

**Factors influencing condom use in Eritrea**

**A literature review**

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**Eritrea**

**50<sup>th</sup> international course in health development  
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Factors influencing condom use in Eritrea: A literature review.

A thesis submitted in partial fulfillment of the requirement for the degree of  
Master of Public Health


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Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

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Signature:.....

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## **Abstract**

**Back ground:** Correct and consistent use of condoms remains the only effective tool for the prevention of HIV/STI. Identifying the factors influencing condom use in men & women are important for planning. Such strategy can help in developing comprehensive condom promotion and distribution as an effective strategy for the prevention of HIV in Eritrea.

**Objectives:** To explore the factors influencing condom use in Eritrea; it seeks to examine program responses and identify gaps, in order to develop evidence based recommendations for effective intervention.

**Methodology:** Methodology of this thesis is a literature review of published and grey literature. Literature written and published nationally and internationally, from 1991 to 2014, in English was reviewed. Inclusion and exclusion criteria followed the relevance of study objectives or literatures which focus at least on one factor in the study frame work. The review focused only on the use of male condoms.

**Findings:** Eritrea still lacks a comprehensive condom promotion strategy. Education has a direct correlation with condom use: 11% of people with no education compared to 83.4% with high school or higher education knows where to buy condoms. Men have more comprehensive knowledge of HIV prevention than women 67% and 51% respectively. Trust is the main reason for both men and women for not using condoms; in total, 40% reported that they never used condoms because they trust their partner. More than 39% of respondents said that it's difficult to obtain condoms because of lack availability.

**Conclusion and Recommendations:** The findings of the study reveal the need to increase knowledge and awareness on condom use and HIV/STI prevention through peer education and mass media campaigns. Innovative alternative condom distribution strategies targeting high risk groups have to be developed. Peer group education on gender equality, condom use & sexual health targeting young people has to be conducted.

**Key words:** condom, consistent, Eritrea, factors, HIV

**Word count 12,885**



## List of Abbreviations

ABC	Abstinence, Be faithful or use condom
AIDS	Acquired Immune Deficiency Syndrome
AIDS	Acquired Immune deficiency Syndrome
ARV	Anti Retro Viral
BCC	Behavioral Change Communication
CCM	Country Coordinating Management
CSO	Civil society organization
CSW	Commercial Sex worker
EEBC	Eritrea and Ethiopia Border Commission
EDF	Eritrean Defense Forces
EDHS	Ethiopian Demographic Health Survey
EPHS	Eritrean population Health Survey
EPLF	Eritrean Population Liberation Front
ESMG	Eritrean Social Marketing Group
HIV	Human Immune Deficiency Virus
HAART	Highly Active Anti Retro viral therapy
GNI	Gross National Income
GDP	Gross Domestic Product
GPI	Gender Parity Index
GOE	Government of Eritrea
FBO	Face Based Organizations
FGM	Female Genital Mutilation
HAMSET	HIV/AIDS, Malaria, Sexually Transmitted Infections and TB
IDU	Inject able Drug Users
IMR	Infant Mortality Rate
ICHD	International Course in Health Development
KAP	Knowledge Attitude and Practice
MMR	Maternal Mortality Rate
MDG	Millennium Development Goals
MLHW	Ministry of Labor and Human Welfare
MARPs	Most At Risk Populations
MOE	Ministry Of Education
MOH	Ministry Of Health
MPH	Masters of Public Health
MOI	Ministry Of Information

MVU	Mobile Video Unit
MSM	Men who have Sex with Men
NATCoD	National Aids and TB Control Division
NACP	National Aids Control Program
NAR	Net attendance Ration
NGO	Non Governmental Organization
NSC	National Service Corps
NUEYS	National Union of Eritrea Youth and Students
NUEW	National Union of Eritrean Women
NCEW	National Confederation of Eritrean Workers
STI	Sexually Transmitted Infections
SPCF	Strategic partnership Cooperation Frame work
TB	Tuberculosis
UMR	Under-five Mortality Rate
UN	United Nations
UNAIDS	United Nations on AIDS
UNFPA	United National Population Fund
UNDP	United Nations Development Program
UNGASS	United Nations General Assembly Special Session
USAID	United States Interagency for Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

## **Definition of terms**

**Abuselama:** A brand name for condom socially marketed by ESMG

**Accessibility:** is an environment which describes the friendliness, easiness to entrance or its physical proximity of the outlet to customers. Availability: Readily obtainable; accessible condom at all retail outlets.

**Comprehensive knowledge of HIV:** person is considered to have a comprehensive knowledge about HIV/AIDS when s/he say that use of condoms for every sexual intercourse, having just one uninfected and faithful partner can reduce the chance of getting the AIDS virus, that a healthy-looking person can have the AIDS virus, and when s/he reject the two most common local misconceptions.

**Infant mortality rate:** The number of children dying at less than 1 year of age, divided by the number of live births that year.

**Life expectancy at birth:** Average number of years that a newborn is expected to live if current mortality rates continue to apply.

**Maternal Mortality Rate (MMR):** is the annual number of female deaths per 100,000 live births from any cause related to or aggravated by pregnancy

**Non-traditional outlets:** are defined as outlets which are not entitled to store, process, or distribute pharmaceutical commodities or provide any medication, health related services/treatment. Non-traditional outlets are non-health facilities, which include Shops/groceries, Kiosks, Hotels, Bars, offices, Local Drinking houses, supermarkets, pension, guest house, youth associations/clubs, and other related outlets that ESMG uses to distribute condoms. Pack of Condom: is described as a pack containing four condoms.

**Traditional outlets:** are outlets which are permitted to store, process, or distribute pharmaceutical commodities or provide any medication, health related services/treatment. They are health facilities. They include pharmacies, drug stores, rural drug vendors, clinics, health centers, hospitals, health stations and health posts.

**Stock out:** A situation in which the demand or requirement for an item cannot be fulfilled from the current inventory.

## **Introduction**

After completion of my bachelor's degree in Business Management from the University of Asmara in 2003, I have been assigned in the National Union of Eritrean Youth and Students (NUEYS) for 9 years. As a zonal department head and as HAMSET focal person (Multi sect oral World Bank supported project for the prevention of HIV/AIDs, Malaria, Sexually transmitted diseases and TB) at Anseba for 2 years. I have also served as the Gender and Health unit head at NUEYS head office for 7 years. I also worked for one year as program associate in the United Nations High commissioner for Refugees (UNHCR).

HIV/ remains a major threat to the health and well being of people globally and especially in low and middle income countries like sub Sahara Africa. Condom promotion remains a key component of HIV prevention strategies globally. Realizing the importance of condoms in HIV/AIDS prevention, NUEYS established a parastatal organization Eritrean Social Marketing Group (ESMG) working in promotion and social marketing of condoms. In spite of the growing knowledge about HIV and condom as HIV prevention tool Consistent use of condom remains stagnant and new infection of STI and HIV continues to occur. It's time to study the factors affecting the correct and consistent use of condoms in Eritrea, identify program gaps in order to develop practical evidence based recommendations.

Having had the opportunity to study the ICHD/MPH at the Royal Tropical Institute (KIT), I have been able to gain a better understanding of the principles of Public Health which puts me in a better position to apply my knowledge in the field of public health.

The thesis consists of 5 chapters; Chapter one is about the background of Eritrea, chapter two covers the problem statement, justification, objectives and methodology, chapter three presents' theoretical review of correct and consistent condom use, findings using the frame work model adopted from Kgatlwane et al, (2005), on condom use and alternative strategies . Chapter four deals with discusses of the findings. Finally in Chapter Five, the conclusion and recommendations are presented.

## **CHAPTER ONE**

### **1.1, General back ground**

After 30 years of war with Ethiopia, Eritrea attained de facto independence in May 1991 and endorsed its independence through a public referendum in 1993 (EPHS 2010). The first 6 years of independence were marked by impressive progress in rehabilitating social infrastructure, macroeconomic stability and economic growth (EPHS 2010).

After the independence, Eritrea formulated and implemented socio-economic developments policies and strategies which marked improvement in key developmental sectors for the period until 1997. However a border conflict with neighboring Ethiopia (1998-2000), which escalates in to full-scale war reversed the gain (UNFPA & GOE 2013).

The unresolved no-peace-no-war situation remains to be a major obstacle hindering government development efforts as national socio-economic initiative and resources remain tied to the border stalemate (Human rights watch 2009). Particularly since 2001, the country descended into political turmoil, economic decline, migration of young people and social repression (Mokonnen 2011). Eritrea is subjected to United Nations Security Council sanctions in 2009 which were further tightened and in 2011, accused for human rights violation and destabilizing the region (UNICEF & GOE 2013).

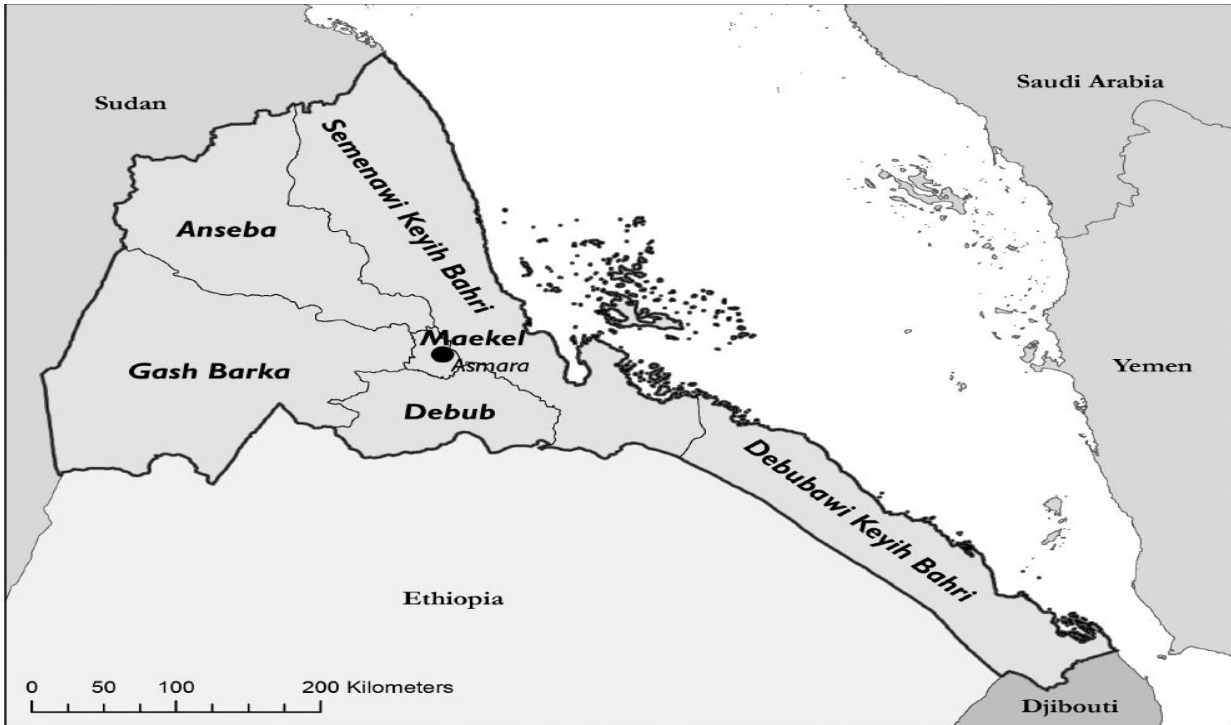
### **1.2, Geography**

Eritrea is located in the eastern horn of Africa, bordering Sudan to the north and west, Ethiopia to the south, Djibouti to the south east and the Red sea to the east (Figure 1). Its surface area is about 122,000 square kilo meter. Temperature varies with altitude: the mean annual temperature ranges from 16°-18°C in the Highlands to 28°C in the Lowlands to more than 30°C in the Coastal Plains. Most of the western lowlands and coastal plains are associated with hot and dry climatic conditions; while the highlands are relatively cool (EPHS 2010).

Administratively, the country is divided into six Zobas (regions): Central, Anseba, South, Southern Red Sea, Gash-Barka, and Northern Red Sea (figure 1).

The country is vulnerable to recurring drought and environmental degradation hindering development efforts (UNFPA & GOE 2013). The economy largely depends on subsistence agriculture. Persistent drought has had adverse effects and the countries socio-economic conditions and environment have also suffered from drought (EPHS 2010).

