Adolescents Sexual and Reproductive Health and Rights in Sudan

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Sudan

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

By
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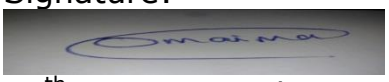

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Table of Contents

List of tables, box and figures

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Abstract

Background: In Sudan adolescents constitute 23.5% of the total population and they are a neglected group in term of health. Their main health problems are related to sexual and reproductive health such as a very high adolescent birth rate of 102 births per 1000 women, complications related to early and unintended pregnancy, unsafe abortion, STIs, HIV and AIDS. The current health sector response to their needs is very poor.

Objective: To describe the factors that affect sexual and reproductive health of adolescents in Sudan and to explore interventions more responsive to their needs and rights, in order to inform decision makers on the appropriate areas of intervention.

Methods: Descriptive study through literature review using the ecological model adapted by WHO.

Results: Adolescents sexual and reproductive health in Sudan is influenced mostly by community and political related factors. Other factors are lack of basic information and skills, poverty, social network, lack of health services and war. Due to gender norms girls are subjected to female genital mutilation and early marriage. The political situation of Sudan affects women position, laws and policies protective for adolescents' health. It also violates adolescents' rights. Interventions such as comprehensive sexuality education, youth friendly services, peer education use of media and mobile phones proved to be effective. The participation of adolescents in their programs seems a crucial factor for success.

Recommendations: The interventions should be multi sectoral; it comprises comprehensive sexuality education, Youth friendly health services, Peer education, hotlines for SRH consultation and further research on adolescent sexuality.

Key words: Adolescents, Sexual &Reproductive health, Rights, Sudan

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List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ASRH	Adolescents Sexual and Reproductive Health
ASRHR	Adolescents Sexual and Reproductive Health and Rights
CBS	Central Bureau of Statistics
FMoH	Federal Ministry of Health
GDP	Gross domestic product
HIV	Human immunodeficiency Virus
HTP	Harmful Traditional Practices
IDPs	Internally Displaced Peoples
IEC	Information, Education and Communication
IPPF	International Planned Parenthood Federation
KIT	Royal Tropical Institute
MDGs	Millennium Development Goals
MoE	Ministry of Education
MoH	Ministry of Health
MMR	Maternal Mortality Ratio
NGOs	Non-Governmental Organizations
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission Services
RH	Reproductive Health
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health and Rights
THE	Total Health Expenditure
UN	United Nations
UNAIDS	The Joint United Nations Program on HIV/AIDS
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
WHO	World Health Organization
YFHS	Youth friendly Health services

Definitions

Adolescent: "Is age group 10-19 years", according to Sudan Ministry of health and the United Nations(UN)(1)(2).

Child: "is any one below 18 years of age", according to Sudan law(3).

Young adolescent: "10-14 years "(UNFPA, WHO, UNICEF)(2).

Youth: "15-24 years" (UNFPA, WHO, UNICEF)(2).

Young People: "10-24 years" (UNFPA, WHO, UNICEF)(2)

Sexual and reproductive health: "A state of physical, emotional, mental and social well-being in relation 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" (4).

Reproductive health: " implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so "(4).

Introduction

In Sudan adolescents constitute 23.5% of the total population(5). There is gap in the comprehensive information about their health profile and more specifically related to sexual and reproductive health (SRH), as they have been historically considered as a healthy population(1). There is urgent need to address their SRH and rights especially young girls, who are subjected to harmful traditional practices like female genital mutilation and early marriage. The rising epidemic of HIV and AIDS among adolescents is also alarming. Currently there are interventions in developing countries like youth friendly health services and comprehensive sexuality education at hand to address adolescents' needs. This study aims to explore the determinants of adolescents' sexual and reproductive health and rights for better understanding of barriers and enabling factors in Sudan. It also aims to look for evidence based solutions from similar contexts to inform decision makers on health in Sudan on possible feasible interventions.

I am a medical doctor graduated in 2004. My last position was director of foreign agencies at the Department of Voluntary Agencies of the Ministry of Health Khartoum state. I coordinated health activities including reproductive health with international NGOs and MOH. International NGOs in Sudan contribute with less than their potential because of political and coordination obstacles. They are opportunities that can improve the health status of the population especially in sexual and reproductive health programs. Since my university study I was an activist in my country in sexual and reproductive health, gender, HIV and AIDS issues. I facilitated many group discussions about FGM and early marriages in rural parts of Sudan during medical caravans and other programs. In all this work I encountered the specific challenges young people face in Sudan especially in relation to sexual and reproductive health.

This thesis consists of 6 chapters: chapter one describes background information about Sudan, the health system and major health problems. Chapter two contains the problem statement, justification and also presents the methodology and the conceptual frame work. Chapter Three describes the determinants of ASRHR following the ecological model adapted by WHO and the current health sector response to ASRH. Chapter four is about approaches and strategies to respond to adolescents' needs and possibility to apply in Sudan. Chapter five contains the discussion of the findings and subsequently in chapter six the conclusion and recommendations are presented

Chapter 1: Background Information

This chapter provides general information about Sudan; it also describes the health system, and the major health problems and burden of diseases in relation to adolescents' sexual and reproductive health (ASRH).

1.1Geography and climate

Sudan is located in the North East part of Africa. The total surface area is 1,882,000 sq. km. The climate ranges from arid in the north to tropical wet-and-dry in the South West, with variations on the length of rainy seasons. The large surface area and floods are obstacles for accessing health services and referral. The country is divided into18 states. Khartoum state is the capital(6)(Annex1 figure1 Sudan map).

1.2 Ethnic Composition

Sudan is multi-cultural, multi ethnic diverse country with around 600 different ethnic groups that speak over 400 languages. Its Afro-Arabic mixture the official language is Arabic. The main religion is Islam(7).

1.3 Demographic Information

The projected population for the year 2014 is estimated to be 37million(8). The crude birth rate is 32 per 1000 population. The crude death rate is 16 per 1000. The population growth rate is 2.6% per year. The fertility rate is 5 per woman(9). The young population constitute the majority of the population and adolescents are 23.5% of the total population(Annex2 figure 2 Population pyramid)(5).

There is large migration and population movement from rural to urban areas due to lack of services, job opportunities and civil war(10).

1.4 Education

Basic education comprised 2 years of kindergarten plus 8 consecutive years of basic schools targeting children 6-13 years upon successful completion, this qualifies for secondary school which is 3 years of academic or technique steams(11).

The real situation of school enrolment reflects low percentages, only 32% of pre education, 71.2 % of basic education and 35.6% for secondary education. Also there is wide variation in gender and between urban and rural settings. More boys are attending primary and secondary school than girls(12). Only 45% of young women age 15-24 years is literate(12). Among women living in the rural areas, the literacy rate is as low as 20 %. In contrast, the literacy rate is 57 % among women in the urban areas(12).

1.5 Economic Situation

Despite the large surface area and rich natural resources Sudan is classified as lower middle income country(13). The poverty incidence is 46.5%. The main economic activity is agricultural. Oil production contributed to accelerate economic growth in the last years. But separation of South Sudan, which has 80% of the oil sources, in 2011 hindered development(6).

1.6 Political Situation

Since its independence in 1956, Sudan is experiencing instability in democratic governance (3 military coups) and many armed conflicts. The longest civil war in Africa that ended in 2005 by Comprehensive Peace Agreement that resulted in referendum and the separation of South Sudan in 2011.The situation in Darfur is still not stable (6).The current ruling party which is National Conference Party, ideologically Muslim brotherhood, came to power by a military coup in 1989(14). The regime ideology has strong impact on young peoples' social life, sexual and reproductive health rights (SRHR), enact and enforcement of related policies.

1.7 Health System

Health services are provided through the public, private sector (including Non-Governmental Organizations (NGOs)), army and police. Governmental health system is three tiers: federal, state and locality level(15). There is unequal distribution of health facilities with concentration of services and qualified health cadres in central states like Khartoum and Jazira. One fifth of the population has no access to health care(15).

At the national level adolescents' health unit was suggested by Ministry of Health (MoH) to be part of Primary Health Care (PHC) department. A national survey conducted in 2010 to assess their needs was done and recommendations were raised but it doesn't receive any special fund from MoH budget(1). Currently no special health services are provided for adolescents.

1.8 Health Financing

According to WHO Sudan 2012, the Total Expenditure on Health (THE) from Gross domestic product (GDP) is 7.2%. Most of the expenditure on health is Out of Pocket (76.6%) (16). Almost 60% of THE spent on curative services and only 4% is spent on preventive and primary care (15). Health services were provided free of charge in public sector up to 1992 when fees for services were introduced. Many policies have tried to move towards equity for the poor like free emergency help, under 5 years services in the public sector and health insurance scheme but still the system is challenged(15).

1.9 Human Resources for Health

In Sudan currently there are around 101,453 health workers, 51% are females, with 20 different professions. The density of doctors, nurses and midwives is 1.23 per1000 populations lacking to meet the WHO goal of 2.28 per1000(17). Health workers do not receive any special training on ASRH(1).

1.10 Major Health Problems

Sudan has a combined burden of communicable and non-communicable diseases. The top major causes of morbidity and mortality are malaria, pneumonia, diarrhea, heart disease, hypertension and diabetes Miletus(15).

Regarding reproductive health; the Maternal Mortality Ratio (MMR) for 2013 is 360 per 100.000 live births(18). There is low contraceptive use; Contraceptive prevalence rate is 9% and the unmet need of family planning is 29%(19). HIV prevalence is 0.53% among general population and among pregnant women is 2%(20).

The major health problems of adolescents are Sexual and Reproductive Health (SRH) related and life style related problems.

The SRH related problems include: sexually transmitted infections (STIs), HIV&AIDS, early and unprotected sex, early marriages, unintended pregnancies, sexual abuse and harmful traditional practices (HTP). Unhealthy life style embraces; smoking, substance abuse, lack of exercise, addiction and nutritional problems. In addition violence and injuries add more to burden of diseases also mental illnesses and psychological disorders mainly depression(1).

Chapter 2: Methodology

This chapter describes the problem statement, the rationale for choosing adolescents sexual and reproductive health and rights, the objectives and the methodology to achieve the study objectives.

2.1 Problem Statement

In Sudan young people constitute the majority of the population 62% and adolescents are 23.5% of the population(21). Adolescence is the most critical period for young people, but the health sector gives low attention and priority to them (22). Recent concerns pointed that they suffer from many health problems especially those related to sexual, reproductive health, HIV and AIDS(1).

In Sudan adolescents are also subjected to harmful traditional practices like female genital mutilation (FGM) and early marriage. The country is classified among concentrated area of FGM, the prevalence is 88 %. The practice is carried on young girls in their childhood or early adolescence. And has significant medical, physical and psychological complications throughout their lives(23).

According to the Sudan Household Survey of 2011, 38% of married women in Sudan are below 18 years and in poor households this percentage rises to 54%. Of them 12% are under 15 years(19). 50% of girls in early marriage do not have information about contraceptive methods(1). The adolescent birth rate is very high; 102 births per 1000 women age 15-19 year(19).

The law does not define the minimum age of marriage and early marriage is common in Sudan. Early marriage carries a greater risk of maternal morbidity and mortality; moreover it has great social and economic impacts on girls and families with high dropout rate from schools and fewer opportunities for work(24).

