sex

with others having the false belief that they were immune to HIV. That is a fear that medical authorities share, according to Wakabi (2010).

2.2.8 Alcohol and injection drug use

The use of alcohol limits a person's ability to make reasonable choices about safe sex and protection from HIV infection, it was found in a study by Center for Substance Abuse Treatment Alcohol (2000). Further, Simbayi (2004, 434-442) & Morojele et al. (2006, 217-222) claim that using drugs has been found to be associated with greater numbers of sex partners in the month before, history of condom malfunctions, and long lasting history of sexually transmitted infections, as well as practicing risk-reduction skills to a lesser degree

While scrutinizing the relation between alcohol consumption and HIV positivity in a rural community in Uganda, Mbulaiteye et al. (2000, 217-227) found that HIV prevalence for grown people in alcohol-selling homes was 15%. On the contrary, the numbers were 8% among those living in households not selling alcohol. Individuals who had abused alcohol at any point experienced an HIV prevalence twice the rate of those who had never done so: 10% vs 5%.

2.2.9 Armed conflict and its aftermath

The relationship between AIDS and armed conflict is complicated. Armed conflicts can hamper economic and social infrastructures. Fleshman (2006), showed that armed conflicts can result in the internal displacement of people, loss of livelihoods, the splitting up of families, breakdowns of health and education services, and increases in cases of rape and prostitution Also, HIV/AIDS increases the defragmentation on weak health structures, destroys public revenues, and increases the race for resources, which may increase political antagonism and brutality claims Roderick (2006). Displaced people may endure a life in poverty, hopelessness and social frailness that ignites their vulnerability to HIV/AIDS. Another significant factor occurs when military or peacekeeping forces are involved. Fleshman (2006) indicates that in conflict contexts, main contributors of sexual abuse and exploitation are armed forces or armed groups

On the African continent, the rate of HIV in the military and uniformed populations often exceeds the rate in the general population. Machel (2006) & Tripodi (2004) found that some ministries of defenses from various Sub-Saharan countries report HIV prevalence up to 20% for military groups. Hence, it is not surprising that a high prevalence of HIV/AIDS exists in African countries that recently faced war or civil unrest, such as South Africa, Zimbabwe, Mozambique, Ethiopia, Uganda, Rwanda and Congo, according to Yeager (1995, 10-12).

Almost all African militaries have initiated the "best practice" model providing troops with voluntary testing and counseling. Unfortunately, only a minority can afford to provide such services, according to Yeager (1995, 10-12).

Agiresaasi (2011) claimed that the recent War in North-Uganda has lead more HIV-infections. Dr. Zainabu Akol, manager of the AIDS Control Program, framed by the Ministry of Health stated:

> *"HIV prevalence in northern Uganda is higher than the national average because of the insurgency. People were made to live in camps, and sex became the only source of entertainment."*

The lack of education and the wish to arrange early marriages by parents – and by women who looked for a man to protect them during the war – also led to an increased frequency of HIV transmission (Agiresaasi, 2011).

2.2.10 Sexually transmitted diseases

Sexually transmitted infections (STIs) are a significant public health problem. STIs have negative social and economic effects and are facilitating the spread of HIV (Gerbase, 1998). The WHO has claimed that around 340 million incidences of the four major curable STIs (gonorrhea, chlamydia, syphilis and trichomonas vaginalis) appear annually, with 85% in non-industrialized countries (Mayaud & McCormick 2001).

Whilst Sub-Saharan Africa accounts for 20% of the global STI estimates, it has the highest prevalence and incidence rates. Each year incidence rate of curable STIs in Africa have been estimated at 254 per 1000 people in reproductive ages (15–49 years), where it is considerably less (77–91 per 1000) in industrialized countries (Gerbase, 1998).

In the 1980s, it was observed that HIV-positive patients often reported a history of past STI or had serological evidence of past STI. These studies reported the emergence of an "epidemiological synergy" between HIV and other STIs (Mayaud & McCormick, 2001).

Even though various cost-effective measures such as condoms and drugs are already in place, solutions are needed to help solve problems such as vaginal protection, vaccines and behavior change interventions (Mayaud & McCormick, 2001). Moreover, even when tools are present, effective utilization of these can be hindered. Such barriers include unavailability or unsuitability of STI services, cultural aspects of sexual and health-care seeking behavior, inadequate provision of drugs, inadequate political will to develop appropriate policies, and financial support for STI control programs. Exact estimates on the prevalence of individual STIs

are not available in Uganda (Rassjo 2006). However, a study from Atukunda et al. (2015) show that STIs are a public health problem.

2.2.11 Mother to child transmission

An HIV-positive woman can transfer the virus to her child during pregnancy, labor and breastfeeding. Mother-to-child transmission (MTCT) is the reason for over 90% of new HIV infections in children, as demonstrated by De Cock et al. (2000). Prevention of mother-to-child transmission (PMTCT) programs provide antiretroviral treatment (ART) to pregnant women that are HIV-positive to prevent their newborn from being infected. The probability of HIV passing from mother-to-child is 15% to 45% if treatment is not given. Studies from the WHO (2016) show that ARTs and other effective PMTCT interventions can decrease transmission to below 5%. Since 1995, approximately 1.6 million new HIV infections among children have been avoided due to the availability of antiretroviral medicines. A lot of resources are put towards the effort of curtailing the spread of HIV transmission from mother to child (WHO,2015)

AIDS-related mortality among children below 15 years of age dropped by 53% between 2009 and 2015, in some countries as much as 65% according to reports from UNAIDS (2016). Despite this, research shows that complicated challenges exist. In 2015, 1.8 million children below the age of 15 were living with HIV globally. Adding to that, 150 000 children acquired HIV throughout the world in 2015 (2 800 a week), and 110 000 children died of AIDS-related causes (300 a day) (UNAIDS,2016).

Research shows that mother to child transmission of HIV has been and is still a challenge in Uganda (WHO, 2015). The First Lady of Uganda, Janet Kataha Museveni, who is also the "Champion" of the eradication of Mother to Child Transmission (EMTCT) of HIV/AIDS campaign, has strongly encouraged men to be increasingly active in the battle against HIV/AIDS (WHO, 2015). This was announced at the launch of the campaign for the Western Region held in Boma, Hoima district in 2015.

2.2.12 Discrimination and Criminalization

Criminalization of key at risk populations such as injection drug users is a big problem up to 60% of all countries globally report having laws that impacts an effective HIV-response. Globally, discriminatory penalties and laws are common and limit access to vital health and treatment services (UNAIDS, 2013, 8).

Examples of discriminatory practices include criminalization of HIV-transmission, establishment of drug-detention centers, laws that invade privacy, the prosecution of homosexuals and transgender people, not providing health services for prisoners and not offering health services for migrants. (Cardoso et al., 2012, 9-13).

Further, a degrading practice that is challenging in the fight against HIV is the discrimination and inequalities between the sexes. One example is that women who have experienced intimate partner-related violence are 50% more likely to be infected with HIV (UNAIDS, 2013). Further, it is found that funding of organizations fighting for women's reproductive rights is inadequate. It is recommended by Avert (2016) that there should be a broad integration of HIV and sexual reproductive health services.

Knowingly transmitting HIV is not yet a crime in Uganda, but the government has been trying to change this for years. Often this is the situation for LGBT- people. In 2009, it was proposed to make transmitting HIV punishable by 14 years in prison (Peterson & Panfil, 2014).

This part of the chapter has shown that the HIV epidemic has affected the most impoverished parts of the world (UNAIDS, 2014). Poverty, disease, famine, political and economic instability, and widespread inequalities are contributing to spread the HIV epidemic globally. This section has tried to highlight the key epidemic drivers, which are both cultural and socio-economic.

2.3 The Health System in Uganda

The WHO argues that good health is vital to human well-being. Good health can influence economic development in a positive way, as healthy populations live longer and are more productive (WHO, 2017). The Ugandan nation has felt the consequences resulting from an extensive HIV/AIDS epidemic. This section will present facts about the Ugandan health system and how it has gone from one of the best in the region to near collapse. Themes elaborated in this section will be utilized in Chapter 6 when I discuss the main findings of the study.

2.3.1 Background of the health system in Uganda

Around independence in the 1960's, Uganda's health system was regarded as one of the best in the region with well-equipped hospitals and staff and intertwined health departments. However, because of political conflicts between 1970 and 1985 the health system nearly collapsed (Mukasa, 2012, 2). By 1986, the Health Sector had very poorly equipped public health facilities. The collapse was aggravated by the re-emergence of diseases that had been previously

controlled such as sleeping sickness, tuberculosis, guinea worm and measles as well as the emergence of HIV/AIDS (WHO, 2005,14). Suddenly Uganda's health indicators were among the worst in the region and globally (Okech, 2014). It became a tendency that the government would fund services at health facilities including salaries of health workers whilst donor projects endorsed primary health care services and some maintenance and improvement of infrastructure (Okech, 2014).

From 1986, Uganda initiated major reforms in the health sector. As in other developing countries at the time, bilateral and multilateral donors stepped up funding for health sector purposes and spearheaded alternative ways of financing health services (Okech, 2014). In the early 1990s, public institutions were structured differently and became stronger as part of wider Structural Adjustment Programs (WHO, 2005,14; Okech, 2014). This fostered improved access to safe water, improved pit-latrine coverage and better nutrition at the household level contributing to an improvement of Uganda's health situation (WHO, 2005,14). In the same period, Uganda effectively managed to reduce the burden of its HIV-pandemic by initiating major campaigns directed to encourage behavior change in terms of abstaining from sex and being faithful (See section 2.5).

Through the years, the public health care system has undergone dramatic changes due to proactive government policies. The health infrastructure has been expanded and rehabilitated to achieve greater coverage. This has continued human resource development to improve skills for effective and coordinated management of the national and district health system.

2.3.2 Current situation for the health system

Even though the development has been positive, health indicators are still poor. The under-five mortality ratio is 134 per 1000. Moreover, the life expectancy is 62.3 years and a sizable percentage of the population is less than 15 years (Mukasa, 2012, 3), largely because of the HIV/AIDS epidemic. Ugandan fertility rates are slowly falling and as of 2012 a woman's fertility rate was 6,24 children per reproductive lifetime compared to 7,02 children in 1995. The fertility varies per cultural, socio-economic and place of residence. Fertility fluctuates between rural and urban areas. According to Population Reference Bureau (2015), Ugandan women in rural areas have on average 3 more children than women in urban areas.

Currently, public and private sectors operate along with donors in the Ugandan health system. The private part has private not for profit organizations (PNFPs), private health practitioners (PHPs) and the traditional and complementary medicine practitioners (TCMPs). The public part on the other hand, is constituted of central government and district health services under the

Local Government Authorities. Overall, the public system is divided into National and Regional referral hospitals, District health services, General hospitals, Health sub-district levels and Health centers for the sub country, parish and village levels (Mukasa, 2012, 5; Okech, 2014).

Uganda only has one doctor and 13 nurses for every 10,000 people. Mukasa (2012, 6) argues that this leaves capacity far short of the minimum of 23 physicians ratio for every 10,000 people in line with the recommendations of WHO. There are plenty of challenges. Only half of the necessary nursing positions are filled, and an imbalance between coverage for urban and rural areas. Moreover, many physicians have opted for more lucrative positions for example, in politics or have migrated to other countries, particularly in Europe (Mukasa, 2012,6). This also contributes to a situation where traditional healers still play an integral part in mental health, broken limbs and social problems, doing social work and counselling, particularly for the poor (Okech, 2014). These challenges come on top of a re-emergence of an increase in HIV-incidence (see part 2.5).

Through later years, health expenditure in relation to overall public expenditure has stayed at about 9,6 % thus remaining below the Abuja Declaration (by members of the African Union) target of 15% to the health sector from 2001. Hence, with Uganda not going past 10% of public expenditure, less than 1% of GDP of public resources are available for the health sector (Mukasa, 2012,6). Okech (2014) argues that political commitment in strengthening government spending on health care in line with the Abuja Declaration is vital. In a 2000 analysis by the World Bank institute of development studies, Uganda was the highest donor dependent country from a group of other selected countries (Mukasa, 2012).

Access to health services is still constrained by geographic inaccessibility, especially in rural areas and due to financial burdens for the poor (Mukasa 2012; Okech, 2014). The government and partners have agreed on The National Minimum Health Care Package (UNMHCP) focusing on areas such as health promotion, disease prevention and community health initiatives, maternal and child health, control of communicable diseases and control of non-communicable diseases (Mukasa, 2012, 7). The divide between required and available funds to accomplish these targets is significant and therefore affects availability of drugs and physicians in several health units.

Nevertheless, there is political will to strengthen the Ugandan health system using concrete strategies. These are the extension of services to the grassroots, acknowledging poverty as an obstacle to quality healthcare and wellbeing, increased access to basic healthcare and introduction of universal primary education and universal secondary education (Mukasa, 2012,

8). Priority is being given to further decentralize the health care delivery system and provide quality care, improve research targeted to the poorest parts of the population in rural areas and maintain an effective and accountable local government while also focusing on capacity building for local health workers. However, Uganda still needs to improve the coverage and quality of its health system, especially as it must deal with the rising HIV-incidence in the country according to Mukasa (2012) & Okech (2014).

2.4 History of HIV in Uganda: "The success story"

The first cases of HIV/AIDS in Uganda date from 1982 in the southwest district of Rakai where HIV was initially known as "the slim disease" (Okware et.al, 2005, 625). Since then, the epidemic has had a devastating effect leaving over two million people infected (Kiweewa, 2008, 53). Half of these have died, making Uganda one of the most heavily affected countries in the world. Notwithstanding, Uganda has often been regarded a success story when it comes to HIV prevention and control (Okware et al., 2005, 625). President Museveni acted swiftly to cope with the growing problems of HIV and in 1986, he founded a National AIDS Control Program (NACP) (Kiweewa, 2008, 53). There has been considerable interest in understanding what may have led to Uganda's significant decline in HIV prevalence, one of the world's earliest and most impressive AIDS successes in HIV-prevention (Green et al., 2006).

2.4.1 Abstinence, Be Faithful and Condoms

Literature shows that Uganda handled the HIV/AIDS pandemic differently than neighboring countries (Genuis & Genuis, 2015, 615; Parkhurst, 2010; Green et al., 2006; Kiweewa, 2008). An adaptable strategy intended to reach all the various parts of the population through what has been known as an ABC approach to sexual behavior change was chosen. ABC is known as Abstinence, Be faithful and Condoms implying the delayed sexual debut for the youth, partner reduction for the sexually active and information with condom use for the ones who were infected or involved in risky behavioral lifestyles (Genuis & Genuis, 2015, 615). Green et al (2006) suggests that data supporting the effectiveness of the ABC approach have come from USAID, the Joint United Nations Program on HIV/AIDS (UNAIDS), the World Health Organization (WHO), the Harvard Center for Population and Developmental Studies, the Ugandan government, and numerous independent studies published in medical journals. The outcomes were that fewer people were infected and that the overall HIV-prevalence went down dramatically through the 1990s, according to Allen & Heald, 2004; Green, 2003; Parkhurst, 2002; Stoneburner & Low-Beer, 2004, ; Wawer et al., 2005.

Parkhurst (2010, 244) argues Uganda provides the "evidence" and data for various policy and programmatic intervention strategies. Nonetheless, Hardee et al. (2012) argues that Uganda achieved the outcomes of ABC in different combinations at separate times, without having an official ABC policy. However, current discussions often link the ABC definition with Uganda as if it originated there (Hardee et al., 2012). Evidence, however, shows that it was implemented in the Philippines, probably before Ugandans used it. Investigation by Parkhurst (2010) confirms this view, as there seemed to be a lack of a written ABC policy in Uganda during the early years. A report by Hardee et al. (2012) demonstrates that the point of departure for the ABC approach have existed for many years and was introduced differently in various countries. Programs that have aimed to prevent the sexual transmission of HIV have quickly endorsed the elements of ABC in different combinations using different approaches.

Notably, ABC messages have been the outcomes of public schemes and strategies. When it became evident in the 1980s that HIV was sexually transmittable, public strategies to prevent infection had to be in place and include three methods. These methods were not having sex, a reduction of sexual partners and using condoms (Hardee et al., 2012, 2). Information about these methods were included in manuals meant for what was considered high-risk groups or core transmitters (Green, 2006, 338-341). This group consisted of sex workers and their partners, truck drivers, men who migrate for work and gay men. From the very beginning, the international community addressed A, B and C (without terming them this way) as separate elements. Until the epidemic had spread as extensively as it later would, particularly in sub-Saharan Africa, partner-reduction and condom use were given the most attention. However, as the global community realized that the epidemic was fueled by heterosexual intercourse, initiatives that focused not only on sexual transmission were started, namely factors that influence the acceptability of risky behaviors. This included the ability of women to stay protected from infection (Hardee et al., 2012, 2).

Around the same period, USAID came up with a response to HIV/AIDS with two large projects coined the AIDS Public Health Communication Project (AIDSCOM) and the AIDS Technical Support Project (AIDSTECH) (USAID, 2015,10-75). Through AIDSCOM running from 1988-92, the Agency for Educational Development (AED) and associates were involved in "targeted and strategic national campaigns for behavior change (Hardee et al., 2012, 3). From the outset, AIDSCOM would promote behaviors considered relevant to prevent sexual transmission of HIV. An Applied Behavior Change scheme incorporated behavioral and social psychology, social marketing and communication through campaigns. These campaigns focused on

abstinence, fidelity and condom use separately, or in groups of two. They did however not include all three simultaneously (USAID, 2015, 10-75).

In Uganda, AIDSCOM endorsed the production of the movie "It's Not Easy". The movie aimed to aid people in the discussion of sexual behaviors, dissolve myths and misleading information about HIV/AIDS, promote acceptance of HIV/AIDS infected individuals and encourage less high-risk sexual behavior. In the early 90s, USAID intertwined the AIDSCOM and AIDSTECH projects into the AIDSCAP Project according to Hardee et al. (2012,4). Its mission was to figure out extensive country approaches to decrease high-risk behavior, improve control of sexually transmittable diseases (STDs) and increase access and the use of condoms. The project showcased that what influences high-risk behavior have attributes of both individual and psychosocial factors as well as environmental and interpersonal causes. Yet again, the unique needs of women in relation to HIV were considered, encouraging AIDSCAP to incorporate a special initiative on women and AIDS (Hardee et al., 2012).

At the same time in the 80s and early 90s Uganda stuck to terms like "zero grazing" and "love faithfully" rather than ABC according to Halperin & Epstein (2004) and Parkhurst (2010) Uganda's first program to address AIDS in 1986 consisted of epidemiological surveillance, safe blood supply, marketed AIDS information, Education and Communication and control of STDs with no sign of the ABC message people would later associate with Uganda. Sometime later social marketing of condoms was added to existing programs happening simultaneously with a multispectral strategy for AIDS control programs in various ministries (Okware et al. 2001).

