

**THE PERCEPTION OF PREPARATORY STUDENTS OF THE RISK OF
CONTRACTING HUMAN IMMUNO-DEFICIENCY VIRUS AND SEXUALLY
TRANSMITTED INFECTIONS IN ADAMA, EASTERN SHOWA, OROMIA REGIONAL
STATE, ETHIOPIA.**

by

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for the degree of

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UNIVERSITY OF SOUTH AFRICA

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DECLARATION

I declare that **THE PERCEPTION OF PREPARATORY STUDENTS OF THE RISK OF CONTRACTING HUMAN IMMUNO-DEFICIENCY VIRUS AND SEXUALLY TRANSMITTED INFECTIONS IN ADAMA, EASTERN SHOWA, OROMIA REGIONAL STATE, ETHIOPIA**, is my own work and that all the resources that I have used or quoted have been indicated and acknowledged by means of complete references, and that this work has not been submitted before for any other degree at any other institution.

REGEBE BERHANU BELAY

FEBURUARY 2014

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ABSTRACT

This study explored preparatory students' perceptions of the risk of contracting the Human Immuno-deficiency Virus (HIV) and sexually transmitted infections (STIs) in Ethiopia. It utilised a non-experimental exploratory survey methodology. A range of findings was revealed. Most respondents (67.14%) were knowledgeable about HIV/AIDS and more than half of the respondents knew about STIs. A significant number of respondents (67.1%) were able to describe HIV transmission prevention methods. Twenty one percent of respondents were sexually active and 17.0% of these reported to have used condoms. Twenty nine percent and 4.25% of the respondents had self-perceived risk of contracting HIV infection and STIs respectively. In spite of increased awareness of HIV/AIDS, school youths still engage in high-risk sexual activities and believe that they are unlikely to contract the disease. The study findings have implications for practice, and recommendations are offered for further research.

KEY CONCEPTS: Health belief model, human immuno-deficiency virus, perception, sexually transmitted infections, risk, young.

LIST OF ABBREVIATIONS

AAU:	Addis Ababa University
ABC:	Abstinence, Be faithful and Condom use
AIDS:	Acquired Immuno-Deficiency Syndrome
BSS:	Behavioural Surveillance Survey
CDC:	Communicable Disease Control
CSA:	Central Statistics Agency
EDHS:	Ethiopia Demographic Health Statistics
HBM:	Health Belief Model
HIV:	Human Immuno-Deficiency Virus
ISY:	In-School Use
LGV:	Lympho Granuloma Venerum
NGO:	Non-Governmental Organization
OR:	Odds Ratio
PLWHA:	People Living With HIV/AIDS
SPSS:	Statistical Package for Social Science
STDs:	Sexually Transmitted Diseases
STIs:	Sexually Transmitted Infections
UNAIDS:	Joint United Nations Programmes on HIV/AIDS
UNPF:	United Nations Population Fund
VCT:	Voluntary Counseling and Testing

WHO: World Health Organization

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CHAPTER ONE – ORIENTATION OF THE STUDY

1.1 INTRODUCTION

It is reported in 2008 by the World Health Organisation (WHO) that young people aged 10 to 24 constituted over one-third of the total population of Ethiopia (WHO 2011:3-4). Most of these young people were claimed to be vulnerable to sexual and reproductive health problems, including pregnancy (WHO 2011:11). Added to this, the WHO (2007:11) reported that these young people were also exposed to the risk of contracting sexually transmitted infections (STIs), such as the Human Immuno Deficiency Virus (HIV) (WHO 2007:12). Clay, Farris & Naff (2009:29) made an attempt to provide an explanation for these risks. These authors claimed that it is a function of young people's competition for social status during transition from childhood to teen years. It is during this period that young people try to experience new things in their lives like chewing khat, drinking alcohol and engaging in sexual risk behaviours, such as unprotected sex and multiple partners (Clay et al 2009:29). Such sexual practices may increase the chance of individuals contracting STIs and HIV. It is well documented in the literature that infectious diseases like STIs and HIV can cause physical health problems and considerable distress in individuals, which in turn may result in reduced quality of life and increased mortality rate (Clay et al 2009:29). Taking into account that young people are more sexually active than adults, they are perceived to be at a greater risk of contracting STIs relative to the latter (WHO 2011:4). Given the impact of STIs, including HIV, it is critical for governments of affected states to develop strategies for reducing not only the incidence of HIV and other STIs, but also for addressing their impact on individuals (WHO 2010:12).

The impact of STIs on young people's health in countries like Ethiopia has been largely ignored until recently (WHO 2010:14). The Ethiopian HIV/AIDS strategy focuses on providing regular and adequate information to the population with the aim of decreasing vulnerability. In other words, this strategy aims at decreasing the incidence of HIV and AIDS. Despite this, the rate of new STIs and HIV infections is high among young people in Ethiopia and the reasons for this are unclear. It is therefore critical to explore the

perceptions of young people of the risks of contracting STIs and HIV. Young people in this case relates to preparatory students. This research report consists of a number of chapters and a summary of these are now offered.

Chapter one provides an introductory orientation to the study. Some background information, source of the research problem, problem statement, purpose, objectives, and study questions, the design and significance of the study, including the design employed are included in this chapter. Chapter two explores the existing literature on the perceptions of young people in relation to their risks of contracting STIs and HIV. Chapter three is an extension of chapter one. Simply, it includes discussions of the methodological and ethical issues of the study. Also included are discussions of quality issues of the study, in other words, its reliability and validity. Chapter four discusses the key findings arising from the data analysis. The final section, chapter five provides a summary of the research findings. In this chapter conclusions are reached, recommendations are made, and the limitations of the study are acknowledged.

1.2 BACKGROUND INFORMATION ABOUT THE RESEARCH PROBLEM

1.2.1 Source of the Research Problem

Oromia Regional State is located at the centre of Ethiopia and is considered the most populous region of this country. According to the 2011 population statistics data issued by the Ethiopia Central Statistics Agency, the Oromia region has a population of 30,397,990 people. Whilst the general population of this region is growing at a rate of 2.9% annually, its economically active age group is growing at a faster rate of about 50% (Deribe, Woldemichael, Wondafrash, Haile & Amberbir 2008:10). It is worth noting that the health infrastructure in the Oromia region is underdeveloped with causes of mortality mainly attributable to HIV/AIDS and STIs. Despite this, the incidence and prevalence of STIs and HIV/AIDS of this region have not been adequately studied (Deribe et al 2008). It is worrying to note that the chance of contracting STIs and HIV/AIDS in this region has also not been adequately explored despite the view that it is an urban area with a possible high incidence and prevalence of these infections. This assertion is attributable in part to people's lifestyles and in part attributable to young

people's sexual risk behaviours, such as unprotected sex, a function of their high sexual drive and negative peer pressure from friends. This is what prompted the researcher to explore preparatory students' perceptions of the risks of contracting HIV and STIs.

1.2.2 Background to the Research Problem

A cursory glance at the literature revealed that STIs are caused by a range of bacterial, viral and parasitic pathogens, mainly transmitted through sexual contacts that include vaginal, anal and oral sex (WHO 2010:1). While some STIs, such as syphilis, gonorrhoea, chlamydia and trichomoniasis are curable, others like HIV, herpes and hepatitis B are not curable. However, the impact of the incurable versions of STIs can be controlled through introduction of testing centres and treatments. Liang, Erbeling, Jacob, Wicker, Christmyer, Brunson, Richardson & Ellen (2005:3) support this view by asserting that provision of STD testing centers and local STD testing can additively reduce the incidence of STIs, including HIV in general populations. While this approach has led to positive outcomes in developed countries, the outcomes in developing states are generally reported as negative as they failed to reduce growth in rates of STIs. In South Africa, for example, the introduction of testing and treatment centres failed to reduce the incidence and prevalence of STIs, such as HIV (Liang et al 2005:5). A similar picture was revealed in Tanzania and Malawi. Hayes, Watson-Jones, van de Wijgert & Wasserheit (2002) reported in their study an increase in perinatal mortality caused by STIs like Syphilis. These rates indicate that STIs are public health problems in African countries and have huge negative impact particularly on young people because of their active sex life.

There are approximately 1.76 billion young people in the world, and a significant proportion of this, say over 70% live in developing countries and make up a large portion of the population of these states (Russell, Jacobsen & Stanley 2013:1). Focusing on Africa, it is reported that the population of young people living in the same is rapidly growing (Russell et al 2013:1). This growth of young people's population in the African continent has huge health implications, reflected in the increasing mortality rates relative to the developed world and other developing countries outside Africa (Joint

United Nations Programme on HIV/AIDS, UNAIDS, 2012:1). Simply, the odds of young people dying, is four times higher in Africa than in developed countries. The high mortality rate is believed to be caused mainly by infections such as HIV. UNAIDS (2012:1) reported incidence of HIV in 2010. Even though it is difficult to determine the exact magnitude of the incidence of HIV, it (UNAIDS) claimed that young people accounted for 42% of new cases (2012:1). The difficulty in determining the incidence of HIV, including other STIs is in part a function of different countries having different types and levels of reporting systems, and in part caused by social stigma that deters self-disclosure (Liang et al 2005:10). Despite this, UNAIDS offered an estimate of the prevalence of HIV. It noted in one of its document that about 33.4 million people worldwide were living with HIV in 2008, and 4.9 million of these were claimed to be young people (UNAIDS 2008:10). According to the WHO (2007:10) there are approximately 340 million new cases of curable STIs each year, and 85% of these are concentrated in resource-constrained countries such as Ethiopia.

Sub-Saharan Africa is the region in the world most heavily affected by STIs, including the incurable types like HIV (Kironde & Lukwago 2009:127). This may be attributed to poor education, social stigma, poverty, inadequate health service resources and political instability in some parts of the region. The number of HIV cases in this region in 2009 was 22.5 million, an estimate considered to constitute 68% of the world's HIV cases (UNAIDS 2012:3). Simply, this region, which makes 9% of the world population and carries two thirds of the total HIV burden of the world (WHO 2011:3). Approximately 3 million people died of HIV-related illnesses in sub-Sahara Africa in 2009. The greatest incidence of the epidemic in this region is observed in Ethiopia, Nigeria, South Africa, Zambia, Botswana, Swaziland, and Zimbabwe (UNAIDS 2012:1).

With regard to Ethiopia, HIV/AIDS are the key challenges to the overall development of this state, as it has led to a seven-year decrease in life expectancy and reduced work force (Assefa 2009:12). It is estimated that 2.9% of young people are HIV positive, and this infection is in the main responsible for the growing mortality rate of this population (Assefa 2009:12). What was reported to contribute to the incidence and prevalence of

HIV among young people in Ethiopia were limited knowledge of the infection, poverty and negative attitudes toward prevention approaches (Liang et al 2005:5). Other factors have also been reported in the literature to fuel the HIV epidemic. In Ethiopia both gender-based violence and substance abuse (alcohol and khat, a leaf that is chewed, smoked, or used to make tea that act as a stimulant) exacerbate the spread of HIV (UNAIDS 2012:10). Between 40% and 60% of women experience sexual abuse from their parents, and such acts also increase their vulnerability to contracting HIV (Hailemeskel 2010:10).

One of the most at risk populations for HIV in Ethiopia is young people, which include high school pupils (Federal Democratic Republic of Ethiopia, FDRE 2012:23). According to the 2005 Ethiopia Demographic Health Statistics, 6% of young women and 37% of young men (aged 15 to 24) tend to engage in sexual risk behaviours such as unprotected sex, no condom use (Ethiopia HIV/AIDS Prevention & Control Office, HAPCO 2008:37). Despite this, very little research information is available on Ethiopian preparatory students' perception of their risk of contracting HIV and STIs. It is therefore not surprising to note constraints in developing public health interventions for addressing the growth of HIV cases for young people. This constraint is compounded with the stigma associated with STIs and thus poor adherence to treatment and help seeking. Noting that acquisition of STIs is mainly behavioural, such as condom use and number of sexual partners, developing interventions to reduce incidence is a huge challenge taking into account the issue of stigma. This puts young people at a higher risk of contracting HIV. However, developing knowledge of young peoples' sexual practices and their perceptions as early as when they are in preparatory school would help in the formulation of user-friendly interventions, which may help to reduce the risk of contracting STIs, including HIV.

The rationale for using young people of preparatory schools in this research project was that young people are characterized by difficulties to sometimes make rational decisions and they can also be easily subjected to peer pressure. Even though this is the case,

young people can be engaged successfully in public health activities for the following reasons:

1. It is easy to provide them with appropriate information alongside their formal education.
2. Since they are preparatory or precollege students, young people are more likely able to internalize what they are taught in class. Such cognitive activity can influence their behaviour, such taking appropriate actions not to engage in unprotected sex.

1.3 STATEMENT OF THE RESEARCH PROBLEM

Ethiopia is among the highest STIs and HIV/AIDS infected and affected countries in the world (UNAIDS 2012:1). Even though young people may be aware of the risk of contracting STIs and HIV, they often ignore this risk and engage in behaviours such as unprotected sex and use of multiple partners. These actions are more likely to be attributable to their perceptions of their behaviours and risks they posed. This is consistent with the view of health psychologists who claim that an individual's perceived ability to carry out a behaviour plays a significant role in enabling him/her to engage in that behaviour (WHO 2011:11). This claim is critical for the prevention of infections like STIs and HIV (WHO 2007:14). UNAIDS (2008:4) agrees with this by stating that STI and HIV epidemic are in the main related to sexual behavioural patterns, and these behaviours are functions of individuals' perceptions. Taking this into account, there is a need to conduct a study that focuses on exploring:

- preparatory students' perception of STIs and, HIV/AIDS, as well as their perception of the risk of contracting STIs and HIV/AIDS,
- key factors that contribute to preparatory students' vulnerability to these infections
- sexual behaviours that put preparatory students at risk of contracting these infections and their thoughts about safe sex practice, and
- the possibility of changing preparatory students' perception of the risks of contracting STIs and HIV.

Conducting this study and translating or utilising its outcome may play a role in reducing the incidence and prevalence of STIs and HIV.

1.4 AIM OF THE STUDY

1.4.1 Purpose of the Research

To determine the perceptions of preparatory students in Adama, Eastern Showa, Oromia Regional State in Ethiopia of the risk of contracting HIV and STIs.

1.4.2 Objectives of the research

The purpose of this study was achieved through the following objectives.

To determine:

- preparatory students' knowledge of STIs and HIV/AIDS;
- the sexual behaviours predisposing preparatory students to contract STIs and HIV;
- the practice of condom use among preparatory students; and
- preparatory students' perceptions of the risk of contracting STIs, including HIV.

1.4.3 Research Questions

- What is preparatory students' knowledge of STIs and HIV/AIDS?
- What are the sexual behaviours (including their practice of using condoms) of the preparatory students in Adama?
- What are the perceptions of preparatory students of their risk of contracting STIs and HIV/AIDS (perceived susceptibility)?
- How do the preparatory students perceive the risks associated with sexual activity (perceived severity)?

1.5 SIGNIFICANCE OF THE STUDY

This study examined preparatory students' perceptions of the risk of contracting STIs, including HIV. The outcome of this study includes data on preparatory students' sexual behaviour and factors that may influence these students to indulge in sexual risk

behaviours. The findings therefore provide insight into the potential risks faced by preparatory students of contracting HIV/AIDS and other STIs. Acknowledging this, the findings of this study are expected to complement as well as guide evidence-based programmes, research and service strategies on the prevention and management of HIV/AIDS and STIs among preparatory students in the Ethiopian context. The lessons learnt from the study will be used to design programmes to help improve individuals' perceptions of the risks of contracting STIs, including HIV/AIDS. It is also hoped that the lessons learnt will contribute to the introduction and initiation of programmes relevant to the population group involved in the study.

1.6 DEFINITION OF TERMS

1.6.1 Definition of Key Concepts

STIs: Sexually transmitted infections are infections that can be transmitted from one person to another during sexual contact (Liang et al 2005:5). Examples of these include gonorrhoea and syphilis.

HIV: The Human Immuno-Deficiency Virus is a virus that attacks the immune system. It is a virus most commonly through unprotected sex or by sharing infected needles during drug use. It is a lentivirus (slowly replicating retrovirus) that causes the acquired immunodeficiency syndrome (AIDS).

