

**HIV INFORMATION PRESENTATION AND BEHAVIOR CHANGE AMONG
CLIENTS ATTENDING HIV CLINICS IN SELECTED SUB COUNTIES, GULU
DISTRICT**

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**A THESIS PRESENTED TO THE COLLEGE OF HIGHER DEGREES AND
RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF MASTERS OF COUNSELING
PSYCHOLOGY OF KAMPALA
INTERNATIONAL
UNIVERSITY**

MARCH, 2016

DECLARATION

I, **OKELLO CEASER**, declare to the best of my knowledge that this research report is truly my original work and has never been published and / or submitted for any other degree award to any other University before.

Signature

Date

03/05/2016

APPROVAL

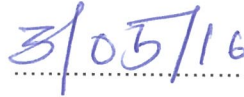
This is to certify that this research report has been submitted for examination with my approval as University supervisor.

Dr. IMBUKI Kennedy

(SUPERVISOR)



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Signature



.....
Date

DEDICATION

I dedicate this piece of work to my Sponsor, Mr. Hassan Bassajabalaba (KIU proprietor) and my late parents.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and appreciation to our almighty God for enabling and guiding me through my academic life.

I am grateful to my supervisor Dr. IMBUKI Kennedy who tirelessly went through my work and inspired me to dig deeper into the core of the matter. His kind criticism, patience and understanding, assisted me a great deal.

I acknowledge the authors whose works have been cited in this study.

I thank the respondents from the surveyed HIV health clinics in selected sub counties, Gulu district for their willingness to provide the necessary information when I visited their health facilities during the research process. Without their cooperation, this study would have been impossible to accomplish.

Finally, thanks to all lecturers, friends and course mates with whom we have struggled, exchanged views and ideas in one way or the other, to the accomplishment of this project. May the almighty God bless you abundantly.

LISTS OF ACRONYMS AND ABBREVIATIONS

ABC	Abstinence, Be faithful, and Condom use
AIDS	Acquired Immune Deficiency Syndrome
CD4	Cluster of Differentiation 4
CDC	Centers for Disease Control
DNA	Deoxyribonucleic acid
EIA	Enzyme Immunoassay
ELISA	Enzyme-Linked Immunosorbent Assay
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immune Virus
IDPs	Internally Displaced Peoples
IRIN	Integrated Regional Information Networks
NRTIs	Nucleoside/Nucleotide Reverse Transcriptase Inhibitors
PCP	Pneumocystis Carinii Pneumonia
PMTCT	Prevention of Mother-to-Child Transmission
RNA	Ribonucleic acid
TASO	The AIDS Support Organization
UAC	Uganda AIDS Commission
UNAIDS	United Nations Joint Programme on AIDS
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
WHO	World Health Organization

OPERATIONAL DEFINITION OF KEY TERMS

HIV: refers Human Immune Virus which is a sexually transmitted infection.

Information Presentation: refers to how HIV related awareness is delivered through various mediums such as radios, television, billboards etc to the public.

Behavior Change: refers to a rapid and involuntary change of behavior associated with HIV/AIDS prevention, control and management or mental disorders such as abstinence, be faithful or condom use.

Clients: refers to HIV patients who have tested positive and are receiving ARVs.

HIV Clinics: refers to HIV test and counseling locations.

TABLE OF CONTENTS

DECLARATION	I
APPROVAL.....	II
DEDICATION.....	III
ACKNOWLEDGEMENT	IV
LISTS OF ACRONYMS AND ABBREVIATIONS	V
OPERATIONAL DEFINITION OF KEY TERMS	VI
TABLE OF CONTENTS	VII
LISTS OF TABLES	XI
LISTS OF FIGURES.....	XII
ABSTRACT	XIII
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the study	1
1.1.1 Historical perspective.....	1
1.1.2 Theoretical perspective	3
1.1.3 Conceptual perspective	4
1.1.4 Contextual perspective.....	4
1.2 Problem statement	5
1.3 Purpose of the study	5
1.4 Objectives of the study	6
1.5 Research questions	6
1.6 Scope of the study	6
1.6.1 Geographical scope	6
1.6.2 Content scope	6
1.6.3 Time scope	7
1.7 Significance of the study.....	7

CHAPTER TWO: LITERATURE REVIEW	8
2.0 Introduction	8
2.1 Theoretical review	8
2.1.1 Persuasion theory	8
2.1.2 The health belief model	9
2.1.3 Social cognitive theory	10
2.2 Conceptual framework	12
2.3 Review of literature	12
2.3.1 The various modes of delivery of information on HIV	12
2.3.1.1 Radio	12
2.3.1.2 Television	13
2.3.1.3 Bill boards	14
2.3.2 HIV infection	16
2.3.2.1 Symptoms of HIV	16
2.3.2.2 Causes of HIV	16
2.3.2.3 Tests and diagnosis	18
2.3.2.4 Treatment and drugs	20
2.3.2.5 Coping and support	21
2.3.2 The effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the hiv clinics	22
2.3.2.1 Radios	22
2.3.2.2 Television	24
2.3.2.3 Billboards	25
2.3.2.4 Behavior change	26
2.3.3 The limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics	29
 CHAPTER THREE: METHODOLOGY	 31
3.0 Introduction	31
3.1 Research design	31

3.2 Population study	31
3.3 Sample Size	31
3.4 Sampling procedure	32
3.5 Data sources.....	32
3.6 Data collection instruments.....	33
3.6.1 Interview	33
3.6.2 Focus group discussion	33
3.6.3 Documentary review.....	33
3.6.4 Questionnaire.....	34
3.7 Validity and reliability.....	34
3.7.1 Testing the validity of the research instrument.....	34
3.7.2 Testing the reliability of the research instruments.....	35
3.8 Data analysis	35
3.9 Ethical considerations	36
3.10 Limitations of the study	37

CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

.....	38
4.0 Introduction.....	38
4.1 II Demographic.....	38
4.2 The various modes of delivery of information on HIV in the HIV clinics in selected sub counties, Gulu district	41
4.3 The effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district	42
4.4 The limitations of the various modes of delivery of hiv information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.....	46

CHAPTER FIVE : FINDINGS, CONCLUSION AND RECOMMENDATIONS.....49

5.1 FINDINGS.....	49
-------------------	----

5.2 The various modes of delivery of information on hiv in the hiv clinics in selected sub counties, Gulu district.....	50
5.3 The effectiveness of the various modes of delivery of hiv information in bringing about behavior change in the hiv clinics in selected sub counties, Gulu district.....	51
5.4 The limitations of the various modes of delivery of hiv information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.....	52
5.5 Conclusion	52
5.6 Recommendation	53
REFERENCES.....	55
APPENDICES	60
APPENDIX 1 A: TRANSMITTAL LETTER.....	60
APPENDIX 1BI: TRANSMITTAL LETTER FOR THE RESPONDENTS	61
APPENDIX II: INFORMED CONSENT	62
APPENDIX III: SURVEY ON HIV INFORMATION PRESENTATION AND BEHAVIOR CHANGE AMONG CLIENTS ATTENDING HIV CLINICS IN SELECTED SUB COUNTIES, GULU DISTRICT.....	63
APPENDIX IV: RESEARCH INSTRUMENTS.....	65

LISTS OF TABLES

TABLE 1: POPULATION AND SAMPLE SIZE DISTRIBUTION	32
TABLE 2: VARIANCE IN THE TARGETED AND ACTUAL RESPONDENTS.....	38
TABLE 3: DEMOGRAPHIC INFORMATION OF THE RESPONDENTS	39
TABLE 4: THE EFFECTIVENESS OF THE VARIOUS MODES OF DELIVERY OF HIV INFORMATION IN BRINGING ABOUT BEHAVIOR CHANGE IN THE HIV CLINICS IN SELECTED SUB COUNTIES, GULU DISTRICT	43
TABLE 5: THE LIMITATIONS OF THE VARIOUS MODES OF DELIVERY OF HIV INFORMATION IN BRINGING ABOUT BEHAVIOR CHANGE IN THE HIV CLINICS IN SELECTED SUB COUNTIES, GULU DISTRICT	46

LISTS OF FIGURES

FIGURE 1: CONCEPTUAL FRAMEWORK	12
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ABSTRACT

This study investigated about HIV Information Presentation and Behavior Change among Clients Attending HIV Clinics in selected sub counties, Gulu district. The study was guided by the following objectives: i) to identify the various modes of delivery of information on HIV in the HIV clinics in selected sub counties, Gulu district; ii) to establish the effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district; and iii) to assess the limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.

The study established that radio is the most commonly used mode of delivery of HIV information in selected sub counties, Gulu district (45.8%), followed by television (28.8%) and lastly billboards (18.6). Furthermore, the most effective mode of HIV information delivery was again radio, followed by television and billboards. The limitations of the modes of delivery of HIV/AIDs information were television (mean 2.57) still limited to a few people, reading is a problem to many people especially when billboards are used (3.11), there is frequency problems to radio users (mean 2.74), there are many people with no access to any media in Gulu, and that many HIV messages are not in local languages in selected sub counties, Gulu district. The study recommended that the need to improve the range of content in radio shows, television shows and billboards, embracing -all aspects of HIV and AIDS namely prevention, treatment, support and care by including such topics as abstinence, PMTCT, VCT, HIV testing, TB testing, sexually transmitted diseases, ART, discrimination and stigma, condom use in addition to messages of being faithful. Furthermore, there is need to increase the presence of billboards to include rural areas, residential areas, areas near schools and universities, shopping malls, and other strategic areas.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

1.1.1 Historical Perspective

It is widely believed that HIV originated in Kinshasa, in the Democratic Republic of Congo around 1920 when HIV crossed species from chimpanzees to humans. Up until the 1980s, we do not know how many people developed HIV or AIDS. HIV was unknown and transmission was not accompanied by noticeable signs or symptoms. While sporadic cases of AIDS were documented prior to 1970, available data suggests that the current epidemic started in the mid- to late 1970s. By 1980, HIV may have already spread to five continents (North America, South America, Europe, Africa and Australia). In this period, between 100,000 and 300,000 people could have already been infected (Mann, 2009). In 1981, cases of a rare lung infection called *Pneumocystis carinii pneumonia (PCP)* were found in five young, previously healthy gay men in Los Angeles (Hymes, 2011). At the same time, there were reports of a group of men in New York and California with an unusually aggressive cancer named *Kaposi's Sarcoma* (Centers for Disease Control (CDC) 2013). In December 1981, the first cases of PCP were reported in people who inject drugs (Masur, 2012). By the end of the year, there were 270 reported cases of severe immune deficiency among gay men - 121 of them had died.

In 2013, UNAIDS reported that AIDS-related deaths had fallen 30% since their peak in 2005 (UNAIDS 2013). In September 2014, new UNAIDS "Fast Track" targets called for the dramatic scaling-up of HIV prevention and treatment programmes to avert 28 million new infections and end the epidemic as a public health issue by 2030 (UNAIDS 2014a). UNAIDS also launched the ambitious 90-90-90 targets which aim for 90% of people living with HIV to be diagnosed, 90% to be accessing antiretroviral treatment and 90% to achieve viral suppression by 2020 (UNAIDS 2014b).

Sub-Saharan Africa has the most serious HIV and AIDS epidemic in the world. In 2013, an estimated 24.7 million people were living with HIV, accounting for 71% of the global total. In the same year, there were an estimated 1.5 million new HIV infections and 1.1 million AIDS-related deaths (UNAIDS 2014c). HIV prevalence for the region is 4.7% but varies greatly between regions within sub-Saharan Africa as well as individual countries. For example, Southern Africa is the worst affected region and is widely regarded as the 'epicentre' of the global HIV epidemic. Swaziland has the highest HIV prevalence of any country worldwide (27.4%) while South Africa has the largest epidemic of any country - 5.9 million people are living with HIV. By comparison, HIV prevalence in Western and Eastern Africa is low to moderate ranging from 0.5% in Senegal to 6% in Kenya (UNAIDS 2014c).

