FACTORS INFLUENCING ADOLESCENT PREGNANCY IN KENYA

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Factors influencing adolescent pregnancy in Kenya

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By

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Declaration:

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Abstract

Background

Despite decline of adolescent pregnancy rate in Kenya from 18% among those aged 15-19 years in 2014, it is still high at 15% by 2022 in the same group and is more common to those of low social economic status (SES) and low education. Adolescent pregnancy increases the risk of eclampsia and preterm birth. Expectant adolescents face other challenges of social stigma, poor healthcare access increasing risk of hemorrhage, fistula and neonatal mortality.

Methodology

This study reviewed available literature published in the last 10 years as well as grey literature, and findings were analyzed using the ecological model for determinants of adolescent pregnancy.

Study findings

Findings indicate adolescent pregnancy in Kenya is mostly driven by social norms and harmful cultural practices like female genital mutilation and cutting (FGM/C) that influences early marriages; traditional funeral ceremonies that expose adolescents to substance abuse leading to risky sexual behaviors; low SES of parents influencing transactional sex. Other factors are peer pressure; lack of sexual reproductive health and rights (SRHR) information; stigma on contraceptive use and/or abortion services; lack of comprehensive sexuality education (CSE) in schools; punitive SRHR laws.

Conclusion and recommendations

Many factors lead to adolescent pregnancy such as adolescents' behavior, family, community and school, further shaped by religious beliefs and cultural norms. The government and stakeholders should sensitize community on harmful cultural practices to increase girls' agency, implement economic empowerment programs, CSE in schools, make contraceptives available and affordable plus repeal punitive laws hindering adolescent SRH.

Key words: Adolescent pregnancy, contraceptives, Kenya, Sub-Saharan Africa

Word count: 13,164

List of abbreviations

AMREF	Africa medical research foundation
CLARP	Community led alternative rite of passage
FGM/C	Female genital mutilation/cutting
ICPD	International conference on population and development
KDHS	Kenya demographic health survey
KHSSIP	Kenya health sector strategic and investment plan
KNBS	Kenya national bureau of statistics
LMIC	low- and middle-income countries
MSM	Men who have Sex with Men
NGO	Non-governmental organizations
NPA	National plan of action
PAC	Post abortion care
SES	Social economic status
SRHR	Sexual and reproductive health and rights
SSA	Sub-Saharan Africa
UHC	Universal Health Coverage
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World health organization

Glossary

Adolescent - The World health organization (WHO) defines an adolescent as someone between the ages 10-19 years (1).

Pregnant adolescent – An expectant female aged 10-19 years

Adolescent mother – A female aged 10-19 years who has delivered a baby

Comprehensive sexuality education (CSE) – United Nations Educational Scientific and Cultural Organization (UNESCO) defines CSE as curriculum-based teaching on all aspects of sexuality from cognitive to social to physical aspects.

Early/Child marriage – Marriage before the age of 18

Contraceptive – Medicines or devices used to prevent pregnancy

Abortion – Termination of a pregnancy

CHAPTER 1 – BACKGROUND INFORMATION

1.1 Introduction

The World health organization (WHO) defines an adolescent as someone between age 10-19 years (1). Pregnancy among younger adolescents (10-14 years) is not as common as among the older ones (15-19 years) (2). There were 21 million adolescent pregnancy cases in low- and middle-income countries (LMIC) in the year 2019 with resulting births being about 12 million. The unintended ones accounted for about half of those recorded, with about 55% of those recorded between the ages of 15-19 leading to unsafe abortions particularly in LMIC. While significant drop in adolescent pregnancy has been witnessed globally between the year 2000 with 64.5 births/1,000 women to year 2023 with 41.3 births/1,000 women, the sub-Saharan Africa (SSA) records the highest cases of 99.4 births/1,000 women followed second by Latin America with 52.1 births/1,000 women, with those of low social economic status (SES) and low education more affected, further increasing inequities that already exist in these groups (3). Research in Africa has shown adolescent pregnancy rate to be 18.8%, 19.3% in SSA and 21.5% in East Africa (4). Since the first International Conference for Population and Development (ICPD) in 1994 in Cairo Egypt, where 179 government representatives recognized the importance of action towards women empowerment, gender equality and reproductive health as key pillars to development, adolescent SRH became an important topic globally (5).

1.2 Adolescent Sexual and Reproductive Health and Rights (SRHR) in Kenya

In Kenyan society, adolescents' access to SRHR services remains a challenge due to factors such as stigma and misinformation on contraceptive use, while adolescents who get an abortion are stigmatized due to deeply rooted cultural and religious beliefs (6).

1.3 Kenya's culture in relation to adolescent SRHR

Some communities in Kenya have traditional cultural practices like during funerals that expose adolescents to substance abuse subsequently exposing them to risky sexual behaviors and possible pregnancy common in Western and Coastal Kenya (7). Other cultural practices include female genital mutilation/cutting (FGM/C) common in Southern and Northern parts of Kenya where it is done as a rite of passage from childhood to adulthood (8). Women who have undergone FGM/C are culturally expected to be submissive to men (9,10).

1.4 Kenya's laws and policies related to adolescent SRHR

The Kenya constitution does not permit abortion (11) and so does the penal code, laws that hinders healthcare professionals from offering abortion services. However, protective laws include the penal code article 157 that criminalizes all forms of sexual violence towards girls and women (12) and prohibition of FGM/C act No 32 of 2011 (13). There is also the children act of 2012 that protects children from sexual exploitation, harmful cultural practices and right to free basic education (14) and Kenya national guidelines for school re-entry that allows adolescents who gets pregnant while in school to be allowed back to school after delivery (15).

1.5 Kenya's geography and demography

Kenya is an East African country composed of 42 ethnic groups bordered by Ethiopia and South Sudan to the North, Somalia to the East, Tanzania to the South and Uganda to the West (16) As at 2022 Kenya's population was estimated to be 56.2 million, with 24% being adolescents (10-19 years old) (17). Adolescent fertility rate in Kenya is 73 births per 1,000 women aged 15-19 years (18). The Kenya demographic health survey (KDHS) of 2022 indicates that high rates of adolescent pregnancy are recorded among those of low SES and low education (18). Neonatal death is 15 out of 1,000 live births born by uneducated women compared to 11 out of 1,000 live births born by educated women (19).

Adolescent (15-19 years) pregnancy rate in Kenya is 15%, with Counties in the Northern, Western and Southern Kenya recording highest rates than Counties in Central Kenya as indicated in figure 1 (18). Kenyans population pyramid shows adolescents (10-19 year) form a relatively large population base as indicated in figure 2 (20)

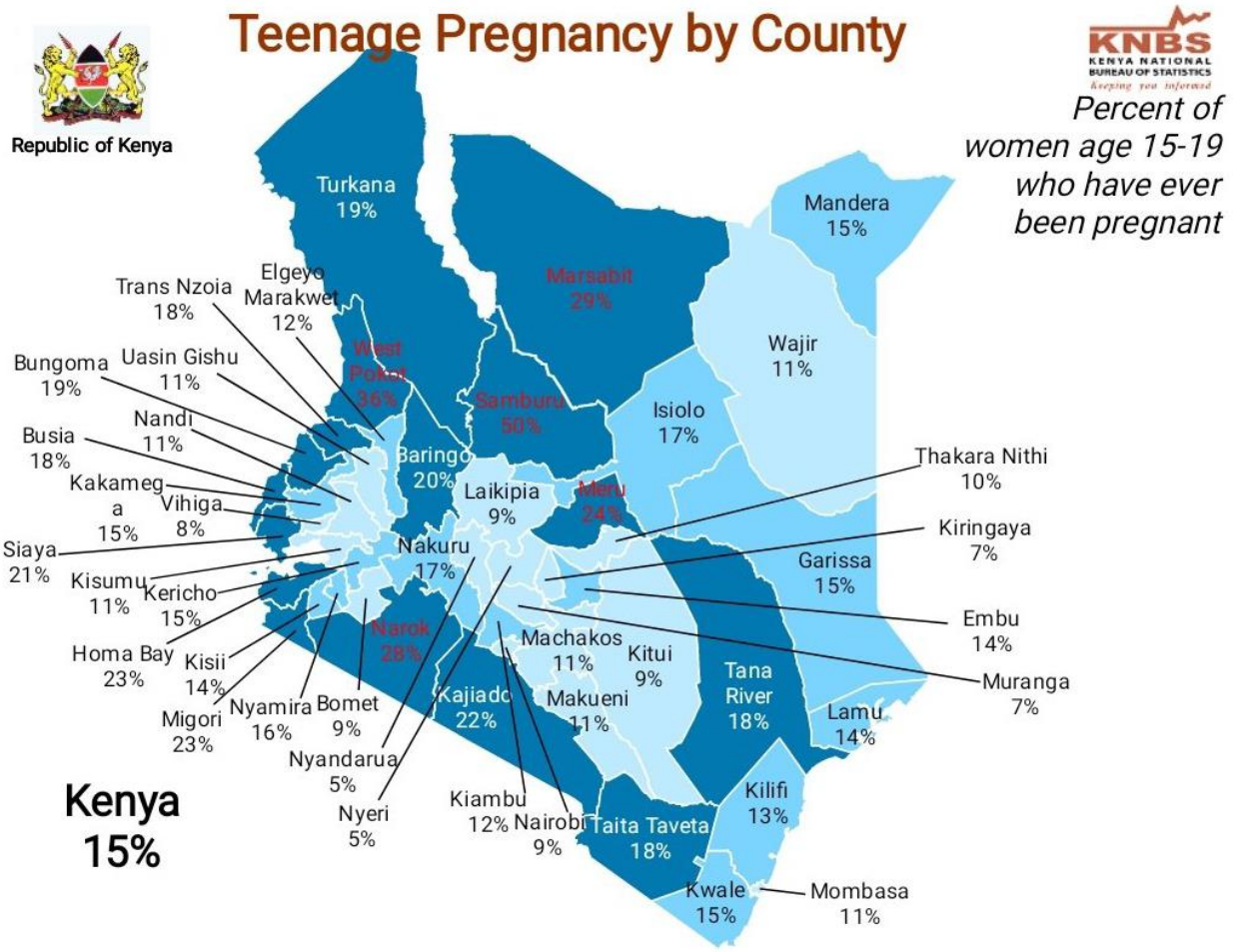

Figure 1: Map of Kenya Showing percentage of women aged 15-19 years who have ever been pregnant by Counties. Data is as presented by the KDHS 2022 (18).