AIDS: Acquired Immuno Deficiency Syndrome is the later stage of HIV infection, in which a person's immune system is severely damaged and has difficulty in fighting almost any disease, including cancers (Liang et al 2005:5).

Perception: This is the ability to understand the true nature of something. It is a belief or an image a person may have about something (Hornby, Cowie & Lewis 1948:1122). It also relates to the process through which people gather and interpret visual information, and it is largely an aspect of social psychology.

Young people: The WHO defined young people as individuals who are 10 to 24 years of age (WHO 2007:4).

1.6.2 Operational Definitions

Operational definition is the transformation of an abstract, theoretical concept into something concrete, observable, and measurable in an empirical research project (Scott & Marshall 2009:90).

The Perception of the Risk of HIV and STI: This refers to beliefs about the likelihood of contracting HIV and STIs (WHO 2010:22).

Perceived Susceptibility: This is about individuals' beliefs in the chances of contracting STIs, including HIV (Boskey 2014:1).

Perceived Severity: This relates to an individual's belief about the seriousness of a disease and its consequences. In this study, this relates to diseases, such as HIV/AIDS and STIs (Boskey 2014:1).

Perceived Benefits: This refers to individuals' belief in the efficacy of interventions and / or advice to reduce the risk of contracting STIs and the management of their impact (Glanz, Lewis, & Rimer 2002:20). Interventions in this case refer to preventive methods for HIV and STIs, such as abstinence, being faithful to an uninfected partner and consistent condom use.

Perceived Barriers: This is an individual's own evaluation of the obstacles or barriers to adopting a new behaviour (Glanz, Lewis, & Rimer 2002:20). Factors in the environment or community that a person believes may prevent him / her from carrying out an appropriate health seeking behaviour, like accessing health care and attending a health programme.

Cues to Action: This relates to strategies to activate readiness to engage in health behaviours (Boskey 2014). In this study, this may include witnessing a person experiencing STIs /AIDS related illness and death of a close friend.

Knowledge: This refers to what people know, and in this study, this relates to what preparatory students know about STIs and HIV/AIDS, what method can be used to protect them against infection, and how they perceive the disease and its transmission.

Risky Sexual Behaviour: These are sexual activities in which individuals put themselves at risk of experiencing negative outcomes, which include STIs, unwanted pregnancies and emotional distress. In this study, it refers to a range of behaviours, such as engaging in unprotected sexual activity and having multiple sexual partners, which puts individuals at risk of contracting HIV/AIDS and other STIs.

Safe Sexual Behaviour / Practice: These are sexual activities that protect individuals from the risk of experiencing negative outcomes, such as STIs. In this study, this includes behaviours, such as abstinence, being faithful, avoiding multiple sexual partners and, consistent and correct use of condoms during sexual acts.

Preparatory Students: 11th and 12th grade students.

1.7 FOUNDATIONS OF THE STUDY

1.7.1 Research paradigm

Polit & Beck (2008:13) states that, a paradigm is a world view, a general perspective on the complexities of the real world. Healthcare research is generally carried out within two broad paradigms; positivists and naturalistic, referred to as quantitative and qualitative respectively. This study opted for a positivist paradigm (quantitative). This paradigm, like other paradigms, has a range of assumptions. A fundamental assumption of positivists is that there is a reality out there that can be studied and known (Polit & Beck 2006:14-15). Positivists believe that the goal of knowledge is simply to describe the phenomena that people experience. Taking these assumptions seriously, it is important for the tool to contain the key components of the subject explored. So, concepts, such as STIs, HIV, perceptions, young people, preparatory students, risky sexual behaviour and safe sexual behaviours are reflected in the survey tool and consistently applied throughout the study period. This stance enabled the research to effectively explore preparatory students' (young people) perceptions of the risk of contracting STIs, including HIV.

1.7.2 Conceptual Framework of the Study

1.7.2.1 Health Belief Model (HBM)

The HBM is used as the theoretical framework of this study to enhance insight into preparatory students' perceptions of the risk of contracting STIs and HIV. The HBM was developed in the early 1950s by a group of social psychologist at the United States Public Health Service (Glanz, Lewis, & Rimer 2002:21). It is a social cognitive theory that has been successfully used to explain, predict, and influence people's behaviours (Rosenstock, Strecher & Becker 1998:175). Embedded in this model is the assumption that an individual is more likely to take a positive health related action, such as use of condoms and avoidance of multiple partners if it is believed that such action can avert a negative health outcome like contracting HIV. Noted in this assumption is the notion of self-efficacy, a critical feature stressed in the HBM that tends to motivate people to take recommended actions or interventions to prevent negative health outcomes, such as STIs. Acknowledging these assumptions, it is not surprising to note in the literature that HBM is commonly used in health education and health promotion.

An important tenet of the HBM is the relationship between health behaviour and people's personal beliefs or perceptions about diseases and strategies to prevent or at least reduce their occurrence (Glanz, Lewis, & Rimer 2002:21). So, constructs of perceptions related to these form a major part of the HBM. The HBM has four constructs of perceptions that can be used to provide explanations for people's health behaviour: perceived seriousness, perceived susceptibility, perceived benefits, and perceived barriers. These perceptions are now discussed as well illustrated below in a diagrammatical representation of the HBM (figure 1).

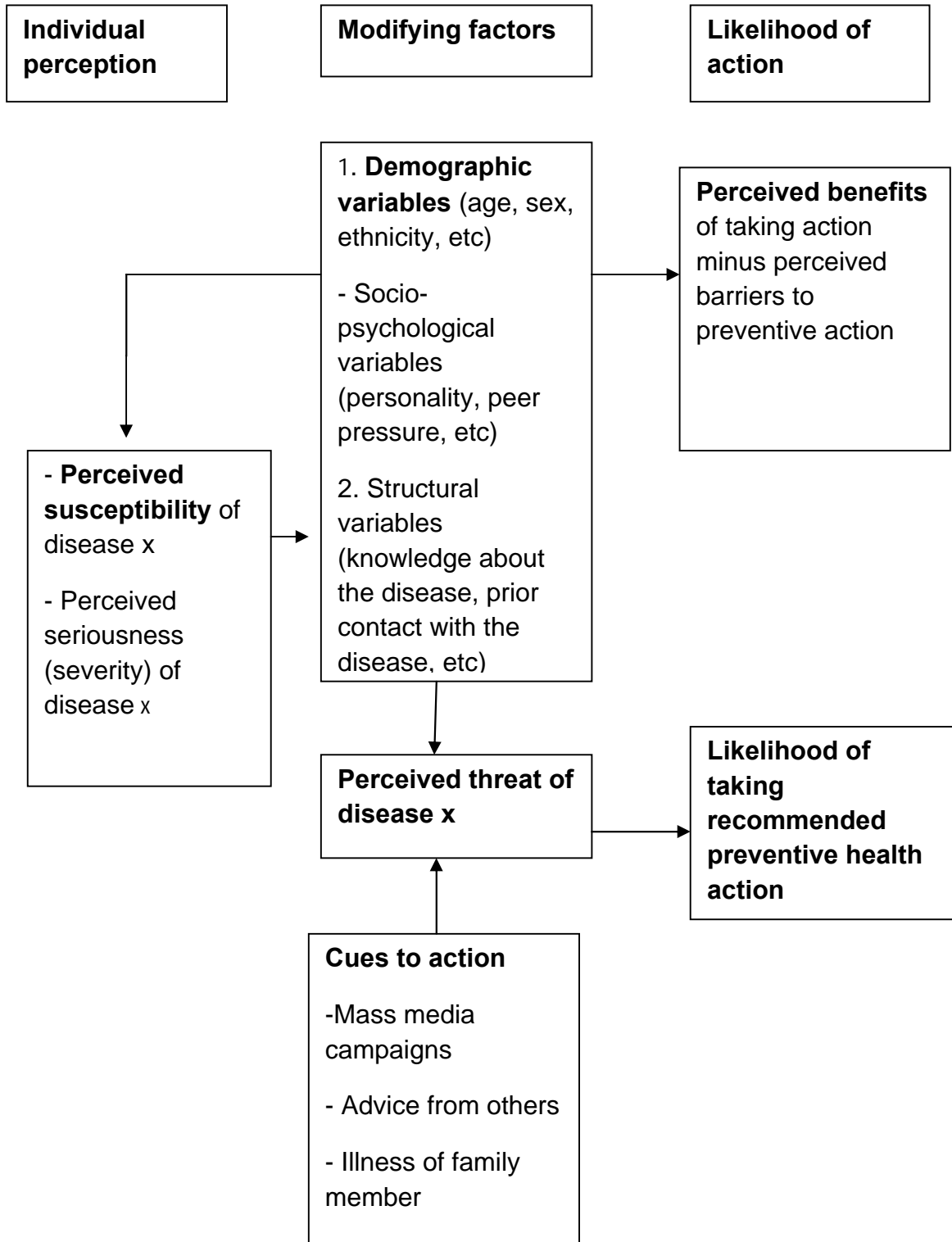


Figure 1.1 The Health Belief Model (Source; Dennill et al 1999:157).

1.7.2.2. Individual perceptions

Perceptions are mental frames of reference that can be based on either founded or unfounded statements, or real or imagined events (Ayopo 2009:63). Perceptions also relate to people's insight of an impression presented to the senses (Ayopo 2009:63). Perceptions could wittingly or unwittingly create the basis for a reality. In the context of learning, perceptions are considered to have five characteristics (Ayopo 2009:66). These characteristics are listed below:

- What people learn and how they learn are functions of their perceptions. So, people have to perceive for them to learn.
- Perception furnishes people with experiences that promote thinking and understanding.
- Perceptions help people in problem solving.
- Perceptions build people's emotions.
- Perceptions are indispensable in the development of imagination.

The major components of HBM are "individual perception", "modifying factors", and "likelihood of action". These components were applied in this study in order to explore and describe the perceptions of preparatory students' risk of contracting HIV and other STIs. According to HBM, the adoption of healthy behaviour by preparatory students with the view to prevent the contraction of HIV and STIs depends on:

- Perceived susceptibility / perceived judgment of the risk of contracting HIV and other STIs.
- Perceived seriousness / perceived severity of HIV and other STIs.
- Perceived benefits of prevention of the risk of contracting HIV and other STIs.
- Perceived barriers to preventive action against the risk of contracting HIV and other STIs.
- The likelihood of taking the recommended preventive action against the risk of contracting HIV and other STIs.
- Cues to action.

1.7.2.3 Perceived Susceptibility / Risk of Contracting HIV and STIs

This refers to one's subjective perception of the risk of contracting a condition (Glanz, Lewis, & Rimer 2002:21). Personal risk or susceptibility is one of the most powerful factors in persuading people to adopt healthier behaviours. The greater the perceived risk of contracting STIs, including HIV, the greater the likelihood of engaging in behaviours that may decrease the incidence of this risk (Glanz, Lewis, & Rimer 2002:21). This means preparatory students with low perceptions of the risk of contracting STIs will have limited concern about the transmission and prevention of the disease. In contrast, preparatory students with high perceptions of risk are more likely to engage in behaviours that may prevent the contraction of STIs.

1.7.2.4 Perceived Seriousness / Severity of HIV and STIs

The perceived severity of HIV and STIs refers to how preparatory students in school view the consequences of these infections. Preparatory students should be offered training on these infections and their impact using case scenarios. Such an approach would not only enable them to understand the severity of STIs, but it may also lead to the adoption of strategies that may prevent them from contracting the same.

1.7.2.5 Perceived Benefits of the Prevention of the Risk of HIV and STIs

The perceived benefit of taking an action refers to "people's belief in the efficacy of actions to reduce the impact of STIs or health risks associated with these infections (Dennill et al 1999:157). Preparatory students tend to adopt healthy behaviours (such as use of condoms) when they believe that the particular behaviours will decrease their chances of contracting STIs. It is the preparatory students' beliefs, rather than factual evidence, that are influential. Perceived benefits play an important role in the adoption of secondary prevention behaviours (such as avoidance of multiple partners) for HIV and other STIs (Ayopo 2009:64).

1.7.2.6 Perceived Barriers to Preventive Action against the Risk of Contracting HIV and STIs

The perceived barrier refers to an individual's own evaluation of the obstacles of adopting a new behaviour (Glanz, Lewis, & Rimer 2002:2). In other words, it is about barriers to preventive actions for averting a disease or an infection, which in this case relates to STIs. Examples of these actions for preparatory students include inability to use condoms and fear of being judged by healthcare professionals, friends and family members.

1.7.2.7 Modifying Factors

These are individual characteristics that influence personal perceptions. Examples of these include demographic variables (age, gender, ethnicity, etc), socio-psychological variables (personality, peer pressure, etc) and structural variables (knowledge about the disease, prior contact with the disease and so on) (Glanz, Lewis, & Rimer 2002:2). These factors may influence preparatory students' perceptions of STIs, including the impact of these infections and modes of contracting the same.

1.7.2.8 Cues to Action

Whilst the balance between benefits and costs may suggest an individual's likelihood of acting and his/her preferred course of action, it does not indicate timeframe of when he/she will act. So an individual may experience anxiety if that individual has an equal perception of the benefits and cost of health actions. This means that when an individual is motivated and perceived a beneficial action to take, the individual may engage with or implement that action. However, such implementation can be facilitated by external or internal cues like advice by a physician and improved health status respectively (Ayopo 2009:64).

1.8 SCOPE OF THE STUDY

The study was conducted in all preparatory schools in Adama, Oromia, Ethiopia. A total of three hundred and sixty preparatory students took part in the study. The preparatory

students who took part in the study were 10 to 24 years of age. The study explored the perceptions of preparatory students of the risk of contracting STIs, including HIV. The study also explored preparatory students' knowledge of STIs and HIV.

1.9 CONCLUSION

This chapter has set the scene for discussion as it has offered discussions on the background to the study, research problem and significance of the study. Chapter two discusses or covers the literature review conducted for the study.

CHAPTER TWO – LITERATURE REVIEW

2.1.1 INTRODUCTION

People's perceptions of the risk of contracting STIs in Africa is an under researched area. This is particularly the case for preparatory students' perceptions of the risk of contracting STIs. To provide an overview of current research, a comprehensive review of the literature was conducted that highlighted the state of the discourse in the study area. The Centre for Reviews and Dissemination (2005:4) views a literature review as a way of locating, isolating, appraising and synthesizing evidence from studies in order to obtain a reliable overview of subjects. This approach was applied in this study and enabled the researcher to write this chapter. In essence, this chapter is an overview of current and relevant literature on STIs and perceptions of young people, which in this case relate to preparatory students.

2.2 HIV/AIDS AND STIs IN YOUNG PEOPLE IN ETHIOPIA

2.2.1 Ethiopia: General Overview

Ethiopia is an East African country that is bordered on the west by Sudan, on the east by Somalia and Djibouti, and on the south by Kenya. It is generally known as the Horn of Africa as well as considered the tenth largest country in the African continent. (Federal Democratic Republic of Ethiopia 2012:7). The total population of Ethiopia in 2011 was 84.3 million of which one-fifth are aged 15 to 24 years (UNAIDS 2008:4).

2.2.2 HIV/AIDS and STIs in Adolescents

The first case of HIV in Ethiopia was reported in 1984. Since then HIV/AIDS has become a major public health concern of the Government of Ethiopia. As in other Sub-Saharan countries, the predominant HIV strain is HIV-1 subtype C, which is spread through unprotected sexual intercourse (Federal Democratic Republic of Ethiopia 2012:22).

Approximately 1.2 million Ethiopians were living with HIV/AIDS in 2010 (UNAIDS 2012:1). The HIV prevalence among young people in 2007 was 0.5% for males and

1.5% for females (UNAIDS 2012:12). STIs are major public health problems in Ethiopia and this is particularly the case for adolescents (MOH 2005:10). STIs and their corresponding sexually transmitted diseases (STDs) affect both men and women. Examples of these diseases include AIDS, Chancroid, Chlamydia, genital warts, Gonorrhoea, Granuloma Inguinale, Hepatitis B, Herpes Simplex, Lymphogranuloma Venerum, Non-gonococcal Urethritis, Pelvic inflammatory disease (PID), Syphilis, Human Papilloma virus (HPV), Trichomoniasis (Trich), Molluscum Contagiosum, Cytomegalovirus (CMV) and Vaginitis (MOH 2008:446). These diseases are transmitted from one person to another during sexual contact. Some STIs can be spread through skin-to-skin contact with an infected person's genital area, not just through sexual intercourse. An example of this is infestation with pubic lice.