Although there are no exact figures about unintended pregnancies and unsafe abortion among adolescents, it is expected to be high due to the low access and uptake of contraceptives and the social stigma related to extra-marital pregnancy(25).

While HIV prevalence is 0.53% among the general population, The HIV rate among young population aged 15-24 years is 1.24% for female and 0.5% for male(26). There are around 27,888 AIDS orphans (ages 0-17) currently living with HIV and AIDS(1).

Among Sudanese youths (15-24 Years) there is lack of knowledge about STIs and HIV, only 5% of girls and 11% of boys are found to have comprehensive knowledge on HIV and STIs and their modes of transmission and prevention(19).

Adolescent girls and boys are more liable to different types of sexual harassment and abuse. Also they are at greater risk of having unsafe sex and are more vulnerable to sexually transmitted infections including HIV and AIDS. Moreover they are at higher risk of drugs and substances abuse(27). Most of smokers, drug addicts and alcohol consumers reported initiation between 13 to 18 years of age(1).
Adolescents are more prone to denial and violation of their sexual and reproductive health and rights to attain comprehensive information and support in all matters related to sex practice and outcome. In addition they face barriers to access reproductive health services and to participate in their programs (28,29).
Hence it becomes clear that adolescent sexual and reproductive health is a major neglected public health problem in Sudan.

2.2 Justification

Adolescents are the future leaders and their health and development should come as a priority in health and development agenda. Recently concerns about adolescents' health and rights in developing countries are rising in public health and ASRHR programs have good chances for fund. Successful interventions would contribute to achieving Millennium Development Goals (MDGs) in poverty reduction; improve maternal health, gender equity and combating HIV and AIDS(30)
According to the situational analysis of the Federal Ministry of Health (FMoH) on adolescents' health in 2010, the main problems adolescents face in Sudan are sexual and reproductive health related issues. Up to now there is no specific response for this target group (1). Then the majority of adolescent girls deaths are due to maternal complications(31). FGM and early marriage contribute highly to this.
Many determinants influence the sexual and reproductive health and rights of adolescents, and analyzing them carefully will provide a better understanding of barriers and enablers that affect their health behaviors in order to plan appropriate interventions. More studies are needed to explain the causes of lack of knowledge on SRH issues among Sudanese adolescents and to recommend practical solutions for ASRHR and needs. Policy makers and health professionals need to make more efforts to eliminate the harmful practices undermining adolescents' health.
In addition, in Sudan despite many challenges in the health sector, still there are opportunities to have better health outcome. Therefore the study aims to gain better insight into the determinants and explore for solutions: what are the best practices in this field and analyze the feasibility of applying them in Sudan.

2.3 General Objective

To explore the factors that affect the sexual and reproductive health and rights of adolescents in Sudan and to identify practices to improve adolescents' sexual and reproductive health, in order to inform decision makers on the appropriate areas of interventions.

2.4 Specific Objectives:

- To identify the factors (individual, social, cultural, religious and others) that influence adolescents' sexual and reproductive health and rights.
- To describe the current health sector response to ASRHR and needs.
- To identify best practices elsewhere that makes health services and policies encouraging for adolescents and discusses the possibility to apply them in Sudan.
- To recommend to stakeholders feasible interventions from the country and other similar countries experiences.

2.5 Methodology

The method used for this study is a literature review. Descriptive study about the determinants of ASRHR and best approaches and strategies to respond to ASRHR and needs in Sudan. Using peer reviewed articles, books, reports, websites and grey literature from MOH reports and strategies.

2.5.1 Search strategy:

I searched in PubMed, Vrije university online library, Google scholar and Scopus for peer reviewed articles on adolescents and young people SRH. I looked for statistical data and Sudan information from ministers web pages; ministry of health, education, justice, Central Bureau of Statistics (CBS), World Bank and Google. I also searched WHO, UNDP, UNICEF, UNFPA, IPPF and Guttmacher institute web pages for reports and information about adolescents in Sudan and developing countries, using key words initially and combination of key words.

Peer reviewed articles were preferred and search was restricted to year 2000. I excluded one book and two articles that contain constant information.

Relevant documents from MoH were reviewed and used as references for Sudan health information related data. I also searched for books from KIT and Maastricht university library. Search language is English, for ministries web pages Arabic language is used.

Key words: Adolescents, young people, sexual, reproductive health, rights, determinants, approaches, Sudan, developing countries, unsafe abortion, STIs, HIV, AIDS, family planning, FGM, early marriage, unintended pregnancy, youth friendly health services, interventions, media, peer education, sex education, Abstinence, condom use.

2.5.2 Conceptual frame-work

To meet the study objectives I searched for a framework to explain the determinants of ASRH. My search revealed 3 frameworks Blum, Healthy people 2010, and the social ecological models. I excluded the first 2 frameworks as they do not match well with my specific objectives and I choose the ecological model adapted by WHO(31).

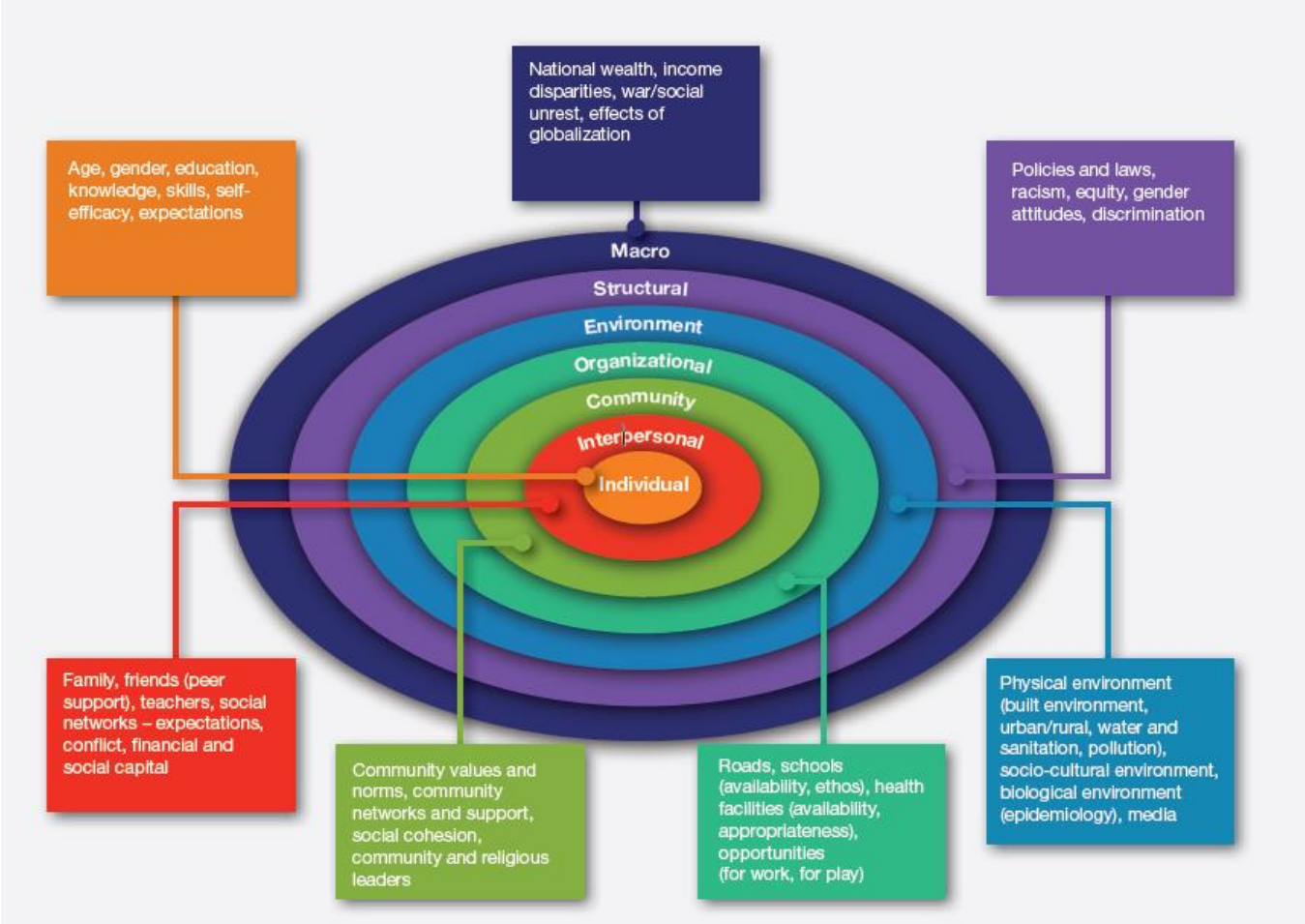
The ecological model was developed by Bronfenbrenner in 1977, the ecology of human development theory, to explain the root causes of health variations, to design studies, shed light on variables, advice on possible interventions, and clarifies wonders. Later it was combined with other models like Rubin's model 1984 by Forgione 2002(32). Then the model was used by many researchers to explain the determinant of teenagers' pregnancy, adolescents' contraceptive use, adolescents' development, etc. (32).

The ecological model adapted by WHO describes the factors that enable or undermine adolescents' health at different levels from individual to macro system(figure 3) (31).

Each level from the model comprises several elements. It starts by individual level that contains factors like age, gender, education and self-efficacy. Then Interpersonal factors which describes the effect of family, peers and social networks. The third layer are the community values and norms, followed by the organizational structure that provides opportunities for schooling, work, health services and places for play. The model enlarges to the physical and social environment and its interaction with health; it also refers to policies, laws and gender under structural factors. Finally, it expands to the macro system which includes national wealth, disparities and the effect globalization.

Sex is missed among individual factors; however it's of great importance for adolescence so I decided to add it.

Figure:3 Ecological model adapted by WHO(31)



Chapter3: Determinants of Adolescents Sexual and Reproductive Health and Rights

This chapter presents the factors that influence ASRHR following the ecological model adapted by WHO. Under the organizational factors it describes the current health sector response.

3.1 Individual factors

This subunit describes the following factors: age, sex, gender, education, knowledge, skills, self-efficacy and expectations.

Adolescence is an important developmental and transitional stage between childhood and adulthood or maturation. It lasts approximately from 10 to 19 years old (27,33). This period is also important in sexual orientation, body exploration, start dating and sexual initiation.

The period is usually classified to early adolescence (10-14 years) and late adolescence (15-19 years). The early period is characterized by biological changes or growth spurt, increase in height and weight, appearance of secondary sexual characteristics and puberty. Factors affecting the onset of puberty i.e. menarche and ejaculation are genetic background, nutrition, systematic diseases, psychological factors and hormonal modulators. Puberty occurs 2 years earlier in girls than boys (34).

The increased level of the gonadal hormones lead to morphological changes like increase body fat and breast development in girls; this might not be perceived positively by girls especially if it appears earlier than their peers. Also gonadal hormones have direct effect on the central nervous system and mood changes. The somatic differences between sexes become obvious(35).

In Sudan the level of knowledge about sexual maturation and RH issues for early adolescents is less than their older peers, also there is an interacting effect of education(22).

