DETERMINANTS, CHALLENGES AND OPPORTUNITIES FOR ADDRESSING TEENAGE PREGNANCY IN ZAMBIA: A LITERATURE REVIEW

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ZAMBIA

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Determinants, Challenges and Opportunities for addressing Teenage pregnancy in Zambia: a literature review

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

By

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The thesis "**Determinants, challenges and opportunities for addressing teenage pregnancy in Zambia: a literature review"** is my own work**.**

Signature

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LIST OF ABBREVIATION

7NDP	Seventh National Development Plan
ABR	Adolescent Birth Rate
ADFHS	Adolescent Friendly Health Services
ADHSP	Adolescent Health Strategic Plan
ADH-TWG	Adolescent Health Technical Working Group
CCT	Conditional Cash Transfer
CSO	Civil Society Organisation
FP	Family Planning
GBV	Gender-based Violence
GDP	Gross Domestic Product
GREAT	Gender Roles, Equality, and Transformations
HCWs	Healthcare Workers
HIV	Human immunodeficiency Virus
MMR	Maternal Mortality Ratio
MoGE	Ministry of General Education
MoH	Ministry of Health
NHSP	National Health Strategic Plan
PGB	Programa Geração Biz
RH	Reproductive health
SDG	Sustainable Development Goals
SRH	Sexual and Reproductive Health
SRHR	Sexual Reproductive Health and Rights
SSA	sub-Saharan Africa
STIs	Sexually Transmitted Infections
TP	Teenage Pregnancy
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFPA	United Nations Population Fund
WHO	World Health Organisation
YFC	Youth Friendly Corner
ZDHS	Zambia Demographic and Health Survey

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GLOSSARY

Adolescent fertility rate: The number of births per 1000 women aged 15-19 years. (1)

Adolescent Friendly Health Services: integrated quality health services with the purpose of increasing acceptability and utilisation of health services by adolescents which are relevant, accessible, attractive and affordable. (2)

Child, Teenager, Adolescent and Youth: A Child as defined by the convention on the rights of a child (CRC) as a person below the age of 18 years. An adolescent is a person age between 10-19 years and youth refers to those age 15-24 years. A teenager is a person aged 13-19 years. (3,4,5) Unless otherwise stated, the term teenager in this thesis would be persons of age 15-19 years. This is due to paucity of information for individuals aged 10-14 years. Throughout this thesis, the terms teenager and adolescent have been used interchangeably.

Comprehensive Sexuality Education: Age appropriate teaching that is cultural, context based on accurate realistic information to ensure that young people gain knowledge and make informed choices regarding sexuality and relationships. (6)

Environment factor: These factors are found where the person resides and develop; they include the socio-economic factors, cultural, traditional and religious factors. (7,8)

Gender: Socially constructed attributes, behaviours, roles deemed appropriate for male or female. These change overtime and are different from culture to culture. (9)

Personal determinant: These are individual adherent factors that predispose the person to the likelihood of pregnancy. Individual characteristics include age at puberty, beliefs, gender, knowledge, attitude, norms, and perception of risk influence behaviour. (7)

Unintended pregnancy: Pregnancy that occurs at an inappropriate time (mistimed) or undesired (need for child later or not). In such instances, pregnancy is unwanted or unplanned. (10)

Unmet family planning needs: The concept where an individual wants to delay pregnancy or next birth but is not using any modern contraceptive method. (11)

Unsafe abortion: A procedure for terminating an unintended pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards or both. (12)

ABSTRACT

Background: Zambia is among the countries in sub-Saharan Africa facing challenges of teenage pregnancy (TP). With prevalence at 29%, it compounds the public health problems among adolescents. TP brings radical changes to the life and future aspirations of girls. Recognising the challenges adolescents faced, Zambia adopted adolescent-friendly health services (ADFHS) and comprehensive sexuality education (CSE) among others to improve adolescents' access to health and education services. However, meeting their needs remains a challenge.

Objectives: The study aim: to identify the determinants of TP, challenges and opportunities in order to inform policy and intervention development for addressing its occurrence in Zambia.

Study Methods: The study was a literature review and desk study of peer-reviewed articles and grey literature. An adapted version of the PRECEDE-PROCEED model was for analysis.

Findings: The important factors influencing unintended TP include: inadequate knowledge of SRH, poor parent-teen communication, gender inequality, limited access to health services, normative cultural beliefs and unsafe sexual practices. Inadequate funding, weak collaboration between ministries were identified challenges. Opportunities include new funding possibilities such as Global Funding Facility and availability of technical experts to advice on effective ways to address TP. Multisectoral approach and community participation were shown to be effective.

Conclusion: Programmes to work collaboratively, address multiple factors simultaneously and ADFHS and CSE must meet international recommendations to achieve success.

Recommendations: To adopt policies that enhance the provision of SRHR services to adolescents and design joint plans to address TP that incorporates community participation.

Keywords: Determinants, teenage pregnancy, challenges, opportunities, interventions, Zambia.

Word count: 12, 474

INTRODUCTION

Teenage pregnancy (TP) is a worldwide problem, (13) however; its prevalence is highest in sub-Saharan Africa (SSA). (14) Adolescence is a transformative stage of human development characterised by physical, emotional, cognitive, social and sexual development that require special attention in order to lay a solid foundation for adulthood. (15,16) Further, adolescence is a critical and challenging period because to satisfy their curiosity and understand their changing bodies or respond to social expectations, they experiment harmful practices such as substance abuse, early and unprotected sex which can result in undesirable health outcomes such as sexually transmitted infections (STIs) or unintended teenage pregnancy. (17,18) United Nations Population Fund (UNFPA) states that in most cases girls have little decision-making power and that pregnancy is not by choice rather a consequence of factors like inaccessibility to health care, lack of information or arise due to deep rooted gender inequality. (19)

In Zambia, unintended pregnancies among adolescents have been associated with increased risks of health problems. (20) During my work experience as a nurse since 2000, I came across pregnant teenagers, for example, during an outreach programme to a rural area in 2018, there was a twelve year pregnant girl who came for antenatal care. In a low tone with despair she narrated how she had dropped out-of-school and worse her partner denied responsibility. This was one among the thousands of girls passing through a similar situation.

Therefore, it is important to have a broader understanding of the personnal and contextual determinants of TP and to identify effective evidence-based interventions. The objective of the thesis was to identify and discuss the determinants of teenage pregnancy and the challenges and opportunities for addressing its occurrence in Zambia.

Thesis outline

The paper is organised in the following parts: **Chapters One** gives the background information of Zambia. **Chapter Two** covers the problem statement, justification, objectives and methodology and also outlines the conceptual framework used in the study. **Chapter Three** presents the determinants of teenage pregnancy and explores its consequences. **Chapter Four** examines the programmes that have been implemented to address teenage pregnancy in Zambia and gives an overview of the challenges and identifies existing opportunities. It also looks at best practices that have been implemented in countries in sub-Saharan Africa (SSA). Lastly, **Chapter Fives** consolidates by way of discussion the findings of the thesis, gives the conclusion and recommendations.