Promotion of condom use was incorporated in a wider HIV prevention strategy. Despite that, Hardee et al. (2012) argue that early messages and activities would often avoid addressing condoms directly, instead advocating messages like *"Don't forget to carry your coat"* (Hardee et al., 2012:11; Trinitapoli & Weinreb, 2012). Further, young girls were warned against so-called "sugar daddies" – a special high-risk group of middle-aged men that would go out with younger women (Hardee et al., 2012, 11). In many countries, there was a hesitance to address condoms by people in high positions at the time. This would change in the late 1980s in Uganda when a religious leader came to the forefront and advocated strongly for the use of condoms in HIV prevention. Bishop Kawuma became the first religious leader to connect the B and C messages stating that; *"If you are foolish enough to have sex outside, don't be stupid enough not to use a condom".* The bishop had personally witnessed his son dying from AIDS (Hardee et al., 2012, 11).

As mentioned, many believe President Museveni had a big part to play in reversing the negative trend of HIV infections by addressing the HIV/AIDS topic openly leading to de-stigmatization and spearheading a program that included a wide range of organizations. In 2001, Parkurst reflected on the importance of Museveni's active role at such a critical time. He wrote;

> *"The President has taken on HIV/AIDS as an issue of importance, speaking out throughout the country and internationally as well, to highlight the problem AIDS represents. Not a stated policy initiative at the time, many officials in Uganda see this as one of, if not the most important aspects of what the government has done in the fight against AIDS"* (Parkurst, 2001:75 in Hardee et al., 2012:12).

Hardee et al. (2012, 12) argue that part of Museveni's success may be due to the timing. They came in the aftermath of years with civil unrest and war. Then suddenly, Uganda was at war with a new disease. He advocated for behavior change from the very beginning underlining the importance of partner reduction (zero grazing) and spoke in favor of abstinence for younger people. Gradually the government would also promote the use of condoms. However, condoms have never been considered the sole answer by Museveni. Hardee et al. (2012) argue that this may be due to the influence of the catholic church. Museveni was quoted in Schuettler (2004) as stating that:

> *"The government of Uganda did not push for condoms very strongly, instead pursuing a "quiet promotion of condoms", and inviting religious leaders to take part in discussions of condoms as a state policy".*

Allen & Heald (2004) argue that the fact that condoms were not initially introduced, in line with the president's negative attitude towards them, played a part in the social acceptance of sexual behavioral change messages.

According to Green et al (2006) research shows that Uganda's ABC strategy evolved in stages. The government and churches would often put the emphasis on risk avoidance behaviors of abstinence and being faithful. These A and B messages were linked resulting in a co-promotion. Hardee et al. (2012) argues that the efforts of Bishop Karuma made an important contribution to the much more sensitive link between B and C, attempting to focus on safety. Hence, although A, B and C were not tied together into a specific strategy in the early years of the epidemic in Uganda, national plans of the country have included both risk reduction and avoidance.

Interestingly, Halperin (2004) has argued that partner-reduction made the biggest contribution to the fall in prevalence in Uganda, beginning in the late 1980s. He further moves on to claim that there has been an over emphasis on the importance of A (abstinence) and C (condoms). Finally, Green et al. (2002) argue that despite different approaches, reports at least all agree on

one central fact: Abstinence and reduction in the number of sexual partners, not condoms, were the most important behavioral changes linked to HIV prevalence and incidence decline in Uganda.

In conclusion, it seems, according to Parkhurst (2010) and Green et al. (2006) that Uganda has achieved ABC outcomes. ABC messages might also have been used from time to time. However, Parkhurst credits a multilayered response as the most important initiative. In addition, community mobilization, fear, education, openness and political will were important. All these efforts made significant contributions in the battle against HIV/AIDS in Uganda and dramatically decreased the overall HIV prevalence in the country, which is why Uganda has so many times been hailed as a success story in effective HIV-prevention.

2.5 HIV in Uganda: current situation

Reports from 2005 showed a levelling of prevalence and incidence, after the clear fall in the 1990s. Shafer et al. (2008) through a quantitative study showed that prevalence fell from 8,5% in 1990/1991 to 6,2% in 1999/2000 while incidence per 1000 person at risk fell from 7,5 in 1990 to 4,1 in 1998 before increasing to 5,0 in 2004. Further, Shafer et al. (2008) indicates that incidence went down remarkably by 2005 before rising again in 2006. Statistics showed that sexual-behavior trends indicated more risky behavior around this time as compared to the 1990s though this fluctuated from region to region. Shafer et al. (2008) concluded that all known HIV-prevention measures had to be employed to solidify the previous success Uganda has had in coping with the epidemic.

However, Uganda has seen a rise in prevalence and incidence in the years after this report was compiled. Further, per UNAIDS (GAP Report 2014), ten countries, including Uganda, stand out with 81% of all people being infected in the region. Uganda and Angola are two countries where the number of new HIV infections intensified between 2005 and 2013. The number of new HIV infections in Uganda went up 21% between 2005 and 2013. In 2012, a top UNAIDS official in Uganda said that the country was losing the fight against HIV/AIDS, with the infection rates steadily rising. Musa Bungudu, the UNAIDS Country Director, stated that Uganda was the only country in the Eastern and Southern Africa with rising HIV/AIDS infection rates. Up to 145,000 new infections have been recorded each year leaving a heavy burden on the whole society already devastated by the pandemic (avert, 2014).

The rising incidence of new HIV infections in Uganda is confirmed by a quantitative report put together by a group of scientists called *"Global, regional, and national incidence and mortality*

for HIV, tuberculosis, and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013", published in The Lancet (2014) by Murray et al. Some people argue that the negative development is fueled by an abstinence-only approach to AIDS prevention of the George W. Bush-era, a policy going against patterns of sexual behavior in Uganda. This was warned against by Human Rights Watch back in 2005 as they stated;

> *"U.S.-funded "abstinence-only" programs are jeopardizing Uganda's successful fight against HIV/AIDS".*

It was argued that Abstinence-only programs provide young people with insufficient information about any method of HIV prevention other than sexual abstinence until marriage (Human Rights Watch, 2005). More recently many experts blame the rising infection rate on that clear strategy to promote abstinence only until marriage, without an encouragement of using condoms (Parkhurst, 2012).

With the rate of new HIV infections rising fastest among married couples (Uganda National Progress Report, 2015), something seems to have gone wrong with the abstinence only strategy. Ugandan researchers say the virus has been spreading particularly fast among married couples, fueled by the phenomenon of "side dishes," the popular term for secret lovers or mistresses (IRIN, 2010). Many of those mistresses tend to be vulnerable teenagers who are targeted by wealthy, but often HIV-infected, men (Muhumuza, 2014).

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is a U.S. Government initiative to lessen the HIV-burden globally. It is the largest initiative by any nation to fight a single disease internationally (PEPFAR, 2017). However, PEPFAR has been criticized for focusing less on the provision of condoms, instead allocating funds for abstinence and faithfulness initiatives. Eran Bendavid (2016), in an article published by Stanford, said a wrong prioritization or one-sided allocation of funds has a human cost as it may channel money away from other crucial, risk-reduction efforts, such as male circumcision and methods to prevent transmission from mothers to children (Richter, 2016). According to Dietrich (2007) PEPFAR's approach has diversified to include encouraging condom use while the importance of contributing to decrease mother to child transmission and better provision of ARVs is vital.

Under circumstances of an increasing HIV-incidence, Uganda has been forced to reevaluate the strategies in place for HIV prevention. Uganda has been reporting to worldwide HIV targets since the start of the epidemic (Uganda HIV & Progress Report, 2014, vii). The HIV prevalence in the general population of Uganda rose from 6,4% in 2004/05 to 7, 3% in 2011. An Aids inductor study of 2011 indicated a prevalence up to 10% in the central region with 4,1% as the

lowest in mid-eastern Uganda, (Uganda HIV & Progress Report, 2014). The prevalence has increased in all regions and has even doubled in the West Nile region going from 2,3 to 4,9 %. The median prevalence ranged from 4,4 to 13,5 % in urban sites while in rural areas the median was 7%.

HIV prevalence was found to be greater among women (8,3%) compared to men (6,1%). In general, 3,7% of young women and men from the age of 15 to 24 were found to be HIV positive. The lowest prevalence rate was among children under the age of five, something that may be a result of Uganda's efforts to curb mother-to-child transmissions (Uganda HIV & Progress Report, 2014, 8). Groups at high risk were people from fishing communities, female sex workers and their partners, mobile populations and uniformed service people. In addition, key drivers of the epidemic are high risk sexual behaviors coupled with limited knowledge about one's status. This includes early sexual debut, multiple partners, inconsistent condom use and transactional sex. Further, the prevalence rate is higher in areas with lower antenatal care and delivery services and where patients have not been put on ART. A concern is also sexual and gender based violence, a result of gender inequalities. Those with a high consumption of alcohol also tend to engage in risky sexual behavior according to Uganda HIV and AIDS Country Progress Report (2014, 11). It has also been shown that poverty has a big part to play, and so does the behavior of truck drivers operating on long distance routes, carrying the infection from one place to another (Uganda HIV and AIDS Country Progress Report, 2014, 11).

Recently, a new strategy has been put forward by UNAIDS (2014). Efforts to eliminate HIV should be intensified with the goal of working:

> *"Towards zero new infections, zero HIV/AIDS-related mortality and morbidity and zero discrimination, the 90,90,90 targets, towards and AIDS-free generation" (UNAIDS, 2014).*

There is a call for a revitalization of the prevention strategies responsible for the remarkable progress achieved in the 1990s. However, efforts to meet MDG 6 targets have been slow, stagnant or in reverse except one. That was to grant universal access to treatment for all those who are in need (Uganda HIV and AIDS Country Progress Report, 2014).

In addition, the country has recently received negative attention for inducting anti-gay laws. It is argued that a key component of HIV prevention programming will go missing for men who have sex with men (Semugoma, Beyrer, & Baral 2012, 173). The anti-homosexuality bill was introduced in parliament in 2009 to make existing laws more robust. The bill strongly increases punishments for "immoral behavior" and leads to so called "increased closeting". Health-

professionals are mandated to report on homosexuals in treatment. It is argued that this will further increase stigma and discrimination for this already vulnerable group. Semugoma, Beyrer, & Baral (2012, 173) argued that the government of Uganda should review guidance documents from the World Bank and WHO to develop and bring forward Human rights to consolidate HIV-prevention, treatment and care responses. Gay men carry a disproportionate level of HIV infection in Uganda. This makes it crucial to have adequate prevention services and treatment for this group.

The government of Uganda is hopeful to achieve the sustainable development goals and has showcased substantial progress in various SDG indicators and focus areas. This entails health care access for the population, especially for women and girls, and improved access to water and sanitation sources (PMA, 2015). However, in short HIV-incidence in Uganda remains unacceptably high. Quantitative studies suggest that if efforts are not strengthened, HIV-incidence will rise from 140,000 in 2014 to 340,491 in 2025. This will result in a cumulative 2,890,569 new HIV infections by the year 2025. There is a lot of work to be done (Uganda AIDS Commission, 2015).

Chapter 3: Methodology

At the core of social science lies the intention to generate knowledge about how social reality is constructed. Social science usually differentiates between two distinct methodologies, quantitative and qualitative. Common for the two approaches is that they seek to explore one or several phenomena. The quantitative seeks to generalize and the qualitative intends to add to existing knowledge in a domain (Bryman, 2012).

It is my impression that qualitative methods are a valuable tool for researchers in the quest for exploring social phenomena and are recognized for the value and unique contributions they can make. A strength of qualitative methods is the way they can contribute to give advanced interpretations of how people relate to a research issues. (Tewksbury, 2009) Qualitative methods are suitable when the researcher aims to go in-depth in a phenomenon, or understand a specific culture's trademarks. For this research, a qualitative inductive approach was chosen, with the aim of exploring health workers' perceptions of HIV/AIDS incidence/prevalence and prevention in the Ruhiira cluster.

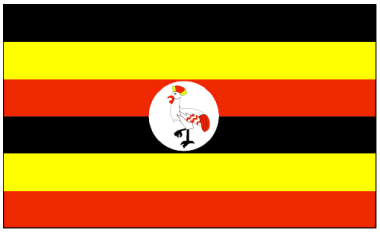
I will start this chapter by presenting Uganda before I move on to describe the methodological steps taken in the research process. The chapter finishes with a section devoted to ethical issues encountered during the study.

3.1 Country profile: Uganda

3.1.1 Geography

Uganda is located in East-Central Africa bordering Kenya, The Democratic Republic of the Congo, Rwanda, Tanzania and South-Sudan. The country is 241,038 square kilometers in total and has a population of 33 425 000 people. The capital is Kampala (The United Nations Association of Norway, 2014).

3.1.2 History and Politics



(Source: World Atlas, 2017)

In 1890, a deal was reached between England and Germany to make Uganda a British protectorate. Uganda's status as a British protectorate would last until it was granted independence in 1962 (Stock, 2004, 442). The following years were politically unstable and in the end Colonel Idi Amin seized power in a coup d'état in 1971 from Milton Obote (Stock, 2004, 442). Notably, Uganda's economic starting point was good around the time of independence. Idi Amin became a dictator and his regime was responsible for human rights abuses. Throughout his oppressive rule, he was responsible for the deaths of roughly 300,000 people (Stock, 2004, 42). The economy declined because of an inconsistent economic policy, the ousting of noncitizen Asians in 1972, and the rejection of foreign aid. To draw attention away from the country's problems Amin sent troops to Tanzania in October 1978. This proved to be a failure and in early 1979 he was ousted from power and replaced by Obote. In July 1986 Obote was deposed by a coup d'état. This was followed by two other regime changes. Finally, Yoweri Museveni seized power and has been in control since (Stock 2004, 442).

For many years, Museveni was considered an example to follow by the West. This has changed and in the latter years, he has been the source of critique, especially because democratic procedures have not been followed (The United Nations Association of Norway, 2014). Despite the introduction of a multiparty system in 2005, Ugandan politics is still dominated by Museveni and his party. Elections are arranged every fifth year but put no limits on how long the state leader can rule. The police have been heavily criticized for their interference in demonstrations and congregations arranged by the opposition. Importantly, after a 20-year period of terrorizing the northern population, the rebellious group Lord's Resistance Army was driven out of the country (The United Nations Association of Norway, 2014).

In February 2016, Museveni was reelected as President with 60,8% of the votes. However, the opposition strongly disagreed with the result and stated that there had been extensive rigging of the votes (Klassekampen, 2016). When he seized power in 1986, Museveni wrote:

"The problem of Africa in general and Uganda in particular is not the people but leaders who want to overstay in power".

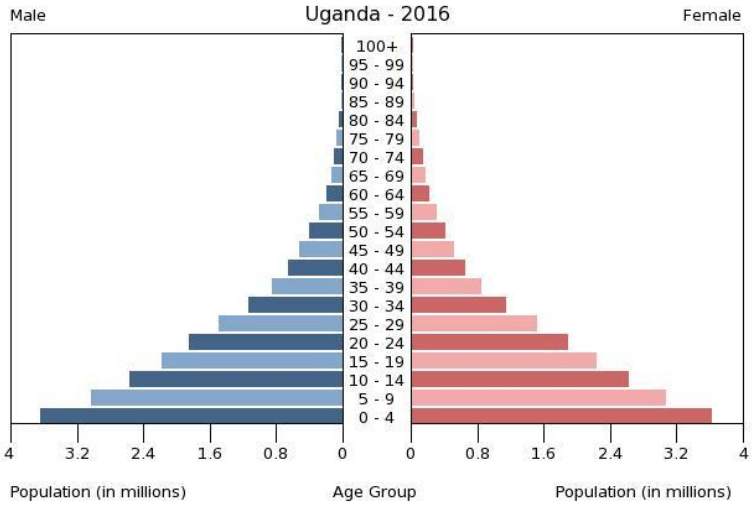
Now, in 2016, Museveni has become exactly that authoritarian leader he warned against 30 years ago (Dowden, 2016).

3.1.3 Demography

(Baganda people. Source: Uganda Tourism Center, 2017)

Uganda has a rich variety and coexisting of ethnicities, religion and languages. According to The United Nations Association of Norway (2014) census from 2002 counted baganda 16.9%, banyakole 9.5%, basoga 8.4%, bakiga 6.9%, iteso 6.4%, langi 6.1%, acholi 4.7%, bagisu 4.6%, lugbara 4.2%, and bunyoro 2.7% as the main ethnic groups. 41.9% catholics, 42% protestants, 12.1% muslims and 4% other or traditional religions Further, the most spoken languages are English, Ganda, Luganda, Niger-Congo languages, Nilo-Saharan varieties, Swahili and Arabic.

According to the latest WHO data life expectancy in Uganda is: Male 60.3, female 64.3 and total life expectancy is 62.3 which puts Uganda on a World Life Expectancy ranking of 150 (World Life Expectancy, 2016). In terms of demography, a population pyramid (see below) of Uganda shows that most the population are young people and children under 20 years of age:



(CIA World Factbook, 2017)

War, famines and the devastating impacts of HIV/AIDS and other diseases in Uganda have left many children orphaned and left to care for themselves. Often the heads of a household may be children themselves, left to take care of siblings instead of attending school.

3.1.4 Economy

(Source: About Uganda, 2017)

Currently about 70% of Uganda's population are peasants. Most of the agriculture is based on self-subsistence though there is export of substantial amounts of coffee and fish. Uganda is still considered a very poor country, with 37, 8% of the population in extreme poverty with a GDP of 1,766$ per capita (The United Nations Association of Norway, 2014). The country has had steady economic growth over the last decade, and there is hope that this can improve the situation of the poorest segment of the population. The lack of energy and electricity is still a major obstacle for the promotion of industry. The same goes for extensive corruption that influences the delivery of public services and the ability to attract foreign investment. Despite that, there has been a great deal of optimism regarding the substantial discoveries of oil in Lake Albert (The United Nations Association of Norway, 2014).

3.2 Research timeline

I began planning this qualitative study in January 2014. I completed the research in Ruhiira, Uganda from mid-October 2014 to early December 2014. Further, the first stages of analysis were completed chronologically after each interview in the data collection process. I completed the las stages of data analysis 2 months after I arrived back in Norway.

From January to May 2014, I developed the protocol for this study which detailed the methods I was going to use. During this time, I also decided on the location of the research and contacted local health projects with the help of a classmate. The Millennium Villages Project (MVP) was selected as the research site by early spring 2014.