There is significant relation between the age of puberty and sexual initiation, the earlier the puberty for both sexes the earlier is the initiation(35,36)

Regarding gender, Sudanese girls are more prone to anxiety and have negative perception for menarche. Their information about STIs is less than boys. Also they are more subjected to suppression and intimidation due to culture, harmful traditional practices, economic and political situation(22).

Boys are exposed more for risky behaviors like smoking, alcohol injuries and early initiation of sex(36). Among Sudanese adolescents alcohol consumption is more prevalent among older boys with no education(22). Boys are found to use more Tobacco products like

(Tombacc) dipping and Shisha than girls(37).Substance abuse and alcohol consumption are associated with unsafe sex (36).

During this period different feelings about sexual orientation starts to appear, being a gay, lesbian or bisexual. Many adolescents may not practice sex early but they may start to have feelings and attractions to the same sex (homosexual) or bisexual. These groups are more marginalized and intimidated for legal, cultural and religious reasons, this usually push them to hide their identities and look for their peers in hidden groups(38). Social pressure and stigmatization push gay and lesbian adolescents to risky behaviors like smoking, alcohol, drug abuse and unsafe sex. Homosexuals in non-accepting communities are more prone to suicide(39).

Education is an important determinant and right of adolescents' health. It is protective for boys and girls against many SRH problems like risky behaviors, injuries, teenage pregnancy and death. Completing secondary schools is found to motivate adolescents and promote their health(33), it also improves their capacity to prevent pregnancy(40). Lack of secondary school education among Sudanese adolescents married girls was found to be associated with poor antenatal care attendance and more pregnancy related complications(41).

Another substantial individual factor is the knowledge about SRH. In Sudan among adolescents there is significant gap in knowledge about maturation signs, fertile period, family planning, STIs and HIV(22), which makes adolescents more vulnerable to unwanted pregnancy, unsafe abortion, acquiring STIs and HIV(27) .
A study conducted in Khartoum 2005, revealed that adolescents' knowledge about their sexual and reproductive health is very low: around 44% of boys don't know about maturation changes for boys versus 48% girls. 50.3% of boys don't know about maturation changes for girls versus 32.6% girls. Those who have some knowledge pointed schoolbooks as the commonest source. Other sources are friends and family members. The level of knowledge increased markedly with the education and age. Girls seem to have more knowledge about their maturation signs than boys but majority of respondents reported negative perception of menarche. Knowledge about family planning is scarce, where 41.2% of respondents never heard about it. When they were asked about female fertile period, the majority (75.5%) gave in correct response about the right time of fertile period(22).
Only 5% of girls and 11% of boys are found to have comprehensive knowledge about HIV/STIs and their modes of transmission and prevention(19).

Adolescents' knowledge about sex is also affected by the taboos and myths around sex. For instance the taboo around masturbation decrease adolescents' ability to enjoy it as a safer sex and create confusion and fear around sex as a pleasurable act(42).

In addition to knowledge, individual features like formation of ideas and concepts , skills, intention and behavior become prominent during this period(30). As a developmental stage adolescents acquire most of the essential skills important for their maturation and adulthood roles, the acquisition of these skills is influenced by the family, schools, working place, community and surrounding environment(33).
One of the skills they may need to develop is condom use. Condom use in Sudan is very low and there is taboo related to it aggravated by parliament members who stopped condom programs for students. They claimed it promote promiscuity and called for 'abstinence only' campaigns in HIV and AIDS programs(43) .
Knowledge and skills contribute to self-efficacy and expectations. Self-efficacy is a sort of cognition that is interacting with personal, social and contextual factors and influences social, behavioral and emotional development. During adolescence changes in self-efficacy affect academic choices, performance, friendships, career and professional choices in future(44). High self-efficacy during adolescence results in better interpersonal and social development. It is also related to better career advancement and improved capacity of decision making(45).

3.2 Interpersonal factors

This subunit comprises factors related to family, friends, teachers, and social networks, and also links to financial and social capital.

Family is an essential determinant for ASRH. Supporting Parents are fundamental factor to improve children development to achieve improved global health(46). Family connectedness is a crucial protective factor for adolescents health and wellbeing, good spirits and enthusiasm about future(33). Living with both parents and presence of father (especially for girls) is a strong protective factor(33). However for most Sudanese teenagers girls they find it easier to communicate with the mother and sister than father and brother, this can be contributed to culture and norms(22).
Parents are usually the preferred sources for information about maturation and sexuality for their growing children. In Sudan because of the social norms and taboos regarding sex and sexuality parents are not the favorite source for information regarding sexuality as expected for adolescents, parents themselves may not be prepared with the

relevant information. They even object questions regarding sexuality and STIs to be asked for their children by researchers (22).

The norms and values of the family exert high influence on adolescents' attitudes and practices positively or negatively. Parents act as a model for their children. Parents who have risky behaviors their adolescents are more likely to adopt similar behaviors(33).

During adolescence more time is spent with friends, more intimate relations are formed which affect the psychosocial development.

Peers can exert positive or negative influence on youth health. Peer modeling and norms form protection against risky behavior, sexual violence and substance abuse(33). Friends who are sexually active or drink alcohol are risk factors for early sex initiation and risky sexual behaviors(47). Also, peer effects can result in start and persistence of smoking, alcohol abuse and violence(33).

Alcohol consumption during adolescence is a risk factor for early sexual debut, early child bearing and multiple sexual partners(47).

Girls and boys have different opportunities to socialize with friends; In Sudan boys are allowed to go out more freely than girls, whom might be allowed just to exchange visits at homes with friends from the same sex(22).

Besides family and peers adolescents are influenced by their teachers. Teachers could be the corner stone of sexual education and HIV prevention programs in schools(48). Hence it is crucial to assess their thoughts and attitudes towards sexuality education before engaging them in these programs(49).Teachers themselves may lack the knowledge and skills to deliver the needed information and must be trained beforehand(48).

Usually Sudanese families, teachers and societies have the perception that silence about sex or physical maturation protects child's innocence and keeps them from risky behaviors so they are reluctant to provide these information(22), violating adolescents' right of comprehensive sexual information.

Another interpersonal factor is the social networks that adolescents act and interact within. The peer effects work through the social, structural determinants, the family and neighborhood. This social networking of parents and peer effect differs according to the setting; urbanization and economic changes decrease the family relations and the effects of parents' role versus peers(33). Also the exploration of individual identity pushes teenagers towards peers networking or adolescents' subculture(22).

Recently the growing use of internet makes online social networking a new opportunity for social interactions among adolescents, interpersonal progress, and psychosocial development inform of friendship bonding, peer quality and character development(50).

One more interpersonal factor is the financial capital which empowers adolescents to develop life skills. Economic empowerment allows adolescents to attain better health(51). The socioeconomic status of parents affects adolescents' nutritional status and mood disorders, it also affects their school achievements(52).
Sudan is passing through economic crises and there is high idleness. Chances for employment and work for adolescents are few. Most of those who work are usually in informal jobs that are often for long working hours, lack social security and low salaries(21). Also there is high dependency for those who work (53). They share their earning with the family and it is not accepted culturally that young people live independently from the family. This affects their choices and rights considerably.

Social capital is the benefit or gain that is acquired from relationships, social cohesion and community support. Although usually considered as positive gain it may also have negative impact (54). The increase in social capital may be associated with more safe sexual behavior and avoidance of HIV. Support groups bridging and bonding among young people would contribute to less risky behavior and stigma reduction(55). Other sources underline however that increased social networking and the benefits gained from this, may actually lead to multiple sexual partners or push young girls to exchange of sex for goods, and hence put them at higher risks like HIV(56).

3.3 Community factors

This subunit explains the influence of the community values and norms, community networks and support, social cohesion, community and religious leaders.

Community norms and values have major impact on the SRHR of adolescents. Some cultural practices in Sudanese communities have great impacts, mainly early marriage and FGM.
Worldwide 13 million newborns are born by young mothers under 20 years of age, 90% of these births are in developing countries(57). In Sudan the percentage of women married before 18 years old is 37.6% and those before 15 years is 9.5 %.The prevalence of early marriage is more in poor communities and rural settings reaching 54% compared to 36% in urban areas(figure 4 Annex3)(19), more over the use of contraceptives is very low among these communities(41).
Early marriage and pregnancy are associated with many complications for both the girl and fetus. Maternal complications like poor antenatal care, malnutrition, preeclampsia, obstructed labor and fistula(41).

Newborns of teenage mothers are more prone to prematurity, low birth weight and infant death. According to WHO, deaths due to complications related to child birth is twice among age group 15-19 than 20-24years(57).
Young girls when they are forced to marriage often they do not have the choice to decide on timing of pregnancy. Early motherhood negatively changes the current and future life of girls, their education, job options and career development. Early motherhood traps girls in cycles of exclusion, powerless and poverty(24).
Girls who are from poor quintiles are more prone to nutritional deficiencies, less aware about their sexual rights, have less access to reproductive health services so they are at higher risk for maternal complications and death. Young girls with older sexual partners have less ability to negotiate safe sex, more prone to STIs as their partners have usually older relationships and multiple partners(58), they may be partner in polygamy. The current information about polygamy that 20 % of married Sudanese women are in polygamy(19). No specific data about age segregation, but usually men prefer younger girls when they marry again.
A study conducted in East Sudan revealed higher rates of preterm, obstructed labor and fistulae among adolescents' deliveries(41). Development of obstetric fistula is devastating event and a big health and social challenge especially for young women in developing countries where health services are not available for surgical repair(24).
Adolescents are also more prone to complications related to abortion. There is higher incidence of unsafe abortion due to social stigma and denial of access to services(24).
Due to community values and norms, young girls are more prone to unprotected form of marriages like (Al u'rfi), pressure to proof virginity in first day of marriage, arranged and forced marriage and consanguinity which has prevalence of 56% among Muslims(59).
The unprotected forms of marriage are practiced to find exit from the social and religious restrictions of premarital sex. It is usually hidden or secret forms and girls bear the negative consequences when discovered(58).
Community acceptance of sexual initiation before marriage is diverse across the country. It is accepted among certain tribes as proof of fertility of girls, and considered as a shame that may lead to killing of young girls so called honors crime among northern tribes especially those mixed with Arabs ethnicities(59).

As mentioned earlier, another important cultural practice is female genital mutilation, also known as 'female genital cutting' or 'female

circumcision' refers to "all procedures involving partial or total removal of the female external genitalia or other injury to the female genital organs for non-medical reasons"(23). There are many types of FGM, ranging from hoodectomy or prepucectomy to infibulation. Type III or infibulation is the commonest type in Sudan(23). Reinfibulation after birth is also widely practiced in Sudan(60).
Despite the efforts to eliminate FGM it is still of high prevalence. The law to ban FGM was formulated in 1946, but is hitherto not fully implemented. Midwives are the main actors and the procedure is carried on girls' homes or midwives' homes(60). Still 42% of Sudanese women in reproductive age think the practice should be continued and 48% intend to cut their daughters(19). Majority of girls think it is a pre request for marriage(22). Men and boys are usually not considered within the discussion about FGM, although men are important partners in decision making(61). Boys usually have no clear ideas about if the practice should continue or not(23). Meanwhile admitting the complications of the practice still most of the men think it is a religious requirement, tradition and there is social rejection of non-circumcised girls(62).
This ceremony of ritual passage, preparing young girls for marriage has its immediate and long term impacts on SRH. Immediately the severe pain, bleeding, infection, injury to other parts, psychological trauma experienced in such young age and death(23) .
Later menstrual problems after menarche and when girls start sex they experience painful, difficult intercourse and sexual dysfunction. The decrease in sexual desire and pain may lead to infrequent sexual contacts and infertility(63). It is also associated with a wide range of genital and urinary tract infections like syphilis, gonorrhea and HIV(64). The disfiguring of external genital organs and development of scar and keloids result in wide range of complications that may extend to obliteration and complete vaginal closure(63). The focus on reducing women desire and increase husband sexual satisfaction(60) is a major intimidation for girls and women and a violation of their rights. It also increases the gap in gender equity(65).