STIs are well-recognised health problems in Ethiopia. But because of the stigma associated with them and inadequate number of health services, these infections and their corresponding diseases are generally underreported (UNAIDS 2012:2). Acknowledging this, it is safe to state that the current scale of this problem is an underestimate (MOH 2009:34). It is critical to state that only few studies have been conducted on STIs in Ethiopia. So, issues relating to prevention and risk associated with these infections are still not fully understood in this state. However, some insights into these have been gained over the years.

The knowledge of condom use as a method of preventing HIV infection is generally higher among young men than among young women (Alemu 2010:20). The knowledge of condom use among young women as a preventive method is particularly low in Egypt 27% and Jordan 28%, followed by Indonesia 35% and Chad 37%. Over 60% of young women in Sub-Saharan Africa are aware that condom use could reduce HIV transmission (UNAIDS 2012:2). Being faithful is perceived by young people as another approach to prevent or at least to reduce the incidence of HIV infection.

2.2.3 Knowledge of and Belief about HIV and STIs

Knowledge of the epidemic and how to prevent HIV infection, including other STIs has increased among young people aged 15 to 24 years (CDCP 2011:11). This is the population that is most at risk of been infected. Even though there is apparent increase in knowledge of STIs among young people, the skills to implement preventive strategies are still limited in this population as they do not, for example, consistently use condoms during sexual intercourse (WHO 2011:12). This is probably one possible reason for the growth in the incidence of STIs among young people. It is reported in the literature that only 25% of young people in Ethiopia are knowledgeable about STIs and over 50% of young people in this state are reported to engage in sexual risk behaviours (MOH 2005:3). Examples of sexual risk behaviours include use of multiple partners and not using condoms during sexual intercourse.

2.2.4 Risk Behaviour and the Risk of Contracting HIV and STIs among the Young

It is reported in the literature that high school and college students in Ethiopia have a higher risk of contracting HIV/AIDS relative to adults (Federal Democratic Republic of Ethiopia 2012:15). Young people usually experience physical, biological, social and psychological developments or changes as they grow from adolescent to adulthood. During these stages, the challenges that they face and the decisions they make can have a tremendous impact on both the quality and length of their lives. Many important life events and health-damaging behaviours usually start during people's early years and as they grow from adolescent to adulthood. This is a time of both sexual risk behaviours and opportunities (WHO 2007:16).

Today, children are noted to enter puberty earlier than decades ago. This is probably because of improved nutrition although other factors may also contribute to earlier entry into puberty. Thus, girls today have on average, their first menstrual period earlier than their mothers and the onset of sperm development in boys is also reported to take place earlier relative to their fathers. Taking this into account, the tendency for young people

to engage in formal relationships is now reported to be high. The biological pubertal changes which young people experience to today are claimed to occur alongside changes in societal norms that relate to sex and marriage. Societal norms that advocate against sex before marriage are consistently reported in the literature to become increasingly less stringent. This suggests that many young people may engage in sex with many partners before marriage. As a result, young women are at a higher risk of experiencing unintended premarital pregnancy. Added to this, both young women and men are at a higher risk of contracting sexually transmitted infections (STIs), including HIV. These outcomes have negative impacts not only on the lives of the young people concerned, but also on the societies or communities in which they live (United Nations, UN 2011:1). According to the National Center for HIV/AIDS, Viral Hepatitis, STD and TB prevention in United States America, a large proportion of young people are not concerned about becoming infected with HIV (UN 2012:2).

A review of a research project among in-school youths and out-of-school youths documented that 49.7% of youths were sexually active, and more than half of these (53.3%) reported having two or more sexual partners. A study among high-school students in northwest Ethiopia documented that a quarter of the study group had had sexual intercourse and had been exposed to at least one sexual risk behaviour, such as unprotected sex (Federal Democratic Republic of Ethiopia 2012:29). High risk taking behaviour is often attributed to inadequate knowledge of the risk of contracting HIV infection and prevention methods, which in turn leads to low risk perception. In this regard, studies conducted among young people on the status of their HIV knowledge and behaviour showed mixed results. While most in-school and out-of school youths have heard about HIV/AIDS, there are still high levels of misconception about the modes of transmission, methods of prevention, and high risk sexual behaviour (Alhassan 2003:30). In a survey of the sexual risk behaviours of in-school students in Amhara regional state of Ethiopia, 33.3% of preparatory school students reported having already had two or more sexual partners (Asrat 2009:8). A study done in Sidama Zone in Ethiopia on the assessment of sexual activity and condom use by preparatory school students indicated that the mean age for first sexual intercourse was 16.01 ± 17

years. Of the sexually active youths, 64.1% of this group had never used condoms during sexual intercourse and only 23.9% used condom consistently (Ando 2008:16).

Sexual activity begins in adolescence for the majority of people. A person's age when he or she first had sex is an important indicator of both exposure to the risk of pregnancy and exposure to STIs. Young people who initiate sex at an early age face a higher risk of becoming pregnant or contracting STI than young people who delay the initiation of sexual activity. According to the Federal Democratic Republic of Ethiopia, in 2011 the percentage of young women and men aged 15 to 24 years who had had sexual intercourse before the age of 15 years was 10.9% and 1.2% respectively (Federal Democratic Republic of Ethiopia 2012:3). Young people, especially never-married sexually-active females, face the greatest risk of HIV infection in the country, with prevalence of this infection being much higher than the average for both urban and rural areas. This is attributable to young people's early age of sexual debut and sexual relations with high-risk older men (WHO 2007:20, Ethiopia HIV/AIDS Prevention & Control Office 2008:36). In many countries, unmarried girls and boys become sexually active before the age of 15. Recent surveys of boys aged 15 to 19 in Brazil, Hungary and Kenya found that more than a quarter reported having sex before they were 15. A study in Bangladesh found that 88% of unmarried urban boys and 35% of unmarried urban girls had engaged in sexual activity by the time they were 18. Adolescents who start having sex at an early age are more likely to have sex with high-risk partners or multiple partners, and are less likely to use condoms. Delaying the age at which young people first have sex can significantly protect them from infection.

Within sub-Saharan Africa, the percentage of young women reporting higher-risk sexual encounters ranges from 6% in Ethiopia and 7% in Chad to 60% in Congo. According to a study done in Botswana, young people did not perceive the seriousness and severity of HIV/AIDS when it came to the practice of "ABC" strategy. Young people's cue to action was very high but their confidence to adopt and practice the "ABC" strategy was low. They had adequate knowledge of the benefits of abstinence and condoms but they perceived barriers to the use of condoms (Ezeahurukwe 2010: 12). Latin America and

the Caribbean also show wide intraregional variation in the levels of sexual risk behaviours. For example, young women in Honduras, Nicaragua, and Peru had lower sexual risk behaviours (20%) compared to those in Colombia and Guyana (40%).

The rates of chlamydia, gonorrhoea, trichomoniasis, genital herpes, HPV, HIV and syphilis are all increasing, particularly among young people. In relation to chlamydia or bacterial vaginosis, women are sometimes unaware that they harbour these infections and many go undetected and untreated for a while. This is probably a contributory factor to the high rate of STIs among young people. The high rate of STIs among young people is also a function of other factors. Early sexual debut and immature biological development are some of these factors. Biologically young people's immature reproductive and immune systems make them more vulnerable to STIs' pathogens. Other factors that are responsible for increasing STIs among young people particularly in developing countries include homelessness and poverty. In relation to the latter, this involves young people using sexual intercourse for financial gains or social and emotional support (UNAIDS 2012:3). Lack of or limited parental guidance is another factor that tends to contribute to the growth in incidence and prevalence of STIs among young people. There are also cultural explanations for the high rate of STIs among young people. In Africa, young people (females) are less likely than their male counterparts to refuse sex. Thus, increasing their risk of contracting STIs.

According to UNAIDS (2012:1), young people most at risk of contracting HIV are those who inject drugs using non-sterile injecting equipment, engage in unprotected anal sex and unprotected sex with sex workers. Despite the awareness of this risk, the level of self-reporting of STIs by young people is low for both sexes. For example, it is less than 11% and 15% in Guinea and Uganda respectively (UNAIDS 2007:16).

2.2.5 Barriers to quality STI prevention services: Often young people are confronted with multiple barriers to seeking and receiving STI testing and treatment. Such barriers may include lack of insurance, money and transport as well as concerns about

confidentiality. Moreover, young people may be ill-informed about STIs, their symptoms, the need for treatment, and where and how they can obtain treatment.

At an individual level many factors affect young people's health. Young people are less likely than adults to prevent themselves from becoming infected with STIs, including HIV. They often do not have sufficient or relevant knowledge of STIs, or the skills to use such knowledge for example, to negotiate condom use. In addition, they are generally reluctant to access services and commodities that they need. Broader factors include the role of parents and the community, as well as the nature of the social values and norms to which they are exposed. There are a number of determinants that are associated with behaviours that may have an impact on young people's health. Examples of these include sexual activity and substance use. These determinants could increase or decrease the risk of young people contracting STIs. Those which may decrease the risk are referred to as protective factors and those that may increase the risk of contracting STIs are called risk factors. Protective factors in preventing an early sexual debut are a positive relationship with parents, a positive school environment and spiritual beliefs. The risk factors associated with an early sexual debut include having friends who use and/ or misuse substance.

2.3 CONCLUSION

This chapter presented an overview of literature related to the subject studied; risk of contracting STIs. Literature from varied contexts was included in the review. The literature reviewed includes a general overview of STIs including HIV in young people. It also included discussions of young people's knowledge of and beliefs about STIs, sexual risk behaviours and the risk of contracting STIs.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In this chapter, the research design and method that were utilized in addressing the research questions of the study on the perceptions of preparatory students in Adama, Ethiopia about the risk of contracting HIV and STIs are presented. An explanation is given of the methods used to collect data. A quantitative methodology, which involves data collection by means of a structured questionnaire, was selected for the purpose of this research study.

3.2 RESEARCH DESIGN

A research design is a plan detailing how a research will be conducted. It guides the researcher in planning for and implementing the study (Silverman 2010:22). It can also be referred to as the 'architecture' of the study, as it determines how populations are sampled, and how data were collected and analysed (Flick 2009:57). Ethical considerations were also influenced by the choice of study designs. This study utilised a quantitative non-experimental survey design to explore preparatory students' perceptions of the risk of contracting STIs in Adama, Ethiopia. The different elements of the design of this study are now discussed.

3.2.1 Non-Experimental Element

Non-experimental research refers to a study in which the researcher collects data without introducing an intervention (Polit & Beck 2004:725). In this study, the researcher collected data to examine preparatory students' perceptions of the risk of contracting STIs.

3.2.2 Survey Element

A survey approach, with the help of a questionnaire, was used to gather information about the study respondents' (preparatory students) intentions, behaviour, knowledge,

values and beliefs of STIs, including modes of contracting the same. This element enabled the research to glean information from a sample of the population studied.

3.3 RESEARCH METHOD

3.3.1 Sampling

One major decision that researchers need to take into account when conducting research is to decide on the nature and source of the data, as the latter tends to have profound effects on the ultimate quality of studies (Morse 2002:3-4). Such a decision for identifying and selecting sources of data is what Grbich (2007:234) and Macnee and McCabe (2008:245) refer to as sampling. In relation to the study sites, all preparatory schools of the Oromia region were utilised in this research. Probability sampling approach was used in this study for respondents. This was to ensure that the sample is representative of the population of preparatory students. Each individual in the study population has a chance of being included in the sample. The selected preparatory students were determined purely by chance and not by the choice of the investigator (Joubert & Ehrlich 2007:95).

3.3.2 Site Sampling

3.3.2.1 Site Population

All private and government preparatory schools in Adama, Eastern Showa, Oromia Regional State of Ethiopia were included in the study. Two private preparatory and one government schools with 590 and 1815 students between grades 11 and 12 respectively were included in this study.

3.3.2.2 Site Sample Frame

This is the list of all preparatory schools found in Adama, Eastern Showa, Oromia regional state, Ethiopia. This list was compiled from Adama Administrative Zone Education Bureau.

3.3.2.3 Accessible Sites

All the preparatory schools were easily accessible by both public and private transportation. The schools which participated in the study were:

- Hawas preparatory school
- Nafiad preparatory school
- Saint Joseph preparatory school

Table 3.1 Name and type of preparatory school in Adama, Ethiopia, 2012.

NO.	Name of school	Type of school
1	Hawas preparatory school	Government
2	Nafiad preparatory school	Private
3	Saint Joseph preparatory school	Private

3.3.2.4 Site Sampling Technique

All the available preparatory schools in Adama, Eastern Showa, Oromia regional state of Ethiopia were involved in the study.

3.3.2.5 Site Sample Size

Two private and one government preparatory schools in Adama were involved in the study.

3.3.3 Data Source Sampling

3.3.3.1 Respondent Population

The respondent population of this study was all preparatory students in Adama, Eastern Showa, Oromia Regional State of Ethiopia. At the time of this study, 2405 learners were listed as being enrolled in both grades (the 11th and 12th) in the Adama region,

according to the Department of Education. The respondents' ages ranged from 15 to 24. All of these learners were eligible for inclusion in the study.

3.3.3.2 Respondent Target Population

A study population or a target population is defined as “all elements (individuals, events, or substances) that meet the sample criteria for inclusion in a study” (Parahoo 2006:150). The target population for this study was preparatory students aged 15–24 years attending preparatory schools in Adama, Eastern Showa, Oromia Regional State of Ethiopia.

3.3.4 Respondent Sample Frame

“A sampling frame is a list or some representation of the study population, either individuals or a group of individuals” (Parahoo 2006:265). The school attendance register from each preparatory school was used as the sampling frame. Grades 11 and 12 learners from each school were randomly selected, (each learner including learners whose parents agreed for their participation) and assigned a number. A ballot was drawn to select respondents until their desired number was obtained.

3.3.4.1 Respondent Accessible Population

The accessible population is the population that was available for the study (Polit & Beck 2004:218). The accessible population for this study was preparatory students aged 15–24 years whose parents consented to their participation in the study and who were actually available for and accessible to the study.

3.3.4.2 Respondent Sampling Technique

In this study, a probability sampling approach was used. The study sample was therefore expected to be representative of the study population (Polit & Beck 2012:44). Specifically, proportional stratified random sampling was used in this study. The number of study respondents selected from each stratum was proportional to the size of the stratum (the schools) of the study. A sample of students was selected from each stratum (each class), using simple random sampling. In the simple random sampling of

individuals, the sampling unit is an individual and each individual in the population has an equal chance of being selected for the sample (Flick 2009:20).

3.3.4.3 Respondent Sample Size

At the time of undertaking this study, the total number of individuals in the study population was 2405 students. Using the Raosoft formula for sample size calculation, the projected number of students for selection was 332 at a 5% margin of error and with a 50% response distribution. However, additional 28 students were included in the sample size to cater for non-response error or incomplete questionnaires. Hence, the sample size was equal to 360. The number of learners in each stratum was determined by the number of learners in each level or grade.

3.3.5 Data collection

3.3.5.1 Data Collection Instrument

The data collection tool was a self-administered, structured and close ended questionnaire. The questionnaire was first developed in English, then translated into the Amharic language and back to English. The questionnaires contained a number of questions that measured young people's perceptions of the risk of contracting HIV and STIs.

3.3.5.2 Content of the Questionnaire

The questionnaire has six sections: socio-demographic characteristics of the respondents, knowledge related to HIV/AIDS and STIs, sexual behaviours, practices and condom use, substance use, and risk perception.

3.3.5.2.1 Administering the Data Collection Instrument

Data collectors were trained using the data collection trainer's manual of the Human Resources for Health Assessment. Four data collectors were used.

3.3.6 Data Management and Analysis

Completed questionnaires collected from respondents were coded to maintain anonymity. Data from each of the questionnaires were entered into an excel sheet and later transported into data analysis software, SPSS version 18.0. The data revealed following analysis include both descriptive and inferential information and statistics. In

relation to descriptive statistics, the findings of the study were presented in the form of graphs and charts. With regard to inferential statistics, computation of the frequencies of the different variables was performed and the odds ratios were calculated to determine if the variables were significant predictors of behaviour, which in this relates sexual risk behaviours.