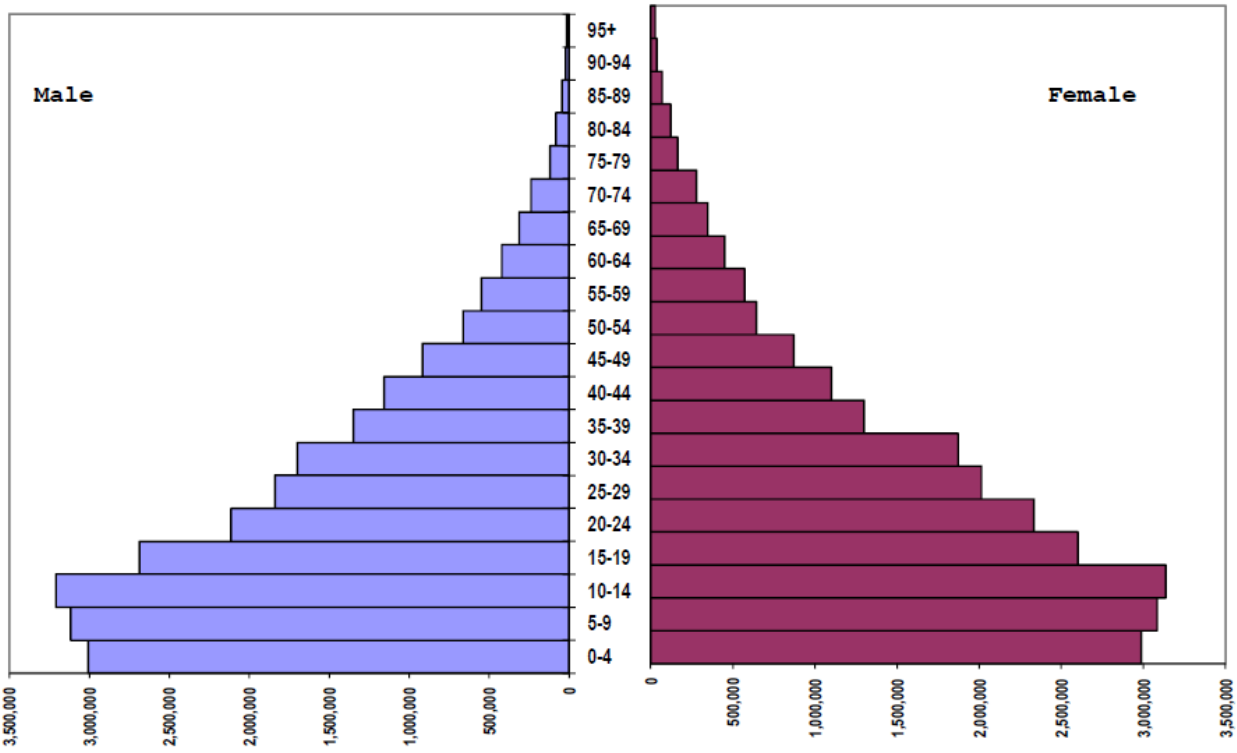

Figure 2: Kenya population pyramid (20).

1.6 Kenya's economy

In the year 2020, Kenya spent 4.29% of its GDP on health which is a reduction from 4.36% in 2019, indicating even further reduction in adolescents SRHR services spending (21). Kenya recorded a decrease in poverty trend in 2021 (22), however, its projected to drop due to high costs of food, importation and fuel globally (23).

1.7 Kenya's health system

Kenya National government is committed to attainment of the Universal Health Coverage (UHC) and committed to include key services such as maternal, neonatal and child health services in the countries budget (19). The Kenya health system is devolved and adolescents mostly access healthcare from local County dispensaries and health centers (19), and through the Kenya health sector strategic and investment plan (KHSSIP) of 2017 refocused from curative to preventive health services through health promotion at the individual and community level (24).

CHAPTER 2 – PROBLEM STATEMENT, JUSTIFICATION AND OBJECTIVES

2.1 Problem statement and justification

In Kenya, KDHS 2022 shows that 15% of women aged 15-19 years have ever been pregnant, with about 12% having had a live birth and 3% are pregnant currently (18). This is a reduction from 2014 from 18% ever pregnant, 15% had a live birth and 3.4% pregnant by the time of the survey by KDHS 2014 (25). Adolescent pregnancy rate increase with age with those aged 15 years recording 3% and those aged 19 years 40%. Just like other LMIC, in Kenya adolescent pregnancy is more witnessed to those of low SES and education. Pregnancy cases among women aged 15-19 years are highest in Samburu County (50%) while Nyeri and Nyandarua Counties record the lowest (5% each) (26).

Many factors lead to adolescent pregnancy in Kenya among them being low SES, parental negligence, alcohol and drug abuse, peer pressure and sexual and gender-based violence (27). Adolescent girls face many health problems as a result of becoming pregnant such as increased risk of eclampsia as well as risk of preterm birth, babies be born with low birth weight and severe neonatal conditions (28). Pregnant adolescent girls also face other problems like social stigma from family, friends and community, kicked out of homes leading to them suffering from mental problems such as depression, poor access to health services increasing their risks to hemorrhage and fistula and neonatal mortality (29,30).

Adolescent pregnancy has been found as the leading cause of school drop outs among girls in 16 counties of Kenya (31), thereby exposing them to violence, sex for money due to low SES and subsequent pregnancies and exposure to HIV and poor health (32). Adolescent mothers are also still young and face many challenges in taking care of a child as they are still children themselves, therefore, the children they give birth to are exposed to high risks of illnesses and death (33). Other problems with adolescent pregnancy are high risk of suicide, being married as additional wives by old men who expose them to life of poverty as the men only see their role as only giving birth, and this subsequent lead to their children living a life of poverty too (34,35).

Kenya government has developed policies addressing adolescents' rights to education, healthcare, protection from violence and harmful cultural practices. Also, non-governmental organizations (NGO) such as 'Carolina for Kibera' are addressing Adolescent SRHR and offering youth friendly services to low-income communities while others like 'Men end FGM' rallies men and boys in sensitizing communities on effects of FGM/C. However, adolescent pregnancy is still high. This therefore calls the need to explore factors leading to adolescent pregnancy and the various underlying forces that interplay together. Identifying the factors leading to adolescent pregnancy is important to help develop recommendations that will help address and reduce adolescent pregnancy, address the pressure on the already weak health system, bridge the human rights gap, contribute to women empowerment, address education and gender inequality, reduce poverty as well as harmful cultural practices. Also develop County specific interventions to address the different adolescent pregnancy rates (18).

2.2 Objectives

2.2.1 General objective

To explore the factors influencing adolescent pregnancy in Kenya in order to make recommendations to relevant agencies on ways to address and reduce adolescent pregnancy.

2.2.2 Specific objectives

1. To explore individual and family factors influencing adolescent pregnancy in Kenya.
2. To explore school and community factors influencing adolescent pregnancy in Kenya.
3. To explore available evidence-based practices and interventions at national and/or county level on reducing adolescent pregnancy.
4. To make recommendations to relevant government agencies and stakeholders to inform formulation of measures aimed at reducing adolescent pregnancy in Kenya.

CHAPTER 3 - METHODOLOGY

3.1 Research method

I conducted a literature review, a methodology useful in this thesis as it involved collecting findings from different previous research findings, assess the collective evidence on factors leading to adolescent pregnancy in Kenya and integrate these findings and perspectives to build on this thesis and thereby able to identify any gaps and potential areas that need further research (36). Literature was retrieved from peer-reviewed articles as well as grey literature from the government, NGO among others. Peer-reviewed data published in English within the last 10 years was retrieved (except for one paper published in 2012 about the Kenya anti FGM/C act) through use of search databases like google scholar, PubMed, VU library and grey literature obtained from sources such as Kenya national bureau of statistics (KNBS), WHO, United Nations Educational Scientific and Cultural Organization (UNESCO), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF), among others. The snow-balling techniques was also used to search for more relevant literature.

Key words used were; Adolescent pregnancy, teenage pregnancy, early pregnancy, age, sex debut, comprehensive sexual education, abortion stigma, gender roles/norms, parent child SRHR communication, behavior/attitude change, cash transfer program, Kenya, Kenya Counties among many others as shown in the Boolean operator method in the table in appendix 1.

3.2 Inclusion and exclusion criteria

The articles reviewed were only those written in English and only those published within the last 10 years (2013-2023). Those published before year 2013 were excluded as the information contained in them might not be up to date with the recent situation. Literature on interventions was selected based on proven evidence that addresses the key factors as per the findings.

3.3 Analytical framework

Factors influencing an adolescent girl to become pregnant are many with complex interplay between them from all levels, be it from her family, the community she lives in, the school she attends, her friends and peers as well as the national laws (37).

For this thesis, the ecological model as developed by Robert Blum, and as explained by UNFPA report ("motherhood in childhood. Facing the challenge of adolescent pregnancy", (with Robert Blum as research advisor)) for analyzing factors influencing adolescent pregnancy (37) was chosen to analyze study findings. Although the socio cognitive model by Albert Bandura (38) was considered, the ecological model was determined to be more robust as it helps clearly understand the many forces contributing to adolescent pregnancy, the multilayered forces and the interplay between them that hinder her from exercising her reproductive rights and the right to shape her own future. This model helps understand forces from the individual level such as sex debut all the way to the national level such as health policies and political environment. The model enables formulation of evidence-based recommendations to various stakeholders and policy makers in

order to formulate effective interventions to address this public health issue to break barriers that prevent adolescent girls crafting their own future (37). The model also enables a deeper understanding of the social, economic and cultural factors that influences adolescents' behavior and SRHR as successfully demonstrated in the 'yes I do' project report (39).

