Sexual Behaviour among Young People between 10-25 Years in Yemen: a Review of Sexual Reproductive Health Promotion Interventions

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Sexual Behaviour among Young People between 10-25 Years in Yemen: a Review of Sexual Reproductive Health Promotion Interventions

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

By

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The thesis "**Sexual Behaviour among Young People between 10-25 Years in Yemen: a Review of Sexual Reproductive Health Promotion Interventions**" is my own work.
I have no objection against publishing my thesis on the website.

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Definitions

Adolescence and Youth

The National Children and Youth Strategy of the Republic of Yemen define adolescence and juvenility as an important and crucial stage in life for persons between the ages of 15-24 years (YNCYS, 2006).

School Age (6 – 14 years)

The National Children and Youth Strategy of the Republic of Yemen define school age as the period between 6-14 years of age, and there is a critical risk in failure to enroll, continue or perform well at school (YNCYS, 2006).

Youth age (15-24 years)

The United Nations defined ”youth” as persons between the ages of 15 and 24. UNESCO understands that young people are a heterogeneous group in constant evolution and that the experience of ‘being young’ varies enormously across regions and within countries” (UNESCO.2009;UNESCO,[NO.date]).

Reproductive Health

“A state of complete physical, mental and social well-being in all matters related to reproduction, including sexual health” (Roudi-Fahimi and El Feki, 2011).

Reproductive Rights

Access to reproductive health care, contraception, safe abortion, treatment of HIV/AIDS and STIs, education on sexuality, ending harmful traditional practice of female genital mutilation, rape and other forms of sexual violence, prevention of early marriage andearly childbearing and its consequences(Roudi-Fahimi and El Feki, 2011).

Sexual Rights:

“Embrace human rights that are already recognized in national laws, international human rights documents, and other consensus statements. They include the right of all persons, free of coercion, discrimination and violence“ (Roudi-Fahimi and El Feki, 2011).

Sexual Health:

“Is a state of physical, emotional, mental and social well-being related to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and

sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled" (Edwards ,.*et al* ,2004).

Marginalized group: Al-akhdam

"Al-akhdam literally means "servants" in Arabic language, and is a marginalized social group distinct from the majority by their more African features. As a low caste group, they are discriminated against and mostly confined to menial jobs" (Al-Iryani *et al* ., 2011).

Health Promotion

"Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment "(WHO,[NO.date]).

Acknowledgement

In the name of Allah, the most kind and the most merciful lord:
All thanks go out to Allah subhanho we talla and peace be upon his prophet Mohamed who said "the beloved people to me are those who give comfort and help to others who need help".
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Lastly, I pray to Allah to help me in order to help my country and my people with the knowledge I have gained from this course.

Abstract

Background:
Yemen's population is mostly young, with more than 76% of the population less than 24 years of age (see annex 1). Considering the country's wealth in its evolution and development, this large youth population also has the highest potential for Human Immunodeficiency Virus (HIV) infection and other Sexually Transmitted Infections (STIs), which can lead to morbidity and mortality, and has a huge impact in the human capital of Yemen (YNCYS, 2006).

Objective:
The study identified factors and best-practice interventions that influence risky sexual behaviour (RSB) among young people (10-25 years of age) in order to recommend effective Sexual and Reproductive Health (SRH) promotion interventions.

Methods: Literature review.
Results:
Factors that influence youth sexual behaviour include: political, policies, poverty, unemployment, religion, culture and gender inequality, limited interventions on health services and school settings, individual characteristics, low education levels, parents, and peers. Consequences of risky sexual behaviours are early pregnancy, unsafe abortions, and untreated STIs and HIV. Yemeni young people lack SRH information and services. The national policies are comprehensive but not sufficiently implemented. School health education activities focusing on increasing knowledge and empowering youth to participate in the discussion, all appear to have little impact on change in behaviour.

Conclusion and recommendations:
SRH intervention programs targeting young people in Yemen are still not meeting the needs. Therefore there needs to be improved policies, school health, youth-friendly services, and community-based interventions, as well as outreach activities on sexuality education services. Furthermore, research is required to determine risky sexual behaviour among young people and the factors influencing them.
Keywords: Yemen, MENA, young people, sexuality, Risky behaviour, promotion.
Word count: 13243

ABBREVIATIONS

ESD	Extending Services Delivery
FHS	Family Health Survey
FMP	Family Planning Method
FSW	Female Sex Worker
HIV	Human Immunodeficiency Virus
MDGs	Millennium Developments Goals
MENA	Middle East and North Africa
MOPHP	Ministry of Public Health and Population
MOE	Ministry of Education
MOY	Ministry of youth
MSM	Men who have sex with men
NGOs	Non Governmental Organizations
RH	Reproductive Health
SRH	Sexual Reproductive Health
SRHP	Sexual Reproductive Health Problem
SRHR	Sexual Reproductive Health Right
SRHS	Sexual Reproductive Health Services
STIs	Sexually Transmitted Infections
UNAIDS	United Nation Program on HIV and AIDS
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific and Cultural Organization
UNICEF	United Nation Children's Emergency Fund
WHO	World Health Organization
YFCA	Yemen Family Care Association
YMOP&IC	Yemen Ministry of Planning and International cooperation
YMSI	Yemen Marie Stopes International
YNAP	Yemen National AIDS Program
YNCYS	Yemen National Child and Youth Strategy
YNCYS	Yemen National Child and Youth Strategy
YNPC	Yemen National Population Council
YNRHS	Yemen National Reproductive Health Strategy

Introduction

Five million out of 22 million people in Yemen are youth, aged 15-24 years (YNCYS, 2006). Those young people are more likely to experience risky sexual behaviours and be exposed to unprotected sex, which is making them more vulnerable to Sexually Transmitted Infections (STIs) and Human Immunodeficiency Virus (HIV) (Roudi-Fahimi&ElFeki, 2011). Sexual Reproductive Health (SRH) of youth is still a sensitive issue to discuss in Yemen due to socio-cultural factors as well as the unmet services for their SRH (Hardee *et al*, 2004).

Young people are in need of comprehensive preventive and curative programs, including sexuality education to build their awareness and ability to protect themselves from Sexual Reproductive Health problems (SRHP), such as unwanted pregnancy, unsafe abortion, and STIs, including HIV (Hardee *et al* ., 2004).

Yemen is a conservative community in which family, societal norms as well as disparities between the males and females in education have great influence on a healthy lifestyle (Al-Rabee', 2003).

Risky sexual behaviours have a big effect on health, therefore it's important to gain knowledge and develop skills to understand the factors that can influence these behaviours and contribute to decision making. The behaviour change studies focus their intervention design on how to change individual health-related behaviours, yet they do not focus on the other environmental and social factors, which also have a great influence on people's behaviour.

Since 8 years, I carried out a leadership role in the Public Health and Population Sector in Lahj governorate in Yemen, in the area of health education, behaviour change and communication programs. My main professional responsibility was working on developing and promoting health education activities, which support all primary health care programs considering the customs and traditions of society. I also helped to address behaviour that may cause a problem to the individual. This experience motivated me to improve young people's health. Through this thesis, my goal is to understand the appropriate sexual reproductive health promotion intervention, which can help to change risky sexual behaviour among young people in my country.

CHAPTER ONE: Background information

1.1. Country profile

1.1.1. Geography and Demography

Yemen is located in the south west of the Arabic Peninsula with an area of 550,000 km2. It is bordered in the north by Saudi Arabia; the west by the Red Sea; south by Arabian Sea and east by Sultanate of Oman. The population is about 22 million of which about 75% are living in rural areas (CSO, 2009). The country has one of the highest fertility rates in Arab countries, which is 5.2% (YNRHS, 2011). The population growth rate is about 3.2 % annually (MOP&IC, 2005; UNDP,2011).

1.1.2. Culture

Yemen is a Muslim, Arabic-speaking country, where some other Arabic dialects are spoken such as Mehri, Soqotri and Bathari .It has a tribal culture and as a conservative community, women are limited in their movement, work and education (Mashhur *et al,* 2005).

1.1.3. Education

The adult literacy rate among the population aged 15 years and above is 60.9% while illiteracy among the 15-24 ages group is 21.6% (UNDP,2011).Despite free primary and secondary education, female illiteracy is still high. The literacy rate among young men between 15-24 years is 83%, while for young women in the same age group it is only 48.2%,(YNCYS, 2006). The general enrolment in basic education improved from 57.9% in 1997/98 to 66.5% in 2003/4. The female male ratio in education increased from 30.6 to 38.7 at the same period in 2008 (MOPIC, 2005;UNDP,2011).

The challenge of school dropout in secondary school is not any different. Female students are more affected due to inaccessibility of schools, unfavourable environment, and unavailability of female teachers, household activities, early marriage and pregnancy (MOP IC, 2005). This has contributed to 30% of girls not enrolling in school. The table below shows the disparity in education among young women and men (YNCYS, 2006).

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Out of school youth make up about 2 million, which represents about 33.5% of school-age children (6-14 years) (MOPIC, 2005). This is partly contributed by 17% of families not sending girls in the age group of 6-9 years to school, which increases to 30% of families with girls in the age group 10-14 years (YNCYS, 2006). At the beginning of 2000 the government made an effort to improve education, increase enrolment, and reduce the rural/urban and gender gaps by building more schools, and recruiting female teachers, especially for females in rural areas.This lead to an increased female enrolment rate from 37.9% to 51.5% in the period of 1998-2004 (MOPIC, 2005).

Table1: Education levels of young men and women

indicator	young men	young women
Primary school enrolment rate (6-14 years)	74.7%	55.3%
Secondary school enrolment rate(15-17 years)	65%	36.6%
Achieve completion of secondary education rate 16-19 years	40.8%	16.3%
Tertiary enrolment rate 19-24 years	17%	5%

Source: MOPIC, 2005;NCYS, 2006; CSO ,2009

1.1.4. Economic situation

Yemen is considered to be one of the least-developed countries in the world. The GDP growth, however, has increased with 8% between 2001 and 2011 (UNDP,2011). Even though the economic situation slightly improved, it didn't help to decrease the poverty rate among the general population, which reached 54.5% in 2011 with 17 % of the population living below the poverty line (MOPIC, 2005&YMOPHP,2008). In addition, there is a high unemployment rate of around 15% amongst the general population aged 15 years and above(CSO, 2009;EDC,2008).The unemployment rate differs between the highly educated and the intermediate level; 54% and 44% respectively (UNDP,2011). This has further pushed the country into poverty, which also has an impact on the health system. The country has been in a bad economic condition for a long time and this is reflected in the health sector being poorly funded (YNAP, 2010a).

1.1.5. Political situation

For more than four decades, Yemen has been politically unstable due to a conflict between the south and the north. This conflict has persisted in the north despite a unity government (Mashhur *et al*, 2005). The two previous governments approached the governance differently, where the south was more democratic and the north more capitalist. The unity government has faced challenges in governance and its managing conflict (Madsen, 2010). In the past three years,Yemen's Arab Spring succeeded in a change in government. However,Yemenis from the south are not satisfied with the outcome and continue to strive for separation and a return to a democratic republic (Sharp,2012). Currently, there is National Dialogue taking place which is seeking to overcome these political challenges and to unite the various factions with a system of governance that is acceptable to all parties. The current political instability has pushed Yemen backward to rank 129 on the peace index (UNDP,2011).

1.2. Health situation and Health delivery system

1.2.1. Health situation

The health situation is appalling as evidenced in the high morbidity and mortality rates. The maternal mortality ratio is about 365/100.000 live births, neonatal mortality rate 37/1000 live birth (YNRHS, 2011), and infant mortality is 74.8/1000 live births (YMOPHP, 2004). Under five (U5) child mortality is 76/1000 live births. In 2010, a high percentage (57.9%) of chronic malnutrition was measured among U5 children (UNDP, 2011). The main causes of the death of U5 children in Yemen are pneumonia with 19.8% and diarrhoea with 17%. Neonatal death causes are measles 3.5%, and malaria 0.5% (WHO, 2009).

It is estimated that about 150,000 cases of Sexually Transmitted Infections (STIs) occur per year for the general population. This data is probably an underestimation of the real prevalence, given the limited surveillance system in Yemen (YNRHS,2011).Unfortunately, there are no reports with age specific data for STIs and most of the reviewed documents have the same or differences in values. No new surveys have been undertaken since 2004.

Yemen is categorized as low HIV epidemic with the prevalence of HIV among the general population being only 0.2% in 2011 (NPC, 2009;YNAP,2012). However, Yemen is going to have concentred epidemic among Men who have sex with men MSM 5.9% and 3.1% under 25 years old. Its reported that most of the transmission is

sexual transmission, heterosexual accounted 62% and homosexual was7%(YNAP,2012).It is estimated that HIV ceases will have increased to 3.3% in 2015 (Khan&Chase, 2003).