On the other hand community network and social cohesion can act as protective factor for ASRH. Adolescents spent more time outside homes and they are subjected to influence by community and neighborhood. Community network monitor, supervise and convey values to adolescents(33). Community rapports and social cohesion is a strategic area for young people behavior influence and change(30).

Among the key players in communities are the religious leaders. Religion as a part of culture contributes to identity identification and

future adult modeling. Religious leaders have influential role in community mobilization, public opinion determining and fighting harmful traditional practices like FGM(66). Religious leaders are strategic partners who can reach adolescents and advocate for many ASRH concerns: gender based violence, male responsibilities, early marriage, SRH information and services(66). And can also act as opposition for some programs like condom distribution if they are not well oriented(43).

3.4 Organizational factors

This layer of the model comprises roads, schools, health facilities and opportunities for work and play.

While the whole infrastructure of Sudan is developing with notable achievements, still roads conditions and connectivity with neighboring countries is poor and low density. This hinders transportation and movement and result in isolation of rural parts. The unpaved roads make movement during the rainy seasons impossible(67), which hinder mobility and delay referral to health services.

Regarding schools, there is vast discrepancy between the different states in Sudan in both the availability and equipment of schools; Khartoum and Jazira states are in the top while Darfur states come at the bottom of list. The curriculum also is not adapted to the local needs, there is high dropout rate from schools with large number of adolescents out of schools without educational or vocational training(12).

Similar to many developing countries there is lack of formal sex education in schools. Even when the curriculum contains issues of SRH they are skipped by the teachers who feel usually unskilled and uncomfortable to talk about or explain it to students(59).

Schooling and academic achievement are found to provide a sort of protection from risky behaviors. Occasionally schools might create a risk for young girls by exposing them to harassment from teachers or other students(36). Schools environment and connectedness with family are also important protective factor for ASRH(33).

3.4.1 Health facilities

In term of **health sector response** the national health policy does not mention adolescents specifically. The RH task force however, acknowledges the gap in ASRH and emphasizes the need and importance of research on this field. The policy and strategic plan have pointed at youth friendly services as part of planned activities of 2010

to 2015 plan, up to now no reports about activists have been conducted in this field (1,68-70)

In Sudan reproductive health services are mostly curative, there are few special programs for health education, SRH information or prevention(69).There is no specialized services for adolescents (1). RH care is provided as part of PHC package in public sector, the general infrastructure for PHC services is poor; 29% of PHC centers are not functioning, only 45-65% of the population has access to primary care, with wide variations between the states. Referral system is also weak(69). The RH program works in a vertical manner and only recently there is an initiative to integrate RH services with STIs/ HIV and AIDS programs. There are many financial and human resource challenges for this initiative(71). Further SRH care is provided through private providers, obstetrics and gynecology clinics.

Premarital screening is not offered in the public facilities. Contraceptive use prevalence is very low 9% for the country and in rural areas is 7%. Barriers identified were geographical location, financial ability, low awareness, husband's refusal, cultural and religious beliefs and low quality of care(72). Post natal care is 18% and only 57% of deliveries are attended by skilled health staff(69).

There is lack of the emergency and obstetric care especially in Darfur and Gadarif states. As well there is shortage of medical supplies and equipment(73). Adolescents' utilization of reproductive health services is very low (72).

Abortion is illegal in Sudan. Abortion services are allowed in health services for medical conditions threatening women life and for rape cases. Even for rape cases there are lengthy legal procedures to access safe abortion. In addition most of girls and women are not aware of their rights, there are strong stigmas related to extra marital pregnancy and majority lack access and resources to access health services, which leads them to unsafe abortion(25).

Usually girls with unwanted pregnancy seek abortion via using herbal or traditional methods, they consult midwives (trained or not) because of confidentiality and fear of being reported. The issue of unsafe abortion is rising and the community is aware of the practice and the complications associated with it, but due to the cultural and religious values it is kept closed(25).

Health services are also not well equipped to provide safe abortion; researchers described the situation in Khartoum hospitals which are the best settings in Sudan as follow: 87% of women attended the services, has had dilatation and curettage (D&C) under general anesthesia. Only 4.4% received Manual Vacuum Aspiration (MVA) and 3.3% received Misoprostol. There was long waiting time (9-12 hours) and low level of contraception counseling for post abortion care. The

quality of care is low. Middle level providers are not allowed to provide RH services like contraception, abortion and post abortion care(25).
The attitude of health care providers towards un-married adolescents seeking SRH services is also questionable, as they are also having their own morals and opinions about adolescents' sexuality, they do not show friendly attitudes so they deny adolescents' rights and impede their access and utilization of services(74).
In cultures where it is not accepted that teenager engage in sexual activities , health care providers were found to object provision of contraceptives for adolescents seeking them, also they ask for guardians permission even if it's not legally required(75,76), they show parental attitudes and advice more on abstinence, however trained health workers on youth friendly services displayed more positive attitudes(77).

Another organizational factor is the opportunities that adolescents might have for work and for play. The current adolescent generation is living in different conditions than their parents, with more access to formal education, computer skills, telecommunication facilities; this development creates more opportunities for play and entertainment, internet cafes, shopping malls and meeting places(66). The chances vary between places according to economic and social circumstances. For instance stereotyping of sport and physical activities for boys impedes girls' opportunities to participate in playing and going out. Sports and fitness relieve stress, improve self-esteem and increase confidence(66). Sudanese adolescents have fewer chances for work as discussed under financial capital. Clubs and gyms are more accessible for those of higher socio-economic status.

3.5 Environmental factors

The environmental determinant is about the physical, sociocultural, biological environment (epidemiology) and media.
The physical environment determines the general health, nutritional status and wellbeing.
The whole country faces shortage in adequate safe water and improved sanitation. There are great variations between rural and urban areas. Most of the services are concentrated in big towns. About 61% of the household has improved water sources, but only 27% uses improved sanitation facilities: 47% are urban and 18% rural(19).
The sociocultural environment also has its influence, as a period of change and learning, adolescents have more dynamic interaction with the surrounding culture and start to develop their own identity, language, codes and perception. They are able to transform their

culture with the new acquisition they learned. Their ability is governed by the whole context they live in i.e. income, political instability, level of education and health(66).
Looking at biological environment, there is a rising incidence of bacterial and viral STIs among sexually active unmarried adolescents; most common treatable infections are syphilis, gonorrhea, chlamydia, and trichomoniasis. HIV incidence among this group is also alarming, unfortunately they are usually neglected and under screened(78). The exact STIs epidemiology is not available for the country due to weak reporting and failure of submission as reported by the national control program, but the report suggests increase in incidence of syphilis, hepatitis B and C(43).
The last elements among the environmental factors are the media. Media have both protective and risk influence on ASRH. Media are a powerful tool to improve knowledge, communication and reduce adolescents' risky behaviors(79). In contrast the sexual contents of magazines, websites or so called sexual socialization agents may result in early initiation and sexist attitudes towards women(80,81). The local Sudanese media role on SRH information for adolescents is very low, and media was reported as the least source of information about sexual maturation signs and reproductive health knowledge by adolescents(22).

3.6 Structural factors

This subunit describes structural determinants such as policies and laws, but also gender attitudes, equity racism and discrimination.
Sudan is governed by both customary laws and Sharia (Islamic law). Both laws defined the minimum age of marriage by reaching puberty for both partners(3). The majority of Sudanese adolescents are protected by the child law. The child protection law 2010 doesn't protect against early marriage or forced child marriage(82). The child law also has a serious gap that it does not prohibit FGM (69,83).
According to Sharia law sex before marriage or outside marriage is illegal and a sin. Homosexuality is banned. Polygamy is legal for Muslims. Other religious groups are governed according to customs(3).
The current regime has issued and carries out some laws like the public order law which allow the police to arrest girls due to inconvenient dress (according to the public order police opinion) or mixing with other gender in public. It also permits to arrest boys if they grow their hair or show any feminine attitudes(84). The punishment is lashing, fine or prison(83). This law have been criticized by the social media and human rights activists of being against human

rights especially women rights(85). The law makes young people social life or going out for a date a risk that may end up in jail or lashing.
The current legislations do not protect against sexual harassment, domestic violence or marital rape. Rape punishment varies from flogging to prisons according to court(82). It is obvious that the current laws violate adolescents' rights and intrude them.

Looking for gender attitudes, although the national constitution states gender equity and same rights for men and women(3), in Sudan a great discrepancy is witnessed with regards to gender roles and women position, for example the law states that women have to get permission from a male guardian to certify marriage. Men have the rights to divorce at any time without women permission, and women could only be divorced by court under certain circumstances of harm (82). Women representation in parliament is 25% (quota). Sudan does not endorse the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (83).
The participation of adolescents in political life and decision making is almost absent or minimum (16).

Racism and discrimination have long history in Sudan and has its influence in recent relations. Discrimination against African black by Arabic descendants' tribes has influenced the social relations and distribution of resources. It results in marginalization of Afro ethnicity and appealed for the war and conflicts in South Sudan and Darfur. It is also claimed for inequitable distribution of resources and concentration of services including health facilities in the center (Khartoum and Jazira)(86).

3.7 Macro factors

The macro determinants constitute of the national wealth, income, disparities, war/social unrest and effects of globalization.
National wealth and income are among the strongest determinants of adolescents health(33). In Sudan in spite of large natural resources the poverty incidence is high(6).
Poverty exerts its effect on ASRH in various ways; young girls from poor quintiles are more likely to get married before 18 years, more prone to early pregnancy, lack access to RH services, less likely to use modern contraceptive methods, have less knowledge about STI/HIV transmission and prevention, less enrolment in schools and less chances to be attended by skilled personnel during deliveries(87).
The unequal distribution of resources and power results in visible inequity in access to education, health services, work opportunities and entertainment, it actually affects all aspects for achieving good

life. This variation is not a natural phenomenon it's a result of weak policies, poor programing, imbalanced economic measures and bad politics(46). Adolescents in rural parts of the country have fewer chances for access to health and education. Adolescents girls in rural parts are more prone to gender inequality, early marriage and maternal complications(19).

Since independence 1956, Sudan is undergoing internal conflicts and civil wars in different parts of the country. South Sudan war ended in 2004, the ongoing conflicts in Darfur since 2003 resulting in millions of Internally Displaced Peoples (IDPs) and war affected persons(88). There are an estimated 4.9 million IDPs in the country and 500,000 refugees in neighboring countries most of them are children and adolescents. Street children are more than 12.000(1). The use of rape and sexual violence as a war weapon was documented, especially in Darfur against women and young girls. Sexual violence results in destruction of the social fabric, humiliation and long term physical, moral and economic impacts especially for young girls(88).