In the months leading up to my departure, I had several mail-exchanges with the team leader and chief-coordinator of the Millennium Villages Project. I explained the rationale behind my research and what I intended to do in Mbarara. I provided my research proposal and the consent form intended for informants participating in the study. I did this to give them an idea of both my background and ideas for the study. Permission was granted to access the field, and agreed to facilitate transportation around the Ruhiira cluster. Research clearance was obtained from the health coordinator at the MVP-office (see Appendix 2).

I arrived at Entebbe airport just outside Kampala on the third of October 2014. From the airport, it took approximately 6 hours by car to arrive at the research site. I secured accommodation at an American guest house very close to the headquarters of MVP. I decided that I would stay in Uganda for nearly 11 weeks to accommodate potential delays. Five weeks were spent waiting for research clearance and 6 for data collection purposes.

3.3 Research setting

Mbarara is a town in the Western Region of Uganda. It is the main municipal, administrative, and commercial center of Mbarara District, and the site of the district headquarters. Further, it is the largest urban center in the Western Region.

A few days after my arrival in Uganda, I was told by my classmate that I could come to the MVP headquarters to meet the staff, the team leader and the chief coordinator. I was expected to provide a detailed insight as to what my intentions were and in which ways I felt they could be of assistance. In the end, it was agreed that they would fully cooperate and facilitate me with transportation into the field. In return, I was expected to have a presentation displaying my findings, conclusions and recommendations. In that way, both parties could benefit. In the end,

limited time and resources would mean that I was not able to have the presentation, something I will address later in this chapter.

3.4 Partners in the research process: Millennium Villages Project

My partners who granted access to the field were employees at The Millennium Villages Project in Mbarara. The Millennium Villages were established by the United Nations to show how the eight Millennium Development Goals could be accomplished in rural Africa within five years through community-led development. For more information see http://millenniumvillages.org/.

3.4.1 Study sites

The MVP office in Mbarara has established several health centers around the Ruhiira area, in Ruhiira, Kabuyanda, Kanywamaizi, Kabugu, Nyakitunda, Ntungu. The Ruhiira cluster is 40km from Mbarara and stretches out over several hundred square kilometers with extremely poor roads. This makes travel between the six villages and neighboring commercial centers very difficult, especially with heavy rains. Most of the facilities offer pre-counselling and pre-testing, then testing of HIV, post-test-counselling, ARV-provision especially for pregnant mothers lactating and treat TB amongst HIV-positive in addition to follow-ups, but also safe male circumcision and provide ARV's. Prevention services are provided along with condoms and basic health education (MVP, 2016).

I visited all the health centers in the Ruhiira cluster and did one interview at each, expect for Kabayanda where I could interview two health workers. The health centers were all similar in appearance made of concrete and with a waiting area just outside the main building. They all had offices, operation facilities and halls, rooms where health workers could talk to patients in private and places to park cars and ambulances. In addition, some of the health centers had areas where presentations where held as well as places where training of midwives where conducted and pregnant women were taught all practicalities and given information about delivering a child and breastfeeding. In general, there were on average three health workers working with HIV related services at each health center.

Photo caption

3.5 Choice of method

After deciding to explore health workers' perceptions of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past and what they believe are the factors explaining current trends in HIV incidence in the Ruhiira cluster, it became clear from the process of planning that the most suitable way to approach the objective was to conduct interviews. I chose to conduct in-depth semi-structured interviews with health workers at the various health centers in the Ruhiira cluster. In this case, I would be working from data of specific cases, to be able to draw general conclusions about my research objectives (Schwandt, 2007, 147). As I will discuss later no research assistants were employed as I felt there was no need for translation.

3.5.1 In depth semi-structured interviews

For most social researchers, interviews are considered a practical and effective way to generate rich and insightful data (Becker et al., 2012, 294). Kvale (1997) in Johannessen, Tufte & Kristoffersen (2003, 131) characterizes the qualitative interview as a conversation with a structure and a purpose. I conducted semi-structured interviews. In a semi-structured interview, the interviewer uses an interview guide based on key areas of interest.

I considered many aspect both before the interviews and while I was interviewing. First, my interview-guide was based on a set of questions that were predetermined with the aim to cover the topics that I wanted to explore during the interview (Becker et al., 2012, 292). Second, I knew I had the freedom to adjust the guide. This might mean changing the order and wording

of the questions, clarifying the meaning of questions, adding or omitting questions and varying the amount of time devoted to each topic. During the process, I both rephrased and added new questions to the guide. In that way, I could explore other aspects of the topics of interest as they arose. This proved useful. Third, I feel that semi-structured interviews can be challenging as they can be time-consuming and require stamina and strong social and communicative skills.

I decided that I would use a voice recorder to record the interviews. I ran several tests to make sure that it was working properly so that I would not be having trouble with malfunctions in Uganda. I also kept a notebook at hand in case the recorder failed. That proved to be a useful strategy not only during the interviews, but also after they were finished, especially as I made notes while waiting for transport back to Mbarara.

The interviews were conducted and recorded during a period of 6 weeks, as well as an online follow up interview with one participant. The interviews were conducted at all the health centers in the Ruhiira cluster (Ruhiira, Kabuyanda, Kanywamaizi, Kabugu, Nyakitunda, Ntungu). For each health center, those in charge of the team would introduce me to the appropriate health workers who would be available for interviews. In that manner, they worked as gatekeepers. A gatekeeper is a person in a field who can eventually grant researchers access to the setting (Chambliss & Schutt, 2013, 187). I felt this was the best way to sample as this meant the health workers would initially deal with someone they knew and trusted. The intent was that this trust would lead to them trusting me as well. Before each interview, I kindly asked the informants for permission to record.

I did not feel that there were any issues about language or problems of communication as the level of English was reasonably high for all the health workers. There were however times I had to rephrase questions if an informant did not interpret the question as intended.

The qualitative interview is a professional conversation with an exchange of personal views and knowledge while human relations and body language also play an important part (Kvale & Brinkmann, 2009). Having this in mind, I wanted the interviews to have the shape of a conversation. I decided to conduct interviews with one informant at a time instead of focus groups. The conversations were private one-to-one. This choice was made based on the belief that informants would talk and express themselves more freely about their opinions and experiences while in isolation and without the influence of other peers.

The interviews lasted about half an hour on average and were mostly without interruption from the outside. Six of the interviews took place in an office while three were conducted outside. In

retrospect, it would perhaps have been better if they were all conducted in an enclosed space, as this would shut out possible distractions that could have interrupted the informant and myself during our conversations.

3.6 Participants

This qualitative study was based on in-depth interviews with nine health workers in different health facilities in the Ruhiira cluster, supplemented with a follow up interview through mail exchange and skype with 1 participant. These health workers are associated with the Millennium Villages Program:

Description of participants	
Age range of nine health workers	29-40 – Median age 32.
Gender	5 males 4 females
Work Experience	Work experience ranges from 1 to 9 years.
Educational background	Diploma holder. Nursing school. Health certificate. Diploma in health services, management and comprehensive nursing. Nursing school diploma. Medical school. Health Certificate Clinical Medicine Master's degree in Public Health
Professions and position	Nurse. Midwife. Health Worker. Nursing Officer. Nutrition Enumerator. Midwife. Clinical Health Worker. Health Assistant & Coordinator. Midwife.

3.7 Sampling

I used purposive sampling to select participants for this research. The rationale was that the research questions will give the researcher an idea of who should be sampled (Bryman, 2012, 416). It also gave an idea of the contexts from which to sample. Purposive sampling in qualitative research is the opposite of probability sampling. The researcher does not look to sample research participants on a random basis. The goal is to sample participants that are relevant to the research questions (Bryman, 2012, 418). I purposively sampled from health workers employed at the six-millennium village clinics.

According to Onwuegbuzie and Collins (2007, 289) in Bryman (2012, 425) it is a general rule that sample sizes in qualitative research should not be so small that it becomes difficult to achieve data saturation. Simultaneously, it is a goal that the sample size is not too big, as it can make it difficult to undertake analysis.

To answer my research questions, I developed inclusion criteria for participants. According to Bryman (2012, 419) criterion sampling is a sampling of units that meet a criterion. My inclusion criteria for this study were:

1. The participants had to be qualified health workers (for example nurses or doctors).

2. The participants had to be affiliated with MVP health centers in the Ruhiira cluster.

Those not meeting such criteria were not a part of my study. I also aimed to achieve an equal sample of men and women.

After I completed nine interviews I started to observe similarities in what the respondents answered. My aim prior to the start of data collection was to conduct around 15 interviews. However, due to lack of time and a sudden financial constraint in the MVP organization I was not able to achieve this. Qualitative interviews should normally be conducted until data saturation is reached. Data saturation means that you carry on sampling until a category within the data has been saturated (Bryman, 2012, 421). According to Bryman (2012, 421), this means that;

> *"a) no new or relevant data seem to be emerging regarding a category, b) the category is well developed in terms of properties and dimensions demonstrating and c) the relationships among categories are well established and validated"*

Saturation does not mean that the researcher has a sense of déjà vu when listening to the participants in the study, and this was not the case for me either. Each health worker had unique contributions of his/her own. Moreover, as suggested by Bryman (2012, 421) when new data no longer suggests new insights into an emergent theme or no longer suggests new dimensions of thematic categories data saturation has been reached. In that respect, I note that I did receive extensive information on each topic covered by the interview guide. However, as I did not manage to sample as many health workers as intended I cannot be 100% sure that I have not missed out on details that could have been provided by additional informants. In the end, the sampling ended after I had completed interviews with nine health workers.

3.8 Data analysis

Johannessen, Tufte & Kristoffersen (2003, 153) argues that a challenge in qualitative research is to deduct reasonable information from a big pile of unstructured data. In the following section I will describe how I analyzed my data.

I would often write down notes about the interviews while waiting for my transportation from the Ruhiira cluster to Mbarara. When I arrived back to the guesthouse from the field I would transcribe the interviews. I also spent some time reflecting on what the informants had said and considered if there was anything I could have done differently. These thoughts were loosely collected in the same field journal. (Holsti, 1969,14).

In the process of my data analysis the data was analyzed using content analysis through phases and steps. (Berg, 2001)

In the first phase, the data was collected and made into interview transcripts. In this process, I got to know the material better and formed a complete understanding by reading through and looking for interesting and central themes that emerged. Hence, I feel that my knowledge about the data was strengthened. Naturally this process influenced my initial views on the material but as Johannessen, Tufte & Kristoffersen (2003, 159) suggests the opinions about your data will often change throughout the rest of the process of finishing the research.

In the second phase, I tried to look for themes and statements that gave meaning to the research questions. I would circle them with a yellow marker so I knew where to find them later. Such a process of coding the interviews was comprehensive and time consuming but was very helpful later. Not unexpectedly, I would change the names of the codes as I went along to be even more specific.

In the third phase, I coded the data. In qualitative data, coding is the part of analysis where the data is broken down into component parts (Bryman, 2012, 710). I extracted the parts that were coded and organized them into brackets in Microsoft Word under thematic descriptions in tables as described by Johannessen, Tufte & Kristoffersen (2003, 162). During this phase, I put the quotes chronologically and thematically.

In the last phase, I had a look at the codenames, evaluated them, and decided it they were appropriate. I then made a summary of all the interviews to highlight the content. The summary was also thematically divided. Eventually, the process of coding influenced how I would write out the results and in what thematic order I put the quotes from my informants in the Result's chapter.

3.9 Study strengths and limitations

This section will discuss strengths and limitations of the study and in what ways it is replicable.

Anderson (2010) argues that quality in qualitative research can often be influenced by the researcher's personal biases. The interview guide was made prior to the trip and was to some extent influenced by what I wanted to focus on and what I considered to be important in the context of the HIV success-story in Uganda, recent incidence trends, high-risk groups and HIV prevention. In that respect, it might have been a bit biased in what was my focus and research in general always strives for objectiveness.

As the interview guide was quite flexible I could adjust it and add various new probes if I needed clarifications, which may be considered a strength. The interview guide was also constructed building on existing theory and findings, the result being that I received a lot of relevant information. The interview guide was constructed in a way that allowed many of the questions to cover the same type of information. The questions were quite open and various parts of the information appeared without me having to ask prepared questions. My experience was that the informants articulated themselves freely and gave me a balanced and varied set of insights and experiences.

At the end of the interviews, I would often ask if the informants had anything else to say that they felt was important regarding the main topics of the interview. Frequently that led to additional information being added, some that was relevant and other that was not. I also asked them if they felt that my questions were relevant to what I wanted to investigate. It is a strength that the interviews took place over a short duration of time and that they were conducted in an environment where we were not easily distracted from interference.

An adequate amount of time was put aside to do the interviews and on average they lasted half an hour, some longer, some shorter. Since I feel that the informants were confident that their anonymity was preserved, it seems plausible to suggest that the information I got was trustworthy.

Albeit, I should be aware that the informants could tend to be more positive about the epidemic than what is perhaps the case. Perhaps due to a situation where they would want to please me or present the best possible picture of their region and country. Having that in mind, I structured the interview guide in a way where the questions were open for different so that the informants did not feel compelled to answer the questions in certain ways.

I feel that the fact that all health facilities were accessed, brought a diversity to the participants and is a strength of this study.

As mentioned, the composition of informants satisfied my predetermined inclusion criteria. It is however important to stress that I would ideally have had 4-5 more informants, but that proved challenging to accomplish. I feel that it would have been advantageous to have more informants from similar backgrounds and positions adding different perspectives to the questions asked. Nevertheless, I also believe that the gender-balance of the informants made the results more diverse. When comparing answers and thoughts from the interviews, they do differ from each other, even though similarities are also apparent. I feel that the informants were open about their challenges when dealing with HIV.

Given that one of the informants was approached later in a follow-up interview online the nature of the answers is a bit more complex as the informant had longer time to think. However, due to the informant's academic background and the fact that there were similarities in the answers compared to other interviews I find no reason to doubt the validity of the answers.

A question to ask is to what extent have what I have done corresponds with what I wanted to observe or measure. In other words, can the findings be argued to be true and certain. Further, was my choice of method appropriate? Do the findings accurately represent the phenomena to which they refer and are they backed by empirical knowledge? Are there good grounds for not doubting the findings? (Schwandt, 2007, 309). I believe that I got relevant information and the method has been appropriate.

A drawback of using only one method is that it does not allow for data triangulation. According to Bryman (2012,717) triangulation entails the use of more than one method so it is possible to

cross-check findings. As explained, I only used one method in my study, which can be viewed as a limitation. With better planning and coordination, conducting focus group interviews could have been an option to further strengthen the results. I could also have used observation as a method, something that could have been possible given the time that was available in the field.

As explained, research has been generated from a remote part of Western Uganda, which should be taken into consideration. The HIV prevalence and incidence in Uganda fluctuates to a certain degree from region to region and from urban to rural areas. Thus, it is not possible to generalize and expect identical results for the rest of Uganda in any way, as this is a small qualitative study looking at specific aspects in a certain location. The results can perhaps be comparable to similar settings, and can serve as important starting points for future quantitative studies that can provide generalizable results.

3.10 Ethics

Bryman (2012, 130) argues that qualitative research poses specific ethical questions. Ethics is about rules, principles and guidelines that determine whether actions are right or wrong and as Johannessen, Tufte & Kristoffersen (2003,87) underline, such rules, principles and guidelines are just as important during the process of research as in other parts of society. People can affect each other in diverse ways, both directly and indirectly, and that raises ethical questions. According to Johannessen, Tufte & Kristoffersen (2003), research enters the picture here. Ethical questions touch upon all types of research, but are important in qualitative research as they concern individuals and the relations among them in such a direct manner.

The World Medical Association (WMA) has created the Declaration of Helsinki, a guideline of ethical principles for medical research that involves humans, including research on identifiable human material and data (World Medical association, 2013). This section will touch upon the most important principles of the declaration related to my research.

3.10.1 Ethical clearance

It is important for a researcher to have permission to conduct research from relevant authorities. The Helsinki Declaration states that;

"The research protocol must be submitted for consideration, comment, guidance and approval to the concerned research ethics committee before the study begins. This committee must be transparent in its functioning, must be independent of the researcher, the sponsor and any other undue influence and must be duly qualified. It must take into consideration the laws and regulations of the country or countries in which the research is to be performed as well as applicable international norms and standards but these must not be allowed to reduce or

eliminate any of the protections for research subjects set forth in this Declaration". (World Medical Association, 2013).

My Master's program did not explicitly address the need for obtaining ethical clearance from an ethic's committee and it did not become standard protocol until after I came back from Uganda.

It is however important to note that I received a research clearance from MVP before my data collection started. My Master thesis proposal was submitted to the Team Leader and Health Coordinator of MVP for consideration, comment, guidance and approval. They did not find that I would conduct a research that would cause any harm to participants, and that it was within the scope of their ethical requirements as well as subscribing to national guidelines. The letter approving my research can be found in Appendix 3.

3.10.2 Informed consent

It is important to respect participants' choices about being part of research, and withdrawing or withholding information is often initiated through a process of seeking informed consent (Becker et.al, 2012, 59). Researchers have a responsibility to explain to participants in a study what the study is about, the risks and benefits of taking part. It is crucial to obtain the consent of participants prior to the start of data collection.

My process of obtaining informed consent started prior to my departure to Uganda. Before I left for Uganda I was told by MVP that consent forms were not needed. I did however want to comply with standards in qualitative research and therefore chose to create informed consent forms. (see Appendix 3).

It is important that participants are aware that they are participating in research, and what is expected of them during the process (Lund, 2015). Participation by individuals able to give informed consent as subjects in research must be voluntary as stated in the Helsinki Declaration (2017). A situation where respondents are given wrong or inadequate information about the project should be avoided, and I was careful about this.

Before each interview, I explained the nature of my research and what I expected from each informant. I explained the purposes of the research, how it was financed, and how they would be involved in the research. I told them how long the interviews were going to take and that their participation was voluntary. Moreover, I explained that their data would form the backbone of my Master thesis. Further I informed the participants of his/her rights and this

entailed the right to withdraw from the interview at any time, that the participant's anonymity would be assured and confidentiality preserved.

I brought informed consent forms to the research sites before meeting each informant. In the end, it became clear that oral consent was sufficient to move forward with the interviews and each participant consented orally.

3.10.3 Anonymity

According to the Helsinki Declaration;

> *"Every precaution must be taken to protect the privacy of research subjects and the confidentiality of their personal information"* (World Medical Association, 2017)

Any personal information that I might have got from the participant has been kept confidential. Further, the Result's chapter does not involve presenting the informants with their names and each informant is coded with a number. Any information given by informants that does not relate to the research objectives has been omitted from the thesis so to preserve their anonymity.