Table 2 : Yemen health and health service indicators		
Indicators	Value	Source
Total Fertility rate	5.2 live birth per women	YMSI, 2006
Fertility rate educated women	6.9 live birth per women	YMSI, 2006
Fertility rate non educated women	3.2 live birth per women	YMSI, 2006
Antenatal care coverage	45%	MOP AND IC, 2005
RH services Coverage by health facilities	60%	YNRHS, 2011
Deliveries by a skilled staff	25%	MOP AND IC, 2005
Delivery in health services	16%	MOP AND IC, 2005
Prevalence rate of contraceptive among married women aged 15-49	23%	YMSI, 2006
Modern Methods Contraceptive prevalence rate	13.4	MOP AND IC, 2005
Maternal mortality	365 women per 100,000 live births	YNRHS, 2011
Mortality during pregnancy of total Maternal mortality	18%	MOP AND IC, 2005
Mortality during delivery and postpartum of total maternal mortality	82%	MOP AND IC, 2005
Under five child mortality	76/1000 live births	YNRHS, 2011
Neonatal mortality rate	37/1000 live birth	YNRHS, 2011
Infant mortality rate	74.8 per 1000 live births	YMOPHP, 2004
Unmet need of family planning among married	31.9%	YMSI, 2006

1.2.2. Health Delivery System

In 1998, Yemen introduced a decentralization policy which impacted the health system. The health system is arranged in three layers: national, Governorate and district. These three layers cover four levels; the district health system covers the two first levels of the health care facilities' unit, centre, and district hospital, each with a different catchment area: 1000-5000, 5000-20000 and 60000-150000 respectively. There are concerns over the weak performance of the health system and health indicators being of poor quality(YMOPHP,2008).

Table 3 : Number of Public health facilities	
Referral Hospitals	2
General Hospitals	53
District Hospital	175
Health Center	791
Health Units	2849
Total Number of Health Facilities	**3870**
Source: (YNRHS, 2011)	

The estimated coverage rate of basic health services is about 50%. While 75% of the population lives in the rural areas, only 30% of them have access to the health services (YNAP, 2010 b). This is due to the wide disparity and the poor distribution of health facilities and human resources between urban and rural areas; about 20% of health facilities and 80% of human resources are in urban areas which decrease the services available in rural areas (YNRHS, 2011).

The private sector is increasingly growing and provides about 60% of health care. The number of private hospitals grew from 92 in 2002 to 166 in 2008. Health workers work in both the private and public sectors. This has an effect on health services provided by the government facilities. However, with regards to human resources there are not yet any regulations to streamline the dual employment (YNRHS, 2011).

Table 4: Number of Private facilities in Yemen	
Hospitals	166
Polyclinic	312
Health centers	441
G. Physicians clinic	686
Spec. clinic	1121
Dental clinic	662
Dental Lab	105
laboratory	1265
Radiology Clinic	230
PHC	1287
Midwife	51
Pharmacy	2774
Drug Stores	2540
Source:(Y NRHS, 2011)	

In addition, only 60% of health facilities provide RH services (YNRHS, 2011). The antenatal coverage was 45% in 2006. About 16% of women delivered at health services and 25% delivered by skilled staff (MOPIC, 2005).

1.2.3. Health care financing

The total public expenditure on health in Yemen is low, representing about 5.3% of gross domestic product in 2007 (YNHA,2007). The total government expenditure including both health and education has declined from 21% in 2000 to 19% in 2009, where health is 8.7% (YNRHS,2011;UNDP,2011;YNHA,2007).People spend between 64-82% to cover the cost of transportation and drugs as out of pocket of health care expenditures(YNHA,2007).

1.3. Youth sexuality and reproductive health issues

There is limited data on reproductive health and Sexual Transmitted Disease (STD) indicators for young people, especially for the unmarried (Al-Rabee', 2003). The available data showed around 52% of women 19-45 years have STD one year before the FHS was conducted. The survey indicates that women, particularly in rural areas, experience difficulty in getting treatment due to unavailability of services (54%), high cost (34%). While 32% of urban women

reported that they did not seek care because of feelings of shame (YMOPHP,2004).

Yemen is committed to International agreements, such as International Conference on Population and development (ICPD) and Rights of the Child. Those agreements determine the age of marriage , young people's right to proper Sexual Reproductive Health (SRH) information, right to education, and access to health services (Al-Arhabi *et al.,* 2010)This enables young people to be responsible in making decisions related to their sexual reproductive health problems (SRHP) and to be able to prevent diseases (Al-Rabee', 2003).

Young people's sexual reproductive-issues are addressed through a collaboration of different sectors, such as health, education and NGOs. Awareness activities are integrated within school and university activities (YNRHS, 2011). Although it is intended to meet the needs of young people, reproductive health topics are not covered extensively. There is limited youth Sexual Reproductive Services (SHS) and no specific school curriculum designed to meet their needs in the area. In addition, social cultural reasons mean that unmarried young people and those who do not attend school have great difficulties obtaining SHS information.

1.4. Consequences of early marriage and unprotected Sex

1.4.1. Early pregnancy

Close to 50% of young girls are married at 15 years of age and 14% marry before the age of 15 years, sometimes even as young as 10 old (Freij ,L. [no. date];AlRabee, 2003; Lane, 2005). Women of ages 15-19 years were reported to marry at an average age of 17.9 years (YMOPHP,2004). As childbearing is much valued in marriage, married girls are expected to conceive within the first few years of marriage. During the Family Health Survey(FHS) it was reported that current pregnancy among women aged 15-19 and 20-24 years were 24% and 21.7% respectively (YMOPHP, 2004).

Early marriage contributes to the continued low rate of literacy among women in Yemen (Al-Rabee', 2003). When young girls drop out of school due to early marriage, it affects their future prospects of employment, which results in having limited income and not to be able to provide for themselves and their children (Hindin &Fatusi, 2009). The poor economic situation might lead their daughters in turn to depend on men for basic necessities, and could lead to a vicious circle of early marriage and poverty.

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1.4.2. Unsafe Abortion

Abortion is illegal in Yemen and is therefore restricted to only situations where the unborn child poses a health risk to the mother, or if the baby is confirmed through clinical investigation to have some malformation (Al-Rabee', 2003). Health facility information on abortion for young people is not available but this does not rule out that unsafe abortion is being practiced. However,it was reported in the FHS that about 13.4% of married women had had at least one miscarriage during the five years before the study was conducted (MOPHP,2004).

The number of unsafe abortions being executed in the Middle East and North Africa (MENA) region was estimated at around 1.5 million in 2003 across all age groups, causing 11% of maternal death (Abu-Raddad *et al.,* 2010).

Hessini, (2007) reported that 1 in 10 pregnancies end up in abortion in the MENA region. It was also revealed that from 1995 to 2000, 842 maternal deaths in Yemen were due to unsafe abortion. Although this data doesn't represent information for all women of a reproductive age, it does confirm that unsafe abortion is practiced in Yemen. In addition, the information is likely to be under-estimated because most abortions performed in private health facilities due to the illegality of abortion in Yemen.

Young girls are more likely to seek abortion due to their engagement in premarital sex (Hardee *et al.*, 2004). They seek healthcare late due to factors such as social and legal constraints, as well as economic and personal factors. In addition, self-attempt of abortion and self-treatment or attempt by unqualified staff, with resulting complications makes them more exposed to SRHP (UNICEF, 2011).

CHAPTER TWO: Problem Statement

2.1. Problem statement

Young people are considered the wealth of Yemen's development, people from10 -24 years of age make up about 35% of the population(UNICEF,2011).Young people aged 15-24 years are facing a variety of SRHP such as STIs / HIV ,early pregnancy, unsafe abortions, high maternal mortality, and a low use of condom (UNESCO,2012).

Youth engage in risky sexual behaviour where an increase in STIs can result in a huge loss of human resources due to morbidity and mortality (Gardner;Steinberg, 2005& Bearinge *et al*.2007). There are also socio-cultural barriers that influence their access to SRHS, including prevention methods, due to stigma. This restricts the discussion of issues related to reproductive health and sexuality and limits access to the SRHS, such as contraceptives, STI treatment and family counselling on issues related to sexuality (Hardee *et al*., 2004).

2.2. Justification

Yemen has no specific information for young people in the areas of sexual behaviour, practices, abortion, HIV and STIs. It is extremely difficult to be able to quantify the magnitude of SRHP (Al-Rabee', 2003).

Although there are some health promotions activities in Yemen, including HIV education for students, not all young people have access because it is only distributed in some schools, and not distributed nation-wide.Someinterventions focus on HIV transmission and RH issues ,but they only focus on raising awareness and miss the skills development and the cure side (Al-Rabee', 2003).

Health prevention activities do not reach all out of school youth, marginalized communities, or those most at risk, like MSM and Female Sex Workers (FSW), young migrants and young soldiers (YNAP,2012) .Unsafe sexual activities among FSW and MSM can influence the upward trend of HIV. A study by Štulhofer, and Božičević, in Aden in 2008 indicates that the HIV prevalence among Female sex workers is 1.3%. Data indicates that FSW are between the ages of 20-29 years and that prevalence of Syphilis among them was 4.9%, and about 50% had other STIs. A pre-assessment

conducted in Aden among MSM indicated that 50% were between the ages of 15-29 years, which constituted a risk since there was limited access to condoms and STI treatment (ElKarouaoi, 2009).

In Yemen, due to political and economic challenges, there has been no adequate concerted effort to give special attention to youth health promotion activities and SRH needs. Youth have the right to access SRH, HIV and STI services (such as testing and counselling), and should be given skills to reduce their exposure to SRHP, including STIs/HIV, especially after the government signed a declaration on SRHR, at the International Conference on population and Development in 1994, held in Cairo. However, the above services are not available to all young people due to social and cultural and health system barriers (Al-Rabee', 2003).

Health promotion have proved to be effective in reducing SRB (UNESCO, 2011). Many studies have shown the effects of sexuality education interventions among school students, which are an increase in knowledge and condom use, a delay in sexual activity, and a decrease in the number of partners and unprotected sex. Implementing youth sexual health promotion interventions in Yemen would contribute to the achievement of MDG 6, which is to decrease HIV in young people aged 15-24 by 25%.

In light of this, this thesis seeks to examine the factors influencing the sexual behaviour of youth and SRH interventions that can promote healthy sexual behaviours.

2.3. Objectives

2.3.1. General objective

To identify the factors influencing risky sexual behaviour (RSB) among young people (10-25 years) in order to recommend effective sexual and reproductive health promotion interventions, so as to improve their SRH and inform current policies in Yemen.

2.3.2. Specific objectives

- To identify the factors influencing RSB among young people in MENA countries.
- To analyse the current interventions that aim to reduce RSB among youth in Yemen.
- To explore sexual reproductive health promotion interventions employed in other countries, which aim to promote healthy sexual behaviour among young people.
- Recommend interventions to promote healthy sexual behaviours among youth in Yemen.

2.4 Methods

2.4.1. Study design

A literature review was done of factors influencing Sexual Behaviour among young people aged 10-25 years, and the effects of SRH promotion interventions, which have influenced the change of RSB. The social ecological model was used for the analysis (refer to 2.6).

2.4.2. Search Strategy

Databases of PubMed, Google, Google's scholar, Scopus, were used. CRIS.UNFPA , Guttmacher, Population Reference Bureau (PRB), UNAIDS and WHO websites were assessed through the KIT and VU libraries. Published and unpublished reports, research studies and articles were used.

2.4.3. Keywords

Yemen, behaviour change, health promotion intervention, comprehensive education, HIV, AIDS, MENA, Arab countries, Youth, Adolescents, , STD, STIs, vulnerability, susceptibility, , education, communication, sexual risky behaviour, reproductive health, sexual health, sexuality, , Poverty, Unemployment, community, Health services, believes, Knowledge, skills, attitude, , peer, MSM, FSWs, gender, and combinations of these.

2.5. Limitations

Little research has been done on the effectiveness of SRH promotion in order to change RSB and decrease STIs, and SRHP among youth in Yemen.No literature was identified on sexual practices among unmarried young people. For this reason, literatures from the MENA region, Islamic countries in Asia and Africa, with context to Yemen, were used. Hence, not all study findings are representative of Yemeni youth. Furthermore, Yemen categorizes young people as those between ages 15-24, and childhood as ages 0-14, but because children less than 15 years old engage in sexual risky behaviour and early marriage, the ages of 10-25 were captured in the study.