Girls and women in Darfur inside and outside camps were subjected to rape, FGM after rape and forced married to rebels. Moreover those who were pregnant from rape were detained, penalized to extra marital pregnancy and disgraced by their communities (88).

Displaced peoples have low access to health services, beside the restricted abortion laws, they would contribute to increase rate of unwanted pregnancies, STIs, unsafe abortion and increased maternal morbidity and mortality (2,52).

During wars and conflict there is disruption of the education, economic and social system, boys may be recruited as child soldiers, (33) girls might be obligated to sell sex , there is lack of the protective family and social structure, so more risky behaviors , unsafe sex and increase in STIs including HIV(2).

The last factor is the effects of globalization. In the recent decades the advance in telecommunication, financial and economic interdependence resulted in faster progress in the globalization(89). Media is the open gate for globalization. Adolescents are more open to learn from internet and media as they have more autonomy than children to look for information outside family and less embedded by adults' behaviors and believes. The effect of globalization differs across the country with the variation of urbanization, availability of television, internet, etc. There is rising claim that adolescents are following a western style culture and abandoning local values and believes, which affect their sexual behaviors. Globalization is also claimed to cause bicultural identity and identity confusion in non-western cultures(89) .

Adolescents' sexual and reproductive health and rights is an urgent public health challenge that can't be tackled from one angle. It is determined by the interacting effects of all factors discussed above. The next chapter discusses interventions for response.

Chapter 4: Strategies and Approaches to improve Adolescents Sexual and Reproductive Health Care

This chapter describes options for interventions based on theoretical and practical experiences from other countries and the possibility to apply in them Sudan, according to the determinants described in chapter 3.

In order to have evidence based interventions I looked for systematic reviews and reports from relevant agencies in countries with similar context. I also participated in a workshop 'Expert Meeting on Youth Friendly Health Services' held the 3rd of July, in the Balie, Amsterdam. When designing intervention programs for adolescents one should focus on their individual variations and the whole context they exist in (30).The components for ASRHR response should include the followings.

4.1. Individual, interpersonal and community interventions

4.1.1 Comprehensive sexuality education (CSE)

CSE addresses large number of determinants and factors from individual such as education and knowledge passing through interpersonal like teachers and social networks to communities aiming to change taboos and correct misconceptions.
According to International Planned Parenthood Federation (IPPF) definition: "Comprehensive Sexuality Education seeks to equip young people with the knowledge, skills, attitudes and values they need to determine and enjoy their sexuality – physically and emotionally, individually and in relationships". It looks for sexuality as a whole and within the emotional and social development settings. It identifies other required factors besides information and emphasizes giving young people the chances to gain essential life skills and improve their behaviors and morals(90).
CSE is not exclusive to formal school curriculums and health services. It is a wider approach through media, hair dressers, common transport, theatre, drama, traditional ritual ceremonies etc. CSE providers should be well acquainted with the proper knowledge and skills about adolescents' needs and rights and have the ability to deliver the messages appropriately. The seven essential components of sexuality education are: "Gender, Sexual and reproductive health and HIV, Sexual rights and sexual citizenship, Pleasure, Violence, Diversity and Relationships"(90).

Systematic review evaluating programs targeting sexual education in developing countries revealed that formal school interventions are effective in delivering information and skill based programs. Large numbers of school based programs focused on HIV/AIDS and the results demonstrate improvement in knowledge and attitudes at least on the short term after interventions(91).
Behavior changes were also documented, however evidence suggests that short term one time programs are not likely to result in sustain behavioral changes(91).
CSE is a basic adolescents' right, it improves knowledge and perception about sexual and reproductive health, educate about contraceptive use, and increase community awareness about complications of early marriage. So it contributes to reduction of unintended pregnancy and unsafe abortion(92).
Sex education focusing on abstinence only has turned out to be non-effective in prevention of early sexual debut and STIs(93); it may even causes harm and negative impacts on other programs like family planning and HIV and AIDS awareness. Abstinence only programs also raises ethical concerns about shielding facts and provision of misleading information to adolescents(94).
Interventions addressing adolescents in schools and those outside schools that use both formal sex education in curriculum and CSE through media and other portals, showed better outcomes in SRH knowledge, skills and utilization of services(95).
Teachers, parents or peers can deliver CSE. They need to be willing, committed to distribute the information and well trained(90).
Peers as protective factor for ASRH can be targeted for this intervention.

4.1.2. Participation of adolescents in their programs

Active participation of adolescents in their services builds their knowledge, skills and self-efficacy and it addresses individual, interpersonal and community factors. It is one of their SRHR(29).
Adolescents can be involved in peer education programs, where they teach each other at any convenient place (schools, streets, clubs, etc.). Peer education is meant to influence change in knowledge, attitudes and behavior at individual level and it can also lead to changes in programs and policies by the influence that can result from the effective actions of groups. Usually peer programs are designed as part of multiple interventions aimed to improve adolescents' reproductive health and HIV/AIDS awareness. To achieve good results from peer programs it must be linked to other services through referral mechanisms(96).
The important steps for peer education programs is the selection of candidates, training on the selected subjects and the provision of

Information, Education and Communication (IEC)materials like posters, brochures, condoms and others(97).
Involvement of adolescents in all steps from planning, implementation and evaluation to address their needs is crucial and basic right. They should be motivated to take decisions on what they think important and priority for themselves. This will also ensure that the programs are relevant, understood and they are responsible towards it(58).
Studies to review adolescents' satisfaction of care from their perspectives pointed out important universal factors that lead to satisfaction. They indicated accessible health services (site and affordability) and continuity of care, trust, privacy and friendly provider with good clinicians listening skills who communicates in a direct way, giving clear technical information without lecturing style and they need to feel respect by non-judgmental providers. They also pointed out the importance of short waiting time, flexibility in working hours to decrease absence from schools. Adolescents with chronic illness preferred to be seen as "teenagers with normal needs". Another important aspect is confidentiality especially in issues related to psychosocial and reproductive health. Autonomy was a priority for chronic and tertiary care conditions, through learning communication and emotional management skills(98).

4.2 Organizational interventions

4.2.1. Youth Friendly Health Services (YFHS)

Good quality YFHS is one of the essential adolescent's rights(29). It is the determinant that health care managers can directly invest in to improve ASRHR.

In many countries in the region MoH have started to recognize that to address maternal mortality, STIs, HIV/AIDS and various SRHR issues, they must tackle adolescents' needs and rights in their services(99).
Youth sexual and reproductive friendly health services are defined as " services that deliver a comprehensive range of SRH in a ways that are responsive to the specific needs, vulnerabilities and desires of young people"(100). They are capable to attract and maintain their clients, and have a range of services like other good quality SRH services from prevention, diagnosis to proper management(100).
WHO define adolescent friendly service as a one "accessible, acceptable, equitable, appropriate and effective" (92).
The comprehensive services should be integrated in one point and include: STIs, HIV (counseling, testing and treatment), family planning, Pregnancy and Maternal care, abortion and post abortion

services (according to the country law), relationship and sexuality information and counseling, sexual violence and abuse care(100,101)
There are different contexts for provision of YFHS:

- Hospital based services for in patient management, secondary and tertiary referral.
- Community based health facility, this include family doctors, general practitioners, health centers run by NGOs or others, governmental health posts.
- School or college based health services.
- Community based centers; these are centers that provide, beside health, other community programs like literacy and numeracy skills.
- Pharmacies and shops (for condoms, emergency contraceptives, etc.)
- Outreach information and service provision(102).

Important criteria to qualify for a good quality YFHS are: proper assessment of the adolescents' needs in the community, knowledge about their rights and availability of information specifically for this age group. Another crucial factor is to set standards and criteria for the services and follow up their implementation(92).
The main requirement for a friendly service is the skilled nonjudgmental providers. The health staff must be welcoming and receptive for adolescents and must assure privacy and confidentiality(58). Also the service to be considered as YFHS must involve youth in deciding for the contents, scope, monitoring, evaluation and management(101,103).
The characteristics to develop YFHS can be according to WHO framework. It is based on both review of evidences and experiences of agents working in YFHS and suggests solutions for barriers (Box1 Annex5)(102,104).
While planning for YFHS we must bear in mind barriers of young people to access and use the services which are availability, accessibility, acceptability and equity(102).
Availability: Usually there is no need to build new facilities; the existing health services can function as YFHS(102).
Accessibility: making health services accessible for the target group is crucial. The accessibility to services could be achieved through the following:

- Eye-catching place, the selection of decoration should consider the local community and young people' opinions.
- Cost and timing. Whenever possible, services should be free for adolescents, if this is not possible a voucher scheme could be afforded for basic SRH services. It is also important to run flexible working hours.

- Professional, skilled providers, health cadres should be trained to provide friendly services in non-judgmental attitudes.
- Community mobilization, it is essential to promote for health care and encourage young people and link them with the standing services(28).

A quasi experimental study from Bangladesh 2004 showed an increase in access by double when combining YFHS with only school sex education. The increase was 10 folds when combined with wider sex education in schools and outside(95). Audit from South Africa 2004 revealed improve in all service standards and access in intervention clinics compared to control(105).

Acceptability of health care for young people is always related to privacy and confidentiality; adolescents may be reluctant to use services if they fear that health providers stigmatize them or may break confidentiality with their parents or guardians(102).

In some countries it is not allowed to provide SRH care for adolescents or minors without guardian permission this might lead to break of confidentiality, also health providers might be obligated to report cases of illegal induced abortion or homosexuals to the legal authorities(28). Health care providers have to be aware of the legislation and laws, but this should not hinder their professional duty to provide SRH services for adolescents and respect their rights. When there is a chance to interpret the laws in line with the medical and professional ethics it is important to take it in favor of young clients and protect their confidentiality. It is also important to be careful when to disclose if there is suspicion of sexual abuse(77).

It is important to create enabling environment that encourage adolescents to trust providers to get information, counseling and further care needed(103).

Health care providers should be receptive and make good rapports with adolescents and understand their social and family connections. Some young people may want to have providers from the same sex and this should also be respected and provided when possible(28).

The follow up plan and future communication if needed should be discussed during the visit to find solutions if there are barriers for coming again and to agree on the best way for further communication(28).

Equity: Policies and laws for SRH care for adolescents must ensure equitable distribution of services. Health workers must give all their clients appropriate care and respect without discrimination for any reason(102).

For successful and comprehensive YFHS there must be clear monitoring and evaluation system beside data collection and analysis (106). An intervention logic developed by KIT health to explain the

linkage between the desired outcomes and the required outputs of YFHS(Annex4 Table 1)is a useful tool to plan and monitor the steps of implementation, it gives an idea to prioritize steps when there are financial constrains(97).

4.2.2 Participation of Non-Governmental Organizations (NGOs)

In many countries the interventions for ASRH are carried out mostly by NGOs and have achieved good results. In Arab states women groups, NGOs, youth associations have taken the lead on SRH issues and advocated for SRH rights and care. Although these efforts are usually in small scales and difficult to evaluate their impacts, still they are good opportunities for the government to coordinate and integrate their services(59).