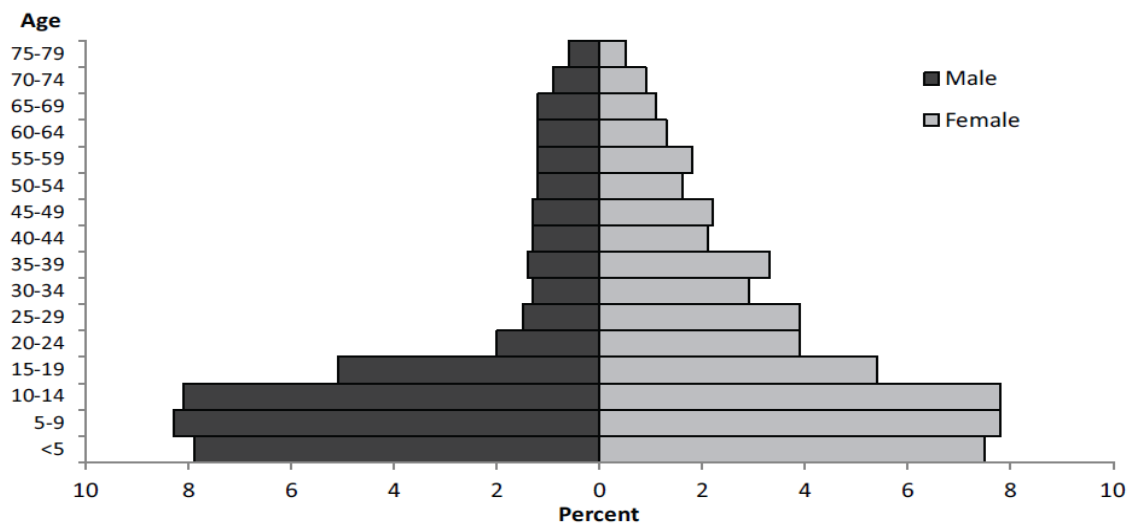
Figure 1, Geographic Map of Eritrea



### 1.3, Demography

Eritrea has to conduct a population and housing census. The World Health Organization (WHO) estimates the population to be 6,380,803 in 2012 (WHO 2012). According to EPHS 2010, the resident population of Eritrea was estimated to be 3.2 million in 2010 (EPHS 2010). Sixty five percent of the population lives in rural area. The urban population is characterized with rapid population growth, due to rural urban migration. Total fertility rate of 3.6% with annual population growth rate 2.5% (WHO 2013). Life expectancy at birth is 61 years for males and 66 years for females (WHO 2012). There are nine ethnic groups with their own culture and language. Fifty percent of the people are Christians while the other half are Moslems (EPHS 2010). The age distribution reveals that of a high fertility population in which a larger proportion of the population is to be found in the younger age groups. It is also marked by migration and war in that, there are too few adult males and to somewhat lesser extent too few adult females (Figure 2).

Figure2, Population pyramid 2010



Source EPHS 2010

#### 1.4, Socio-economic context

Eritrea has a Gross National Income (GNI) per capita Atlas method of \$ 490 in 2013, which is one of the poorest countries in the world. The annual growth rate estimated to be 3.5 % in 2014 (World Bank 2013). The populations living under poverty are estimated to be more than 65 % and it's higher in rural area and among women (UNICEF 2013).

The economic conditions remain challenging as a result of the global economic slowdown, macroeconomic situation and limited physical and human capital (UNFPA & GOE 2013). High budget deficits, resulting mainly from large military expenditure, and large social safety net, restricted the government's ability to maintain fiscal targets. Moreover, revenue as percentage of GDP has drastically fallen, from 50% in 2003 to less than 19% in 2011, partly due to decline in private sector and foreign aid (UNDP 2011). International remittances have fallen possibly due to the recent global financial crisis and economic sanctions. The country also continues to suffer from political isolation alleged role of insecurity in the horn of Africa. The majority of the people are young, and youth unemployment and underemployment is high (SPCF 2013).

#### 1.5, Education

Primary education starts at the age of 7 in Eritrea and ends at the age of 11 and additional 2 years of middle school and 4 years of secondary school. According to the EPHS 2010, 46% females and 35% of male household

members never attended school. The educational attainment is higher in the younger generation, the proportion of women with no education is 95% at age of 65 while 21% at the age of 10-14. The educational attainment is also higher in urban areas. Here, 25% of females and 15% of males have no education while it is 58% of females and 46% of male in rural areas. There is also big variation among the Zobas, the highest proportion of females and males with no education are in Southern Red Sea 72% and 51% respectively and the lowest is in Central Zoba 21% and 10% (EPHS 2010).

The literacy rate in Eritrea is 57%. There is a gap in male and female literacy rate: 64% in males and 52% in females. Similarly to educational attainment there is a remarkable differences among rural and urban residents 84% and 63% in males and females in urban are literate, compared to 53% and 39% in rural areas are literate. There is slight improvement from EDHS 2002 which was 81% and 66% for males and females in urban, compared to 47% and 29% in males and females in rural (EPHS 2010).

### **1.6, Socio-cultural and gender context**

Eritrea have 9 ethnic groups of which Tigrigna 50%, Tigre 30%, Saho 4% Kunama 2%, Billen 2%, others like Afar, Hidareb and Nara constitute 5% of the Eritrean population (EPHS 2010).

Similar to societies in developing countries, women's worth is measured in terms of their role as mothers and wives, particularly in rural areas of Eritrea (EPHS 2010). Women traditionally are considered as subordinate and don't have equal opportunities in all socio-economic spheres like education, employment and participation in decision-making activities. Relatively in urban areas where education, health care services and employment are better, women with higher education find professional employment. However most women hold low paying jobs (Woldemicael 2008).

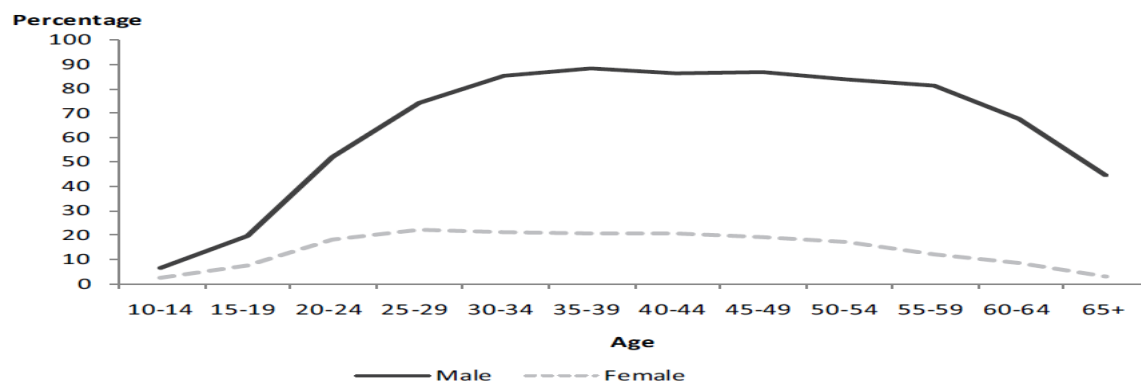
According to the EPHS 2010, only 18% of married women and 93% of married men were employed. The percentage of married and employed women and men increases with age that is 35-39 years (Figure 3). The cash payment for both employed women and men is similar 60% and 63%. However, there is slight difference in kind payment that is 3% and 8% for women and men.

Discussing about sex related issues openly are taboo in Eritrean culture and stigma and discrimination against People Living With HIV (PLWH) is one of the important social problems in the fight against HIV/AIDs (EPHS 2010).





Figure 3, Employment by sex 2010



Source EPHS 2010

### 1.7, Health systems in Eritrea

Eritrea is divided into six administrative regions and 54 health districts. The health infrastructure comprises 369 health facilities, including 13 tertiary hospitals, 13 secondary hospitals and 343 primary level facilities (health centers, health stations, Maternal and Child health units and Clinics and health posts (MOH 2010).

Eritrean health indicators are relatively better than those reported for the African region as a whole (Karigia 2012). Some of the indicators, for example life expectancy at birth for m/f 61/66 years in 2012, were higher than the regional average. In addition the country is on track with the progress of Millennium Development Goals (MDG) 3, 4 and 5 and 6, the Infant Mortality Rate (IMR) 42/1000, Under-Five Mortality Rate (UMR) 63/1000, Maternal Mortality Rate (MMR) is 240/100,000 are on track with MDGs (WHO, 2012). The HIV adult prevalence was 0.93% in the age group 15-49 in 2010 (EPHS 2010). There were 550 new HIV cases in 2013 (WHO 2013). More than 6 million male condoms have been distributed in the country in 2011 (MOH 2012).

In addition there are 292 licensed private pharmaceutical institutions, including 33 pharmacies, 31 drug shops and 228 rural drug vendors (MOH 2010). The health sector human resources are 215 physicians, 2505 nursing and midwifery personnel, 16 dentistry personnel, 107 pharmaceutical personnel, and 88 environmental and public health workers (WHO 2011). More than 87% of the health professionals working in the health sector are employees of the MOH (Global Fund 2012). Health care is highly subsidized with minimal user fees in public facilities and long list of fee exemptions. Social welfare services are delivered by network of multi-sectorals and

network of Ministry of Labor and Human Welfare Working with local administrators and community institutions like the National Union of Eritrean Youth and Students (NUEYS), The National Union of Eritrean Women (NUEW) and The National Confederation of Eritrean Workers (NCEW) which have a grassroots structure in the community (Global fund 2012).

### **1.8, Condom distribution strategies in Eritrea**

Condom promotion and distribution in Eritrea is done by the MOH and The NUEYS, through Eritrean Social Marketing Group (ESMG). ESGM receives unbranded condoms from PHARMECOR and sells them branded as "Abuselama". PHARMECOR is a parastatal organization affiliated to MOH responsible for Procurement of condoms, drugs and other health products (Global fund 2012). The ESGM is responsible for the entire distribution and promotion (social marketing) of condoms branded as "Abuselama" from the point of import to the point of retail starting from 1997 (MOH 2010).

Unbranded male condoms procured by PHARMECOR, are also distributed by MOH through health facilities, VCT/PMTCT and ANC sites in Eritrea; which represents about 33% of the total condoms distributed in the country (Temesgen 2010).

## **CHAPTER TWO**

### **2.0, Problem Statement, Justification, Objectives and Methodology**

#### **2.1, Problem statement**

HIV is one of the public health challenges in many developing countries including Eritrea (WHO Africa region, 2007). The first HIV case in Eritrea was seen in the port of Assab in 1988, and gradually the disease spread throughout the country (EPHS, 2010). The national HIV prevalence among population 15-49 is estimated to be 0.93% (EPHS 2010). The prevalence of HIV in women to men is 1.31% and 0.5%. HIV prevalence level raises with age in both sexes 0.2% for women 15-19 and 0.0% for men. In men, the prevalence starts 0.3% at the age group 25-29 years compared to 30-31 years age in both sexes 2.9% for women and 1.6% for men. The prevalence of HIV by age 15-49 by residence is 1.44% in Urban and 0.59% in Rural. HIV prevalence is highest in Central Zoba 1.64%, Southern Red Sea (SRS) 0.98%, Gash-Barka 0.84%, South 0.67%, Northern Red Sea (NRS) 0.66% and lowest in Anseba 0.59%. The prevalence also increases with education in women middle level 1.87%, secondary school or higher level 1.33% compared to with no education 0.58% and primary school level 1.24%. The prevalence in men is higher in men with no education 0.66% secondary education level and above 0.62%, primary & middle level 0.31%. Prevalence

of HIV by occupation and marital status is higher in those who are employed 1.11% than unemployed 0.83% and the prevalence is higher in widowed women 7.7% (EPHS 2010). According to survey conducted by MOH in 2011, the prevalence of HIV in high risk groups are very high compared to the general population. Among commercial sex workers (CSW) 6% and that of truck drivers is 2.4% (EPHS 2010). This shows that HIV transmission is becoming more concentrated in specific identifiable high risk groups (EPHS 2010).

In Eritrea more than 60,000 people were estimated to be living with HIV/Aids in the year 2010; more than 60% are women (EPHS 2010).

Since there is no cure for AIDS, the main strategy for combating the disease has been prevention through practicing abstinence, being faithful to one uninfected sexual partner, using condoms and provision of antiretroviral therapy to reduce spread of the disease. Male circumcision is universal in Eritrea, 98% of male 15-49 are circumcised due to religious reasons. Condom use among age group 15-24,15-19,20-24,25-29,30-39 and 40-49 were 91.9%,90.4% 93.4%, 91.2% 74.3% and 79.5%. Condom use decreases with age. Eighty nine percent of never married and 84.7% of divorced or separated men used condom compared 60.8% of married men used condoms in 2010 (EPHS 2010).