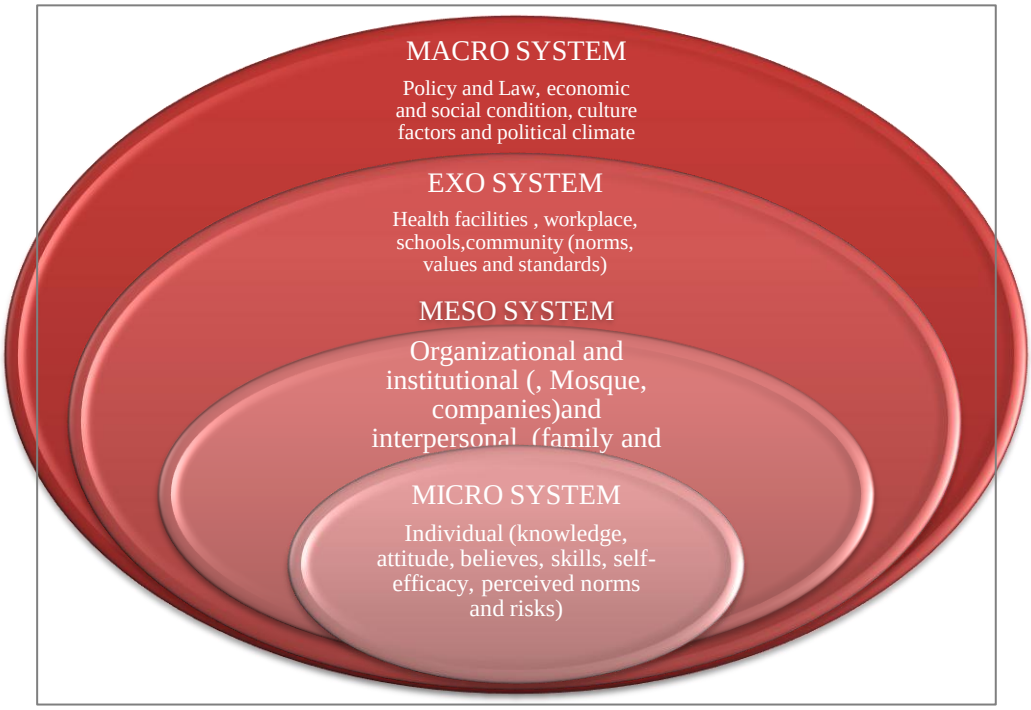
The workplace and mosque were not discussed as an influencing factor due to limited literature. And mosque that can influencing the RSB through religion believes, which I have talked about under religion. Organization and institutes factors are related to the providing SRHS, which I have talked about under the SRHS in chapter 3 and in chapter 5.

2.6. Conceptual framework: Social ecological model

This thesis focuses on behaviour change in order to improve sexual health among the youth in Yemen. The Social Ecological Model was developed by Bronfenbrenner in 1979 to study human being's development and their environment (Bronfenbrenner, 1979). The sexual behaviour of youth is influenced by individual and environmental factors, and the advantage of this model is that it includes individual and environmental factors.

The Social Ecological Model updated by Diclemente (2007) is used to analyse the determinants of youth sexual behaviour and provide a theoretical basis for the approaches to behaviour change.

Figure 2: conceptual framework



Source: (Diclemente, 2007)

Table 5: Description of the conceptual framework	
Micro system	This refers to individual characteristics like knowledge, attitude, beliefs and values, self-efficacy and perceived norms.
Meso system	This refers to interaction between the individual and his close environment. It represents interpersonal relationships with the family, friends, and peers. These have positive and negative influence on sex behaviour, social networks and sexual partners.
Exo system	It refers to the effect of schools, workplace, and community and health facilities on sexual behaviour of youth. The community's cultural norms, values and social networks have an influence on individuals and shape their behaviour. These can also help remove barriers, which affect behavioural change and make it achievable and sustainable. This is achieved through proper arrangement, coordination between the different sectors, active participation, and through enabling young people access to information and health services. It also involves building social capacity for collective efficacy and leadership through shared ownership between the different organizations, schools, health services and work places. However, community norms and values are addressed under Socio-culture condition.
Macro system	This refers to the overarching cultural context, state and local laws, policies, political and religious leadership, media and overall economic environment. For example, the reproductive health policy, adolescent reproductive health and development policy influence sexual behavior by addressing accessibility of health services and information.
Source: (Diclemente, 2007)	

CHAPTER THREE: Sexual Practices and Factors Influencing Sexual Behaviour among Young People

There is a dearth of information about the RSB among youth in Yemen and other Arab countries, largely due to norms and taboos on youth sexuality (Rashad, 2000).

3.1. Sexual Practices among Young People

3.1.1. Men who have sex with Men (MSM)

The population size estimation of MSM from five governorates in Yemen varies between 0.39% and 1.62%,andthe general estimation was 44,000 (YNAP, 2010a; Mumtaz, *et al*.,2011) In 2002 study was conducted in Yemen coastal governorates among three different groups, which are general population, returning families and marginalized with a total number of 795, 262, and 214respondents respectively.About8.8%, 9.5%, 17.3% respectively, of each of the above groups reported to know MSM in the same year and 6.4% of these men had genital discharge (Busulwa, *et al*., 2006). In Middle East and North Africa (MENA) MSM are considered a high-risk group, which remains hidden from the community. Prevalence of HIV among MSM was 5.2% in Egypt in 2010 and 7.8% in Sudan in 2007. It is reported that 33% of MSM in Egypt are bisexually active (Mumtaz,*et al*., 2011). About 5-17% of MSM in MENA are engaged in heterosexual relations and some married MSM have been reported as having multiple sexual partners (Abu-Raddad *et al*.,2010b). A Bio-behavioral survey done in Aden in 2011 among MSM found thier mean age was 23.8 and 22.7% of the participants have been married(YNAP,2012) This means their wives are also at risk.

3.1.2. Transactional sex

Studies that explore transactional sex in Yemen were not found but from my own witnessing, transaction sex occurs especially between young girls and much older, richer men in order to receive money or a gift. Poverty and few employment opportunities are often motivations for this behaviour. Young people engage in this practice to get money and gifts like mobile phones, perfumes and clothes and to cover their daily expenses, since their parents are not wealthy enough to provide them with such luxuries. For those who have jobs, they engage in transaction sex for reasons that their salaries are not sufficient enough to take care of their parent or other dependents. These relationships can put them at high risk of infection with STIs and HIV (Mueller, 2008).

3.1.3. Inter-generation sex

Certain socio-cultural practices that exist in the country can contribute to SRHP. One of the major risk factors is early marriage. In Yemen, women under 18 years of age are more likely to get married than men under 18 years of age. There are 50% of women between the ages 15-19 years married by the age of 15 years. There is no specific information on young women in the age of 15-25 years who are married to considerably older men (Al-Rabee,2003). The information below is limited to women in reproductive age's between15-19. One in ten women and one-half of women in Yemen were reported to be married to men who are 15 and 20 years older, respectively (Al-Rabee,2003) This increase their risk to RSB since this men are sexual active before married those women. These married girls are so young, that physiologically their bodies might not be well enough matured for sexual activity, which is increasing their risk of vaginal bruising and hence, risk of HIV and other STIs (ICASO, 2007; Mueller, 2008).

3.1.4. Concurrent partnership

A study conducted in Alhodiada in 2002 among the general population-, returning- and marginalized- groups indicated that around 19.2%, 22.5% and 22% respectively knew of other males who had extramarital relations during the previous year (Busulwa *et al*., 2006). The same above groups also reported that they knew women who had extramarital relations (5.4%, 6.5%, and 9.8%). Another study done by WHO in 2002 reported that 5.4% of women and 9.2% of men had extramarital sex, thereby increasing their vulnerability to STIs including HIV. This above study group was aged between15-45;a specific age for youth wasn't provided (ElKarouaoi, 2009).

3.1.5. Sexual Abuse and Coercion

Young women and younger boys are more likely to be exposed to sexual violence or abuse because they are more dependent and have less power to defend themselves (Hardee *et al,* 2004; Mueller, 2008). This is worse when they have mental, visual and/or hearing problems or when there is an unstable situation like conflict or war (UNICEF, 2011).

In Egypt more than 60% of young women are exposed to sexual abuse, particularly the verbal form, however less than half of them talk about it. The majority keep silent and don't disclose to their families due to fear, a feeling of shame and stigma as well as socio-culture pressure (Roudi-Fahimi& El Feki,2011).

Hence, the data available is considered to be an under-estimate due to social pressure, especially in the case of rape. Furthermore, 93% of Egyptian street children faced sexual abuse, (Khaled, and El Daw, 2010), and in countries such as Bangladesh, Brazil, and Thailand, children are being forced to work in prostitution (Salgado& Cheetham, 2003).No data are available for Yemen, but the situation is assumed to be similar.

3.1.6. Pre-marital sex

Although there were limited studies exploring risky sexual behaviour among youth in Yemen, recent studies in the MENA region indicate that young people are engaged in premarital sex. It is likely to be unprotected premarital sex due to the limited access to information and services for unmarried people (Abu-Raddad *et al*., 2010b).

A study done in Yemen in the Taiz governorate in 2008 among different groups including both sexes the marginalized, Imams, Health workers, Journalists, Students, and local leaders, had a total sample of 222, of whom 19.5% were aged 15-24 years. About 10% reported that they had engaged in pre and extramarital sex, 80% said they had not, and the other 10% did not respond. However, around 40% stated that they didn't engage in relations because of fear of Allah and 3% from fear of contracting HIV (Progrecssio, 2008).

According to the result of a youth sexual practices survey in Tunisia conducted in 2009, there was sexual practice among unmarried youth aged 15-25 years such as pre and extramarital sex, and men were more likely to engage in relationships with multiple partner compared to women (Roudi-Fahimi; El Feki,2011).

Another study done in Malaysia in 2001 among school students illustrated that 5.4% of the total respondents had engaged in sexual intercourse, and males had had more experiences (8.3%) in comparison with the female students (2.9%) (Lee *et al*., 2006).

3.1.7. Low utilization of contraceptive

The contraceptive use in women ranges from 9.7% to 20.8% for those aged 15-19 and 20-24 years, respectively (MOPHP,2004;Al-Rabee', 2003).
In Yemen, one of the factors contributing to low utilization is the fact that family planning is limited to maternal health services with a particular focus on married women (YNRHS, 2011). In most cases, women do not have any choice but to take responsibility for using contraception, because most of the men don't use condoms or other contraceptive methods (Busulwa *et al* ., 2006). About 53% of Yemeni married men who can decide to using Family planning

method(FPM)(MOPHP,2004). The condom use was generally low in Yemen particularly among those who are at high risk of contracting HIV, such as MSM was 15.9% among less than 25 old years and 23.7% for those above 25 years old and 34.88% among FSWs with their recent clients. This implies that sexual practices are unprotected (YNAP,2012).

In the above mentioned survey done in Taiz governorate in 2008 among different groups commonly marginalize, Imams, Health workers, Journalists, Students and local leaders. The study showed that 78% of them didn't use condoms at all (Progrecssio, 2008).

A study done in 2002 on the perception and attitude towards condom use in Yemen, involving the general population and in and out of school youth, found that more than 50% have heard about condoms. However, less than 45% of people knew that a condom could be used as a preventive measure for STIs (Busulwa *et al*., 2006). The study showed some of the general attitude of people towards condom use and revealed that people do not like to use condoms because they feel uncomfortable with it, and they do not enjoy sex with a condom.

Box (1) Opposition towards condom in Yemen

Female sex worker*: "Many people don't like to use the condom. I find myself forced to do it [sex] without a condom*." (Busulwa *et al.,* 2006).

Another homosexual man said *"No one is using the condom with me, because people who engage in risk behavior don't feel the enjoyment if they use condom. I never used it and no one has used it with me. …. I never thought about it."*
(Busulwa *et al* ., 2006).

Policy-maker said *"If 'illegal' sex is forbidden in our religious guidelines, how can we encourage condom use? Do you want us to tell people who want to have 'illegal' sex to use the condom in order to prevent AIDS? This is unbelievable."* (Busulwa *et al.,*2006).

The reluctance to promote the use of condom is attributed to existing pre-conceptions such as the belief that condom promotion will encourage immorality among young people (Busulwa *et al.,* 2006).

CHAPTER FOUR: Factors Influencing Youths' Sexual Behaviour

Factors influencing youth sexual behaviour will be analysed using the social ecological model, which categorizes the factors into four levels, namely macro, exo, meso and micro systems.

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4.1. Macro system level

4.1.1. Political situation

High population mobility and poverty can have different reasons. In Yemen, due to tribal and internal conflicts, people were displaced(Sharp,2012)..Poverty and political instability has increased the shortness of job opportunities. Young people are therefore forced to move to other locations in search for a job (Pournik , & Abu-Ismail ,2011).

There is evidence that political instability results in a rise in sexual violence against women, as happened in Iraq in 2003. In Sudan, women were exposed to reproductive violence and rape due to the war (Dejong,2006). The political unrest from neighbouring countries like Ethiopia and Somalia has resulted in an influx of refugees into the country (MSF,2008). Available information indicates that about 87,200 registered refugees are in Yemen and approximately 1.5 million immigrants reside in the country (ElKarouaoi, 2009).Since Somali refugees are coming from countries where HIV prevalence is relatively high may it can be a risk factor in the spread of HIV in Yemen.

4.1.2. Policies

a. International convention and agreements

Yemen is committed to the welfare of young people. This was proven by the signing of the Cairo International Conference on Population and development (ICPD) declaration on sex reproductive health and right (SRHR). This conference was conscious of youth being vulnerable to SRHP, such as unwanted pregnancies, unsafe abortions, and STIs including HIV, and therefore needing special attention to address their sex and reproductive health.