CHAPTER ONE: BACKGROUND INFORMATION

1.1 Geography and socio-demographic characteristics

Figure 1: Map of Zambia showing provinces and neighboring countries Source: Google Maps

Zambia is a landlocked country in Southern Africa surrounded by eight neighbouring countries (see **Figure 1**). It is administratively divided in 10 provinces and covers an area of 752, 614 square kilometers. (21)

The 2019 projected population from 2010 census is 17,861, 030, and the annual population growth rate of 2.8%. (21,22) The population distribution based on place of residence such that: 58.2% live in rural areas and 41.8% live in urban areas, and the sex ratio shows proportionately more females (51%) compared to males (49%). (23) Furthermore, the country comprises a youthful population and adolescents' make-up over a quarter (27%) (see **Annex 1**). With such a high proportion of adolescents, the dependency ratio is high. (18)

1.2 Socio-cultural and economic situation

Zambia sustained economic growth of 6.9% of gross domestic product (GDP) over the years (2000-2015); however, its reliance on mining made it vulnerable to external shocks like fluctuating copper prices. (24) The proportion of poor people declined from 68% in 2006 to 54.4% in 2015. (24) Compared to urban areas, poverty is worse in rural areas at 74.6% to 23.4%. Despite this reduction, income inequality measured by Gini coefficient[1] increased from 0.60 in 2006 to 0.69 in 2015. (24,25) Unemployment stood at 12.6%, however, youth unemployment was even higher than in the general population at 17.4% in 2017. (26)

Zambia is a multicultural society with diverse traditional practices some of which may pose harm to adolescents like sexual cleansing, child marriage and gender discrimination towards girls. (18,27) The patriarchal system poses a significant risk to achieving gender equality, girls are socialised to be submissive which affects their decision-making abilities. The country is has seen rapid urbanisation and increase in access to internet which positively

[1] The Gini coefficient is based on the comparison of cumulative proportions of the population against cumulative proportions of income they receive. It ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality.

influence dissemination of information, but can also serve as source of inaccurate information to teenagers. (20)

1.3 Education

In the past years, the education sector saw improvements in key indicators like enrolment and classroom space. (28) School enrolment increased by 7,316 more pupils from 2015 to 2016 (see **Table 1)**. However, a high number of girls dropped-out of the educational system. (28) There was a disparity in completion rate between primary and secondary level at 68.8% and 52.7% respectively. (29) Literacy was low among women compared to men and higher in urban compared to rural area (see **Table 1)**. During the period 2000-2014 the sector introduced free education (from grades one to nine) and re-entry policies, (28) but this did not translate to improvement of the Gender Parity Index[2] (GPI), (30) which reduced from 0.98 for grade six to 0.84 for grade twelve. (31) The school introduced comprehensive sexuality education (CSE) for grade five to twelve in 2014.

Table 1: School enrolment and literacy rate segregated by sex and place of residence in Zambia in 2016.

Characteristic	**Sex**	
	Male	**Female**
School enrolment		
2016	2,026,186	1,999,194
2015	2,036,552	1,981,512
Literacy		
Urban	93.2%	83%
Rural	73.4%	54%

Source: MoGE Bulletin 2015 and 2016. (29,31)

1.4 Health

In Zambia, health care is provided by public and private sectors. (32) The public health sector embarked on health reforms in 1991 which led to decentralization of services to district level and delivery of health services through primary health care (PHC) approach. (20,32) The country faces burden double of communicable and non-communicable diseases. (20,27) In terms of organisation, public health facilities are categorized in five tiers as outlined in **Annex 2** (32,20) and adolescents health services offered at levels one, two and three. (18) The coordination of adolescent health activities falls in the reproductive, maternal, child and adolescent health and nutrition. To increase access to health services, government introduced free health services that also include adolescent health from level one to three facilities. (32)

1.4.1 Health System financing

Public health sector received 9.5% of the national budget in 2018, below the Abuja declaration of 15%. (33) The Current Health Expenditure (CHE) per capita was US$57 in 2016, Domestic Health Expenditure (DOM) as percentage of CHE was 58%, and External Health Expenditure as percentage of CHE was 42%. (34) There is over-reliance on donors

[2] GPI: Ratio of number of female students enrolled at primary, secondary and tertiary levels of education to the number of male students in each level. GPI equal to 1 indicates parity between females and males and values less than 1 indicates a disparity in favour of boys and a value greater than 1 indicates a disparity in favour of girls.

to finance the health sector. (20) Government introduced the National Health Insurance (NHI) in 2018 to cushion the health sector funding deficient. (20,35) According to the NHSP 2017-2021, government commits to spent 2.6% of the health budget on reproductive and maternal health that includes adolescent health (ADH). However, eventual disbursement to ADH activities was erratic. (20)

1.4.2 Adolescent Health

In 1996, MoH introduced youth friendly corners (YFC) to enhance adolescents' access to health services. However these facilities were few, as a result adolescents seeking health services were to do so in the general care settings an approach that did not meet their needs. (18) To this effect, the desire to provide adolescent friendly health services (ADFHS) that are appropriate, accessible, confidential and efficient was founded. This led to development of the adolescent health strategic plan (ADHSP) 2011-2015. Adolescents face a number of health problems such as early and unprotected sex, sexual abuse, early marriages, unintended pregnancies, unsafe abortions and unsafe cultural practices. (18)

1.4.3 Health sector performance

1.4.3.1 Maternal mortality Ratio and Infant Mortality Rate

The health sector recorded improvements in some indicators in the last few years: maternal mortality ratio (MMR) reduced by 50% between 2007 and 2018 and infant mortality rate (IMR) reduced by 40% in the same period (**Figure 2**). (36)

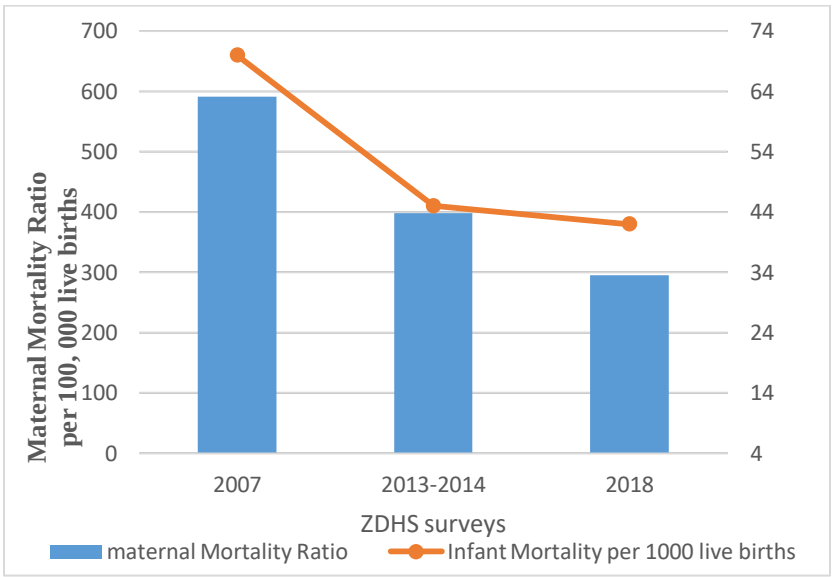


Figure 2: Trends in MMR and IMR between 2007 and 2018.
Source: ZDHS 2013-2014 and 2018. (36,37)

1.4.3.2 Family Planning

Utilisation of modern family planning (FP) methods in the population increased from 33% to 45% while unmet need for FP reduced from 27% in 2007 to 21% in 2013. (20) The increased use of FP methods in the general population was not accompanied by a

corresponding increase in contraception usage among adolescents girls aged 15–19, rather it reduced from 21.9% in 2007 to 10.2% in 2013. (36,38)

1.4.3.3 Fertility rate and Adolescent birth rate

Total fertility rate declined from 6.5 children per woman in 1992 to 4.7 children per woman in 2018 according to ZDHS 2018. (37) United Nations forecasts that such a high fertility rate would result in the population of Zambia to double by 2050. (39) Despite the reduction in adolescent birth rate (ABR) from 146 per 1, 000 live births in 2007 to 135 per 1, 000 live births in 2018 (**Figure 3**), (36) much needs to be done to meet the set target of ABR of 121 per 1000 live birth by 2021 as outlined in NHSP 2017-2021. (20) In comparison to other countries in ESA, Zambia is among the countries that have high total fertility rate (**Annex 3**).