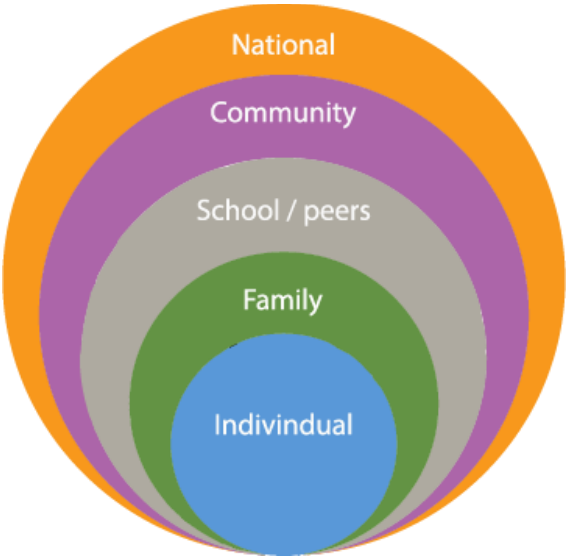

Figure 3: Ecological model for determinants of adolescent pregnancy (37).

3.4 Determinants of adolescent pregnancy

3.4.1 Individual factors

Adolescents are in their rapid growth face and some factors influencing their sexual behaviors include their age, choices on sexual behavior, SRHR knowledge and awareness as well as their acceptability/attitudes regarding contraception.

3.4.2 Family level factors

Family is the first contact as an adolescent grows and influencing factors at this level include expectations from parents, SES of the family as well as parent-child communication around SRHR.

3.4.3 School/peers

Adolescent who attend school face many forces that influence them positively or negatively on matters of their SRHR such as peer pressure, availability of comprehensive sexuality education (CSE).

3.4.4 Community level factors

The community surrounding the adolescent has influencing factors including harmful cultural practices, stigma on contraceptive use, stigma on abortion, religious beliefs, gender norms and denial of a girls agency, early marriages, sexual violence, media as well as knowledge/attitude of healthcare workers towards adolescent SRHR

3.4.5 National level factors

At the national level, there are laws and policies that govern adolescent SRHR however, they were only mentioned but not analyzed as that would require a deeper level of analysis that is beyond the scope of this study as there are many forces between the national and the 47 different County governments.

The fifth level factors were therefore analyzed based on the third specific objective on exploring interventions and good practices that address key factors from the findings.

CHAPTER 4 – STUDY FINDINGS

The findings in this chapter are presented in conformity with the research objectives and analyzed according to the ecological model to inform on possible recommendations on good practices to address adolescent pregnancy. However, factors on the outer layer were only mentioned as they were not part of the objectives, then interventions explored in conformity with the third specific objective. The factors under each level were listed after preliminary literature search on key drivers of adolescent pregnancy specific for Kenya (40).

4.1 Individual factors

Findings on individual factors associated with adolescent pregnancy presented here such as age, risky sexual behavior, knowledge and awareness of SRHR, acceptability/attitudes regarding contraception.

4.1.1 Age

Qualitative studies in Kilifi and Nairobi Counties revealed that older adolescents are more likely to engage in risky sexual behaviors than younger adolescents (41,42), with similar results from a mixed method study on 1,110 sexually active adolescent girls in Homabay and Narok Counties where those aged 19 years were three times more likely to have unintended pregnancies than those aged 15 years (43). In Siaya County, cross-sectional survey revealed that pregnancy among older adolescent girls (17-19 years) was four times higher than those younger (13-14 years) (32). The KDHS 2022 shows similar results where percentage of women aged 15-19 to have ever been pregnant increases with increasing age from 3% among those aged 15 years to 31% among those aged 19 years (18). Increased contraceptive uptake was found to increase with increasing age and recorded to be 10 times more among 18-year-old adolescents as compared to those younger than 18 years ($p < 0.001$, OR: 9.87) in Kiambu County (44). This increase in unintended pregnancies is linked with un-met contraceptive needs as findings at section 4.5.2 indicate.

Findings from a cross-sectional survey in Siaya County revealed the odds for a history of pregnancy among older adolescents girls (17-19 years) was four times higher than that of younger ones (13-14 years) mostly because most older girls move out of parents' home with no continued parental supervision (32) as findings under section 4.2.3 indicates. In Kajiado County however, the 'yes I do' reported earlier sex debut (as early as 10 years of age) to be a contributor of adolescent pregnancy (45) mostly linked to FGM/C as findings under section 4.4.1 indicate.

4.1.2 Risky sexual behavior

Qualitative study in Kilifi County found unprotected sex and multiple sexual partners as prevalent among adolescents (42), with adolescents in Kajiado County having a sexual partner of their age and an older one for financial gain with whom they were unable to negotiate safe sex that increased chances of getting pregnant (39), more findings interlinked to this are at section 4.2.2. Unprotected sex takes place during traditional ceremonies due to limited parental monitoring and alcohol and drugs use as qualitative study in Kilifi County found (42) , with more interlinked findings under 4.1.2 and 4.4.1 sections.

Qualitative studies in Kitui and Kilifi Counties found that adolescents were influenced to risky sexual behavior by alcohol and drugs abuse leading to pregnancies (42,46), while 25% of the 40 respondents interviewed associated drug abuse as a driver of adolescent pregnancy in Kakamega

County (47), and although this study used a small sample size, it included 25 expectant and adolescent mothers. Negative influence and delinquency behavior were also associated with higher odds of initiating sex in Nairobi County (48).

4.1.3 Knowledge and awareness about Sexual and reproductive health and rights (SRHR)

Romantic sexual relationships were found to be common among adolescents through a qualitative study, and those who were not in one knew another who was (49). However, limited SRHR information among adolescent girls exposed them to risk of early pregnancies (30) as found among girls in Kitui County (46), and those in the Maasai community (50). Mixed method study in Homabay and Narok Counties found adolescent girls only get SRHR information after falling pregnant because teachers and parents don't offer it (43), while in Kiambu County, only 5.1% of the 421 adolescent girls interviewed indicated they got information on contraceptives from healthcare workers (44). This is linked to bias of healthcare workers and teachers, and parents not talking to them on SRHR due to conservative beliefs, with more findings under 4.2.3, 4.3.2, 4.4.2 and 4.4.3 sections, and to sections 4.3.1 and 4.4.9 as adolescents seek to fill this knowledge gap.

In Kiambu County, cross-sectional study on 421 adolescent girls revealed that 90% had some level of knowledge on contraceptives, with 79% reporting knowledge about condoms, 63.8% on pills, less than 6% did not know about any other method. Of the 142 sexually active ones from that study, 43% reported to have ever used a modern contraceptive method (44). In the same County, cross-sectional study on 400 adolescents had 64.7% report that they had knowledge about contraceptives and 83.5% reported to have knowledge on safe sex (51). Knowledge on contraceptive among adolescents increased the adolescent girls likelihood to use them by up to three times in Kiambu County (44).

4.1.4 Acceptability/attitudes, use and beliefs regarding contraception by the adolescents

A 3-year prospective study in Nairobi revealed that 15–17-year-old girls who ever used contraception were likely to delay childbearing (52), while mixed method study on sexually active adolescent girls in Homabay and Narok counties found those that reported never use of contraceptive were twice as likely to report experiencing an unintended pregnancy than those who used them (43). Qualitative study in Kiambu county among adolescents who had gotten pregnant revealed they were aware of contraceptives, but misinformation prevented them from using (53), with similar misinformation reported by adolescent girls in Homabay and Narok Counties (43). More related findings under 4.4.2 and 4.4.3 sections.

4.2 Family level factors

In this section the factors associated with family and that lead to pregnancy are analyzed such as family expectations of adolescents, family SES, parental-adolescent communication on SRHR.

4.2.1 Expectations of daughters

In Wajir and Mandera Counties, qualitative study found adolescent girls are expected to get married early while still virgins and get many children as many children increase one's social standing (54). This is similar to the 'yes I do' report that found Kajiado County community practices FGM/C as a way for the girl to fit into the community and prepare her for sex and marriage (45), as more findings indicate under 4.4.1 and 4.4.5 sections.

Many parents assume girls are more vulnerable to sexual risks than boys therefore highly monitor them (48), while other parents as revealed by a qualitative research talked to girls more about sexual relationships than boys (49). Other parents do not allow their daughters to be outside the home past seven in the evening as its deemed unsafe while they allow their adolescent sons to run errands past that time (49). Study from neighboring Uganda found similar results. (55).

Gendered expectations are further shaped by cultural norms as evident in Kisumu, Homabay and Migori Counties where the Luo community culturally values boys to girls with some parents referring to girls as "ogwenge" (wild cats) as they will eventually be married off and go away while boys will stay and be a source of help to them. This pushes some girls to get married or engage in risky sexual behaviors in search of feeling wanted (56).

4.2.2 SES of the family

The KDHS 2022 indicates that the percentage of women aged 15-19 years to have ever been pregnant is higher among those of lowest SES (21.1%) and lowest among those of the highest SES (7.5%) (18). Studies in Kitui and Kisumu Counties found that low SES influences adolescent pregnancy mostly due to transactional sex with older men in exchange for money to pay school fees and other needs (46,57). However, In Kilifi County transactional sex was found common with older *wazungu* (white people) tourist men and in Siaya, Kakamega and Kajiado Counties, it was common with with *boda boda* (motorcycle taxi) riders and sand harvesters for exchange of items like sanitary pads, food, clothing, lifts to school among other items (39,42,47,58).

Adolescent girls who come from low SES families, the offering of money and gifts leads to sex, which in most cases is unprotected mostly leading to pregnancy as they also cannot afford contraceptives as compared to those from high SES families (30), with similar findings in Siaya County (32). In Baringo County, study on 56 adolescent girls in secondary schools and who had experienced a pregnancy found that 40% got pregnant out of having sex in exchange for money for personal needs, 42% had sex in exchange for money to support the family and 38% agreed their pregnancy was out of sex in exchange for school fees money (59). Similar findings from Zimbabwe indicated economic constrains pushed girls to early sexual debut and early marriage to escape poverty (60), as also found from a longitudinal study in Zambia (61). Poverty pushes many adolescent girls to not only transactional sex but to early marriages as more findings under section 4.4.6 indicate.