3.3.7 Data and Design Quality

3.3.7.1 External Validity

This refers to “the extent to which the findings of a study can be generalized to similar settings” (Parahoo 2006:119). To ensure external validity, the respondents were asked to give honest responses. The use of the probability sampling technique and piloting the questionnaire ensured validity.

3.3.7.2 Reliability

Reliability refers to the consistency with which the instrument repeatedly measures what it is supposed to measure and would yield the same results if used by other researchers. The quality and adequacy of an instrument determines its reliability (Parahoo 2006:119). Pre-testing of the instrument was conducted before the study and appropriate modifications were made that ensured easy comprehension of the questionnaire by the participants. All knowledge and perception questions were tested for reliability using Cronbach’s Alpha coefficient.

3.3.7.2.1 Cronbach’s Alpha Coefficient

Reliability can be expressed in terms of stability, equivalence, and consistency. A consistency check is commonly expressed in the form of Cronbach’s alpha coefficient (Chong Ho Yu 2012:246). Alpha coefficient was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale. It is expressed as a number between 0 and 1. Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test (Porter 2007:53). For this study, the Cronbach’s alpha coefficient obtained was 0.672.

3.3.7.3 Validity

The validity of an instrument relates to whether it measures what it is supposed to measure (Babbie & Mouton 2004:646). It refers to the accuracy and truthfulness of the findings (Brink et al 2006:118).

3.4 ETHICAL CONSIDERATIONS

3.4.1 Informed consent: Respondents must voluntarily agree to participate in research. Such consent involves not just signing a form. Consenting is a process in which respondents develop an understanding of research and its risk (Parahoo 2006:39). Informed consent was obtained from each study respondents, and for study respondents whose ages were between 15 and 17 years, informed consent was obtained both from the same and guardians or parents. Respondents were informed that they were free to withdraw from the study even during the data collection process.

3.4.2. Anonymity and Confidentiality: Anonymity refers to the principle that the identity of the research participant's is kept confidential, as well as information relating to their persons (Babbie & Mouton 2004:244). The respondents in the study were told not to write down their names on the questionnaires. All respondents, including their parents/guardians were assured that the information given would be treated in strict confidence and that their responses would be reported in summary form along with the responses of other respondents. They were also informed that the summary would not contain information that would identify them.

3.4.3 Justice: Justice requires that there must be fair distribution within a population of the benefits and burdens of respondents in a study and that; there must be a balance of burdens and benefits for each respondent (Morse 2002:13). Added to this, it also requires the researcher to use the results of the study only for its intended purposes. The results of this study will only be used for its intended purpose.

3.4.4. Beneficence: This requires researchers to protect respondents of research from any harm whatsoever, whether physical, psychological or otherwise (Babbie & Mouton 2004:529). The purpose and the significance of the study must be explained to the respondents to ensure understanding of the study and alleviate anxiety they may experience. The researcher of this study adhered to this ethical principle.

3.4.5 Non-Maleficence: The potential harms associated with non-experimental studies are generally less than those associated with experimental studies because of absence of intrusive intervention. This study is a non-experimental study and steps were taken to protect respondents from any form of harm (Flick 2009:22).

3.4.6 Respondents /human data sources

3.4.6.1 The Institution/ Site

- Ethical clearance was obtained from the University of South Africa Higher Degrees Ethics Committee.
- A letter in support of the study was obtained from the Regional Learning Centre of the University of South Africa in Addis Ababa, Ethiopia.
- Permission to conduct the study was obtained from Adama Administrative Zone Education Bureau.

Letters in support of the study, addressed to each preparatory school, were obtained from Adama Administrative Zone Education Bureau.

3.4.6.2 The Scientific Integrity of the Research

The scientific integrity of this study was maintained according to the research standards of the University of South Africa.

3.4.6.3 Domain Specific Ethical Issues

Before undertaking this study, ethical clearance was obtained from the University of South Africa, Adama Administrative Zone Education Bureau, and from each preparatory school. Informed consent was obtained from the study respondents and from the

respondents' guardians or parents. The information obtained from this study will be used and distributed under strict control only for its intended purposes. In general, the study followed all ethical principles.

3.5 CONCLUSION

This chapter presented discussions of the methodology employed in this study. The chapter also focused on data collection, validity and reliability and ethical issues. The following chapter presents the results of the study and associated discussions.

CHAPTER FOUR: ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

The findings of the study on the perceptions of preparatory students in relation to risks of contracting STIs and HIV in Adama, Ethiopia are discussed in this chapter. The results of the study are presented in the form of tables illustrating the background characteristics of the respondents, knowledge of HIV and STIs, sexual behaviour, condom and substance use and perceptions of risk of contracting HIV and STI.

The purpose of the study was to determine the perceptions of preparatory students in Adama of the risk of contracting HIV and STIs. The researcher conducted an exploratory descriptive survey in order to establish the relevant data. The data collection instrument was a 45-item questionnaire divided into six sections. Data were collected over a period of four days and 360 students participated in the study. The data were coded and analyzed, making use of the Statistical Analysis System Software Package Version 20 computer programme.

4.2 THE MEASURING INSTRUMENT USED IN THE INVESTIGATION

The data were collected using a structured questionnaire which comprised of five parts:

PART ONE: The socio-Demographic Characteristics of the Respondents

PART TWO: Knowledge of HIV and STIs

PART THREE: Sexual Behaviour, Practice and Condom Use

PART FOUR: Substance Abuse: Alcohol and Drugs (Khat)

PART FIVE: Perceptions of the Risk of Contracting HIV and STI

4.3 RESEARCH RESULTS

4.3.1 Socio – demographic Characteristics of the Students

The socio-demographic characteristics of the respondents, including their gender, age, ethnic origin and marital status are presented in this section.

A total of 360 preparatory students participated in the study with a response rate of 98% (353). Of the total number of participants, 200 (56.7%) were females and the rest (153, 43.3%) were males.

The study included respondents in the age range of 15 to 24 years. The age range for the study respondents was similar to that reported by Ando (2008) in the study on sexual activity and condom utilization in the Aleta Wondo Sidama Zone of Ethiopia. In the Ando's study most of the respondents (348, 98.6%) were between 15 and 20 years of age and the rest (5, 3.4%) were between 21 and 24 years old. This age group was selected in order to address the objectives of the study given that the mean age of the respondents was 17.66 ± 1.02 .

The results also show that 347 (98.3%) of the respondents had never been married and 6 (1.7%) were married. Most of the respondents (163, 46.2%) were from Oromo, 110 (31.2%) were from Amhara, 38 (10.8%) from Tigray, 29 (8.2%) from Gurage and 13 (3.7%) from Hadiya, Afar and other ethnic origins as presented in table 4.1.

TABLE 4. 1 Distribution of Respondents by Gender, Age, Marital Status and Ethnic Groups (% columns).

Variable (N =353)		Frequency (N)	Percentage (%)
Gender	Males	153	43.3
	Females	200	56.7
Age groups	15 – 20	348	98.6
	21 – 25	5	3.4
	Mean age	17.66	
	S.d	1.02	
Marital status	Single	347	98.3
	Married	6	1.7
Ethnic Group	Oromo	163	46.2
	Amhara	110	31.2
	Tigray	38	10.8
	Gurage	29	8.2
	Other	13	3.7

4.3.2 Respondents Knowledge of HIV and STIs

The presentation and discussion of the respondents' knowledge of HIV/AIDS and STIs takes place in this part of this dissertation. Differential concepts relating to HIV/AIDS and STIs, and approaches to prevention to STIs and the ways these infections were transmitted are also discussed in this section of the dissertation. What are also included in this section are issues relating to in-school training about the disease and the respondents' reactions to training.

4.3.2.1 In-school Training and Discussion about HIV/AIDS and STIs

Frequencies and percentages were computed, as shown in Table 4.2. The results of the study show that all of the participants had heard of AIDS and STIs. One hundred and

eighty eight (188; 53.3%) respondents had received in-school training about HIV/AIDS. The majority of the respondents (266, 75.4%) have had some discussions about sexuality and HIV-related issues with their teachers in school.

Three hundred and fifteen (315, 89.2%) of the respondents knew Gonorrhoea as one of the STIs, 30 (8.5%) did not consider Gonorrhoea as STI, and the rest (8, 2.3%) did not know about this disease. Three hundred and nine (309; 87.5%) knew that syphilis is a STI, while 30 (8.5%) indicated Syphilis as a non-STI and the rest (14, 4.0%) of the respondents did not know the disease. Two hundred and fourteen (60.6%) of the respondents selected Chancroid as an STI, but 125 (35.4%) did not consider the disease as STI and 14 (4.0%) did not know about the disease. Three hundred and ten (87.8%) of the respondents described Lympho granuloma venerum as not STI. Only 37 (10.5%) knew the disease as an STI and 6 (1.7%) of the study respondents hardly knew about the disease. Five (1.4%) and 8 (2.3%) of the study respondents identified Malaria and TB as STIs.

Table 4.2 Percentage Distribution of Respondents knowledge, In-School Training and Discussion about HIV/AIDS and STIs (% in rows).

Variables N =353		Yes N (%)	No N (%)	
Heard about AIDS?		353 (100)	0	
Heard of STIs		353(100)	0	
Received any training on HIV and STIs from the Education Curriculum?		188(53.3)	132(37.4)	
Discussed sexuality and HIV issues with teachers in your school?		266(75.4)	87(24.6)	
		Yes N (%)	No N (%)	Don't know N (%)
Disease transmitted by sexual intercourse	Gonorrhoea	315 (89.2)	30 (8.5)	8 (2.3)
	Syphilis	309 (87.5)	30 (8.5)	14 (4.0)
	Chancroid	214 (60.6)	125 (35.1)	14 (4.0)
	LGV	37 (10.5)	310 (87.8)	6 (1.7)
	Malaria	5 (1.4)	348 (98.6)	0

	TB	8 (2.3)	345 (97.7)	0
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4.3.2.2 Knowledge of and Beliefs about the Modes of Transmission of HIV

Overall, 349 (98.9%) of the respondents reported that the transmission of HIV was through unprotected sexual intercourse with only 4 (1.1%) reported that it was not the primary mode of transmission. According to UNAIDS Ethiopia (2012), heterosexual contact is the primary mode of HIV transmission in Ethiopia. The possibility of the transmission of HIV through sharp materials (needles, blades, knives etc) was noted by 316 (89.5%) of the respondents, but 37 (10.5%) did not indicate the possibility of transmission through sharp materials. This indicates that there is little evidence in Ethiopia relating to the transmission of STIs through sharp objects or materials, like needles and blades, a view also reported by HAPCO (2008:3). Also 304 (86.1%) of the respondents knew that HIV could be transmitted from an infected mother to her baby during pregnancy, whereas 49 (13.9%) did not know about the possibility of transmission from mother to child. These findings are similar to those reported by HAPCO (2008:67). The results also show that 322 (91.2%) of the respondents knew that an unscreened blood transfusion can result in HIV, whereas 31(8.8%) did not know about this. Infected blood transfusions have played a significant role in the spread of HIV in Ethiopia over the years. This emanates from non-screened blood transfused to patients, especially during emergencies (HAPCO, 2008:70).

Misconceptions relating to the transmission of HIV are important concerns in the context of HIV/AIDS knowledge. Table 4.3 below presents misconceived knowledge of or misconceptions relating to HIV transmission. Of the 353 study respondents, 14 (4.0%) reported that HIV could be transmitted by eating raw meat prepared by an HIV-infected person, 24 (6.8%) believed HIV can be transmitted by a mosquito bite, and 8 (2.3%) of the study respondents believed that a “healthy looking person” cannot transmit HIV. The Centre for Disease Control and Prevention (CDCP) (2009), have long been reporting that HIV is not spread by sharing utensils, toilet seats, shaking hands, hugging, casual

kissing or mosquito bites (CDCP 2009). However, misconceptions about such modes of transmission still persist, especially among young students.

Table 4.3 Percentage Distribution of the Respondents' Knowledge of the Modes of Transmission of HIV/AIDS (% in rows)

Variables N=353	Yes N (%)	No N (%)
Unsafe sex	349 (98.9)	4 (1.1)
Unsafe injection	316 (89.5)	37(10.5)
Mother to child	304 (86.1)	49 (13.9)
Blood transfusion	322 (91.2)	31 (8.8)
Eating food prepared by HIV-infected persons	14 (4.0)	339 (96.0)
Mosquito bite	24 (6.8)	329 (93.2)
After unsafe sex with an HIV-positive person	277 (78.5)	76 (21.5)
A healthy-looking person cannot transmit HIV/AIDS	8 (2.3)	345 (97.7)

Two hundred and thirty seven respondents (67.14%) had comprehensive knowledge about HIV/AIDS. In other words, they knew the three major preventive methods and had no misconceptions about transmission, such as believing that “eating raw meat prepared by a HIV-infected person can transmit the virus”, or “a mosquito bite can transmits HIV”, or “a healthy-looking person cannot transmit HIV” (UNAIDS BSS, 2005). Comprehensive knowledge was higher in the age group of 17 and 18 years old, which was made up of 147 respondents (62%). This was followed by 64 (27%) of the 19 years and above age group and 26 (11%) respondents in the 15 and 16 year old age group.

One hundred and thirty one females (55.3%) and 106 males (44.7%) demonstrated that they had comprehensive knowledge of HIV/AIDS.

Table 4.4 Percentage Distribution of the Respondents' Comprehensive Knowledge of HIV/AIDS (% in columns)

Variables (N = 237)		Comprehensive knowledge N (%)	OR (95% CI)	
			Crude	Adjusted
Age	15-16	26 (11.0)	1.00	1.00
	17-18	147 (62.0)	0.48 (0.32, 1.05)	0.64 (0.17, 2.17)
	≥19 yrs	64 (27.00)	0.40 (0.28, 0.95)	2.83 (0.62, 12.8)
Total		237 (100)		
		Comprehensive knowledge N (%)	P-value < 0.05	
Gender	Female	131 (55.3)	0.52 (0.27, 2.37)	0.74 (0.17, 3.16)
	Male	106 (44.7)	1.00	1.00
Total		237 (100.0)		

When the respondents were asked about the factors that may increase the risk of HIV transmission among male preparatory students, 17 (4.8%) reported that alcohol and drug abuse were the only factors; 27 (7.6%) said unprotected sexual intercourse; 175 (49.5%) reported alcohol and drug abuse and multiple sexual partners. Eighty seven (24.6%) respondents said that unfaithfulness and lack of circumcision are critical factors for HIV transmission. It is for this reason that the WHO and UNAIDS recommended the inclusion of male circumcision as a component in HIV prevention programmes in settings with high HIV prevalence and low levels of male circumcision (UNAIDS 2012) (See table 4.5.)

Table 4.5 Respondents' Perceived Knowledge of Conditions that Increase HIV Transmission to Boys (% in columns)

Variables	Frequency	Percentage %
Alcohol and drug abuse	17	4.8
Alcohol and drug abuse and Unsafe sexual intercourse	27	7.6
Alcohol and drug use, unsafe sexual intercourse and Unfaithfulness	175	49.5
Alcohol and drug use, unsafe sexual intercourse, Unfaithfulness and lack of circumcision	87	24.6
None	47	13.3
Total	353	100

When the respondents were asked about the factors that may increase the risk of HIV transmission among female preparatory students, 92 (26.1%) responded that coercion into having sex is a critical factor, 24 (6.8%) listed sexual coercion and fragility. The biological structure of females was also reported as a factor as it increases their vulnerability for coercion (86, 24.4%). These ideas accord with those of Alhassan (2003:19), who reported that girls are at greater risk than boys because of their biological and anatomical structure, as well as socio-economic and other factors. Thirty percent added the statement that girls culturally have no power over boys; 29 (8.2%) listed all of the above factors and added that girls are unable to use condoms, but the rest (92, 26.1%) did not indicate any of the above factors. These results are summarized in table 4.6 below.