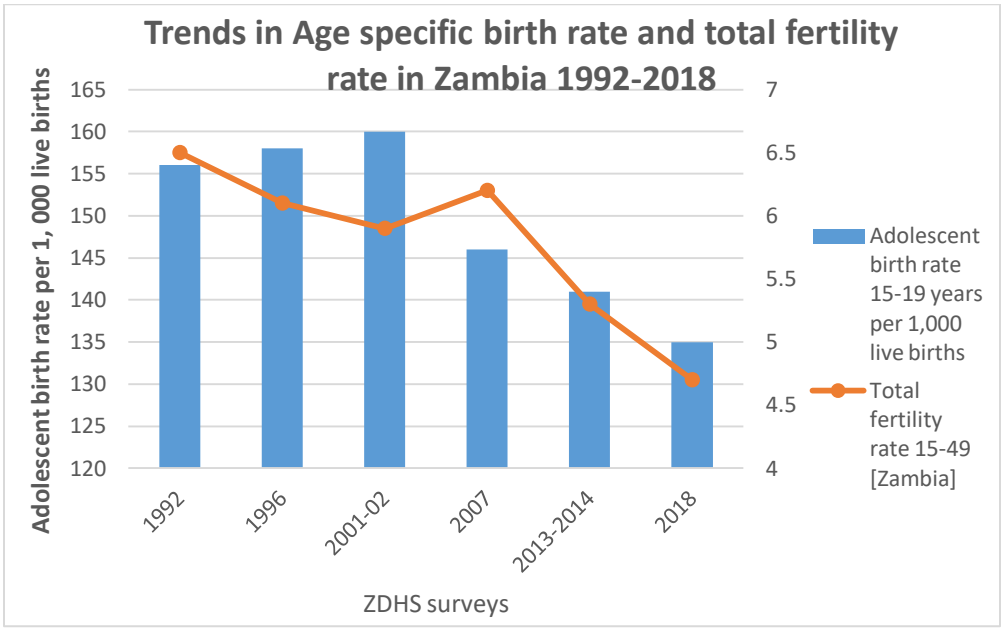


Figure 3: Trends in age-specific birth rate and total fertility rate in Zambia between 1992 and 2018.
Source: ZDHS (2013-2014 and 2018). (36,37)

CHAPTER TWO: PROBLEM STATEMENT, STUDY OBJECTIVES, STUDY METHODS

2.1 Statement of the Problem

Adolescence is a critical period where an individual undergo significant physical and emotional changes such as seeking liberty from parental control or to gain acceptance by peers. (17) Often to some teenagers, this period may bring about engagement in risky behaviour like early unprotected sex. Such unsafe sexual behaviours frequently results in unintended pregnancy, sexually transmitted infection (STIs) or HIV. (19) Pregnancy to a girl occurring below 20 years is termed as teenage pregnancy. (19) In developing countries, an estimated 21 million adolescents gave birth in 2017 of this, 49% were unintended. (40) In view of the high global adolescent (10-19 years) population which stood at 1.2 billion in 2016 and continues to grow, (17,41,42) UNFPA warns that the high adolescent population may continue to have an implication on the prevalence of teenage pregnancy, particularly in Africa where it is anticipated to increase. (19)

According to the ZDHS 2018, 29% of adolescent girls in Zambia began childbearing before the age of 19 years in 2018. It must be stated that progress has stalled to achieve the planned target of 25% prevalence of TP by 2018 according to NHSP 2017-2021; as the prevalence has persisted at 29% since 2013. (20) In-country variations of the prevalence disproportionately higher in rural areas at 37% compared to 19.3% in urban areas. (36,37) School going teenagers are equally affected, in 2016, 15, 222 girls were pregnant. (29) Many factors lead to unintended teenage pregnancies and are not limited to the teenage girl herself but also to the social environment where she lives. (7,43) Gender norms such as expectations for babies from married adolescent girls lead to low contraception use, while sexually active unmarried adolescent face stigma to access contraceptives. Other factors that may influence unintended pregnancy are; attitude, perception, culture, child marriage, social norms, limited access to education and sexual and reproductive health and rights (SRHR) information and services.

Knowledge of contraceptives among young people in Zambia ranged from 21.4% for emergency contraceptives to 95.5% for other oral contraceptives in 2012. (36) Even where knowledge was high about a range of contraceptives, this has not reflected in safe sexual behaviour. For example in 2012, 51% married young women and 61% sexually active unmarried young women did not use any form of contraceptives at last sex in Zambia. (36) Sexually active unmarried and married adolescent are among the group with high unmet need for contraceptives which has contributed to high fertility among this age group. (40)

Unintended teenage pregnancies has continued to affect teens, its effects are felt at individual, family but also to the broader society, health system and even affects the next generation. (16,44,45) It brings about radical changes to the life of the girl, violating her right to education, minimizing employment prospects which further sustains the cycle of poverty. (46) Childbirth during adolescence carries a risk of complications as the girl has not fully matured. (40) Unsafe abortions (UA) commonly results from unintended pregnancy and in 2016; 30%-50% of hospitals admissions in gynaecological departments in Zambia were due to UA. Unsafe abortions together with delivery complications accounted for 30% of maternal deaths in 2012. (27) Further, adolescent are at risk of preterm delivery which puts the infants equally at risk of morbidity and mortality. (14,47)

Adolescents represent a major proportion of the population that has diverse health needs. If their needs remain unmet, it would have a bearing on the public health trends. (18) Adolescent friendly health services and comprehensive sexuality education in schools were introduced to increase knowledge on SRH, create demand and improve utilisation of health services by adolescents. Despite these interventions, unintended pregnancies and its associated consequences have continued to affect adolescents. This requires further study to find-out its underlying factors if progress is to be made.

2.2 Justification

The Government of the Republic of Zambia, recognizing the increasing problems impacting on adolescents' health developed the Adolescent Health Strategic Plan (AHSP) in 2011 to improve the utilisation of health services by adolescents and introduced comprehensive sexual education (CSE) (6) in schools in 2014 to increase pupils' knowledge on sexual and reproductive health. (18) Despite putting in place these measures; adolescents' access to health services is a challenge evident from negative indicators like high prevalence of TP, low contraception use, high unmet need for FP and high adolescent birth rate. (18,48) The government also introduced re-entry policy to facilitate readmission of pregnant adolescents back into school and had earlier introduced free education as means to remove barriers to education.

Addressing teenage pregnancy through concerted efforts of various stakeholders collaboratively is necessary, yet has inadequately been explored. The desire to address teenage pregnancy is evident; however, research to understand the personal and environmental determinants in Zambia is limited. (49) While authors believe that single component interventions can address TP, others argue that mulitsectoral approach would yield better outcomes and the thesis intends to fill this knowledge gap. Secondly, the study seeks to identify the determinants of teenage pregnancy not merely individual factors but also those surrounding the teenager. By so doing, intervention would be designed that covers multiple determinants of teenage pregnancy. This study further seeks to explore the strategies that worked in similar contexts so that evidence informed-decisions can be replicated in Zambia on how to successfully implement prevention strategies for unintended pregnancies. The focus of the thesis is on unintended pregnancy as it is common among adolescents and may be prevented when the determinants are identified and addressed.

2.3 Objectives

2.3.1 General Objective

To identify and discuss the determinants of teenage pregnancy and the challenges and opportunities for addressing it's occurrence in Zambia in order to inform policy and intervention development.

2.3.2 Specific objectives

1 To identify the personal and environmental influencing factors (determinants) that perpetuates teenage pregnancy in Zambia.
2 To identify the challenges and opportunities for addressing teenage pregnancy in Zambia.
3 To outline the interventions targeting teenage pregnancy prevention in Zambia and highlight international best practices for interventions in SSA.
4 To recommend to policy-makers and other stakeholders on strategies to prevent unintended teenage pregnancies in Zambia.

2.4 Methodology

In order to answer the research objectives, a literature review and desk study was conducted for peer-reviewed journal articles and grey literature including annual reports, strategy papers and policy documents from ministries and other statutory organizations in Zambia and also from websites of organizations such as: WHO, UNICEF, UNESCO, UNFPA and Guttmacher Institute. Peer-reviewed articles were retrieved from the following: Vrije University library, Lancet, BioMed Central and PLOS. Further, snowballing by skimming through the reference lists of identified studies was conducted. The search was conducted using the following keywords: teenage pregnancy, determinants, predisposing factors, reinforcing factors, influencing factors, teenage pregnancy, Zambia, sub-Saharan Africa, consequences, challenges, opportunities, and effective interventions. 'Determinants' OR 'factors' AND 'teenage pregnancy' OR 'adolescent pregnancy' AND/OR interventions AND 'Zambia'. For detailed search terms, combinations and Boolean operators (see **Table 2).**

Articles on determinants of teenage pregnancy, interventions to address teenage pregnancy, published from 2006-2019, and in English were included. English was chosen as it is what the author understands. The time period was extended to 2006 to observe the progress made after introducing national youth policy in Zambia that sought to improve among others improving adolescents' health outcomes. Studies were limited to those done in SSA to give similar context with Zambia, but systematic reviews covering other regions were included. Despite the year restriction, other publications of significance like International Conference on Population and Development[3] (ICPD, 1994) (50) were included. Article not meeting this criteria were excluded.