NGOs in Sudan are not working with their full potential and their participation on health care is not homogenous across the states. In Khartoum state 52% of the PHC services including RH is provided by NGOs(107). In Darfur, response to sexual and gender based violence is mainly carried by NGOs(88). In other states their share is very low(15).

International NGOs like JICA, IPPF, national NGOs like Elmanar, Sudanese association for maternity and fertility, UN agencies UNFPA, UNAIDS are having projects in SRHR and are good partners for further collaboration. Some are pioneers in this field like the Sudanese family planning association(65,108).

NGOs are more active in community mobilization and connection with volunteers and community health workers. Also they have been involved successfully in sexual health education, family planning, early marriage and FGM. One of the biggest sexual health education programs in Egypt was carried out by Egyptian Health Family Society in collaboration with ministry of education 2010, targeted 32,500 students and achieved large success in increasing knowledge and correction of misconceptions regarding puberty among adolescents. The results of pre and post seminar attendance in correct answering questions related to SRH for boys from 28% to 76% and girls from 35%to80% (109).

4.2.3. HIV and AIDS services for HIV positive adolescents

Adolescents with HIV and AIDS are usually a very vulnerable group. They are often orphans and out of schools. They lack basic information and knowledge about the disease, which exposes them more to the infection. Moreover they lack access to condoms and HIV prevention programs(26). Social factors, displacement, violence, lack of services make youth especially girls more at risk of contracting HIV(26).

The mortality of AIDS among HIV positive adolescents is more than any other age groups, and incidence of new infection among this age group is increasing(110).
HIV and AIDS prevention and management services must ensure accessibility for young people, by expanding communication through phones, mobiles and media. Enact and implement policies for confidentiality of testing, counseling and all personal information (58).
HIV and AIDS service providers need to be well informed about the sexual behaviors and reproductive needs of adolescents with HIV. They would like to continue in dating, have sexual relations and may want to have children(111). WHO and UNFPA recommend provision of information and services for safe sex, family planning counseling and SRH services in HIV and AIDS services(112). Also HIV care providers must have deep understanding of the HIV positive adolescents' anxiety and fear of pregnancy and infecting others. Integrated services are usually adult focused; more efforts are needed for more comprehensive services for the youth(111).
Prevention of Mother to Child Transmission (PMTCT)services should work to identify young pregnant girls with HIV and provide them the appropriate care in addition to antenatal care(111).
In Kenya most of the HIV positive adolescents were found preferring talks to counselors and healthcare providers than to their parents or family members. This most likely is the case in Sudan. So health providers and counselors need to be trained to respond and to create tools to communicate with parents and guardians regarding SRH issues of their adolescents. Life skills training, school based programs and support groups are all important activities to advocate for in order to improve HIV positive adolescents coping mechanisms and opportunities for education and future employment(111).
The integrated SRH with HIV and AIDS services in one point facilitate access and provide comprehensive package for adolescents. Financial and administrative challenges need further assessment(71).

4.3 Environmental interventions

4.3.1Media

Media effect is discussed with the environmental factors. It interacts with the individual and community levels and is affected by macro structure, policies and laws.
Media have been used classically as effective tool for changing adults' sexual and contraceptive behaviors. Recently many programs targeting young people use media combining education messages with entertainment in attractive ways for adolescents(113).

Media messages using radio can achieve large coverage in many African countries(91),it can be used in Sudan especially in rural parts where other media facilities are not available. Many studies showed that media result in improved SRH knowledge and behavior changes among adolescents. In Kenya the radio programs inspired youth to refer to reproductive health facilities(91).
Other countries used the media in combination with peer education programs; they trained young people and let them to develop programs and interact with their peers through radio talks and others(114).
In Cameroon and Guinea the use of radio programs resulted in delayed sexual initiation, increased condom utilization and decrease number of sexual partners to avoid AIDS(91,115).
Among the youth of Zimbabwe the media mass campaigns lead to open discussions on RH issues, more abstinence, less number of recent sexual partners, increase in contraceptive use, more attendance of clinics by boys, sexually inexperienced youth (who usually do not attend these clinics) compared to the non-intervention area(116).

4.3.2. Internet and mobile phones

Internet and mobile phone operate through multiple layers in the model. Internet is the pool for social media and it influences individual knowledge and skills.
The growing use of internet, mobile and smart phones worldwide especially among adolescents make them good mediators for SR health communication, even in areas with limited internet access mobile phones are widely used(79). In cultures where face to face communication about sexuality is embarrassing or sensitive to talk about , hotlines and mobile communication are good alternatives for SRHR promotion(59).
Currently in Sudan mobile phone coverage is among the best African countries with 98% of the population could access mobile phone services on commercial basis, the internet use is in slower progress(67).
Mobile phones can be used in various ways: (I) Hotlines that provide free information about SRH issues and consultation by a skilled provider.(II)Messages (SMS) that convey short messages, conversation and chatting.(III)Applications that provide safe communications through secured websites for information about sexuality, health centers that provide SRH services, recommended websites and peers social networking.(IV)Gamification which can be culturally adapted fun education games that teach adolescents through risk taking and assist them on decision making regarding SRH(117).

Most of the studies to evaluate the use of digital media revealed improve in knowledge among study participants. Change in behaviors vary with the duration, intensity and the activities carried out(79).
Systematic review on adult mobile health suggested careful attention to the gender dimension; mobile messages can transform gender norms and empower women with knowledge and SRH information, but in men dominant societies may create more harm for women by increased monitoring of women communication by husbands, may increase women' risk of domestic violence and privacy invasion, the mobile costs (airtime) may increase household spending and this may also worsen existing household conditions(118).
For Sudanese adolescents bearing in mind the economic conditions and the paternal society the use of mobile phones is affordable and feasible choice but should be planed carefully.
Egypt, Morocco and Lebanon have launched initiatives to disseminate correct and safe sex information through web pages to improve adolescents' knowledge, such initiatives should be led by ministry of health and education to design suitable materials according to culture and to be evaluated regularly for the outcome(119).

4.4 Structural interventions

4.4.1Policies and laws

To implement interventions that aim to improve ASRH it's essential to enact policies and laws and enforce the existing policies that protect ASRHR(92,97).
The main principles to articulate in advocating for YFHS are equity including gender equity international human rights, the MDGs and the UN Convention on the Rights of the Child(102). Sudan signed these conventions.
To prevent early pregnancy and motherhood complications it is recommended to issue laws that define the official age of marriage and prohibit marriage before 18 years beside other interventions(120).
The legal frame work to fight against FGM articulated in international resolutions like the Convention on the Right of the Child 1990, the International Conference for Population and Development (ICPD) 1994 and the Declaration and Platform for Action of the Fourth World Conference on Women (FWCW), Beijing 1995. In Sudan the law that prohibits FGM was formulated in 1946(65).
Due to traditions and culture usually there are no legal actions taken against perpetrators who are usually family members. There is urgent need to revisit the law and exert efforts for further enforcement. An action was taken in South Kurdfan and Gadarif states and included banning FGM on the state child protection law(65).

Formulation of laws and policies alone does not protect or eliminate the HTP nor improve ASRH. There is need for comprehensive approach involving multiple sectors (health, education, media, etc.) for national action towards application of SRH rights and community changes(40,65).

Chapter 5: Discussion

Adolescence is a critical and fascinating transitional period to maturity and adulthood. The determinants of ASRHR in Sudan were studied through the adapted ecological model, explaining the determinants through a wide range of factors, from individual features to macro system, country wealth and the effects of globalization.
Among the determinants of ASRHR in Sudan gender norms have a large impact; girls are more prone to sexual and RH problems as they are marginalized and intimidated by culture, laws, political situation and the ongoing conflicts(22,83,88). Adolescent girls are subjected to HTP and it is important to develop deep understanding of the cultural and traditional values attached to these practices to eliminate them.
Campaigns to fight against FGM have started long time ago and although a large part of the community is aware of the complications related to it, the practice continues in large scale. Young girls may be willing to undergo the procedures to be similar to their peers and not to be ashamed by their communities which consider circumcision as sign of purity, cleanness and beauty(60). Also they like the ceremony of ritual, the gifts and money they receive. Usually they are offered new clothes, golden jewelry and paint their hand and feet with Henna. The occasion is celebrated as a party attended by family, neighbors and relatives. Even if they escape it in their childhood they might be cut and infibulated upon husband's request(60). So health providers need to consider all these dimensions in their plans.

Early marriage is considered culturally as a protection of young girls from pre-marital sex which is prohibited by law and religion and highly stigmatized. The community perception of the role of girls as giving birth and being mothers push adolescent girls to leave schools and marry to have position in their society(24). The dowry which is paid for the girl's family is a sort of income especially for poor families.
From the other side, community values and family connectedness also act as a protective factor from early sexual debut and other risky sexual behaviors(33).

The political situation is another strong determinant, the Islamist ideation that the government tries to force for the last 25 years is challenging for endorsement and implementation of many SRH rights, policies and strategies like condom distribution, safe abortion and gender equity. The media are restricted. The current laws have many faults that compromise adolescents and violate their rights. It is very serious that the child protection law is silent about FGM and child marriage(82). The public order law gives extra power and authorities

to public order police men(84), and the social media reported abuse of this power in form of sexual harassment and rape against girls and boys by police men themselves.
It is clear this is challenging situation but still there is a room for interpreting Islamic rules and adapts more flexible policies and laws that are culturally appropriate and respond to ASRHR.
The economic situation and lack of fund for health programs due to loss of resources on security and the ongoing conflicts influence ASRH enormously(1). Health managers need to explore more resources and look for cost effective interventions.
The economic situation also pushes large numbers of the population towards poverty. Poverty is related to lack of education, less knowledge and information and more risks to unhealthy behaviors.

The current health sector response to ASRH is poor(1) , reproductive health policy and strategic plan have indicated adolescents as one of their important target groups(69,70), but there are many gaps in the policy and plan; the gender dimension and different needs for girls and boys were poorly addressed, also risky behaviors, access to contraceptives and information for unmarried adolescents are neglected. The policy is silent about abortion and post abortion care for adolescents. There was no comment about any response towards gender or sexual based violence at the country level as a whole or specifically in Darfur.

The world we live in today is highly connected, the growing effect of globalization, the media and social networking make shielding information and denial of sexual rights non useful tools to protect adolescents(89). Instead it is crucial to start planning for comprehensive sexual and reproductive health programs to improve their health and attain their rights.
As the determinants of ASRHR are compound, interventions to improve ASRH should be multi sectoral to address the determinants and should also be sustained to achieve good results(40,79). Adolescents' needs are shared between many ministers and departments within the ministry of health, and adolescents' programs lack funding. The main ministries responsible about their affairs are; social welfare, women and child affairs, education, ministry of youth, culture and sports beside ministry of health. Harmonization of efforts is required between all concerned authorities to achieve goals in a cost effective way(1).
Many programs were implemented in countries with similar context to Sudan and attained good results(91,102). Sudan can benefit from these experiences and lead similar interventions. ASRH programs

should be designed in a way to focus on reducing the reproductive health risks.

Adolescents lack of knowledge and skills related to sexual and reproductive health can be addressed through CSE. This approach should also target influencing the communities around adolescents in order to sustain behavior changes and alter community values and norms. Community resistance to such approaches is expected in start but their involvement and participation would achieve the desired results (30).