Tackling the HIV epidemic in sub-Saharan Africa is a long-term task that requires sustained effort and planning from both domestic governments and the international community. Moreover, HIV prevention campaigns that have been successful in sub-Saharan Africa need to be repeated, but also scaled up, especially in response to the 2013 World Health Organisation guidelines. As the HIV epidemic develops, countries in sub-Saharan Africa will need to assess how to allocate what are currently limited treatment resources. There are also more fundamental barriers to overcome, particularly HIV-related stigma and discrimination, the issue of gender inequality and HIV-specific criminal legislation. Removing such barriers would encourage more people to get tested and seek out treatment, reducing the burden of HIV across the region (UNAIDS, 2014a).

In Uganda, the very high rate of HIV infection experienced in Uganda during the 1980s and early 1990s created an urgent need for people to know their HIV status. The only option available to them was offered by the National Blood Transfusion Service, which carries out routine HIV tests on all the blood that is donated for transfusion purposes. Because the need for testing and counseling was great, a group of local NGOs such as The AIDS Support Organisation (TASO), Uganda Red Cross, Nsambya Home Care, the

National Blood Bank, the Uganda Virus Research Institute together with the Ministry of Health established the AIDS Information Centre in 1990 to provide HIV testing and counseling services with the knowledge and consent of the client involved (UNAIDS, 2010).

According to UNAIDS (2010), Uganda registered a gradual decrease in its HIV rates from 10.6 percent in 1997, to a stabilized 6.5-7.2 percent since 2001. This was attributed to changing local behavioral patterns, with more respondents reporting greater use of contraceptives and a two-year delay in first sexual activity as well as fewer people reporting casual sexual encounters and multiple partners. The number of newly infected people per year, however, has increased by over 50 percent, from 99,000 in 2001 to 150,000 in 2011 (USAID, 2012). More than 40 percent of new infections are among married couples, indicating widespread and increasing infidelity (Voice of America 2015). This increase has caused alarm. It is in regard to the above background that this study investigated the effect of HIV information presentation on the behavior change among clients attending HIV clinics in Selected sub counties, Gulu district.

1.1.2 Theoretical Perspective

This study was guided by Persuasion theory of Hovland et al., (1953). Early beginnings of persuasion theory claim that successful persuasion hinges on three key elements: the credibility of the speaker (the source); the persuasiveness of the arguments (the message); and the responsiveness of the audience (the recipient). The model assumes that exposure to information leads to a change in attitude which in turn leads to a change in behaviour. Many past and recent public information campaigns are based on this 'information-deficit-model' where the underlying assumption is that people do not have enough (or the right) information, so if we provide more information this will enable them to change their behaviour (or make 'the right' or reasonable decisions). Although it sounds plausible, empirical evidence fails to support this hypothesis and significant limitations of this linear model have been recognised (McKenzie-Mohr, 2012;

Petty et al., 2010). On the contrary, evidence suggests that learning (i.e. change in behaviour) can occur without any change in attitudes, and that attitude (and behaviour) change can occur without any assimilation of the persuasion message (Jackson, 2010). This theory relates with this study in a way that when the right information is given to HIV clients about the spread, prevention, and symptoms, they will change their behavior and may start using protective methods such as use of condoms, abstinence or sticking to one partner.

1.1.3 Conceptual Perspective

HIV is Human Immune Virus which is a sexually transmitted infection (Reeves and Doms, 2012). It can also be spread by contact with infected blood or from mother to child during pregnancy, childbirth or breast-feeding. Without medication, it may take years before HIV weakens your immune system to the point that you have AIDS.

Behaviour change is a rapid and involuntary change of behavior associated with HIV/AIDS prevention, control and management” or mental disorders (WHO 2012).It also refers to transformation or modification of human behavior (Jamison and Breman, 2013). Behavior change focuses on activities that help a person or community to reflect upon their risky behaviors and change them to reduce their risk and vulnerability. In this study, behavior change was limited to HIV behavior change such as abstinence, being faithful to one partner and condom use.

1.1.4 Contextual Perspective

The prevalence of HIV infection in the war affected northern Uganda is higher than the national average of 6.5% (Uganda UNGASS 2010).One factor that has been unique for Northern Uganda and particularly Gulu has been the civil conflict for the last 20 years and this caused disruption of services and population were displaced in to Internally Displaced peoples Camps (IDPS) for safety from the insurgency (Fabiani, et al., 2013). The population of over 2 million people were being fed and looked after by the United Nations World Food Program in their displaced camps for over 10 years and this led to several other socio-economic, health and cultural decline in this part of the Country.

The prevalence of HIV/AIDS in Northern Uganda has since 2000s increased and more especially among the youths (Uganda AIDS Commission (UAC) 2012). The lack of agreement on civil conflict as a driver of HIV infections, inadequate information on HIV incidence in immediate post conflict region and role of relative peace in driving HIV infections and the centrality of the youths in the socioeconomic and cultural longevity of society motivated the researcher to carry out a study on HIV information presentation to establish its effect on behavior change among clients attending HIV clinics in selected sub counties, Gulu district.

1.2 Problem Statement

Gulu Municipality has very many radio stations that have HIV programs that mainly advocate for HIV awareness and how it can be presented. Despite the availability of these radio stations, a report by USAID (2013) revealed an upsurge in HIV/AIDS prevalence in selected sub counties, Gulu district from 9.4% in 2008, to 21.6% in 2014. The prevalence of HIV in selected sub counties, Gulu district has been partly blamed on the influx of sex workers in the region. According to Ocowun (2014), out of the 14,424 pregnant mothers who were tested under the Prevention of Mother-to-Child Transmission of HIV/AIDS (PMTCT) in 2014, about 3,214 were HIV-positive, constituting 22.1%. He added that about 20% to 25% of HIV/AIDS infections in the area were through PMTCT. Other causes were sexual intercourse, blood transfusion and use of old syringes. This could imply that radio stations as a mode of information delivery about HIV is not sufficient and therefore other modes should be ventured into such as television and billboards. This study therefore investigated the effect of HIV information presentation on the behavior change among clients attending HIV clinics in selected sub counties, Gulu district.

1.3 Purpose of the Study

To investigate the effect of HIV information presentation on the behavior change among clients attending HIV clinics in selected sub counties, Gulu district.

1.4 Objectives of the Study

- i. To establish the various modes of delivery of HIV information in HIV clinics in, Selected sub counties, Gulu district
- ii. To establish the effectiveness of the information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.
- iii. To assess the limitations of the various information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.

1.5 Research Questions

- i. What are the various modes of delivery of HIV information in HIV clinics in selected sub counties, Gulu district
- ii. How effective are the information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district?
- iii. What are the limitations of the various information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district?

1.6 Scope of the Study

1.6.1 Geographical Scope

This study was carried out in selected sub counties, Gulu district which is bordered by Lamwo District to the north, Pader District to the east, Oyam District to the south, Nwoya District to the southwest, and Amuru District to the west. The district headquarters in the town of Gulu are approximately 340 kilometres (210 mi), by road, north of Uganda's capital city, Kampala.

1.6.2 Content Scope

This study was limited to the extent to which information delivery mechanisms have led to the reduction in the spread of HIV infection in selected sub counties, Gulu district; the effectiveness of the information delivery mechanisms in bringing about behavior

change in the HIV clinics in selected sub counties, Gulu district; and the limitations of the various information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.

1.6.3 Time Scope

This study was limited to 6 months, that is, from May to November, 2015.

1.7 Significance of the Study

It is hoped that the findings of this study will guide communication on youth and HIV/AIDS. It will identify gaps that might be overlooked in media campaigns on the effectiveness of HIV/AIDS interventions on urban youth as well as provide guidance for future promotion campaigns that will identify the aspects that need to be promoted and strengthened to achieve more efficacies.

The Government and NGOs and CBOs can use the findings of this study in their implementation of HIV prevention communication plans and in policy formulation. The findings in the study can be used by the government through incorporation of Information, Education and Communication (IEC) interventions for youth to develop an all-inclusive campaign.

This study will update studies that have been done on HIV/AIDS communication and also identify gaps and needs for research in HIV/AIDS prevention communication for youth and will therefore contribute largely to the body of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter covers theoretical review, conceptual framework and related literature. This chapter discusses the related literature to the study; it addresses the views of different scholars on corporate governance activities and performance and the relationship between the two variables. In this section different sources including text books, journals, online source, magazines, company periodical reports, have been reviewed in a bid to gain an in depth understanding of the subject under study.

2.1 Theoretical Review

2.1.1 Persuasion theory

This study was guided by Persuasion theory of Hovland et al., (1953). Early beginnings of persuasion theory claim that successful persuasion hinges on three key elements: the credibility of the speaker (the source); the persuasiveness of the arguments (the message); and the responsiveness of the audience (the recipient). The model assumes that exposure to information leads to a change in attitude which in turn leads to a change in behaviour. Many past and recent public information campaigns are based on this 'information-deficit-model' where the underlying assumption is that people do not have enough (or the right) information, so if we provide more information this will enable them to change their behaviour (or make 'the right' or reasonable decisions). Although it sounds plausible, empirical evidence fails to support this hypothesis and significant limitations of this linear model have been recognised (McKenzie-Mohr, 2012; Petty et al., 2010). On the contrary, evidence suggests that learning (i.e. change in behaviour) can occur without any change in attitudes, and that attitude (and behaviour) change can occur without any assimilation of the persuasion message (Jackson, 2010). This theory relates with this study in a way that when the right information is given to HIV clients about the spread, prevention, and symptoms, they will change their behavior and may start using protective methods such as use of condoms, abstinence or sticking to one partner.

The Elaboration Likelihood Model is one of the most influential recent persuasion theories (Petty 2010). It suggests that there are two types of psychological processes involved in attitude change, one taking the route of central processing and one taking the route of peripheral processing. If the target audience's motivation or ability to engage with the message is low, the peripheral route will be employed. This may either lead directly to a behaviour change, or first to an attitude change which is then followed by a behaviour change. In cases where an individual is highly motivated and pays mindful attention, the message will be passed through the central processing route. If this route is taken, an enduring attitude change (leading on to behaviour change) is more likely. A number of recommendations for successful persuasion can be taken from this theory:

It is important to use personally involving messages (as this is more likely to lead to utilisation of the central processing route) with an emotional and imaginative appeal; The message should be immediately relevant and direct; Use a single, well-placed message and one that is very positive (in particular in our message-dense environment, and in order to increase the likelihood that the target audience will utilise the central processing route); Persuasive appeals must employ highly credible sources; Use commitments (bumper stickers, badges, loyalty schemes) to signal involvement; Identify 'retrieval cues', i.e. things that will help people bring the persuasive message to mind and remind them (Jackson, 2010). In general, this demands very careful attention to the target audience, knowing their needs and demands as well as what might constitute barriers for them to translate attitudes into behaviour.