3.10.4 Compensation

None of the informants asked for compensation, perhaps because I was out in the field together with representatives of their employers. Naturally, it would be wrong to assume that this would likely have been the case anyway. I took an early stand and instead focused on showing my deep gratitude for their time and reiterated the importance of their participation.

3.10.5 Dissemination of findings

It has from the very beginning been a promise from my side to submit a copy of the thesis to the stakeholders involved in the process; MVP. After submission, I will move forward with this and all relevant sources such as recipients and email-addresses are at hand.

3.11 Reflexivity

Reflexivity is a reflection by researchers on the social processes that impinge on and influence data. It is necessary to have a critical attitude towards the data and recognize how distinct factors might have influenced how I as a researcher acted, how my actions influenced the data collection and the interactions with different stakeholders and participants in the field (Becker, Bryman & Ferguson (2012, 408).

My academical background is mostly from social science. Through the years, I have studied Globalization & Development, Development Studies and finally International Social Welfare

& Health Policy. I have an avid interest in topics such as globalization, demography, geography, politics and history.

My part in this study, I believe, has been that of curiosity, eager to observe and learn from what I have read, seen and investigated. I am very much an outsider, coming from a very different culture, from one of the most prosperous nations in the world to Uganda, which ranks among the most heavily indebted countries, according to the World Bank (2016). Due to my former experiences in other African countries and the fact that I had visited Uganda before I believed that seeing all the poverty and a totally different environment would not affect me that much. That belief proved to be very wrong as my first encounter with Uganda driving from the airport gave me a lot of impressions to digest and as it turned out I spent days to settle down. The feeling of being so different from everyone else surely left a mark and it would also be evident that many Ugandans saw me as something they were not used to, especially schoolkids I encountered in the field.

The guesthouse in which I was staying was owned by Massachusetts General Hospital of the United States and for most the time it is the residence of American citizens. The place of residence was chosen first and foremost because of its convenient location as it was located only a few 100 meters from the MVP headquarters. The fact that it had 24 hours' security also counted in its favor.

Being closely associated with medicine and health, many of the people co-habiting with me proved to be valuable "sparring-partners" and would also give me important pieces of advice during my stay in Mbarara. As it turned out, I would also be associated with one of them in MVP as she would be working with logistics both at the headquarters and in the field. We formed a fruitful understanding, and through her company I felt more at home and was also able to benefit from her experience.

I knew that it was important to give a good first impression as I had been told before that there had been cases of people coming in that had not been considerate and to some extent had taken advantage of the assistance they had received when cooperating with local Ugandan organizations such as the MVP. I had been told that often people in those circles focus on titles and achievements. I am not sure to which extent this is true, but it made me consider how I should introduce myself. From my experience, research should be of an honest and transparent nature. Instead I opted to be very precise and to the point when explaining what my intentions were for my research.

Due to logistics and practical arrangements that had to be made, it took a couple of weeks before I could initiate my first visits to the field. I had made the first step by being granted permission to accompany MVP on the visits to the field and conduct interviews with health workers. The second step was approaching the health workers and gaining their trust and attention. I did not know how accustomed the identified informants were with giving interviews and how confident they would be talking to me. Thus, I made the decision to talk to one of the field officers of the MVP and ask him to introduce me to the right people. My belief was that it would probably be a convenient way of approaching the informants. I would be accompanying someone they knew and trusted. In the end, this was a strategy I would use in all my initial interactions with my informants and I believe it worked out well.

Naturally, I introduced myself more thoroughly when I was one-on-one with the informants. I opted to stick to some of the same principles as I had in my first encounter with MVP, in a bit shorter manner. In addition to explaining the goals and targets of my research, I was quick to ensure the confidentiality and anonymity the informants. I was careful to do this before I even touched the tape recorder as I was unsure how the informants would react if I did so before explaining how their identity would be protected. I believe my appearance may have influenced them in many ways, ways that could have been both positive and negative. Perhaps some of them would think; "Who does this white guy think he is, coming here to evaluate us?" I was not there to evaluate them, but that was perhaps an impression I could have made. On the other hand, some might have found it exciting to talk to me, which is something I also felt, as many were very eager to provide information, often on other topics than I had foreseen but also valuable insights I had not predicted. As previously mentioned my informants were four women and 5 men. I am not sure if gender played its part in influencing answers from the informants. Nevertheless, regardless of gender I found that both male and female informants gave similar answers on many topics.

Thankfully, all participants agreed to the use of a recording device. Naturally I cannot be sure if and how the voice-recorder affected their behavior and responsiveness, nor can I know if my appearance as a white European had its part to play in influencing their answers. Nevertheless, the informants willingly cooperated very well, appeared eager to talk and answered my questions the best they could.

To some extent I believe my preunderstandings of the topic might have influenced me before I went to Uganda, based on what I knew about the country, and what I knew about the topic of HIV from studying articles and reports. Sometime before I left for Uganda a source of debate

was the strict anti-gay bills that were about to be passed in parliament. As this thesis will show, sexuality plays its part in the transmission of HIV and has a significant impact on HIV prevention. In retrospect, I have wondered how my informants had acted if I had included questions about this topic. Nevertheless, this issue was not raised by any health worker.

Chapter 4: Theory: The Modified Social Ecological Model

4.1 Choice of theory

Social and structural factors as determinants of HIV vulnerabilities are now widely acknowledged. Such factors are representative of social, economic, political and organizational inequities. In the decades that have passed there has been an improved understanding of the multiple levels of HIV risk. Associated with this has been the recognition of the need to implement multi-level strategies for HIV prevention. According to Baral et al. (2013, 1) scientific research and programs with the aim to decrease incidences of HIV require epidemiological studies with collected data about multiple levels of risk to strengthen combination HIV prevention packages. The Modified Social Ecological Model (MSEM) is considered a flexible model used to steer epidemiological studies within key populations relating to the risk of HIV in various sociocultural contexts. I have chosen this model to explore the research objectives presented in this thesis. All the factors that are likely to influence HIV vulnerability have been taken into consideration when trying to understand the subject, while developing the interview guide and while discussing the findings.

4.2 Successful HIV-prevention strategies

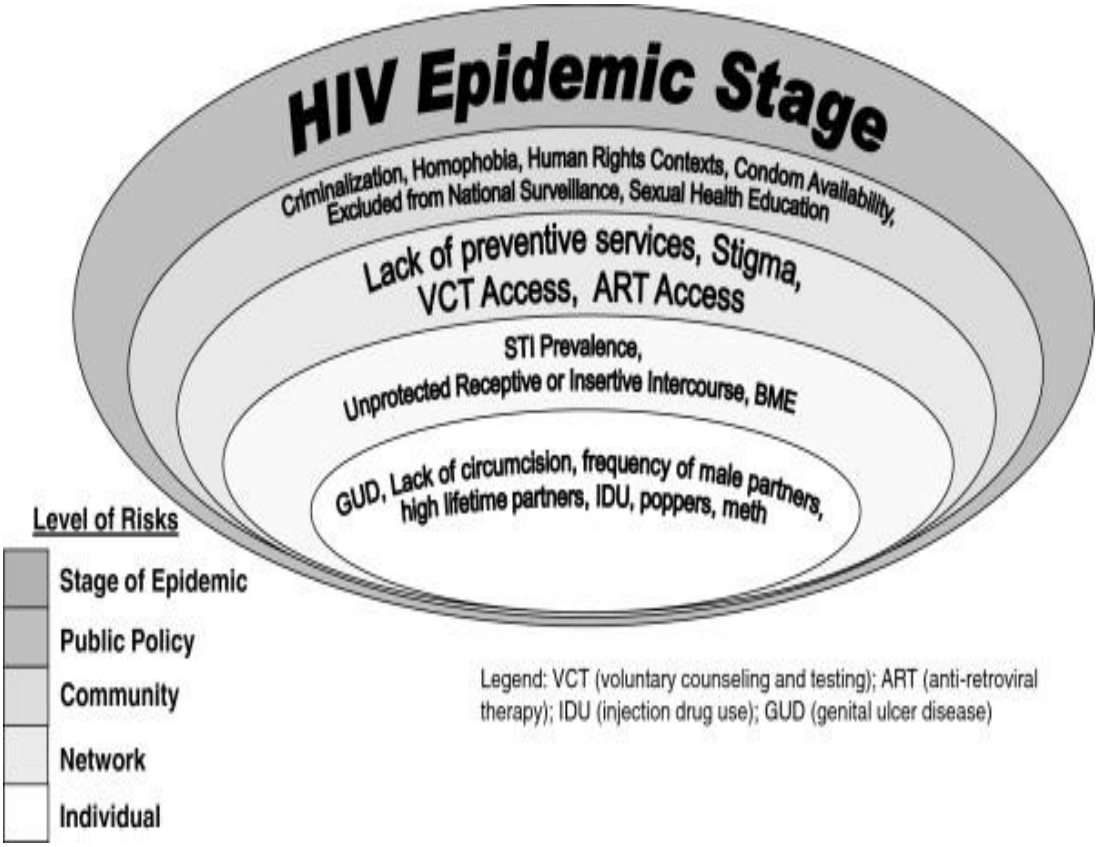
For HIV-prevention strategies to be successful, effective integration of evidence-based biomedical, behavioral and structural interventions for HIV prevention are needed. Baral et al. (2013) argue that while the focus of epidemiological studies has traditionally been to describe individual risk factors, it is necessary for data collection to characterize multiple levels of HIV risk in the future. Models can be utilized to cover theoretical processes, social, structural biological on influences on several processes. Moreover, they can serve as useful guides for practice, research, intervention and policy development (Baral et al. (2013, 1). Factors such as associations between social and structural, individual practices, the physical environments and health, are explained by social ecological models.

Nevertheless, few models have been developed to guide the measurement of individual level risks such as behavioral and biological and high order risks in the context of HIV infection. Notwithstanding, it is vital to consider that it can be difficult for one single model to describe all risk factors across diverse domains (Baral et al., 2013,1). From a social ecological perspective, it is important to be specific and contextual and employ multi-level analyses that consolidate social structure, social and community norms and biological factors.

4.3 Five aspects of risk for HIV infection

Baral et al. (2013) argue that MSEM consists of five phases of risk for HIV infection: individual, network, community, policy and the phase of the HIV epidemic (see Figure.1). It is based on the premise that while individual level risks need to be present to transfer the disease, they are not sufficient to explain population level epidemic developments. There are large scale social and structural phases of risk in network, community, policy and stage of the epidemic. The factors represent risks outside the control of any person. Policy makers often focus on activations at individual level risks. Nonetheless, this level merely applies to one margin influencing the HIV transmission among exposed groups. Factors can reach many levels and so the boundaries between are porous rather than distinct. Next, these factors are examined.

Figure 1: The HIV Epidemic Stage



Individual factors are biologic or behavioral traits related to the vulnerability to receive or transmit illness or infection. When it comes to social and sexual factors they consist of interpersonal relationships including family, friends, neighbors and others that might directly affect health and health behaviors in multiple ways (Baral et.al, 2013, 3) Networks that are not limited to geography, socioeconomic status, or cultural, racial or religious lines are many. They include the range of human relationships through which social and sexual exchange happen and

social norms play a part. The Modified Social Ecological Model defines networks as a group of people who are more likely and are more exposed to infectious diseases from one another. This happens through sexual exposure, the shared use of needles, other drugs or increased physical engagement. Apart from that, family and social networks can give social security and re-strengthen social norms and behavior that act as protective elements and in fact reduces HIV transmission risks.

The MSEM model argues that community environments can promote health and well-being but might also be a source of stigma. Cultural, religious, economic, geography, prison walls or combinations of such may bind communities Baral et al. (2013) argues that the sense of belonging in urban and neighborhood communities can strengthen HIV prevention. The opposite might however increase the susceptibility to HIV. Structures are shaped by larger social-structural forces, which influences interpersonal processes and individual behaviors. A successful measure has been the establishment of condom use norms that have further strengthened condom use. Stigma affecting groups at risk often appear at the community level limiting the provision of HIV prevention, treatment, and care services.

Laws and policies of all states shape the general framework in terms of the risk of marginalized as well as general populations. The financing of policies and their implementation can either promote or hamper the community's ability to cater preventive or harm reduction services such as needle exchanges and condom handouts in prison. Legal and policy environments have a crucial role in halting or encouraging HIV prevention programs among sex workers. Baral et al. (2013) cite several examples worldwide of laws such as criminalization of homosexuality, sex work, substance use or vital prevention services anchored in cultural relativism, morality and political action rather than public health science research. Further, reports show that these marginalized groups have a substantial risk of obtaining an HIV infection. Even so, scientifically proven prevention and harm reduction strategies are missing. Moreover, such laws and policies are may effect networks, such as punitive apprehension that may either promote or discourage new networks. Simultaneously, policies can spire spearhead conflict and economic pitfalls affecting the uptake of vital services. The highest impact is often upon already marginalized populations.

Ultimately, the HIV epidemic stage consists of various layers and phases interacting. According to Baral et al. (2013), examples are lack of circumcision, the number of sexual partners, unprotected sex, stigma, lack of preventive services, ART access, criminalization, homophobia, insufficient human rights, availability condoms and sexual health education. Identifying and

characterizing individual level risks of HIV transmission is crucial to gain knowledge and understand the dynamics of an epidemic (Baral et al., 2013, 7). However, it is important to consider higher order social and structural levels of risks that likely contribute to HIV infection and transmission on a population level. Also, it is argued that specific epidemiological studies of HIV should highlight social and structural factors that lie beneath high-risk practices. This will likely lead to a far more applicable data in guiding the HIV prevention sciences.

Chapter 5: Results of the qualitative interviews

This chapter presents the results of the qualitative study conducted in Ruhiira, West-Uganda. The health workers that were interviews are associated with the Millennium Villages Program. Seven of the informants were health workers directly associated with the daily functioning of the health facilities in the Ruhiira cluster, whereas two were health workers associated with Millennium Villages program.

First, I will present background information about the health facilities from which I recruited study participants and the characteristics of patients visiting these services based on my interviews with health workers. Second, I will present results related to the key factors that were reported to have contributed to Uganda's decline in HIV prevalence in the past. Third, I will present results on the views of health workers regarding current trends in HIV incidence and their views on recent changes in HIV-related risk behaviors or in prevention strategies in their setting. Finally, I will present health worker's views on what they believe can be done to address the HIV problem in Uganda.

5.1 Facilities and patient characteristics

> *"At this facility, we offer HIV testing and counselling, we give treatment for HIV patients and follow ups"*. Health worker 1, female.

The respondents reported that different health facilities were involved in the provision of several HIV-related services. These services ranged from:

- Counselling
- Follow ups and further prevention
- Treatment
- Condom handouts
- Dispersing vocal and written information about HIV and TB
- Dealing with pregnant mothers and doing follow ups of lactating mothers.
- Safe male circumcision

Extra attention was given to young people and people living in discordant relationships (often married couples). The health facilities would also call for ambulances in emergency matters and the ambulances would take the patients to the hospital in Mbarara.

The kind of treatment offered could vary from one facility to another though the most basic services were present in all e.g. counselling and the provision of ARVs. Some facilities dealt more with Prevention of mother to child transmission (PMTCT), pregnant and postnatal

mothers, others dealt more with youth and one was focused on safe male circumcision. The services included targeting pregnant and lactating mothers and prevention. Informants also stated that condoms were provided and basic health education was given. People would come regularly for testing throughout the week at different health centers. Throughout the interviews, it was stated that women came more often than men. Moreover, there are comprehensive programs for infected pregnant mothers and infants, as explained by one of the informants:

> *"(…) there is also a program for elimination of mother to child where all pregnant women who are positive are started on lifelong highly active retrovirals so to prevent the infection from mother to child. When a child is born from an HIV positive mother it also receives some services, we take ARVs for the first one and a half months and after that we do a PCRD test to see whether this child was infected or not. If he is negative by the first PCRD we maintain the child on ceptrin and do a second PCRD at nine months. After that we do rapid tests on HIV used on the public to see if the child has gotten the infection at around 18 months. If the child is negative it is discharged as a negative case".* Health worker 8, male

Further it was said that if a client is found to be HIV positive he is quickly enrolled into treatment. An informant said that a prerequisite the treatment with ARVs is that the persons CD4 is below 500. According to Aidsgov (2017), the CD4 count is:

"*a lab test that measures the number of CD4 Tlymphocytes (CD4 cells) in a sample of your blood. In people with HIV, it is the most important laboratory indicator of how well your immune system is working and the strongest predictor of HIV progression".*

The same informant went on to state that:

> *"They are remained in care and regular testing is done to check on how their CD4 is moving on and when it goes below 500 CD4. The current guidelines tell us that when somebody falls below 500 CD4 we start them on ARVs".* Health worker 8, male

The health facilities care weekly for those who are on ARVs, a treatment that can be started at any age. Newborn infected children can start the treatment after 6 weeks and ARVs are a priority for children below 15 and pregnant mothers. As HIV gradually destroys the immune system many HIV positive patients also get infected with tuberculosis (Aidsinfo, 2016). Accordingly, the health workers in the Ruhiira cluster will often treat co-infections of tuberculosis for HIV positive patients.

Most of the informants agreed that many of the patients were youth with an age span from 15-30 though one also listed 15-45. When it comes to gender, the answer would vary a bit though the majority stated that females were more likely to come for treatment. One informant stated that;

> *"Currently we have on board those who are living in discordant relationships where one is positive and one negative. Commercial sex workers and truck drivers who we have identified as liabilities."* Health Worker 4, male

Another informant claimed that one of the reasons why women were more likely to come than men was attributed to stigma.

> *"I must say at the moment female are dominating but I can't give you the figures exactly because most men still have stigma and you know women are the ones who normally like coming here (…) and when the males come here they come with their partners. The majority of them are adolescents and 4 who are under 14 and the rest are above 14".* Health Worker 5, female

A couple of the informants mentioned that there had been a rise in new infections among married couples in Uganda in recent times. Health workers were aware of this trend and as one informant stated;

> *"We normally capture those married couples when they come for other services and if one of them comes we request for the one being at home to come as well".* Health worker 6, male

There were health facilities dominated by male patients but these facilities were more focused on targeting males, like the ones who offered safe circumcision (Kabayanda and Atchitunga). An example of this came from a quote from an informant who said;

> *"For us here we deal with pregnant women from the age of 20 to 30 something there. And even the babies that are born are the ones which we look after. Men we refer to Kabayanda and Atchitunga"* Health worker 7, female

Typically, you would find that the health centers that targeted males employed mostly male health workers. Thus, health centers that were more focused on targeting females employed mostly female health workers and midwives. One informant pointed out that Uganda has a very young population, something that explains why so many of the patients are of the age from 15-30.