To implement YFHS in Sudan there are opportunities: health centers already exist, and the RH department points out adolescents as a priority. RH department is leading an initiative to integrate RH, STIs, HIV and AIDS services, which are part of the requirements of YFHS. The main necessities for the time being are the training of health providers on YFHS and improve the quality of services(69,70). The current coverage of health services varies between the states and increase in the number and quality of functioning health centers is also required(73).

The expected challenges are the financing, the political endorsement and support for SRH services for non-married adolescents. SRH providers should be oriented about the dilemma of laws and their professional ethical duties and should try to find safe exit for providing the needed services without risking their jobs or legal requirements(77).

The Ministry of Health in Khartoum state has established good coordination mechanisms with NGOs through the department of voluntary agencies, and their share on delivery of PHC services including RH is remarkable(107). This collaboration could be extended to deliver CSE, Peer education, YFHS and outreach activities. NGOs are more flexible to adopt these programs on their activities compared to MoH, and their rapport with local communities through their volunteers is better.

The use of media can be tailored according to different needs and available media tool. For instance radio talks for rural parts, television shows and advertisement, newspapers and magazines for literate.

Mobile phones in Sudan has very good coverage and can reach wide range of literate and illiterates peoples(67), it can convey wide range of messages and services like SRH information and correction of misconceptions and taboos regarding sexuality and RH through SMS or other services, it also has the advantage of self-use privacy (118).

Ministry of education (MoE), telecommunication companies and media are strategic partners for raising adolescents' awareness and behavior change communication other important stakeholders are religious and community leaders, civil society and NGOs.

Reflection on the model used

The original ecological model is adapted by WHO was useful for getting better insights into adolescent health and development, although some factors were more related to general health not sexual and reproductive health specifically. An important factor influencing adolescents' sexual and reproductive health and rights which is sex and sexual orientation was not included and was added by the author. Also there is overlapping between the factors across the different layers.

Limitations of the study

This thesis is a review of literature, some information about the target age group in Sudan was missing or not enough for the many aspects, especially information related to sexual behaviors and health. Some of the findings from parts of Sudan cannot be generalized to the whole country. In some parts (when appropriate) data from similar context was used for Sudan. Data from Ministry of health is not segregated for adolescents in many parts.

Chapter 6: Conclusion and Recommendations

6.1Conclusion

The political and cultural factors are the strong determinants of ASRHR in Sudan. They influence gender norms and make girls more vulnerable to SRH problems. They also influence the availability and access to health services. Other influencing factors are the low school enrolment, lack of knowledge, family and social network, poverty, disparities in distribution of resources, social unrest, the ongoing conflicts and war. The current health sector response is lagging behind and there are no special programs or training for health care providers to react for ASRHR and needs.

Sudanese adolescents lack basic information about SRHR. The family and surrounding communities think they protect them by shielding this information. There is lack of data regarding their sexual behaviors and sexual orientation and further studies is needed in this area.

Although the current political situation of Sudan is challenging there are available opportunities. Health managers should take the lead to advocate for ASRH needs and rights and maintain efforts to achieve SRHR goals.

Sexuality education has proved to be a very effective approach but challenging to implement in developing countries, where formal sex education does not catch a large number of adolescents due to low school enrolment. Hence wider approach is required through the media, telecommunication and social institutions, as indicated by comprehensive sexuality education. The same approach should target changing the negative community norms in order to sustain the required changes. Adolescent friendly services can be integrated within the existing health system to respond to adolescents' needs. Participation of adolescents in their programs is crucial factor for success.

6.2 Recommendations

The determinants of ASRHR are multifactorial and the interventions have to be in a multi sectoral approach. There is urgent need to activate the initiative of adolescents' health unit within the MoH and formulate a national adolescents' health program. The program is responsible to coordinate the activities between the different authorities and harmonize their efforts beside implementation of health related interventions. The following are recommendations grouped at three levels; policy, intervention and research related for stakeholders to improve ASRHR.

6.2.1 Policy related

1. Call by the adolescents' health unit for a workshop involving all sectors (ministries of finance, Justice, education, social welfare, women and children affairs, youth, culture and sport, civil society, community leaders, NGOS, communities, adolescents, religious leaders) to formulate a national program and strategy to improve ASRHR.

2. Advocate with legal and judiciary authorities to formulate policies protective for adolescents' health and promote gender equity, specifically to ban marriage before 18 years old, enact more clear and strong penalties for sexual abuse, harassment and rape and to enforce prohibition of FGM in child protection law.

3. Advocate with the ministry of education and other authorities to increase school enrolment especially for girls in basic and secondary schools. Promote formal sexuality education in the school curriculum by designing the required sexual and reproductive health syllabus jointly with the concerned parts at MoE. Train teachers and build their capacities to deal with adolescents' sexual development and reproductive health concerns and improve referral mechanisms between schools and health services.

4. Work with Ministry of finance and MoH for allocation and reallocation of budget and resources to finance adolescents' health interventions.

6.2.2 Interventional

5. Implement YFHS concept on the existing reproductive health centers by training of health care providers and allocation of budget to provide the services free of charge or minimal cost.

6. Reassure more collaboration with NGOs to promote ASRHR through community volunteers, outreach activities, entertainment events, sports, supporting groups, etc.

7. Actively involve adolescents to participate in all phases of youth friendly programs from need assessment to evaluation and management.

8. Adolescent health unit to run hotline for ASRH including HIV and AIDS consultations.

9. Develop culturally appropriate and attractive IEC materials to convey SRH promotion messages for adolescents that could be disseminated through the media with special focus for rural areas.

6.2.3 Research and studies

10. Encourage further researches and studies about sexuality, sexual behaviors, reproductive health concerns among Sudanese adolescents, and motivate further innovative culturally appropriate interventions.

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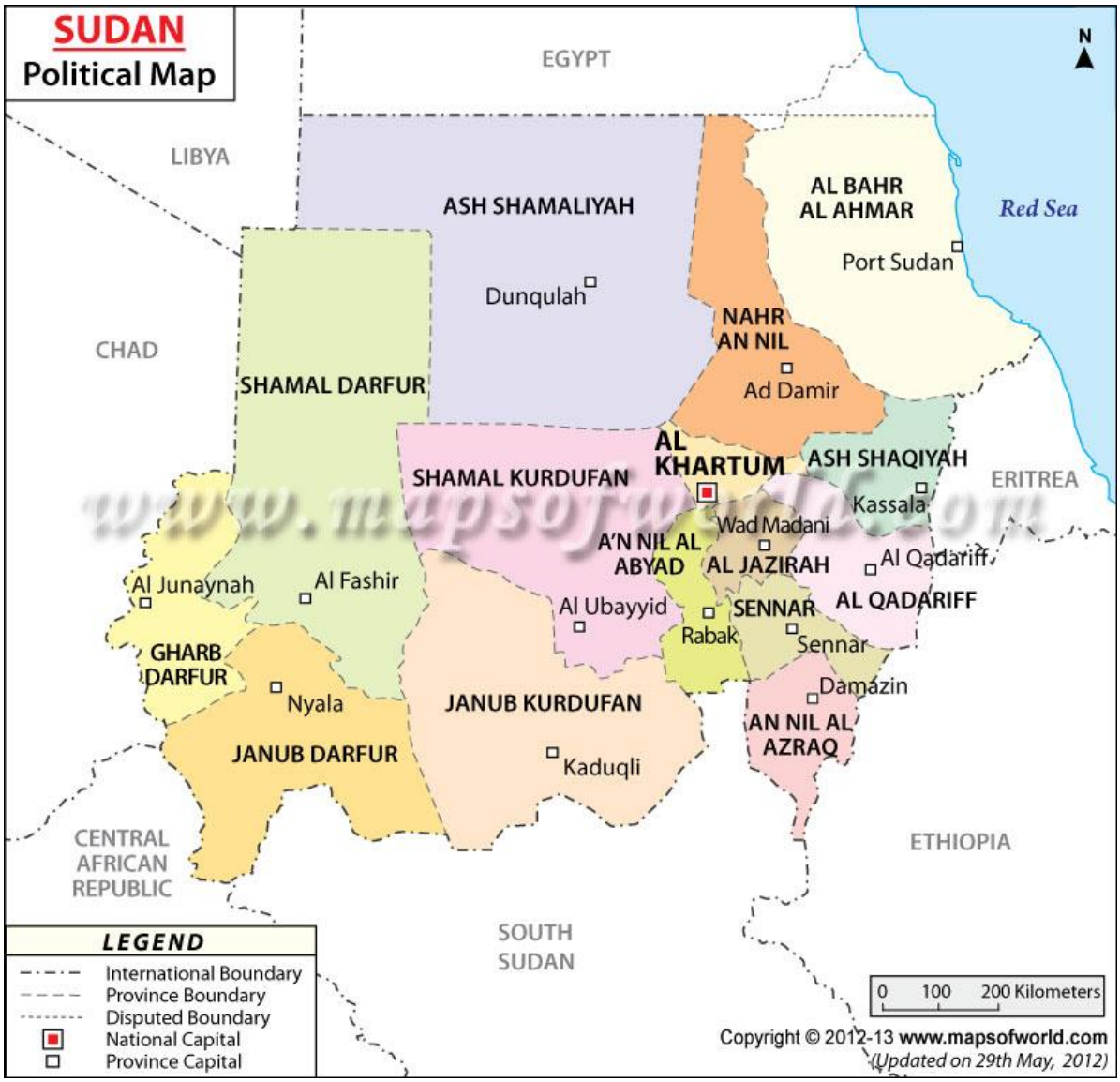
Annex 1: Sudan political map