In spite of the joint efforts done by the MOH and stakeholders in the prevention of STI and HIV/Aids there were 4344 new STI cases in 2010 and the number of new STI cases increased to 5310 in 2011 (MOH 2012). In addition there were 550 new HIV infection reported from health facilities in 2013 (WHO 2013).

Heterosexual sex is the main cause of transmission of HIV infection in Eritrea; other modes of transmission are mother-to-child transmission and injecting using contaminated needles or syringes (EPHS 2010). There is no information about the burden of HIV in Men who have Sex with Men (MSM) and Inject able Drug Users (IDUs) in Eritrea (Global fund 2012).

According to the Eritrean Population and Health Survey 2010 (EPHS) comprehensive knowledge of HIV are generally low only 22% of women and 35% of men in the age range 15-49 have <sup>1</sup>comprehensive knowledge on HIV; knowledge of condom as a prevention for HIV/STI was also low 67% in men and 51% in women (EPHS 2010).

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<sup>11</sup> Comprehensive knowledge of HIV: knowing that both condom use and limiting sex partners to one unintended partner, being aware that a healthy looking person can have, and rejecting the two most common local misconception bites and by sharing food with infected persons.

Unsafe heterosexual intercourse is considered to be the primary factor for the spreads of HIV in Eritrea. Prevention programs are key to control the epidemic basically by encouraging correct and consistent condoms use, faithfulness and abstinence (UNAIDS 2013). Condom promotion and distribution is effective when factors associated with consistent and correct condom use, socio cultural, economic, demographic, perceived susceptibility to HIV/AIDS and other STIs are addressed (UNFPA; MOH, 2013). Parent-child communication, parental attitudes toward sex communication, gender power relations and condom knowledge are also important factors (Beksinska 2012).

Availability, accessibility and price have been the main barriers to condom use in Eritrea (Temesgen 2010). Frequent stock outs have been reported from distribution channels in almost all traditional (pharmacies, drug shops and drug vendors) and nontraditional outlets (hotels, bars, night clubs, restaurants, groceries and kiosks). One third of the outlets reported that they faced stock out for up to 6-9 months (Abubeker 2010).

One percent of women and 8% of men age group 15-49 reported that they had a risky sexual practice during the last 12 months of the survey. Twenty percent of women and 89% of men reported that they used condom during highly risky sexual practice 12 months prior to the survey in 2010 (EPHS 2010). This large gap among men and women on knowledge of HIV prevention and correct and consistent condom use contribute to the prevalence of HIV among women to be 2.3% higher than men (EPHS 2010).

## **2.2, Justification**

Condoms are especially important because they are currently the only device that is effective and has dual protection against sexually transmitted HIV and pregnancy (UNFPA 2010). In the year 2011, more than 6.3 million condoms have been distributed throughout the country; most of the condoms were distributed by ESMG (MOH 2012).

Efforts have been made by the MOH and multi-sectoral partners and donors to enhance the knowledge of people in condom use, availability of good-quality, low-cost condoms to prevent the transmission of HIV infection (MOH 2012). Behavioral change activities like peer group education among high risk groups like CSW, truck drivers and youth was also conducted to develop safe sexual behavior and correct and consistent use of condom, sensitization activities through Mobile Video Units (MVU) targeting remote rural areas was conducted until 2005 and continued with limited capacity (MOH 2012). Efforts also have been done to strengthen the social marketing capacity of condoms; however, currently ESMG is not able to secure sustainable and timely distribution of condoms throughout the country (Global fund 2012).

HIV knowledge gap among males and females are important risky sexual behavior not knowing that condom can prevent from HIV infection and place to obtain condoms among single men and women are some of the predictors (Judith et al. 2011). Lack of bargaining and decisions making power of women in their sexual health and stigma on HIV are predictors of risky sexual behavior and need furthers study (UNAIDS 2008).

Unavailability of such insight at the moment in Eritrea motivates to conduct a literature review on how this knowledge gap can be filled.

The objective of this thesis is to study the different factors influencing correct and consistent condom use for HIV prevention, explore program response and identify gaps in Eritrea, in order to develop practical evidence based recommendation.

### **2.3, Overall objectives**

This thesis aims to study the factors influencing correct and consistent condom use for HIV prevention in Eritrea; it seeks to examine program responses and identify gaps, in order to develop evidence based recommendations for <sup>2</sup>effective intervention.

#### Specific Objectives

- To explore the socio cultural factors (beliefs, gender, perception) affecting the use of condoms.
- To identify demographic factors affecting the use of condom.
- To critically examine the current program response, identify gaps on policy, promotion & distribution of condoms.
- To review and draw on national and international evidence in order to develop evidence based recommendations for improving condom programming in Eritrea.

### **2.4, Methodology**

Methodology of the thesis is literature review. The literature includes published peer reviewed articles and grey literature. For the theoretical review, literature from countries that have similar cultural and political context have been included. Literature from Ethiopia, Kenya, Uganda Tanzania, Nigeria, South Africa, Brazil, India and Cambodia has been reviewed to: either to compare or contrast findings with Eritrea, or to learn lessons from experiences there. Inclusion and exclusion criteria followed

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<sup>2</sup> Effectiveness (effective intervention): how well the intervention works bring the required change in practice.

relevance of study objectives articles or literatures which focus at least one factor in the study frame work and literature which are done in Eritrea, other parts of the world having similar context on condom use. Literature focused only on use of male condoms. Literature from the MOH Eritrea: reports, policies and strategic plans; NUEYS and ESMG reports; and reports from donors like the Global fund, World Bank, USAID , UNAIDS, UNFPA, WHO, UNICEF, UNDP regional; and country data and reports from these agencies, were also included in the literature review. Forty six published peer reviewed articles in English published from 1997-2014 and 21 grey literature in English written from 1991 to 2014 are selected from 120 literature sources. Furthermore, a study which was conducted by the NUEYS in 2010 in condom availability accessibility, quality and KAP was also used I was involved in the design and implementation of the study.

Conceptual frame work on demand and supply side factors in adherence and uptake of Highly Active Anti Retro viral Therapy (HAART) adapted from Kgatlwane et al, (2005), (2004) was used to organize the findings and to analyze the data (Figure 4). This is discussed further, later in this section.

## **2.5. Search strategy**

I searched for literature from the internet through search engines like Google scholar and pub med. I also visited WHO, UNFPA, UNAIDS, UNICEF UNDP, DFID, USAID, World Bank, Global Fund web sites. I also used printed and soft copy of (published and unpublished) MOH, NUEYS and ESMG researches, reports and policies.

## **2.6, Key words**

I used the following key words/phrases and their combinations to search for literature: condom, distribution, Eritrea, economic men, women, rural, risk, urban, commercial sex workers, HIV, STI, demand, factors, individual, socio cultural , age, sex, perception, knowledge, attitude, traveling, migration, alcohol, consumption, belief, culture, norms, gender, stigma, discrimination, social factor, income, supply side factor, policy guideline, availability of resources, organization collaborating, correct condom use, consistent use of condom, availability, accessibility, quality, Kgatlwane, EPHS, EDHS.

## **2.7, Limitations**

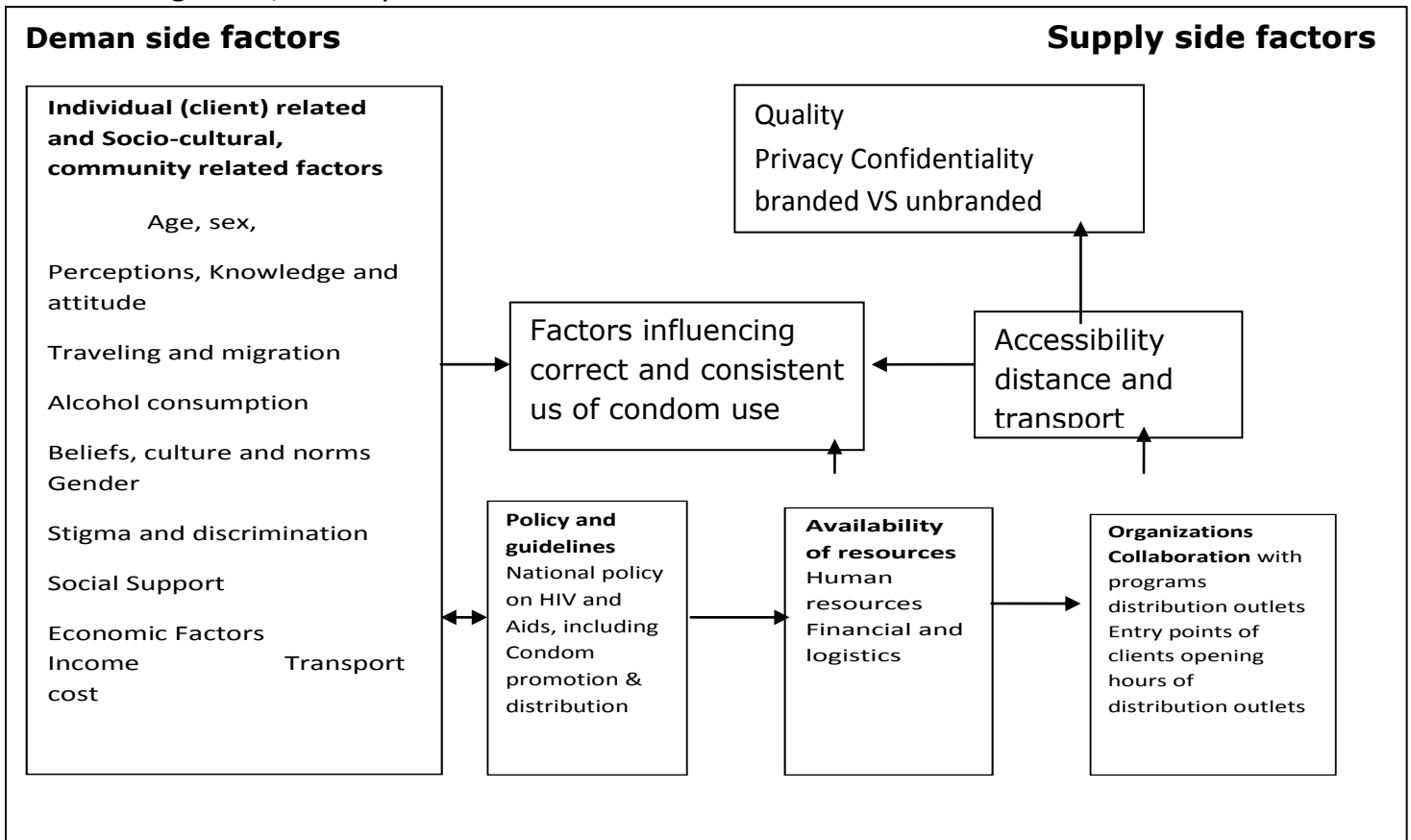
The Analysis presented here is constrained by the general lack of literature on condom promotion, distribution and use in Eritrea. Secondly, because such literature is not available in the subject matter within Eritrea, to compare and draw evidence literature from neighboring countries with similar cultures and contexts included in the finding and discussion.

## **2.8, Description of analytical frame work selection**

To be able to systematically meet my study objectives, I searched for different frameworks; both to analyze the literature and also to organize the findings. Specifically, I looked at three different framework models, they were: the 'three delays model', the behavior change frame work of Population Service International (STI), and the 'demand and supply side factors model' developed by Kgatlwane et al. for the adherence and uptake of ARV. From the three conceptual frame work models, I decided to adapt the demand and supply side factors model of Kgatlwane et al. (2004; 2005) for this study. In my view, the frame work is best to analyze my objectives in a better way. This is so because, the frame work helps me cover demand and supply side factors (individual, socio-cultural, and client related factors) and program responses and policy gaps supply side. The conceptual frame work was developed to analyze the demand and supply side factors influencing adherence and uptake of HAART and adapted it with some minor change in the factors in such away to be used to condom use.



Figure 4, conceptual frame work



## CHAPTER THREE

### 3.0, Findings

The findings of this thesis are divided into three sections: the first part (3.1.1) is theoretical review of why people don't use condoms; decisions to use condoms and to use it consistently. In the second part (3.1.2) findings on the factors influencing correct and consistent use of condom, (3.3) policy response and (3.4) alternative best strategies will be presented based on the conceptual framework adapted from Kgatlwane et al, (2005; 2004). Demand and supply side findings will be presented. Discussion of the findings is followed in the fourth chapter and finally in the fifth chapter the conclusion and recommendations from the findings and alternative strategies are presented.