Some economic activities however expose girls to sexual vulnerability such as low SES parents who sell *mnazi* (traditional alcoholic) involve their adolescent girls to attract *wazee* (older men) customers and in the process, some sexually harass them (42). In Uasin Gishu County, vulnerable out of school adolescents living on the streets mostly engage in transactional sex for money, while others get pregnant so their children acts as a soft spot for people to offer them money (62), in comparison, adolescents from a high SES family are supported to re-enter school after delivery (63). Poverty is therefore a major driver of adolescent pregnancy to both orphan and non-orphans by pushing them to transactional sex, early marriage, risky sexual behavior and dropping out of school (64,65).

4.2.3 Quality of parent-child communication around SRHR

Qualitative research found that parents had knowledge of early romantic sexual relationships among early adolescents (49) and despite this, some parents do not allow any discussion on

matters SRHR when their girls are schooling, therefore, with no more monitoring after high school, they are left to adventure in sex exposing them to likelihood of getting pregnant (30). Similar findings indicate parents expect their daughters to learn about SRHR from the media being that it is a digital era (66). More findings linked to this are under 4.4.9 section.

A one-year longitudinal study on 1,927 adolescent males and females in Nairobi County found that 46% of females who hadn't had sexual debut had higher parental monitoring and 63% less likely to transition to first sexual intercourse and insignificant for males. The males were 70% less likely to report first sexual intercourse than females if they had communication with their mothers, while father-daughter communication led to girls be 56% less likely to report first sexual encounter than male adolescents (48).

Qualitative research found majority of parents only talk to their adolescents about SRHR at the 'right time', after they complete high school, even though majority agreed adolescents actually have romantic relationships in secrecy (49), findings similar to a cross-sectional study in Kiambu County where 64.7% of the 400 adolescents interviewed reported they find it difficult to discuss SRH matters with their parents (51). Still in Kiambu County, another study on 421 adolescent girls found only 4.8% reported their parents talked to them about contraceptives (44). Lack of parental communication and negligence influences pregnancies and despite parents' reluctance to talk about SRHR with their adolescent children, majority of adolescents preferred to get SRHR information from them (47,67).

In East Africa, a review of qualitative studies revealed religious and cultural norms regard it a taboo to discuss SRHR matters with adolescents and most teachings revolve around avoidance of premarital sex (68), with similar results found in South Africa (69). However, research in Ghana found that parents who openly discuss SRHR issues with their adolescents such as condom use positively influences their sexual behaviors and even choice of partner (70). However, while most parents claim cultural taboo against discussing SRHR with their children, they too have insufficient knowledge on SRHR (55), as also found across other SSA countries (71–73).

4.3 School and peer factors

Findings analyzed here that lead to the adolescent pregnancy include peer pressure and expectations, CSE in schools and adolescent girls' access to education.

4.3.1 Peer pressure and expectations

As adolescents spend more time with their peers, they influence each other's behavior where some engage in risky sexual behaviors just to fit in their peer group and may lead to pregnancies as found by qualitative study in Kilifi County (42,74). In Kajiado County for instance, some adolescent girls who have not undergone FGM/C are influenced to get FGM/C by some of those circumcised, so they start having sex (39), as related findings indicate under 4.4.1 section. Study in Baringo County on 56 adolescent girls who had experienced a pregnancy found that 47% had sex as a means of fitting into their peer group, while 42% said their boyfriend pressured them into having sex (59), which is a denial to exercise their agency with more findings under 4.4.5 section.

In Kiambu County, a study on 100 adolescent girls found that it is considered 'cool' to have unprotected sex by 40.9% and 25.8% said their peers encouraged them to risky sexual behaviors

(75). Similar findings on expectant adolescent girls found that peer pressure influenced sex that led to pregnancy (47).

Guttmacher institute reports that 86% of Kenyan adolescent rely on their peers for sexuality education (76), and peer pressure and reliance on each other for sexual information mostly leads to early sexual initiation, as also found among adolescents since they try to align themselves to the accepted norms of their peer group as found in Ghana and Nigeria (77,78). Systematic review found there is an association of sexual risk behaviors, peer pressure and lack of sexual education in LMIC (79).

4.3.2 Comprehensive sexuality education (CSE) in schools

Qualitative study in Kajiado County revealed domination of most schools by teachers with little knowledge on adolescent girls' sexual health disadvantages them, and the sexual education provided by various NGO and is not adequate as stated by UNESCO guidance (80), UNFPA Guidance on Out-of-School CSE (81) or UNFPA 'operational guidance for CSE' (82), as it majorly focusses on FGM/C abandonment, menstrual health and nothing on contraception (39). Guttmacher institute has similar findings from a cross sectional study where nearly all teachers and principals supported sexuality education but about three in 10 were against teaching on contraceptives in favor of teaching on sex abstinence (76). This is in line with findings in Kiambu where only 7.2% of the 421 adolescent girls interviewed reported receiving any contraceptive information from their teachers, whereas many expected to get the information from them (44,67). More related findings under 4.4.3 section.

Inadequate CSE training among teachers as a cross sectional study found in Kisumu County where only 24% of 170 teachers had received any form of CSE training plus lack of standard textbook to guide CSE compromised the quality of CSE delivery (83). This study had similar findings to the Guttmacher report that found 68% of teachers in Kenya felt they got inadequate training including in-service training on sexuality education, and although the principals fully support them to teach sexuality education, some reported opposition from parents and community. However, some teachers have CSE resources, curricula and manuals but indicated more need for materials to teach on contraceptives as inadequate CSE delivery denies adolescent girls' critical information to prevent pregnancy (43,76).

Despite inadequate teaching of all topics under CSE, adolescents perceive full CSE training as very important. In Uasin Gishu County, adolescents disagreed that CSE would encourage them to increased sexual engagements but would offer them life skills useful to their lives (76,84). Although sexuality education offered in Kenya classrooms is more inclined to high morals and sex abstinence, Guttmacher institute reported 8 in 10 teachers taught on contraception, mostly condoms helping contribute to reduction in adolescent pregnancy among school going adolescents (46,76). Inadequate teaching of CSE topics on abortion and contraceptives was also found through qualitative studies across six southern African countries (85) and Ghana in West Africa(86). More related findings under sections 4.4.3 and 4.4.4.

4.3.3 Adolescent girls' access to education

Attending school reduces likelihood of early marriage and early child bearing due to improved self-esteem and decision making skills (30), as also found in Migori County where adolescents girls with less than secondary education are highly affected by early and forced marriages (87),

while those with less than primary education in Siaya County had more than twice the odds of pregnancy history compared to those with more than primary education (32). Cross-section study in the same County also found low education led to early sexual debut, early marriage, pregnancy and increased intimate sexual partner violence towards girls (88) as more findings under sections 4.4.8 indicate.

A longitudinal study on adolescent in Nairobi found not attending school was positively associated with early sexual debut (48) while attending school was protective from adolescent pregnancies in Kilifi, Homa-Bay and Narok Counties (42,43) and delayed motherhood to those that have at least secondary level education in Nairobi County (41,52). Education is not only protective against early marriages and adolescent pregnancy in Kenya but also in 39 other countries (30).

A study in Kajiado County found contrary findings as most schools in remote areas attract more male teachers that sometimes sexually exploit adolescent girls (39), with a similar study in the same county indicating that walking for long distances to day schools allow boys and girls time to engage in sexual activities (45). However, in West Pokot, a County with similar demographic characteristics like Kajiado found through a quantitative research on a sample of 32 primary school teachers that indeed 62% were males, however, many were married and had between 5-10 years teaching experience, characteristics thought to enable them understand female students challenges better to guide them well for enhanced school retention (89). Education is not only protective against initiation of motherhood, but also protective against repeat pregnancy as the next section 4.3.4 below indicate.

4.3.4 School policies re-entry/support system for pregnant or adolescent mothers

Cross-sectional study in Kisumu County found isolation and stigma as a barrier to adolescent mother re-entering school (63). Despite this, adolescent mothers had the will to re-enter school with financial and childcare support as found in Homa-Bay County, however, the principals were not aware of the re-entry guidelines (90). Contrary to Homa-Bay, recent study in Vihiga County found that 70% of school principals knew of the school re-entry guidelines while 90% of the guidance and counselling teachers knew of it, however, very few of them had a copy in their office effectively affecting its implementation. Different schools had their own different way of re-entry approach mostly focusing on continued learning, prevention of suicide and allowing pregnant adolescent girls attend antenatal clinics. This was confirmed to be effective as of the 110 pregnant adolescent girls in 2020, 78% had been retained (91).

4.4 Community factors

In this chapter the community factors associated with the adolescent pregnancy are analyzed such as cultural practices, religious beliefs, abortion stigma, contraceptive use stigma, gender norms and autonomy, residence, media, early/forced/child marriage and sexual violence.

4.4.1 Cultural practices

Findings from studies in Siaya and Kilifi Counties revealed similar practices where during funerals adolescents get an opportunity to engage in risky sexual practices (32,42), as most ceremonies are accompanied by night music and dance (*disco matanga*) as well as drug and alcohol use for many days before and after the burial as also found in Kisumu, Homa-Bay and Migori counties thereby influencing risky sexual behaviors and sometimes sexual violence (56,92).

Studies found that according to Luo traditions in Kisumu, Homabay, Migori and Siaya counties, adolescents are not supposed to sleep in the same house as their parents and therefore with little parental supervision, some sneak out at night to attend discos where some engage in risky sexual behaviors sometimes willingly or forced (32,56). Similar results were found from a qualitative study in Kajiado County where adolescent girls sleep in a separate *manyatta* (Maasai traditional house) with other girls, as well as traditional ceremonies where the whole community moves away to a different location staying in temporary homes called *imanyat* and these situations give the adolescents opportunity to mingle and engage in sexual activities, that sometimes lead to pregnancies (39).