Yemen is committed to the Rights of the Child, identifying children as those below the age of 18 years and identifying child marriage as a human rights violation. In Yemen, children are defined as those under 14 years(Al-Rabee', 2003). Recently, the law to delay the age of marriage to 17 years was developed and has currently passed to Parliament for endorsement (YNRHS 2011).

Yemen government has signed to the eight keys of the international development goals in Millennium Declaration in 2000. These are called to improve the 5th MDG "maternal mortality", by decreasing it to 75% by 2015, including youth birth rate. Promoting the FPM youth and reproductive and sexual health interventions will contribute to the achievement of MDG 6, which is to decrease HIV in young people aged 15-24 by 25% (UNDP, 2011).

b. Population policy

The Population Policy has a general aim to reduce the population growth rate and maternal and child mortality. However, it does not have a clear objective to address the SRH need of youth regarding the provision of health information and services(Al-Rabee',2003).

c. Adolescent Health Policy

The adolescent health policy was developed as a government's response to address the health needs facing young people in the puberty phase. It had the broad objective of providing care, treatment and promoting healthy behaviour (YNCYS, 2006).

The adolescent reproductive health policy was the instrument for strengthening the efforts which are being made by different sectors, including governmental and Non-Governmental Organizations (NGO). It is aimed to decrease the SRHP such as early pregnancy, unwanted pregnancy, abortion and STIs including HIV. However, the efforts to meeting the SRH needs of young people are still lacking and limited to married young people (Al-Rabee', 2003;YNCYS,2006).

d. National Reproductive Health Strategy (NRHS)

The National Reproductive Health Strategy (NRHS) was built within the National Health Policy of 2010-2025 (YNRHS,2011).The strategy was implemented to improve Maternal and Child Health and increase uptake of family planning as main priorities (YNRHS, 2011).

Overall the national reproductive health strategy has six components, of which the fourth focuses on adolescent's.This means the policy does not translate and that there are no specific adolescents' reproductive health information and services(YNRHS, 2011). In addition, little was done to promote the use of condoms among the populations, but the emphasis is placed on other modern family planning methods, such as IUD, Injection, and Normplants (MOPHP,2004;YNAP & NPC, 2009).

e. National HIV Strategy

The National HIV/AIDS control strategy was developed in 2002, and updated in 2008, as a national response to fighting HIV and AIDS(YNAP and NPC, 2009).In line with the HIV/AIDS strategy, in 2007 the HIV services, including prevention, care, and support, are limited to the capital cities (Sana'a &Aden). In the recent years they have expand to the other governorates (Hadhramout ,Taiz ,Lahj and Hodeida(YNAP,2012).Including a Voluntary Counselling and Testing (VCT), and Prevention of Mother to Child Transmission (PMTCT) services, which were introduced in 2007 in some health facilities. Only 0.1% of estimated number of pregnant women per year utilized the PMTCT services, where the anti retroviral treatment services have a coverage of 13.9% in 2011(YNAP,2012).In response to this, MOPHP scaled up HIV activities and widened those activities to include PITC, TB and STI management (YNAP and NPC, 2009). As much as the HIV/AIDS strategy employed various interventions aimed to reducing the incidence of new HIV infections, yet there are many challenges to address the prevention among young people in terms of providing SRH services and fighting stigma due to hard traditional settings and norms and changing in the government priorities due to the recent crisis(YNAP,2012).

f. National Children and Youth Strategy

In 2006, the National Children and Youth Strategy were developed as Yemeni government commitment to consolidate the efforts of various sectors. The strategy identifies the challenge which are facing young people, such as early marriage, early pregnancy, STIs including HIV, illiteracy, lack of access to school and retention, increased unemployment rate, violence, substance abuse and limited influence into the developmental policies (YNYS2006). This strategy was developed to promote and protect the young people's rights and needs, including the SRH, seeking to achieve the Yemen's Millennium Development Goals. However, the implementation is lacking in terms of poor quality care of SRHS, bad attitude of health care provider, high cost.

All the above mentioned policies are established to address young people needs, however, no specific SRHS are designed to meet the needs of unmarried youth.

4.1.3. Economic condition

Unemployment rate among young people in Yemen is estimated to be around 18.9% (YNCYS, 2006) and was extrapolated to reach 40% by the next 10 years (PAO, 2010).

A majority of Yemeni youth that consider themselves unemployed were reported to be willing to accept any work they were offered (Nabulsi, 2004). In Yemen, women are dependent on men. Women have less education, which decreases their job prospects. While the unemployment rate among young women aged 15-19 was estimated to be around 51%, and up to about 65% between the ages of 20-24 (YNCYS,2006). Due to the limited number of available job's young people are sometimes pressured to relocate to search for better jobs in order to improve their living conditions (Dejong *et al.*, 2005). Poverty can force girls to trade sex for food, it can prevent people to take preventive measures like buying condoms, it prevents many young people from enrolling in school, ; and in some poor families girls are forced out of school and given out in marriage. This reduces their chance to get informed on prevention of STIs, and thereby improving their live.

4.1.4. Social- Culture condition

a. Gender disparities

Yemen was placed as the worst country regarding gender inequality out of 134 countries that still have wide gender gaps (Al-Iryani, 2011). Islam gives equal rights to women and men. However, the miss-understanding and miss-interpretation of the Quran together with some of the culture practices, have played a massive role in gender inequality in Yemen (Ouis & Myhrman,2007).The gender disparities that exist influence the educational outcome of women.

It was reported that 70% of young girls dropped out of school (Al-Rabee',2003; YMOPHP, 2004). The major factor contributing to this problem is pressure from parents who sometimes ask young girls to quit school and get married. Other girls discontinue schooling due to being overburdened by domestic (Al-Rabee',2003). In addition to this societal preference for early marriage, parents tend to invest in the education of the male child rather than the female child, in order to reduce the economic burden on them as it is believed that the investment in the female child would not be returned to them, but to the husband's family (Al-Rabee',2003).

These factors have led to unequal power relations between men and women, where young men are in charge of the decision of allowing

women to work, and limiting the women's work to teaching, sewing, and artisan (Nabulsi, 2004). This situation has made it difficult for women to be able to negotiate safe sex (ICASO, 2007). Gender inequality also affects women's access of SRH services; they need permission from their husbands to seek health services including family planning, and men prefer to accompany their wives to health care facilities, due to culture. This is a major barrier to health care utilization (Al-Rabee',2003).

Gender inequality is also obvious among Yemeni young girls who are already sexually active before marriage, as loss of virginity reduces chances for marriage, or even makes it impossible, opposed to young men who had the same sexual practices (Busulwa,2003)

b. Polygamy

Islam gives right to the husband to marry up to four wives at the same time. This makes polygamous marriage accepted in Yemen. In 2003 8% of women aged 45-49 were living in polygamous conditions, where the percentage in rural and urban is 6% and 7% respectively, and lastly the percentage among young females aged15-19 and 20-24 years was 3.5% and5%(MOPHP,2004).This last statistic may be due to the fact that young males found difficulty in practicing a polygamous marriage because of the high cost of dowries. Polygamy resulted from many reasons, including: continuous birth of girls from wife, loss of control of husband on his wife's behaviour, and/or dissatisfaction in sexual needs due to sickness of the wife. However, some women don't feel satisfied in a polygamous marriage because of inequality in treatment among wives and children, and their husband's shorthand in meeting their essential needs (YMSI, 2006).

c. Non-conventional marriage

These are different types of marriages, which are performed in legal forms, that are allowed in Islam and Sharia law; The "urfi marriage", practiced among the Sunnis Muslims, in Egypt and Yemen, is a marriage between two people that is kept secret from families, friends and other close relatives, and it doesn't have any legal bearings (Roudi-Fahimi; El Feki,2011). The couple arranges to sleep together with vaginal intercourse. This is common among young people.

Urfi marriage is legal, but it's not socially accepted. Similar to what happens in Egypt young Yemeni people obtain an urfi secret, but legal marriage certificate to engage in sexual relations in Yemen (AlRabee,2003). This kind of marriage is often done to gain financial support from the man or to make sexual activity acceptable due to

the restrictions of the religion. Given the fact that this form of marriage is kept secret from the general public, when unwanted pregnancy occurs, the girl is exposed to unsafe abortion because of social unacceptability of this kind of marriage. Unsafe abortions can result in complications and death. Another risk associated with these forms of marriage is that of limited access to reproductive health care services such as contraception, treatment of HIV/AIDS and STIs. (Dejong,2006).

Another form of marriage common in the Gulf countries is called "summer marriage", or " zawaj al misyar", and is a legal business-related marriage performed for a short time during travel and summer vacation. It is also practiced in Yemen and occurs mostly between rich men and poor women. Sometimes the girls' own parents don't even know that their daughter is married for a short time. In this form of marriage the couple would either separate after the vacation, or see each other at irregular times. The man does not take financial responsibility for the preparation of the marital home, like in the conventional marriage (Rashad *et al.,* 2005).

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d. Female genital cutting (FGC)

Although there are advocacy activities against the practice of FGC, Although there are advocacy activities against the practice of FGC, it is still a practice in Yemen, especially the type 2 (YNRHS, 2011). No recent studies have been conducted researching the trend in prevalence. In 2003 The prevalence in Yemen was 21.5% (YMOPHP, 2004). The practice is particularly common in the coastal region (Hodeida, Hudramout, AlMahra and Aden) where a study done in 1999 showed higher prevalence (97%, 96.6%, 96.5% and 82% respectively) compared with Sana'a (45.5%) (YNRHS,2011). The age at which FGC is performed depends on the ethnic group. A prevalence of 19% was reported among young women aged 15-19 in Yemen in 1997 (AlRabee,2003& UNICEF, 2013). A UNFPA report stated that one in every three woman in Yemen has had FGC .The

percentage of circumcised women is high in the coastal region compared with mountainous areas; 69 % and 15% respectively (UNFPA,2007). FGC in Yemen is usually done by a traditional birth attendant in the community (YNRHS, 2011).According my observation this practice have been reduced mainly in urban areas.

4.1.5. Religion

There is a relation between Yemeni youth sexual behaviour and religious belief, as the practice of the religion from childhood helps to guide the perception of the youth towards sexual behaviour. However, there is no reference specifically made to youth in Yemen. Islamic religion is considered an important obligation in Arab countries, to help in the moral upbringing of children. It also helps to establish and drive the morals, values and laws to regulate people's way of life (Ouis &Myhrman, 2007). Islam has laid down rules that encourage people to be faithful, to control their behaviours, and to guide practices, beliefs and attitudes. Islam prohibits pre- and extra- marital practices and homosexuality. These rules contribute to decreased unsafe sex practices and the limited spread of STI and HIV (Gan´czak *et al.,* 2007). There is a relation between youth sex behaviour and religious beliefs; the practice of the religion from childhood helps to guide the perception of the youth towards sexual behaviour (Sinha *et al.*, 2007). A survey done in Egypt and Jordan found that more than 90% of youth obey the religious role and values Roudi-Fahimi &El Feki, 2011).

4.2. Exo system level

This level explains the issues of inadequate reproductive health facilities, schools, community, norms and values.

4.2.1. Health services

Yemeni youth have limited access to SRH services. This is especially the case for public health facilities, because they are located in urban areas, and generally have inadequate manpower and basic equipment/consumables for a provision of quality. Additional factors include that staff have negative attitude toward unmarried youth and SRHP, and are unqualified to deal with SRHP of youth (YNAP &NPC, 2009& Khalaf , .*et al.,*2010).

Under the health education programs some health facilities are provide health awareness through TV. The media intervention is focused in increasing the awareness in the reproductive health and limited spreading information on sexuality. This contributed to decrease in knowledge about sexual related issue among youth (YNAP &NPC, 2009). However, not all youth have access to mass media, particularly those who live in rural areas.

4.2.2. School, students and teacher's communication

School is an institution for gathering large number of youth and increasing their knowledge and skill on many topics, including SRH issues. Based on a report of student's opinion in some schools in Yemen, there is a weakness in the administrative system, and a need for infrastructure, equipment, and qualified staff which can address the youth SRH needs, besides from focusing on the awareness on the prenatal care, puberty change and consequences of early pregnancy((Al-Rabee, 2003;&Nabulsi,2004).In addition, the lack of good communication between the students and their teachers, and the poor quality of education makes it impossible to meet the basic learning needs in the curriculum, as well as it increases the number of youth dropping out of school(Nabulsi,2004). Teachers can't teach the sexuality topics because they don't have the appropriate knowledge, they don't feel comfortable, and most importantly society doesn't accept it (Hardee, *et al,* 2004). The SRH information among out of school youth is likely to decrease, given school dropouts reached 33% among children aged 6-14 years (YMOPIC, 2005). Low education significantly increases youth's susceptibility to HIV and other STI infections, since they are less likely to use condom.

4.3. Meso system level

This level explains the issues of interpersonal (family and friends).