### 3.1, Theoretical review of why people don't use condom

Understanding why people engage in unprotected sex given the severe consequences that it may lead to is of a major importance in reducing the spread of HIV. There are many reasons why people don't decide to use condoms. A number of people don't perceive themselves that they are at

risk of HIV/STI (Sales 2012). People may not know that by using condoms they can prevent sexually transmitted infections including HIV; many don't use condom because they wish to conceive and associate condom with casual sex (Abubeker 2010). High level of HIV stigma often discourages raising issues about HIV during sexual intercourse and reduces condom use (UNAIDS 2008). In Sub-Saharan Africa women are disproportionately affected by HIV, more than 60% of HIV infections are in women (UNAIDS 2008). Biological, socio economic status or lack of bargaining power is preventing women not to use condoms (Dunkle et al. 2004).

Similar study conducted in young males in Kisumu Kenya shows that the main factors for deciding not to use condom was trust 31%, wish to increase pleasure 12%, lack of knowledge on the advantages of using condom 11%. However in casual relationships and with CSW unavailability of condom was the main factor for not using condom (27% & 30%), lack of knowledge 20% and to increase pleasure 5% (Westercamp 2013). Economic reasons, (clients offering more money), fear of violence drug or alcohol intoxication, lack of negotiation skill and rejection by husband/partner, trust in marriage and regular relationships were reasons for deciding not to use condoms (Maher 2013). Likewise similar study conducted on black women in USA shows that condom use decision among female adolescents depends on power of the relationship, trust, intimacy and negotiation skills of women (Nelson 2012).

### **3.1.1, Decisions to use condom consistently**

Findings revealed that adolescents differentiate type of relationships as a main and casual partners associating with the risk of sexual transmission of HIV to decide to use condom consistently or not (Nelson 2011). Female adolescents are more likely to use condom with casual partners (Nelson 2011; Sales 2012). Decisions in which condoms were used consistently were occasional sex where there was no pre-relationships, no future expectations and duration of introducing with a partner and the start of sexual intercourse (Westercamp 2013). However, with married/regular partner or father of their children they never use condom (Nelson 2011; Sales 2012). Situations where inconsistent condom was used were contingent upon emotional and relationship factors and partner type (Maher 2013; Nelson 2011; Sales 2012). The main contingency factors for condom use were love, trust, and the strength of the relationship with exception of occasional or one night relationship (Nelson 2011). Emotional and sexual promiscuity are also factors for low and inconsistent condom use for men and women. However emotional promiscuity was significantly associated with unprotected partners, for women ( $r=0.22$ ,  $p<0.05$ ) but only marginally for men ( $r=0.14$ ,  $p=0.08$ ) (Jones 2012). In consistency in sexual relationships (on and off), pregnancy desire lack of confidence and strength from within to overcome

partner-related factors were the barriers to consistent condom use (Sale 2012; Maher 2013). According to J. M. Sales et al. women who positively changed their condom use behavior disclosed that confidence, stopping consumption of alcohol, smoking and drug were the main factor which helps them for consistent use of condom (Sales 2012).

A Similar study conducted in Kisumu Kenya shows that condom use increased with decreasing intimacy (Westercamp 2013). Generally condom use also increased with exchange of money or gifts for sex having concurrent relationships, and believing that partner had other partners or were HIV-positive. The likelihood of condom use greatly decreased with the increase of sexual events in regular partners (Sales 2012). Consistent condom use was 1.35 times more likely to occur (95%CI 1.21–1.50) in concurrent relationships than in a non-concurrent relationship in casual relationships (Westercamp 2013). In regular/marital and casual relationships participant educational level, age at the time of relationship, believe that a partner had other partners, uncertainty about a partner's HIV status, factors significantly associated with consistent condom use (Jones 2012). However in sex with CSW unlike to casual and marital relationships the most predictors were age of the participants and HIV status (Westercamp 2013).

### **3.2, Demand and supply side factors**

#### **Individual (client) related and Socio-cultural, community related factors.**

Literature from Ethiopia & Kenya neighboring and regional countries like from Nigeria, Tanzania, Uganda having similar context, were used to compare and contrast the finding from Eritrea.

#### **3.2.1, Individual client related factors (age, sex, perception, knowledge, attitude, travel, mmigration and alcohol consumption).**

##### **3.2.2, Age**

Age is one of the factors that can influence correct and consistent use of condoms (Westercamp 2013). According to EPHS Eritrea, among youth 15-24 years age who had highly risky sexual intercourse, 25% reported that they used condom. Knowledge of consistent and correct condom use as HIV/STI and pregnancy prevention in women decreases with age 32% in age group 15-24 and 25% 40-49 years (EPHS 2010). Literature from similar contexts like Eritrea shows that couples who don't use condoms mostly are younger 15-24 years and who have concurrent relationships (Hearst 2003). Youth have limited access to condoms and reproductive health services and often encouraged to abstain (Natsinet 2014). However young people have high concurrent and short duration relationships which are characterized by

inconsistent condom use (Wesercamp 2013). Casual partners often tend to be younger with an average age 18.7 years, 40% from 602 people reported that they had casual partners 12 months before the survey (Manning 2009).

Young boys and girls at the age of 17 go to military training for compulsory national service in Eritrea (UNAIDS 2003). Being away from home for the first time, free from parental monitoring and with increased independence and possibly greater access to alcohol, but low access to knowledge of HIV prevention and condom for many creates conducive environment to practice risky sexual behaviors (Temesgen 2010; Mantel 2011). Therefore age is one of the factors that influence the correct and consistent use of condom.

### **3.2.3, Sex**

Men are more likely to use condoms than women (77.3%) and (55.9%). Men are more likely to know from where condoms can be obtained than women, particularly among rural dwellers 98% and 95% of men and women know a source of condoms (Abubeker 2010). Similar study which was conducted in Jimma Ethiopia shows that 83 (32.3%) men and 113 (43.5%) of women encountered with risky sexual behavior and only 8(9.4%) of men and 10 (8.6%) women used condom consistently during the last 6 months of survey (Natsinet 2014). Communication between partners regarding condom use is a key factor (Ezeh 2003).

### **3.2.4, Perception on condom use**

HIV is largely stigmatized in Eritrea. HIV is associated with extra marital sex and is largely stigmatized. According to Temesgen 2010 stigmatizing remarks from neighbors and relatives of PLWH have been reported in the slums of Asmara (Farrar 2013; Temesgen 2010). Condoms have been promoted focusing in high risk groups like PLWH and CSW in the last 2 decades and married couples and unmarried are encouraged to be faithful and abstain, condoms was promoted as a last option (ABC approach)(EPHS 2010; EDHS 2011). In such context, condoms are largely perceived as something used with or by CSW and people feel embarrassed to buy and have it (Farrar 2013; Abubeker 2010).

The perception that condom is for casual sex is also a key factor for not using condom by married and regular partners. Ninety percent of respondents who had had a casual sex, reported that they used condoms (Abubeker 2010).

According to the survey done in commercial sex workers by MOH in 2010, condom use among CSW in Asmara, and the port of Massawa, showed that consistent condom use declined with intimacy of their clients. Only 44.8% of

the 400 CSW who participated in the study responded that they used condom with their most recent client (Temesgen 2010).

The perception that condom is used with somebody you don't trust, makes it difficult, especially for married women and in an intimate relationship, whom they expect marriage or long term relationship (Maher 2013; Abubeker 2010).

### **3.2.5, Knowledge about HIV, correct and consistent condom use**

Knowledge of HIV transmission and HIV prevention methods are important factors in consistent and correct condom use (EPHS 2010; EDHS 2011). The percentage of people who know a source of condom by education, no education 11% primary level 37.9%, middle level 67.3% and secondary and above 83.4% (EPHS 2010). Education has a direct correlation with knowledge of condom use, since education increases access to information (Mantel 2011).

Findings revealed that respondents have a positive knowledge on condom use basically as an effective means for pregnancy preventions 87.7%, combating HIV/AIDs 88% and STIs (Abubeker 2010). The most frequent reason for not using condoms were trust mentioned by 40% of respondents (Farrar 2013)

About 25% of women and 34% of men age 15-24 years have comprehensive knowledge about HIV prevention. Never married young adults have more comprehensive knowledge of HIV prevention, 35% of women and 45% of men. Urban youth have more knowledge than rural youth, 32% of women and 39% men in urban and 20% women and 30% men in rural areas. Fifty one percent of and 67% of men have knowledge of condom (EPHS 2010) figure 5 &6. Similar data from neighboring Ethiopian, Tigray region, which has similar culture and language with Eritrean high lands, shows that 64% of women have a comprehensive knowledge that HIV can be prevented by being faithful to one uninfected partner and correct and consistent condom use (EDHS 2011).

A number of people also believe that HIV can be transmitted by sharing food with a person who is infected 18% of women and 13% men believe this. Forty one percent of women and 11% men age 15-49, believe that HIV can be transmitted through supernatural power (EPHS 2010). Similarly regarding misconceptions related to HIV/AIDS, a few study subjects replied that HIV is transmissible through mosquito's bite 40(8.9%) and 39 (8.7%) of the respondents said that HIV can be transmitted by eating with PLWH and 18(4%) by eggs of a hen that had swallowed a used condom by a person with HIV (Getachew 2013).

Knowledge of correct and consistent condom use increases with the increase of education and higher wealth and living in urban areas. This might be due to the better access to information (Mantel 2011).

Figure 5, Changes in knowledge of HIV prevention methods men in Eritrea 2010

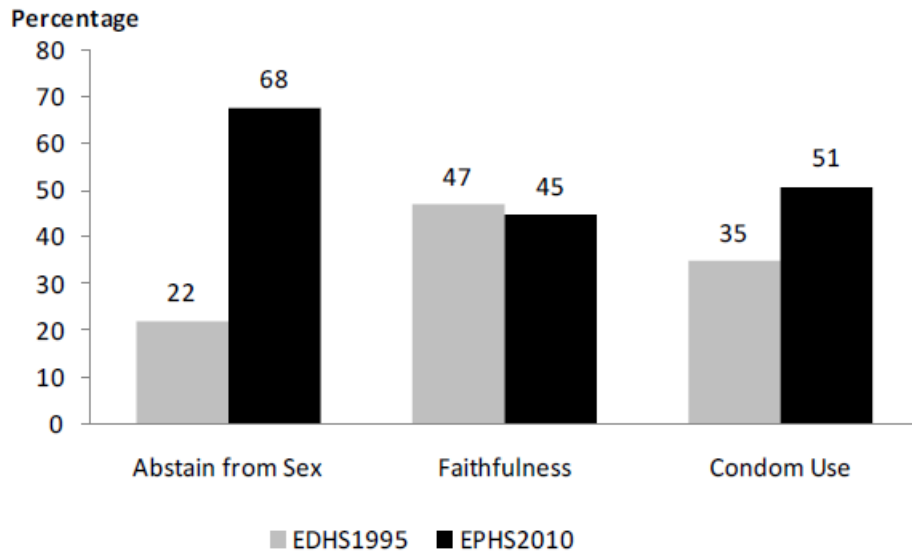
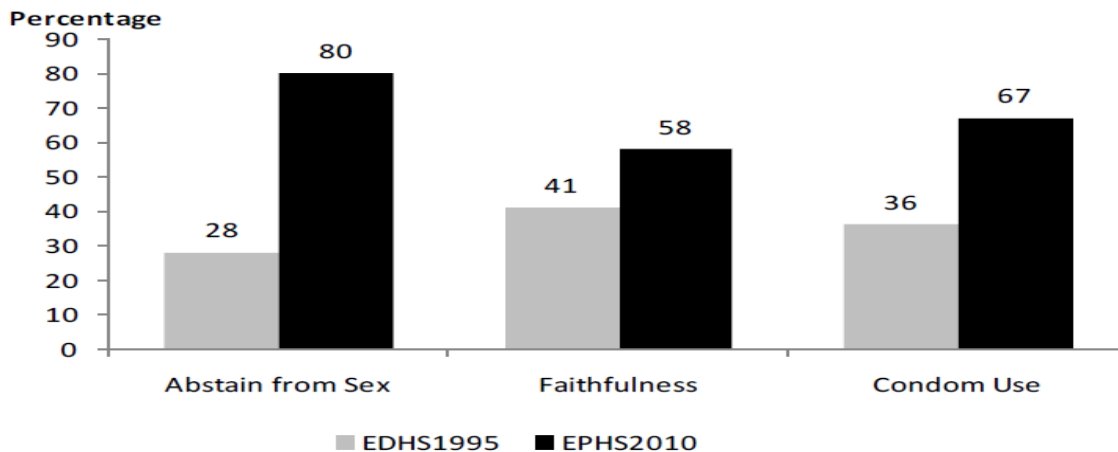


Figure 6, Trends in knowledge of HIV prevention methods in women in Eritrea



### **3.2.6, Attitudes towards Condom use**

An individual attitude towards condom use as HIV/STI and pregnancy prevention is one of the pre-requisites of correct and consistent use of condoms (Kefale 2013; Abubeker 2010). In a meta-analysis involving 96 sets of data (N=22 594), Albarracin, Johnson, Fishbein and Muellerleile (2001) found that intentions to use condoms were related to actual condom use (weighted mean  $r=0.45$ ); and that intentions were, in turn, related to attitudes ( $r=0.58$ ), subjective norms ( $r=0.39$ ) and perceived behavioral control ( $r=0.45$ ).