Table 4.6 Respondents Perceived Knowledge of Conditions that Increase HIV Transmission to Girls (% in columns)

Variables	Frequency	Percentage %
Girls are Coerced into having sex	92	26.1
Girls are more fragile and are Coerced into having sex	24	6.8
Girls are unable to use a condom	29	8.2
biological structure of their reproductive organs makes them vulnerable	86	24.4
Girls have less power over boys	30	8.5
Don't know	92	26.1
Total	353	100

4.3.2.3 Knowledge and Beliefs of Symptoms of STI

Table 4.7 shows that 268 (81.0%) of the respondents indicated the presence of genital discharge as one of the symptoms of STIs; 64 (18.1%) indicated this symptom (genital discharge) is unrelated to STIs, and 3 (0.8%) of the respondents did not know about any association between genital discharge and STIs. The majority of the participants (89.8%) stated that a feeling of burning during urination is a STI symptom, whereas 35 (9.9%) did not know. The respondents were also asked about genital ulcers of which 303 (85.8%) reported that genital ulcers were symptoms of STI and 49 (13.9%) did not consider ulcers as STI symptoms.

Nineteen (5.4%) of the respondents reported that they had experienced one of the STI symptoms and from these 19 respondents, 12 (63.16%) had been treated for STIs. Of all the study respondents who had experienced STI symptoms, 8 (42.11%) informed their partners, but 7 (36.84%) did not inform their partners. See the summary of these results in table 4.7.

Table 4.7 Respondents' Knowledge of STI Symptoms (% in rows).

Variables	Yes N (%)	No N (%)	Don't know N (%)
Genital discharge	286(81.01)	64(18.1)	3(0.8)
Burning on urination	317(89.8)	35(9.9)	1(0.3)
Genital ulcer	303(85.8)	49(13.9)	1(0.3)
Swelling around groin area	280(79.3)	72(20.4)	1(0.3)
Lower abdominal pain	204(57.8)	148(41.9)	1(0.3)
Has experienced STI	19(5.4)	334(94.6)	
Partner received treatment	8(42.11)	7(36.84)	4(21.05)

Table 4.8 shows the treatment-seeking options for STIs. The results show that 4 respondents (21.05%) had been treated at a government hospital; 1 (5.26%) received treatment at a health center; 2 (10.53%) from their school clinics; 1(5.26%) from a pharmacy and 4 (21.05%) from private clinics. Of all the respondents 19 (5.4%) had experienced the symptoms and 7 (36.85%) had not sought treatment.

Table 4.8 Respondents' STI Treatment Seeking Options (% in column).

Center (N = 19)	Frequency	Percentage %
Government Hospital	4	21.05
Health Center	1	5.26
In-school clinic	2	10.53
Pharmacy	1	5.26
Private Clinic	4	21.05
Not treated	7	36.85
Total	19	100

4.3.2.4 Knowledge of the Methods of HIV Prevention

Table 4.9 shows that of the 353 respondents, 22 (6.2%) reported abstinence as an HIV transmission prevention method; 27 (7.6%) reported condom use; 15 (4.2%) reported being faithful; 19 (5.4%) indicated abstinence and being faithful; 18 (5.1%) stated abstinence and condom use; 12 (3.4%) indicated being faithful and condom use, and the majority of the respondents (237, 67.1%) mentioned all three HIV transmission prevention methods: the “ABC”.

Table 4.9 Respondent’s Knowledge of Methods of HIV/AIDS Prevention (n=353).

Variables	Frequency	Percentage
Abstain From Sex	22	6.2
Use Condoms	27	7.6
Be Faithful To One Partner	15	4.2
Abstinence and Being Faithful	19	5.4
Abstinence and Condom use	18	5.1
Being faithful and Condom use	12	3.4
ABC	237	67.1
None	3	1
Total	353	100

4.3.2.5 Sexual Behaviour, Practice and Condom Use

One finding of the study depicted that all of the respondents have heard about condoms and knew them as one of the methods of preventing HIV transmission. Three hundred and four (86.1%) of the respondents reported that condom use also prevents STIs, whereas 47 (13.31%) did not know this. The respondents were also asked about other functions of condoms. In response 330 (93.5%) indicated that it can be used to prevent pregnancy (Table 4.10).

Of all of the study respondents, 208 (58.9%) knew how a condom is used. 149 (42.2%) fully supported condom use, and 288 (81.6%) thought that sexually active students need to always use a condom (Table 4.10).

One hundred and seventy three (49.01%) respondents reported that they had received VCT and also knew their HIV status, and 180 (50.99%) had never received VCT (Table 4.10).

Table 4.10 Percentage Distribution of Respondents by Sexual Behaviour, Practice and Condom use (% in rows).

Variables	Yes N (%)	No N(%)	Don't know
Ever heard of a condom	353 (100)	0	0
Condoms Prevent HIV Transmission	353 (100)	0	0
Condoms Prevent STI	304 (86.1)	47(13.3)	2(0.6)
Condoms Prevent pregnancy	330(93.5)	21(5.9)	2(0.6)
Know how to use a condom	208(58.9)	145(41.1)	0
Ever used a condom	60 (17.0)	293(83.0)	0
Support 100% condom use	149(42.2)	204(57.8)	0
Support sexually active students need to use a condom always	288(81.6)	65(18.4)	0
Ever had VCT	173(49.01%)	180 (50.99%)	0

In relation to the marital status of the respondents, 347 (98.3%) reported that they were not married. Seventy five (21.25%) of the unmarried participants reported that they were sexually active and 60 (17.0%) of the sexually active respondents reported that they used condoms. These results contrast with the findings of Ando (2008:16), who reported that 64.1% of the sexually active youths in Sidama Zone, Ethiopia, had never used condom during sexual activity.

Age at first sex is an important indicator of exposure to both the risks of pregnancy and STIs. Of the 75 (100%) sexually active respondents 21 (28.0 %) do not remember their age on the occasion of their first sexual intercourse, whilst 5 (6.67%) stated that they had their sexual intercourse when they were less than 15 years of age, 13 (17.33%) started sexual intercourse when they were 15 to 16 years of age, and 34 (45.33%) started when they were 17 to 18 years old. See table 4.11.

Of the participants who were sexually active, 15 (20%) had had sex with multiple partners, whilst 16 (21.33%) had had sex with two partners. These results are similar to those reported in a study carried out in Amhara, Ethiopia, where 33.3% of the research population (preparatory students) reported to have had two or more sexual partners (Asrat 2009:8). This sexual behaviour puts preparatory student at risk of contracting STIs including HIV, and also of getting pregnant. It is a critical concern when young people start sexual intercourse under age 15 years. This is because engaging in sexual activity at such an early age exposes them to risk of contracting STIs, which in turn may lower their life expectancy. This is more of a concern as young people do not usually use condoms during sexual intercourse, a view also revealed in this study. Only 35 (46.67%) of the sexually active respondents reported using condoms during their first sexual intercourse, and the rest (40, 53.33%) indicated not using condoms during sexual intercourse at all (Table 4.11).

Table 4.11 Sexual Behaviours of Respondents (% in columns).

Variables		Frequency	Percentage
Ever had sexual intercourse	Yes	75	21.25
	No	278	78.75
Age on sexual debut N=75	Do not remember	21	28.0
	<15	5	6.67
	15-16	13	17.33
	17-18	34	45.33
	≥19	2	2.67
Number of life time sexual partners	More than two persons	15	20.0
	One person	44	58.67
	Two persons	16	21.33
Used a condom during first sexual intercourse	Yes	35	46.67
	No	40	53.33

Table 4.12 shows that of the sexually active respondents 26 (35%) were females and 49 (65%) were males. This figure is relatively high when compared with the figure given in a study carried out in Thailand, where 5.7% of females and 30.5% of males aged between 15-19 years of age admitted to being sexually active.

Table 4.12 Respondents Sexual Behavior by Gender (% in rows).

Variables	Had sexual intercourse		Total		
	Yes	No		Crude OR	Adjusted
Male	49 (65%)	104 (37%)	153	0.65 (0.073, 5.35)	0.00
Female	26 (35%)	174 (63%)	200	1.00	0.00
Total	75	278	353	P-value < 0.05	

Table 4.13 shows that 64% of the respondents reported that the reason to start their first sexual intercourse was personal desire, 6 (8%) marriage, 6 (8%) peer pressure, 9 (12%) being forced and 6 (8%) were unable to remember the reasons for commencing sexual intercourse. These results are not unique to this study population, as similar studies carried out in other African countries reported curiosity, peer pressure and rape as some of the reasons for young people to engage in sexual activity.

Table 4.13 Respondents' Reasons for Starting Sexual Intercourse (N = 75).

Variables N=75	Frequency	Percentage
Personal desire	54	72.0
Marriage	6	8.0
Peer pressure	6	8.0
Forced	9	12.0

Table 4.14 shows that 9 respondents (22.5%) reported that they did not use condoms because they were forced to have sex, 9 (22.5%) did not think of it, 7 (17.5%) reported that condoms decreased their pleasure, 7 (17.5%) indicated that their partners objected, 5 (12.5%) stated that they trusted their partners, 2 (5%) respondents replied that condoms were not available, and 1 (2.5%) claimed to have used another contraceptive. These findings are similar to Asrat's (2009:16-18), who found that the majority of the respondents in that study did not use condoms because it was perceived to decrease their sexual pleasure, and also because they trusted their partners. In cases where there was forced sex (rape), it is impossible for people to negotiate condom use, because sex was performed against their will in the first place.

Table 4.14 Respondents' Reasons for not Using Condoms (n=40).

Reasons	Frequency	Percentage
Forced	9	22.5
Did not think of it	9	22.5
Decreased pleasure	7	17.5
Partner Objected	7	17.5
Trust in the partner	5	12.5
Not available	2	5.0
Use another contraceptive	1	2.5

Table 4.15 shows that the majority of respondents knew where condoms were to be purchased. Sixty two percent (62.9%) reported that condoms could be obtained at pharmacies, shops, private clinics and hospitals. Seventeen percent (4.8%) reported that condoms can be obtained from pharmacies (drug vendor) only; 17 (4.8%) thought they can be obtained only from a pharmacy or a shop, and 23.5% of the participants didn't know where condoms can be obtained.

Table 4.15 Respondents' Knowledge of Where Condoms can be Obtained.

Variables	Frequency	Percentage
Pharmacy/Drug Vendor	17	4.8
Pharmacy/Shop	17	4.8
Pharmacy/Shop/Private clinic	14	4.0
Pharmacy / Shop / Private clinic / Hospital	222	62.9
Don't know	83	23.5
Total	353	100

4.3.2.6 Alcohol and Drug Abuse

Alcohol use and substance abuse can contribute to the transmission of HIV/AIDS and STIs. In Ethiopia both gender-based violence and substance abuse (alcohol and khat) are factors that can exacerbate the spread of HIV among certain groups (USAID Ethiopia 2012:1-3). In this study, 294 (83.3%) respondents had never taken alcohol in their lives, 59 (16.7%) had consumed alcohol at a different level, 9 (2.5%) took alcohol every day, 26 (7.4%) took it once a week and 24 (6.8%) took it "sometimes". Fifteen (4.2%) sexually of active respondents reported that they were under the influence of alcohol when they last had sexual intercourse. Furthermore, 42 (11.9 %) of the respondents admitted that they used khat, and 4 (4.0%) reported that they used Khat and cigarettes. See table 4.16.

Table 4.16 Percentage Distribution of Respondents' Relating to Alcohol Use, Drug Abuse and Sexual Behaviour (N=353).

Variables		Frequency	Percentage
Alcohol consumption	Never	294	83.3
	Everyday	9	2.5
	Once a week	26	7.4
	Sometimes	24	6.8
	Total	353	100
Under the influence of Alcohol during last sexual intercourse	Yes	15	4.2
	No	338	95.8
	Total	353	100
Drug Abuse	Khat	42	11.9
	Khat and Cigarettes	14	4.0
	None	297	84.1
	Total	353	100

Table 4.17 shows that of the majority of the respondents who used substances, 42 (75%) of them were males and 14 (25%) were females.

Table 4.17 Cross Tabulation of Respondents' on Substance Use by Gender (N=56).

		Substance Use		OR	
		Frequency	Percentage	Crude	Adjusted
Gender	Female	14	25	1.00	0.00
	Male	42	75	0.214 (0.014, 3.37)	0.00
Total		56	100		

4.3.2.7 Perception on Risk of Contracting HIV/STI

The study respondents were asked about their perceptions of the risks associated with HIV/STIs. Table 4.18 shows that 103 (29.18%) of the respondents had self-perceived a risk of contracting HIV, 11 (3.12%), 11 (3.12%) and 81 (22.95%) of respondents had perceived that the degree of exposure to risk of contracting HIV was high, moderate and mild respectively. Two hundred and sixty five (75.07%) believed that having a STI increased the risk of contracting HIV, and 25 (7.08%) believed that having an STI would not increase the risk of contracting HIV. Fifteen (4.25%) of the respondents had self-perceived risk of contracting a STI, 226 (64.02%) had practiced abstinence as HIV preventive method, and 92 (26.06%) had perceived that being faithful was a good HIV prevention method.

TABLE 4. 18 Respondents' Perceptions of the Risk of Contracting HIV and STI (N=353).

Variables		Frequency	Percentage
Self perceived risk of HIV	Yes	103	29.18
	No	250	70.82
Perceived Degree of exposure	High	11	3.12
	Moderate	11	3.12
	Mild	81	22.95
	No risk	250	70.82
Having an STI increases the risk of HIV infection	Yes	265	75.07
	No	25	7.08
	Don't know	63	17.85
Self-perceived risk of STI	Yes	15	4.25
	No	338	95.75
HIV/STI prevention methods used	Abstinence	226	64.02
	Being faithful	92	26.06
	Condom use	35	9.92
Slept with more than one partner in the past three months	Yes	19	25.33
	No	56	74.67
	Total	75	100
Casual unprotected sexual intercourse with a person whose HIV status is unknown	Yes	55	15.58
	No	298	84.42
Ever had VCT	Yes	173	49.01
	No	180	50.99

4.4 CONCLUSION

This chapter has presented the data analysis systematically. The frequency distribution and cross-tabulations were presented in tables. The data were analyzed using the

SPSS version 20.0 software programme. Reference was made to the literature reviewed, where applicable.

CHAPTER FIVE: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter presented an analysis and interpretation of the research findings derived from data collected from preparatory students in Ethiopia. This chapter concludes the study with a summary of the findings. It also includes a brief discussion of the Health Belief Model in relation to the study findings. This chapter also includes a brief discussion of the limitations of the study as well as offers recommendations on how to reduce risks of contracting STIs among preparatory students in Ethiopia.

5.2 SUMMARY OF THE RESEARCH FINDINGS

This study offered insights into the risks of contracting STIs, including HIV. These insights were generated from data collected from preparatory students in Adama, Eastern Showa, Oromia Regional State, Ethiopia. The respondents of this study were between 15 and 20 years of age. It is apparent from this study and predecessor studies that people's age may influence their perceptions of behaviours or diseases, which in this case relates to the risk of contracting STIs. Guided by the Health Belief Model, people's perceptions can also be influenced by a range of factors, which are in the main externally motivated. Examples of these factors include peer pressure, poverty, lack of / limited knowledge of HIV and STIs, prior experience with STIs, unemployment and substance abuse. Exposure to one or more of these factors may enable young people (preparatory student) to ignore the risk of contracting STIs.

It is noteworthy to state that most of the respondents of this study had training on STIs, including HIV. Despite this, many respondents reported that they were unaware of the risk of transmission of HIV through incision by contaminated sharp objects and an unscreened blood transfusion. Contaminated sharp objects in this case relate to objects with traces of blood from HIV-positive persons. However, the majority of respondents were aware that HIV and other STIs can be transmitted through unprotected sexual intercourse. This mode of STIs transmission is supported by UNIAIDS. This agency reported in a number of its documents that heterosexual contact is the primary mode of

STIs transmission in Ethiopia (UNAIDS Ethiopia, 2008). In addition to this, respondents reported other factors that may increase young people's risk of contracting STIs. Examples of these factors include drug and alcohol use and misuse, onset of sexual intercourse at a young age (less than 15 years old) and multiple sexual partners. Despite this, misconceptions about the modes of transmission of STIs were reported by some respondents of this study. For example, these respondents claimed that HIV can be transmitted by eating meat prepared by people living with HIV and through a mosquito bite by a mosquito who had bitten a HIV-positive person.