In Kenya, FGM/C currently stands at 15% among women aged 15-49. Although it has recorded a decline from 21% in 2014, its still high (93). In Kajiado County, FGM/C is common as part of Maasai culture and mostly carried out between ages 10-15 years (some even between 8 and 10 years of age (45)) and it is an indication that the girl is now mature enough to engage in sex (39) with the uncircumcised girls stigmatized and called names like *miguu-tatu* (three legs) in reference to the genital tissue not cut. After FGM/C, parental monitoring reduces as they are now regarded as 'grown' women and they are free to be married as well as engage in sex (39). Similar results were found by the 'yes I do' where the community in Kajiado County use FGM/C as a way for the girl to fit into the community and prepare her for sex and marriage (45). In Northern Kenya Counties, Kisii County, Maasai dominated Counties of Kajiado and Narok, FGM/C is widely practiced, while its less practiced in Luo dominated Counties of Western Kenya and Kikuyu dominated Counties of Central Kenya as well as the Kenya Coastal areas (94). In West Pokot County, a County with one of the highest (36%) adolescent pregnancy rate in Kenya according to KDHS 2022 (18), of the 32 teachers interviewed, 78% and 71% indicated early marriage and FGM/C as the major causes of school dropouts among the adolescent females respectively (89).

4.4.2 Abortion stigma

Mixed method study in Kisumu County on 86 healthcare providers that provide post abortion care (PAC) and youth friendly services found that 35% of them believed that a woman who does an abortion might influence others to do the same and 27% believed that abortion is a sin. However, the healthcare providers agreed that unintended pregnancies are more than often terminated. (57). As mentioned under 4.5.1 section, lack of abortion services and abortion being illegal in Kenya leads to induced abortions among adolescent girls especially in the second trimester of pregnancy, leading to more complications as found from a survey of 328 health facilities in Kenya where of all young women (aged 12-24 years) presenting for PAC, a third were adolescents (95).

4.4.3 Contraceptive use stigma

Some Kenyans believe that modern contraception has negative effects such as encouraging girls to promiscuity, birth of deformed children, infertility, reducing sexual urge in women (30), and also against cultural and religious beliefs (40). Studies in Kisumu and Kajiado Counties revealed that some adolescent, religious and community leaders held the similar mythical beliefs of contraceptive use leading promiscuity and immorality (6,39). Mixed method study on sexually active adolescent girls in Homabay and Narok Counties found the girls did not seek sexuality information on how to prevent pregnancies as they would be ridiculed since sex is regarded by

the society as only for married people (43). This is linked to the findings that most community-based advocacies on sexuality in Kenya emphasize on a sex abstinence only agenda (76), as do most mothers to their adolescent daughters in Kiambu County (66).

Findings indicate that healthcare providers with stigmatizing attitudes towards use of contraceptives by adolescents did so because of mythical beliefs of promoting promiscuity and future infertility as found in Kisumu County (57), and due to conservative cultural and religious beliefs as found in Nairobi, Laikipia, Meru and Kirinyaga Counties (96). In schools, findings show some teachers palpitate adolescent girls' arms and on finding contraceptive implants, the girls are sent away (57).

4.4.4 Religious factors

Cross-sectional study on 400 adolescents in Kiambu County revealed that 42.36% received their SRHR information from their religious leaders (51), while cross-sectional study in Kisumu County found that many adolescents believed that abortion is a sin (6), as do the religious leaders from Kajiado County who believed use of contraceptives led to immorality (39). As found in Kisumu County, some healthcare providers too believed abortion is a sin, a taboo and equated it to killing, and also believed adolescents ought to be encouraged to practice abstinence while contraceptives only offered to the married women (57). More related findings under 4.4.2 and 4.4.3 sections. Studies found that adolescents with low scores on religiosity had already had their first sexual encounter and had higher levels of negative influence and delinquency in Nairobi County (48). More related findings under 4.1.2 section.

4.4.5 Attitudes towards girls' autonomy and gender norms

Cross-sectional survey in Siaya county revealed there is a belief that adolescent girls are to stay home and attend to house chores (32), while some communities marry off their young girls to older men where in the marriage, their only role will be to give birth (30). Some Kenyan pastoral communities like the Maasai, Samburu, Turkana and the Pokot force adolescent girls to polygamous marriages to older men in exchange for the highest bride price (heads of cattle) (30). Adolescent marriages are used to enrich the bride's family, while "romantic kidnappings" especially among the Kikuyu, Turkana and Maasai communities are used to avoid shame that comes with an adolescent girl defilement (97). Forced marriages among the Maasai community were found to be common through an in-depth interview research (50), and collaborated through the 'yes I do' program where some adolescent girls are forced in marriage to pay a family's financial debt (45), which is related to findings under 4.2.2 section. Qualitative study in Kilifi County found that when adolescent girls are sexually involved with older men, most of the times they are unable to negotiate use of condoms as traditional beliefs on adolescent marriage do not allow adolescent girls to give an opinion (42), while in Kajiado County, the *morans* (young Maasai men) are expected to visit girls in their *manyatta* and have sex with them (39), as related findings under 4.4.1 and 4.4.8 sections indicate.

Qualitative study in Kajiado County revealed when an adolescent girl is in a sexual relationship with a boy of the same age, she can make decisions on their relationship as opposed to when it is with an older man. Also, as related findings under section 4.2.2 indicate, financial constraints

make some parents especially mothers influence their adolescent daughters to get into a relationship with wealthy men, so they benefit financially (39).

Some adolescent girls think that having boyfriends or being married is a validation of their attractiveness, while adolescent boys think having girlfriends as a validation of their sexual prowess (39), more linked findings are under section 4.3.1. Adolescent girls' agency is denied especially when they get pregnant as some are chased away from home by parents or forced into marriage as they are thought to be a disgrace, while some get married to avoid their child being stigmatized due to being born out of wedlock (63). More related findings are found under the next section 4.4.6

4.4.6 Early/forced/child marriages

Kenya's national child marriage is at 26.4% and mostly influenced by customary and religious beliefs, low SES, gender inequality and poor child protection services (97), with odds of adolescent pregnancy higher among adolescent girls whose status was ever married or cohabiting with a male partner compared to single adolescent girls (32). In Nairobi County, study revealed that married adolescent girls are 13 times more likely to have a child than the non-married ones (52).

As related findings under section 4.2.2 indicate, some parents like in Kisumu, Homabay, Migori and Kajiado Counties force their adolescent girls to get married especially to older men for economic benefits from the bride price (39,45,56). The 'yes I do' survey in Kajiado County found that among the married respondents aged 18-24 years, 20% of the women and only 1.57% of the men were married before 18 years (45). In Wajir and Mandera counties, qualitative study found that girls are married earlier (between 15-18 years) than boys (between 19-24 years), with those girls marrying beyond this age stigmatized and labeled *guumays*' (derogatory term for women marrying late). Major reason for early girl marriage is to fulfil cultural requirement to be married as a virgin, avoid shame of premarital sex and getting pregnant out of wedlock (54). More findings interrelated to this are under 4.2.1, 4.2.2 and 4.4.5 sections.

4.4.7 Residence – Rural versus Urban

The KDHS 2022 reports that the percentage of women aged 15-19 years to have ever been pregnant is highest among those in rural areas (16%) and lowest among those in urban areas (12.3%) (18). Mixed method study on 1,110 sexually active adolescent girls in Homabay and Narok Counties found that rural adolescent girls were 64% more likely to have unintended pregnancy than their urban counterparts (43). This section is interrelated with wealth quintile and more findings are under 4.2.2 section.

4.4.8 Sexual/intimate/gender-based violence

In Kenya, intimate partner violence is prevalent with refusal to have sex being a trigger factor (40). Findings indicate that intimate partner violence lead to increased adolescent pregnancies (32) and is higher towards girls with low education (88), and is sometimes perpetrated through social norms and gender roles where girls and women are expected to be obedient to men (50). More related findings are under 4.4.5 section. The *morans* (young Maasai men) of Kajiado County visit adolescent girls' places of sleep as findings indicate under section 4.4.1, and most of the time sexually violate them which likely lead to pregnancies. Also, sometimes girls face sexual violence from men and boys if they receive gifts from them and don't reciprocate with sex (39). Similar

findings of sexual violence due to poverty were found in Kakamega and Homa-Bay Counties especially mostly affecting the orphaned children (47,98). More findings interrelated to this is are under 4.2.2 and 4.4.5 sections.

Social media and digital space however was also found to be a platform where incidences of sexual harassment occur including from fellow peers as found in Muranga County, where of the 320 adolescents interviewed, 31% reported receiving sexual harassment messages many times on their phones, 71% from their fellow peers and 30% from adults (99).

4.4.9 Exposure to media messages / portrayal of sexuality / social media

Qualitative study in Kilifi County found that increased social media access led to access of materials such as pornography and meeting with unknown people through Facebook sometimes leading to forced sex (42).

While qualitative study in Kajiado County found adolescent girls use social media to make their own decision including planning to meet with their chosen partner discreetly in Baringo County girls reported to have had experienced a pregnancy out of having sex after pornography exposure (39,59). These findings align with Guttmacher institute report that while 94% of Kenyan students receive their sexuality education information through media, the quality of the information remains questionable (76), although in Kiambu county, more than half of the adolescent girls in secondary schools get their contraceptive information from media (44,51).

Study in Meru County found that adolescents tend to access more explicit materials as opposed to academic materials through social media and this influenced pregnancies (100) , findings also supported by a systematic review on pornography exposure and early sex debut (101). However, as many adolescents have access to mobile phones, findings indicate successful use of mobile health (mHealth) to deliver SRHR information and knowledge sharing through question and answer platforms especially those in highly conservative societies in LMIC (102).