[3] International Conference on Population and Development (ICPD) was held in 1994 in Cairo Egypt, represented by 179 governments, UN agencies, NGOs and the media. Among the resolutions was that reproductive health is a basic human right (50).

Table 2: Search Terms

Source	Objective 1	Objective 2	Objective 3
Search Engines Pubmed, google scholar, **Databases**: Vrije University library, BioMed Central, Lancet and PLOS. **Organisational websites** WHO, UNFPA, UNESCO, Guttmacher, Zambia-MoH, Central Statistics Office Zambia	Determinants, influencing factors, risk factors, determinants, causes, reinforcing factors, predisposing factors, teenage pregnancy, adolescent pregnancy, teen pregnancy, factors, risky behaviour, contraceptives, child marriage, personal factors OR environmental, determinants AND Teenage Pregnancy, unprotected sex, 'teenage pregnancy OR 'teen pregnancy AND causes AND Zambia OR southern Africa OR sub-Saharan Africa'.	Challenges, OR barriers, problems, opportunities, OR strength. Challenges AND interventions AND Teenage pregnancy OR Adolescent pregnancy AND Zambia, OR Southern Africa OR SSA	Evidence informed, effective, strategies, programmes, OR best practices OR interventions, AND teenage pregnancy evaluation AND Zambia OR SSA OR ESA.

2.4.1 Conceptual Framework

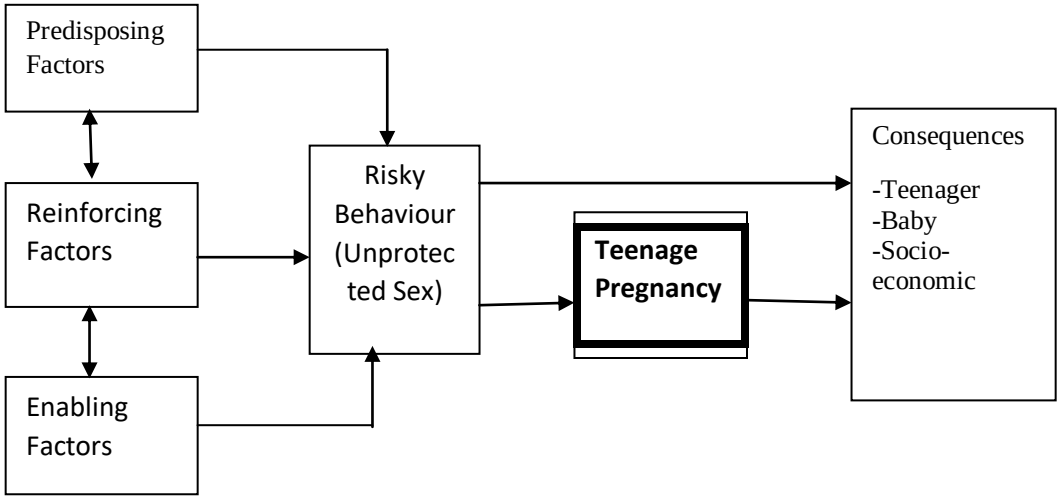
The PRECEDE-PROCEED (PP) model proposed by Green and Krueter (2005) (51) was used to identify the role of personal and environmental factors influencing sexual behaviour among teenagers. (52) The acronyms PRECEDE stands for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation, and PROCEED is- Policy, Regulatory and Organizational Constructs in Educational and Environmental Development. (51) The model has been used in public health for behavioural risk reduction as it gives a comprehensive assessment of health outcome of interest and further to identify the determinants. (53) A fundamental assumption of the model is that health is a function of the individuals and their interaction with the environments in which they grow, live work and age. (8,54) This model can help explain why it is not entirely the girls' fault but that a constellation of underlying forces perpetuate teenage pregnancy. (14,54) The PP model was selected because it provides an ecological perspective, (55) but also incorporates behavioural factors, quality of life (consequences) and interventions.

2.4.2 PRECEDE-PROCEED Model

The PP model as depicted below is an adapted version of the original, (See **Annex 4**) as other constructs of the model were beyond the scope of the review. The PP model follows systematic steps of eight phases; however, only phases one to four were considered useful to guide this thesis whereas phases from five to eight were beyond the scope of this thesis. The environment construct was not used as the factors under it are covered by the reinforcing and enabling factors. Regarding genetics and its association with behaviour, this may not apply in the case of teenage pregnancy. Construct health in Green and Krueter

(2005) was adapted as Teenage pregnancy and Quality of life as consequences of teenage pregnancy.

Figure 4: Adapted PRECEDE-PROCEED Model



Source: Adapted from Green and Kreuter (2005). (51)

Unintended pregnancy results from a constellation of forces that may predispose reinforce or enable risky sexual behaviour on the part of the adolescent.

Predisposing factor: These factors are inherent in the individual and make her adopt particular behaviour that may increase the likelihood of unintended pregnancy. For example inadequate knowledge of contraceptives leads to low use thereby increasing risk for pregnancy. (56)

Reinforcing factors: They include interpersonal and environmental determinants around the adolescents whose decisions or attitudes make it difficult for the girl to undertake healthy behaviours. (54) Peers may discourage the girl from seeking family planning services.

Enabling factor: These factors are embedded in the environmental context and may embrace or dismiss attempts to adopt particular behaviour. When health services do not meet the needs of adolescents, they are less likely to utilise available SRH services. (57)

Behaviour: Specific action that an individual does which may result in health outcome of interest and for teenage pregnancy-unprotected sex. (14,54)

Limitations

Accessing information about early adolescents was a challenge (10-14years). Despite young adolescent being at higher risk of teenage pregnancy, there was paucity of information especially that the DHS does not report on this age group. A limited number of researches on determinants of teenage pregnancy in Zambia prompted the extension to SSA.

CHAPTER THREE: RESULTS AND FINDING

The chapter presents the determinants of teenage pregnancy using the constructs in the PP model: predisposing, reinforcing, enabling, and behavioural factors as well as consequences of TP.

3.1 Predisposing Factors

The following predisposing factors have been explored; puberty and sexual debut, attitude towards sex, perceptions on pregnancy and previous pregnancy, knowledge on sexuality, reproduction and SRH, educational attainment, and perception of risk.

3.1.1 Puberty and Sexual debut

Adolescence is a critical period where an individual undergoes significant physical and emotional development such as menarche in girls. (44) In a study on adolescents' sexual behaviour in Zambia by Ndongmo and colleagues in 2017, over half of female respondents (60%), experienced menarche between 13-14 years while in 15%, it occurred earlier (10-12 years). (56) **Figure 5** shows the decline in mean age at menarche (1.8-3.0 years) among females between 2007 and 2013. Age at first sex has been used as an estimation of the risk of pregnancy. (36) Findings from both ZDHS 2007 and 2013-2014 showed that among youth aged 15-24 years, 16% of boys and 13% girls ever had sex before age 15 years which increases to 58% and 54.8% for girls and boys respectively by 18 years. In comparison to their counterparts who delay sex, young people who engage in sex early have an increased risk of teenage pregnancy. (36,38) Unlike in the previous decades when menarche and sexual debut occurred at a wide age interval, the two life events seem to occur in close proximity in recent times. (58)

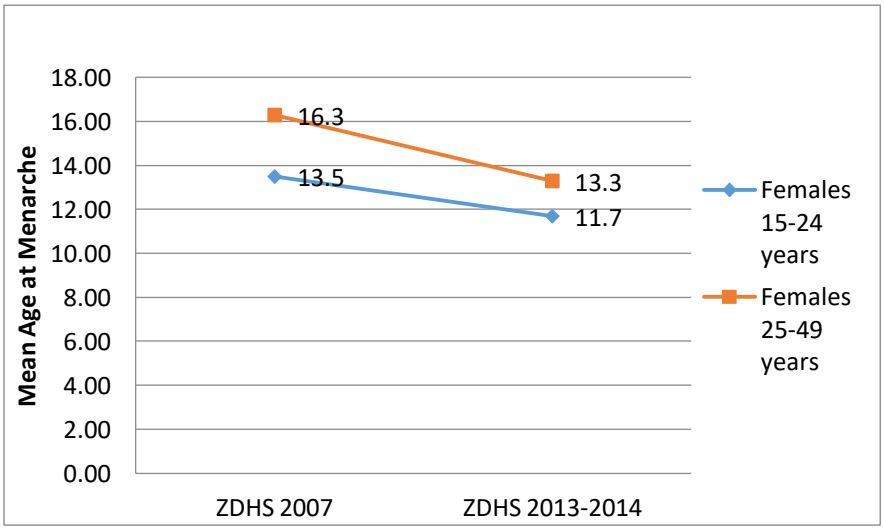


Figure 5: Age at menarche ZDHS 2007 to those found in ZDHS 2013-2014
Source: ZDHS 2013-2014. (36,38)