4.3.1. Parent's role and communication

In Arab countries youth are supposed to live with their parents. According to the tenets of Islam youth also keep close relations with their parents (Roudi-Fahimi &El Feki, 2011). Yemen youth report that parents misunderstand their needs and they find difficulty to communicate with their adolescence. Some parents expel their sons to the street, when they know that they have relations with bad peers (EDC, 2008). There is no study to show the effect of communication between parents and their children in order to reduce sexual risk in Yemen.

A study in Egypt indicates that young people who have good knowledge about HIV were reported to be more likely to talk about sexuality and HIV with their parent. About 42% of the parents in this study discuss issues related to puberty with their sons, where there was no report on parent to daughter communication. The low knowledge on sexuality among young people can be attributed to the reluctance of parents to discuss sex-related issues with them,

due to reasons of shame or lack of the knowledge (Dejong *et al*., 2006).

Good relations between parents and youth have been reported to lead to abstinence and fewer partners (Khalaj,2011). When Parent's keep close communication with their children, and monitor and supervise their behaviour, all the above mentioned can reduce the risk of pregnancy, early sexual activity, having multiple partners, and can also adhere young people to family norms and values (Khalaj, 2011; Sidz &Defo,2013).

4.3.2. Peer influence

The relations between peers are influenced by the peer norms and attitude. It is reported that peer intervention in Aden among students has positive influence by increasing the knowledge of HIV prevention and the importance of using condoms (Al-Iryani *et al.,* 2011). However, there is no study to present the peer influence on decreasing the sexual behaviour in Yemen.

Peers share information and encourage each other to explore things, and are thereby influencing their decision and behaviour (Gardner and Steinberg, 2005). Young people engage themselves in sexual activities because they want to be liked by their peers. The peer pressure also has the effect of pushing young people into transactional sex by the wrong advice of dating rich men who can afford spending money on them (Kempadoo and Dunn, 2001).

4.4. Micro level

This level explains the issues which are related to individual knowledge, attitude, beliefs, skills, self-efficacy, perceived norms and risks.

4.4.1 Individual knowledge, beliefs skill and perception

Evidence shows that limited knowledge is associated with RSB among Yemeni youth. A study done in 2005 in Aden among a total number of 601 youth aged 15-24 years of which 56.9% female showed that a majority of them (89%) had heard about HIV. While only about 45% of them knew three correct modes transmission, a large majority of them knew that extramarital and MSM practices are the main mode of HIV transmission: 95% and 84% respectively. These data include both sex and the study didn’t show sex disaggregation(Al Serouri *et al.,* 2010).

The misconceptions on HIV transmission was significantly high among the marginalized groups 36%, citizen Yemenis 26% and refugees 25%(Al Serouri *et al.,* 2010). While study conducted

among Yemeni college students found that the level of HIV knowledge in term of mode of transmission was high, student did not believe that mosquitoes can transmit the disease. However, knowledge about the prevention were lacking, as well as the risk of perception (Badahdah&Sayem,2010). The risk of STIs is contributed to the fact that some young people have limited knowledge about STIs and HIV because of the taboo surrounding sexuality (Badahdah & Sayem,2010).

A survey done in 2005 among secondary school students in Aden's governorate showed that about 50% of them don't consider condoms as one of the protective measures from STIs. Furthermore, the misconception about the mode of transmission of HIV revealed that about 67% of the out of school youth believe that HIV is transmitted through mosquitoes. The same survey indicated the main source of information with 88% was television (Al-Iryani *et al.,* 2011).Al Serouri *et al.,* 2010 also revealed that about 28% of respondents did not believe in condoms as a preventive measure.

Al Serouri *et al., 2010* study also indicates that 28% of the participants don't consider themselves at risk to get HIV.SRH knowledge is related to behavioural change, and enhances young people to build their capacity and self-confidence, thus increasing perception of risk behaviour (Roudi-Fahimi & Feki, 2011). The lack of SRH information among the young makes them vulnerable by seeking information from peers who approve sex outside marriage, as this makes them unable to protect themselves from SRHP (Hardee *et al.*, 2004&Ganczak *et al.*,2007*).*

Low educational levels among Yemeni young people have been found to be associated with difficulty in negotiation on the use of condoms. This significantly increases their susceptibility to HIV and other STI infections, since they are less likely to use condoms. (Al Serouri *et al.,* 2010). It was found that educated women were more likely to use condoms compared to illiterate women (UNFP, 2007).

CHAPTER FIVE: Young people Sexual and Reproductive Health intervention in Yemen

This chapter presents the programs that addressed SRHP among youths and highlights the improvement which were made. These shall be described using the social ecological model.

5.1.Macro system level

5.1.1 Mass Media

The media are the main medium for disseminating information and creating awareness (Al-Rabee,2003). In Yemen television and radio are the means used to disseminate the health information related to HIV transmission and prevention, promoting for reproductive health and the benefits of family planning, importance of spacing birth, and lastly the consequence of early marriage and early pregnancy. Television and radio have wide coverage, and reaching most of the general population, including youth. Television and radio were reported as the main sources of information of HIV prevention among young school's students in Aden's state (YNAP &NPC, 2009). Traditional norms are still a barrier in discussing sexual education and no media program is specifically targeted on young people.

5.2. Exo system level

5.2.1. School Health Education Program

Yemen has made efforts to promote a school health program. The main focus in this is to improve student's health by training them on the prevention from communicable disease including HIV, through implementation of health education activities in school(Al-Rabee, 2003). For some more examples of health education activities in school, see the (annex 3&5)Those Health education activities are limited to the main cities and therefore are not included in all schools. Health education activities are providing information that can decrease the HIV infection, yet there is no emphasis on promoting condoms or discouragement of other RSB.The school based intervention, the Ministry of Public Health and Population (MOPHP), the Ministry of Education (MOE), the and Ministry of Youth MOY collaborate to align the RH education unit in schools to train teachers on reproductive health issues and interventions targeted at the youth.

5.2.2. Reproductive Health Services

Yemen has made efforts to improve reproductive health of young people, by collaboration and strengthening the partnership relation with the NGOs (Al-Rabee,2003). Those interventions are mainly community-based approaches.

Nongovernmental organizations are also considered as active partners in providing and extending the reproductive health services started in 2005 to provide SRHS in five governorates (Pathfinder ,2010a ; Pathfinder ,2010b).

This program seeks to change people's beliefs and attitudes by increasing community motivation and participation, through disseminating the health knowledge and promoting the behavioural changes among parents, of which particularly men, toward the negative effect of early marriage. Since the implementation of the program on "Safe Age of Marriage " in Amran governorate in tow districts in 2008 -2010 , it was expanded to two other district. At the political level, 40 people from the community were trained as educators to mobilize the people in the districts against early marriage. There is a wide scale of outreach activities to advocate against early marriage, which has reached more than 50 thousand people in various segments of society in different setting, like school and work places, mosques, literacy classes, and health facilities. They have played a role in increasing the age of marriage for girls from 14 to 18 years, and in preventing child marriage among 53 girls and 26 boys. The program has also helped to decrease the cost of dowries (Pathfinder,2010b).Community leaders recommended to the Yemen government to raise the legal age of marriage to 17 years (Pathfinder ,2010c), which was recently put into parliament for more detail see annex (3).

5.3. Meso system level

5.3.1. Peer Education Program

Yemen Peer programs are focusing on increasing the knowledge on HIV, changing the attitude, and increasing risk perception among schools students (Al-Iryani *et al*.,2011). In 2005 the peer education program started in Aden, the main sources of information among students were their friends (Al-Iryani *et al.,* 2011). The program was focused on SRH issues related to youth, including HIV prevention, life skill guideline, and peer education (Al-Iryani *et al.,* 2011).

An earlier survey indicated a low level of knowledge of HIV prevention and high stigma towards PLWHIV. About 78.6% of the students received this intervention. The results of it showed that the peer education intervention had a big effect on the individual knowledge. About 68% of the students had an increase in their knowledge on HIV. The benefits in knowledge of condom use went from 49% in the base line survey to up to 67.8% in 2008, compared with 43% of the students who did not have the peer educator's intervention.

However an actual change in behaviour due to this intervention was not measured. (Al-Iryani *et al.,* 2011).
The study showed decreased misconception and stigma toward PLHIV, and showed an improved life skill, mainly in communication, among 54% of school student. The largest improvement in life communication skills was reported among female students, being 65.5% (Al-Iryani *et al.,* 2011). The study did not evaluate the effects of sexual behavior among those students. The result of this intervention cannot be generalized to the whole country, since the intervention was conducted in Aden city and more than three quarter of the people living in the remote areas.

For more detail see annex 3 &5. The focus of these interventions were creating advocacy, empowering youth, and increasing the awareness on RH, FPM and HIV in the secondary school, while in the primary, they are focused on hygiene promotion. Also these interventions give picture view on the hotline services related to HIV prevention and on how the Yemeni community are working to support and encourage improvement in RH issues among society. However, the impact of the interventions related to maternal mortality, abortion, early pregnancy and STIs and HIV are not known. No policies are in ground and no implemented activities are documented regarding the youth friendly services and parent's intervention.

CHAPTER SIX: Best practice employed by other countries in SRHR promotion interventions

This chapter examines best practices of SRHR intervention for young people in MENA countries such as Tunisia, Iran, Turkey, Egypt, and Malaysia. Other developing countries such as Uganda, Zambia and Senegal have no similar context to Yemen, yet they are discussed because their interventions provided better answers to questions related to the effectiveness of the intervention. These questions are related to implementation of location, subject, timeframe, participants, as well as to the consideration of youth participation as a fundamental part of the intervention process, through media, school base and sexuality education, community clinical services, youth peer education, and Youth Friendly Services (YSF).

6.1. Macro level system

6.1.1. Media intervention

Systematic reviews were done in developing countries by Bertrand*et al* .,2006on the effectiveness of mass media that disseminate the awareness of HIV and SRHR, and promote safe sex, abstinence, and condom use among the population, including youth and parents. The reviews indicate that knowledge was increased regarding the mode of transmission for HIV and other risky sexual behaviour, such as multiple partners' sexual relation. Furthermore, they showed an increase in the belief of perceived risk among Zambians who listened to the radio, compared with the ones who didn't. In addition, the intervention increased by 75% the self-efficacy of youth who are highly exposed, by building their negotiation skills to convince the partner to use the condom (WHO,2006) .

Another study in Uganda, evaluated the Straight Talk (ST) program, and mentioned that of adolescents, 60% were reported to practice abstinence, 11% practiced delayed sex, 10% knew about HIV prevention, and about 2% knew about STIs prevention. This study was conducted among 2,040 males and females between the ages of 10 and 19 years old, and who were living the six districts' that ST is active. Furthermore around 15% of young male and 12% of young women reported they stopped premarital sex, refused gifts in exchange for sex and 10% started discussing sexuality with their parents (Adamchak *et al*., 2007).

A systemic review indicate that Kenya disseminate awareness regarding the HIV. Using media campaign T.V and Radio targeting different age group 15-39 years showed that increase the self efficacy, condom efficacy and perceived risk and severity among the target audience. While in Zimbabwe

using the IEC material such as posters, leaflets and radio ,drama, and peer education hotline increase the interpersonal, self control communication abstinence(Noar *et al.,* 2009)

6.2. Exo level system

6.2.1. Sex Education Program

Systemic review was conducted in both developed and developing countries, such as Canada, the Netherlands, Brazil, Chile, Jamaica, Kenya, Mexico, Namibia, Nigeria, South Africa, Tanzania, Thailand, and Zambia to. The impact was measured of Sex-education programs that were based on the effective curriculum which address most of the sexuality issues faced by young people. The implementation of those programs showed a positive impact in reducing the RSB by promoting abstinence, delaying the initiation of sex for six month for youth that didn't have prior sexual experiences, and lastly by decreasing the frequency of sex for those who had prior sexual experience , among young people (Kirby, D. *et al.*2006). The systemic review studies indicate that as a result of the increase of knowledge about HIV- and STIs prevention and unwanted pregnancy, among young people the number of sexual partners reduced and the use of condoms have been increasing(UNSCO,2009).

The sex-education curriculum has specific characteristics that are embraced in the curriculum development, content and implementation process, and are enhancing the acceptance in terms of community norms. See table 6 was adapted from Kirby(Kirby *et al*.,2006).

Teacher –lead curriculum intervention on Sexuality was introduced in Tanzania to target youth between 12-19 years old. It aimed to promote condom use, decrease sexual partners, increase self-efficacy and self-esteem, address social values, and lastly to increase use of health facilities. The program was evaluated and proven to have increasing SRH knowledge and condom use, and to have decreasing the sex partners (Mavedzenge *et al.,* 2011).

A study done in Malaysia evaluated the attitude among parents and their acceptability towards the introduction of sexuality lessons, based on religious rules in the school curriculum. It was found that over 70% of parents agree to introduce this in the elementary phase. Their reason was mainly that there is sexual abuse among children and they don't know how to deal with this. However, parents requested that the teachers should have the basic knowledge of Islam. Only two parents out of 211 of the target study

population refused to give their kids sexual education, because they thought it can lead to their engagement in sex, or that they might not understand it (Makol-Abdul *et al.*, 2009).