4.4.10 knowledge, attitudes and skills of healthcare workers

Mixed method study in Nairobi County found the low utilization and under functionality of the available adolescent-friendly services was majorly due to attitude, inadequate adolescent specific training, unavailability of relevant materials for adolescents to read and personal bias on issuing adolescents with contraceptives on the part of healthcare workers. For the adolescents, the healthcare attitude and lack of awareness was a barrier (103). Inadequate provider knowledge was also found among healthcare workers in Nairobi, Laikipia, Meru and Kirinyaga Counties (96). Adolescents emphasized on confidentiality and non-discrimination as key to accessing SRHR services including to the adolescent key population like the men who have sex with men (MSM), (104,105).

4.5 Interventions and good practices

This chapter contains findings on evidence-based interventions available at the national and/or county level that are associated with addressing adolescent pregnancies and that can be adopted to other regions or in the whole country. The national laws and policies are also mentioned but not analyzed as they are beyond the scope of this study.

4.5.1 Child protection and SRHR policies

The Kenya constitution and the penal code criminalize abortion (11,12), safe abortions therefore are mostly offered by international NGO but face huge challenges from the anti-choice NGO as well (40). In the year 2022 however, the high court gave a judgement indicating that criminalizing abortion is an impairment to women's reproductive right (106). The penal code however criminalizes all forms of sexual violence towards girls and women (12). The national plan of action (NPA) developed in September 2021 incorporated the commitments of ICPD 25 towards adolescent SRHR. Among the targets are total elimination of adolescent pregnancy by 2030, eliminate FGM/C by 2022 and eliminate gender violence, child, forced marriage by 2030 by equipping the religious, community and cultural leaders with knowledge necessary to enable them protect adolescent girls from harmful cultural practices (107). These targets are yet to be achieved as KDHS 2022 indicates adolescent pregnancy and FGM/C rate is still high.

In Kiambu County, a study on 100 adolescent girls in school revealed that 36.6% indicated the government supports education on how to avoid pregnancy and 23.7% indicated that financial help is offered by the government to students from low SES to escape risky sexual behaviors. These low numbers are mostly due to low political will to promote SRHR by conservative politicians (75,108).

4.5.2 Availability & affordability of family planning and SRHR services

Kenya government has failed to provide enough contraceptives leaving NGO to fill that gap (40). Adolescent females aged 15-19 years account for over one fifth of the female population, and account for 14% of all births, with two thirds being unintended and 35% ending up in abortion. In 2018, 24% of the 2.8 million sexually active adolescent girls (15-19 years) had a need for contraceptives and over half who didn't want to be pregnant had an unmet need of modern contraception accounting for 86% of all the unintended pregnancies. Addressing this gap would lead to reduction of unintended pregnancies by 73% (from 218,000/year to 58,000/year), reduce unplanned births from 110,000 to 30,000 per year, reduce abortions from 77,000 to 20,000 per year and reduce adolescent maternal deaths by 39% (from 450/year to 280/year) as noted by Guttmacher institute fact sheet (109). This unmet need of contraceptives is compounded by restrictive SRHR policies on offering contraceptives to women aged less than 18 years as found in Kilifi County (42). More related findings are on section 4.4.10, as other findings in line with these two interrelated sections were found through a systematic review of qualitative studies on LMIC where barriers to access of SRHR include unmet need and biased healthcare workers (110).

4.5.3 Integration of CSE in national curriculum

Comprehensive sexuality education (CSE) is a "curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality". It empowers young people on their sexual choices, sexual health and sexual rights (111). Kenya was a signatory to the East and Southern Africa (ESA) ministerial commitments towards SRHR (112), until its recent pull out creating a gap that could have been well addressed (40). Adolescents access to CSE is grounded in international policies and a national level policy is the surest way to successful CSE implementation (113), including those as advised by UNFPA programmatic guidance on out-of-school CSE (81) which should build on the UNESCO 'international technical guidance on sexuality education' (80), and involve all actors as done in Nigeria. (114).

In Kenya, there are many stakeholders involved in designing the school curriculum (76) where conservative actors view CSE as promoting immoral behaviors. The CSE falls under SRHR which is under the Ministry of Health and its implementation falls under the Ministry of Education, and the two ministries have weak collaboration between them. The education sector mainly focusses teaching on HIV/AIDS and sex abstinence and little or no focus on contraceptives, sexual pressure, or even rights of minority sexual groups like the LGBTQI+ (40).

4.5.4 Evidence based interventions

Below are some of the interventions with positive impact on reducing adolescent pregnancy in Kenya from various regions. These interventions were selected based on the key drivers of adolescent pregnancy identified through findings. The interventions address key drivers like low SES, girls' agency and autonomy, gender equality, girls' access to education, SRH information access

4.5.4.1 Elimination of sexual violence

A two year research in Nairobi involving 68 schools with a total of 3,654 adolescent girls by NGO 'No means No' Worldwide based their interventions on the social learning theory and the health belief model and empowerment based on ability to verbally and physically defend oneself from a sexual assault, and empowering them on their self-esteem and efficacy. The intervention saw a decrease in school dropouts as a result of adolescent pregnancies from a baseline of 3.9% to 2.1% annual incidences in the intervention schools compared to the non-intervention ones (115).

4.5.4.2 Economic interventions

Research on a Kenya government program, Kenya cash transfer for orphans and vulnerable children (CT-OVC) on 1,549 women aged 12-24 years 4 years after the initiation found that young women were 5.5% less likely to ever been pregnant in relation to those in the control households (which were delayed in enrolment due to budgetary constraints) who had never given birth at baseline. This was found to be due to increased enrollment in schools, delayed sex debut and family financial stability. The cash covered about 20% of the household's monthly expenditure and households highly encouraged to use the cash for the benefit of the OVC (116). Another evaluation on 1,429 adolescent youths in the same program revealed that schooling improved and helped reduce sex debut for both girls and boys (117). In Homa-Bay, Kisumu and Migori Counties, *shamba Maisha* program, an agricultural intervention on poverty, food security and income which enrolled adolescent girls and their caregivers led to reduction of transactional sex, multiple sex partners cases and increased school attendance among the girls. The girls got the ability to exercise their agency which is sometimes denied as findings under sections 4.4.5 indicate, to say no to risky sexual behaviors, as caregivers were able to provide their needs making them less vulnerable in comparison to the control group not exposed to the intervention. The caregivers' will to discussing SRHR with adolescents (addressing the drivers found under section 4.2.3) increased as they had more confidence and pride (118). These interventions address other major factors influencing adolescent pregnancy as indicated by findings in sections 4.2.2, 4.3.3, 4.4.6 with positive externalities to many other factors.

A study on 2,075 adolescent girls enrolled in the adolescent girl initiative Kenya (AGI-K) program in the informal settlements of Nairobi that were aged 13-14 years at baseline, and followed for four years including two years after end of program revealed that those offered the violence

prevention, education, health and wealth (VEHW) program that included mentorship, life skills, SRH training, financial (cash transfers on condition of school enrollment and attendance) and saving literacy training were a third times lower to have given birth compared to those offered violence prevention only (V-only). Qualitative findings reported this was due to increased SRHR knowledge, delayed sexual debut, increased financial and savings literacy behavioral changes and increased adolescent girl's agency (ability to negotiate safe sex and use of contraceptives) (119). This intervention addresses major factors influencing adolescent pregnancy as indicated by findings in sections 4.1.2, 4.1.3, 4.2.2, 4.4.5, 4.4.6, 4.4.8 with positive externalities to many other factors.

4.5.4.3 Anti-FGM/C programs (Alternative rite of passage)

The prohibition of FGM/C act No 32 of 2011 makes it an offence punishable by law in Kenya to practice FGM/C, aiding and abetting someone else to procure or perform FGM/C, including using an abusive language against a girl or woman who haven't undergone FGM/C (13). However, it is still widely practiced in Northern and Southern Kenya.

A study in Kajiado County on an Africa medical research foundation (AMREF) lead community led alternative rite of passage (CLARP) running since 2009 aimed to stop FGM/C. Alternative rite of passage (ARP) is aimed to allow adolescent girls transition to womanhood undergoing all the cultural requirements but minus the FGM/C practice (94). Through a quasi-qualitative and quantitative approach, Kajiado was compared to Counties without the CLARP intervention but with higher adolescent pregnancies (Mandera, Marsabit, Wajir) and Counties without CLARP but with lower adolescent pregnancies (Bungoma, Busia, Kakamega, Vihiga, Siaya, Homa Bay, Kilifi, Kisumu, Makueni). In comparison to the control counties it was found that FGM/C in Kajiado reduced by 24% ($p<0.10$), child, early and forced marriages declined by 4.9% ($p<0.01$), adolescent pregnancy rate declined by 6.3% ($p<0.01$) and schooling increased by 2.5 years ($p<0.05$). Qualitative studies found this reduction to be due to normalized FGM/C conversation within the community bringing a paradigm shift, increased agency and feeling of self-worth to make informed decisions to attend school over marriage, avoid risky sexual behaviors(120).

However, barriers included increased secretive FGM/C by crossing the border to the neighboring Tanzania which most likely explains the p value weak association of CLARP and FGM/C reduction, some resistance due to cultural changes brought about by CLARP, peer pressure and stigma from girls that have undergone FGM/C sometimes ridiculing CLARP beneficiaries as *entaapai* (uncircumcised) (120). This intervention directly addresses major factors under section 4.4.1, 4.4.6, 4.4.8 with positive externalities to many other factors.

4.5.4.4 Provision of menstrual hygiene education and products

A mixed method study in Siaya County on 644 students followed for 10 months revealed that provision of sanitary pads reduced school absenteeism and the girls also benefited emotionally (121). However, contrary findings from three qualitative studies, one in Kilifi County on 2544 menstruating girls, another in Kisumu County and the other in Nairobi and Kiambu Counties on 311 girls revealed that provision of sanitary pads or menstrual health education did not increase school attendance, however, it helped address underlying emotional problems contributing to adolescent girls school absenteeism, as well as increase in girls reproductive health knowledge and attitude, pride, comfort, authenticity and self-efficacy(122-124). This intervention directly

addresses major factors under section 4.1.2, 4.2.2, 4.4.5 with positive externalities to many other factors.