2.1.2 The Health Belief Model

This study was also guided by The Health Belief Model of (Melkote and Steeves, 2001). The Health Belief Model assumes that individuals will take preventive actions (risk-reduction behaviors) when they are susceptible to a disease (self-perception of risk) and acknowledge the consequences as severe; they believe that taking preventive actions will be beneficial in reducing the threat of contracting the disease (e.g., condoms are effective against HIV infection, and that its perceived benefits will be

sufficient to overcome perceived barriers such as cost or inconvenience of undertaking the actions (Melkote and Steeves 2001). Rosenstock (2010) discusses four constructs of Health Belief Model including (1) Perceived Susceptibility (an individual's assessment of his/her risk of getting the conditions), (2) Perceived Severity (individual's assessment of the seriousness of the condition, and its potential consequences), (3) Perceived Barriers (an individual's assessment of the influences that facilitate or discourage adoption of the promoted behavior), and (4) Perceived Benefits (an individual's assessment of the positive consequences of adopting the behavior). Two constructs were added later including (5) Perceived Efficacy (an individual's self-assessment of ability to successfully adopt the desired behavior, and (6) Cues to Action (external influences promoting the desired behavior). Majority of health communication campaigns are based on this model and it is equally useful in HIV/AIDS prevention programs (Glanz et al, 2012).

2.1.3 Social Cognitive Theory

This theory was also guided by the Social Cognitive Theory of Bandura (1994). The theory is based on the assumption that individual behavior is the result of interaction among cognition, behavior, environment and psychology. Bandura (1994) pointed out that in order to achieve "self-directed change, people need to be given not only reason to alter risky habit but also behavioral means, resources and social supports to do so. It will require certain skills in self-motivation and self-guidance (Bandura 1994 and Piotrow et al. 1997). Bandura's theory is based on following two elements: i) Self-efficacy; and ii) Social modeling.

Self-efficacy refers to a person's belief in his/ her personal ability to affect a change, which determines what course of action that person will choose, how long it will be sustained in the face of resistance, and his/her resiliency to bounce back following the setbacks.

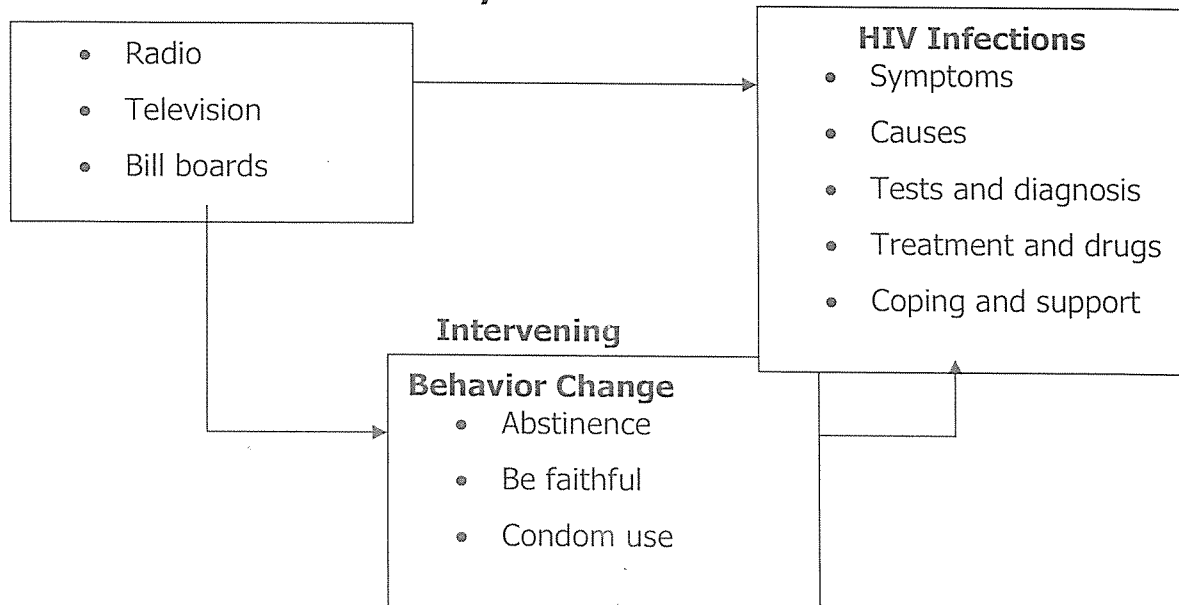
Social Modeling is based on the principle that people learn vicariously by observing the actions of others. Moreover, people are likely to judge their own capabilities, in part, by comparing themselves with those who are in the similar situation as them. People look up to the models similar to them solving problems successfully which help them develop

a stronger belief in their own abilities. The virtue of self-efficacy may be effective only if the actors are confident of their ability to act. Social modeling has been used extensively in television campaigns in order to provide knowledge about HIV/AIDS, as well as strategies to cope with successful situations in sexual encounters. In a nutshell, the dual variables: self-efficacy and modeling have been used widely in campaigns on HIV/AIDS because of their holistic approach that provides knowledge, skill, and confidence to undertake preventive measures against AIDS (Melkote and Steeves, 2001), while the basement of social cognitive of self efficacy assumes that self directed change can be achieved by a person's believe to effect change and take reasonable course of action to sustain the change in relation to HIV prevention and management. The social cognitive theory is therefore in congruence with health believe model of Melkote and steeves, (2001) which assumes that individuals will take preventive actions (self perception of risk) and acknowledge the consequences of such behaviours as severe.

The theory (Health Belief Model) believes that taking preventive actions will be beneficial in reducing the threat of contracting the disease hence there is a significant link between the two theories.

2.2 Conceptual Framework

Modes of Information Delivery



Source: WHO (2012); and Jamison and Breman (2013).

Figure 1: Conceptual Framework

The modes of information delivery about HIV infection is often presented using radio talk shows, televisions and bill boards. These modes when properly used can easily bring about behavior change such as abstinence, being faithful and condom use.

2.3 Review of Literature

2.3.1 The Various Modes of Delivery of Information on HIV

2.3.1.1 Radio

Radio is the radiation (wireless transmission) of electromagnetic energy through space. The biggest use of radio waves is to carry information, such as sound, by systematically changing (modulating) some property of the radiated waves, such as their amplitude, frequency, phase, or pulse width. When radio waves strike an electrical conductor, the oscillating fields induce an alternating current in the conductor. The information in the waves can be extracted and transformed back into its original form (Mills, 2012).

Radio—often called “Africa’s medium”—has been a staple ICT used for information, education and communication (IEC) and SBCC efforts for decades. Successful radio programs have reported extensive audience reach—frequently in the millions—and production and distribution costs are relatively inexpensive. Radios create “listening communities that radically shift the nature of the public sphere” and radio broadcasts can “transcend the barriers of cost, geographical boundaries, the colonial linguistic heritage, and low literacy levels” (WITS, 2011).

Radio has been used in educating and informing the population on HIV/AIDS. Radio has been used for drama, PSAs, talk shows, quizzes, advertisements, etcetera on HIV/AIDS campaign. There have been several radio drama series that were aired with the aim of conscientising people about HIV/ AIDS. These were mainly produced by the Health Education Unit (HEU) and SNAP.

Radio has been the mass medium used most extensively in developing societies, as a cost-effect means of providing information and education to diverse target groups. Such groups include farmers, rural mothers, illiterates, primary school children, informal and non-formal education (McLean 2012). Since the Ugandan populace is concentrated in rural areas, the only way of disseminating information at a go is through the use of radio. Prior to independence, people were required to pay radio licenses. However, after independence, the license system was abolished.

2.3.1.2 Television

A television, commonly referred to as TV, telly or the tube, is a telecommunication medium used for transmitting sound with moving images in monochrome (black-and-white), or in colour, and in two or three dimensions. It can refer to a television set, a television program, or the medium of television transmission. Television is a mass medium, for entertainment, education, news and advertising (Abramson, 2012).

A television is also frequently used for family planning/reproductive health and HIV/AIDS community mobilization efforts, although there are fewer televisions than radios throughout Africa. It is considered an effective tool for raising awareness and

distance learning. Its moving images attract and hold viewers attention and “can bring abstract ideas like HIV/AIDS to life and give them effective value” (Munyanziza 2013).

The disadvantages of television include its high cost and limited access in rural and urban poor settings (those that need family planning/reproductive health information the most); a limited pool of knowledgeable broadcasters to support it; and its single direction communication, which does not allow audience interaction (Munyanziza 2013).

2.3.1.3 Bill boards

A billboard is a large outdoor advertising structure (a billing board), typically found in high-traffic areas such as alongside busy roads. Billboards present large advertisements to passing pedestrians and drivers. Typically showing large, ostensibly witty slogans, and distinctive visuals, billboards are highly visible in the top designated market areas (Farbry, et al., 2011).

The largest standard-size billboards, known as Bulletins, are located primarily on major highways, expressways or principal arterials, and command high-density consumer exposure (mostly to vehicular traffic). Bulletins afford greatest visibility due not only to their size, but because they allow creative "customizing" through extensions and embellishments. Posters are the other common form of billboard advertising, located mostly along primary and secondary arterial roads. Posters are a smaller format than bulletins and are viewed principally by residents and commuter traffic, with some pedestrian exposure (Judd, 2013).

There are several advantages of using billboards. An obvious advantage is that they are very visible and can therefore be easily noticed and therefore their message is seen by passersby. Elsewhere advantages of billboards have been listed as including: potential placement of the advertisement close to the point of sale; high frequency of exposure to regular commuters; high reach; 24-hour presence; geographic flexibility for local advertisers; economic efficiency in terms of low production costs and low cost per thousand exposures; visual impact from advertisement size and message creativity; brand awareness (Bang et al., 2011).

Therefore billboards can be used to advertise in the fight against HIV and AIDS provided that they are visible and that the message is easily and quickly readable. They need to be strategically located so as to maximize the number of people able to view these billboards. An example of an HIV and AIDS billboard campaign was found in South Africa, where there was the campaign entitled 'Break the Silence' (Jordaan, 2006). This campaign was a South African public education programme directed at dialogue in South Africa, and it used art print images produced by local and international artists on billboards hence the involvement of the Department of Fine Art at the Durban Institute of Technology. The goal of the campaign was to change people's behaviour with regards to HIV and AIDS, to inspire South Africans to have a sense of 'moral ownership' of the HIV and AIDS epidemic and those infected and affected by the disease, to also raise awareness of HIV and AIDS, to contribute to breaking the stigma surrounding the pandemic, and to promote HIV and AIDS-related social responsibility. By 2006 the campaign had produced 70 billboards throughout South Africa (Jordaan, 2006).

Some billboards were created for the Gambian Armed Forces in order to promote personal responsibility, behaviour change and increased HIV and AIDS awareness (Naval Research Centre, 2011). One billboard reads 'Fighting AIDS is also our responsibility' and depicts a soldier firing and shattering supposedly the HIV virus (bits of red scattering); another one in Gambia shows yet again a soldier standing in a giant condom up to the waistline (as though in a sack race) holding a gun and it reads 'The soldier protects the Nation and the condom protects the soldier.'

In Malawi one of the billboards, in order to convey the HIV and AIDS prevention message, has a photo of a senior politician who is saying 'AIDS is killing Africa. Malawians change YOUR Behaviour Now! Let us save our country' (Naval Research Centre, 2011).

Namibia has a billboard with the president dressed in military uniform (as Commander in Chief) addressing the people and saying 'Compatriots, a strong Nation needs a strong

Defence Force. Protect yourself from HIV and AIDS infection' (Naval Research Centre, 2011).

Botswana is another country with a high prevalence rate. A Botswana HIV awareness billboard reads 'Avoiding AIDS is as easy asAbstain, Be faithful, Condomise' (Avert, 2011). In Botswana HIV public awareness and education has been based on the 'ABC' of AIDS.

2.3.2 HIV Infection

2.3.2.1 Symptoms of HIV

Many people with HIV do not know they are infected. In the United States, it is likely that 14% of HIV-positive individuals are unaware of their infection. HIV infection progresses in different stages. Many people do not develop symptoms after they are first infected with HIV. Others will have signs and symptoms in the early stage of HIV infection, referred to as primary or acute HIV infection. The most common symptoms are similar to a flu-like illness within several days to weeks after exposure to the virus. Early HIV symptoms include fever, headache, fatigue, rash, sore throat, and swollen lymph nodes in the neck. A characteristic feature of primary HIV infection is open sores or ulcers in the mouth. These symptoms usually disappear within a few weeks (Tran, 2015).