Table 6: Keys Characteristics of Effective Sex education Curriculum.

Development process	**Curriculum content**	**Implementation process**
Participation of relevant people (health staff, teachers)	The health objective focus on prevention HIV including STIs, and unwanted pregnancies.	Multi- sectors coordination and cooperation
Assesses the young people needs.	Address the influence factors of risky sexual behaviour and promote effective sexual behaviour	Train the health education staff which are socially accepted and supported with the close monitoring and evaluation.
I's based on the logic model that use a logic model approach to develop the curriculum that state the health objective, affected behaviour, influencing factors and addressed activities	Provide safe environment which support young people participation.	Include young people and trained them
The planned activities should be reliable with community culture and has resources.	Include different culture accepted activities aims to change risk behaviour ,	Conduct the activities in line with society values.
per test the program before	Used the theory and practical approach to develop their skills	
	Provide suitable messages about risky sexual relations and has sequence follow	.

Source: Kirby (2006)
Adapted from Kirby

Turkey introduced SRH subjects in the last three years of primary school curriculum and proceeded towards puberty projects in order to develop class session divided into gender and grade level, guided by experts that can discuss and answer students' questions (Roudi-Fahimi&Feki 2011). A survey done after this campaign revealed as results that about 43.5% of students (girls and boys) started to discuss sexual issues with their parents in a limited manner, 19% had free discussions, and the other 37.5% had not discussed with their parents yet (Mater, no .date). The limitation of the programme was the fact that it was focused on hygiene issues, and missed out on other sexuality issues like sexual pleasure, safe sex, condom use, gender-related issues and their implication on health, which was also noted by the youth themselves.However, the youth are not satisfied because there is no teaching on the physiological and psychological changes which occur during puberty, sexuality, general STIs information, marriage, FPM, and negotiation skills (Mater, no .date).

6.2.2. Youth Friendly Service

A study in South Africa evaluated eleven public facilities that implemented the specific standards of youth friendly services (YFS), compared with other YFS who did not implement these quality standards see Box(2). It found the overall friendliness scores was 79.9% for the public facilities that did implement the specific standards, compared to 60.9% for the control faculties. The adolescent friendly services have been more effective, sustainable and ensure services quality in terms of providing SRHS, evaluating the staff performance and decreasing their negative attitude, improving their technical skills to minimize the RSB among young people, and lastly in terms of making them more satisfied with the provided services. (Dickson *et al*., 2007 ; WHO,2006) .

Box(2) Standards of quality assurance which are to be implemented in the health services

Standard 1. Management systems are in place to support the effective provision of the
Essential Service Package (ESP) for adolescent-friendly services
Standard 2. The clinic has policies and processes that support the rights of adolescents
Standard 3. Appropriate adolescent health services are available and accessible
Standard 4. The clinic has a physical environment conducive to the provision of adolescent friendly
health services
Standard 5. The clinic has the drugs, supplies and equipment necessary to provide the
essential service package for adolescent-friendly health care
Standard 6. Information, education and counseling consistent with the Essential Service
Package are provided
Standard 7. Systems are in place to train staff to provide effective adolescent-friendly services
Standard 8. Adolescents receive an accurate psychosocial and physical assessment
Standard 9. Adolescents receive individualized care on the basis of standard case management guidelines/protocols
Standard 10. The clinic provides continuity of care for adolescents

Source: Dickson et al, 2007

The study conducted in Tanzania showed that there is a significant relation between the scale-up of youth friendly services and the services accessed by youth .On the one hand, staff improved their knowledge, attitude, and became less stigmatized toward youth needs, and thus lead to increases of young people accessing and using the SRHS. On the other hand, the same study indicates that those services had some challenges in their implementation process, and this is due to the limited space and low number of staff trained, being around 50% from the targeted facilities (Renju *et al.*, 2010a; Renju *et al.*, 2010b).

Uganda has introduced YFS and promotes the SRHS through the African Youth Alliance program among young people, by setting specific policy and coordination activities. The intervention has a significant impact on the increase in service uptake, and decrease of the RSB (decrease the partner and sex frequencies) among young women, while no impact change on young males. Furthermore, no change in the delay of sex initiation could be measured due to the fact that the sample involved in the study could have already been sexually active (Williams *et a.,l* 2009; WHO, 2006).

6.2.3. Community based intervention

In South Africa, a community-based intervention called "Love Life" was introduced in rural and urban areas. The program promoted to encourage life skill development by minimizing the risk of HIV and RSB. The HIV prevalence was decreased among those who were exposed to the program; men adjusted odds ratio(AOR) 0.60, 95% CI:; women: AOR_0.61, 95% Intervention was also focused on decreasing gender inequality and adjusting social norms. This was implemented by using a different approach such as mass media and comprehensive education program targeting youth, parents and settingorganization (Mavedzenge *et al*., 2011).

Senegal is a country of which Muslims make up for about 93% of the population. HIV prevalence among risk groups was estimated to be about 1.8% higher than among the general population. Condom use was increased from zero to 68% among causal partner. in addition to a decrease in STIs infection among pregnant women from 30% in 1991 to 18% in 1996. All these are consequence of collaboration with religious leader as key stakeholder and of increasing the awareness through condom campaigns (UNAIDS, 1999).

6.2.4. Hotline services

Egypt introduced Hotline services in 1990 as an intervention to provide counselling on sensitive issues related to culture and taboo on sexuality and HIV. The intervention commenced with a four week training of staff to allow them to provide good counselling regarding HIV of all people, including the youth. People are free to choose the gender of the counsellor. The program has recorded success in terms of the increasing number of calls received; 18628 calls, with an average of 1,000 calls per day, between 1996-1998. Due to the privacy to discuss different sensitive topics such as practices of early sex, premarital sex, homosexuality, condom use, and other sexuality issues, SRH knowledge was constructively increased. This intervention has recorded higher effects on youth; More than 50% of the calls come from people with

ages between 13-25 years and 70% came from unmarried people, of which most were highly educated and of which 20% were women. Calls were received from urban and rural areas of Egypt and even from Arabic countries (UNAIDS, 2000; Roudi-Fahimi& El Feki, 2011). The ability of the society to be open-minded and to start discussing these sensitive issues, is a good indicator that changing the social norms and taboo in such conservative communities is possible.

6.3 Meso level system

6.3.1 Peer Education Intervention

This intervention in order to stimulate youth to talk about SRH issues is mostly done in schools, but also on a broader level in order to reach the youth that are not enrolled in school. All youth the out of school, marginalized and high risk youth are included (Injection Drugs Users and sex worker, refugees). Another result of this intervention is that it improves the relationship with all partners in the socio-ecological levels such as youth, parents, teachers, health provider, decision makers, religious leaders, and lastly the community as a whole, through collaboration with international NGOs. It is supported by UNFPA and has a big network that has expanded to more than 45 MENA countries (Adamchak, 2006; Roudi-Fahimi&El Feki , 2011).Tunisia and Egypt have developed this youth network that targets the youth with different topics like early marriage, family planning, and STI prevention, including HIV (Adamchak, 2006).

Peer education programs have been reported to lead to an increase in youth accessing health facilities and their awareness and knowledge of HIV prevention, to a decrease in the number of sexual partners, and lastly to an increase in condom use. On the other hand the evaluation report mentioned that despite this intervention, there is no consistent change in some sexual behaviours like abstinence and delayed sex(Adamchak, 2006).

Another peer education program was implemented in Zambia with collaboration and participation of community organizations. This targeted in and out of school youth in both rural and urban areas in order to reduce the number of sexual partners, promote condom use, and spread the information regarding HIV. This program was spread through different media such as printed IEC material, video, dram discussion, and counselling services. Results of this intervention showed an increase in condom use in particular and a decrease in the stigma toward PLHIV (Mavedzenge et al.,2011).

6.3.2 Parents –child communication

A parent based intervention is restricted to the developed countries such as the United States. Most of these intervention programs are focused on improving the parent-child communication. The reviewed study has shown a positive impact on reducing unsafe sex, decreasing STI infection, enhancing the communication between partners about condom use, and supporting their negotiation skills among young people. In addition to that, it led to an improvement in the family -child discussion on sexual related issues (Downing, J.et al, 2011). However, this intervention can be a trial in passing it on those developing countries, taking into consideration the level of understanding and adaptation that is related to the culture. With considerable efforts, the informing of the policy leaders and culture sensitize the socio-culture determinants, in order to emphasis this intervention and develop the parents –child communication in a proper way in order to address young people's health sexuality (Downing *et al.*, 2011; WHO,2007)

6.4. Micro system level

6.4.1. Premarital Counselling

In **Iran,** counselling classes were introduced in the last decade across the country and made mandatory for all new couples, before the marriage certificate can be issued. The class is either held separately for the different genders, or mixed, depending on the culture. It advocates for family planning to reduce unwanted pregnancy and recently it was updated to include STIs and HIV. Couples receive appropriate information on where the services are provided (Roudi-Fahimi& El Feki , 2011). **Egypt** have also introduced counselling classes, but are still faced with the challenge to expand it across the country. **Gulf countries** offer mandatory premarital counselling, which is more focused on the prevention of inherited diseases among relatives, as well as on other infectious diseases like STI and HIV (Roudi-Fahimi & El Feki , 2011).

CHAPTER SEVEN: DISCUSSION, CONCLUSION AND RECOMMENDATION

This chapter provides a discussion of the findings that the study revealed and a conclusion as well as recommendations will be provided that address the factors that will intensify youth SRHP.

7.1. DISCUSSION

7.1.1. Factors that influence risky sexual behaviour

Young girls are engaged in early marriage due to religious reasons, family pressure and gender inequality.Young girls have limited negotiation skills regarding protected sex, which increases their risk of STIs, HIV infection and unwanted pregnancy (Gan´czak *et al.*, 2007).

There are barriers in the society regarding condom promotion, specifically among unmarried youth. In the general society, as can be seen by policy makers, there is a negative attitude towards condom distribution. It is believed that condom distribution will promote promiscuity, rather than being a preventive measure against STIs and a method for family planning. The reason behind this is Islamic religion, in which promiscuity is not allowed, as it's seen by the policy makers.

Scarce of qualified health providers who accept and deal with youth sexual reproductive needs, caused youth accessibility to health facilities to be a big constraint. This situation led to a decrease in the utilization of SRHS.
On the one hand, there is a lack of trained teachers who have the abilities and skills to communicate and deal with students and discuss sexuality issues. On the other hand, school rules based on constrictive traditional norms are also not creating an environment in which sexuality can be discussed.

Policy in Yemen unfortunately is not translated into practices and improving of the economic life standard of young people.

7.1.2. Policies

Despite these laudable efforts, the policy failed to develop reproductive and sexuality education guidelines, in order to improve the school and community base intervention. And not much progress has been made regarding their SRH needs (Jennings,2007).The evidence shows that youth are missed and that a clear policy to support their SRH needs and rights is lacking. Usually, youth are included within the general population in reproductive health

interventions.

Youth still can't access SRHS freely. The monitoring, evaluation and mechanism of the reporting to the health information systems were not clear. Thus making it difficult to plan and develop proper strategies that address their needs according to their age and gender.

The Government does not sufficiently fund SRH and HIV services in order to ensure the sustainability of the reproductive health program targeted at youth, and most of those interventions are supported by the donor, which leads to a limited impact at national level.

7.1.3. Interventions and best practice

The existing interventions in Yemen are still sporadic and not nationwide. These interventions include activities conducted at the schools and community, which are not specifically targeted at youth.

a. Youth friendly services

Yemen, to some extent, provides RH services but for married youth. Drawing from best practices for providing SRHS from other developing countries such as South Africa, Tanzania and Uganda, of which the programs minimized the youth judgment by aiming to rehabilitee health providers by building their skills and increasing their knowledge. This led to better and increased access of youth to the SRHS.For more effective progress, the program was linked within the community which targeted, empowered, encouraged, and addressed the youth SRH need. Those programs played the important role of mobilizing resources and decreasing the social barrier.

b. Sexuality education

Sexuality education remains as the challenge to address in Yemen due to deep rooted social and cultural norms.
Sexuality education was found to be effective in changing behaviour and encouraging youth to decrease sex frequency and number of partners, practice safer sex, and to use condoms (UNESCO,2013).

SRH education programs in Yemen did not include the effective characteristics of sexual education curriculum, which are mainly related to its development, content and the process of conduct. The development part focused on involving the relevant people as targets, as well as assessing their needs, while working in line with health aims and activities. The contents are mostly related to sexuality topics that provide knowledge, as well as encourage the

negotiation and self-efficacy skills that promote behaviours like abstention and condom use, which can prevent HIV/STI and/or pregnancy.

Sexuality education within the school can be applicable for implementation in Yemen, since there are some on-going health education activities in some schools already, which could be distributed all over the country with an increased priority on SRHR needs of youth. The availability of the information on services related to sexuality and reproductive issues is fundamental as it can change the course of the lives of youth, and make them able to make appropriate decisions when facing sexual risks.