4.5.4.5 Knowledge improvement programs/norms/attitude/behavior change

An NGO 'STEP UP' in Homa-Bay County works to enable local decision makers understand consequences of unintended pregnancy for adolescents, reversing negative attitudes of decision makers around adolescent pregnancy, creating awareness of re-entry policy to pregnant and adolescent mothers, media campaigns to schools and communities, and dialogues involving decision makers. Dialogue with principals and decision makers in 2014 revealed negativities on adolescent mothers re-entering school, but a repeat dialogue on 2016 recorded a remarkable improvement in attitude including a share of success stories of successful re-entry (125). Another four year study in Nairobi , Mombasa, Kisumu, Machakos and Kakamega Counties on 581 adolescent girls exposed to SRH information including entrepreneurship using *shujaaz* comic book which has adolescent recognizable characters revealed that there was delayed sex debut, first pregnancy and first birth compared to the control group (126). This intervention addresses major factors under section 4.3.4, 4.4.6 with positive externalities to many other factors.

CHAPTER 5 – DISCUSSION

This chapter discusses the findings according to this thesis' objectives to explore individual and family factors, school and community factors influencing adolescent pregnancy in Kenya and to explore available evidence-based practices and interventions at national and/or county level on reducing adolescent pregnancies, to make recommendations to relevant government agencies and stakeholders to inform formulation of measures aimed at reducing adolescent pregnancies in Kenya.

To explore individual and family factors influencing adolescent pregnancy in Kenya.

Key findings here are risky sexual behaviors, Low SES, lack of SRHR information.

The findings reveal that age is an influencing factor in adolescent pregnancies in Kenya as adolescents get older, The findings show that many Kenyan parents shy away from discussing matters on sexuality, contraceptive use, safe sex with their adolescent children as many regards it as a religious and cultural taboo to do so and instead choose to monitor them strictly as well as encourage sex abstinence. When most clear high school, they get to experience life without parental monitoring and being that they lack crucial information that would help them make decisions such as safe sex practices or even contraceptive use, they engage in sex that sometimes lead to pregnancy, and as the findings show, older adolescents are up to 3 times likely to get pregnant as compared to younger ones as they also tend to engage in sexual activities more as compared to the younger ones.

Another increase in risky sexual behavior among the adolescents is not related with age but with alcohol drug abuse and delinquency behavior. When adolescents are under influence of alcohol and drugs, they tend to have the 'carefree' attitude and impaired decision-making capacity and therefore engage in sexual behavior which sometimes is unprotected and end up in pregnancies. Delinquent behavior makes adolescent become negligent of themselves and end up engaging in risky sexual behaviors or even not using contraceptives even when they know about their existence and usage. Risky sexual behavior and substance abuse has been found to be a major driver of adolescent pregnancies in many LMIC from a systematic review (79).

Some adolescent girls do not use contraceptives due to mythical beliefs on their effects such a causing future infertility. In counties such as those in Northern Kenya, adolescent girls are expected to get married early and give birth to many children. Decision on the number of children is made by their husbands and therefore they are denied the agency to use contraceptives. Some other adolescents however have little information or none on matters SRHR as neither teachers at school nor parents at home share it with them, and any knowledge by a parent that their adolescent son or daughter is engaging in sexual activities is met with strong resistance. Some parents avoid addressing the fact that adolescents are having sex and result to offering them severe punishments such as physical punishment or chasing them away from parental home. This lack of knowledge, ridicule and rejection pushes some adolescents to engage in risky sexual behaviors that may lead to pregnancy. However, findings indicate that knowledge on contraception increases their usage effectively reducing adolescent pregnancy cases. Case in

point is Kiambu County which also has a lower than national average rate of adolescent pregnancy.

Adolescent girls from a low SES family face a myriad of challenges including lack of basic needs. The findings demonstrate that economic hardship pushes some girls to look for alternative means to acquire their needs such as sanitary pads, school fees, travel money to school among others. Many of the girls are not gainfully employed and some find it to get quick money from a category of Kenyan workers that earn money daily that is the *boda boda* riders and sand harvesters. With nothing else to offer and being at a vulnerable situation, the men working in these sectors take advantage and offer the girls money in exchange for sex. Other adolescent girls like those in the coastal region of Kenya where many tourists often visit do transactional sex with them as some believe they have more money to offer. These kinds of vulnerabilities brought about by economic hardships lead to increased pregnancy cases.

To explore school and community factors influencing adolescent pregnancy in Kenya.

Key findings here are education, cultural practices, gender norms and girls' autonomy, myths and misinformation on contraceptive use, cultural and religious beliefs against abortion, social media exposure.

Findings indicate that education is protective against adolescent pregnancy because an adolescent girl gets to build her self-esteem, decision making skills on the issues that affect her lives including the choice of sexual partner. This as findings indicate leads to delayed sex debut, reduces risky sexual behaviors and reduced pregnancies. However, just as education is protective against first birth, it is also protective against repeat pregnancy to an adolescent mother and that is why it is important for adolescent mothers to re-enter school and continue with education. Findings indicate in a county like Vihiga, teachers and principals knew of the existence of a school re-entry policy but did not have copies in their offices thereby making it difficult to implement it effectively. In school also, as adolescent continue with their normal learning, CSE should be taught as well. From the findings, some form of CSE is taught in Kenyan schools but important topics such as contraceptives and abortion have been given less emphasis, not to mention the sexual rights of key adolescent community like the LGBTQI+, leading to partial delivery of CSE. This stems from the fact that Kenyan education system is designed from contributions from many stakeholders which include religious and community leaders who majority hold deeply rooted cultural and religious beliefs that are highly opposed to CSE being taught to their adolescents. Most believe that this will lead to sexualization of their children and divert them to sexual immorality.

Kenya has many communities with many cultural practices. Findings indicate some of these cultural practices create are during funerals during which there is music and dance (*disco matanga),* consumption of alcohol as well as drugs use such as *marijuana.* These ceremonies are common in most parts of Western and Southern Kenya Counties and create opportunities for adolescents as well as adults to engage in risky sexual behaviors, while other adolescents face sexual violence all of which sometimes end up in pregnancies. The practice of FGM/C findings indicate that its commonly practiced in Southern Kenya Counties like Kajiado and Narok as well

as Northern Kenya Counties of Wajir, Mandera, Samburu as well as Kisii. This harmful cultural practice is conducted as a rite of passage to adulthood, and soon after girls are expected to start having sex and get married. The findings show that communities like the Maasai and the Luo have cultural practices that does not allow adolescent daughters to sleep in the same homestead as the parents. This effectively makes the adolescent girls sleep at the grandparents or even neighbors' house, where without the parents present and no close monitoring, some leave at night to attend social events such as discos where some engage in alcohol and drugs abuse, risky sexual behaviors and some end up pregnant. In the Maasai community, the *morans* (young Maasai men) take advantage of this different sleeping arrangement to perpetrate sexual violence where they visit the girls place of sleep and have sex with them whether they accept or not, and this effectively denies the girls agency and autonomy. The practice of FGM/C, traditional ceremonies and sleeping arrangements common in Southern, Western, Northern and Coastal Kenya could be a major contributing factor to high adolescent pregnancy rates in these regions.

Findings indicate that adolescent girls autonomy is also denied through gender norms where girls are expected to stay at home and do house chores as well as be married early while they are still virgins as they are expected to be 'pure' and keep their chastity as is common in Wajir and Mandera Counties. Findings indicate that denial of a girls autonomy is also closely linked to low SES of the parents where due to financial constraints, some parents marry off their adolescent daughters to men who will pay the highest bride price most of the times these are men that are two or three times older than the girl. The bride price is a source of wealth to the family and some parents as findings indicate, go as far as marrying an adolescent daughter off to pay a financial debt. Not only is the girls' opinion not considered for a choice of partner, but after entering these marriages, they still don't have the ability to negotiate for anything including use of contraceptives because like in the and many faces intimate partner violence.

Findings indicate that myths and misinformation about getting an abortion or even using contraceptives as a major barrier to addressing adolescent pregnancy. There is a belief among some adolescents, some of their parents and even some healthcare workers that contraceptives use will lead to future infertility or even make adolescents promiscuous. Cultural and religious beliefs also equate contraceptives use as immorality and getting an abortion as a sin and killing. From the findings, this misinformation is compounded further by some healthcare workers that are biased towards provision of contraceptives to adolescents, while others act as a barrier to adolescents' access to SRHR services due to their attitude. Findings indicate that adolescents consider confidentiality key when they seek SRHR services from healthcare providers and non-discriminatory especially to the adolescent key population like the adolescent MSM.

From the findings, it is evident that electronic media and the internet plays a role in adolescent lives. With the proliferation of mobile phones and wider internet coverage in Kenya in recent times, many adolescents access a lot of information just by the click of a button. In Baringo and Meru Counties for example, findings indicate that access of pornographic materials on the internet led to some adolescents' girls engaging in sexual activities that led to pregnancies. From the findings, many adolescents get their SRHR information from the media of which some is of

poor quality and does not help them positively. Other than the media, other adolescents get their SRHR information from their friends and since some are keen on fitting into their peer group, they tend to copy what their peers do and some get to engage in risky sexual behaviors such as not using a condom and some get pregnant. However, due to its wider adolescent reach, social media can be used positively to deliver SRHR information to the adolescents through mobile health (mHealth) platforms.

To explore available evidence-based practices and interventions at national and/or county level on reducing adolescent pregnancies.

The findings show evidence-based interventions towards addressing adolescent pregnancies in Kenya on key areas on; education, social norms change, promoting FGM/C abandonment, gender violence and gender equality intervention, economic interventions.

At the national level, Kenya government has developed several laws and policies that address directly and indirectly factors that contribute to adolescent pregnancies and adolescent SRH in general like the anti FGM/C act and the penal code that criminalize violence against women and girls. However, others curtail the freedom of an adolescent girl to choose and exercise her autonomy and agency like the constitution and penal code chapters that criminalize abortion. However, the recent high court ruling on the anti-abortion law might be useful to other judges and magistrates in Kenya who might rely on it on making future related judgements.