In some people, persistent swelling of lymph nodes occurs during clinical latent HIV. Otherwise, there are no specific signs and symptoms. HIV remains in the body, however, and in infected white blood cells. Clinical latent infection generally lasts around 10 years if you're not receiving antiretroviral therapy. This phase can last for decades in people taking antiretroviral medications. But some people progress to more severe disease much sooner (Webmedicine, 2015).

2.3.2.2 Causes of HIV

HIV is a viral infection that can be transmitted through sexual contact, through blood or from mother to child during pregnancy, childbirth or breast-feeding. HIV destroys CD4

cells — a specific type of white blood cell that plays a large role in helping your body fight disease. Your immune system weakens as more CD4 cells are killed. You can have an HIV infection for years before it progresses to AIDS (Tran, 2015).

High-risk behavioral patterns have been cited as being largely responsible for the significantly greater spread of HIV/AIDS in Sub-Saharan Africa than in other parts of the world. Chief among these are the traditionally liberal attitudes espoused by many communities inhabiting the subcontinent toward multiple sexual partners and pre-marital and outside marriage sexual activity (UNAIDS, 2010). HIV transmission is most likely in the first few weeks after infection, and is therefore increased when people have more than one sexual partner in the same time period. In most of the developed world outside Africa, this means HIV transmission is high among prostitutes and other people who may have more than one sexual partner concurrently.

Within the cultures of sub-Saharan Africa, it is relatively common for both men and women to be carrying on sexual relations with more than one person, which promotes HIV transmission (Pisani, 2011). This practice is known as concurrency, which Helen Epstein describes in her book, *The Invisible Cure: Africa, the West, and the Fight against AIDS*, in which her research into the sexual mores of Uganda revealed the high frequency with which men and women engage in concurrent sexual relationships (Epstein, 2010). In addition, in sub-Saharan Africa AIDS is the leading killer and a large reason for the high transmission rates is because of the lack of education provided to youth. When infected, most children die within one year because of the lack of treatment (Nsamenang, 2015).

Lack of money is an obvious challenge, although a great deal of aid is distributed throughout developing countries with high HIV/AIDS rates. For African countries with advanced medical facilities, patents on many drugs have hindered the ability to make low cost alternatives (Susan, 2012).

Natural disasters and conflict are also major challenges, as the resulting economic problems people face can drive many young women and girls into patterns of sex work in order to ensure their livelihood or that of their family, or else to obtain safe passage, food, shelter or other resources (Samuels, 2013). Emergencies can also lead to greater exposure to HIV infection through new patterns of sex work. In Mozambique, an influx of humanitarian workers and transporters, such as truck drivers, attracted sex workers from outside the area (Samuels, 2013). Similarly, in the Turkana District of northern Kenya, drought led to a decrease in clients for local sex workers, prompting the sex workers to relax their condom use demands and search for new truck driver clients on main highways and in peri-urban settlements (Samuels, 2013).

According to a 2007 report, male circumcision and female genital mutilation were statistically associated with an increased incidence of HIV infection among the females in Kenya and the males in Kenya, Lesotho, and Tanzania who self-reported that they both underwent the procedure and were virgins. "Among adolescents, regardless of sexual experience, circumcision was just as strongly associated with prevalent HIV infection." Circumcised adults, however, were statistically less likely to be HIV positive than their uncircumcised counterparts, especially among older age groups (Devon, et al., 2010). Similarly, a randomized, controlled intervention trial in South Africa from 2005 found that male circumcision "provides a degree of protection against acquiring HIV infection [by males], equivalent to what a vaccine of high efficacy would have achieved"(Devon, et al., 2010).

2.3.2.3 Tests and Diagnosis

HIV infection is commonly diagnosed by blood tests. There are three main types of tests that are commonly used: (1) HIV antibody tests, (2) RNA tests, and (3) a combination test that detects both antibodies and a piece of the virus called the p24 protein. In addition, a blood test known as a Western blot is used to confirm the diagnosis (Mayoclinic.org 2015).

No test is perfect. Tests may be falsely positive or falsely negative. For example, it can take some time for the immune system to produce enough antibodies for the antibody test to turn positive. This time period is commonly referred to as the "testing window period" and may last six weeks to three months following infection. Therefore, if the initial antibody test is negative, a repeat test should be performed three months later. Early testing is crucial because early treatment for HIV helps people avoid or minimize complications. Furthermore, high-risk behaviors can be avoided, thus preventing the spread of the virus to others Webmedicine (2015).

Testing for HIV is usually a two-step process. First, an inexpensive screening test is done. If that test is positive, a second test (Western blot) is done to confirm the result. Antibody tests are the most common initial screening test used. There are different types of antibody screening tests available: i) Most commonly, blood is drawn for an enzyme immunoassay (EIA) or enzyme-linked immunosorbent assay (ELISA). The test is usually run in a local laboratory, so results can take one to three days to come back; ii) Other tests can detect antibodies in body fluids other than blood, such as saliva, urine, and vaginal secretions. Some of these are designed to be rapid HIV tests that produce results in approximately 20 minutes. These tests have accuracy rates similar to traditional blood tests. OraQuick is an at-home test that uses an oral swab to detect HIV antibodies in oral fluid. Clear view is another rapid HIV test that can detect HIV antibodies in blood or plasma;

iii) HIV home-testing kits are available at many local drugstores. Blood is obtained by a finger prick and blotted on a filter strip. Other test kits use saliva or urine. The filter strip is mailed in a protective envelope to a laboratory to be tested. Results are returned by mail within one to two weeks; iv) All HIV-positive antibody-screening tests must be confirmed with a follow-up blood test called the Western blot to make a positive diagnosis. If the antibody test and the Western blot are both positive, the likelihood of a person being HIV infected is >99%. Sometimes, the Western blot is "indeterminate," meaning that it is neither positive nor negative. In these cases, the

tests are usually repeated at a later date. In addition, an RNA test for the virus might be done; v) The HIV combination test can detect both HIV antibodies and a part of the virus called the p24 protein. Because the p24 protein is present in the blood before the body forms antibodies, this test may decrease the "window period" and allow for earlier detection of HIV infections; vi) RNA tests detect HIV RNA in the blood (the viral load). It is not commonly used for screening but can be helpful in detecting early HIV infection when a person is in the window period.

2.3.2.4 Treatment and Drugs

Over the past years, several drugs have become available to fight both the HIV infection and its associated infections and cancers. These drugs are commonly called highly active antiretroviral therapy (HAART) and have substantially reduced HIV-related complications and deaths. However, medications do not cure HIV/AIDS. In one case, a patient treated for cancer apparently was cured of HIV through use of a stem cell transplant, but this "stem cell cure" is not recommended for HIV due to the high risk of mortality and uncertain chance of success. Another case involved a baby in Mississippi who was treated aggressively 30 hours after birth with antiretroviral drugs, was thought to be "functionally cured" from HIV, but has since been found to be infected with HIV (Tran, 2015).

Therapy is initiated and individualized under the supervision of a physician who is an expert in the care of HIV-infected patients. A combination of at least three drugs is recommended to suppress the virus from replicating and boost the immune system. The following are the different classes of medications used in treatment: 1) Reverse transcriptase inhibitors: These drugs inhibit the ability of the virus to make copies of itself; 2) Protease inhibitors (PIs): These medications interrupt virus replication at a later step in its life cycle, preventing cells from producing new viruses; 3) Fusion and entry inhibitors are newer agents that keep HIV from entering human cells; 4) Integrase inhibitors stop HIV genes from becoming incorporated into the human cell's DNA. This is a newer class of drugs recently approved to help treat those who have

developed resistance to the other medications or used in initial treatment in combination with NRTIs (Webmedicine 2015).

Antiretroviral viral drugs stop viral replication and delay the development of AIDS. However, they also have side effects that can be severe. They include decreased levels of red or white blood cells, inflammation of the pancreas, liver toxicity, rash, gastrointestinal problems, elevated cholesterol level, diabetes, abnormal body-fat distribution, and painful nerve damage. An expert in infectious diseases should be consulted if the patient needs concomitant treatment for diseases such as cancer, hepatitis B, or hepatitis C (MedicineNet.com, 2015).

Pregnant women who are HIV-positive should seek care immediately because HAART therapy reduces the risk of transmitting the virus to the fetus. Therapy can also be given during childbirth, or perinatal period, in order to help prevent HIV infection in the newborn. There are certain drugs, however, that are harmful to the baby. Therefore, seeing a physician to discuss anti-HIV medications is crucial. Although it is important to receive medical treatment for HIV/AIDS, home remedies or alternative medicine are commonly used along with standard HIV treatment to improve overall health. It is important to talk to your doctor before trying alternative therapies as some can interfere with HIV drugs (Tran, 2015).

2.3.2.5 Coping and Support

Receiving a diagnosis of any life-threatening illness is devastating. But the emotional, social and financial consequences of HIV/AIDS can make coping with this illness especially difficult — not only for the patient but also for those closest to the patient (Webmedicine 2015).

Fortunately, numerous services and resources are available to people with HIV. Most HIV/AIDS clinics have social workers, counselors or nurses who can help the patients with problems directly or put the patient in touch with people who can. They may be

able to arrange transportation to and from doctor appointments, help with housing and child care, deal with employment and legal issues, and see you through financial emergencies (Trần, 2015).

Coming to terms with one's illness may be the hardest thing you've ever done. For some people, having a strong faith or a sense of something greater than themselves makes this process easier. Others seek counseling from someone who understands HIV/AIDS. Still others make a conscious decision to experience their lives as fully and intensely as they can or to help other people who have the disease (MedicineNet.com, 2015).

2.3.2 The Effectiveness of the Various Modes of Delivery of HIV Information in Bringing About Behavior Change in the HIV Clinics

2.3.2.1 Radios

There are countless examples of highly successful family planning/reproductive health-related radio shows, many of which incorporate multiple ICTs in their implementation, such as when a family planning/reproductive health serial program also holds call-in quizzes (by phone), and/or is recorded on audiocassettes to be rebroadcast, perhaps as a means for further community outreach by local NGOs or to broadcast in a local clinic. The SANYU FM radio station in Kampala, Uganda, recently adopted a multiple ICT approach for their programming; they held a radio poll asking listeners what service delivery area (health, education, security, transport, or sanitation) should be the priority (USAID 2011). Using a new tool called TRAC FM, the station solicited listener comments via short message service (SMS), discussed the comments on air, and then created and posted online visualizations of the results on Facebook. Of the listeners who voted, 65 percent said healthcare was the greatest concern. The station continues to solicit listener input on a wide variety of issues. In their use of radio, SMS, and Internet, Trac FM is mixing old and new technology to promote public debate and create a powerful feedback loop that allows Ugandan citizens to share their views and hold their leaders accountable (USAID, 2011).

Media organizations often use radio to broadcast health information because it is capable of reaching many people while maintaining a strong impact. Certain media interventions have been determined to be particularly cost-effective, considering the benefits that are associated with expenditure (Austin and Husted, 2011). Radio-disseminated health messages have been found to be more cost-effective than television, as radio can reach people in their homes, cars, or at work. Brief educational radio segments can be inserted between programs during primetime hours, when the maximal number of people are tuned in. One American study demonstrated that people who listen to the radio have a surprisingly accurate ability to recall details of broadcasts from months earlier; in this way, the study findings support the potential of radio to disseminate educational messages that significantly affect listeners (Austin and Husted, 2011).