Association of condom use with HIV and promiscuity makes young people feel embarrassed to buy condoms especially from elders and neighbors (Farrar 2013). Fifty percent of men 55.4%, 54% and women 55.9%, 62% age 15-49 years reported that they feel embarrassed to buy condoms from neighboring outlets (Abubeker 2010). Initiation of condom with a partner who never used condom before is associated with infidelity in a relationship and acts as barriers in consistent condom use (Mantel 2011; Temesgen 2010). Similar study conducted in Gonder, Ethiopia showed that 124(39.1%) of respondents reported that they feel offended to talk to their sexual partners on issues relating to condom use. Over 142(44.8%) of the respondents also reported that they cannot buy condoms from condom outlets due to embarrassment (Kefale 2013). The attitude that condom use is not pleasurable is also factor in the consistent use of condoms. Men who are client of CSW believe that a pleasurable sex have to be flesh to flesh (Thomsen 2014; Kefale 2013).

The attitude that condom motivates people by giving an alternative to be unfaithful is also a common negative attitude in Eritrea (Abubeker 2010; Temesgen 2010). Similarly there is a concern from religious groups and members of communities that condom promotion might increase sexual promiscuity in young people (Hearst 2003).

### **3.2.7, Traveling and migration**

Studies in Africa show that traveling and migration have a link to HIV infection and the main reason why migrants and short term traveler's contract by HIV is lack of consistent condom use (Sunmola 2006). There was circular migration, whereby young and adults age 17-50 are forced to travel to do their mandatory national service or for work from their rural or urban homes to predominantly rural and urban communities for at least 1 year and intermittently visit their homes are common in Eritrea (Sunmola 2006; UNAIDS 2003). Prevalence of HIV in military personnel are 4.6% four times the prevalence the civilian population and, during conflict; this factor can be increased significantly (UNAIDS 2003; Mokonnen 2011). Migrant's access to

information and condoms depend on the circumstance of the area they travel/migrate and knowledge to consistent condoms use differs depending in their educational background as education is the main determinant on condom use in non marital relationship (Sunmola 2006).

Migrants or people who travel for temporary purposes are relevant in the transmission of HIV when they return home to their families in regular bases (Temesgen 2010). Unusual mobilization of young men and women resulted in thousands of young people leaving their home for the first time in Eritrea, makes them prone to a risky sexual relationships (UNGASS report 2010; Natsinet 2014). Similarly, a study which was conducted in Nigeria on young people who were migrating as a national service showed that about 45% of men and 58% of women reported they had no regular sexual partners during the period of the service. Consistent condom use was low for men 15% and extremely low for women 4% (Sunmola 2006).

Conflict destroys social and physical infrastructure, resulting in disruption of supply of condoms, STIs, poor health and malnutrition and, as a consequence, low or inconsistent condom use increased risk of transmission in the event of viral exposure.

The migration and poverty created or exacerbated by conflict may result in increased exposure opportunity through:

1. Increased casual or commercial sex activities
2. Increased interaction between civilians and military personnel where prevalence of HIV is higher in the military than the general population
3. Development of culture of violence and sexual violence particular
4. Mass migration which increases sexual mixing among population
5. Destruction of public health education mechanisms which negatively affect public health related knowledge, attitude and practice and particularly consistent condom use (Berhane 2006). Although in military personnel prevalence data are not typically available in the public domain, a recent analysis suggests that prevalence levels are commonly at least 5% higher among military, than their civilian counterparts in Africa (Mock 2004)

Although to collect information on human rights violation particularly in violence against women and rape is difficult in Eritrea there are credible reports of rape and violation in the national service (Mokonnen 2011). Excessive militarization and prolonged conscription are the main sources of women's violence and rape, which leads to risk of HIV/STI(Mokonnen 2011).



Rapid urban migration of young people has contributed HIV burden to be concentrated in Asmara and the other towns (NATCoD 2010).

### **3.2.8, Alcohol consumption and condom use**

Sexual intercourse when one or both partners consume excessive alcohol becomes risky because the couple may not be fully aware of the risk of HIV/STI, which may lead to failure to use condom correctly and consistently (EPHS 2010). Investigating correlation between alcohol drinking and high-risk sexual activities requires accurate measures not only of alcohol use and of sexual behavior but also of the co-occurrence of the two (Leigh 2008).

According to EPHS 2010 only 0.5% reported that they retrospectively had sexual intercourse when drunk and 0.6% with a partner who was drunk. In this study, no data were available that showed the link with condom use (EPHS 2010). However according to a study which was done on students in Jimma, Ethiopia students who consumed alcohol were 2.8 times more likely to be at risk of engaging in unprotected sex than students who did not consume alcohol (OR, 95%CI :2.81(1.3-6.06)(Natsinet 2014).

Similar study conducted by the National Institute on Alcohol Abuse in the USA showed that the drinking no-drinking discrepancy in correct and consistent condom use from the diary and the retrospective measures after adjusting confounders like (failure to remember accuracy) was virtually uncorrelated ( $r = 0.19$ ). However among young heterosexual participants, there was a trend to report that drinking hindered condom use more than it did in adults: 38% of adolescents overestimated the negative effect of drinking, and only 7% underestimated it. These proportions were 21% and 15%, respectively, in college students, and 13% and 17%, respectively, in STD clinic clients ( $X^2 = 8.68, 4 \text{ df}, p = .07$ ) (Leigh 2008).

### **3.3, Socio cultural beliefs and norms and gender**

Cultural norms and beliefs promote risky sexual behavior; among individuals especially women and it has been identified as a major factor in the spread, of infectious diseases globally (Doherty et al, 2005; Akwaara 2003). Some cultural norms such as spouse exchange, polygamy and arranged marriages encourage multiple sexual partners and relations (Klicham 2007). Participation in the set cultural practices gives the individual a sense of belonging to the community as well as providing increased satisfaction. Deviation from these practices leads to stigmatization and discrimination towards the individual and their family (Benefo 2010).

In traditional Eritrean culture women are confined in a domestic works, religious values and practices strictly ruled by Christianity and Islam; control the roles of women in Eritrean societies (Zerai 1994). The family is the unit

for learning the gender roles and responsibilities and privileges men to women (Tirhas 2010). The Cultural Revolution in Eritrea started during the armed struggle for independence (1961-1991) in 1977 by the Eritrean People's Liberation Front (EPLF) constitution the National democratic program updated in 1987 (Sellasie 1992). Women were given equal rights with men in all sphere politics, economy and social (Connell 1998). Women was Participating in all developmental activities and as army combatants in the armed struggle for independence, EPLF also made positive discrimination to minimize the gaps in knowledge and skills among women and men (Cathey 1994). However after the libration in 1991 the provincial government gives less attention on implementation of the National democratic program (Connel 1998). Emancipating the whole society becomes impossible after libration although it embarked some remarkable changes in enforcing marriage laws (Zerai 1994). Betrothal of girls at the age of 8-14 years was stopped changing marriage age from 13-15 years to 18 years, the traditional marriage law was changed by democratic and women was allowed to request for divorce (Cathey 1994).

Gender power differences, remained to be a major obstacles in promotion of safe sexual practices (Aral 2010).

Premarital sex is highly discouraged in Eritrean cultures (Temesgen 2010). However, adolescents engage in sex before they reach the age of 18, either through early marriage or pre-marital sex (EPHS 2010; Abubeker 2010; Mensch 2006). Sexual intercourse outside marriage is considered as adultery and its taboo, and since condom is attributed to sex this makes many young people feel embarrassment to buy condoms especially from people they know (Abubeker 2010). More than 54.2% of men and 44.4% of women reported that they feel embarrassed to buy condom from elders and neighboring outlets (Abubeker 2010). With regard to buying condoms from elders, women are more likely to be embarrassed 61.9% compared to men 54.2%, whereas 57% of all respondents reported that they feel embarrassed to buy condoms from elders. Again feeling embarrassed among semi-urban and rural dwellers 66.4% and 59.7% respectively is remarkably higher than among urban dwellers 53% (Abubeker 2010).

Age at first sexual debut is linked with risky sexual behavior such as increased number of lifetime sexual partners, higher number of sexual encounters and decreased use of condoms, all of which could increase the probability of STI infection and unwanted pregnancy (EPHS 2010; Natisnet 2014). Married adolescents women were married to men much older than them, and in polygamous Muslim societies adolescent were married as second or third wives (Abubaker 2010). Similarly, 14% of sexual

relationships were “sugar daddy” women having sexual relationship with men 10-12 years older than them (EPHS 2010).

Trust is major factor that prevents sexually active people to use condoms in regular and marital relationships in Eritrea ( Abubeker 2010 ; Farrar 2013). More than 44% of males and 49% of women reported that they have not used condom because they trusted their partner (Abubeker 2010). Over 50% of respondents reported that they used a condom the last time they had sex with their regular/marital partner to prevent pregnancy (EPHS 2010) (Figure 5 &6). More than 67% of single respondents reported that they used condom with casual partners for the prevention of HIV/Aids (Abubeker 2010).

Another cultural norm that promotes risky sexual behavior is intimate partner violence. Sexual violence increases risky sexual behavior and decreases use of consistent condoms use. <sup>3</sup>Fifty one percent of women supported that women have to be bitten if they didn't respect or being obedient to their husbands. Thirty two percent of men and 24% of women accepted that wives have to be bitten if they argue with their husband and refuses to have sex with their husbands (EPHS 2010).

It's difficult to find a literature on violence against women in the military in Eritrea. However there is a testimony from refugees that women are routinely raped and sexually abused by army commanders, for not fulfilling the personal demands of their superiors (Mekonnen 2011).

Sex communication does not occur in most households in Eritrea. Women who ask questions about sex or condoms are considered as promiscuous or prostitute (MOH 2012). Decisions concerning safe sex measures are reserved for the male domain and masculinity has become associated with rejecting condom use (Mantell et al 2009).

Women in Eritrean society are expected to remain monogamous, while men are allowed to have multiple sexual partners and have younger sexual partners (Aral 2010; Farrar 2013). In a context of such gender norms, asking the male partner to use a condom is perceived as unfeminine and associated with impoliteness or being 'loose' (Farrar 2013). Over 78% of respondents (78% of men & 79% of women) reported that unmarried women have the right to protect themselves from sexually transmitted infections (STIs) by obtaining condoms if decided to have sex. However,

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<sup>3</sup>,Women are not obedient to their husbands if (1) burns the food while cooking (2) Argues with her husband (3) went out of home without permission of her husband (4) failure to take care of the children (5) refuse to have sex with her husband.

55.6% (56.8% & 53.5% of men & women respectively) denied the right of married women to have condoms. Such views and attitudes may be related to the social expectations from married relationships and social processes geared towards the normative social expectation of married couples being monogamous (Abubeker 2010).

### **3.3.1, Stigma and discrimination**

HIV is largely stigmatized in Eritrea and associating condom with HIV prevents condom use (Farrar 2013). Substantial numbers of respondents in the EPHS 2010 showed moderate degree of socialized stigma towards infected people, and those living with the virus feel shame, guilt, suicidal thoughts, Sinners and blame as common feelings (Temesgen 2010).

HIV related stigmas are one of the greatest barriers in preventing further infections (UNAIDS 2008). A stigma reduces the provision and demand for the necessary healthcare, increases inconsequent medicine intake, reduces the support for PLWHA, and hinders HIV testing (Muyinda 1997; UNAIDS 2008). Moreover, stigmas reduce safe sexual relations. A high stigma level discourages communicating issues related to HIV when deciding to have sexual intercourse, reducing condom use to prevent HIV transmission (Meekers 2002). People who dare to discuss issues related to condom use during sexual intercourse are indeed more likely to use condoms (Klein 2002). Reducing HIV related stigma is therefore an integral component of HIV prevention campaigns (Reidpath & Chan 2005).