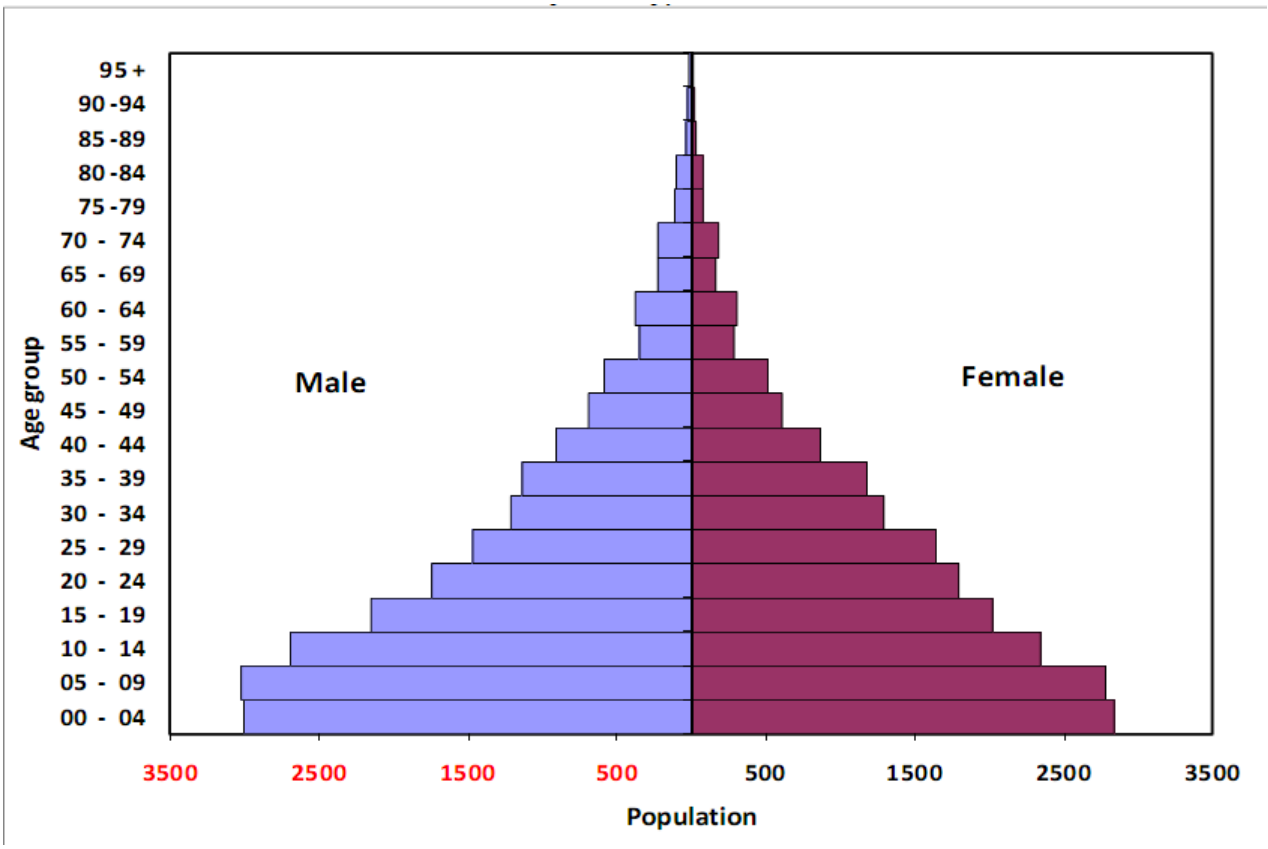
Figure 1: Sudan political map



Source: Where is Khartoum | Location of Khartoum in Sudan Map [Internet]. [Cited 2014 Aug 12]. Available from: http://www.mapsofworld.com/where-is/khartoum.html

Annex 2: Population pyramid

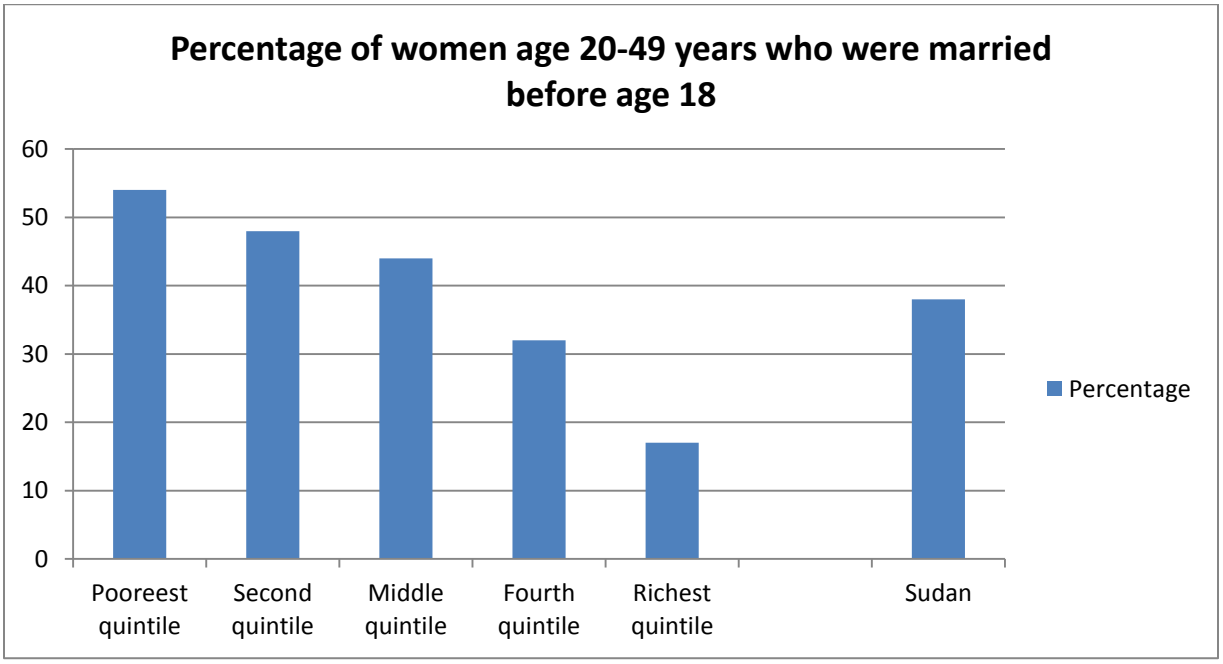
Figure 2: Population pyramid of Sudan



Source: Ali, Mostafa H, Mohamed, Hanan I, AbdoEldaim, Amal E. Population Size , Growth , Distribution and Structure. Census,2008. Central Bureau of Statisticss. Khartoum -Sudan:
2010

Annex 3:Percentage of women married before 18 years

Figure 4



Source: Adapted from Sudan. Federal Ministry of Health. Sudan Household Health Survey Round 2. Khartoum; 2010

Annex 4: intervention logic

Table1: Intervention logic

Impact: **Reduced incidence of unintended pregnancies, STIs, HIV, abortions, sexual violence, maternal morbidity and mortality, substance abuse and mental health problems in youth**				
Outcome: **Young people make use of health services that respond to their rights and needs**				
Outcome 1: **Clinic services** are youth friendly and offer quality comprehensive health and sexual and reproductive health services including information, education, counselling, testing, treatment and (referral to) other relevant services. They adhere to youth friendly policies and standards.	Outcome 2: **Facilities** where YFH services are provided are accessible for youth, confidential, offer educational activities and materials, have youth friendly inclusive (administrative) procedures, have affordable fees and are known in communities.	Outcome 3: **Providers** are selected based on criteria, with the required attitudes, skills and knowledge and have received training and continuing support on youth friendly service provision.	Outcome 4: **Youth** are fully involved in decision making in all phases of the programme cycle: situation assessment, planning, implementation (as peer educators) and monitoring and has the capacity for this.	Outcome 5: **Laws and policies** required for comprehensive YFH services are adapted or being addressed with advocacy. **Communities** are supportive to YFH services and norms and values support the rights of youth. School teachers &other educators provide young people comprehensive information about available YFHS
Output 1b: Youth friendly policies and procedures exist for all services listed in the essential package. Referral systems are established.	Output 2b: Adaptation for accessibility (location, design, hours) done, and fees, procedures on confidentiality and administration established, IEC materials,	Output 3b: Selection criteria of providers established; trainings on youth friendly service provision are held; supervision,	Output 4b: Selection criteria for youth partners established; youth trained on governance aspects, planning, monitoring and communication with providers.	Output 5b: Gaps in laws and policies required for comprehensive YFH identified and advocacy plan established. Community mobilization and information activities are implemented and follow-up activities are

Equipment and supplies are present and processes for procedures for procuring, maintaining and repairing equipment exist.	equipment and activities available as well as a plan for clinic promotion in the community.	monitoring and refresher procedures established	Peer educators trained on life skills, sexuality education, counselling, BCC and outreach. Plan for incentives, retention, supervision and monitoring established.	taking place.
Output 1a: Assessments are done and gaps are identified. Plans for overcoming the gaps are agreed	Output 2a: Assessments are done and gaps are identified. Plans for overcoming the gaps are agreed between providers and youth. Relevant IEC materials are developed or obtained as are equipment and design of activities. Target groups established.	Output 3a: Assessment on providers criteria and training needs done. Training materials and facilitators identified, training dates and plan agreed. Requirements for supervision, mentoring assessed and agreed.	Output 4 a: Assessment on youth selection criteria and training needs done. Training materials and facilitators identified, training dates and plan agreed. Target groups established.	Output 5a: Assessment of laws and policies required for comprehensive YFH services done. Assessment on community support and barriers to YFSRH services done and plan for community mobilization developed. Assessment conducted of extent to which educational materials provide information on YFHS
Input: 1 Guidelines for clinical assessment of YFH services are identified and agreed upon; Selection of assessing team agreed and done	Input 2: Assessment checklist developed, assessment team trained and selected (involving youth, managers, providers).	Input 3: Guidelines for provider assessment are identified and agreed upon; Selection of assessing team agreed and done (involving	Input 4: Assessment guidelines for youth KAP, SRH behaviour, priority needs and barriers for uptake identified or developed. Selection of assessing team	Input 5: Identification of laws and policies required for comprehensive YFH services. Assessment guidelines for community support identified and agreed upon: Selection of assessing team agreed and done

(involving youth, managers, providers) Training for assessment is carried out.		managers, providers), training for assessment carried out.	agreed and done (involving youth, providers, community gatekeepers); Training for assessment is carried out.	(involving youth, providers, community gatekeepers); Training for assessment is carried out. Guidelines for assessment of extent to which textbooks/educational materials engage with & provide information about local YFH services

Source: Wegelin-schuringa M, Miedema E, Kwaak A Van Der, Hooft K, Ormel H. Youth friendly health services : building on multiple approaches. Amsterdam: KIT Health; 2014

Annex5 Box1: WHO framework of development of YFHS

An equitable point of delivery is one in which:
Policies and procedures are in place that do not restrict the provision of health services on any terms and that address issues that might hinder the equitable provision and experience of care

Health-care providers and support staff treat all their patients with equal care and respect, regardless of status

An accessible point of delivery is one in which:
Policies and procedures are in place that ensure health services are either free or affordable to all young people

Point of delivery has convenient working hours and convenient location

Young people are well informed about the range of health services available and how to obtain them

Community members understand the benefits that young people will gain by obtaining health services, and support their provision

Outreach workers, selected community members and young people themselves are involved in reaching out with health services to young people in the community

An acceptable point of delivery is one in which:
Policies and procedures are in place that guarantee client confidentiality

Health-care providers

- provide adequate information and support to enable each young person to make free and informed choices that are relevant to his or her individual needs
- are motivated to work with young people
- are non-judgmental, considerate, and easy to relate to
- are able to devote adequate time to their patients
- act in the best interests of their patients

Support staff are motivated to work with young people and are non-judgmental, considerate, and easy to relate to

The point of delivery

- ensures privacy (including discrete entrance)
- ensures consultations occur in a short waiting time, with or without an appointment, and (where necessary) swift referral
- lacks stigma
- has an appealing and clean environment
- has an environment that ensures physical safety
- provides information with a variety of methods

Young people are actively involved in the assessment and provision of health services

The appropriateness of health services for young people is best achieved if:
The health services needed to fulfil the needs of all young people are provided either at the point of delivery or through referral linkages

Health-care providers deal adequately with presenting issue yet strive to go beyond it, to address other issues that affect health and development of adolescent patients

The effectiveness of health services for young people is best achieved if:
Health-care providers have required competencies

Health-service provision is guided by technically sound protocols and guidelines

Points of service delivery have necessary equipment, supplies, and basic services to deliver health services

Source: WHO. Global consultation on adolescent health services a consensus statement. Geneva. Department of Child and Adolescent Health and Development; 2001.