The use of radio to disseminate health education messages is particularly advantageous because of the wide range of people it can reach. In developing countries, many rural villages do not have access to electricity or television, but battery operated radios are commonplace. Consequently, its ability to reach people in a diverse range of settings has made radio a prime medium for educational initiatives, and various health topics have been addressed through radio programming throughout the developing world (Nwaerendu and Thompson, 2010). Educational radio has been used, for instance, in India for rural development (Long, 2012), in Swaziland for public health (Byram and Kidd, 2013), in Nicaragua for health education (Cooke and Romweber, 2013), in the Philippines for nutrition education (Cooke and Romweber, 2013), in Sri Lanka for family planning and health (Academy for Educational Development 2014), and in Trinidad and Tobago to promote awareness of proper breastfeeding practices (Gueri, Jutsun, and White, 2011).

In Kenya, the national weekly radio program, "Giving Birth and Caring for Your Children," has been successful in educating audiences about modern childcare practices by using a program framework that combines entertainment, humor and instruction

(Hostetler, 2012). One survey indicated that more than 50% of listeners had listened for the educational content, while more than one-third listened for entertainment. The survey reported a general understanding of the major theme (childcare), and a high recall of topics covered during the program.

Radio can also serve as a forum to elicit listeners' reactions and comments. One successful illustration of the power of educational radio is the Farm Radio Forum, which began in Canada in 1941 as a "radio discussion program" that has paved the way for subsequent programming in developing nations (Nwaerendu, and Thompson, 2010). The strategies employed by Farm Radio Forum, including the use of numerous types of media to disseminate information, were later adopted in India and Ghana with the aid of UNESCO, a program of the United Nations.

2.3.2.2 Television

According to Abramson (2012), television is a convenient and flexible advertising medium, owing to its widespread popularity and the ease with which a message can reach millions of viewers internationally and nationally. Television HIV/AIDS information presentation allows advertisers the flexibility to use various approaches and different combinations of audio, video and text to make ads memorable and emotional, depending on the product or service or the target audience.

Munyanziza (2013) explains that television advertising uses audio and visual effects to create a lasting impact. Marketers interact color, sound, sight, drama and motion to ensure that their message on HIV/AIDS is strong and persuasive. Additional tactics and props, such as attractive models, elaborative sets, enchanting graphics and audio-visual effects further enhance impact.

According to UBOS (2012) household survey, 34 percent of Ugandan households own television sets. This amounts to more than 12 million people who have access to television. Cable networks, 24-hour programs and satellite channels have further hiked television viewership in the country, making the television a substantially lucrative mode

of conveying HIV/AIDS message. Uganda has several television stations that serve all the regions of the country; among them include the following: NTV, WBS, UBC, START TV, Urban TV, TV West, Bukedde 1 and 2, NBS, Life TV, Record TV, TV Africa, Top TV, LTV, etc.

Television is one other medium that has been used in educating people about the disease. However, its main disadvantage is that only a few people have access to it. These are mainly found in the urban and peri-urban centres. A 1988 Listenership Survey states that of the respondents interviewed, only 18% (N =2171) indicated that they ever watched television. Most of these respondents who gave opinions on Swazi television were in the urban areas (McLean 1988:310). The HIV/AIDS awareness exercise using television, has been conducted through Public Service Announcements (PSAs') drama, documentaries, adverts and news.

2.3.2.3 Billboards

DO Media Business Development & Industry Relations Guru, Kim Ramser, reports that in a 2009 update to a 2003 National In-Car Study done by Abitron, in the U.S.A., for out-of-home segments, advertising messages on billboards do get noticed by most travellers. There were some interesting findings relating to billboards for example, 71% of travellers aged 18-34 notice advertising messages on billboards sometimes, most of the time or each time they pass one. Nearly 10% notice the advertising message each time they see a billboard (Ramser, 2009). The breakdown to the question 'How often do you notice the advertising messages on roadside billboards?' was as follows: each time (9%), most of the time (28%), sometimes (34%), almost never (16%); never (11%).

Another study carried out in an attempt to address gaps from previous research also included interviews with outdoor-advertising personnel, so as to develop measures of factors that influence the decision to continue using billboards and that are critical to billboards' success; a survey of businesses using or who have used billboards

advertising was part of the study with the aim to determine companies reasons for using billboards and their views of factors that are critical to billboards' success (Bang et al., 2011). The survey revealed four main reasons why businesses use billboard advertising: visibility; media efficiency, local presence, and tangible response. Eight executional factors associated with billboard advertising were identified: name identification, billboard location, readability, and clarity of the message, use as a tool of integrated marketing communications, powerful visuals, clever, creative and information provision. It was also seen that companies do not just want their billboards noticed and given attention but that they wanted them located at the right place and for the message to be clear in order for the billboards to be effective; some companies to be part of an overall communications effort rather than as a core advertising tool.

These studies show that billboards can be very effective even when compared with other mass media, to promote HIV and AIDS issues and also that many people actually pay heed to these billboards. However there does not appear to be much research done on feedback from the public with regards to billboards showing HIV and AIDS issues. This is a major reason why it is a good research project to undertake.

2.3.2.4 Behavior Change

Actions to bring about behaviour change may be delivered at individual, household, community or population levels using a variety of means or techniques. The outcomes do not necessarily occur at the same level as the intervention itself. For example, population-level interventions may affect individuals, and community and family-level interventions may affect whole populations. Significant events or transition points in people's lives present an important opportunity for intervening at some or all of the levels, because it is then that people often review their own behaviour and contact services. This study, typical transition points for HIV behavior change include: abstinence, be faithful and use condom.

Despite significant efforts, there is no effective vaccine against HIV. The only way to prevent infection by the virus is to avoid behaviors that put one at risk, such as sharing

needles or having unprotected sex. In this context, unprotected sex means sex without a barrier such as a condom. Because condoms break, even they are not perfect protection. Many people infected with HIV don't have any symptoms. There is no way to know with certainty whether a sexual partner is infected. Here are some prevention strategies: i) Abstain from sex. This obviously has limited appeal, but it absolutely protects against HIV transmission by this route; ii) Have sex with a single partner who is uninfected. Mutual monogamy between uninfected partners eliminates the risk of sexual transmission of HIV; and Use a condom in other situations. Condoms offer some protection if used properly and consistently. Occasionally, they may break or leak. Only condoms made of latex should be used. Only water-based lubricants should be used with latex condoms.

The abstinence, be faithful, use a condom (ABC) strategy to prevent HIV infection promotes safer sexual behavior and emphasizes the need for fidelity, fewer sexual partners, and a later age of sexual debut. The implementation of ABC differs among those who use it. For example, the President's Emergency Plan for AIDS Relief has focused more on abstinence and fidelity than condoms while Uganda has had a more balanced approach to the three elements (UNAIDS 2015).

Abstinence: The ABC approach encourages young adults to delay "sexual debut" (age of first sexual intercourse), as used by Uganda, or to use abstinence until marriage, the most effective way to avoid HIV infection, as advocated as the ideal by Christianity and Islam. The program develops skills for practicing abstinence and encourages participants to adopt social norms that support abstinence (Bendavid and Bhattacharya, 2010).

Be Faithful: In addition to abstinence, the ABC approach encourages participants to eliminate casual or other concurrent sex partners and to practice fidelity within their marriages and other sexual relationships. This reduces exposure to HIV. In Uganda between 1989–1995, President Museveni reported a 20% decline in casual sex

partners, and an 11% decline in reported cases of HIV (Bendavid and Bhattacharya, 2010).

Use a Condom: The final component to the ABC approach is "correct and consistent condom use." While understanding the benefits of abstinence, participants are instructed how to apply and use a condom. This is an example of risk reduction during cases when risk elimination is not practiced. Students are also taught that condoms do not protect against all forms of sexually transmitted diseases (Bendavid and Bhattacharya, 2010).

In Botswana, much of the ABC message was getting through, but ... it was not making much of a difference. ... A program called Total Community Mobilization sent 450 AIDS counselors door-to-door, giving prevention advice, urging HIV testing and referring infected people to treatment. ... People who had talked to the counselors were twice as likely to mention abstinence and three times as likely to mention condom use when asked to describe ways to avoid infection. However, they were no more likely than the uncounseled to mention being faithful as a good strategy. The people who had been counseled were also twice as likely to have been tested for HIV in the previous year, and to have discussed that possibility with a sex partner. However, they were just as likely to have a partner outside marriage as the people who had not gotten a visit from a counselor, and they were no more likely to be using a condom in those liaisons (UNAIDS, 2015).

In Nigeria, there was a somewhat different result in a study of young Nigerians, ages 15 to 24, most unmarried, living in the city and working in semiskilled jobs. People in specific neighborhoods were counseled with an ABC message as part of a seven-year project funded by the U.S. Agency for International Development and its British counterpart. ... The uncounseled group showed no increase in condom use -- it stayed about 55 percent. In the counseled group, however, condom use by women in their last non-marital sexual encounter rose from 54 percent to 69 percent. For men, it rose from

64 percent to 75 percent. Stigmatizing attitudes appeared to be less common among the counseled group (USAID, 2015).

In Kenya, a survey of 1,400 Kenyan teenagers found a fair amount of confusion about ABC's messages. ... Half of the teenagers could correctly define abstinence and explain why it was important. Only 23 percent could explain what being faithful meant and why it was important. Some thought it meant being honest, and some thought it meant having faith in the fidelity of one's partner. Only 13 percent could correctly explain the importance of a condom in preventing HIV infection. About half spontaneously offered negative opinions about condoms, saying they were unreliable, immoral and, in some cases, were designed to let HIV be transmitted (USAID, 2015).

Swaziland in 2010 announced that it was abandoning the ABC strategy because it was a dismal failure in preventing the spread of HIV. "If you look at the increase of HIV in the country while we've been applying the ABC concept all these years, then it is evident that ABC is not the answer," said Dr. Derek von Wissell, Director of the National Emergency Response Council on HIV/AIDS (IRINnews, 2015).

2.3.3 The Limitations of the Various Modes of Delivery of HIV Information in Bringing About Behavior Change in the HIV Clinics

According to a May 2011 report by AllBusiness.com, producing a quality 30-second national TV spot can cost up to \$300,000, well beyond the reach of smaller businesses. Producing a spot with a local agency to air on local television is considerably cheaper, but it can still run into thousands of dollars. Trying to cut corners could end up backfiring, as a poorly produced TV spot can actually reflect poorly on HIV/AIDS information presentation image, and decrease response.

If a TV commercial is properly produced, it is difficult to make changes to the message you are conveying about HIV/AIDS efficiently and quickly. If a business wants to advertise a special offer, or a new product or service, a new spot must be produced, and time slots need to be purchased, which could be time consuming. Other media like

online banner ads or radio voice overs can be produced and/or edited usually in-house, quickly and efficiently (Tommy, 2014).

Television HIV/AIDs information presentation relies on third party audience tracking companies to determine audience demographics and ad targets. While their tracking technology has improved with the proliferation of digital TV, it still does not offer the level of audience and performance tracking as online media. This makes television HIV/AIDs information presentation disadvantageous to Organizations such as USAIDs, UNAIDS or TASO.

According to Bang et al., (2011), on average, a person will see a billboard for about two to three seconds. This means the HIV/AIDs messages should be short and to the point. Billboards do better when they focus more on images than on text. Also, billboards are often seen by people driving by. Since they are in motion, it makes it difficult for them to read. Therefore, any text written on the billboard must be large enough for them to read easily.