According to the EPHS 2010 75% of women and 81% of men reported that they can take care of a relative who is living with HIV at home. Sixty six percent of women and 65% of men reported that they accept female teacher who is living with HIV to continue teaching if she is not sick. Eighty three percent of women and 80% of men reported that they can disclose a family member who is HIV positive. Over all the level of stigmas are greater in rural areas than in urban, acceptance also increases with wealth and education. Men and women living in Central Zoba, South and Anseba have high level of acceptance than Southern Red Sea, Gash-barka and Northern Red Sea (EPHS 2010).

According to study done by WHO and MOH documenting best practices there is a severe Stigma toward PLWH in the slums of Asmara (WHO 2011). The prevention approach followed is the (ABC) approach which emphasizes Abstinence and condom use as a last options, and those who can't abstain face stigmatizing implication (Winskell 2011)

### **3.3.2, Social Support for condom use in Eritrea**

Without social support, condoms are unlikely to get to, and used by those that most need them (UNFPA 2010).

Educating Adolescent children on condom use as HIV prevention are important factors for correct and consistent condom use (EPHS 2010). Women and men were asked about their support on condom education to children age 12-14 years. Half of the women and 68% of the men age 18-49 years reported that they support condom education (EPHS 2010). Women at the age of 18-24 years are more supportive than others and urban dwellers support more than rural, attitude towards condom education to children increase with increase in educational level (EPHS 2010). However a few number people have a negative attitudes on condom use, elderly people, parents and some teachers including a few young people who think that the promotion and use of condoms often propagate early initiation to sexual intercourse and promiscuity in Eritrea (Temesgen 2010). Reports from similar study conducted in Tanzania shows that (n=837) 16.7% of respondents were against condoms promotion and distribution to adolescents. Their main reason were adolescent can easily be influenced to engage in heterosexual affairs, to experience condom use which can lead to early sexual initiation (Exavery 2012).

Faith Based Organizations (FBOs) are one of the active stakeholders in the prevention and treatment of HIV in Eritrea. Although their prevention activities focus on abstinences and faithfulness, they FBOs are not against condoms, as one of the prevention methods of HIV/AIDS infection in Eritrea (Temesgen 2010).

There is a limited inclusion of sex education in the educational curricula and where it is included topics such as the use of condoms are excluded. Teachers perception about the use of condoms and knowledge about HIV/AIDS and contraceptives prevents them from teaching sex education even when it is included in the curriculum (Benefo 2010; NATCoD 2005).

### **3.3.3, Economic (income) factors**

The capacity of individuals to afford the price of condom is one of the traditional barriers. Although there is no data on affordability of condoms, since more than 65% of the Eritrean people are living under poverty there is a probability to be barrier (UNFPA & GOE 2013). The poverty situations are worse in rural and in single women (EPHS 2010). The poor and women are vulnerable since women are economically dependent on their male partners. Poor people often opt for basic survival rather that their future health and they fall in risk of HIV (Eleonor 2012). Women and men who know that HIV can be prevented using consistent and correct use of condom are those with

high wealth quintile compared to the low wealth quintile (43.9% & 12.1%) among women and (57.6 % & 34.5%) among men. Over all knowledge of HIV prevention and condom use is higher in highest wealth quintile than the lowest wealth quintile (EPHS 2010).

Substantial number of sex workers also reported that they are often tempted with clients who ask to waive condom demands if more money offered (Temesgen 2010).

### **3.4, Supply side factors**

In this section the factors related to supply side policy and guidelines, availability of resources, organizations collaborating, factors influencing correct and consistent use of condoms, accessibility and distance will be presented according to the frame work model adapted from Kgatlwane et al, (2005),(2004) in condom use uptake.

#### **3.4.1, Policy and guideline national policy on HIV and AIDS, including condom promotion & distribution**

Program response related to prevention and control of HIV and AIDS dated back after the liberation of Eritrea in 1991. After the referendum in 1993 the Government established the National Aids control Program (NACP) (NATCoD 2010). The first comprehensive HIV/AIDS strategic plan was developed in 1997 (Mokenen 2011). The government endorses “the three one” application of one agreed HIV/AIDS action framework, one National coordinating authority, and one agreed country level monitoring and evaluation (UNGASS 2010).

The strategic directions for HIV and Aids prevention are:

- 1, Prevent new HIV infection through targeted interventions
- 2, Reduce personal and social impact of HIV infection and AIDS including protection of the rights of People Living with HIV/AIDS (PLHAs)
- 3, Strengthen national and international partnership for sustainable and comprehensive multi-sect oral response to HIV/AIDS (MOH policy 2010).

To strengthen and reorganize the national responses, the MOH scaled up (human resources, budget and capital) and authority the NACP which was a unit under the communicable division of the MOH, to a National Aids and TB Control Division (NATCoD). NATCoD incorporates a substantial number of stakeholders and partners who contribute and play their role in prevention, treatment, care and support services. The stake holders involved and fully participating in the multi-sect oral response are line ministries, national unions, professional associations, association of people living with HIV, civil

society associations (CSOs), Faith Based Organizations (FBOs) and the private sector (NATCoD 2010).

The Eritrean government's policies and strategies on HIV/AIDS have been accused of being controversial on several grounds (Mokonnen 2011). Eritrea is known for its mandatory HIV testing for anyone who is preparing to get married which is against the WHO strategies on the attainment of universal access to HIV prevention, treatment, care, and support: namely through the provision of confidential HIV testing and counseling (WHO 2006).

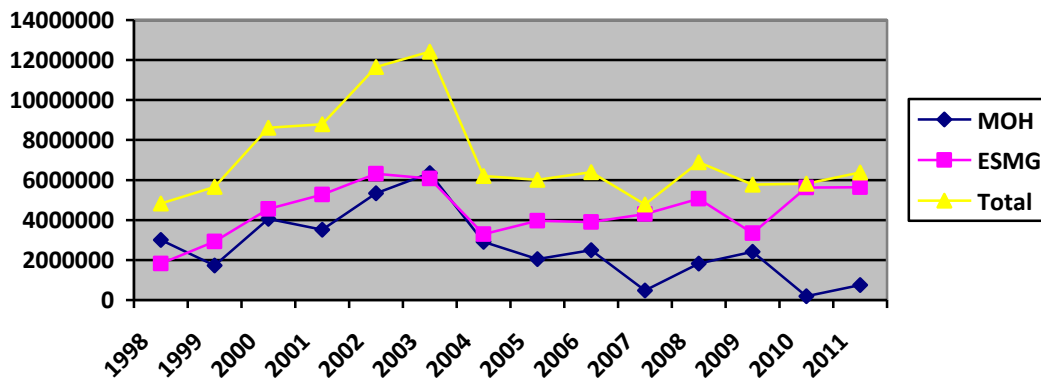
The Eritrean HIV/Aids policy includes high risk populations like CSW, long distance truck drivers and the youth military as a priority (UNAIDS 2003). However excludes high risk populations like Injecting Drug Users (IDU) and Men who have Sex with Men (MSM), due to the government strict law and religious and cultural barriers against IDU and MSM (NATCoD 2010).

### **3.4.2, Availability of resources for condom promotion and distribution**

The ESMG is responsible for social marketing of condoms throughout the country (Global fund 2010). ESMG receives unbranded condoms imported by PHARMECOR a parastatal organization responsible for the MOH to procure, store and distribute pharmaceutical, and medical supplies and equipment and sells them branded as Abuselama (Global fund 2012).

The MOH also distributes condom through health facilities and free standing VCTs which accounts about 33% of the total condoms distributed (Temesgen 2010). The joint program terminated in 2005, and the government of Eritrea was not willing to renew the contract, accusing USAID/PSI of interfering on the internal political affair and ordered to leave of the country in 2005. After the termination of the contract ESMG faced with a major risk of financial crisis (Global fund 2010). The universal access target in 2007 was to increase condom distribution by 84% from the baseline 6,399,760 in 2009 but the target was not reached (Temesgen 2010).

**Figure 7, Trend of male condom distribution by MOH and ESMG 1998 to 2011 in Eritrea**



The government of Eritrea declared almost all government vehicles to be pooled under military administration at central and zoba level, including vehicles bought with donors supported projects (MOH 2012). Programs can ask whenever they need, the process that can take several weeks and is subjected to cancellation at short notice. In addition to the human resources constraints, the transportation problems were cited by program coordinators and supervisors as the main reason for not promoting timely distribution of condoms and conducting planned supervision (Global fund 2012).

ESMG has about 8000 traditional and nontraditional outlets most of them in urban and semi urban areas to distribute condoms. In addition a substantial number of vending machines were installed in public places, however due to funding gap almost all the vending machines are out of use (Temesgen 2010).

ESMG lacks the necessary infrastructure, financial and logistical resources to ensure an uninterrupted supply of condoms at all retail outlets. The ESGM supply and distribution system had only one central depot in Asmara. A fleet of vehicles has to deliver condoms to the 8000 outlets, from the central store (Global Fund 2012).

### **3.4.3, Organizations collaborating with the programs**

The organizations collaborating with programs are public health facilities under the MOH, (health facilities, ANC/PMTCT sites, and VCTs), ESGM 8000 traditional and nontraditional private outlets (UNGASS report 2010). ESGM distribute a branded condom packed in small box of 4 condoms through the 8000 traditional (pharmacies, drug venders) and nontraditional outlets (hotels, night clubs, bars, restaurants, groceries shops, kiosks) and the



Eritrean Defense Forces (EDF) (Temesgen 2010). Entry points for new outlets are open. However people residing in rural areas are resistant to sell condoms in their businesses. The main concern is condom use is against religion; condoms encourage promiscuity and reduce trust in marital relationship (Temesgen 2010). Clients enter like any ordinary customer from the outlets to buy condoms, for many clients it's not friendly due to embarrassment they don't access it easily. Some of the outlets like restaurants groceries, shops and Kiosks are closed late at night (Abubeker 2010).

#### **3.4.4, Accessibility and distance of out-lets**

Distance to outlets for clients who want to get condoms is one of the key factors for condom use. More than 68% of the condom outlets of ESMG are in urban and semi-urban areas (Abubeker 2010; EPHS 2010). Nearest places to obtain condoms vary from shops including grocery and kiosks, bars and night clubs, hotels, pharmacy and health centers. More than (N=238) 39% of respondents reported that it's difficult to obtain condoms due to distance from where they live (Abubeker 2010). Data concerning distribution system and stock outs showed that more than 39% of the existing out lets faced stock outs during the last five years before the study. Most of the stock out occurs in Zoba Gash-Barka 58%, Anseba 43%, and South 35%. Thirty three percent of respondents from Zoba Central reported that they were faced with stock-outs in the past 5 years before the study. However the most affected Zobas were the pre-dominantly rural Zobas of Anesba 63%, Southeren Red Sea 51%, and Gash-Barka 43% of the outlets was stock out during the survey compared to one third of the remaining outlets in the other 3 zobas (Abubeker 2013).

Over 39% of respondents reported that it is difficult to access condom mainly associated with the unavailability or they are sold too far from where they live (39.6%) (Abubeker 2010).

### **3.4.5, Quality of condoms and out lets**

In Eritrea the condom procurement process is centralized by PHARMECOR (MOH). Condoms are distributed by MOH unbranded and ESMG distributes condoms branded as Abu-selama. According to the study done by Abubeker over two thirds of respondents cited Abusalama as the brand they usually use. More than 70% justified that because it was the only available at that time.

Abuselama is the only branded condom available in Eritrea. It's quite evident that availability is the determinant factor to use Abusalama. Thus 65% of respondents (n=238) uses condoms, reported that they prefer to use Abusalama for its availability, whereas nearly to a quarter of respondents have mentioned Abusalama's quality as the main reason for preferring it. However, the type of outlets does not matter for almost one third of respondents 31%, whereas one in four respondents cited shops as most favorable place to obtain condoms from, followed by bar/disco 10.9%, hotels 10.2% and pharmacy 7%. Substantial number of respondents also reported that vending machines were the best for privacy purposes.

### **3.5, Alternative strategies in condom promotion and distribution experience from Eritrea, Uganda, South Africa, India and Brazil**

There are evidence of best strategies in condom promotion and distribution in Eritrea and other neighboring African countries. In the Eritrean Defense Forces (EDF) in collaboration with NUEYS made intervention in peer leadership programs (military to military) peer education had good results in the EDF and youth in schools. Female peer facilitators and coordinators were also nominated and trained and had a good impact in encouraging female army members to discuss about safe sexual practices and HIV/AIDS. Outreach activities through Mobile Video Units (MVU) using short drama, free distribution of condoms was done every 3 month. Access and availability of unlimited number of condoms was ensured in health facilities recreational areas, dining rooms and toilets were done. Condoms were also included in the military ration by developing a leather condom pouch containing 4 pieces of condoms featuring "Abuselama" brand the pouch was introduced as standard military equipment in 2001 (UNAIDS 2003).