An evidence-based program to girls on self-defense (verbal and physical) against sexual abuse, gender equality training to boys positively contributed to reduction of adolescent pregnancy related school drop. This is a clear indication that when an adolescent girl has knowledge to identify instances that would lead to sexual abuse as well as defend herself when she is attacked and involving boys in the program to get knowledge on positive masculinity and gender equality is key to reducing adolescent pregnancy. Findings also show that provision of menstruation commodities like sanitary pads and menstrual health knowledge has positive outcomes to a girls' agency, self-efficacy, hope and confidence and this is an initiative national and county governments can endeavor to implement in schools.

According to the findings, low SES is a major driver of adolescent pregnancies as many adolescent girls tend to engage in transactional sex, early/forced marriage, dropping out of school even becoming homeless and vulnerable. Evidence based programs addressing economic empowerment like the Kenya government program Kenya cash transfer for orphans and vulnerable children (CT-OVC), and a program on cash transfer by the adolescent girl initiative Kenya (AGI-K) are key to improving girls school attendance leading to reduction of pregnancy cases. Findings indicate these economic interventions are highly accepted by the community as the *shamba maisha* program beneficiaries revealed that caregivers under this program had more confidence to discuss SRHR information with their adolescents. This can be generalized to the whole country especially among those of the lowest wealth quintile.

Evidence based program on abandonment of FGM/C like the one conducted by AMREF in Kajiado County which was a community led alternative rite of passage (CLARP) provided multiple benefits

that are all associated with delayed sex debut as well as reduction in adolescent pregnancies. This intervention can be generalized to all counties like in Northern Kenya, Kisii County as well as other Counties where FGM/C is practiced where similar positive externalities can be expected.

Congruent to all my findings, a systematic review on determinants of adolescent pregnancies in sub-Saharan Africa found the main drivers to include peer influence, low SES of the parents, alcohol and drugs abuse by the adolescents, inadequate CSE, inadequate knowledge and misconceptions about contraceptives and early marriages (127).

Relevance of the analytical framework

The ecological model was considered useful in analyzing the findings as the different layers covered a section from the individual, family, school, community all that interrelate to influence adolescent pregnancies plus the national or local interventions that are addressing the situation. Being that wealth quintile, family, culture, school and society play many roles in the life of an adolescent, the model was useful in analyzing these different aspects. However, due to the nature of the model, the five levels were broadened to the very major drivers of adolescent pregnancies identified for Kenya from a preliminary literature search.

Limitations and bias

This thesis involved review of literature on factors influencing adolescent pregnancy in Kenya. Kenya has 47 Counties (devolved governments) and some counties have different influencing factors than others. Strengths included getting a lot of relevant data on cultural factors and SES of many Kenyan communities as well as adolescents' schooling. Some limitations however included lack of data from some counties. In this study, little data was found on counties in the North Eastern and Central Kenya, while there was much data on Nairobi, Western and Southern regions of the country. While qualitative and quantitative literature forms a bulk part of the literature reviewed for this thesis, some studies contained findings from small sample sizes which could have overlooked some important factors or underreported on them.

Due to the wide variety of factors that may influence adolescent pregnancies, as a matter of deeper research on factors, only the key drivers were researched deep on, while other factors such as rural versus urban were majorly studied under the low SES category as preliminary literature indicated they are interrelated and low SES as the common factor.

CHAPTER 6 – CONCLUSION AND RECOMMENDATIONS

Conclusion

It is evident that economic constraints of the family are a great push factor influencing adolescent pregnancy. When adolescent girls' family is unable to provide her needs, most men and boys that happen to have money take advantage of the poor girls, offer them the money in exchange for sex. Some of these men and boys include the motorbike taxi riders commonly known as *boda boda* in Kenya as well as sand harvesters because their businesses allow them to earn money on a daily basis, plus for the *boda boda* riders, even without offering money they offer the adolescent girls free transport to school or to their other preferred destinations. Some of the adolescents in these situations end up engaging in unprotected sex as they are not able to exercise their agency to negotiate for safe sex as the man providing money has the final say. Economic constraints further lead to early marriages where in some communities, girls are married off so the family benefits economically from the bride price. These practices as propagated by low SES and social norms deny adolescent girls the ability to exercise their agency.

Kenyan communities are highly governed by culture and traditions and part of it involve during sendoff of a diseased member of the community where overnight dance (*disco matanga*) and alcohol drinking ceremonies are held involving adolescents and adults creating a favorable opportunity for sexual activities and sexual violence. Separate sleeping arrangements of the adolescent girls in communities like Maasai and the Luo create expose the girls to opportunities to engage in risky sexual behaviors as well as sexual violence. Harmful cultural practices like the FGM/C which is performed on girls as young as 10 years influence girls to school dropout and exposing them early/forced marriages with most ending up in unions where they face regular violence including sexual violence. While findings indicate FGM/C and traditional ceremonies are common in Southern, Western and Northern Kenya where adolescent pregnancy rate is also high, there was not enough data found on Central Kenya regions on the same factors.

Education is protective against adolescent pregnancy and findings indicate adolescent girls who attend schools have positive outcomes of delayed sexual debut, delayed first birth, delayed marriage due to improved knowledge and skills that promote self-efficacy. However, education on adolescent SRHR information is a big challenge as some parents, teachers, religious leaders and healthcare workers avoid any SRHR communication with adolescents as they deem it a taboo, against their culture and religion, while others think they are too young to start having sex, with majority only focusing on sex abstinence. Inadequate delivery of CSE in schools only compounds further the quality of SRHR information adolescents receive. Therefore, adolescents turn to the media and peers for their SRH information of which is of unknown quality. However, the media can be used positively to pass SRHR information through safe and confidential platforms like question and answer platforms through short message services.

Of note are the evidence-based interventions that have been implemented and tested and can be generalized to the entire country as plausible interventions towards reducing adolescent

pregnancies. They include anti FGM/C campaigns programs on alternative rites of passage, training of adolescent girls on defense against sexual violence, SRHR information, education, financial empowerment and literacy, which have been proven to positively contribute to reducing the adolescent pregnancy rate. Social norms and attitude change and knowledge-based interventions that promote gender equality, school re-entry of adolescent mothers and empowerment of girls to exercise their agency and self-efficacy have been proven to positively address the wider factors contributing to adolescent pregnancy.

Recommendations

For the National Government

Short term

- Ministry of Education in collaboration with the Ministry of Health, NGO and vocational centers should implement a program of providing free menstrual hygiene education and products to all adolescent girls in schools, to improve their self-efficacy to help keep them in school. Fully teach all topics under CSE, ensure the students receive age-appropriate information and make CSE an examinable subject. In addition, the Ministry of Education in collaboration with the teachers training colleges to improve the pre-service and in-service teacher training of adolescent SRHR topics to equip them with latest skills to effectively deliver CSE, as well as overcome their own inner bias and beliefs towards CSE.
- Fully enforce the anti FGM/C act and the sexual offences against women and girls act in the penal code.

Long term

- Government to implement a national cash transfer program directed towards education of the very poor and vulnerable to encourage school enrollment and attendance. This could be done through national budgetary allocations by the national treasury.
- Repeal the penal code articles 158-160 that criminalizes abortion. This would require a bill to be tabled in the National assembly and debated by members of parliament.
- Amend the constitution chapter 4 Bill of rights part 2 section 26 to allow for abortion on request. This would require a national referendum and voting by the people of Kenya and mostly it may take years.

For the County Governments

- Promote anti FGM/C programs such as the alternative rites of passage programs in Kenyan Counties mostly affected by FGM/C in collaboration with various NGO, raise the girls' worthiness in the community to curb sexual violence, promote gender equality, increase girls agency, increase girls autonomy to positively contribute to reduction of early marriages and adolescent pregnancies. Implement community training programs to encourage abandonment of traditional ceremonies such as *disco matanga* and girls to sleep in the same homesteads as their parents
- Health is devolved so the county departments of health should implement SRHR, make contraceptives widely available, affordable at adolescent friendly centers run by friendly well-trained staff on SRHR to increase the SRHR seeking behaviors by the adolescents.

For the NGO implementing adolescent SRHR programs

- NGO to collaborate closely with the county and national governments to ensure they share the lessons learnt from their programs for adoption and implementation by the government at the two levels.

For the Community and Religious leaders

- Overcome their bias and negative beliefs on various sections of SRHR through attending to various trainings and sensitization programs offered by various stakeholders.

Areas for further research

More research is needed especially on the cultural beliefs and practices, contraceptive use and stigma and education level factors of the communities in Central Kenya as much of the research has focused widely on the West and Southern and some on Northern Kenya. This will help understand more on the large differences of adolescent pregnancies rates in these regions and get a clear picture on best practices in Central Kenya and establish whether they can be generalized to the counties with higher rates.

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Appendix 1: Search Table

Table 1: Search table

	Problem / issue terms		Factors and interventions related terms		Geographical scope terms
AND	Adolescent pregnancy	**OR**	Age	**OR**	Kenya Counties
	Teenage pregnancy		Sex		Kenya
	Early pregnancy		Sexual debut		East Africa
	Unintended pregnancy		Cultural factors		East and Southern Africa
	Unwanted pregnancy		Religious factors		Sub-Saharan Africa
			Community factors		Africa
			Family planning		Global
			Forced/Early/child marriage		
			Contraception use stigma		
			Abortion stigma		
			Comprehensive sexual education		
			Gender roles/norms		
			Agency		
			Adolescent autonomy		
			Transactional sex		
			Female genital mutilation/cutting		
			Adolescent sexual autonomy		
			Unsafe abortion		
			Social media		
			Alternative rite of passage		
			Adolescent agency		
			Knowledge, attitudes and beliefs		
			Aspirations, goals, and self-esteem		
			Decision-making skills		
			Risk-taking behaviors		
			Family dynamics		
			Parent child SRHR communication		
			School/peers/peer pressure		
			Gender roles/norms		

			Alternative rite of passage		
			Media/social media		
			Disco matanga (Funeral disco)		
			Sexual/gender-based violence		
			Pornography		
			Menstruation hygiene programs		
			Cash transfer programs		
			Behavior/attitude change		
			Economic empowerment		
			Gender equality programs		