Billboard companies often have businesses enter into contracts that involve long-term commitments. Mainly, this is because it takes a lot of time, energy and money to constantly change billboard ads. According to Ramser (2009), billboard contracts usually cover duration of three months. This makes billboard advertising less conducive to businesses that frequently change their advertising campaigns on a weekly or monthly basis. Billboard advertising works better for overall business and brand advertising than it does for temporary HIV/AIDs information.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covered research design, target population, sample size, sampling procedure, data source, research instruments, validity and reliability, data collection procedure, data analysis, ethical considerations, and limitations of the study.

3.1 Research design

This study employed descriptive survey research design. Sekran (2007) observed that descriptive survey research is intended to produce statistical information about aspects of education that interest policy makers and educators. This study used both qualitative and quantitative research designs. This is because qualitative study is an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources.

3.2 Population study

This study was carried out in selected sub counties, Gulu district. The district has a total of 4 hospitals and one TASO center which act as health clinics for HIV clients. According to selected sub counties, Gulu district Statistical Abstract for 2012/13, there are a total of 565 health workers in the health facilities with a total population of 4,595 HIV positive clients. This therefore means that this study has a target population of 300 participants comprising of HIV positive clients, health workers, caretakers.

3.3 Sample Size

The study used Sloven's formula to determine the sample size of the actual respondents. Sloven's formula states: $n = \frac{N}{1+N(\alpha)^2}$

Where; n = sample size; N = target population; and α = 0.05 level of significance

$$n = \frac{5,160}{1 + 5,160(0.05)^2}$$

$$n = \frac{300}{1 + 300(0.0025)}$$

$$n = \frac{300}{1 + 0.7525}$$

$$n = \frac{300}{1.7525}$$

$$n = 171$$

Table 1: Population and Sample Size Distribution

Sample category	Population	Sample size	Sampling method
HIV positive clients	144	97	Random sampling
Health officials	96	53	Purposive sampling
HIV/AIDS Caretakers	60	21	Random sampling
Total	300	171	

Source: Primary data, 2016

3.4 Sampling Procedure

The researcher used random sampling to select the names of the HIV positive clients who had come for ARVs drugs. This is because HIV/AIDS clients were many and it was easy to randomly select them. However, the researcher used purposive sampling to select the health workers. Purposive was used because the researcher thought it necessary to include the health officials, given their expertise in handling HIV/AIDS patients. These health officials are the ones who monitor the behavior of patients. The third category, HIV/AIDS caretakers were randomly selected because it was easy to access them given the fact that almost every HIV/AIDS patient has a caretaker. These samples were selected from TASO Gulu, Lacor hospital, Gulu referral hospital, Gulu independent hospital, and Gulu military hospital.

3.5 Data Sources

The study used both primary and secondary sources of data.

3.6 Data Collection Instruments

3.6.1 Interviews

The study used interview guides to collect data. This involved a face to face interview with each of the selected key informant. The researcher administered structured interviews to the average local community members who were semi-literate and could not effectively interpret the information in the questionnaires. Also, the study preferred to use face-to-face interviews because people tend to share a lot more information when someone is asking the questions in person; because it is much easier to ask a follow-up question and get examples to support what people are saying, and because it gives people an opportunity to participate in a more direct way, and they have a greater buy-in to the results of the assessment process.

3.6.2 Focus Group Discussion

The study used focus group discussion. To the researcher, this method is time-saving since clear information can be got during the discussion. In case of unclear information, clarity can be sought to ascertain the information. In addition to that, a big number of people can be gathered together and instant information recorded. The researcher preferred to use focus group discussion because in a face-to-face interview, moderator can keep the discussion under control and focus on the areas of interest, and because free and open discussion among the respondents results in generation of new ideas which can be very useful for informed decision making.

3.6.3 Documentary Review

The use of documentary methods refers to the analysis of documents that contain information about the phenomenon we wish to study (Bailey 1994). Payne and Payne (2004) describe the documentary method as the techniques used to categorise, investigate, interpret and identify the limitations of physical sources, most commonly written documents whether in the private or public domain. The study reviewed documents from WHO, UNAIDS, and USAIDS publications, Uganda Ministry of Health Annual reports and Bulletins, library books, reports, journals and Internet resources.

3.6.4 Questionnaire

Structured questionnaire was used and distributed to the determined respondents. The questionnaire is more convenient tool given its anonymous nature. Questionnaires are also efficient and convenience in collection of quantitative data that makes it feasible (Sekaran.2003; Amin 2005). It's also less expensive than interviews and many people can be reached in a short space of time.

Questionnaire is formatted and structured for purposes of precision and accuracy in the data collection, to ensure that the items have the same measure and reliability. Questionnaire was both closed-ended and open-ended questions where respondents were given asset of alternative questions to pick from, and also options to express their views on open-ended questions. This helped in easy coding of the data and also helped the respondents to respond fast.

The questionnaires were based on questionnaires previously developed. Cronbach's coefficient alphas (α) was used and the formula was based on Amin, (2005). However, not all respondents were subjected to answer questionnaire. All health officials were subjected to answer the questionnaire and only those non-health officials with up to secondary education were allowed to answer the questionnaire.

3.7 Validity and Reliability

3.7.1 Testing the validity of the research instrument

The validity is the extent to which a measurement instrument actually measures what is designed to measure (Amin, 1999). The validity of the instruments of this study referred to the content of the Questionnaire. To make sure that the questionnaire measured what was intended to measure, to ensure the clarity of questions, their effectiveness and the time required to complete the questionnaire, the researcher assessed its content validity and reliability. To test the content validity, the researcher used a panel of ten experienced researchers in the domain in Gulu to assess their suitability and relevancy of the research objectives of the study and research questions.

They were asked to assess the validity of the questions in the questionnaire by ranking them from 1 to 4 against objectives of the study and the research questions. 1 stood for strongly disagree, 2-Disagree, 3-Agree, and 4 for strongly agree. From there, a Content Validity Ratio (CVR) and Content Validity Index (CVI) was calculated.

CVR was calculated by subtracting the total number of items judged to strongly disagree (1), and disagree (2) from the total number of items judged to strongly agree (4) and agree (3), thereby dividing them to a half of people asked to judge the questionnaire. This CVI was accepted because normally it should be greater than 0.5, which means that the questionnaire can be administered. For the purpose of this study, using this formula, the CVI was 0.8.

3.7.2 Testing the reliability of the research instruments

Reliability refers to the consistency of a measure. A test is considered reliable if we get the same result repeatedly. In order to test the reliability of the questionnaire, the researcher conducted a preliminary testing of the questionnaire before constructing the final copies to be distributed later in the field for actual data collection. The questionnaire was tested to a selected sample, which the researcher plans to use in the study.

Eight people were selected, 2 from each category of respondents and were given questions for testing. This enabled the researcher to improve the questions.

3.8 Data analysis

The data was collected through a structured questionnaire distributed and was coded and entered into the computer and statistically treated using the special package for social scientists (SPSS). Descriptive statistics was used to determine the distribution of respondents on personal information and the questions under each of the variable. Frequencies and percentage distributions was used to analyze data on the respondent's profile; means were used on to test the level of agreement with the various statements.

A structured 4 points modified likert scale battery of Strongly Agree (4) Agree (3) Disagree (2) and Strongly Disagree (1) was used in line with Atiku, Genty and Akinlabi (2011). The respondents were asked to indicate the extent to which they are agree/disagree with various statements. The data on both the independent variable and the independent variable were interpreted using the following mean ranges:

Mean Range	Response Mode	Interpretation
3.26-4.00	Strongly Agree	Very High
2.51-3.25	Agree	High
1.76-2.50	Disagree	Low
1.00-1.75	Strongly Disagree	Very Low

The qualitative data was analyzed by developing different themes generated from research objectives.

3.9 Ethical considerations

Every effort was made to be ethical during the study. All the interviewees were told about the aims and objectives of the study as well as the consequences and implications of participating. Anonymity and confidentiality was guaranteed to the interviewees.

The interviews were carried out in the strictest of privacy and the interviewees had the right to withdraw from the interview at any stage.

The study was carried out with integrity, no falsification of any sort, after obtaining all the necessary permissions, in a transparent manner, with no intention to do any harm to the interviewees, be it physical or psychological.

Informed Consent Form: The latter was signed by the interviewee and the researcher before a copy was made in each case. Interviewee responses did not capture details of the participants: there was no recording of names or titles thereby guaranteeing anonymity.

Authorization: the researcher sought permission from both the University and the elders and traditional leaders to carry out a study in their premises.

3.10 Limitations of the study

- Poor cooperation, un-approachable respondents and those who were reluctant to give information limited the researcher in this study.
- The researcher was also limited by privacy to information by hospital administrators because of organizational policy regarding information disbursement.
- The research environments are classified as uncontrolled settings where extraneous variables may influence on data gathered such as comments from other respondents, anxiety, stress, motivation on the part of the respondents while on the process of answering the questionnaires.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents the findings of the research as well as their analysis and interpretation. Where necessary, aids such as tables and figures are used to illuminate the meaning of the data presented. The findings presented in the tables and figures are further explained to equip the reader with clear picture and understanding of the phenomenon under analysis.

I Variance in the targeted and actual respondents

Table 2: Variance in the targeted and actual respondents

Category of the respondents	Targeted respondents	Actual respondents
HIV positive clients	97	82
Health officials	53	40
HIV/AIDS Caretakers	21	19
Total	171	141

Source: Primary data

The researcher targeted a total of 171 respondents, selecting 97 HIV/AIDS patients, 53 health officials, and 21 HIV/AIDS caretakers. Nonetheless, not all the targeted sample responded; the actual sample responses were 141 out of the targeted 171, hence, a response rate of 82.5%. This is indicated in Table 2.

4.2 II Demographic

Demographics can be defined as the physical characteristics of a population such as age, sex, marital status, and level of education. The socio-demographic characteristics measured in this research are sex, age, marital status, and level of education.

Table 3: Demographic information of the respondents

Background information	Category	Frequency	Percentage
Sex	Male	75	53.2
	Female	66	46.8
	Total	141	100
Age	20-29	57	40.4
	30-39	36	25.5
	40-49	30	21.3
	Above 50	18	12.8
	Total	141	100
Marital status	Separated	20	14.2
	Divorced	35	24.8
	Single	40	28.4
	Married	46	32.6
	Total	141	100
Education level	Uneducated	35	24.8
	Primary	47	33.3
	Secondary	19	13.5
	Diploma	07	5.0
	Degree	27	19.1
	Masters	06	4.3
	Total	141	100

Source: Field data, 2016

The field data in Table 3 shows that out of 141 respondents chosen for the study, majority (75) were males (representing 53.2%), and 66 (representing 46.8%) of the respondents were females. This shows that HIV/AIDS prevalence is high in men than their female counterparts.

Table 3 revealed that majority (57) of the respondents were within the age group of 20-29 years (representing 40.4%); 36 respondents were between 30-39 years of age (representing 25.5%); 30 respondents were between 40-49 years of age (representing 21.3%); and the remaining 18 respondents were 50 years and above (representing 12.8%). The dominance of the respondents within the age group of 20-29 years implies that most of the people of that age are HIV positive.

Table 3 revealed that majority (46) respondents were married (representing 32.6%); 40 of these respondents were single (representing 28.4%); 35 respondents were divorced (representing 24.8%); and the remaining 20 respondents were separated (representing 14.2%). The dominance of married respondents in the study could be because of unfaithfulness of the couples to one another.

Table 3 also shows that revealed that majority (47) of the respondents stopped in primary school (representing 33.3%); 35 of these respondents never went to school (representing 24.8%); 27 respondents had bachelor's degree (representing 19.1%). Furthermore, 19 of these respondents reached secondary school (representing 13.5%); seven respondents had diplomas (representing 5.0%); and the other six respondents had masters' degree (representing 4.3%). The findings show that primary school dropouts dominated the study. This implies that the respondents are not knowledgeable enough to understand the details of HIV such as its transmission, prevention or causes. This could explain why HIV prevalence is high among them.