Finally, in relation to prevention, most of the respondents reported that using condoms during sexual intercourse, being faithful and abstaining from sex have a huge potential of reducing the risk of people (including young people) contracting HIV and other STIs. Added to this, it is reported in this study that young people's gender can influence their perception and ability to take preventive measures, especially in areas where there are culturally related gender inequalities. For instance, female young people (preparatory students), according to respondents, are exposed to increased risk of contracting STIs and HIV, because they are powerless as well as usually coerced by males to engage in sexual activity

5.3 LIMITATIONS

- The study was limited to only one region in Ethiopia. Thus the findings cannot be generalized to the young people in the whole country.
 - The study was based on a survey design, which makes it impossible to draw inferences about the direction of relations among the study variables.
 - Under-reporting might have occurred as a result of the sensitive nature of the questions on sexual issues.

5.4 RECOMMENDATIONS

This section focuses on the provision of clear recommendations of issues which emerged from the findings and the research process.

Incorporate sex, HIV/AIDS and STI education in the curriculum. This will help students to access key and relevant information on HIV and STI. The education given must be part of an integrated national HIV and STI prevention programme and control strategy. The information provided must be presented in an accurate, clear, easy and direct style such that students in this age group (15 to 24 years) can easily understand it. Information of how to avoid risky sexual behaviour is very important. Providing such information would enable young people to make informed decision prior to engaging in sexual activity. Thus, the early introduction of knowledge and skills to preparatory students may help reduce the incidence and prevalence of HIV/AIDS.

The majority of the respondents acquire their HIV/AIDS information in school from their teachers. Whilst this study recommends for this to be maintained, teachers' knowledge on this subject should be regularly updated.

Information Education Communication (IEC) programmes should continue to be offered in order to give young people comprehensive knowledge of HIV/AIDS and STIs, and should be encouraged to delay their sexual debuts. When they eventually start having sex, they should be taught to negotiate condom use for every sexual encounter, and they should test for HIV regularly. The programme should also include educating young people about the effects of alcohol and drugs.

Since the consistent and correct use of condoms reduces the risk of contracting HIV and STIs, prevention programmes should include the promotion and distribution of condoms

Peer-based intervention should be implemented to ensure that young people have access to accurate and user-friendly information. The information should not be "one

size fits for all”, but should be tailored according the level of understanding of young people. In other words, information provided should be congruent with the cognitive ability of young people.

Provide VCT service in schools. VCT should be promoted through IEC activities and media professionals, who will convey accurate and consistent information to the pupils. In-school clinics should be established to provide quality reproductive health service including VCT service. Other health institutions should also be supported and encouraged to provide youth-friendly VCT services.

Create and improve the capacity of school Anti-AIDS clubs and reproductive health clubs. This will help students to improve their knowledge of HIV/AIDS and STIs. It is believed that achieving this will minimise their misconceptions.

This study recommends for the Ministry of Health or the Regional Educational Bureau to develop a curriculum on sex and HIV/AIDS education as an independent subject to be taught in schools.

Similar research should be conducted in other parts of the country especially in the rural areas. A country survey is needed so that the information gained can inform policy and national strategies.

Comparative research should be performed on both out-of-school youths and those attending preparatory school in order to explore the relationship between their perceptions of the risk of contracting risk of HIV and STIs.

5.5 CONCLUSION

This chapter included a resume of the study findings including its limitations and recommendations. In conclusion this study explored preparatory students’ perceptions of the risk of contracting HIV and STIs in Ethiopia. It utilised a non-experimental exploratory survey methodology. In spite of increased awareness of HIV/AIDS, school

youths still engage in high-risk sexual activities and believe that they are unlikely to contract the disease.

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ANNEXURE A - I



30 April, 2012

UNISA-ET/KA/ST/29/30-04-12

BUREAU OF EDUCATION
 THE REGIONAL STATE OF OROMIA
ADAMA

Dear Madam/Sir,

This is to confirm that Ms. Regebe Berhanu Belay (student number 46509453) is an MPH student in the department of Health Studies at the University of South Africa (UNISA). Currently, she is at the stage of data collection on her research entitled "Perception of Preparatory Students on Contracting HIV and STIs in Adama, East Showa, Oromia Regional State, Ethiopia." This is therefore to kindly ask you to please assist the student in any way you can. Attached, please find the copy of the Ethical Clearance she secured from the Department of Health Studies, UNISA.

Sincerely,

Tsige GebreMeskel Aberra

DD – Facilitation of Learning

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www.unisa.ac.za

ANNEXURE A - II

**BIIROO EEGUMSA FAYYAA
OROMIYAA**



OROMIA HEALTH BUREAU

የኦሮሚያ ጤና ጥበቃ ቢሮ

Lakk/Ref. No. BFEO/H/ST/11-3/1993
Guyyaa /Date 10-9-2004

↗ Waajjira Egumsa fayyaa bulchinsaa magaalaa Adaamaa tiif
Adaamaa

Dhimmi: Xalayaa deggersaa ilaala

Akkuma beekamu Biiron keenya ogeeyyii akkasumas namoota qorannoo geggeessuuf propoozaala dhiyeeffataniif propoozaala isaanii ilaaludhaan waraqaa deggersaa ni kenna. Haaluma kanaan mata duree" **Perception of preparatory students on contracting risk of HIV and STIs in Adama, Eastern shoa ,Oromia regional state, Ethiopia**" jedhamu irratti Addee **Belay Regebe** geggeessuuf propoozala dhiyeeffataniiru. Kanaafuu, Korreen "Ethical committee" Biiroo keenyaa ilaalee akka qorannoon kun hojii irra oolu murteesse jira. Waan kana ta'eef hojii qorannoo kana irratti deggersa barbaachisaa ta'e akka gootaniif jechaa qoratuun kunis firii qorannoo kanaa kopii tokko Biiroo Eegumsa Fayyaa Oromiyaatiif akka galii godhan galagalcha xalayaa kanaatiin isaan beeksifna.

Ani qorannoo kana kanan geggeessu **Addee Belay Regebe** firii qoranichaa kopi tokko BFEO tiif galii akka godhuuf mallattoo kootiin ni mirkaneessa.

Mallattoo _____
Maqaa _____
Guyyaa _____
Lakk bilbilaa 0913543489



G/G
Addee **Belay Regebe** tiif
Bakka jranitti

Nagaa wajjin
Bebe
Tasbeere D.J.H
BIBILO H/ST/FM

ANNEXURE B - I



ቁጥር MBBH/531-10/35
ቀን 17/09/2004

ለደቡብ አፍሪካ ዩኒቨርሲቲ

ኢ.አ

ጉዳይ:- ስለ ተማሪ ሪግስ ብርካት የጥናት መጠይቅ ድገፍ ማሳወቅ ይሆል።

ከዚህ በላይ ለመግለፅ እንደተሞከረው የሦስተኛ አመት የፕብሊክ ሄልዝ የማስተርሰ ተማሪ የሆነችው ሪግስ ብርካት የጥናት መጠይቅ በሐዋስ መስፍዶ ት/ቤት ውስጥ ተግኝተው መጠይቁ በት/ቤቱ ተማሪዎች እንዲሞላላቸው ድጋፍ ጠይቀውናል።

ይሄንን መሠረት በማድረግ ለአንድ መቶ ዘጠና ተማሪዎች መጠይቁ ተበትነው ተሠብስቧል። ስለሆነም በእኛ በኩል አግባብነት ያለው ድጋፍ/ትብብር የተደረገላቸው መሆኑን እናግኛለን።



ከሠላምታ ጋር

Masarat Namarran Gemmedaa
መኖሪያ ስም: ...
I/A Dura Bu'aa Dh. Akadaami

ከዘመን አሁን ይኸው
አዘን ነው

ወይን ማርቅ ጠርቶ ጠጥሮ?
ጠጥሮን ጠጥሮን ጠጥሮን ጠጥሮን
ጠጥሮን ጠጥሮን ጠጥሮን ጠጥሮን
ከጠጥሮ ጠጥሮ ጠጥሮ ጠጥሮ ጠጥሮ?

Dejene Delelegn
Principal

18/09/04



ANNEXURE B – II



Bulchinnama Magaasaa
Adaamaatti Waajjiraa Eegumsaa
Fayyaa Adaamaa
የአዳማ ስጉም ግብይት ሚኒስቴር

ቀን 14/9/2004
ቁጥር WEF-BMA/298/04

ሰ. 5552 ግብይት 4/04

ጉዳዩ የድጋፍ ደብዳቤ መስጠትን ይመለከታል

ከላይ በርእሱ ለመጥቀስ እንደተሞከረው የነሽረሰቲ አፍ ሳውዝ አፍሪካ የተባለ ድርጅት በፕሪፓራተርሪ ት/ቤቶች ተማሪዎች ላይ የዳሰሳ ጥናት ለማድረግ የሚያስችላቸውን የድጋፍ ደብዳቤ እንድንፀፍላቸው ከኦሚያ ጤና ቢሮ ብድጋፍ ደብዳቤ ቁጥር BEFO/HBTFH/1-8/1993 በመያዝ ጠይቀውናል ስለዚህ ይህንን ጥናት የሚያደርጉ ግለሰቦች ወደድርጅቶቻቸው በሚመጡበት ሰአት አስፈላጊውን ትብብር እንድታደርጉላቸው አየጠየቅን ከኦሚያ ጤና ቢሮ የተገፈውን ደብዳቤ ኮፒ አያይዘን ልክናል።

ከሰላምታ ጋር

Mehadi Yassin

Mehadi Yassin
መሀዲ ያሱን
Qondaalas Fayyaa
ገብጫ ገብጫ
Itti Gaafatamaa Waajjiraa Eegumsaa
Fayyaa Magaasaa Adaamaa
የአዳማ ስጉም ግብይት ሚኒስቴር



አገልግሎት
40033176
14/09/04

ANNEXURE C - INFORMED CONSENT FORM

Questionnaire Title : Perception of preparatory students on contracting risk of STI and HIV in Adama, Eastern Showa, Oromia regional state, Ethiopia.

Introduction

Hello, my name is Regebe Berhanu. I am a Clinical Nurse pursuing a Master's degree in general public health from South Africa University.

In ensuring the health of young people, understanding of existing problems and related behaviours of such group of the population is important. The purpose of this study is to generate information on preparatory students regarding on the perception of risks of HIV and STI and you are chosen to participate in this study. The information obtained from this study may help to design appropriate intervention that helps to prevent and control the transmission of HIV and STIs in preparatory students.

Consent and confidentiality: Here is a self-administered questionnaire for you to complete. Your answers are completely confidential yet very necessary for the completion of this study. Your name will not be written on this form, and will never be used in connection with any of the Information you tell me. In addition, your honest answer to these questions will help to better understand what people think and do about HIV and STI. There are no risks associated with participation in this study. No incentives be given but your help in responding to this survey will be highly appreciated.

The whole process may take about an hour. If the survey report is published, only information about the total group will appear, without any identification of personal history.

Would you be willing to participate?

Yes, I want to participate in the study. Please go to the next page.

No, I don't want to participate in the study. Thank you very much!

For further information contact

Principal Investigator: Regebe Berhanu

Cell Phone: 0913543489

University of South Africa, Addis Ababa, Ethiopia

ANNEXTURE - D CCONSENT FORM

I have read and understood well the condition stated above and I understand that there is no risk on being participate and no incentive are given when I participate in the study. Therefore, I am willing to participate in the study.

Signature _____

Date _____

Annexure E**Parent / Guardian consent form**

TITLE OF THE DISSERTATION: Perception of preparatory students on contracting risk of HIV and STI in Adama, Eastern Showa, Oromia Regional State, Ethiopia.

Dear Parent / Guardian

My name is Regebe Berhanu. I am studying my Masters Degree at the University of South Africa. I am conducting a research on “Perception of preparatory students on risks of HIV and STI in Adama, Eastern Showa, Oromia Regional State, Ethiopia”.

This study will help to design appropriate intervention that helps to prevent and control the transmission of HIV and STIs in preparatory students.

I am requesting you to allow your child to participate in the study. The information obtained from this study will be kept confidential, and participation is voluntary.

Please indicate if you agree that your child may participate in this study by signing below.

Parent/guardian: _____

Date: _____

Miss Regebe Berhanu

Address - Cell number: 0913543489

0911973794

ANNEXURE - F**TO: SCHOOL OF PUBLIC HEALTH, ADDIS ABABA UNIVERSITY****Addis Ababa****Subject: Request for permission to conduct research**

My name is Regebe Berhanu. I am clinical Nurse pursuing a Master's degree in general public health from University of South Africa.

I am carrying out research entitled "**Perception of Preparatory Students on contracting risks of HIV and STI in Adama, Eastern Showa, Oromia Regional State, Ethiopia.**" In ensuring the health of young people, understanding of existing problems and related behaviours of such group of population is important. The purpose of this study is to generate information on preparatory students regarding on the perception of risks of HIV and STI. The information obtained from this study may help to design appropriate intervention that helps to prevent and control the transmission of HIV and STI in preparatory students.

Information obtained from this study will be confidential and not linked to the name of the school. The result of this study also be distributed to the school of public health and for each of preparatory schools involved in the study after getting permission from the school of public health ethical committee.

I have submitted the proposal to the Ethical committee at the University of South Africa and got the Ethical clearance attached with this letter of permission.

I trust to have your permission to conduct this study.

I express gratitude in advance for your cooperation.

With regards!

Regebe Berhanu (Researcher)

Signature



ANNEXURE - G

TO WHOM IT MAY CONCERN

13 September 2013

I hereby certify that I have edited the language of a masters' dissertation by Belay Regebe Berhanu entitled The Perception of Preparatory Students of the Risks of Contracting HIV and STIs in Adama, Eastern Showa, Oromia Regional State, Ethiopia.

I am Professor Alan Brimer, DLitt (UPE), Professor Emeritus of UKZN.

Yours faithfully,

Alan Brimer



ANNEXURE - H: Questionnaire

PART ONE: Socio- Demographic Characteristics of the Respondents				
Q. No	Questions	Response option	Code	
1.1	What is your gender?	1. Male _____ 2. Female _____		
1.2	Preparatory school	1. Private 2. Government		
1.3	What is your Grade?	3. 12 th _____ 4. 11 th _____		
1.4	To which ethnic group do you belong?	1. Oromo 2. Amhara 3. Tigry 4. Other (specify)		
1.5	How old are you?	_____ in years		
1.6	What religion are you?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other (Specify) _____		
1.7	Current marital status?	1. Married 2. Single 3. Divorced 4. Widow / widower		
1.8	Are you sexually active?	1. Yes 2. No		

1.9	Your sexual debut? (When did you start being sexually active?)	When I was _____ Years old.		
1.10	Did you have sex with more than one person during the same period?	1. Yes 2. No		
1.11	With how many partners have you slept with in the past 3 months?	1. One 2. Two 3. More than three		
1.12	Did you use condoms during each sexual encounter?	1. Yes 2. No		
1.13	With whom do you live?	1. With My father and mother 2. With my Sister/Brother 3. With Friends 4. With My Father only 5. With my Grand Father/Mother 6. Alone 7. With My mother only 8. With my Cousin/Uncle 9. With my spouse 10. Other(specify) _____		
1.15	Who supports you financially?	1.		
PART: TWO Knowledge Related to HIV and STD				

HIV				
2.1	Have you received any training on HIV and STI from Education Curriculum?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't remember 		
2.2	How HIV/AIDS is transmitted? (encircle all possible answers)	<ol style="list-style-type: none"> 1. Unsafe sex 2. Unsafe injection 3. Mother to child 4. Blood transfusion 5. Eating raw meat prepared by HIV infected person 6. Mosquito bite 7. Others specify 		
2.3	HIV can be transmitted with in short period after having sex.	<ol style="list-style-type: none"> 1. Yes 2. No 3. Not sure 		
2.4	Is there any method a person can do to prevent himself & his/her partner from getting the HIV/AIDS/?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Not sure 		
2.5	What is/are the ways of prevention? (More than one answer is possible).	<ol style="list-style-type: none"> 1. Abstain From Sex 2. Use Condoms 3. Limit Sex To One Partner 4. Be Faithful To One Partner 		