3.1.2 Attitude towards sex

Attitude either positive or negative is determined by a number of factors such as norms, beliefs and values. In Zambia, religious beliefs have to a certain extent influenced how teenagers view sex outside marriage or contraception use. Teachings disapproving of sex outside marriage have led to adolescents having negative attitude towards premarital sex, however, this did not result in abstinence from sex. (59) For instance, the ZDHS 2013-2014 has shown that almost half of adolescents (15-19years) were sexually active. (36) The reasons to engage in premarital sex are varied, some engaged in sex for curiosity, experimenting what they heard or to cement friendship. (60)

3.1.3 Perceptions on pregnancy and previous pregnancy

Communities hold different views regarding teenage pregnancy. For instance, a girl may grow up in a community where early child-bearing carries prestige even outside wedlock. This perceived status of childbirth shows that one is fertile has shown to motive girl to conceive. (60) Comments passed by community members though subtle - at least 'she' has a baby, ignite conflicts among adolescents which may push them to pregnancy. Having the first child at an early age may result in subsequent pregnancy, as was observed by Ayele and colleagues in 2018 who found that the likelihood of repeat pregnancy was 8.7% in Ethiopia. (61) Adolescent girls with a child are more likely to have unprotected sex with her partner who had impregnated her as negotiating for safe sex may be a challenge due to power differences.

3.1.4 Knowledge on sexuality, reproduction and SRH services

The ZDHS 2013-2014 indicated that knowledge of at least one contraception method was high: 98.8% among females and 99.5% among males. Further, comparison between married and unmarried young people indicated that the later had high knowledge on contraception methods. (36) ZDHS base on self reports and the assessment method which ask whether one heard a contraceptive method could explain the high knowledge. Contrary, findings indicated that adolescents have inadequate knowledge on sexuality, contraceptives, HIV, safer sex practices or where to obtain SRH services. For example a study by Ndongwo and colleagues in 2017 found that adolescents in Zambia have inaccurate knowledge regarding the long term effects of contraceptive. They believed that it affected the ability to conceive later. (56) Similar findings were observed in a study in Ethiopia that 52% of adolescents had poor knowledge on contraception. (61) In a study in Kenya, girls believed that they cannot be pregnant when they have sex once. (62) Other findings showed that adolescents had inadequate knowledge on the reproductive system, HIV, availability of SRH services, and return of fertility after stopping contraception methods. (63,64,65,66) Naudeau during a workshop on teenage pregnancy in 2015 quoted a teenage girl who stated:

'I started having sex when I was 14 years…...out of ignorance, just enjoying oblivious of the consequences……I got pregnant at 18 years….. (67)'

3.1.5 Educational attainment and value of education

Education is associated with knowledge and has shown to positively influence sexual behaviour and attitude towards sex. (36) According to MoGE, adolescents who stay longer in school initiate sex later compared to those who drop-out. It was revealed that 11,765 pupils at primary level compared to 3,457 pupils at secondary level became pregnancy in 2016. (29) In one study, pupils between grades five and nine were identified as most prone to pregnancy. (68) This may be linked to knowledge on SRH which pupils gain as they progress with education. Similar results alluded that a high number of pregnancies occurs among those with no education or at primary level to those who attained secondary education was at 54% compared to 21% respectively where made by Restless Development in 2015. (69) This was consistent with other studies. (60,59) The low value girls place on education may hinder them to excel in education. Adolescent girls saw few future prospects attributed to education and there being only few female role models (teachers, nurses) in rural areas to inspire girls partly contributed. (60,69,70)

3.1.6 Perception of risk

Normative subjective beliefs and characteristics of other environment factors such as severity of risk dictate an individual's sexual risk perception. (71) Notions like preference for skin to skin during sexual intercourse is common among teenagers and suggest low risk perception towards pregnancy or STIs. (20) Adolescents may be aware of the consequences but still insist on having unprotected sex. Audrey and colleagues (60) found that condom use among girls was low in Zambia. The study further highlighted that boys gave an excuse that condom use limits pleasure, and requesting for condoms shows mistrust of your partner. The Zambia Sexual Behaviour Survey (ZSBS 2009) explored incidence of sex with non-regular partner, the findings revealed that 72% boys and 27% girls had sex with a non regular partner. (72)

3.2 Reinforcing Factors

The following reinforcing factors presented are: family size and stability, parent-teen sex communication, gender, gender inequity, gender-based violence, child marriage, place of residence, poverty, substance abuse, peer pressure and initiation ceremonies.

3.2.1 Family size and stability

Family instability has been consistently correlated with teenage pregnancy. (11,73) A study in Ethiopia (61) found that the risk of pregnancy was high among adolescents who lived with one or none of the parents. To the contrary, Mkwananazi and Odimegwu in a study in sub-Saharan Africa in 2016 noted that staying with a single parent reduced the likelihood of teen pregnancy. (74) This may be attributed to the parents giving advice by using their past to discourage the girl not to pass through similar problem, however, it must be mentioned that this was exceptional. Also, adolescents who were living in families with four or more children had a twofold risk of becoming pregnancy. This even worsened if any among the children was pregnant before. (61,70)

3.2.2 Parent-teen sex communication

Parent-teen communication on sexuality has been a contentious issue over the years with most parents not talking to their children about sex. In a recent formative assessment of teenage pregnancy in primary schools in Zambia, Audrey and colleagues (60) noted that the risk of pregnancy was high among girls who did not discuss sexuality with their parents. Research in Ethiopia by Ayele and colleagues (61) purported that only a quarter of parents talked with their teens on sexuality. The parents went on to listed a number of factors that hindered open sex communication: that teens are too young, sex communication was considered a taboo topic and parents assumed that teenagers already knew. (60,75) Even when they communicate, it mainly focuses on enforcing morality or authoritative instructions. (76) Parents are in good position to support and understand adolescents by giving information including on sexuality. (70) If this is not forthcoming, teens resort to other sources such as peers or social media, some of which may not be accurate. (20) As misinformation reaches the adolescent, they risk the possibility of making uninformed choices. Conversely, a study conducted among teenagers (13-19 years) in Zambia by Katayamoyo in 2010 found that communication that took the form of reprimanding helped to avert teenage pregnancy. (63)

3.2.3 Gender, gender inequality, and gender based violence

Gender is culturally defined and in the context of Zambia, girls are socialised to be respectful. Further, the patriarchal system places more emphases on boys at the expense of girls. (20) Girls are viewed as 'waiting mothers' resulting in low emphasis to their education leading to low socioeconomic position. (60) Consequently, girls have fewer opportunities, less freedom of association; suffer unnecessary barriers such as consent by spouse or guardian to access SRH services. (59) These infringements to choose and low-decision making power lead to low self-esteem and limits their social skills. In a baseline study conducted in Chadiza district of Zambia by Kusanthan and colleagues in 2018 identified men as sole custodian of decision-making in families including decisions to access and utilise family planning services. (59) With limited access to contraceptives, the end result may be unintended pregnancy. (77) Surprisingly, 81% of men felt that it was a girl's responsibility to prevent pregnancy, yet they are denied choices. (59) The finding goes to show that masculinity beliefs affects girls, hence the need to identify how best to work with boys/men. Girls are usually young; have inadequate resources making them vulnerable to negotiate safe sex. (60,69) In Zambia, almost half (47%) of the female respondents aged 15-49 years ever experienced GBV according to ZDHS 2013-2014. (36) Further, a study conducted as part of a program titled "Yes I Do" indicated that society was tolerant of violence against women, they rarely reported cases and also girls were blamed when they were sexually harassed. (59) Teenage pregnancy may also result from coercive sex by older boys. This was the case in a study conducted among primary school pupils in 2015 in Zambia. (60) Gender inequality is such a pervasive problem; Marie Stopes (2013) narrated the following account of a girl:

" a man can decide just to use a condom by himself. Once a boy decided, a woman cannot go against him……p.3 (78)*"*

3.2.4 Child marriage and Laws

One of the human rights violations which disproportionately affect adolescent girls is child (early) marriage. Literature has shown a correlation between areas of high child marriage (CM) and high adolescent birth rate. (14) In Zambia, child marriage stands at 45% (*N=9,780)* according to ZDHS 2013-2014, however, the practice is more prevalent in rural areas where it is higher at 60%. (36) Families may prefer to have the girl married early to gain compensation by charging 'damage[4]' when she is impregnated. (75) They may give her in-marriage in the context of preserving her 'integrity' for fear that no-one would marry someone who already has a child. In all cases, the interests of the girl are not considered. As such, girls find themselves in precarious situation; they are handed to elderly husbands who are sexually experienced, because society permits sex within marriage even if the girl is under age, the girls are repetitively coerced in unprotected sex posing a risk of acquiring infections or pregnancy. (47) UNFPA (2013) gave the following account of a 17 years old girl;

"I did not know what was going on, I celebrated like everybody else. It was that day I learnt that it was my wedding……..ten month later, I found myself with a baby p.v (14)*"*

In Zambia, there is a concern over lack of harmony among legislations regarding age of marriage. Under customary law, a girl who has reached puberty can be married provided families' consent, while constitutional law has set age of marriage at 21 years. (79) This disparity may have contributed to high child marriage cases as it is embraced under customary law. (80,81) Despite Zambia embracing dual laws system, the constitutional law takes precedence on matters of sexual gender based violence involving a minor below 16 years.

3.2.5 Place of residence

In comparison to urban areas, rural areas in LMICs are disadvantaged due to poor access to education and health care services, and lack of social amenities. (80) Research has showed that teenage pregnancy is two times higher in rural areas compared to urban areas in Zambia. (36) Unlike their counterparts in urban areas, adolescents in rural areas are often unemployed which affect their self-esteem and decision-making abilities as a result begin may began sex early (see **Figure 6)**. A study by Menon and colleagues (75) identified that long distance to health facilities in rural areas was a barrier to access SRH.

[4] This is a form of compensation that a girls' family seeks from the family of the boy who has impregnated her. (75)

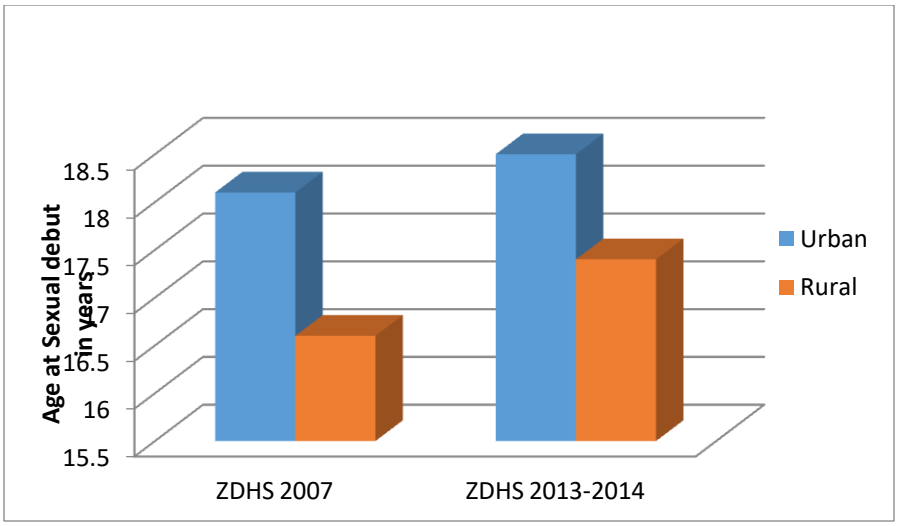


Figure 6: Comparison of mean age at sexual debut between rural and urban areas
Source: ZDHS 2007 and ZDHS 2013-2014**.** (36)

3.2.6 Poverty

Poverty virtually affects all facets of life, access to education, health, and utilisation of SRH services. Although poverty levels declined from 68% in 1996 to 54.4% in Zambia in 2015, the reduction has had less impact as more people are still living below the poverty line **(**see **Figure 7).** (23,24) Similar findings were reported by Eyakuze and Salim in East Africa in 2012 that 33% of people live in severe poverty and that this has influenced teenage pregnancy. (82) It is documented that poverty constrains families to meet their home needs. In terms of schooling, they often have to make tough decision like who to send to school and the choice is usually skewed towards boys. (47) Such decisions made towards adolescent girls' lead to school drop-out, poor employment prospects and a myriad of other undesirable effects such as substance abuse, transactional and intergeneration sex. (18,60) Therefore, low socioeconomic status of girls makes them vulnerable to exploitation as was the case in Serria Leone where girls engaged in unprotected sex in exchange for resources. (78)

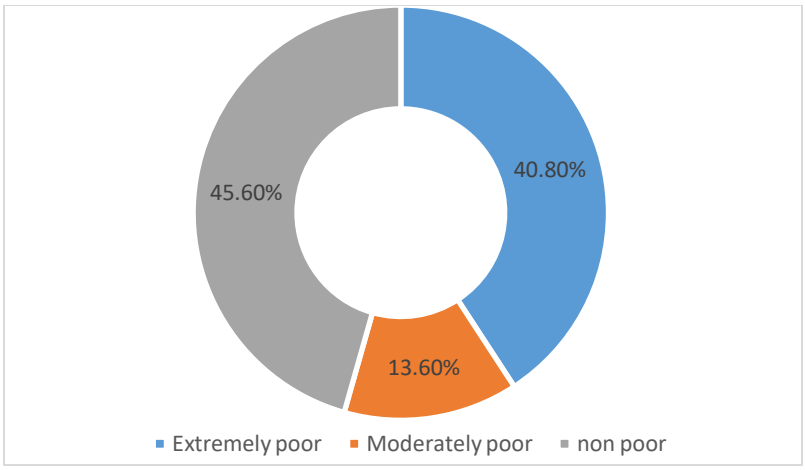


Figure 7: Population distribution by poverty level in 2016 in Zambia.
Sources: LCMS 2015. (23)

3.2.7 Substance abuse

Substance abuse is among the factors influencing teenagers to engage in unprotected sex. In the 12 months preceding the ZDHS 2013-2014, one percent and four percent of females and males respectively ever had sex under influence of alcohol. Further, six and four percent of females and males respectively reported that their partners were drunk. (36) Similarly, assertions made in the National Health Policy are that alcohol abuse is common among youth. (83) However, the true rates of alcohol abuse among adolescents could be higher than what was reported in the ZDHS2013-2014. In ZDHS, alcohol consumption are self reported and individuals may under-report which shows appropriate behaviour. The meeting on adolescent health held in 2015 under the auspices of WHO Africa Regional Office (42) asserted that substance abuse was a problem in most countries on the continent.

3.2.8 Peer pressure

Peer pressure influences an individual at school, family or community. A study by Audrey and colleagues in 2015 (60) interviewed Guidance and Counseling Teachers, the findings indicated that 62.5% of teachers viewed peer pressure as being responsible for teenage pregnancy; however, learners and community leaders in the same study underplayed its role with only 21.1% and 25.2% respectively attributing to it. This resonate the assertions expressed in the NHSP 2017-2021 that peer pressure is linked to adolescents' risky behaviour. (20) Menon and colleagues (2018) quoted a mother who expressed the following sentiments:

"…I had a very good girl at my own home there but the moment she went to Melu boarding school, she met groups who influenced her wrongly….p.22 (75)"

3.2.9 Initiation ceremonies

There are different cultural groupings in Zambia which perform various traditional ceremonies, some of which are detrimental to the wellbeing of adolescents. (18) In most

cultures, initiation of adolescent are pronounced particularly for girls who are engaged in initiation rituals signifying passage into adulthood. These may perpetuate teenage pregnancy as some teachings like how to satisfy a man may influence the girl to engage in sexual activities. (75) Traditionally, menarche has been used to indicate readiness for marriage, however, majority of girls around this life event are still immature. (75) Such views have led to child marriage and subsequently teenage pregnancy which is culturally accepted when it occur in marriage, however, such cultural practices have been described as a violation of the girl's rights. (80)

3.3 Enabling Factors

The following enabling factors are presented in this section: schooling, school infrastructure and safety, school-based comprehensive sexuality education, employment, policies on provision of SRH services, access to health services, religion and agents of influence.