4.2 The Various Modes of Delivery of Information on HIV in the HIV Clinics in selected sub counties, Gulu district

Table 4: Various modes of delivery of HIV information in HIV clinics in selected sub counties, Gulu district

	Frequency	Percent	Valid Percent	Cumulative Percent
Radio	27	45.8	45.8	45.8
Television	17	28.8	28.8	74.6
Valid Billboard	11	18.6	18.6	93.2
Others	4	6.8	6.8	100.0
Total	59	100.0	100.0	

Figure 1

Source: Field data, 2016

Table 4 shows the respondents' views on the various modes of delivery of information on HIV in the HIV Clinics in, selected sub counties, Gulu district. Only 59 respondents answered the questionnaire because they were able to read and interpret questions on their own. The findings reveal that radio is the most common medium of spreading HIV information in Gulu (45.8%). Relatedly, Television was also reported to be fairly active in spreading HIV/AIDS related messages in selected sub counties, Gulu district (28.8%). This means that many of the people in Gulu mainly access HIV information through these two media (Radio and Television). However, the findings also reveal that some respondents could receive their messages through billboards (Appendix V). These messages are packaged in different ways but they seek to prevent risky sexual behaviors among community members. These HIV information are quite important to many people as they seek to avert HIV/AIDS spread among the local population. Key words in the messages are: Abstain, Be faithful, and Use condoms among others. The other 6.8% of the respondents instead reported receiving HIV information in other platforms other than radio, Television or billboards. They receive information in other

media specified as book, internet, fliers, and posters among others. It should therefore be noted that radios could be the most popular form of HIV information presentation about HIV that can bring about behavior change because of its cost effectiveness, time efficiency and potential.

4.3 The Effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district

This sub section targets objective 2 of the study which sought to establish effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district. Responses were scaled ranging from 1-4; where 4=Very High, 3=High, 2=low and 1=Very low. The key to the rating is: Very low (1.00-1.75), low (1.76-2.50), High (2.51-3.25), Very High (3.26-4.00). The responses were analysed using the mean computed through the SPSS program, and are shown in Table

Table 5: The Effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district

Indicator	Mean	Interpretation
The messages are simple and direct to understand	3.18	High
Many people have changed their behaviors due to the messages	2.64	High
The messages directly target HIV/AIDS patients	2.52	High
These messages are easily accessed by all targeted audiences	2.06	Low
HIV infected people no longer engage in risky sexual behaviors	2.56	High
HIV messages are understood by everyone in the community	2.49	Low
HIV infected patients adhere to drug rules	2.05	Low
The media used can be afforded by all community members	2.30	Low
People are now aware of HIV/AIDS infection in selected sub counties, Gulu district	2.76	High
Average Mean	2.46	

Source: Field data, 2016

Table 5 shows the effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district and the findings revealed that the respondents mainly agreed and also disagreed with the statements provided. For example, it was found that the respondents agreed with the statement that: The messages are simple and direct to understand (mean 3.18). This means that many of the messages spread on HIV is easy for many people to understand irrespective of the medium used. Many people in Gulu can easily understand these messages. Also, it was found that many people have changed their behaviors due to the messages (mean 2.64). This means that many people exposed to

these messages have tried to adjust their sexual behaviors in selected sub counties, Gulu district due to the fear of being infected or fear of dying early for those who are infected. Change of behavior is being reported simply because of receiving HIV information in the district.

The interview also confirmed this finding. The responses show that HIV/AIDs program have changed their behavior about the disease because some respondents confessed observing complete abstinence, remaining faithful to my partner, and at least using condoms. One respondent said:

I have been faithful to my partner because I frequently get HIV/AIDS information on radios. Every time I tune on radio and hear such messages, I take note of it and I make sure that I act according to the message. I have one wife and I don't intend to move out with others.

This response means that the use of radio is effective in bringing about behavior change about HIV/AIDs. This is because most of them can afford to listen to HIV/AIDs program almost all the time at their own convenience and even make informed decision regarding the disease. Successful radio programs have reported extensive audience reach—frequently in the millions—and production and distribution costs are relatively inexpensive. Radios create “listening communities that radically shift the nature of the public sphere” and radio broadcasts can “transcend the barriers of cost, geographical boundaries, the colonial linguistic heritage, and low literacy levels”.

In addition to the above, the study also revealed that these HIV messages directly target HIV/AIDS patients (mean 2.52). This means that the respondents agreed that these HIV messages are directed to patients so that they do not engage into risky sexual behaviors and also so that they can happily live positive without dying because of poorly living with HIV/AIDS. However, the respondents disagreed with the statement that: These messages are easily accessed by all targeted audiences (mean 2.06). This disagreement shows that not all targeted audiences access these HIV messages. Some people have no access to these messages; some because they have no access to the media used or cannot interpret these messages like in billboards.

Furthermore, the respondents also agreed with the statement that: HIV infected people no longer engage in risky sexual behaviors (mean 2.56). This means that the respondents were sure that HIV/AIDS infected patients do not engage into sexual behaviors at all. However, the respondents did not believe that HIV messages are understood by everyone in the community (mean 2.49). This doubt shows that the respondents did not believe that all people who access these HIV/AIDS information understand them. This could be as a result of failure to interpret the information due to lack of education or use of foreign language that the locals do not understand.

In addition, the findings also show that the respondents disagreed with the statement that: HIV infected patients adhere to drug rules (mean 2.05). The respondents were not sure whether HIV/AIDS infected patients do adhere to drug rules as a result of the messages that they receive from the different media that disseminate HIV/AIDS information. Also, the respondents disagreed with the statement that: media used can be afforded by all community members (mean 2.30). This means that some people in selected sub counties, Gulu district have no access to the media that disseminate HIV information simply because they cannot afford to poses these media like television sets, or even radio sets. This means that they cannot receive these HIV/AIDS information at all. At times, even the billboards are not accessed by the people. One respondent said:

Some people in Gulu here cannot access some information because they are poorly located/placed. The billboards, for example, are not well located for the reasons that will now be stated. The HIV and AIDS billboards are placed at the peripheries and not in the Central Business District (CBD) which is the city the town centre, unlike for example, ones promoting church activities such as conferences and the like.

However, the respondents later agreed with the statement that: People are now aware of HIV/AIDS infection in selected sub counties, Gulu district (mean 2.76). This means that many respondents believed that despite of the hurdles in disseminating HIV information, the overall fact is that people are now aware of HIV, its causes, effects and perhaps other related information on HIV/AIDS. People are informed about the prevalence of HIV among the people in Gulu.

4.4 The limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district

This sub section targets objective 3 of the study which sought to establish the limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district. Responses were scaled ranging from 1-4; where 4=Very High, 3=High, 2=low and 1=Very low. The key to the rating is: Very low (1.00-1.75), low (1.76-2.50), High (2.51-3.25), Very High (3.26-4.00). The responses were analysed using the mean computed through the SPSS program, and are shown in Table 6.

Table 6: The limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district

Indicator	Mean	Interpretation
Some media like Television are limited to a few people	2.57	High
Reading is a problem to many people especially when billboards are used	3.11	High
There is frequency problems to radio users	2.74	High
Some media like billboards are few because of town council taxes	2.27	Low
There are many people with no access to any media in Gulu	2.66	High
Many HIV messages are not in local languages	2.89	High
Average Mean	2.70	

Source: Field data, 2016

Table 6 shows the limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV Clinics in selected sub counties, Gulu district, and the findings show that the respondents agreed with most of the statements provided, proving that they do affect HIV information dissemination. For example, the respondents agreed with the statement that: Some media like Television are limited to a few people (mean 2.57) This means that television as a medium of HIV/AIDS dissemination is only accessed by a few people yet it is believed to be the strongest medium in communication. One respondent stated that:

Televisions are expensive to poses maintain and this makes television coverage in the district is still limited to urban center. Some people are poor here to afford a television set. Not only television sets, but there are many people in the district who do not even have a small radio set which is cheap. Given this problem of poverty in the district, many people are left without having access to any HIV/AIDS information.

This finding is also in agreement with earlier findings of other researchers like Munyanziza (2013) who found that, the disadvantages of television include its high cost and limited access in rural and urban poor settings (those that need family planning/reproductive health information the most); a limited pool of knowledgeable broadcasters to support it; and its single direction communication, which does not allow audience interaction.

The respondents also agreed with the statement that: Reading is a problem to many people especially when billboards are used (mean 3.11). This means that many of the respondents do believe that reading is still a problem to many people in Gulu. This thus renders billboards bad medium of delivering HIV information to the local masses. This is true because the study also established that the majority of the respondents were primary school dropouts and people who never went to school at all (*see* Table 3).

Furthermore, the study revealed that: There is frequency problems to radio users (mean 2.74). This means that many people in the district still have problems with even receiving clearly signals of their radios. The interviews, for example, revealed that some key informant pointed out that radios are mostly limited by frequency and waves. This is because in remote areas, radios stations within the district during bad whether keep losing signal hence affecting the listening rates. Some indicated that sometimes radios consume batteries, making hard for them to stay tuned.

However, the respondents disagreed with the statement that: Some media like billboards are few because of town council taxes (mean 2.27). This means that billboards are not few as stated but other issues could be associated with it. For example, the interviews instead revealed that the problem is with the town council authorities. One respondent said:

The billboards were badly located probably because the authorities (Gulu town council / local government) responsible for granting permission to erect billboards charged high prices for prime locations (such as the CBD) thereby explaining why most of them were located at places where there is not much traffic, being the cheaper sites.

The study also revealed that the respondents agreed with the statement that: There are many people with no access to any media in Gulu (mean 2.66). This means that many people do not have access to any medium at all. This could be attributed to poverty as already confirmed by one respondent who said:

. Some people are poor here to afford a television set. Not only television sets, but there are many people in the district who do not even have a small radio set which is cheap. Given this problem of poverty in the district, many people are left without having access to any HIV/AIDS information.

Finally, the findings revealed that the respondents disagreed with the statement that: Many HIV messages are not in local languages (mean 2.89). This means that many of the respondents believe that many of the HIV/AIDS information in the district are designed in 'foreign' language and not local language. This could hamper the delivery of the message to the people meant to be the beneficiary of these messages. For example, one respondent said:

Many of these billboards are written in English and not local languages like Acholi and Lango. They should instead translate these billboards in local languages because some people only see the pictures and cannot read anything at all.

CHAPTER FIVE

DICUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings in accordance to the objectives of the study, gives the conclusion and recommendations thereof.

5.1 Discussion of findings

On respondents' profile, the study established that majority of the respondents (53.2%) were males and 46.8% of the respondents were females. On the age of the respondents, the study revealed that majority (40.4%) of the respondents were within the age group of 20-29 years; 25.5% of the respondents were between 30-39 years of age; 21.3% respondents were between 40-49 years of age (representing 21.3%); and the remaining 12.8% respondents were 50 years and above. The dominance of the respondents within the age group of 20-29 years implies that most of the people of that age are HIV positive. On the marital status of the respondents, the study found that majority (32.6%) respondents were married; 28.4% of these respondents were single; 24.8% of the respondents were divorced; and 14.2% of the respondents were separated. The dominance of married respondents in the study could be because of unfaithfulness of the couples to one another.

On the respondents' education, the study found that the majority (33.3%) of the respondents stopped in primary school; 24.8% of these respondents never went to school; 19.1% of the respondents had bachelor's degree; 13.5% of these respondents reached secondary school; 5.0% of the respondents had diplomas; and 4.3% of the respondents had masters' degree. The findings show that primary school dropouts dominated the study. This implies that the respondents are not knowledgeable enough to understand the details of HIV such as its transmission, prevention or causes. This could explain why HIV prevalence is high among them.