		<p>5. Avoid Sex With Person Who Have Many Partners</p> <p>6. Avoid Blood Transfusion</p> <p>7. Avoid Sharing Razors/Blades</p> <p>8. Others (Specify)_____</p>		
2.6	A healthy-looking person Cannot be infected with HIV/AIDS.	<p>1. Yes</p> <p>2. No</p> <p>3. Don't Know</p> <p>4. No response</p>		
2.7	Do you have a close relative or close friend who is infected with HIV or has died of AIDS?	<p>1. Yes</p> <p>2. No</p> <p>3. I don't know</p> <p>4. Not sure</p>		
2.8	Use of condom will encourage promiscuity.	<p>1. True</p> <p>2. False</p> <p>3. Don't Know</p> <p>4. No Opinion</p>		
2.9	Premarital sexual intercourse can increase the chance of acquiring the virus?	<p>1. True</p> <p>2. False</p> <p>3. Don't know</p> <p>4. No opinion</p>		
2.10	Can the use of condom during sex prevent the spread of HIV?	<p>1. Yes</p> <p>2. No</p> <p>3. Don't know</p>		

2.11	Who is/are more at risk to contract HIV?	<ol style="list-style-type: none"> 1. Boys 2. Girls 3. They are equally at risk 		
2.12	<p>Which factors increase the risk of HIV transmission for boys compared to girls? Encircle all possible answer</p>	<ol style="list-style-type: none"> 1. Boys who cheat on girls 2. Boys take alcohol and drugs 3. Boys who don't like using condom 4. Boys culturally have power over girls 5. uncircumcision 6. Boys like experimenting with sex 7. Other (Please explain) 		
2.13	<p>Which factors increase the risk of HIV transmission for girls compared to boys? Encircle all possible answer.</p>	<ol style="list-style-type: none"> 1. Girls are more fragile 2. The biological structure of the vagina 3. Girls are coerced to have sex 4. Girls culturally have no power over boys 5. Girls are not able to use the condom 6. Girls have limited knowledge about HIV 7. Girls have older partners 8. Girls cheat on boys and have many partners 		

		9. Others (please specify)		
2.14	Which factors decrease the risk of HIV transmission for girls compared to boys? Encircle all possible answer.	<ol style="list-style-type: none"> 1. The virus is washed off during menstruation 2. Girls have sex with boys they trust 3. Girls have fewer sexual partners 4. Girls are responsible for condom use 5. Girls can refuse to have sex without a condom 6. Other (please specify)_____ 		
2.15	Have you ever had HIV counseling and testing or Tested for HIV?	<ol style="list-style-type: none"> 1. Yes 2. No 		
2.16	When did you have your most recent HIV test?	<ol style="list-style-type: none"> 1. Within this year 2. Between 1 – 2 years 3. Between 2-4 years 4. More than 4 years ago 5. Don't know 6. Never 		
2.17	Have you discussed sexuality and HIV issues with teachers in your school?	<ol style="list-style-type: none"> 1. Yes 2. No 		
2.18	Do you have a child?	<ol style="list-style-type: none"> 1. Yes 2. No 		

Sexually Transmitted Disease				
2.19	Have you ever heard of disease that can be transmitted through sexual intercourse?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't know 		
2.20	Encircle those disease transmitted by sexual intercourse (Encircle all possible answer)	<ol style="list-style-type: none"> 1. Gonorrhoea 2. HIV/AIDS 3. Syphilis 4. Chancroid 5. Malaria 6. Tuberculosis 7. LGV 8. Other (Please specify) 		
2.21	Choose any symptom that is related with sexually transmitted disease (STDs) in women? (Encircle all possible answer)	<ol style="list-style-type: none"> 1. Genital discharge with foul smelling 2. Burning pain on urination 3. Genital ulcers/ Sores 4. Swellings in Groin area 5. Lower abdominal pain with genital discharge 		
2.22	Have you had a genital ulcer/sore during the past 12 months?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't know 		
2.23	If your answer is yes for the above question. Where did you seek advice / medicine when	<ol style="list-style-type: none"> 1. Government Hospital / Health centre 2. School clinic 3. Private clinic 		

	you had those symptoms	4. Private pharmacy/ drug vender Other (Please specify)		
2.24	Did your partner seek medical treatment as well?	1. Yes 2. No		
2.25	Did you inform your partner about STI you had?	1. Yes 2. No		
2.26	If no, what are the reasons for not informing him/her?	1. Fear of stigma and discrimination 2. Other specify		
Part Three: Sexual Behaviour , Practices And Condom Use				
3.1	Have you ever heard of condoms?	1. Yes(heard) 2. No(not heard)		
3.2	What is the use of condoms? Circle all the possible answers	1. Prevent HIV/STI 2. To avoid pregnancy 3. Others (Please specify) _____		
3.3	Do you know how to use the condom?	1. Yes 2. No		
3.4	Have you ever used the condom during sexual activity?	1. Yes 2. No		
3.5	Did you support 100%	1. Yes 2. No		

	condom use program (No condoms- no sex)	3. Not sure		
3.6	Would you support sexually active students need always use condom?	1. Yes 2. No 3. Not sure		
3.7	Have you ever had sexual intercourse? For the purposes of this survey, "sexual intercourse," is defined as fully penetrative Vaginal sexual intercourse.	1. Yes 2. No 3. Not sure		
3.8	At what age did you have first sexual intercourse?	1. Age In Year_____		
		2. Don't Know		
		3. I have never had sex		
3.9	If you are married, had you ever had sexual intercourse before your engagement?	1. Yes 2. No 3. No response		
3.10	What was your reason for starting sexual	1. Marriage 2. Personal Desire(Consensual)		

	intercourse?	<ol style="list-style-type: none"> 3. Peer Pressure 4. Forced 5. Don't Know 6. No response 		
3.11	With how many people have you had sex with in your life time?	<ol style="list-style-type: none"> 1. I have never had sex 2. One person 3. Two person 4. More than two person 		
3.12	Did you use condom during the first time you had sexual intercourse?	<ol style="list-style-type: none"> 1. Yes 2. No 3. I have never had sex 		
3.13	If the answer is no for the above question. What was the reason for not using condom at that time?	<ol style="list-style-type: none"> 1. Not available 2. Decreased pleasure 3. partner trust 4. Didn't think of it 5. Known allergic to it 6. Used other contraceptive 7. Partner objected 8. Don't know 9. Other (please specify) 		
3.14	Have you had sexual intercourse in the last 12 months?	<ol style="list-style-type: none"> 1. Yes 2. No 		
3.15	During the past 12 months, or before that, did any of your sexual partner(s) force you to have sex with them even	<ol style="list-style-type: none"> 1. Yes 2. No 3. I have never had sex 		

	though you did not want to have sex?			
3.16	With what frequency did you and all of your regular partner(s) use a condom during the past 12 months?	<ol style="list-style-type: none"> 1. Every time 2. Almost every time 3. Sometimes 4. Never 5. Don't know 6. I have never had sex 		
3.17	Why didn't you and your partner use a condom during the last intercourse? More than answer is possible	<ol style="list-style-type: none"> 1. Not available 2. Too expensive 3. Partner objected 4. Break trust 5. Used other contraceptive 6. Allergic to it 7. Didn't conceded it as it was necessary 8. Don't know 		
3.18	What was the relation between your partner/s that had sexual intercourse with you in the last 12 months?	<ol style="list-style-type: none"> 1. Spouse or fiancé 2. Acquaintance or Friend 3. Stranger 4. Transactional partner/s For exchange of money, or gift 5. Other (please specify) 		
3.19	Which of the following contraceptive methods do you ever used? More than one answer is	<ol style="list-style-type: none"> 1. Oral contraceptive pills 2. Intrauterine contraceptive device 3. Injectables 		

	possible	<ol style="list-style-type: none"> 4. Implants 5. Condom 6. Rhythm Method nor Periodic 7. Abstinence 8. Withdrawal method 9. Other (Please specify) 		
3.20	Do you know where to obtain male condom? More than one answer is possible	<ol style="list-style-type: none"> 1. Government hospital / Health center 2. Private clinic 3. Pharmacy / Drug venders 4. Shop 5. Don't know 		
PART FOUR : Substance use: Alcohol and drugs /Khat/				
4.1	During the last four weeks how often have you had alcohol containing drinks	<ol style="list-style-type: none"> 1. Every day 2. Once a week 3. Never 		
4.2	The last time you had sexual intercourse, were you under alcoholic influence?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't remember 		
4.3	Some people have tried a range of different types of drugs. Which of the following, if any, have you tried? More than one answer is possible	<ol style="list-style-type: none"> 1. Marijuana 2. Khat 3. Cigarette 4. never 		

PART FIVE: Risk perception				
5.1	Do you perceive a likelihood of becoming HIV infected or contracting STDs based on your previous exposure?	1. Yes 2. No 3. Don't know		
5.2	Have you been treated for STI in the past 3 months?	1 Yes 2 No		
5.3	Do you think having STI may increase your risk of being infected with HIV?	1 Yes 2 No		
5.4	Do you think that you are at risk of getting HIV or STI?	1. Yes 2. No 3. Don't know		
5.5	What is/are the reasons for your worry being at risk? (More than one answer is possible)	1. Accidental cut or injection 2. Unprotected vaginal sex (sex without condom) 3. Condom breakage during sex 4. Had blood transfusion 5. Had many sexual partners 6. Had history of or current symptoms of		

		STDs 7. Had history of rape		
5.6	If the response is No	1. I always use condom 2. I never had sexual contact 3. Abstained from sexual intercourse 4. I am healthy no contact with PLWHA 5. Others specify _____		
5.7	How do you level the degree of your exposure to HIV infection?	1. No risk 2. A small risk 3. A moderate risk 4. A great risk		
5.8	At present which of STD/HIV/AIDS prevention method do you actually practice.	1. Abstinence 2. Faithfulness 3. Condom use 4. Faithfulness & condom 5. Other -----		
5.9	Have you been diagnosed with HIV?	1. Yes 2. No		
5.10	Has your partner tested HIV positive?	1. Yes 2. No 3. Don't know		
5.11	Have you slept with more than 1 partner in the past three months?	1. Yes 2. No		
5.12	Have you had casual sex with a person whose HIV	1 Yes 2 No		

	status is unknown?			
5.13	If yes, did you use a condom?	1. Yes 2 No		
5.14	Do you drink alcohol?	2 Yes 2. No		
5.15	Do you or your partner sometimes drink alcohol before having sex with you?	1 Yes 2 No		

ANNEXURE - H: Questionnaire in Amharic

}^ l.	jōM 1 ¼}dãð-« ¼Tlu^©" - e' l'w G<'@ ã ¼T>ÑMe ¼SÖÄp jōM		
1.1	ëã	G. ""É K. c?f	
1.2	up`w MÄf-" c=Áÿw\ □ÉT@- e"f 'u`;	G. _____□Sf	K. □L"<k"<U
1.3	¼fUl`f u?f jōM	G. 11 —	K.12 —
1.4	ÿ¼f wH@[cw '-f;	G. □ãdV K. □T^	N. fÓ^Ã S. K?L çK fke/i _____
1.5	GÄT•f- U"É" "'<;	G. □ã`„Éje K. S<eK=U	N. ç„K=i S. K?L çK Øke/i _____
1.6	Öw□ ðês"< Á"<nK<;	G. □- Öw□ êS"< Á"<nK< K. □Ä □LÑvG<U	N. K?L çK Øke/i _____
1.7	ÿT" Ò` "'< ¼T>•\f	G. ÿ"LDŠ Ò` K. ÿ□vÄ Ò` N. ÿ□"Ä Ò` S. ÿ□ÁÄ Ò`	c. ÿÖÄ⊕Ä Ò` [. w□Ä" W. K?L çK Øke/i _____
1.8	¼Ñ"²w ÉÖð ¼T>ÁÄ`ÓKaf T" "'<;	G. "LDŠ Ò` K. K?L çK Øke/ i _____	
jōM 2 ¼}dãð-(' eK â(□Äy= âÉe □"<kf ¼T>ÖÄp ¼SÖÄp jōM			
2.1	eK â(□Äy= uiÄ• cU}"< Á"<nK<;	G. □- cUŠ □"<nK"< K. □McTG<U	N. K?L çK Øke / i _____

2.2	<p>ufUI`f u?f "eØ eK âı □Ãy= uiÃ• eMÖ"-□ □Ó□}"< Á"<nK<;</p>	<p>G. □- eMÖ" "eÍK"< N. □LeÃ"<eU K. eMÖ" □M"cÉÿ<U</p>	
2.3	<p>ufUI`f u?f "eØ Ÿ□e}T]- Ò` □"<`}"< "ÃU }U["< Á"<nK<;</p>	<p>G. □- □""<nK" K. □Ã □L"<pU</p>	
2.4	<p>ŸT>Ÿ}K<f "eØ %â□□y= âÉe S}LKòÁ S"ÑÉ %J""<" / '<f" □jwu< (SMe ""< wK"< ÁS'<f" G<K< Ájwu<)</p>	<p>G. Mp uJ' %Ów[eÒ Ó"-<'f K. Ÿ□"f "Å Mĭ N. â□□Ãy= %}Á² c"< Á²ÒË"<" UÓw uSSÑw S. eK•T uJ'< 'Ñαı W. â□□Ãy= zÃ[e ÁKuf ÅU zÃ[c< KK?Kuf c"< uSeÖf [. u"v f"" □Tç~'f c. K?L çK Øke/i _____</p>	
2.4	<p>â□□y= zÃ[e %Ów[eÒ Ó"- <'f Ÿ}Å}Ñ Ÿf"i Ñ>²? u□L Ã}LKóM;</p>	<p>G. □- Ã}LKóM N. K?L çK fke / i _____ K. □Ã □Ã}LKóU</p>	
2.5	<p>c-ı □^d†""<" Ÿ â□□Ãy= zÃ[e SŸLŸM %T>ıK<uf S"ÑÉ □K;</p>	<p>G. □- □K N. K?L çK Øke/ i _____ K. □Ã %KU</p>	
2.5.1	<p>K 2.5 ØÁo SMe □- ŸJ' Ÿ²=ı uÃı Ÿ}²}²\ f "eØ u%4f⊙"< S"ÑÉ â□ □Ãy= zÃ[e" SŸLŸM Ã%oLM; (SMe ""< wK"< ÁS'<f" G<K< Ájwu<)</p>	<p>G. Sãkw W. Ÿ}KÁğ c-ı Ò` %Ów[eÒ Ó'<~'f K. ģ"ÊU uSÖku %d}S W"< Ò` %Ów[eÒ Ó'<~'f N. S"c" vKSöLU S. SãS" ı. eKãT %J'< 'Ñαı" uÒ^ vKSÖku k. ÁM}S[S[ÅU vKS"<cÉ }. K?L çK fke/i _____</p>	
2.7	<p>"ö^U IS" ÁK"< c"< u â□</p>	<p>G. fjiM ""<</p>	

	□Äy= zÄ[e K=Á´ □ÄrMU	K. fjjM □ÄÄKU	
2.8	uâ□□Äy= zÄ[e ¼}Ä² ¼p`w ²SÉ "ÄU ÖÄ— □K-f;	G. □- □K~ K. □Ä ¼K~U	
2.9	uâ□□Äy= zÄ[e ¼SÖnf □ÉL†"< Yö}⊙ ¼J'"<	G. ""Ér "†"< K. c¿,,r "†"< N. ¼""ÉU J' ¼c¿f uâ□□Äy= zÄ[e ¼SÖnf □ÉM □"É '"<	
2.10	uâ□□Äy= zÄ[e "Ä""Ér ¼S}LKö □ÉM ¼T>ÚU\ G<'@Ä-r ¼f□† "†"<. (SMe '"< wK"< ÁS'<v†"<" G<K< Ájwu<)	G. Kc¿f ÖÄ□%o†"< ÄT~ ÁKSJ" K. □M¿M □" □Ä"» □} S"<cÉ N. uÓw[eÒ Ó"—<'f Ó²¿ ¿"ÉU SÖkU ¼TÄ"Æ S. ÁM}Ñ[²< ""Ér W. K¿L çK Øke / ð _____	
2.11	â□□Äy= zÄ[e "Äc¿,,r ¼S}LKö □ÉM ¼T>ÚU\ G<'@Ä-r ¼f□† "†"<. (SMe '"< wK"< ÁS'<v†"<" G<K< Ájwu<)	G. c¿,,r }Öm-r eKJ'< K. ¼c¿,,r ¼S^u=Á jöM u}ðØa KzÄ[c< □ÒLB SJ" N. c¿,,r ÁKÖLÖÄ†"< ¼Ów[eÒÓ"—<'f KTÉ[Ó eKT>ÑÄÆ S. c¿,,r uvIM Y""Ér 'p)— xÄ• eKT>c×†"<. W. c¿,,r ¿"ÉU SÖkU eKTÄK< [. c¿,,r Y""Ér Á'c eKâ□□Äy= □"<kf eLL†"< c. K¿L çK Øke / ð _____	
2.12	â□□Äy= zÄ[e "Ä c¿,,r ¼S}LKö □ÉM ¼T>k" c< G<'@Ä-r ¼f□† "†"<. (SMe '"< wK"< ÁS'<v†"<" G<K< Ájwu<)	G. ¼â□□Äy= zÄ[e u"" □uv □Tç~'f • ÄØx eKT>"x K. c¿f MĐr ¼Ów[eÒÓ"—<'f ¼T>ð}S<f YT>ÁU'<f Ò` w%o eKJ' '"< N. c¿,,r Y""Ér Á'c w³f ÖÄ⊙ eLL†"< S. c¿,,r ÁK ¿"ÉU ¼Ów[eÒÓ"—<'f eKTÄð}S<. W. K¿L çK Øke/ð _____	