3.3.1 Schooling

Generally, the longer the girl stay in school the less likely they become victims of child marriage or teenage pregnancy. (14,61) School enrolment have improved since the introduction of free education in 2002, however, keeping girls in school has been problematic as noted by reduction in Gender Parity Index (GPI) from 0.98 to 0.84 for secondary school arising from dropout. (28) School drop-out removes a protective factor to early sexual debut and this system failure reinforces gender inequality. (47) Girls who drop-out of school have increased odds of unintended teenage pregnancy. (74) The school re-entry policy being implemented by MoGE attempts to keep girls in school. Despite this, over half of girls who dropped out of the educational system due to teenage pregnancy did not return (see **Table 3**), (31) which were consistent with findings from Ghana. (84) Factors ranging from personal inadequacy, intrapersonal relationships and socio-economic factors influence re-entry of girls to school following pregnancy. In a study by Moonga in 2014 among selected schools in Zambia, it was found that fellow pupils and some teachers exhibited negative attitude towards readmitted girls. The passed negative comments 'how could you get it right?' Such comments affected their self-esteem which led to withdraw in class participation and eventually drop-out. (85) A study by Mwansa in 2011 asserts that girls return to school for a short period but completely drop-out later. Further, the policy does not provide for follow-up to those who fail to return. (86)

3.3.2 School infrastructure and safety

The expectation of the school environment has been to promote a safe learning environment. At school, pupils hold teachers with high esteem as custodians of values, and as resource persons to confide to in time of need. However, the findings from an assessment of CSE scale-up by Kettanah in 2016 revealed that teachers were reluctant to act on reports of bullying from girls. (48) This particularly has implications for trust of the education system. The lack of facilities such as proper boarding particularly in rural areas is an important element that fosters a safe learning environment. (68) Where these are lacking coupled with long distances to their homes, pupils have to look for alternative accommodation within the school vicinity. Often, these settings lack the fundamental safety nets offered in boarding or home. Pupils are left to fend for themselves and this has been a

challenge especially those from poor households. Without the protective factor of parental guidance, such girls succumb to peer-pressure, sexual abuse or engage in transactional sex. (69)

3.3.3 School-based comprehensive sexuality education

The government introduced CSE in schools for grades 5-12 in 2014. (18) CSE when delivered as recommended is an enabling factor as it empowers teenagers on information regarding sexuality, reproductive system, relationships and pregnancy prevention. (6) Findings from other settings showed that receiving CSE decreases the likelihood of TP unlike what is assumed that it lead to rise in teenage pregnancy. (61) Despite implementing CSE, 15,222 adolescents (10-19 years) became pregnant in 2016. (31) As shown in **Table 3**, teenage pregnancy was highest in 2014 then reduced the following year before slightly increasing in 2016. There were more cases of pregnancies at primary level compared to secondary level. The high number of pregnancies in this age group suggests that reproductive health information does not reach the at risk group. (81)

Table 3: Pregnancy and re-entry among school girls from 2010-2016 in schools in Zambia

Description	**Year**						
	2010	2011	2012	2013	2014	2015	2016
Pregnant	15,586	15,707	14,849	14,928	16,378	15,125	15,222
Re-entry	6,067	5,989	6,001	5,849	7,388	7,264	7,653
Percentage of re-entry (%)	38.9	38.1	40.4	39.2	45.1	48.0	50.3

Source: MoGE Education bulletin 2016. (29)

3.3.4 Employment

Adolescent unemployment (12-19years) was 17.4% in 2017 according Central Statistics Office. (26) The figure could be higher as some youths recorded as being in employment were doing unpaid work. Mkwanazi and Odimengu in the multi-country study in Southern Africa found that high levels of unemployment gave rise to a corresponding increase in teenage pregnancy (74) which is consistent with findings by Menon and colleagues in a study in Zambia. (75)

3.3.5 Policies on provision of SRH services

In Zambia, policies for adolescent health are in place, and ADFHS are established though not yet rolled-out countrywide; hence adolescents in need of services would have to utilise the few available YFCs or receive services at general delivery points. Adolescent health services are delivered at level one, two and three health facilities. (20)

3.3.6 Access to health services

Twenty-five years after the landmark ICPD in 1994 utilisation of SRH services by adolescents is still a challenge. In Zambia, inaccessibility of health services has persisted over the year according ADHSP 2011-2015; only thirteen percent of adolescents were aware of adolescent health services. (20) Secondly, no facilities fully met ADFHS standards in service delivery as recommended by WHO (**Annex** 5). (18) Most studies have cited that attitude of health-care workers hinder access to SRH services by adolescents. (75)

Community norms and beliefs have also made matters worse by stigmatising adolescents who seek SRH services as this age group was expected to be sexually inactive. Community members often resisted teenagers to access SRH, with the common maxim 'you are too young, focus on school. (75) A study in Kenya and Zambia found that health care facilities are not responsive to the needs of adolescents- provision of services was slow, privacy concerns were raised and facilities had no proper spaces at YFC. (57,87) Adolescents were also concerned that HCWs would report them to their guardians for accessing SRH services. This led to use of traditional family planning methods. (57) Similarly, in another study by Godia in 2013, HCWs were skeptical to provide SRH services to young people, their professional responsibilities were blurred by personal feelings arising from cultural and religious beliefs. (88) The following quote by Godia and colleagues gave the account of a HCW:

'……..sometimes you wonder what to do to a 14 year girl who needs contraceptives……p.5 of 13. (88)'

3.3.7 Religion

Religions are social institutions that play a critical role in shaping the behaviour, attitude, beliefs and morals of individuals. In Zambia, majority of adolescents identify themselves among one of the Christian denomination. Religious teachings centre on abstinence and vehemently disapprove premarital sex. (75) The relationship between teenage pregnancy and religion has been examined by different scholars and results are mixed. Some suggest that religion offer a protective factor by instilling moral principles among the adolescents while others believe that the ambivalent stance of some religion against contraceptives contributes to poor RH outcomes. (89)

3.3.8 Agent of influence

Agents are important reference persons in the life of the adolescents and in this study; they refer to parents, teachers, traditional and religious leaders. The level of influence varies but all may impede or promote access to SRH services. Literature has consistently showed that they view adolescent sexuality as morality issue and often disapprove sex before marriage. (88) The role played by agents contributed to teenage pregnancy like limiting access to the use of contraceptives.

3.4 Behavioural Factors

The physical changes in adolescence may result in risky behaviour like unprotected sex. (44) Among adolescents, decisions regarding sex are driven by emotions leading to difficulties to make rational decisions. (11,90) A decision to have unprotected sex on account that condom minimizes pleasure is risky behaviour. Overall, girls begin sexual activity early compared to boys and are more likely to engage in unprotected sex attributed to gender inequality (18). Some girls requested for protected sex, which was in itself rare, even when they did, the decisions of their partners prevailed. (60) Lack of knowledge, substance abuse, and lack of access to SRH services contribute to risky behaviour (unprotected sex) and unintended pregnancy as outcome. (91) Due to economic hardships,

a teenage girl may have multiple concurrent sexual relationships for financial gain but would also have a regular partner.

3.5 Consequences of Teenage Pregnancy

The consequences of teenage pregnancy are discussed in the following parts; impact on the pregnant girl, impact to the infant, impact on education of the pregnant girl and socio-economic consequences.