5.2 The various modes of delivery of information on HIV in the HIV clinics in selected sub counties, Gulu district

On the various modes of delivery of information on HIV in the HIV clinics in selected sub counties, Gulu district, the study revealed that radio is the most common used medium for delivery of HIV/AIDS information in Selected sub counties, Gulu district (45.8%), television (28.8%), billboards (18.6%), and others [posters, books, newspapers, internet] (6.8%). This finding is in agreement with earlier findings of other researchers like McLean (2012) who found that radio has been the mass medium used most extensively in developing societies, as a cost-effect means of providing information and education to diverse target groups. Such groups include farmers, rural mothers, illiterates, primary school children, informal and non-formal education. This also supported by Austin and Husted (2011) study that found that people who listen to the radio have a surprisingly accurate ability to recall details of broadcasts from months earlier; in this way, the study findings support the potential of radio to disseminate educational messages that significantly affect listeners (Austin and Husted, 2011).

5.3 The effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district

On the effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district, the study revealed that: The messages are simple and direct to understand (mean 3.18), many people have changed their behaviors due to the messages (mean 2.64), the messages directly target HIV/AIDS patients (mean 2.52), these messages are easily accessed by all targeted audiences (mean 2.06), HIV infected people no longer engage in risky sexual behaviors (mean 2.56), HIV messages are understood by everyone in the community (mean 2.49). This would be supported by the use of television which is a very strong medium. Earlier research by Abramson (2012) confirms that television is a convenient and flexible advertising medium, owing to its widespread popularity and the ease with which a message can reach millions of viewers internationally and nationally. Television HIV/AIDS information presentation allows advertisers the flexibility to use various approaches and different combinations of audio, video and text to make ads memorable and emotional, depending on the product or service or the target audience.

HIV infected patients adhere to drug rules (mean 2.30), and that people are now aware of HIV/AIDS infection in selected sub counties, Gulu district (mean 2.76). This finding is in agreement with earlier research by other researcher like Avert (2011) in a survey carried out by USAID in Swaziland which found that *Makwapheni Uyabulala* or 'Your secret lover will kill you' campaign showed that 86% had heard of the campaign, 91% agreed with its message and 78% said it made them consider changing their sexual behaviour (Avert, 2011). This is what is desirable: To have adequate sight of the billboards, agree with the message and act on it.

5.4 The limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district

On the limitations of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district, the study found that: Some media like television are limited to a few people (mean 2.57). This is particularly true with television. Earlier research confirm these. The study by Munyanziza (2013) found that the disadvantages of television include its high cost and limited access in rural and urban poor settings (those that need family planning/reproductive health information the most); a limited pool of knowledgeable broadcasters to support it; and its single direction communication, which does not allow audience interaction.

Reading is a problem to many people especially when billboards are used (mean 3.11). This is confirmed by Bang et al., (2011) who found that on average, a person will see a billboard for about two to three seconds. This means the HIV/AIDs messages should be short and to the point. Billboards do better when they focus more on images than on text. Also, billboards are often seen by people driving by. Since they are in motion, it makes it difficult for them to read. Therefore, any text written on the billboard must be large enough for them to read easily.

There is frequency problems to radio users (mean 2.74), some media like billboards are few because of town council taxes (mean 2.27), there are many people with no access to any media in Gulu (mean 2.66), and many HIV messages are not in local languages (mean 2.89).

5.5 Conclusion

Based on the study findings presented, the following conclusions were drawn;

The study concluded that radio is the most commonly used mode of delivery of HIV information in selected sub counties, Gulu district, followed by television and lastly billboards. The presence of radios in the district is attributed to its cost effectiveness,

affordability and wide coverage. Furthermore, the most effective mode of HIV information delivery was again a radio, followed by television and billboards. HIV and AIDS information presentation for awareness is the starting point to avert new infections and treat those already infected. The use of billboards, an outdoor mass medium method, for HIV and AIDS information presentation is important and significant in selected sub counties, Gulu district; this is despite some disadvantages that billboard usage have. The study concluded that many people have changed their behaviors due to the messages, the messages directly target HIV/AIDS patients, but these messages are not easily accessed by all targeted audiences. However, the study concluded and that people are now aware of HIV/AIDS infection in selected sub counties, Gulu district.

The study further concluded that some media like Television still limited to a few people, reading is a problem to many people especially when billboards are used, there is frequency problems to radio users, there are many people with no access to any media in Gulu, and that many HIV messages are not in local languages in selected sub counties, Gulu district.

5.6 Recommendation

There is a good beginning in the journey of corporate governance; although there is still a lot to be put in place. Hence the study recommends the following:

There is need to improve the range of content in radio shows, television shows and billboards, embracing all aspects of HIV and AIDS namely prevention, treatment, support and care by including such topics as abstinence, PMTCT, VCT, HIV testing, TB testing, sexually transmitted diseases, ART, discrimination and stigma, condom use in addition to messages of being faithful.

There is need to ensure that all billboards are attractive by using bright, shiny colours, good graphics, large readable lettering, maximizing on the available space on the billboard, and ensure good layout and design throughout as well as making the content not too much or too scant, and making more use of pictures.

There is need to carry out a study to examine in detail the factors involved in HIV and AIDS awareness with regards to the different types of mass media (billboards, television, radio, newspapers, posters etc) as well as with formal personal communication (sex education curricula at schools and health workers in both the private and public sector) and possibly informal personal communication (knowledge, attitude and practices of friends, family and workers i.e. the general public).

By so doing there will be an overview of HIV and AIDS awareness, an attempt to see what works and what does not work, be it formally or informally, and scrutiny on the perceptions of youth, adults, single and married people, different regions of Uganda, different working classes.

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APPENDICES
APPENDIX 1 A
TRANSMITTAL LETTER
COLLEGE OF HIGHER DEGREES AND RESEARCH

Dear Sir/Madam,

RE: INTRODUCTION LETTER TO CONDUCT RESEARCH IN YOUR INSTITUTION

Mr. Okello Ceaser is a bonafide student of Kampala International University pursuing a Master's Degree of Information Technology.

He is currently conducting a field research for his thesis entitled, **"HIV information and behavior change among clients attending HIV clinics in selected sub counties, Gulu district."**

Your Organization has been identified as a valuable source of information pertaining to his research project. The purpose of this letter then is to request you to avail her with the pertinent information she may need.

Any data shared with him will be used for academic purposes only and shall be kept with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

Deputy Vice Chancellor, College of Higher Degrees and Research

APPENDIX 1B
TRANSMITTAL LETTER FOR THE RESPONDENTS

Dear Sir/ Madam,
Greetings!

I am a candidate for Master of Counseling Psychology at Kampala International University. My study is entitled, **"HIV information and behavior change among clients attending HIV clinics in selected sub counties, Gulu district."** Within this context, may I request you to participate in this study by answering the questionnaire. Kindly do not leave any option unanswered. Any data you will provide shall be for academic purposes only and no information of such kind shall be disclosed to others.

May I retrieve the questionnaire within five days (5).
Thank you very much in advance.

Yours faithfully,

Mr. Okello Ceaser

APPENDIX II
INFORMED CONSENT

I am giving my consent to be part of the research study of Mr. Okello Ceaser that will focus on **HIV information and behavior change among clients attending HIV clinics in selected sub counties, Gulu district.**

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initials: _____

Date: _____

APPENDIX III

SURVEY ON HIV INFORMATION AND BEHAVIOR CHANGE AMONG CLIENTS ATTENDING HIV CLINICS IN SELECTED SUB COUNTIES, GULU DISTRICT

KAMPALA INTERNATIONAL UNIVERSITY COLLEGE OF HIGHER DEGREES AND RESEARCH

Dear Sir/Madam

I am a student of Kampala International University pursuing a Master's Degree of Counseling Psychology. Part of my requirement is an empirical investigation. The study I had conceived refers to a survey about HIV information and behavior change among clients attending HIV clinics in selected sub counties, Gulu district. May I request you then to be part of this study by answering my questionnaire. Your views will be treated confidentially and the information gathered will be for academic purposes only.

DIRECTION: Please respond to each item using the scoring guide below. Kindly write your best choice on the space before each item. Be honest about your option.

Rating	Response Mode	Description	Interpretation
(4)	Strongly agree	you agree with no doubt at all	V. High
(3)	Agree	you agree with some doubt	High
(2)	Disagree	you disagree with some doubt	Low
(1)	Strongly disagree	you disagree with no doubt at all	Very low

PART A: RESPONDENT'S PROFILE

(Please Tick):

Age: _____

Sex _____

Highest Educational Qualifications _____

Marital status _____

o.	Indicators	SA	A	D	SD
n 1	Various modes of delivery of HIV information in HIV clinics in Selected sub counties, Gulu district				
	Radio				
	Television				
	Billboards				
	Others (specify)				
n 2	Effectiveness of the information delivery mechanisms in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district	SA	A	D	SD
	The messages are simple and direct to understand				
	Many people have changed their behaviors due to the messages				
	The messages directly target HIV/AIDS patients				
	These messages are easily accessed by all targeted audiences				
	HIV infected people no longer engage in risky sexual behaviors				
	HIV messages are understood by everyone in the community				
	HIV infected patients adhere to drug rules				
	The media used can be afforded by all community members				
	People are now aware of HIV/AIDS infection in Selected sub country, Selected sub counties, Gulu district				
n 3	Limitations of the various information delivery mechanisms in bringing about behavior change in the HIV clinics in, selected sub counties, Gulu district	SA	A	D	SD
	Some media like Television are limited to a few people				
	Reading is a problem to many people especially when billboards are used				
	There is frequency problems to radio users				
	Some media like billboards are few because of town council taxes				
	There are many people with no access to any media in Gulu				
	Many HIV messages are not in local languages				

APPENDIX IV: RESEARCH INSTRUMENTS

INTERVIEW SCHEDULE FOR PARTICIPANTS

Introduction

The interview should not take longer than 45 minutes. To start off, demographic information will be asked for and then the actual questions pertaining to perception by the participant will be asked. The interview will be semi-structured and the following kind of questions will be asked:

A. Demographic information

1. What is your gender?
2. How old are you?
3. What is your marital status?
4. What is your level of education?

B. The Various Modes of Delivery of Information on HIV in the HIV Clinics in Selected sub counties, Gulu district

1. What are the various modes of delivery of HIV information in selected sub counties, Gulu district?

C. The effectiveness of the various modes of delivery of HIV information in bringing about behavior change in the HIV clinics in selected sub counties, Gulu district.

Radio

1. How often do you listen to a radio?
2. How often do you turn on HIV/AIDs related program on a radio?
3. Does HIV/AIDs program change your behavior about the disease?
4. What are the likely limitations of a radio in presenting HIV/AIDs information?

Television

1. How often do you watch your television?
2. How often do you watch HIV/AIDs related program on your television?
3. Does HIV/AIDs program change your behavior about the disease?
4. What are the likely limitations of a television in presenting HIV/AIDs information?

Focused group discussions with HIV positive clients

Billboards

1. What do you think about the location of the billboards?
2. Do you think their appearance is attractive enough to encourage people passing by to consider them? Explain your answer
3. Do you think the language used on the billboards is appropriate? Elaborate
4. In your opinion, are the billboard contents achieving their purpose of sensitizing people to HIV/AIDS issues or not? Give details.
5. In your opinion, are these billboards the best way to advertise HIV and AIDS matters? If not, which ways do you believe would be better?
6. What are the likely limitations of a billboard in presenting HIV/AIDS information?