2.13	<p>¾â□□Ãy=- âÉe U`S^ □ÑMÓKAf "eÁ"< Á"<nK<;</p>	<p>G. □- □"<nK"< K. □Ã □L"<pU</p>	
2.13.1	<p>K 2.13 ØÁo SMe □- ÝJ' KSÚ[_t (up`w) Ñ>²? ¾â□□Ãy=- âÉe U`S^ □ÑMÓKAf ¾" cÆf SŠ "'<;</p>	<p>G. u²=I □"É □Sf "<eØ K. Ý□"É □eÝ G<Kf □Sf "<eØ N. ÝG<Kf □eÝ □^f □Sf "<eØ S. Ý□^f □Sf uòf W. □LeÃ"<eU Ω. uB^φ "eÍ □L"<pU</p>	
<p>jõM Zef - ¾}dãð-ç" eK □vL²` uφÃ-□ ÁL†"<" □"<kf ¾T>ÖÃp ¾SÖÃp jõM</p>			
3.1	<p>eK □vL²` uφÃ-□ cU}"< Á"<nK<;</p>	<p>G. □- □"<nK"< K. □Ã □L"<pU</p>	
3.1.1	<p>K 3.1 ØÁo SMe- □- ÝJ' Ý²=I uÃ(Ý}Ökc<f SçÝM ¾□vL²` uiÃ• ¾J'"< / ' <f ¾f— "</TM‡ "'< / "†"<; (SMe "'< wK"< ÁS'<f" G<K< Ájwu<)</p>	<p>G. mØ~ K. â□□Ãy=- âÉe N. ÚwØ S. vUu<K?</p>	<p>W. "v [. ¾d"v Uκ c. "ðòf Ω. Ý`j` k. K?L çK Øke / i _____</p>
3.1.2	<p>Ý²=I uÃ(Ý}Ökc<f "<eØ Ý□vL²` uiÃ• Ò` ¾}ÁÁ²/²< UMj f ¾J'"<" / ¾J'"<" / ' <f" □jwu<::</p>	<p>G. Ýç?f "ÃU Ý""É S^u=Á □çM "<eØ ¾T>"× Ö[" ÁK"< □LeðLÑ> ðdi K. uT>Ω" Ñ>²? ¾T>cT ¾TnÖM eT@f N. uS^u=Á □çLM leKf S. uS^u=Á □çM □çvu= ¾T>"× □wÖf W. ¾Ãç—" < JÉ jõM LÃ ¾T>cT ¾JÉ ISU ÝS^u=Á jõM ÝT>"× □LeðLÑ> ðdi</p>	

3.2	<p>¼S^u=Á □çM leKf □ØV-f Á"<nM;</p>	<p>G. □- ¼S^u=Á □çM leKf □ØV~ Á"<nM K. □Ã ¼S^u=Á □çM leKf □ØV~ □Á"<pU</p>	
3.2.1	<p>K 3.2 ØÁo SMe □- ÝJ' ¼l U" ¼Uj` SÉG'>f □ÑMÓKAf ¼f □Ñ-<</p>	<p>G. ¼S"Óef JeúǺM / Ö? " x u=Á S. ó`Tc= K. u f U ` f u ? f " < e Ø Á K K = ' > c. ¼l U" □ÑMÓKAf N. ¼ÓM K='> □M" cÉÿ<U [. K?L çK Øke / i ____</p>	
3.2.2	<p>¼Ów[eØ Ó"-<'f ¼ðLS<f c"< ¼l U" □ÑMÓKAf □Ó~}"<'u`;</p>	<p>G. □- K. □Ã</p>	
3.3	<p>¼Ów[eØ Ó"-<'f ¼ðLS<f c"< u □vL²` uiǺ • SÁ'-f" □d"<k"<f 'u`;</p>	<p>G. □- □d"<o"<'u` K. □Ã □Ld"ÿ<fU</p>	
3.3.1	<p>K 3.3 ØÁo SMe □Ã □Ld"ÿ<fU ÝJ' Uj"Áf- U" 'u`;</p>	<p>G. ¼SÑKM □" ¼□ÉM- ð`Gf K. K?L çK Øke / i _____</p>	
<p>jðM □^f ¼dǺò- " ¼ç"ÊU □ÖnkU ¼T>ÖǺp ¼SÖǺp jðM</p>			
4.1	<p>eK ç"ÊU cU}"< Á"<nK<;</p>	<p>G. □- □"<nK"< K. □Ã □L"<pU</p>	
4.2	<p>¼ç"ÊU ØpU U"É" "'<; (SMe '"< wK"< ÁS'<f" G<K< Ájwu<)</p>	<p>G. â□□Ãy=- âÉe" ÃÿLÿLM N. ÁM}ðKÑ □`Ó'"" ÃÿLÿLM K. □vL²` uiǺ" ÃÿLÿLM S. K?L çK Øke / i _____</p>	
4.3	<p>ç"ÊU □ÖnkU Á"<nK<</p>	<p>G. □- □"<nK"< K. □Ã □L"<pU</p>	
4.4	<p>ç"ÊU }Öps"< Á"<nK<;</p>	<p>G. □- □"<nK"< K. □Ã □L"<pU</p>	
4.5	<p>¼Ów[eØ Ó"-<'f ¼ðLS< }T]-< G<MÓ²? ç"ÊU SÖkU</p>	<p>G. □- □ÁÓók"< N. Gdw ¼K~U</p>	

	□Kv†˘˘< %4T>K˘˘<˘ Gdw ÃÁÓók<;	K. □Ã □MÁÓõU	
4.6	ϕ˘˘ÉU ŸK?K %Ów[eò Ó˘˘<'f □Ã•`U ˘˘ÁU S,, uS,, ϕ˘˘ÉU SÖku ýáó^U ÃÁÓók<;	G. □- □ÁÓók˘˘< K. □Ã □MÁÓõU N. K?L çK Øke / i _____	
4.7	%Ów[eò Ó˘˘<'f □É`Ñ˘˘< Á˘˘<nK<;	G. □- □˘˘<nK˘˘< K. □Ã □L˘˘<pU	
4.7.1	ue˘˘f □Sf □ÉT@- ˘˘˘< %SËS]Á %Ów[eò Ó˘˘<'f %ðLS<f;	G. _____ □Sf K. □LeÃ˘˘<eU	
4.8	%Ów[eò Ó˘˘<'f %ðLS<ufU;˘˘Áf U˘˘É˘˘ 'u˘˘;	G. Òw%o S. uÓÇĭ K. %ÓM ðLÔf W. □L˘˘<pU N. uÕÅ— Óðf [. K?L çK Øke / i _____	
4.9	u□ÉT@- ŸU˘˘ ÁIM c˘˘< ò` %Ów[eò Ó˘˘<'f %ðLS˘˘< Á˘˘<nK<	G. %Ów[eò Ó˘˘<'f ðĭT@ □L˘˘<pU K. Ÿ□˘˘É c˘˘< ò` N. ŸG<Kf c˘˘< ò` S. ŸG<Kf c˘˘< uLÃ ò`	
4.10	KSËS] Ó²? %Ów[eò Ó˘˘- <'f c=ðĭS< ϕ˘˘ÉU }ÖpS˘˘< 'u˘˘;	G. □- }ÖpT@ÁK˘˘< K. □Ã □M}ÖKUŸ<U N. %Ów[eò Ó˘˘<'f %ðLT@ □L˘˘<pU	
4.10.1	K 4.10—˘˘< ØÁo SMe- □Ã □L˘˘<pU ŸJ' U;˘˘Áf- U˘˘ 'u˘˘;	G. up`w TÓ-f eLM%oMŸ< [. K?L %□`Ó˘˘ SŸLYÁ eKUÖku K. □`çÃ˘˘ eKT>k˘˘e c. ÕÅ—Â eLMðKÑ / ĩ N. ÕÅ—Â˘˘ eLS˘˘Ÿ<f / &f g. □LcwŸ<ufU 'u˘˘	

		S. Kc" <'f eKTÃeTT k. K?L çK Øke / i _____ W. □LcwŸ<ufU 'u`	
4.11	LKñf 12 ^f " <eØ %Ów[eØ Ó" <'f □É`ÑªM;	G. □- K. □L" <pU	
4.12	u Ów[eØ Ó" <'f Ó²? KU" ÁIM Ó²? ç"ÊU }ÖpSªM;	G. G<MÓ²? W. %Ów[eØ Ó" <'f □É`Ñª □L" <pU K. u□wª—" < Ó²? [. K?L çK Øke / i _____ N. □"É □"É Ó²? S. uβΛi }ÖpS" □" <pU	
4.12.1	K 4.12 ØÁo SMe }ÖpT@ □L" <pU ŸJ' U; "Áf- U" 'u`;	G. up`w TÓ-f eLM%oMŸ< [. K?L %□`Ó" SŸLYÁ eKUÖku K. □`çÃ" eKT>k"e c. ÖÅ—Â eLMðKÑ / ç N. ÖÅ—Â" eLS"Ÿ<f / &f g. □LcwŸ<ufU 'u` S. Kc" <'f eKTÃeTT k. K?L çK Øke / i _____ W. □LcwŸ<ufU 'u`	
4.12.2	Ÿ12 ^f uøf %Ów[eØ Ó" <'f ÁÁ[Ñ<f c" < Ò` Ó" <'f- U"É" "' <;	G. vKu?Ä / □à—Â K. %fUI`f u?f ÖÅ—Â N. ŸTL" <k" < c" < Ò` S. %Ów[eØ Ó" <'f KSðLU Ñ"ªw K=Ÿök` Ÿ}eTTG<f c" < Ò` W. K?L çK Øke / i _____	
4.13	ç"ÊU Ÿ%4f TÓ-f □"ÁT>k< Á" <nK<	G. ŸS"Óef JeúÃM / ŸÖ@" xU=Á S. c<p " <eØ K. jK='>j " <eØ W. □L" <pU N. ó`Tc= " <eØ [. K?L çK Øke / i _____	
jõM □Uef %4}dãò-ç" □MçJM □ÖnkU %4T>ÖÃp %4SÖÃp jõM			

5.1	LKñf □^f dU''f KU'' ÁIM Ó²? □MçM "eÅ"< Á"<nK<	G. u³k'< N. uβΛi "eĀ □L"<pU K. udU''f □"È	
5.2	KSÚ[ι Ó²? %Ów[eÒ Ó"- <'f c=ð'S< %□MçJM Óðf 'u[uf;	G. □- N. □LeĀ"<eU K. □Ā	
5.3	Ý²= uĀ(%}²[²\ f %□Ā"³) □ %f—" <" }Öps"< Á"<nK<;	G. T]ª" N. c=Ò^ K. Ýf S. uβΛi }ÖpT@ □L"<pU	
jðM eÉef %}dĀò-(" uâ(□Āy= □" u□vL² uiĀ• %SÖKØ □ÉM □SKçÝf" %T>Çee %SÖĀp jðM			
6.1	%uòf %Ā-f }Vj`- uS'df u□vL² ui• "ĀU â□ □Ā y=- âÉe }Öp%oK"< wK"< ÁevK<;	G. □- K. □Ā N. K?L çK Øke / i _____	
6.2	LKñf fef " ^f "<eØ K□vL² uiĀ• %}iU" □ÑMÓKAf "eÅ°M;	G. □- "eĀK"< K. □Ā □M"céÿ<U	
6.3	u□vL² uiĀ• SÁ' Kâ□□Āy=- âÉe ĀuMØ }ÒLB ÁĀ`ÒM wK"< ÁevK<;	G. □- N. □L"<pU K. □ÁÒMØU	
6.4	Kâ□□Āy=- âÉe }ÒLB '˜ wK"< ÁevK<;	G. □- K. □Ā □LewU	
6.4.1	K 6.1 ØÁo SMe □- ÝJ' Uj"Áf- U"É" ' " <;	G. uÉ"Ñf ueKf eK}ç[Øÿ< / eK}"Ò"< K. Mp³J' %Ów[eÒ Ó"-<'f eKðLUÿ< N. uÓw[eÒ Ó"-<'f Ó²? %ç"ÉU skÁÉ eLÒÖS˜ S. ÁM}S[S[ÁU eK"céÿ< W. up`u< %□vL² uiĀ• UMif eL%G< [. %SĀđ` □ĀÒ eLÒÖS˜	

		c. K?L çK Øke / i _____	
6.4.2	K 6.4.1 —“< ØÁo SMe- □Ã □LewU ŸJ' Uj"Áf- U" 'u`;	G. G<MÓ?ø ø"ÊU eKUÖKU K. %Ów[eò Ó"—<'f ø\T@ eKTL" <pU N. • ãpuø eKU•` S. Uj"Á~U a□□Ãy= ŸÁ" < c" < Ò` Ó"—<'f eLM'u[~ W. K?L çK Øke / i _____	
6.5	ua□□Ãy=- aÉe %SÖnf □ÉM-" Ÿ%4f—" < UÉw ÃSÉU<ÃM	G. U"U %SÖnf □ÉM K=•[~ □ÃrMU K. Ømf %SÖnf □ÉM ã•[—M N. SŸK— %SÖnf □ÉM ã•[—M S. Ÿö}— %SÖnf □ÉM □K~	
6.6	Ÿ²=I uÃr Ÿ}²\ f %44f—" <" %4vL²` □" a□□Ãy=- aÉe SŸLŸÁ S"ÑÉ ÃÖTK<;	G. Sãkw S. S" c" □" SÖKU K. S" c" W. K?L çK Øke / i _____ N. ø"ÊU SÖKU	
6.7	ã□□Ãy= zÃ[e uÅU- " < eØ □K;	G. □- N. □L" < pU K. □Ã	
6.8	ÖÃ— Kã□□Ãy= zÃ[e }S`U[-M;	G. □- N. □L" < pU K. □Ã	
6.9	% ÖÃ— %ÅU U`S^ " < Öøf ã□□Ãy= zÃ[e uÅU " < eØ S•\ " ÁdÃ 'u`;	G. □- N. □L" < pU K. □Ã	

6.10	$vK\tilde{n}f\ fej\ \wedge f\ \ll e\emptyset\ \check{Y}\check{\square}''\check{E}$ $c\ll uL\check{A}\ c\ll \check{O}\ ` \ 3/4\check{O}w[\ e\check{O}$ $\check{O}''-\ll'f\ \check{\square}\check{E}\check{N}''\ll \check{A}''\ll nK\ll;$	G. $\check{\square}$ - K. $\check{\square}\check{A}$	
6.11	$K\ \hat{a}\check{\square}\check{\square}\check{A}y=z\check{A}[e\ 3/4\check{A}U\ U\`S^{\wedge}$ $eL\check{A}[\check{N}\ c\ll \check{O}\ ` \ 3/4\check{O}w[\ e\check{O}$ $\check{O}''-\ll'f\ \check{\square}\check{E}\check{N}''\ll \check{A}''\ll nK\ll;$	G. $\check{\square}$ - K. $\check{\square}\check{A}$	
6.11.1	$K\ 6.11\ \emptyset\check{A}o\ SMe\ \check{\square}-\check{Y}J'$ $\check{\varphi}''\check{E}U\ } \check{O}pS''\ll 'u\`;$	G. $\check{\square}$ - K. $\check{\square}\check{A}$	
6.12	$\check{\square}M\check{\varphi}JM\ \check{A}\check{O}kTK\ll;$	G. $\check{\square}$ - K. $\check{\square}\check{A}$	