5.2 Factors that have contributed to Uganda's past success in HIV prevention

There were several reasons mentioned by the health workers as contributing to the success of HIV prevention in Uganda in the past. These will be presented in the following section.

5.2.1 Disclosure, openness and public campaigns

Many of the informants reiterated the importance of disclosure and openness as one of the reasons why Uganda has successfully fought new HIV infections. People have been encouraged to disclose their status, according to participants. One informant said;

> *"For me what I think, why Uganda has been so successful, exposure. Our country encourages people to disclose their status. It has been a normal disease, so people don't fear it like a big curse. They are now free to have drugs, to have tests, to attend clinics, and for that matter a person feels free to disclose it to other people".* Health worker 1, female.

Another informant stated;

> *"It was important that President Museveni championed the initiatives in the early 90's through USAID and PEPFAR, and in general there was political will. Uganda has engaged in many preventive strategies championed by AID-supportive organizations, people have been circumcised to prevent HIV, we have the option of reducing the Mother to child transmission of HIV where all pregnant mothers are now beginning ARVs and lactating mothers and of course media-campaigns for HIV-prevention".* Health worker 4, male.

This was added to by another informant who said:

> *"Hiv spread quickly in our population during the 1980s. President Yoweri Museveni was different from the majority of other African leaders at the time, saw the alarm bells and acted quickly showing strong will. The response was forceful and reached all layers of the population. Aggressive media campaigns involving posters, radio messages and rallies were initiated. Teachers were taught how to employ efficient HIV and AIDS education. Perhaps most the most important thing they did was to engage community leaders, churches and of course the public majority".* Health worker 9, male.

As one informant reported, the issue of HIV/AIDS was discussed in schools and churches and the infection therefore no longer remained silent. Participants stated that teachers have been trained to begin effective HIV/AIDS education and that community leaders played a key role. This was highlighted by one informant who said that community leaders had:

> *"spearheaded aggressive media campaigns involving posters, radio messages and rallies".* Health worker 9, male.

The role of campaigns against HIV was re-iterated by another informant:

> *"It has been made many campaigns and mass testing of people".*
>
> Health worker 6, male.

One of the informants underlined the message of "zero grazing" which was promoted to the population in general, with messages stating that people should stay with "regular partners" and "not have casual sex". If they did not abstain, they were encouraged to use condoms. To encourage people to take up the messages that were spread – and to make them effective, several actions were taken. One of the participants said:

> *"(…) open talks and discussion of HIV and AIDS (were used) to lower rates of stigma and the improvement of the status of women, to lessen the burden of sexually transmitted diseases and that those who were positive received good treatment".* Health worker 9, male.

This was also related to what would later be known as the ABC-approach, meaning Abstinence, Be faithful and Use a Condom.

Fear was in the strategy of reducing HIV prevalence.

> *"A part of the strategy was also fear, but the campaigns explained how to avoid or reduce risk."* Health worker 9, male:

However, participants stated that overall the campaigns were mostly about the combination of risk avoidance and risk reduction approaches. As one informant remarked;

> *"It seems that risk reduction and risk avoidance approaches combined have been very successful in Uganda. It led to a drop in the yearly amount of new infections between the late 1980s and mid-1990s, which eventually lead to a decreasing HIV prevalence". The messages went through to people and (…) later in time a reduction in infection incidence arguably contributed to further drops in prevalence"* Health worker 9, male.

5.2.2 ABC: The strategy of Abstinence, Be Faithful and use a Condom

ABC refers to Abstinence, Be faithful and correct and consistent use of Condoms. All the informants credited the ABC approach for contributing to the fall in HIV prevalence and incidence in Uganda. One informant said;

> *"The ABC approach to HIV prevention has often been said to have started in Uganda, and has been credited for being the reason for Uganda's remarkable success in reducing the HIV prevalence".* Health worker 9, male.

One informant also added:

> *"We encourage the ABC approach and we have everything required for the ABC strategy."* Health worker 5, female.

Most health workers agreed that in general, people had stuck with the principles of the ABC approach and that everything was in place to encourage people to follow it. One health worker said;

> "*Yes, people have stuck with it".* Health worker 2, female.

There were also suggestions how the ABC should be followed and as one informant stated;

> *"If one has got into a serious sexual relationship, he could abstain and individuals who are already in relationships should be faithful to their partners. If you cannot be faithful or abstain be careful to use a condom consistently and very correctly. This is a strategy that has really helped Uganda".* Health worker 8, male.

Further, when asked if the ABC-strategy had changed, one participant replied;

> *"ABC? It has not changed".* Health worker 3, male

5.2.3 The role of funding

Many informants underlined the importance of funding and aid from foreign donors in the battle against HIV/AIDS. There has been better provision of ARVs and better and more effective ways of testing for HIV infection. One informant remarked;

> *"I think in this way we are being helped by donors who are giving us free ARVs and support in finance, because we are now able to have follow-up plans in the communities, and we have now started the system of AMCT, the nature of mother to child transmission of HIV. I think those are the reasons why we are specialists in counseling and behavior change, plus safe male circumcision".* Health worker 3, male.

This funding has also led to fewer infections in babies, as another informant said;

> *"Through provision of testing, the ARVs, training of health workers who can handle this I must say have helped much especially to these young ones (…) actually since we initiated treatment to these positive mothers it means no young ones are born with HIV".* Health worker 5, female.

Further, some participants stated the importance of testing more people rapidly, which had made an impact in the prevention of HIV, and which was made possible by the availability of funding. One participant said that finding had allowed:

> *(…) "so many campaigns of mass testing and camp testing where it is easy to know how many people are infected and there has been put a lot of effort on pregnant mothers, so transmission to the newborn has been almost totally eliminated".* Health worker 6, male.

The use of condoms was also said to have increased due to funding from abroad. One informant said;

> *"(…) In the 1990s, plans economically supported by USAID and other donors lead to more people using a condom".* Health worker 9, male.

However, despite the success Uganda has experienced through receiving aid from foreign donors most informants agreed that the funding should be even greater in the years to come.

5.3. Health workers' views about current HIV incidence in Ruhiira

Various reports and scientific works indicate that the HIV prevalence and incidence has gone up in Uganda for the last 10 years or so (Shafer et.al, 2008), (UNAIDS Gap Report, 2014), (Avert, 2014), (Murray et al., 2014). It was therefore important to explore health worker's views about HIV incidence in their setting. The views of health workers regarding HIV incidence were mixed. Some of the participants believed that there was no increase in incidence. This was underlined by the following statement from a participant:

> *"When you look at the graphs you might think it has increased, but to me I think it has not increased. The community is now aware and as a cause of that more people are*

coming up and testing. That's why we are showing like we have more clients now as opposed to before when people were fearing to go for testing. There are so many organizations that are coming here to do HIV testing so that is why many people are coming up. It is not that it has increased, but only that we have been able to do much more testing than in the past". Health worker 3, male.

This argument was brought further by the same informant who also pointed to increased frequencies of testing and the training of health workers who could do the testing. The informant stated that;

"But to me, it is not increasing, only except that now people have come up and they have now got the spirit to come up and do HIV testing because in the past there were few health centers that could test HIV. Now, in every community people are testing. Even now, people have started a community-based HIV initiative like testing at community level and now with Kabayanda or Millennium Villages we have community health workers they are testing clients on a household level that's why it seems as many people have HIV. It has not increased it is only that more people are testing than in the past, cause in the past it was AIC and maybe it was hospitals that were testing for HIV but now all health centers are doing HIV testing. Community workers are doing it. So, it is now able to capture as many clients as possible." Health worker 3, male.

Another informant stated:

"The HIV rate it has reduced. The last past years, in a month you could test like a hundred, these days it has reduced. Less infections." Health worker 2, female.

This was agreed upon by another informant who stated:

"Yes, it has gone down. Years like 8-10 years ago, it was higher so it has decreased". Health worker 1, female.

On the other hand, other informants argued that the incidence had gone up, like one informant who said:

"Yes, and that is a statistic we agree with which is based on facts, some being substantive while others are subject to proof. The recent demographic survey majority of the people that are increasing HIV is the youth between 15 years and 35 who are still sexually active. That is why prevalence is on the rise. But we now hope that this strategy that people are not HIV positive at birth, that we can curb it from the people that are being born. So, we have to reduce it from 7.3 percent in the last 5 years." Health worker 4, male.

Another informant was very straight-forward and said;

"Yes, it has changed here in Ruhiira. It has increased". Health worker 6, male.

Another informant also stated that the incidence was increasing and said;

"I must say that it is increasing, because on average like now we are around 1300 clients we are giving care since we started. Every month we get at least 5 new clients so it is increasing." Health worker 5, female.

Further one informant explained the following;

> *"Now people feel somehow confident that they will live longer so they don't change a lot even in behavior and that has contributed in the upsurge of the prevalence".* Health worker 8, male.

One informant said that one key factor was the continuous mother to child transmission of HIV and said that:

> *"HIV can be transferred from a mother to her baby during pregnancy, labor and delivery, and later through breastfeeding".* Health worker 9, male.

5.4 Recent changes in HIV risk behaviours and attitudes towards HIV

In this part of the interview guide it was important to determine health worker views on if and how people's behavior and attitude towards HIV had changed. Changes were in general reported by all health workers, irrespective of their views regarding contemporary trends in HIV incidence. For example; How were people's attitudes and knowledges towards ABC, how does the fact that people live longer (e.g. provision of ARVs) with HIV influence their behavior and does male circumcision read to more risky behavior, were changes that health workers reported.

5.4.1 People do not follow ABC as well as before

The questions and probes of the interview guide tried to make the informants consider how ABC has worked. Were there regional differences in implementations and had there been a change in approach from the government in recent times? Apparently, many agreed that ABC had worked more for people in urban areas than in the countryside. Like one informant put it;

> *"So, the ABC has worked for some people for example in towns more than in villages. Here people do not see using a condom as a preventive measure. In villages in our rural set up, people use faithfulness to their partners and I think that may be the reason why married people are affected that much. The youth do not consider being faithful but in towns are using condoms and are educated which has not been successful in villages."* Health worker 1, female.

The respondents stated that people's behavior (in terms of how risky) was closely related to how they followed the ABC. One informant felt that parts of the ABC was no longer followed and said;

> *"I feel that abstinence has been poor, faithfulness is not as it used to be it has declined. Maybe because of other lifestyles that come in but using condoms they are trying".* Health worker 5, female

Another informant agreed and elaborated the following;

> *"Initially the ABC strategy was working very well but lately, especially in villages HIV has become a mode of life, it is no longer a threat and people look at HIV as something you can live long and productively with".* Health worker 4, male.

Further, it was said that;

> *"It is we encourage them to abstain, be faithful to their partners and behavior change, use of condoms to reduce the sexually transmitted diseases. Those one, when like when you go out with many, it will cause more problems.* Health worker 2, female.

It was also remarked by on informant that;

> *"There hasn't been any serious change only that people's perception when safe male circumcision came people will maybe feel that they do not need to follow the ABC strategy but it still remains a priority".* Health worker 8, male.

Some respondents implied that the ABC strategy was no longer a key strategy and that the government had moved on to other strategies. One of the reasons raised by some was that;

> *I think maybe because of what they watch on TV, maybe they need to practice and explore what they see on TV, and I feel that the ABC is on decline."* Health worker 6, male.

When asked about if and how people followed the ABC, many participants replied that this was a question of education and awareness. One informant explained:

> "*When we have our patients educated they actually follow ABC very well. People stay together, and they do not infect each other. That shows me that these people remain faithful and they use condoms. Education is very important in HIV prevention".* Health worker 1, female.

It was said by some participants that many use condoms but often *"the man refuses".* Apparently, it was often the case that men have multiple wives. One participant said:

> *"If a man is positive and is having one wife especially in this area of ours if we find a man is positive one wife is negative, one wife is positive, the man often does not tell the other woman. In Kabugo we have insisted that the woman comes with a man if pregnant so both are tested. One man with many wives is not trustworthy to others so a woman becomes positive".* Health worker 7, female.

Still, it was stated that many know about the benefits of using a condom and many use them.

5.4.2 HIV is no longer a death penalty

Some of the informants in this study said that people's behavior may have become riskier due to the availability of ARV's. Some participants were of the view that HIV is no longer seen as a death penalty. They stated that as people get started on ARV's it changes everything. This was further elaborated by an informant who recalled seeing formerly very frail people experiencing a revival and said;

> "*I think, because people that were once bed-ridden, you see them walk once they start on ARVs they behave more reckless".* Health worker 5, female.

The health workers' work to eliminate risks and distribute condoms and ARVs in the communities. The health workers inform people about the risks involved and they said that

most people were aware of the risks. Still, many would be involved in risky behaviors, like going with multiple partners. According to one participant *"they haven't followed part C".*

The improved health care services have contributed to an upsurge in prevalence it was said. People live longer without symptoms and like one health worker said;

> *"(…) people who get the infection can now live longer without symptoms and you never know how those individuals might live, despite the fact that they are being counselled they might still infect more people compared to earlier years where people would end up dying. Now people feel somehow confident that they will live longer so they don't change a lot in behavior and that has contributed to an upsurge of the prevalence".* Health worker 8, male.

All in all, I could see a pattern in what the health workers were conveying. As one said;

> *"People are increasingly involving themselves in more risky behavior".* Health worker 6, male.

This change to a riskier behavior was said to be largely due to the notion that you can survive this potentially deadly disease and people are not as afraid as before. One informant said in this regard;

> *"HIV is no longer a death penalty".* Health worker 1, female.

5.4.3 Circumcision

A way of HIV prevention that has received a great deal of attention as has been subjected to a lot of research over the last decades is male circumcision. Male circumcision has been scientifically proven to lower the chances of infection, though it is unclear to what extent. One informant said that;

> *"(…) people are being misled to believe that it is some form of vaccine and totally protects you from being infected"* Health worker 8, male.

5.5 What do health workers think can be done to improve HIV prevention

A key aspect of this qualitative study and the questions asked from the interview guide were to find out what health workers thought could be done to improve HIV/AIDS prevention in their setting. These are discussed in the following section.

5.5.1 Disperse condoms and information about HIV and risky behaviour

Most health workers agreed that drastic measures needed to be taken to change the situation of increased HIV incidence and prevalence in Uganda. One of these suggested measures was increasing awareness about HIV by providing information. One participant said;

> *"First among these is endorsing lasting awareness of HIV and how it can be spread. Media campaigns and education in schools are good ways to do this."* Health worker 9, male.

That did not mean they were not optimistic and believed that the trend could be reversed. They agreed that more information had to be distributed to all segments of the population. One informant mentioned:

> *"Community sensitization. Tell them the dangers. It like, the community, even with ARVs, we want to eliminate. People want to go with multiple partners. We tell them there is a risk. They know the risk of that".* Health worker 2, female.

Moreover, an informant explained the importance of radio:

> *"We have a man in charge of radio broadcasting in Ruhiira and when we get men and women we advise them about condom use. It has brought success."* Health worker 7, female.

However, it was also stated that at present, the information coverage was not equal throughout the country. As one informant put it:

> *"There is a difference in ABC, because in villages as information is not as much as it is in towns. It is a problem in the villages. Radio networks, newspapers and TV network coverage is low".* Health worker 1, female.

Moreover, it was said that widespread awareness of HIV had to be spread through media campaigns and education in schools. One participant noted a positive measure by the government;

> *"Currently you saw even over the weekend the President with the UN regional coordinator. They were launching a program called guard your goal and they are reemphasizing the ABC strategy and informing people that even if you are circumcised you still have another 40 to add to the 60 that you have acquired. That's what the health workers are currently trying to do through mass media and through daily attendances educating the masses".* Health worker 8, male.

The participants also stated the type of messages that should be spread. One participant stated that;

> *"we encourage them to abstain, be faithful to their partners and behavior change, use of condoms to reduce the sexually transmitted diseases. Those one, when like when you go out with many, it will cause more problems.* Health worker 2, female.

One informant underlined the importance that health workers would also move around in the communities and distribute condoms, especially to young people, as was said by one informant;

> *"Yes, these days, like the youth could go out without condoms, now we go out in the community and we tell them we will give you some condoms"* Health worker 2, female.

The informants were eager to participate in campaigns but the majority agreed that it was very important to focus more on covering the countryside. They were positive to new initiatives taken from the government.

5.5.2 Targeting groups at risk

As mentioned earlier truck drivers are key transmitters of HIV and one health worker stated positively that more active targeting of this group had taken place;

> *"Currently we have brought on board treating long distance truck drivers which are mostly the key transmitters of the virus. They come in our communities, they stay there for the night as they rest. During their rest, they engage in casual sex with their citizens and they spread the virus, so the strategy of treating them we now treat for prevention, to prevent transmission, and the commercial sex workers and those living in discordant relationships. We hope that with the success of treatment then we shall reduce the HIV transmission in the next generation".* Health worker 4, male.

Some of the health workers specifically addressed this group as a liability, but also commercial sex workers. Poverty was said to be a factor that would fuel the epidemic and one informant said;

> *"Poverty. People believe that all they can get food from is by selling their bodies".* Health worker 6, male.

Many of the informants identified the following groups as being at risk; truck drivers, migrants, commercial sex workers, cohabiting couples where the man gets the infection and does not tell the wife. Personnel from MVP would often repeat the importance of capturing as many clients of all backgrounds as possible. The clear strategies were to educate patients and their families well through house-to-house visits and disperse general information. Like one informant said;

> *"We have to tell them the dangers".* Health worker 2, female.

It was often regarded as a problem that men would be much more reluctant to come for checkups and testing. This was by some attributed to stigma and an informant remarked;

> *"I must say, at the moment, females are dominating but I can't give you the figures exactly because most men still have stigma and you know women are the ones who normally like coming here, and we normally drug them from here and when the males are coming they come with their partners. The majority of them are adolescents and 4 who are under 14 and the rest are above 14".* Health worker 5, female.

Informants told me that they would sometimes more easily attract the men if they said they could come with their wives or girlfriends or if they told the women to *"bring your men".* This appeared to be one of the clear strategies.

5.5.3 Prevention of mother to child transmission

The prevention of mother to child transmission (PMCT) was put forward as a crucial means to reduce the number of new HIV infections by many informants and this is a key aspect of what the Millennium Villages Program works with. Several informants would refer to the big efforts being made in this area during interviews and when they would show me around the clinics after the interviews had been completed. Some of these clinics targeted pregnant and lactating mothers.

Looking back and remembering the very high prevalence of HIV in Uganda, one informant underlined the importance of the prevention of mother to child infection.