7.2. Conclusion

Factors that contribute to unsafe sexual behaviour among youth are primarily governmental, because a high political commitment is not reflected on youth SRH priorities. Other factors affecting RSB in Yemen are socio –culture, gender inequality, unemployment, lack of specific health services which can meet youth SRH needs, and lastly low education.
And un not effectively addressing policy, culture and social condition, unemployment and not making a safe environment for young people, can be led to increase their vulnerability to STIs. The RSB among youth can be addressed in various settings and approaches. Including community-based approaches, school programmes with sex education, youth peer education, YFS, media, as well as direct contact with individuals through counselling services, which builds their capacities through knowledge and live skill, all targeting married and unmarried youth.

7.3. Recommendation

Recommendations are hereby made on three levels, namely:policy, intervention and research approach

7.3.1. Policy approach

- Polices should address young people SRHP by design programs considering the socio -culture norms, coordinate with partners', trained staff and involve youth in all aspects of project design and implementation.Improving young people economic condition by providing them with good employment opportunities.
- Ministry of Health and Education work closely to develop a standard curriculum on the SRH issues of youth and sexuality education program. This should be established to provide knowledge and skills that address RSB in primary and secondary schools. This curriculum can be applied in

different setting such as schools, health facilities, and community centres, reaching active or non-sexual active young people both in and out of school.

- Design national guideline and strengthen existing peer education program and expand the implementation to the whole of Yemen.
- Multi -sectoral approach to youth issues, through partnership and coordination with community, different public and private sectors and NGOs, since youth problems are rooted in the whole of the society.

7.3.2. Intervention approach

- Intervention program needs to be designed that either involves both the in and out of school youth, or two separate programmes for both groups.
- Set up of YFS in the health services within a quality assurance and supervision mechanism. Ensure privacy and confidentiality, and involve the youth in designing and implementing these services. These services should include preventive and curative services.SRHS should be, available, accessible, acceptable and affordable for all married and unmarried youth .Also supported by skilled male health providers.
- Mass Media should introduce to enhance awareness regarding HIV and safe sex and other SRHP.

7.3.3. Research, information, monitoring and evaluation level

- Conduct research to identify factors leading to risky sexual behaviours among young people. This will assist in designing effective programmes to address youth SRH problems.
- Conduct study to assess the effectiveness of parent intervention.
- Document and possibly publish the implemented intervention programmes in order to review and learn from the previous lessons, as well as for advocacy and resource allocation for subsequent programmes.

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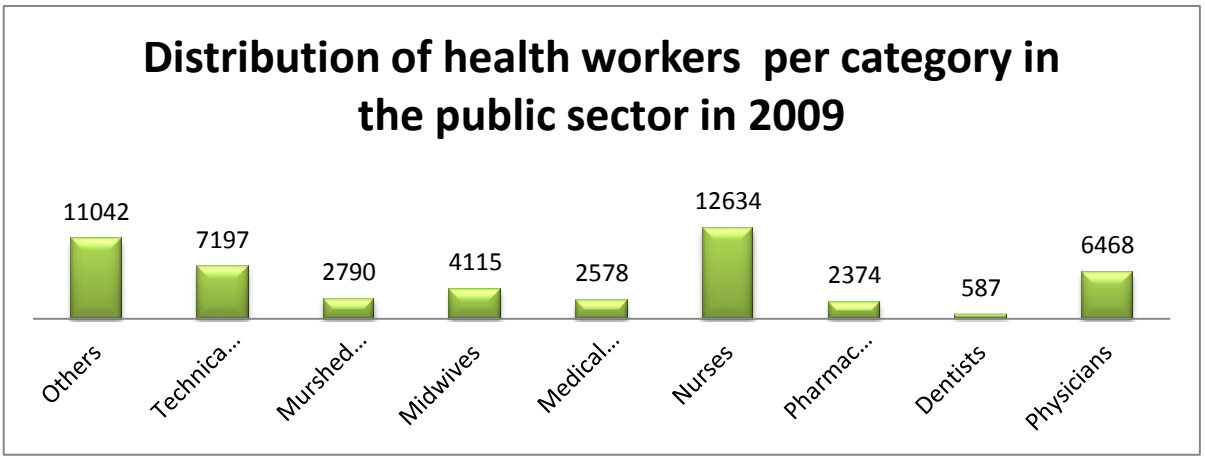
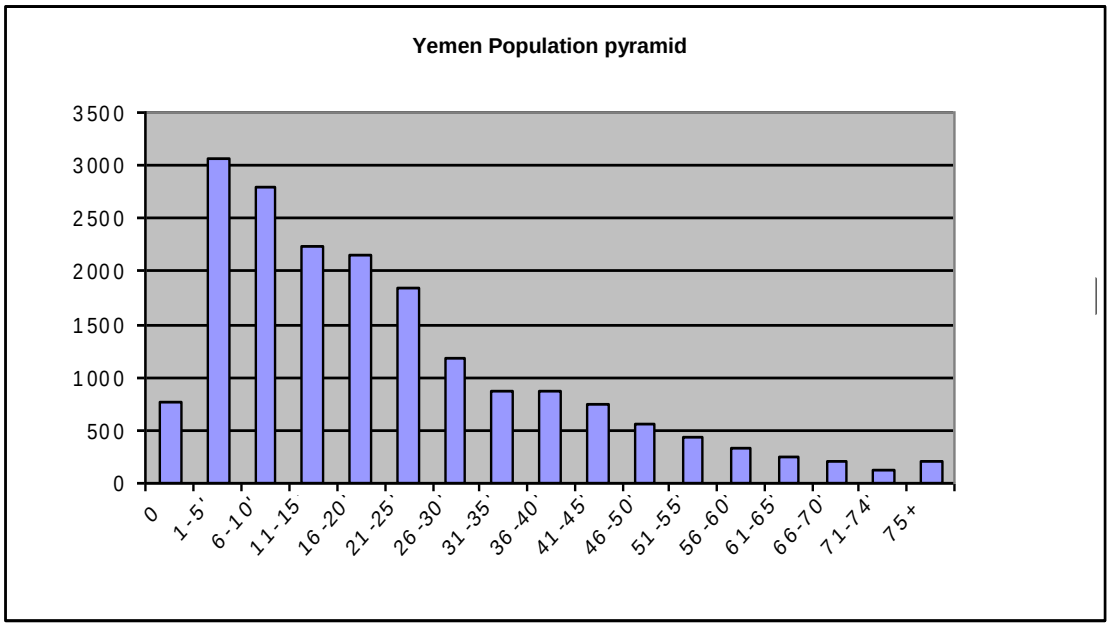
Annexes

Annex1: Distribution of health workforce in the public sector in 2009; source: (YNRHS, 2011)



Annex 2: Yemen Population Pyramid



Source: (YNCYS, 2006)

Annex3: Example of some of the Sexual and Reproductive Health intervention programs in Yemen

1. Community intervention

1.1. The Basic health services; Extending Service Delivery project
It's a comprehensive project funded by the USAID associated with collaboration of the government of Yemen. It was started in 2005 in five governorates beside the capital "Amran, Sa'ada, El Jawf, Marib, and Shabwa" has been active for five years at the time of this thesis. The purpose of the project was to provide unmet needs and extend the reproductive health services of family planning, as well as other related reproductive health services, and thereby increasing the awareness of those who are underserved, including youth, all within the primary package aligning with basic health services (Pathfinder ,2010b)

In order to increase the acceptance of the services, there was mobilization of the community leaders, including Imams, to support this activity, so as to encourage the community to change their behaviour by delaying the age of marriage and promoting the improvement of maternal health (Pathfinder,2010b). The role of the Imam was considered important in delivering the key messages of reproductive health to the community, especially to men during the Friday prayer "sermon khutabat al – gumma" as well as other lectures.
During the three years between 2007 and 2010, religious leaders reached out to about 1.5 million people in these targeted governorates. Furthermore they produced fetaws book to promote RH messages, which were even translated into English, and distribute them in the country. Religious leaders also carried out the duty of informing the people of the arrival of mobile team to provide health services. They also played a role in the development of the community health education guidebook, which has 42 comprehensive messages related to health, and were also used as a tool to train 934 volunteers, and to carry out the education activities which reached 756,000 people in the period from 2009 up and until 2010.
The guidebook was also used to conduct media campaigns in 2010, and around 3,461 pieces of information from the guidebook were disseminated through newspapers and other media such as television and radio. This project has also graduated 340 midwifes and trained hundreds of working midwifes, in order to improve maternal reproductive health among those who are underserviced (Pathfinder, 2010a; Pathfinder, 2010b).

This program had success with its approach that seeks to make a change in people's beliefs and attitudes, by increasing community motivation and participation towards increased health knowledge and promotion of behavioural change. Since the implementation of the programme between 2008 -2010 of "Safe Age of Marriage" in the Amran governorate in tow districts (Al-Sawd and Al-Soodah) and its expansion to other two districts "Thula and Raydah", there has been a big impact on the change of the culture towards early marriage. There is an increased advocacy for girls' right and enrolment in school.

At the political level, trainings have been conducted for 40 people from the community as educators with skill and knowledge to mobilize the districts against early marriage. Up to 2,695 outreach activities were executed to advocate against early marriage, which has reached more than 50 thousand people in various segments of society and in different settings, like school and work places, mosques, literacy classes and health facilities. This has played a role in increasing the age of marriage among girls from 14 to 18 years, and in preventing child marriage among 53 girls and 26 boys. The programme has also helped to decrease the cost of dowries. Community leaders recommended the Yemen government to raise the age of marriage to 17 years (Pathfinder ,2010c)

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This project also established the "youth centre and peer education program" in Sana'a University, where out of a total of 60000 students 30 have been trained on the manual education guidelines to build their skills in increasing awareness of reproductive health issues among youth (Pathfinder ,2010b).

2. School based intervention in Yemen

The school based intervention, the Ministry of Public Health and Population (MOPHP), Ministry of Education (MOE) and Ministry of Youth MOY collaborate with alignment the RH education unit in schools to train teachers on reproductive health issues and interventions targeted at the youth.

2.1. School Health Magazine in Lahaj governorate

The sharing and exchange of health information among students is a more easily acceptable from of spreading health messages. Furthermore, student participation in the process of health education is part of their rights as confirmed by national, regional and international seminars and recommendations (LPHPO 2008).

The idea behind the school health magazine is to encourage school students to get involved in the preparation of journals and wall health magazines in schools. The educational messages are focused on health issues related with

the lives of students in primary and secondary schools. The messages are prepared with the assistance of the teaching staff in schools, and the Office of Public Health and Population in the province (Department of education and health information in conjunction with the Department of School Health).
The health education messages also include the importance of family planning in the preparation of the families, tetanus vaccination for girls and women, and prevention of sexually transmitted diseases, especially AIDS.
The objectives of the activity:

I. Activate the role of health education at school level.
II. Raise awareness of the students in various health matters in society.
III. Encourage students to acquire the appropriate healthful behaviours and practices, and improve undesirable behaviours and practices.
IV. Create a spirit of competition among students to provide appropriate health messages.

The activities commenced in 2008 with twelve (12) schools (elementary to secondary) from 2 district. The basis/criteria for the selection of the schools were as follows:

I. Previous and good experience in the preparation of wall magazines.
II. A certain level of interaction of the school management with the success of the activity.
III. A certain volume of extra-curricular activities carried out in the school.
IV. The number of students in the school must not be less than (250) students.
V. The distance between the school and the Office of the Directorate of Health shall not exceed half-hour drive to facilitate the monitoring and supervision of the activity.

Activity Steps:

I. Data collection from the targeted schools inclining the standards set in advance.
II. Training is conducted for the team preparing the magazine wall in every school for the two categories.
I. A one-day workshop is done with the Department of Education in order to clarify the idea of activity and its objectives, and to establish a closer partnership with them to ensure continuity of activity.

Seventeen teams are trained and participating in the activity. Six teams are from primary schools (Asmma, Abbas al-Husseini, Iqbal, Qadisiyah, Jendouh, Said) and 11 team from secondary schools (Zahra, Farooq, names, May 22, Abbas al-Husseini, Iqbal, Qadissiya, Maaz bin Jabal, Al-Said, the late Mohammed Abdullah obituary). The total number of students who benefited from this intervention was 8,453. A survey was done before the start of the

program to measure the knowledge of HIV among secondary school students, and Hygiene knowledge was measured among the primary school students. Knowledge rates of 52.2% in secondary school and 68.4% in primary schools were revealed. At the end of the programme, the knowledge rates were 84% in primary schools and 68.8% in secondary schools.

Due to the success recorded, the intervention was later expanded and implemented to 20 other schools in two other districts. The programme has also recorded a remarkable support and co-operation from the society and decision maker in the governorate, who ensured advocacy for continued health education programs and expansion to all the school as well as the provision of various educational materials such as newspapers, pamphlets and educational tapes (LPHPO 2008).