In Uganda there is a best strategy in managing and implementing an efficient national comprehensive condom promotion program targeting the Most at Risk Populations (MARPs) in 2009. DANIDA in collaboration with UNFPA developed a strategy to strengthen the capacity of MOH and civil society associations in managing and implementing efficient condom promotion and distribution activities.

Some of the most at risk population are taxi and bus drivers and motor taxi drivers (boda-boda). The nature of their work makes them to have regular contact with great numbers of people who go out in the week end, CSW and their clients. People who work in bars, night clubs, and garages, car washing bays, lodges and salons were also identified as MARPS. Within one year beyond the target more than 4.5 million condoms were distributed efficiently (Karin 2012).

Strait talk foundation a communication local NGO in Uganda publish two newsletters for youth every month. Strait talk a four page newsletter targeting secondary school students the age of 15-19 and students in collages 20-24 years. The messages published include HIV, advocacy for safe sex, condom use, abstinence every month 150,000 copies distributed to 1400 secondary school. Young talk newsletter is focusing in upper primary school messages published include puberty, abstinence, child rights, and condoms also included every month 270,000 copies are distribute to 12,000 schools. Teachers are encouraged to use it as a teaching Aid.

Comprehensive outreach program for CSW by MOH through peers who were working as CSW were effective programs, published by WHO as best practice in Uganda. Distribution of Promotional materials for CSW and their clients, improve access and availability of condoms. Advocacy for social and legal supportive environment working with communities to change social norms and with policy makers & law enforcers to address legal issues that affect CSW (UNAIDS 2000).

Evidence from Horizon researchers where inequitable gender norms becomes a risk for HIV and other STIs in Brazil engaging men in thinking critically about gender inequality through peer education to promote safe sex after six months. Qualitative data from two studies shows a remarkable difference. Support for unequal gender norms significantly decreased post-intervention in both intervention groups, while no corresponding change was seen in the control group. Similar modified intervention of the Brazilian was also conducted in India and support of inequitable gender norms decreased and reported condom use at last sex was positively increased (Julie 2010).

Evidence from study conducted in South Africa shows that HIV prevention programs should focus in improving young people's communication skills about sex and condom use. Making communication about condom normative may help young men and women to ease talking about it. Engaging men and women in critical gender dialogue (unequal gender norms) this kind of intervention can be main streamed in HIV interventions. Increasing women's bargaining power over their sexual lives, to achieve long term gender equality is crucial (Mantel 2011).

## **CHAPTER FOUR**

### **4.1, Discussion**

Evidence shows that an individual's age, sex, attitude, perception and knowledge are important factors that determine individuals' decision to use condom consistently or not to use. Young people the age of (15-24) lack knowledge on sexual health, negotiation skills on safe sex and consistent condom use. Although sex education is included in the curriculum topics concerning of condoms are not sufficient and teachers lack the skills to transfer messages perfectly.

The current political situation in Eritrea is filled with factors that make young people vulnerable to develop unsafe sexual behavior and culture of violence especially for women. Excessive and indefinite military conscription that starts at the age of 17 obliges young men and women after completed secondary school (11<sup>th</sup> grade) go to military training for mandatory national service. Having low negotiation skills in sex related issue and low knowledge of condom and other HIV prevention methods. Lack of access to condoms in military training camps exposes them to HIV infection. The policy of the government doesn't allow distribution of condoms in schools, colleges and military training camps. Being away from parental control and peer pressure makes them susceptible to engage in risky behaviors like excessive consumption of alcohol and concurrent sexual relations. In prolonged conflict people migrate or travel for long or short duration usually for less than one year for economic or security reasons. Consistent use of condom depends on the health care, culture, accessibility of in the area they travel or migrate, knowledge and their risk perception. When they come back after a while and mix with their family there is high risk of transmission of HIV/STI.

The prevailing economic situation force women to engage commercial sex works which makes them susceptible to unsafe sexual practice .CSW reported that they don't use condom when clients promise to pay them twice or more than the normal payment. Prolonged conflict and political turmoil leads to disruption of the societal linkages, infrastructure, health care systems and health education, supply of drugs, condoms and medical equipments. People who are far away from their home don't get enough information on HIV and access to condoms and they fall at risk of HIV. High prevalence of HIV and poor access to information and condoms in the military makes the risk of HIV infection high.

The condom programming in Eritrea is suffering with serious shortage of budget and administrative problems. Condoms are imported in centralized way by PHARMECOR (MOH) and distribution and promotion are responsibility

of MOH and ESMG. The country is suffering with political isolation and economic sanction. There are no sufficient donors for the program the only donors supporting the program is the Global fund and UNFPA.

MOH distributes unbranded condoms for free through health facilities, VCTs, and PMTCT sites however they are not accessible (user friendly) due to embarrassment most people can't have it. The ESMG distributes branded (Abuselama) condoms in a packet of 4 pieces with a nominal price of one Eritrea nakfa/packet. However ESMG lacks fund and the necessary infrastructure to promote and distribute condoms timely and consistently. There is only one depot of condom in the head quarter in Asmara and a fleet of vehicle distribute condoms every three months to the 8000 outlets throughout the country. Starting from 2005 all vehicles are pooled in one pool and permitted according to priority a staff who want a vehicle to distribute condoms required to apply 10 days ahead which is subjects to cancellation within short time. In such occasions programs have to use other alternatives renting vehicles from the private market which is a bit expensive than the normal price.

HIV is highly stigmatized in Eritrea and people feel shy to buy and have it. During the HAMSET multi sect oral project in the last decade the ABC approach was promoted aggressively as HIV prevention. Condom was promoted to be the last option after abstinence and faithfulness to one uninfected partner. Adolescents and unmarried are encouraged to abstain until marriage and there is no clear timeline how long they are going to abstain. Young people and adults associate condom use with CSW and casual sex and they tend to escape consistent condom use whenever they feel that their relationship is stable. The major barrier of consistent condom use in Eritrea is trust of a partner. Partners stop condom use whenever they become intimate and feel they trust each other. Condoms are associated with trust and love that is why condom use is high on casual sex but lower in married or regular partners. It's difficult for partners to initiate condom with their marital or regular partners whom they didn't use before and especially for women and if they do often leads to divorce and separation.

Lack of knowledge on HIV and safe sexual behavior are also barriers to condom use. Myths and belief are considered as facts substantial number of people in Eritrea and Ethiopia believe that HIV can be transmitted by supernatural power, mosquito bite, eating meat of a chicken that ate condom used by HIV positive person and sharing food with HIV positive person. Low education is factor for low knowledge.

Negative attitudes towards condom use, like condom encourages promiscuity and infidelity are also barriers in communities not to support

promotion and access to condoms especially for singles. The negative attitude is relatively few in Eritrea compared to Kenya and Zambia people believes that condoms are porous, condoms have worms, and HIV happens like a car accident (occasionally) which happens by accidentally.

Cultural beliefs and norms play a great role in HIV prevention and consistent condom use. Gender power difference polygamy, intimate partner violence, arranged and early marriage are factors that negatively affect consistent condom use.

Women are economically dependent on men and culturally they are not supported to make decisions concerning their sexual health. Safe sex is considered as male domain. Women who buy condom or who ask for condom use are culturally considered as ready for sex or prostitutes and will not be trusted for marriage. Low negotiation skills and decision making of women, limited information and religion are the main reason for not using condom in marriage.

Men are encouraged to have multiple sexual partners legally in Muslim communities. Although in Christians having multiple sexual partners is not allowed traditionally men they do it. They will penalized by compensating their wife in cash or in kind buying gifts like jewelry by customary laws.

Premarital sex is not allowed or discourage culturally and religiously in Eritrea. Embarrassment to buy and have condoms because having condom implies that they are going to have sex. Embarrassment to buy and have condom is worse in women and rural dwellers because women are expected to remain passive in sexual related issues. Culturally to control pre-marital sex early marriage is practiced in Eritrean communities, adolescents women are forced to marry men 10-20 years older than them.

Intimate partner violence wildly practiced in sub Sahara Africa including Eritrea. The current political situation, prolonged military conscription in Eritrea creates an environment of violence and human right abuse especially for women. Although it's difficult to find a study in violence against women, there are credible reports that women are abused sexually by their superiors, and intimate partners. Sex and issues related to sex is taboo to be raised by women and this makes women to be totally dependent on their male partners, lowers their decision making and negotiation skill on safe sexual practice and condom use.

Partner and child communication on issues related to sex are culturally taboo.

The first comprehensive strategic plan for HIV/AIDS was developed in 1997 in Eritrea. It's endorsed in the three one principle (one National plan one coordinating authority the MOH and one country monitoring and evaluation frame work). There is strong multi sect oral coordination working in prevention treatment and care and support. However the HIV/Aids policy is accused being controversial for setting mandatory HIV test for people who want to marry and denial of high risk groups like MSM and IDUs. International legal stand-ards oblige "*states to refrain from using coercive medical treat-ment unless it is absolutely necessary to prevent the spread of a communicable disease*" (Mokennen 2011).

There is no equitable distribution of condom outlets and knowledge of condom in rural and urban areas. More than 68% of condom outlets are concentrated in urban and semi urban areas. Remote rural areas still resist promotion and distribution of condoms due to lack of knowledge, religious and cultural reasons. People living in rural areas lack access to condoms in their villages need to travel for hours to obtain condoms. Abuselma is the only branded condom distributed in Eritrea and people prefer than the unbranded once for its availability and quality. Condoms distributed to zobas 97% passed the quality test however condoms distributed to Northern Red Sea and Southern Red Sea found to be less quality 96% and 94% may be due to the hot climate lack of cooling systems in the storages.

## **CHAPTER FIVE**

### **5.0, Conclusion and recommendations**

#### **5.1 Conclusion**

Cultural norms and practices which doesn't give full emancipation of women in found to makes them vulnerable to infectious diseases like STI/HIV. Cultural practices and norms like arranged marriage, making sex taboo discourage couples to talk about it. Women are encourages culturally to remain passive in issues related to sex and lack bargaining power and take decision on their sexual health.

Pre-marital sex is discourage in Eritrean culture young people are encourage to abstain until marriage. Early marriage practiced for women in order to control premarital sex which makes them vulnerable to unsafe sexual practices. HIV related Stigma discourage discussion on condom use and HIV among married/regular partners.

Demographic characteristic like age, sex, Education, residence (urban & Rural), occupation found to be factors hindering condom use. Couples who don't use condoms mostly are younger 15-24 years and who have

concurrent relationships. Young people have high concurrent and short duration relationships which are characterized by inconsistent condom use. Casual partners are often tending to be younger with an average age 18.7 years.

Men are more likely to know places to buy condom and use condoms than women (77.3percent) and (55.9percent). Condom use are high in urban than rural in both men and women. Low negotiation and decision making skills of women makes them susceptible for unsafe sexual practices and condom use. . Education has a direct correlation with knowledge of HIV prevention and consistent condom use. Prolonged conflict similar and excessive militarization in the name of National service is give rise to culture of impunity which encourages gender biased violence.

The current program response is suffering with lack of budget. The country is suffering with economic sanction political isolation there are no enough donors who support the condom distribution except the Global fund and UNFPA. There is a frequent stock out resulted from failure in the supply chain management of condom especially remote zobas. The ministry of health distributes condoms but it is not user friendly clients can't access them easily. There is no inclusive policy for distribution of condom as a dual protection for HIV/STI and prevention.

The HIV/AIDS strategic plan excludes high risk groups IDU and MSM. There is policy of mandatory test for all people who have the plan to marry and those who are infected are not allowed to get married which are against the WHO strategy for universal access to HIV/Aids treatment services which have also further consequences young people tend to have sexual relationship before marriage to escape from the mandatory test. . The promotion and access to condom are focused in urban areas there is a remarkable gap among rural and urban in knowledge and access to condoms. More than 68% of the out lets are concentrated in urban and semi urban and have a great influence in consistent use of condom.



## **5.2 Recommendations**

Based on the evidence from literature on alternative strategies and evidence in condom promotion and distribution as HIV/STI and pregnancy the following recommendations are presented. In countries with concentrated HIV epidemic like Eritrea shows that intervention targeting high risk groups can bring remarkable results.

### **Policy level**

- Advocate for social and legal support of CSW to create a supportive environment to access information and services concerning their health rights. Work with communities and policy makers to change social norms and legal issues that affect CSW.
- Revise HIV/Aids policy in such away to include high risk groups like MSM, IDU.