> *"Why, the reason is this. At first, the HIV rate was high, so we decided to deal with pregnant mothers preventing them from infecting the child. Also, reducing stigma among the couples, so it helped us in reducing the HIV.* Health worker 2, female.

Further, the mother-to-child prevention was lauded as crucial

> *"From my experience, from my unit since we started with PMCT we have not got a positive child, only one which was referred to Kabayanda. This procedure of bringing drugs to mothers has helped".* Health worker 7, female.

Campaigns to reduce stigma were highlighted as vital, along with comprehensive training of health workers. The MVP had initiated a mentor mother program that offered quality peer support services for mothers living with HIV and their children according to a pamphlet handed to me by a health worker. It is a goal that pregnant mothers living with HIV and their children seek health care services quickly, that there is a reduction in stigma and discrimination and improved male partner involvement. Key responsibilities for mentor mothers were provision of one-on-one peer education and psychosocial counseling to PMTCT clients as well as PMTCT support groups.

One informant felt it was instrumental that women were targeted and unwanted pregnancies avoided.

5.5.4 Expanding the health sector and health education

The importance of educating health workers and expanding the health sector with better funding was emphasized by many. One informant said;

> *"We need to do more health education because most people do not listen to Radio and TV. If we could use churches, health centers. But if there is one person with too much responsibility we have little time to do health education. If we get more staff we shall implement the health education. I believe it would be important. I think there should be a bigger focus on the health sector".* Health worker 6, male.

Further it was said that inadequate resources lead to;

> *"The challenges we have, we don't have facilitation to help staff conduct home visits. The other issue is training. I have the feeling that if I am not here most of the time there is a big challenge. Other workers have been trained, but not Ruhiira"* Health worker 5, female.

However, another informant did not entirely agree on that argument, saying;

> *"Counselling services have increased, education has been provided and the numbers of health workers have increased. 8 years ago, it was headed by nursing assistants, but now it has a clinical officer. Before it was headed by one person and now we are fourteen. There is a change and that change has brought improvement. We do outreaches in health education".* Health worker 1, female.

The importance of a continued strengthening of HIV counselling and testing was underlined. One participant stated:

> *"(…) The chances that those living with HIV transmit the virus to others will be lower if they know they are aware that they are positive and if they have been counselled about less risky behavior. Importantly, a pregnant woman who has HIV cannot see the rewards from interventions to protect her child if her infection is not being diagnosed. The ones who find out they are not infected can also reap the benefits, by receiving counselling in how to stay HIV negative".* Health worker 9, male.

Further, when it comes to treatment, the importance of ARVs was highlighted;

> *"It is essential to offer antiretroviral treatment. This treatment can make people live longer, healthier lives, and thus it is as a good reason for people to go for HIV testing voluntarily. It is important that people come in touch with health care workers who give information about prevention and treatment. It is also crucial that people know about the limitations of it, and that risky behavior does not follow because of less fear of HIV".* Health worker 9, male.

MVP play an important role in this matter as ARVs are provided throughout the Ruhiira cluster.

Moreover, it was said that safe transfusion of blood had to be prioritized;

> *"The transfusion of blood or blood parts is very effective, and probably the most effective way that leads to a transmission of HIV. Nevertheless, it can be reduced a lot by screening all blood supports for the virus, and by treating blood products with heat where it can be done".* Health worker 9, male.

All in all, some informants were more optimistic than others. Many were worried as they witnessed more and more people coming for testing, especially young people. Some complained about the lack of staff and resources as well as funding. They were however eager to be a part of the Millennium Villages Project, a project that has shown promising results and could prove to be a vital tool when the target is to reduce new infections in the battle against HIV. This became evident when I received detailed explanations about Mother to Child prevention services where several health workers reiterated how important that work was.

When one health worker showed me around at the clinic he wanted me to see a course that was held at the time to pregnant mothers and another for midwives related to how they should treat babies after birth. It seems health workers are proud, and aware of the important job they are doing for the community.

All in all, I feel that my findings have touched upon a variety of topics that have been meaningful and important. Most notably I have been able to uncover how the health facilities in the Ruhiira cluster function, patient characteristics, views on the Ugandan success story, health worker's opinions about Abstinence, Be Faithful & Condoms, risk factors and risk groups, and general views on HIV-prevention and what should be done to improve the HIV-prevention in Uganda.

Chapter 6: Discussion

Due to the extensive impact of HIV/AIDS throughout the world, this study chose to focus on a specific region in a specific country; Ruhiira, Uganda. I conducted qualitative interviews with nine health workers at multiple health facilities in the Ruhiira area of West-Uganda. The qualitative interviews were complemented by an extensive literature review to investigate the research objectives. In this chapter I will discuss the general and specific objectives of the thesis as presented below. This will be done by combining the outcomes of what has been presented in the background, the results of the qualitative interviews and the theory of the modified social ecological model.

The research objectives of this study were:

1. To explore health workers' perspectives of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past.

2. To explore health worker's views on current trends in HIV incidence in their setting (including high-risk groups).

3. To explore health worker's views on recent changes in HIV-related risk behaviors or in prevention strategies in their setting.

4. To explore health worker's views on what can be done to improve HIV/AIDS prevention in their setting.

Based on the literature included in this thesis, it is my impression that HIV/AIDS has been one of the most devastating epidemics to a sustainable development in our world, especially in Sub-Saharan Africa. However, my study has focused on Uganda (Lau & Muula, 2004, 403; Inungu & Karl, 2006; Awolowo, 2007; UNAIDS, 2014). The pandemic in Uganda is affecting life expectancy at birth, age and sex distribution, income, and economic growth. It is also influencing education and knowledge appropriation, and other indicators like governance, gender inequality and human rights (Boutayeb, 2009). However, experience from several parts of the world shows that it is possible to effectively manage the disease, stabilize new HIV incidences and drastically reduce the HIV prevalence (WHO, 2014). I find that this is the case of the Ugandan success story.

The following section will discuss the main findings from the interviews with health workers and relate them to the literature review and the theory of the Modified Social Ecological Model.

6.1 Health workers' perspectives of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past

There has been considerable interest in understanding what led to Uganda's dramatic decline in HIV prevalence, one of the world's earliest and compelling AIDS prevention-successes (Parkhurst, 2002; Green, 2003; Allen & Heald, 2004); Stoneburner & Low-Beer, 2004; Okware et al., 2005, 625; Wawer et al., 2005; Green et al., 2006). My impression from reviewing literature is that Uganda has had tremendous success in coping with the HIV/AIDS epidemic in the past. This has been apparent in the decrease in HIV prevalence and the number of new incidences from the late 1980's until about 2005. Shafer et al. (2008) argued that 2005 was the year when the positive development turned around. The main findings of this objective from the interviews showed that health workers were particularly insisting on the following factors, which were; initiatives from the President leading to disclosure, openness and public campaigns, secondly the ABC strategy's role and third the role of funding (Parkhurst, 2001,75 in Hardee et al., 2012,12; Kiweewa, 2008, 53; Parkhurst, 2010; Genuis & Genuis, 2015, 615). I feel that perceptions from health workers correspond with existing literature.

6.1.1 The President's role

When reflecting on key factors that can explain the success story, many health workers pointed to the initiatives taken up by President Museveni. They lead to exposure and openness where people were encouraged to disclose their HIV-status and have felt free to do so (Hardee et al., 2012). Museveni's actions in the mid-80s differed from many other African leaders at the time who avoided addressing the problem openly, in fear of lack of investments and a decrease in tourism etc. This was highlighted by health workers, and that the HIV/AIDS epidemic was put on the agenda from the very beginning on line with arguments by Inungu & Karl (2006) & Parkhurst (2001). This is in line with what was described in the literature review, where it was argued that religious, social and cultural taboos discouraged an open climate of discussion for telling the dangers of getting infected (Inungu & Karl, 2006).

My impression is that an important part of what made Museveni's message heard and his strategies work, was his ability to cooperate with religious leaders, address and change cultural taboo's reducing stigma (Hardee et al., 2012, 11). Further it was crucial that messages went through by involving schools, churches, mosques and other important institutions as well as

reaching masses through radio, TV, advertisements and slogans (Parkhurst, 2001). The introduction of fear and workshops was also shown to be beneficial, as health workers would argue, the infection became normal and not silent. Overall, it is my perception that Museveni's initiatives spearheaded the start of a movement that would become internalized and embedded in people's mindset. This was also indicated by health workers.

6.1.2 Abstinence, Be Faithful and Condoms

A vast amount of literature in this study included references to the ABC strategy, known as Abstinence, be faithful and use a condom (Okware et al.,2001; Parkhurst, 2002; Green, 2003; Allen & Heald 2004; Halperin & Epstein 2004; Stoneburner & Low-Beer, 2004; Wawer et al., 2005; Green, 2006, 338- 41; Parkhurst, 2010, 244; Genuis & Genuis, 2015, 615. As such, I am not surprised that health workers pointed to the ABC strategy as an integral part of the success story. The ABC strategy has often been said to have started in Uganda, and this study has shown both from the literature review and perceptions of health workers that ABC has historically been associated with Uganda, even though it was implemented in other places first (Parkhurst, 2010, 244; Hardee et al., 2012, 1).

Moreover, I have found through literature that various scholars have propagated that ABC was not a consistent part of government policy in Uganda initially. Instead messages like *"zero grazing"* and *"don't forget to carry your coat"* were prevalent (Parkhurst, 2010; Hardee et.al, 2012) Hence, although A, B and C were not connected specifically in the early years of the epidemic in Uganda, national plans have included both risk reduction and avoidance (Green, 2006, 338-341). Nevertheless, this did not prevent health workers from presenting ABC as "their own". Interestingly risk reduction and risk avoidance was also mentioned by some of the health workers as important. As Halperin (2004) argued it was in fact partner-reduction that contributed the most to the decline in prevalence in Uganda, beginning in the late eighties. He further moved on to claim that there has been an over emphasis on the importance of A (abstinence) and C (condoms).

Finally, it is argued by Green et al. (2002) & Allen (2004), that despite different approaches, reports all agree on at least one central fact: Abstinence and reduction in the number of sexual partners, not condoms, were the most important behavioral changes linked to HIV prevalence and incidence decline in Uganda. This has been highlighted in the Literature review where I have shown that the government were hesitant in promoting condoms. The government of Uganda instead pursued a "quiet promotion of condoms", and invited religious leaders to take part in discussions of condoms as a state policy. (Hardee et al., 2012, 12; Schuettler, 2004);

Halperin, 2004; Green et al., 2002). Health workers would however speak strongly about the importance of condoms.

I feel it was an interesting finding that even though health workers reported to encourage ABC and had everything in place to promote it, to abstain and be faithful was highlighted. On the other hand, many health workers emphasized that if you cannot abstain or be faithful you should use a condom.

In conclusion, even though ABC has been strongly associated with Uganda, and acted as an explanation of the "success story", Parkhurst (2010) claims this is only partly correct. Literature has instead suggested that Uganda has achieved ABC outcomes from spearheading campaigns and messages focusing on other slogans, before adopting ABC and presenting it as its own (Parkhurst, 2010; Hardee et al., 2012). Further, all health workers talked freely about ABC. Even though ABC might not have been the concrete message initially, it has, in later years, become an integral part of health worker's philosophy and strategies.

6.1.3 The role of funding

Another important finding from the interviews was that health workers would also point to the role of funding and aid from foreign donors as means to explain Uganda's success. Health workers argued that there has been better provision of ARVs and better and more effective ways of testing for HIV infection. (USAID, 2013). It was said that financial backing has probably made it easier and more convenient to do mass testing of larger crowds and find the HIV-status of individuals so to put them on ARV's faster and prevent many from having unprotected sex if HIV-positive. My findings showed that financial support has also meant that tests can be conducted more often and that health workers have become better equipped to cope with the constant demands and do follow up checks in the communities. In my opinion, this reiterates that international donors and funding are crucial in the fight against HIV.

Funding goes hand in hand with technological advancement as was highlighted by health workers, in terms of the continuous improvement of ARV's and perhaps most importantly the development of efficient ways to prevent mother to child transmission of the virus (USAID, 2013; WHO, 2015; WHO, 2016). As pointed out by health workers this means that no babies are infected, a strategy that has really helped Uganda and contributed to the success story.

The role of funding has also lead to better provision of condoms and safe male circumcision. Health workers in Ruhiira reiterated that the accessibility of condoms means that health workers can encourage their use and hand them out in the communities. My impression is that the impact

of circumcision is contested (Halperin & Bailey, 1999, 354; Wakabi, 2010; Bollinger et al., 2011). However, health workers were quick to recognize how important circumcision could be, in the fight to decrease incidence and prevalence, manifested in the fact that the Millennium Villages Project provides clinics for males to undergo the procedure. The impact of circumcision may however be two-sided, something which will be addressed later.

The modified social ecological model has been associated with the recognition of the need to implement multi-level strategies for HIV-prevention, as was exemplified by Baral et al. (2013) in the theory chapter. It is my impression that Uganda implemented multi-level strategies top-down, from the President himself, to churches and mosques, schools and the grassroots. As such, it can be argued that Uganda has shown examples of achieving its success as targeting the individual, networks, communities and promoting policies on line with the stage of the HIV epidemic. This is exemplified in what Baral et al. (2007) identifies as five key aspects of risk for HIV infection. Moreover, these are factors representing risks outside the control of any person.

6.2 Health worker's views on current trends in HIV incidence in their setting and high-risk groups

Various research has shown the trend of an increasing incidence and prevalence in Uganda for the last 10 years or so (Shafer et al., 2008). It has even been argued that Uganda has been the only country in Eastern Africa to show an increase in both HIV prevalence and incidence. In the literature review, I referred to a report put together by several scientists called "Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013". The report showed a significant increase in HIV incidence in Uganda, for the last decade. In this study, I have also presented important risk factors for the spread of HIV as well as high-risk groups, both through literature and the perceptions of health workers. I will move on to discuss that shortly.

The results of the qualitative study showed that health workers had many views and perspectives on prevalence and incidence statistics. The views of health workers regarding HIV incidence were mixed. Some of the participants believed that there was no or slight increase in incidence, whereas were adamant that there were. Interestingly whether health workers believed there was a small, significant or no increase their opinions on why there is an increase or why there might not be, was quite differently debated from one health worker to another.

I will now discuss what health workers believed to be current trends in HIV incidence in their setting and what they identified to be high-risk groups. Ultimately this will be compared to important findings from the literature review and theory.

6.2.1 Health worker's views on current trends in HIV incidence

As indicated, the results showed that health workers held differing views regarding trends in HIV incidence in their setting. Interviews provided key points to consider whether the informant pointed to an upward, stable or downward trend in incidence.

I found that various health workers claimed that more people are being tested for HIV than before. Apparently, this can be showcased in mass testing on both national and community levels, due to circumstances that allow people to have access to more and better health centers. As a result, more HIV-patients are treated than before which again leads to the notion that more people have HIV, a health worker stated. Supposedly, this can give the impression that prevalence and incidence have increased.

In my opinion, it is natural to assume that through technological advancement, and more funding in the battle against HIV it is possible to register more people than before and establish a more reliable database. This might be a valid statement in the debate. In my opinion, it does however raise some important questions to consider. Might it be that due to less sophisticated ways of registering HIV-positive people and less testing previously that the HIV-success story in Uganda has been exaggerated? Perhaps national registers on HIV-prevalence and incidence might have been more based on estimates and assumptions due to insufficient means of collecting data. If this is the case, I feel such arguments can support health workers' claims that the rising incidence that has been reported can partly be explained by more and better testing at a bigger number of health centers revealed by better statistical measures.

It is clear from the results of the qualitative interviews that there were also health workers who believed that there was an increase in HIV-incidence in their setting, compared to previous years. A health worker in charge of his division reported that it was a statistic he and others agreed with. A current trend was that there was a current increase in HIV-incidence amongst young people from the age of 15-35, that were sexually active. It is notable that many health workers would point to this age group when characterizing their patients. This was in some cases based on their experience of how many newly infected patients they saw each month. Importantly it was remarked that every month new clients were enrolled in this age group.

6.2.2 Health worker's views on high-risk groups

It was interesting to learn what health workers identified as high-risk groups compared to existing literature and research. In the Modified Social Ecological Model, high-risk groups are referred to as networks that are defined as a group of people who are more likely and are more exposed to infectious diseases from one another according to Baral et al. (2013). Health workers would highlight certain high-risk groups that were more prone to infection than others.

I feel it was notable that most of the informants agreed that majority of the patients had an age span from 15-30. This indicates that the individual is more at risk from the age of 15-30, in the period where people are commonly more sexually active. Notwithstanding, I believe it is natural that this age group is more at risk as life expectancy in Uganda is no more than 60 years as previously mentioned. Moreover, most the population are 30 years and younger (Youth Policy, 2014; World Life Expectancy, 2016). Health workers also added to this point during interviews. This age group was particularly targeted by health workers who travelled around in the Ruhiira cluster to disperse condoms and information.

It was highlighted by health worker's that those who are living in discordant relationships where one is positive and one negative is a group that is given great attention. This is also reflected in the literature review (Caldwell, 2000, 117-135; Mitsunaga et al, 2005, 478-488); Mbirimtengerenji, 2007; Mah & Halperin, 2010 & Epstein & Morris, 2011). Health workers stressed the importance of using condoms as well as the need to be honest with and faithful to your partner.

I feel it is worrying that Ugandan researchers say the virus has been spreading particularly fast among married couples, fueled by the phenomenon of "side dishes," the popular term for secret lovers or mistresses as reported (Uganda National Progress Report, 2015) & (Muhumuza, 2014). Not only would the man be at risk of obtaining the infection, he might also infect his wife or his "side dish". Having this in mind I think it was interesting to find that health worker's reported that they had recently began to put more focus on capturing clients that were married couples. However, it became clear that the women were more likely to come for testing than the men. I feel this situation is something that should be addressed more clearly by policymakers. Moreover, I think there needs to be strategies in place for ensuring that the couple come together for testing and follow-ups.

Truck drivers and sex workers were other groups that were identified by health workers as more likely to be infected, and it was said that this group had been given attention recently. Truck drivers are mostly the key transmitters of the virus. They come into the different communities,

stay there for the night as they rested and then move on. Health workers claimed that during their rest they engage in casual sex with the locals and particularly commercial sex workers.