2.2. Celebrations of the Global Health Days in Lahaj governorate

The recognition and commemoration of the global health days in Lahaj have helped to raise awareness and attract people's attention, especially of young people, toward the health problems and health messages, with the added effect of spreading the messages through to all the community. The objectives of these activities are as follows:

General objective:

To raise health awareness among the community of which young people in particular.

Specific objectives:

I. Deliver the message of the most important factors/causes of health problems and raise awareness to take preventive measures for all members of society.
II. Ensure participation of the youth in these global health days as the first actors.

The idea of celebrating global health days with the participation of young people comes into existence after workshop discussions with different stakeholder in the governorate such as education offices and management team of some of the school. The initial goal was to encourage students to participate and share their experience with other schools by inspiring them to participate in- and play the important role in designing as well as producing the program and spreading the message, during the ceremony or celebration days through songs and of dramas.

The ceremony was attended by the Governor and directors of public offices in the province, a large collection of students from other schools,

parents, and community members. In this activity, references were made to the factors causing diseases and their impact on human health, as well as the importance of prevention and behaviour change. The youth were urged to participate in delivery of health messages and change their behaviour, and the following impacts on life were highlighted: health, social and physical consequences on the individual, family and also the participation of students in the field of education.

The commencement of the program has helped to convey health messages on the most important problems by creating awareness through their own words as well as through songs and drama. These event, activities and interventions had a significant impact on increasing knowledge and access to information, which are considered to be the first step to behaviour change. In addition, one of the factors that can influence risky behavioural change is encouraging the students to participate and contribute to the dissemination of health awareness, in order to reduce the health problems of our society.

The above described interventions in the school setting, lead to an increase in awareness and information related to health, including SRH issues that are difficult to access to in a culture like Yemen. These interventions can be the initiation step towards accepting and supporting to teach the topic of sexuality in school and can also reach all the youth students in the whole country of Yemen (LPHPO 2008).

3.1. Sexual and reproductive health services

This association works as a main partner with the government to raise awareness in the communities about the RH issues and STIs, as well as to increase the support and commitment to the right of women as well as gender-based issues. The RH services are provided mostly in the remote areas. In 2008 YFCA expanded its services to set up an RH centres in each of the six governorates (Sana'a, Aden, Hodeidah, Hadramout, Ibb, and Hajjah). This is in addition to its specialist hospital for mother safety, its youth development centre in the capital, and other mobile clinics services which started in 1997 in order to reach the underserved population in more than 140 communities and across 11 governorates (Sana'a-Amran- Almahowit-Hodeidah- Mukalla -Taiz –Ibb- Aden- Lahj -Abyan and Hajjah). Services rendered include antenatal care, family planning, vaccination for mother and child, and counselling regarding family planning and STIs. The information that can show the impact of this intervention was inaccessible (YFCA,no date).

3. HIV /AIDS Hotline Services

In 2005 the counselling hotline was introduced and with support from UNICEF, it was improved and computerized in 2006. The service was initially targeted at men and women across the countries that have access to a phone. The services became free of charge for those calling from landline. It is considered an intervention to give answers to basic questions regarding HIV prevention and the services available, as well as to where and when to access these services (VCT, PMTCT and ART). Unfortunately, no impacts are measured for this intervention.

3. Yemen Family Care Association

Established in 1976, this is the largest NGO in Yemen and has collaboration with many different partners at the international, national, local governmental, and non-governmental organizational level. It is running many project and programs focussed on improving the maternal health, and child-mortality and morbidity situation resulting from RH problems or other infectious diseases, as well as meeting the needs of youth and improving gender inequality.

The main objective of this association is to ensure that all women in Yemen have access to RH services, family planning information and services, and also to ensure easy access to health care services for children. The main focus of their services is therefore the provision of RH services (YFCA,no date).

YFCA consider that in order to achieve its goal, high advocacy and increased awareness about RH issues and FP are very important. This led to the implementation of these activities among different target groups including women, men, and especially youth, since they have inadequate access to the correct information and RH services. Amongst the activities were the development of youth centres to provide the information on SRH and build people's skill by providing training courses in different fields through organising lectures, campaigns, workshops and outreach activities. There were also advocacy programmes for decision makers and religious leaders.

Between the periods of 1990-2007, 5200 lectures were implemented in 1680 centres. Various groups of over 200,000 individual were targeted at different places such as schools, clubs, camps, prisons, women organization and youth meetings. In addition, they were engaged in capacity building for service providers by providing training courses on maternal, child and youth problems, as well as by encouraging people to be volunteers to work with organizations for services provision. Data on the benefits of SRH services were not accessible /available (YFCA,no date).

4. Peer Education Program in Aden Government

In 2005 the peer education program on HIV started in Yemen in the Aden government, with the aims of decreasing the level of stigma to PLHIV and increasing the knowledge of HIV transmission and prevention, as the main source of information among the students were the friends (Al-Iryani et al., 2011). The intervention started in the selected high schools, that have both gender students, with the training by the coordinator of the directors of school supervision, school health and school social services, and a teacher representing the school curriculum supervisory committee, and who was also an expert on "training of trainers" methodologies (Al-Iryaniet al., 2011).

They were trained on SRH issues related to youth including HIV prevention and peer education and life skill guidelines. The training was supported by UNICEF, and was conducted 8 hours per day over a period of 9 days. About 137 peer educators were also trained for 8 hours per day over a period of 10 days on peer education, messages related to HIV transmission, prevention and life skills. School Management teams were also trained on the same topics for 7 hours per day over duration of 5 days (Al-Iryani et al., 2011).

Evaluation was done in 27 secondary schools on the same set of students on which a survey before the intervention indicated low knowledge on HIV prevention and high stigma towards PLWHIV. Results of the evaluation showed that the peer education intervention had severe effects on their individual knowledge(Al-Iryani *et al*., 2011).

Among 78.6% of students targeted by this intervention more than three quarter reported that they benefited from the intervention. The peer education had big effects at individual level, as was evidenced by the increased level of knowledge of HIV prevention and the benefits of using condoms (Al-Iryani et al., 2011).

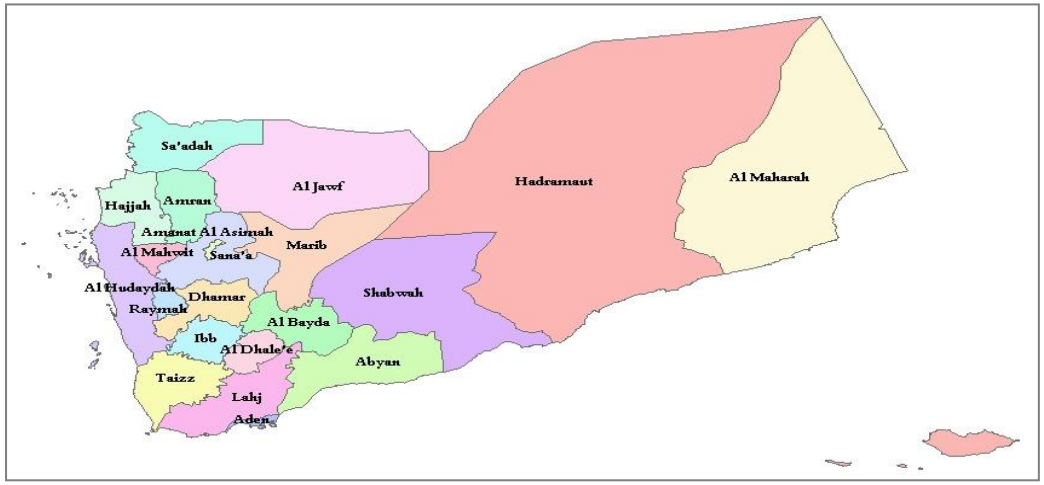
The studies only showed decreased misconception and stigma toward PLHIV, where an improved life skill was shown mainly in communication among 54% of school student, where females were reported a higher increase in life communication skill with 65.5% than males, which implies the importance of considering the practice of safer sexual behaviour (Al-Iryani et al., 2011).

The study did not evaluate the effects of sexual behaviour among those students since they don't have access to sexuality health information due to socio -culture barriers. The result of this intervention cannot be generalized to the whole country since the intervention was conducted in Aden city, and more than three quarters of the Yemen population are living in remote areas.

Positive findings in this study show that it is possible to start health sexuality education among youth in Yemen. Furthermore the willingness of

parents to allow their children, especially girls, to participate is a very important step to overcome in order to successfully implement the education on sexuality issues in a conservative society like Yemen (Al-Iryani et al., 2011).

Annex4: Shows the Administrative Map of Yemen



Source: **(YNRHS, 2011)**

Annex5: summarize an example of SRH interventions in Yemen among young people

Table 6: summarize an example of SRH interventions in Yemen among young people								
Setting	**Fund**	**Province**	**Interventions**	**Activities**	**Population reached**	**Outcome**	**Impact**	**Comments**
School	UNICEF	Aden	1- Peer Education Program	-Awareness sessions of HIV transmission and prevention. -peer education training -137 peer educators were trained	-27 secondary schools -2510 students	On individual level; about 68% had an increase in their knowledge on HIV and the benefits of condom use . Around 75% reported benefits in the forms of decrease in misconception and stigma toward PLHIV and improved life skills	Not being measured were the maternal mortality and other RHP (abortion, early pregnancy, and the morbidity related to decreasing the STIs and HIV by seeking health services)	No evaluation of sexual behaviour could be done because there was no access to health sexuality information due to socio - cultural barriers. The result cannot be generalized to the whole country.
school	European Commissio n	Lahj	2-School Health education empower youth & through preparing wall health magazine	-workshops explain activity and its objectives -Training is conducted for the teams preparing the wall magazine in the schools	Start with 12 primary and secondary schools, and then expand to 30 schools	-Awareness of RH, FM ,HIV and hygiene prevention was measured 68.8% in secondary schools, 84% in primary schools. -student participation -support and co-operation from the society and decision maker in the governorate	Are not measuring the maternal mortality and other RHP (abortion, early pregnancy, and the morbidity related to decreasing the STIs and HIV by seeking health services)	No evaluation of sexual behaviour because no access to health sexuality information due to socio - cultural barriers. The result cannot be generalized to the whole country.

Table 6: Example of SRH interventions in Yemen among young people								
Setting	**Fund**	**Province**	**Interventions**	**Activities**	**Population reached**	**Outcome**	**Impact**	**Comments**
School	European Commissio n	Lahaj	3- School Health education through empower youth & Celebrations of the Global Health Days	Advocacy workshops including following activities: dramas, songs, awareness sessions, and speeches.	Policy makers, students, parents and community members	health awareness raised among the community including young people community support	Are not measuring the maternal mortality and other RHP (abortion, early pregnancy, and the morbidity related to decreasing the STIs and HIV by seeking health services)	No evaluation of sexual behaviour because no access to health sexuality information due to socio - cultural barriers. The result cannot be generalized to the whole country.
Community	USAID	" Sana'a Amran, Sa'ada, El Jawf, Marib, and Shabwa"	4- provide unmet need and and extend the reproductive health services "family planning and other related reproductive health services - provision of awareness services	-Mobilization of community leaders - Trained 33Religious leaders in 2008 and increasing in to 153, 113 male and 40 female -Training of midwives and students -production of Fetaws book to promote RH and FPM messages -conducting outreach Train 934 volunteer -Graduated 340 midwives and trained more than hundred health worker. students activities --Safe Age of Marriage program trained 40	- -Reached 1.5 million people -volunteer educators reached 756,000 people And 3,461 piece of information were disseminated through the newspaper and other different media such as TV and radio	Social norms are changes -prevent child marriage among 53 girls and 26 boys, -community leaders recommended to Yemen government to raise the age of marriage to 17 years more access to the health services		No information that can show the impact of this intervention

				people, 2,695outreach activities -established the youth center and peer education program in Sana'a University trained 30 youth				

Table 6:Example of SRH interventions in Yemen among young people

Setting	Fund	Province	Interventions	Activities	Population reached	Outcome	Impact	Comments
Community Yemen Family Care Association:	non profit NGOS	provided mostly in the remote areas	5-Provision of RH services ensures that all women in Yemen have access to RH. -Advocacy and awareness about RH issues and FPM. -Advocacy programmes for decision makers and religious leaders. -implementation of 5200 lectures in 1680 centers	-Advocacy seminars conducted -conduction of awareness lectures and sessions -provision of RH services	-Reach underserved population "women, men, and especially youth" in more than 140 communities and across 11 governorates (Sana'a-Amran-Almahowit-Hodeidah-Mukalla -Taiz – Ibb- Aden- Lahj -Abyan And Hajjah) -Development of youth centers to provide the information on SRH and build people's skill by providing training courses: over 200,000 were reached	-Population reached in 140 communities and 11 governorates -Youth center is established -200,000 Youth reached by life skills training -Improved health determinants Socio-culture and health services		No information that can show the impact of this intervention

Table was compiled by the author Source: (LPHPO, 2008; Pathfinder, 2010b; Pathfinder, 2010c; YFCA, no date)