### **Intervention**

- Strengthen capacity of organizations involved in condom promotion and distribution to undertake national condom distribution & promotion activities. Mobilize people working with and having contact with MARPs like NGOs, civil society associations and unions to Create alternative condom distribution mechanism through MARPs like taxi, truck, and bus drivers, women who sell cigarettes and chewing gums late at night and who have regular contact with greater numbers of people due to their nature of work. Provide promotional materials like jackets, T-shirts and so on with message promoting safe sexual practice and condom use.
- MOH should conduct regular seminars, workshops, and peer education programs for the military targeting both men and women in collaboration with National Bidho association (an association of PLWH). Messages concerning safe sexual practice, reduction of stigma and discrimination against PLWH and its consequences, as well as and condom use should be included.
- Ensure availability and accessibility of condoms at all levels of the military. Regular condom distribution through outreach service in remote places. Innovative leather pouches which can hold 4 pieces of branded condoms have to be produced and distributed as a standard military case in the Eritrean army as it was in 2001-2003.

- NUEYS/MOLHW should organize regular Peer education and workshops for CSW in Asmara and all towns where sex works are practiced by supplementing educational and promotional materials like booklets and audiovisual materials. Promote of condoms, safe sexual practice and HIV/STI prevention through mass media. Create mechanism to ensure regular condom distribution and easy access for CSW.
- Ministry of Education (MOE) and NUEYS should engage young men and women in critical gender discussion on equal gender norms. Gender transformations that engage both sexes in creating positive sexual relation may increase women's bargaining power over their sexual lives and achieve gender equality
- MOH and collaboration with NUEYS and Ministry of information should develop regular mass media campaign through printed media. Ugandan experience strait talk and young talk newsletters can be used as a model. Campaign targeted for upper primary school children 10-13 years and middle school, secondary school and use in collages. To improve young people communication skill about sex and condom use in all sexual relationships and early initiation of condom use. Making communication about sex and condom normal my help young people to be comfortable to talk about it

### **Further research**

- Further national study should be conducted by MOH and ESMG on why people use or not use condoms. Identify all the factors affecting consistent condom use. Study the availability, accessibility, quality of condoms and outlets throughout the country through multivariate analysis and draw clear association among the factors and condom use.
- Conduct a national research to know the size of the MARPs.

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## APPENDIX A

**Table MILLENNIUM DEVELOPMENT GOAL INDICATORS, ERITREA 2010**

S.N	Goal	Indicator	Male %	Female %	Total
1,	Eradicate extreme poverty and hunger	4. Prevalence of underweight children under 5 years of age <sup>1</sup>	38.1	39.4	38.8
2,	Achieve universal primary education	6. Net enrolment ratio in primary education <sup>4</sup>	56.6	55.7	56.2
		8. Literacy rate of 15-24 year-olds <sup>5</sup>	89.4	81.5	85.2
3,	Promote gender equality and empower women	9. Ratio of girls to boys in primary, middle, and secondary education	Na <sup>6</sup>	Na	89.2
		9A. Ratio of girls to boys in primary education	Na	Na	96.4
		9B. Ratio of girls to boys in middle education	Na	Na	88.1
		9C. Ratio of girls to boys in secondary education	Na	Na	78
		10. Ratio of literate women to men, 15-24 year olds	Na	Na	91.2
		11. Share of women in wage employment	Na	Na	24

<sup>4</sup> EPHD data are based on reported attendance, not enrolment

<sup>5</sup> Refers to respondents who attended middle school or higher or who can read a whole sentence or part of a sentence

<sup>6</sup> Na = not available

		in the non-agricultural sector <sup>7</sup>			
4,	Reduce Child Mortality	13. Under-five mortality rate	75	61	63
		14. Infant mortality rate	50	37	42
		15. Percentage of 1 year-old children immunized against measles	91.6	91.3	91.4
5,	Improve maternal health	16. Maternal Mortality Ratio (per 100,000 live births)	Na	Na	486
		17. Percentage of births attended by skilled health personnel <sup>8</sup>	34.4	33.8	34.1
6,	Combat HIV/AIDS, malaria, and other diseases	19. Percentage of current users of contraception who are using condoms (any contraceptive method, currently married women and men age 15-49)	29.2	10.3	18.4
		19A. Condom use at last high-risk sex <sup>7</sup>	91.9	Na	Na
		19B. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS	33.8	24.7	27.9
		19C. Contraceptive	16.3	8.4	10.6

<sup>7</sup> Wage employment includes respondents who received wages in cash and in kind

<sup>8</sup> Among birth in the five years preceding the survey

		prevalence rate (Currently married women and men age 15-49)			
		20. Ratio of school attendances of orphans to school attendance of non- orphans aged 10-14 years	89.5	104.1	95.3
		22A. Percentage of children under five sleeping under Insecticide Treated Net (ITN) <sup>10</sup>	28.4	27.4	27.9
		22A. Percentage of children under five in malaria regions (Anseba, Gash- Barka, Southern and Northern Red Sea)	34.4	33.8	34.1
		22B. Percentage of children under five with fever who are appropriately treated <sup>11 12</sup>	1.8	1.2	1.5

## Appendix B

### **<sup>9</sup>Table Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the past 12 months: Men**

Among young men age 15-24 who had <sup>10</sup>sexual intercourse in the past 12 months, the percentage who had higher-risk sexual intercourse in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Eritrea 2010

<sup>9</sup> Note: Table is based on the core questioners of EPHS 2010

<sup>10</sup> Sexual intercourse with a partner who is neither a spouse nor a person who lived with respondent

Background characteristic	Respondents 15-24 who had sexual intercourse in the past 12 months:		Respondents 15-24 who had higher risk intercourse in the past 12 months:	
	Percentage who had higher-risk intercourse in the past 12 months <sup>1</sup>	Number of respondents	Percentage who reported using a condom at last higher-risk intercourse	Number of respondents
<b>Age</b>				
15-19	88.0	129	90.4	113
15-17	100.0	47	94.1	47
18-19	81.0	81	87.8	66
20-24	88.4	195	93.4	114
20-22	66.8	123	92.8	82
23-24	44	72	95.2	32
<b>Marital status</b>				
Never married	99.1	225	92.3	223
Ever married	4.6	99	72.3	5
<b><sup>11</sup>Knows condom source<sup>2</sup></b>				
Yes	74.9	295	93.3	221
No	21.3	28	44.1	6
<b>Residence</b>				
Total urban	85.5	113	94.3	97
Asmara	95.8	49	100	47
Other Town	77.5	64	88.3	50
Rural	61.9	210	90.2	130
<b>Zoba</b>				
Southeren Red Sea	39.5	2	100	1
Central	95.1	63	100	60
Northeren Red Sea	72.3	52	81.1	37

<sup>11</sup> For this table, the following responses are not considered a source for condom use: friends family member and home.

Anesba	76.2	44	95.3	33
Gash-barka	55	54	84.8	30
South	60.5	109	92.2	66
<b>Education</b>				
No education	19	18	29.7	3
Primary	48.5	33	79.1	16
Middle	72.1	111	92.4	80
Secondary and above	79.1	142	94.8	112
<b>Wealth quintile</b>				
Lowest	61	64	89.1	39
Second	59.1	66	84.5	39
Middle	58.4	71	90.6	42
Fourth	84.7	63	95	53
Highest	90.8	60	97.2	55
Total 15-24	70.2	324	91.9	227

## Appendix C,

### <sup>12</sup>Table HIV prevalence by sexual behavior

Percentage HIV-positive among women and men age 15-49 who ever had sex and were tested for HIV, by sexual behavior characteristics, Eritrea 2010

	<b>Women</b>		<b>Women</b>		<b>Total</b>	
Sexual behavior characteristic	Percentage of <sup>13</sup> HIV positive	Number	Percentage of HIV positive	Number	Percentage of HIV positive	Number
Age at first sexual intercourse						
<16	1.15	2428	1.05	160	1.14	2589
16-17	1.23	1521	0.00	266	1.05	1787
18-19	1.68	1197	1.13	413	1.54	1610
20+	1.76	1713	0.98	1417	1.41	3130
Missing	2.15	303	1.31	103	1.94	405
Higher-risk intercourse in last 12 months						
Had higher-risk intercourse	3.35	122	1.17	385	1.69	507
Had sexual intercourse, not higher risk	0.68	5412	0.49	1706	0.63	7119
No sexual intercourse in last 12 months	3.85	1628	3.25	268	3.77	1895

<sup>12</sup> Note: table is based on the core questionnaires of the EPHS 2010

HIV positive refers to individuals infected with HIV1 including those infected with both HIV1 and HIV 2

Number of sexual partners in last 12 months						
no	3.95	1586	3.26	266	3.85	1852
One	0.68	5519	0.64	2021	0.67	7540
More than one	21.20	15	0.00	71	3.77	86
Missing	0.00	1628	3.25	268	3.77	1895
Condom use						
Ever used a condom	6.23	198	1.59	912	2.41	1110
Never used a condom	1.31	6957	0.49	1448	1.17	8405
Missing	3.54	7	-	0	3.54	7
Condom use at last sexual intercourse in last 12 months						
Used condom	13.73	75	1.53	388	3.51	463
Did not use condom	0.56	5454	0.41	1698	0.52	7152
No sexual intercourse in last 12 months	3.95	1586	3.25	268	3.85	1853
Missing	0.00	47	0.00	6	0.00	53
Condom use at last higher-risk intercourse in last 12 months <sup>2</sup>						
Used condom	14.14	24	1.32	341	2.15	365
Did not use condom	0.74	98	0.00	44	0.51	142
No higher-risk	1.41	7040	0.87	1974	1.29	9014

intercourse/no intercourse last 12 months						
Paid for <sup>14</sup> sexual intercourse in last 12 months						
YES	NA	0	0.00	10	0.00	10
Used condom	NA	0	0.00	10	0.00	10
No (No paid sexual intercourse/no sexual intercourse in last 12 months)	na	0	0.92	2349	0.92	2349
Total 15-49	1.44	7162	0.92	2359	1.31	9521
50-59	Na	0	1.13	716	1.13	716
Total men 15-59	na	0	0.97	3075	0.97	3075

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<sup>14</sup> Sexual intercourse with a partner who neither was a spouse nor who lived with the respondents including men who have sex with prostitute for at least one of their last three sexual intercourse.



**Appendix D,**

**<sup>15</sup>Table HIV prevalence by demographic characteristics**

Percentage HIV positive among women and men age 15-49 who were tested, by demographic characteristics, Eritrea 2010

<b>Demographic character</b>	<b>Women</b>		<b>Men</b>		<b>Total</b>	
	<b>% <sup>16</sup>HIV positive</b>	<b>Number</b>	<b>% HIV positive</b>	<b>Number</b>	<b>% HIV positive</b>	<b>number</b>
<b>Marital status</b>						
Never married	0.3	2686	0.2	2490	0.3	5176
Ever had sex	1.1	140	1.1	553	1.1	693
Never had sex	0.2	2546	0.0	1937	0.1	4483
Married /Living together	0.7	5920	0.6	1739	0.6	7658
Divorced/separated	4.7	744	1.6	59	4.4	804
Widowed	7.7	365	36.6	13	8.7	379
<b>Type of union</b>						
In polygamous union	0.8	483	0.2	69	0.7	553
Not in polygamous union	0.6	5364	0.6	1669	0.6	7033

<sup>15</sup> Note: The table is based on the core questioners of the EPHS 2010.

<sup>16</sup> HIV positive refers only to individuals infected with HIV-1, including those infected with both HIV-1 and HIV-2

Not currently in union	1.9	3796	0.5	2560	1.3	6356
Dk/missing	1.5	72	0.0	3	1.5	75
<b>Currently pregnant</b>						
Pregnant	0.1	730	<sup>17</sup> Na	na	Na	na
Not pregnant or not sure	1.2	8985	Na	na	Na	na
<b>ANC for the last birth in the last three years</b>						
ANC provided by health facilities	0.9	3227	na	na	Na	na
No ANC/no birth during the last 3 years	1.3	6471	na	na	Na	na
<b>Circumcision</b>						
Circumcised	na	Na	0.5	4240	na	na
Not circumcised	na	Na	0.0	55	Na	na
DK/missing	na	Na	0.0	6	Na	na
Total 15-49	1.1	9716	0.5	4301	0.9	14016
50-59	na	0	1.1	720	Na	na
Total men 15-59	na	0	0.6	5021	Na	Na

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<sup>17</sup> Na: not available