The literature supports that these are high-risk groups, not only in Uganda but across Sub-Saharan Africa (Ninsiima, 2014; Green, 2015). Factors such as truck drivers having money to spend, working irregular hours and a high consumption of drugs and alcohol were noted as posing a risk by

Literature showed that truck stops commonly do not have facilities that offer condoms and services for treating STIs and HIV, which is a major concern in my opinion. Further, literature has shown that sex workers and impoverished women seek out truck stops to sell sex, alcohol and food. As mentioned it is based on supply and demand. (Ninsiima, 2014; Green, 2015). Other migratory groups such as fishermen and miners were not mentioned by health workers, possibly because these groups stay at other places, close to mines or Lake Victoria. Notwithstanding, I believe these groups should be given great attention by policymakers and health workers, and based on health workers' perceptions it seems initiatives are well on their way.

6.3 Health worker's views on recent changes in HIV-related risk behaviours or in prevention strategies in their setting.

6.3.1 Current changes in HIV-related risk behaviours

One of the objectives was to try to investigate whether health workers meant there had been a change in HIV-related risk behaviors or risk factors in their setting. It was deemed important to determine their views on if and how people's behavior and attitude towards HIV had changed in the past years, which was reflected through the questions asked from the interview guide. All health workers, irrespective of their views regarding contemporary trends in HIV incidence, in general reported these changes.

Firstly, health workers argued that people did not follow ABC as well as before, especially in a rural area like Ruhiira. Apparently, according to health workers, people in the countryside tend to focus more on part A and B rather than C (using a condom). They attributed this difference to education; people in urban areas are more educated than those in the periphery. Further, it was said that there is also a generational difference and that established couples are more faithful and abstinent than younger people. It was not reported that much on the difference in condom usage amongst young people in Ruhiira compared to young people in more urban areas, but it was hinted that attempts to persuade young people to use condoms in towns and

cities have been more successful. It did however become clear that health workers were convinced to make changes to this situation. However, it is still a problem that the man will refuse to wear a condom, as using it decreases the pleasure of having intercourse, something which was lectured in the mother's program in Ruhiira.

As mentioned, health workers also found that there had been a decline in abstinence and faithfulness. It was indicated that new lifestyles had been developing possibly influenced by TV and movies. Some health workers did not report on any specific changes in the implementation of ABC but would continuously stress that ABC was still a key strategy to them as well as spreading awareness and educate the masses in the communities. However, others would suggest that the ABC strategy was no longer a key strategy and that the government had moved on to other strategies. As outlined in section 2.5, some blame PEPFAR for this development.

Secondly, health workers moved on to state that HIV had become a mode of life (a chronic disease). As ART treatment has improved over the last decades, people increasingly live longer and healthier lives despite being infected. It was pointed out that people once bed-ridden were suddenly out in the community. HIV is no longer a certain death penalty. It is a growing problem that people living longer with the infection act like they "always have" and continue to spread the infection. As previously mentioned fear was a key factor in the early days of the HIV campaigns in Uganda. It is my impression that it seems like the fear factor has diminished. Perhaps it is time for the government to come up with new inventive slogans.

Finally, the results showed that there was a great deal of focus on male circumcision in the cluster of the Ruhiira health centers, as several of them offered safe male circumcision. As mentioned male circumcision has received a great deal of attention and has been subjected to a lot of research (Halperin & Bailey, 1999, 354; Inungu, Malone & Betts, 2005; Wakabi, 2010; Bollinger et al., 2011; Galukande et al., 2015. Male circumcision has been scientifically proven to lower the chances of getting infected, though it is unclear to which extent. As shown by the literature review, countries in which fewer than 20% of males are circumcised, such as Zimbabwe, Botswana, and Zambia, experience a high prevalence of HIV infection (greater than 19%), whereas countries in which more than 80% of males are circumcised, such as Cameroon, Gabon, and Ghana, have a lower prevalence of HIV infection (less than 10%) (Inungu & Betts, 2005, 130-138).

Importantly, it was reported by health workers that the effect of circumcision has been exaggerated and that rumors and myths are surrounding it indicating that it is some form of vaccine that will immunize you against HIV. I believe this argument finds support in the literature review where it was argued by Bollinger et.al (2011) that a massive scale up of male circumcision will divert resources from already proven HIV-prevention measures. Still, the national target for Uganda by 2015 was to circumcise 4.2 million adult males, so it seems this strategy will be a key target for health officials and policy makers in Uganda (Galukande et al., 2015); (Wakabi, 2010). Nonetheless, I suggest it could be wise to thoroughly examine the benefits of this roll-out compared to the costs and possible negative effects.

The Modified Social Ecological Model argues that while the focus of epidemiological studies has traditionally been to describe individual risk factors, it is necessary for data collection to characterize multiple levels of HIV risk in the future (Baral et.al, 2013, 1). Multiple levels of risk factors have been described in Chapter 4 as five aspects of risk for HIV infection: individual, network, community, policy and the stage of the HIV epidemic. A trend has been that policy makers have targeted interventions at individual level risks, not focusing that much on other levels of risks. It is therefore interesting to reflect on what health workers highlighted as important levels of risk of obtaining the HIV infection.

As presented in Chapter 4, individual factors are biologic or behavioral traits related to the vulnerability to receive or transmit illness or infection. The oval graph presented would highlight factor's such as genital ulcer disease (GUD), lack of circumcision, frequency of male partners, high lifetime partners, injection drug use and so forth (Baral et.al, 2013). Health workers did not mention GUD as such but circumcision was clearly on the agenda. This tells me that not being circumcised is considered an important individual risk factor for contracting HIV by health worker's in Ruhiira. Moreover, this can also be applied to the frequency of male partners, or just partners in general, manifested in that health workers stressed the importance of being faithful to your partner. In that regard, this could indicate that health workers acknowledge the risks involved of not being faithful and have many sexual partnerships. When it comes to having high lifetime partners, health workers told me that bringing aboard the married couples was of a high priority and this corresponds not only with the SEM but also with what was presented in chapter 1.4 about the trend of having «side dishes» (Muhumuza, 2014). Substance or injection use was not mentioned by health worker's during the interviews. It is unsure whether they did not give it that much importance or if they felt that there were

other factors that should be given more attention. Nevertheless, clearly health workers were concerned about individual risk factors as was reflected by the results.

What can be derived from the interviews when it comes to the issue of network and community level risks? First, as presented such risks amount to the prevalence of sexually transmitted diseases, unprotected receptive or insertive intercourse at the network level (Baral et.al, 2013). Second, on the community level risks such as lack of preventive services, stigma, access to voluntary counselling and testing and ART access are influential.

As depicted in the literature review, sexually transmitted infections (STIs) is a significant public health problem and can greatly facilitate the spread of HIV (Gerbase, 1998). Accurate national data on the prevalence of individual STIs is not available in Uganda, according to Rassjo (2006) but epidemiological studies show that STIs are a public health problem. Health workers did not specifically mention STIs as a threat to HIV prevention during the interviews. It would however be natural to assume that treatment was offered at the health centers, given that combatting and treating STIs has been given such a high priority on the global stage initiated by the UN ((Mayaud & McCormick, 2001). The topic should perhaps have been addressed more clearly during the interviews.

The results have shown that health workers did stress the importance of targeting patients and other groups (from outreaches) and encourage them to protect themselves during sex. The importance of using a condom and handing out condoms in the communities was mentioned several times. It is clearly a priority for health workers and evidently, they see it as crucial to eliminate the risk of unprotected sex. Networks between truck drivers and other migrants and commercial sex workers is an example. As previously mentioned health workers were already aware of the threats such networks represented.

Turning to community level risks the lack of preventive services is a major obstacle to adequate HIV-prevention and could potentially lead to risky behavior and a shortness of information about the dangers of HIV. Health workers were aware of this issue. It is my impression, that it is a major problem in Uganda that people do not have access to basic preventive services. Health workers were aware of the important work they had been trusted with, but some were clearly frustrated that funding was at times limited and that they were not able to do the follow ups that were required for a holistic approach to patients.

Community environments can promote health and well-being but might also be a source of stigma. As mentioned in chapter 2 stigma is a big problem and an obstacle to good HIV prevention across Sub-Saharan Africa (Inungu & Karl, 2006). As previously mentioned Uganda had a considerably different approach to addressing the magnitude of the HIV/AIDS problem as it broke out in the first place as compared to other African governments at the time, and this led to a reduction of stigma. As health workers mentioned; the infection was not silent (Hardee et.al, 2012, 2; Genuis & Genuis, 2015, 615).

Literature has shown that the general population of people in Uganda living with HIV are targets of substantial amounts of negative judgement on a national scale (Carter, 2014). There are elements of two types of stigma; the stigma put on HIV-positives themselves (internal), and the stigma put on HIV-positives by others (external). Health workers did mention stigma as a major obstacle for HIV-prevention and treatment, especially amongst men (avert, 2014). In that respect, I feel it is interesting that health workers explained that women were more likely to go for testing than men due to greater levels of stigma. Accordingly, it is my impression that fighting stigma is a key priority for health workers. It is not clear if it is a trend across Uganda that women are more likely to seek out treatment and counselling than men. I suggest it could be an interesting starting point for a greater scientific study.

When it comes to accessible voluntary counselling it is my impression that it is crucial for it to be in place to help those in need. Health workers did not address the issue of voluntary counselling not being sufficiently available. Instead, many focused on the tools that were present. As an example, it was mentioned that ABC was encouraged and that everything that was required to implement this strategy was ready, and in use. It is vital that people have access to voluntary HIV counselling all over Uganda be better equipped for dealing with the negative trend of the HIV incidence that has been on the rise, not only in urban areas but also in the distant periphery. The public sector faces many challenges, one of which is prevalent understaffing of health workers.

As described by White (2012) 45% of all positions in Health Centers are unfilled and the shortages are worse in rural areas, resulting in long waiting times for patients. As of 2014 18% of the Ugandan population resided in urban areas according to the World Bank (2014). This

leaves 82% in rural areas. Infrastructure is highly inadequate in vast stretches of the country. In my opinion, it is imperative that money is invested to improve the infrastructure so more people can travel to health centers, and that health workers can find more convenient ways of reaching out to the masses. Going hand in hand with this context is the provision of ART. It became clear that health workers were optimistic about this treatment, especially when it came to the prevention of mother to child infection of HIV. Babies were put on treatment straight away and a successful treatment can make sure that the child will not get infected, as previously mentioned (De Cock, K.M. et al, 2000; WHO, 2015; WHO, 2016; UNAIDS, 2016. However, as of 2013 more than 60% of adults living with HIV were still not on treatment, per UNAIDS (2014). This shows that ART coverage is far from good enough, and this is something that should be improved and developed, both by Ugandan authorities and international agencies and donors.

The last level of risk is public policy and how it can affect the HIV epidemic. The SEM theory suggests that criminalization, homophobia, human rights contexts, condom availability, that people are excluded from national surveillance and sexual health education is inadequate can greatly influence the HIV epidemic negatively.

The situation for lesbian, gay, bisexual and transgender people in Sub-Saharan Africa and Uganda has already been described (Semugoma et al., 2012,173). The discriminatory practices and legislation that this group faces contributes to putting this group at high risk of HIV-infection. The practice of sexual activities by this group is punishable by prison, and once outed individuals of this group face serious discrimination and stigma across. Sub-Saharan Africa, and in Uganda. Literature showed that it is still unclear to what extent new laws and bills will affect LGBT-people in Uganda, and this is partly due to the vast amount of pressure Uganda has been put under from other influential donors, NGOs and activists (Semugoma et al., 2012,173). As previously mentioned health-professionals are mandated to report on homosexuals in treatment. It became clear through the interview sessions that health workers were not going to mention this group at all, albeit clearly a group at risk. There were times I felt it was tempting to do follow up questions to see the reactions it would garner. In the end, such an approach was deemed too risky and I was not willing to jeopardize the whole project by potentially turning the health workers against me, as this is clearly a very sensitive issue in Uganda. In a human rights context, it is problematic. According to Amnesty International (2017), the Universal Declaration of Human Rights does not mention sexual orientation or

gender identity per se. Notwithstanding, new interpretations of international human rights law provide a comprehensive framework to include the rights and the protection of the rights of LGBT people around the world.

It did not come clear from literature or perceptions from health workers if people are excluded from national surveillance. It did however come clear that sex education is not sufficient, although health workers were doing their best to provide information in the communities. It was also clear that health workers were doing their best to provide condoms for those who needed.

6.3.2 Prevention strategies for health workers in their setting

From interviewing health workers about the daily functioning of the health centers and the nature of their work some important points stood out. Prevention strategies are both clinical, psychosomatic, and the importance is put on educating patients and their families and friends, middle aged and adolescents. What stood out was the time and resources invested in the prevention of mother to child transmission.

It became evident that different health facilities were involved in the provision of several HIV-related services ranging from counselling to follow ups and prevention, treatment, condom handouts, dispersing vocal and written information about HIV and TB, dealing with pregnant mothers and doing follow ups of lactating mothers. Extra attention was also given to young people and people living in discordant relationships (often married couples). This on line with what was highlighted in The Uganda National Progress Report of 2015 and by Muhumuza (2014). Health facilities would also call for ambulances in emergency matters and the ambulances would take the patients to the hospital in Mbarara. These factors tell me that health centers are meeting the complex multidimensional problem of HIV with a multifaceted response with several different strategies concentrated on diverse groups and sub-groups.

The strategy of preventing newborns of being infected is vital for Ugandan authorities and as was indicated by health workers it is a strategy that has helped and is helping Uganda. A reflection that got my attention came from an informant who said that from his experience, since they started with PMCT, not a single child had got the infection. It seems clear that it is crucial to invest money and dedication to this cause.

Literature showed that Uganda is mainly a patriarchal society where men will often have the last say on both important and trivial matters (Uganda HIV and AIDS Country Progress Report, 2014:11), and has often been associated with the aftermath of war, alcohol consumption and culture (Mbulaiteye et.al,2000:217-227; Lau & Muula, 2004; Fleshman, 2006; Morojele et.al, 2006:217-222; Simbayi, 2004:434-442; Luke, 2006; Widow's Rights International, 2006; Nyanzi & Mbodu, 2008; Agiresaasi, 2011). This manifested itself somewhat during the interviews and is something I have reflected on. The notion that the man refuses to wear a condom and that the woman will often go alone for testing is problematic. It was indicated that a clear strategy of health workers in the Ruhiira cluster aim to capture as many clients as possible and to achieve that target it is important that the man accompanies his partner or even goes by himself for testing. It was clearly highlighted by health workers that men will often be targets for more stigma than women. I feel it is evident that the reduction of stigma should be prioritized in the battle against HIV.

Ultimately, it can be argued that the ABC strategy still has its part to play as was elaborated by health workers. This goes hand in hand with educational measures and as stated during the interviews. Patients who are educated follow ABC very well. Health workers strongly condemned the fact that as people have more access to foreign TV they are inspired by lavish lifestyles with people who are unfaithful and go with multiple partners. Thus, they find an urge to practice what they see on TV. Health workers were aware of this trend and sought to convince people to seek out the right information and raise awareness. I feel that putting a specific focus on ABC strategy seems a wise choice in such circumstances.

6.4 Health workers' views on what can be done to improve HIV/AIDS prevention in their setting

The fourth objective of this study was to explore what health workers thought could be done to improve HIV/AIDS prevention in their setting. The key findings from the qualitative interviews pointed to some important points highlighted by health workers. First, the results showed that health workers insisted that media campaigns should be strengthened and that there should be a handout of condoms and information about HIV and risky behavior. Second, it was stressed that groups at risk should be targeted. Third, the continued efforts aimed at reducing mother to child prevention were seen as crucial. Finally, the results showed that health workers were concerned about the importance of expanding the health sector and health education. Important arguments can be drawn from the health workers' viewpoints when combined with this thesis' literature review.

6.4.1 Strengthen and design accurate media campaigns

As mentioned in Chapter 5 many health workers agreed that measures had to be taken to change the situation of increased HIV incidence and prevalence in Uganda. One of these measures suggested by health workers was increasing awareness about HIV by providing information on how to avoid risky behavior and eventually being infected with the virus as well as how to prevent passing on the infection to others. It was said that the best way to manage this was forceful media campaigns and education, much like in the past as demonstrated in the literature review (Okware et.al (2001; Parkhurst, 2001,75; Parkhurst, 2010,245; Hardee et.al, 2012,2; Genius & Genius, 2015,615; USAID, 2015,10-75).

Health workers underlined the importance of forceful media campaigns as a key factor in the fight against HIV. This section of the interview guide explored what could be done to improve HIV prevention strategies. Their answers indicated that health workers were not content with the standards of current media campaigns. Whether this is due to regional differences is not clear, and it is important to note that the situation of Ruhiira, a rural cluster in the periphery may be different from more urban settings where media is usually more present and radio and TV coverage is better. Lugalambi (2010, 50) claims that the radio and TV coverage in Uganda is very much concentrated in urban areas, especially around Kampala. In that respect, it was interesting to find that one health worker argued that villages differ from towns, as information is not as widespread, and that is a major issue. It was said that radio networks, newspapers and TV network coverage is low. Nevertheless, health workers explained that they had a man in charge of radio services in the local areas and that it has brought success. It seems like they should continue that process, and with better funding it might even be possible to recruit more people and improve coverage further.

Messages that health workers felt should be spread were "*abstain, be faithful, change behavior to reduce sexual transmittable diseases".* This quote is interesting as it suits a notion that has been presented earlier in this thesis by Green et.al (2002; Allen (2004; Halperin (2004) & Schuettler, 2004); that the role of condoms in the success story of reducing HIV prevalence and incidence in Uganda has been heavily exaggerated. I feel it makes you consider if condoms can play an even bigger part in HIV-prevention in Uganda, given that it is accepted that their contribution has not been as significant as assumed.

An example of a campaign that had given hope to health workers was "guard your goal" introduced by President Museveni during my time in Uganda. That campaign reiterated the dangers of believing that being circumcised will make you immune from obtaining HIV,

arguing that it will only give you 60% protection and that you need to make sure that you manage the remaining 40%. It is undoubtedly important that this is a message spearheaded by the President and follows a lengthy line of initiatives encouraged by him in the past, as has been elaborated by several studies (Okware et.al 2001; Parkhurst, 2001; Parkhurst; 2010; Hardee, 2012).

However, if condoms could potentially play an even bigger part in HIV-prevention in Uganda we can argue that efforts should be intensified. Further I do not disregard that many health workers spoke highly about the use of condoms. They mentioned abstinence, faithfulness and awareness more often. I feel that is an interesting trend to consider. Notwithstanding, the role of media campaigns and the distribution of information explaining the dangers of HIV have played a crucial part in the Ugandan context and should still have and important part to play.

In future, these campaigns could be expanded to include social media. Today, mobile health information technologies are introduced around the world to cope with a variety of obstacles from disease surveillance to health systems strengthening to health education according to Catalani et al. (2013). It would be interesting to study how social media and other technologies. can contribute to spreading health messages more broadly for both prevention and treatment.

6.4.2 Target groups at risk

As mentioned earlier in chapter 2, there are many key groups driving the HIV epidemic globally, and more specifically in Uganda. This study found that key groups that are at risk of being infected are; migratory groups (fishermen, miners and truck drivers), commercial sex workers, people living in discordant and concurrent relationships, women subjected to widow inheritance and dry sex, people abusing alcohol and drugs, victims of war, children being infected by their mothers and homosexual, lesbian and transgender people. Added to that are also people that for various other reasons are discriminated against.

Health workers were focusing on specific groups at risk, and some of the groups that have been mentioned earlier (chapter 2) were not mentioned in the interview sessions. There might be several reasons explaining that. For example; fishermen are primarily found around Lake Victoria, victims of war reside mostly in the north and miners are found in other parts of the country. Widow inheritance is a disputed practice and it was not clear whether this custom is practiced in western Uganda. However, I believe that there is stigma connected to this practice which could explain why health workers did not bring it up. Stigma could be a reason why health workers did not address the issue of homosexual, lesbian and transgender people. I will now discuss the groups health workers brought up that they felt should be targeted by health

officials and policymakers in Uganda, to reverse the situation of a rising HIV incidence in the country.

6.4.2.1 Truck drivers

Health workers eagerly described how they had put more emphasis on targeting truck drivers as vital in circumventing the continued spread of HIV in the local communities. It was said that truck drivers were key transmitters of the virus and that they were present on overnight rest stops. During their stay, truck drivers will often engage in unprotected sex, very often with commercial sex workers. As previously mentioned (Chapter 2) this phenomenon is something I witnessed personally during my stay in Uganda. As mentioned in Chapter 2, truck drivers have money to spend and work irregular hours. Many are believed to be under the influence of drugs and alcohol that can lead to risky sexual behavior. Truck stops usually do not have facilities that offer condoms and healthcare services for treating STIs and HIV.

Another factor that could be of importance is the state of the infrastructure. According to the IMF (2015), a ten-year, multibillion-dollar plan to upgrade Uganda's transportation network and power generation is underway. I received an explanation locally that this was a joint investment strategy by both Ugandan and foreign investors, especially the Chinese. Naturally, a better infrastructure can have many benefits. Perhaps most crucially, lifesaving goods such as medicines and food supplies can reach those who need them more effectively and in a shorter time. In addition, economic benefits, such as better telecom reach, and a better climate for business and trade are also possible. Returning to the issue of truck drivers, there is a potential negative side of better infrastructure that may be overlooked (IRIN, 2010). An increasing network of trucker's routes binding sub Saharan Africa together will make it easier for truck drivers to travel further. In this respect, it can be imagined that truck drivers are also able to visit more communities and further aggravate the HIV epidemic by infecting more people. This makes it as important as ever to be able to reach out to this group and as suggested this implies a scaling up of information and key health services along crucial arteries (IRIN, 2010). There could for example be handouts of condoms and vital information as well as the potential to receive treatment for STIs and HIV. Facilities could perhaps be located close to places where truck drivers stop for gas and other supplies and where they usually park their vehicles for the night. In conclusion, I feel it is understandable why health workers were particularly insistent that truck drivers were "brought on board" as clients and the efforts of capturing these clients should be intensified in the years to come.

6.4.2.2 Commercial sex workers

Health workers were particularly concerned with commercial sex workers who are at a high risk for contracting HIV. In Uganda the sale of sex, to keep a room or premises where sex work occurs or live off the earnings of sex work is illegal. Sex work related crimes can entail a sentence as high as seven years in prison (Amnesty International, 2016).

As Chapter 2 has shown, various young women on the African continent become sexually intimate with different male friends or clients in exchange for financial support, to find a way out of poverty. The issue of poverty in these circumstances is known by health workers to be a key factor explaining why women were forced to "sell their bodies". As previously mentioned in chapter 2 the prevalence of HIV throughout Africa is substantially higher for commercial sex workers in comparison with the general population as reported in a book by Sentumbwe, Nakkazi & Nantege (2006).

Another challenge is that many commercial sex workers become pregnant and put their children at risk of contracting HIV. Further, many are in a stable relationship at the same time as participating in the sex trade. In the context of preventing the spread of HIV in Uganda this target group should be the further focus of future interventions. First, it is important that commercial sex workers receive training in how to properly use condoms. They should be encouraged to carry condoms with them and taught how to negotiate condom use with clients. Secondly, programs of mother to child prevention should be specifically targeted towards commercial sex workers. Again, as health workers reiterated, information and education is the key.

Ways to reach out to this group in a convenient and effective manner should be identified. If commercial sex workers are in a relationship, their partner should be educated and made aware of the risk. Programs should be put in place to help commercial sex workers find other sources of income. Studies have found that a proportion of commercial sex workers consume alcohol and drugs (reference). Support programs should be made available to those suffering from addiction to help in getting "clean".

Amnesty International (2015) reports that sex workers are excluded from vital health services by doctors. They may also face stigma or mistreatment when visiting health facilities (Amnesty International, 2015). Amnesty suggests that sex workers should be empowered and included in policy making to be active participants in influencing their everyday lives.

6.4.3 Prevention of mother to child infection

During the interviews, many health workers were adamant that bolstering initiatives to prevent mother to child prevention were crucial for an effective HIV-response. Some would even credit this method as one of the reasons behind the Ugandan success story. This strategy is an integral part of the Millennium Villages Project aims and a key component in the fight against HIV. It is now possible for an HIV-infected mother to carry, deliver and breastfeed a baby without transmitting the infection (Millennium Villages Project, 2016).

In 2011, a Global Plan was launched to reduce the number of new HIV infections via mother-to-child transmission by 90% by 2015 (Aidsportal, 2015). In 2015, six priority countries (Botswana, Mozambique, Namibia, South Africa, Swaziland and Uganda) met the Global Plan target of reducing mother-to-child transmission by 90% (UNAIDS, 2016). In that case, I believe is evident that health workers in Ruhiira have a valid point when they look to the prevention of mother to child infection as a means that have helped Uganda in the past, and will continue to aid its progress in fighting the epidemic in the years to come.

6.4.4 Better funding of the health sector and health education

In the literature review I presented an overview of the health sector in Uganda that pointed to the various challenges Uganda is facing (Mukasa, 2012). Throughout the interviews, many informants addressed these challenges and spoke of challenges related to inadequate training and education of medical staff and nurses, lack of resources to do follow-ups with patients and adequate counselling and testing.

Literature has argued that the Ugandan health system has gone from being one of the best in the region at the time of independence to being far from comprehensive enough to meet the existing demands of a growing population (Mukasa, 2012). Health indicators are poor. It was argued that the reasons behind this downturn are multifaceted. Especially important are political unease and the re-emergence of diseases that had previously been under control and perhaps most importantly the arrival of HIV/AIDS (Mukasa, 2012,2; Okech, 2014; WHO, 2005,14). It was therefore not surprising that health workers voiced concerns over existing structures. Firstly, it was implied that there should be alternative ways of reaching out to the masses other than TV and radio. It was argued that an option could be to channel the message through churches and health centers, where it is possible to reach out to vast groups of people simultaneously.

As argued by Mukasa (2012), Uganda only has one doctor and 13 nurses for every 10,000 people, leaving capacity far short of the minimum of 23 physicians ratio for every 10,000 people in line with the recommendations of WHO (Mukasa, 2012). Findings showed that health workers wanted more resources, that more health workers were trained and employed and better funding from the government. Moreover, it was said that it was challenging for health workers to conduct home visits and follow ups due to the lack of transport and facilitation. My impression is that it is not only an issue of transport and facilitation. It is also an issue of infrastructure. The roads in the Ruhiira cluster are not well developed which puts another burden on attempts to reach out to the people in need. This is probably not only a problem in Ruhiira, but in other remote areas of Uganda that lack basic infrastructure. However, educating and employing more nurses would ease the problem, as argued by health workers in their interviews.

Health workers claimed that people are less likely to transmit the virus if they know their status and are educated on safer behavior. However, if the capacity is not there to test those want and need to be tested it is a major concern. The need of being able to offer counselling for all is vital, also for those who are not infected so they know how they can remain negative was also argued by a participant. However, to come for testing, people need to be aware of where and how testing occurs. It can also be argued that it should be made clear that a conversation between a health worker and a patient will be kept confidential if there is stigma involved.

A further issue is the number of health centers in Uganda. As argued by Mukasa (2012), access to health services is still constrained by geographic inaccessibility to health facilities, especially in rural areas and due to financial burdens of the poor. Funding was again the issue when health workers argued that better and more comprehensive HIV counselling and testing was important in Uganda's fight against HIV. In my opinion, Ugandan authorities and foreign donors should strive to make health centers more accessible for people all over Uganda, irrespective of financial status and location more people can come for testing.

Health workers also highlighted the importance of ARVs in HIV prevention in Uganda. It was argued that by the help of ARVs people can enjoy longer and healthier lives. Particularly important is the notion that it will act as incentive for people to volunteer for HIV testing. If a person is positive, he will be put straight on ARVs and the presence of an organization such as MVP can persuade people to come for testing if they are aware of the benefits ARV-treatment brings. Even though people are negative they establish a relationship with a health worker who can also be able to deliver prevention messages. My impression is that this can lead to the

patient forwarding these messages to relatives and friends which may give them a better idea of how to protect themselves. Moreover, patients tested may also convince others to go for testing.

However, it is crucial that people are aware of the limitations of treatment, as was addressed by health workers. It is not a vaccine, and it does not mean that an HIV-positive person will not infect others even though he or she is on treatment. Health workers were concerned that better HIV-treatment would lead to more risky behavior. As was presented in the results, health workers felt the fear factor played an important part in the initial success story of decreasing HIV-incidence and prevalence in Uganda. It may be reasonable to question the benefits of fear in the long run. However, it is crucial that people are informed of the consequences of HIV infection. I feel health workers have an important part to play in this operation.

6.5 Relevance of the study

This study has explored health workers' views on factors behind the successful HIV reduction in Uganda in the past, as well as factors responsible for current trends in HIV incidence and risk groups and risk behavior. Knowledge of health worker perceptions can provide information that can be used in the development of efforts aimed at combating HIV. Health workers have important experiences of dealing with HIV on an everyday basis and thus their views could potentially be of interest to policy makers.

It is important to note that the field study was conducted in an area that has seen a rise in the HIV prevalence and incidence over the last ten years, following official statistics and quantitative reports for the country (The Lancet, 2013; Shafer et al., 2005; UNAIDS, 2014; Uganda National Progress Report, 2015; Uganda AIDS Commission, 2015). The results showed that this was also the view of most of the health workers interviewed.

The findings from the thesis can possibly provide valuable information to public health workers and policy makers who work in HIV/AIDS prevention in this setting.

Chapter 7 Conclusion

7.1 Conclusion

This study explored Health worker's perceptions of HIV incidence and risk factors in Ruhiira, a town in western Uganda. The general objective of this study was to explore and review health workers' perceptions of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past and what they believe are the factors explaining current trends in HIV incidence in the Ruhiira cluster.

Findings showed that health workers had corresponding but diverse perceptions on of the factors that have contributed to the "success story" of HIV prevention in Uganda in the past. First, many health workers pointed to the initiatives taken up by President Museveni that led to exposure and openness about the disease. Second, health workers pointed to the ABC strategy as an integral part of the success story, promoting abstinence, faithfulness and the use of condoms. Finally, health workers highlighted the role of funding, and aid from foreign donors as a mean to explain the success story.

Furthermore, findings indicated that health workers had differing views on current trends in HIV incidence in their setting. Some of the participants believed that there was no or slight increase in incidence, whereas others were adamant that there was. Importantly, it was claimed that the rising incidence could partly be explained by more and better testing at a greater number of health centers recorded by improved statistical measures. It was found that various health workers agreed that the incidence had gone up. An important finding was that supposedly there is an increase in HIV-incidence amongst young people from the age of 15-35, that were sexually active. This age group was characterized as a high-risk group by health works, especially those living in discordant relationships. Findings also showed that health workers believed married couples, sex workers and truck drivers were high-risk groups.

Findings revealed a diversity in health worker's views on recent changes in HIV-related risk behaviors and prevention strategies in their setting. Firstly, health workers argued that people did not follow ABC as well as before, especially in a rural area like Ruhiira. Second, it was said that faithfulness and abstinence had decreased, especially amongst young people. Third, it was implied that the ABC strategy was no longer a key strategy and that the government had moved on to other strategies. Further, health workers stated that HIV had become a mode of life or chronic disease, and people no longer feared infection in the same way. Moreover, safe male circumcision was reiterated as an important strategy for HIV-prevention.

Health workers stressed the importance of targeting populations through outreach and encouraging them to protect themselves during sex. Health workers saw the continuation of ABC as a key strategy, as well as decreasing stigma, especially for men. Finally, other key prevention strategies for health workers were found to be counselling to follow-ups and prevention, treatment, condom handouts, dispersing vocal and written information about HIV and TB, interacting with pregnant mothers and lactating mothers.

Findings concerning health workers' views on what can be done to improve HIV/AIDS prevention in their setting were also presented. First, health workers insisted that media campaigns should be strengthened, and that there should be a handout of condoms, information and education about HIV and risky behavior. Second, it was stressed that groups considered at risks should be targeted as well as a continuing focus on reducing mother to child transmission. Reducing poverty was also mentioned as crucial. Finally, findings showed that health workers felt it was essential to expand the health sector and health education to improve HIV-prevention and reduce the HIV-incidence and prevalence.

7.2 Implications for practice

Below, I list implications for practice based on my findings:

1. Policy makers and program managers could consider reviewing newly implemented prevention strategies and comparing them with the ABC strategy to see if components of the ABC strategy could be revisited.

2. An effort should be made to provide explicit programs that target high-risk groups such as truck drivers and commercial sex workers in Ruhiira for HIV prevention, testing and treatment.

3. A continuous effort should be made to hand out condoms and prioritize sex education in the Ruhiira setting. This implies that health workers have funding to help them travel around in the communities.

4. An effort should be made to involve men to a bigger degree in HIV-prevention, follow-ups and treatment in Ruhiira. Today men are more reluctant to come for testing than women in Ruhiira. This needs to be addressed properly.

7.3 Recommendations for further research

Knowledge of factors that influence HIV incidence is crucial, as it can provide useful information used in efforts aimed at combating HIV. The health workers in the qualitative study have important experience of dealing with HIV on an everyday basis and thus their views could potentially be of interest to policy makers. Health workers have knowledge about key epidemic factors such as what constitutes risk behavior or risk groups on a grassroots level and can contribute their thoughts on what is being or should be done in HIV-prevention. There are a limited number of studies published on health worker perceptions of HIV incidence and prevention. However, studies from Aishat & Ayinde (2016) & Dapaah (2016) are quiet recent studies doing research on health worker's perceptions on HIV. One of the aims of this study has been to contribute to filling that gap. The findings from the thesis can possibly provide information to public health workers and policy makers who work in HIV/AIDS prevention in this setting. Below are further areas of research that arose during the data collection and analysis for this thesis.

1. Assess the role an increased focus on condoms can play in the Ugandan context.

2. Conduct further research on how and why the HIV epidemic has seen a resurgence in Uganda.

3. Investigate whether patient's perceptions around Abstinence, Be Faithful and Condoms are like those of health workers in the Ruhiira area.

4. Investigate local perceptions of male circumcision and HIV.

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APPENDIX 1 Interview guide

1. How old are you?

2. What is your occupation?

3. What is your education?

4. How long have you been working here?

5. What HIV or AIDS related services do you personally perform at this facility?

5. How is the distribution of patients in your clinic according to age and gender?

6. From your opinion, why has Uganda been so successful in fighting HIV in the past?

7. What can you tell me about the ABC-approach?

Probe: What does the A stand for, B stand for, the C stand for?

8. Have there been any changes in the ABC approach by the government in recent times?

Probe: has it been changed, abandoned or has there been no change in this approach?

Probe: Are there regional differences in implementation

9. What does this mean for your approach in patient care?

10. How has the HIV-incidence changed in Mbarara in the last few years?

Probe: has it increased, decreased or is it unchanged?

Probe: Among whom has it changed the most? In which segments of the population?

11. What factors do you believe are behind this change (increase or decrease)?

Probe: Change in policy?

Change in people's behavior?

Better access to ART?

Belief that HIV is no longer a death penalty?

12. What are the common challenges for health workers and health care services when trying to deal with this change in incidence or with prevention of HIV in general?

Probe: New probes? Information, and how do you distribute information? Do you do the same? Or has it changed?

13. What do you believe could be done to improve prevention of HIV in your setting?

Probe: Policy changes, health education/communication

Probe: Treatment does not necessarily mean cure.

APPENDIX 2 Permission to conduct research

April 18, 2017

To whom it may concern,

Re: Permission to Conduct Research at Ruhiira Millennium Villages Project, Mbarara, Uganda

This is to confirm that **Petter AsplinSørlie**, Masters student at Oslo and Akershus University College of Applied SciencesOslo, Norway conducted the research titled, '***The HIV Situation in Uganda. A study of health workers in Ruhiira and risk factors associated with the rising HIV incidence in the Country***'at *Ruhiira Millennium Villages Project, Mbarara Uganda between October and December 2014.*

This also serves as assurance that Petter Asplin**Sørlie** complied with requirements of Ruhiira Millennium Villages Project and ensured that the requirements of the study participants were followed in the conduct of the study. There was no risk or disconfort of participating in the study. Confidentiality of the study participants was observed. Only the researcher had access to the information and data gathered.

The study involved qualitative interviews with Eight (8) health workers and health facilities at Ruhiira Millennium Villages Project. Petter had access to field sites in cooperation and under supervision of head of health sector department at Ruhiira Millennium Villages during the study period. Petter will submit a bound copy of the full research report upon completion of masters thesis study in Norway.

I wish to state that the results of this research may be published.

Sincerely

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APPENDIX 3 Consent Form

I the undersigned has been informed that the purpose of this research is to find out issues related to HIV incidence and development in Ruhiira and Uganda. I have been informed that I am going to have discussions with the researcher about issues related to HIV and that the discussion might be repeated, if there is a need to clarify issues that might arise from the discussion.

I have also been informed that the information that I give will solely be used for this study and the findings may get published, but that my identity will be treated with confidentiality and my name will not be used in connection with the information that I gave.

I have also been informed that I can refuse to discuss issues that I don't want to discuss and can stop the interview any time I want, and that I will not be obliged to continue to participate in the study or give reasons for doing so.

I have also been informed that I can stop participating any time along the study process and that refusing to participate or withdrawing from the study will not have any consequences on me.

I agree to participate in this research.

Signature ----------

Date ----------