3.5.1 Impact on the pregnant girl

Health consequences resulting from pregnancy equally affect the general population, however, they are pronounced among teenagers. Teenagers are still in the stage of growth and maturation themselves hence pregnancy brings competition for nutrients with the baby. This inevitably leads to poor nutritional status of the mother putting her at greater risk of complications. (14,70)

3.5.1.1 Maternal mortality

Girls aged 15-19 years are particularly at risk of maternal death compared to those above 20 years; however, it is worse for teens aged 10-14 years as the all-time risk of death in this age category is five times. (92) In Zambia, the maternal mortality ratio (MMR) in 2014 was 398/100,000 live births of which 30% occurred among adolescents. (27) Most literature indicate that pregnancies in this age group (15-19 years) are unintended, hence may end up with unsafe abortion which together with delivery complications significantly contributed to the high MMR. (28,45)

3.5.1.2 Unsafe abortion

Teenage pregnancy is disapproved in most societies in SSA. Therefore, it leads to ridicule and discrimination to the girl and her family which places unbearable pressure. (75) With such a dilemma, teenagers are faced with a difficult choice and in despair may opt for unsafe abortion (UA). Despite Zambia having abortion law, most teenagers do not meet the conditions spelt out in the Termination of Pregnancy Act (TOP Act) resulting in them seeking UA. (93) According to TOP Act, abortion is sanctioned if: continuance of pregnancy risks life and health of pregnant woman, risk that baby would suffer severe deformities, due to rape; and in all cases, two medical practitioners must sign. It was revealed that 30-50% of acute hospital admissions in gynaecological departments in Zambia are due to UA. (94)

3.5.1.3 Fistula

Fistula is an abnormal opening between the birth canal and the rectum or urinary bladder. (95) There are a number of factors that predispose to the development of fistula; giving birth at a younger age due to obstructed labour because of the underdeveloped hip bones. (14) This condition leaves the girl with uncontrolled urine or bowel movement and excoriation due to burning effects of urine. (96) In a study conducted by Moraes and colleagues (97) in Zambia, they estimated that one in six adolescents suffered from fistula and were successfully repaired. These were among the few lucky ones, as in most cases fistula occur in rural areas, where repairs surgeries are not provided or repair is hampered by the prohibitive cost of surgery. (14) The following quote by UNFPA in 2013 highlights the emotional trauma a girl with fistula faced (47):

"…..go away, you are smelly" (p.6)

3.5.1.4 Other medical conditions

Adolescents 15-19 years are comparatively at higher risk of developing obstetrical conditions like Eclampsia and Puerperal Endometritis compared to young women (20-24 years) (45) following delivery or UA, and are five times compared to women older than 20 years to suffer from puerperal sepsis. (74) Mental health problems are common and the risks of developing the condition are: poor social economic status, unmarried and young age. (11) The findings are consistent with results from Serria Leone conducted by Marie Stopes indicating that suicidal ideations were common among pregnant teenagers. (78) The rapid changes in roles of girls due to early marriage pose a risk of mental health: the girl is taken away from her family as a child, rapidly changing roles to become a wife then to motherhood. (47) Findings from the ZDHS 2013-2014 shows that HIV prevalence among adolescents aged 15-19 years- was four percent and seven percent in boys and girls respectively. (36)

3.5.2 Health impact on the Infant

Infants born from mothers younger than 20 years are at increased risk of mortality, (43) this was resonated by the ZDHS (2013-2014) which noted that infant mortality was 2.5 times higher among adolescent mothers than those aged 20 years and above. (36) Molares and colleagues (97) in a study in Zambia found that neonatal mortality in mothers (15-19 years) was 100 per 1000 live births compared to 78 per 1000 live births among mother aged 20-24 years. Further, adolescents 15-19 years unlike those aged above 20 years are at risk of premature delivery predisposing their infants to low birth weight, (47) and the majority rarely reaching their first birthday. (13) Pregnant teens have increased risk of mother to child transmission of HIV to their babies due to poor access to antenatal care (ANC) or to low uptake of HIV testing services. (47)

3.5.3 Impact on education of the pregnant girl

Teenage pregnancy stands as a barrier for girls to fully realise their productivity and skills harnessed through better education. In an assessment study on adverse obstetric and prenatal outcomes of teenage pregnancy in Zambia, the authors argued that pregnancy ends the girl's education before she even completes primary education. (97) As shown in **Figure 8,** more than half (primary school) and two in five (secondary school) teenage girls who dropped-out of education due to pregnancy never returned. Taking this into account, the number of pupils that drop out of the educational system is substantial in view of the existing re-entry policy.

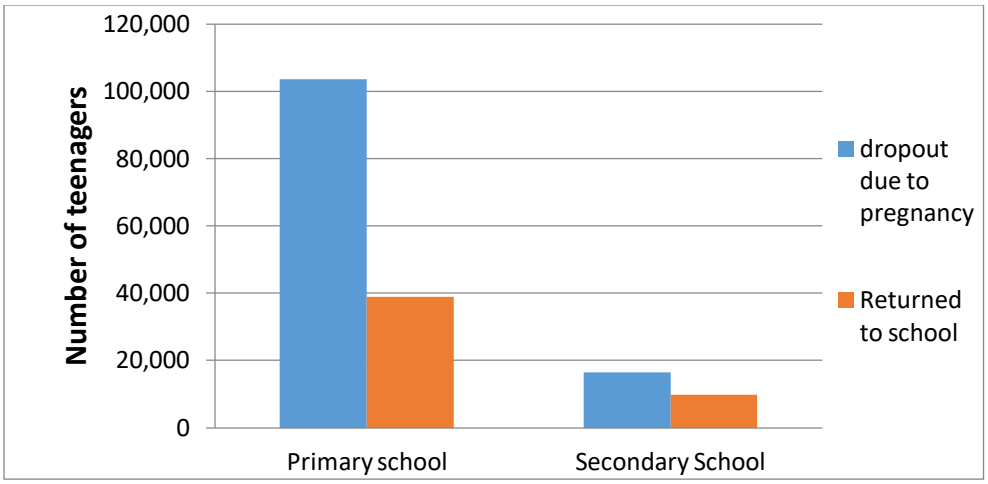


Figure 8: Pupils who dropped out and returned between primary and secondary schools in Zambia from 2007-2014.
Source: Population Council 2017. (81)

3.5.4 Socio-economic impact

The socio-economic impact of unintended teenage pregnancy is complex as it goes beyond the girl. (14) Attempts have focused at opportunity costs to the girl in terms of lost revenue if the girl was to complete school and gain meaningful employment. (14) Chaaban and Cuuningham in 2011 highlighted that the opportunity costs of teen pregnancy ranges from 15%-30% of Gross Domestic Product (GDP[5]) in SSA countries. (98) In Zambia, it was estimated that US$0.4 million could be saved for treating complications from unsafe abortion in 2017. (94) This could have been underestimated considering the prevalence of unintended pregnancies. As noted by Audrey and colleagues, (60) teenage pregnancy places the girl through economic hardships may force her out of school to prostitution. (75)

[5] GDP is described as the market value in monetary terms of all goods produced plus taxes less imports in specified time

CHAPTER FOUR: CURRENT PROGRAMMES AND INTERNATIONAL BEST-PRACTICES

4.1 Current programmes addressing teenage pregnancy in Zambia

This section looks at programmes that were put in place to address teenage pregnancy in Zambia. These strategies were implemented to improve health or education of youths (10-24years). The MoH implemented the ADFHS to foster adolescents' utilisation of health services. (18) In the educational sector, comprehensive sexual education (CSE) was introduced in schools in 2014. MoGE also implemented other policies which focused on increasing enrollment and keeping pupils in school; free education in 2002 and re-entry policy for pregnant girls to be readmitted back in school in 1997. Other interventions that have been done include: social marketing of contraceptives by society for family health (SFH); campaign to end child marriage (99) Ministry of Gender; establishment of youth development fund to empower youth in entrepreneurship. (100) A programme assessing economic support using conditional cash transfer (CCT) as means to reduce teenage pregnancy is been piloted in twelve districts in Zambia. (101) Due to paucity of information for other interventions, ADFHS and CSE would be analysed further to identify the challenges faced, then highlight on the opportunities that exist.

4.1.1 Adolescent Friendly Health Services

Recognising that youths face challenges accessing health services, the MoH in 1996 established youth friendly corners (YFC), and eventually to more specific ADFHS. Health services are considered adolescent friendly when they are of high quality, accessible, acceptable, equitable, appropriate, effective, (**Annex 5**) and are delivered in a respectful and confidential manner. (2) Adolescent are more likely to utilise such services when assured of confidentiality and when HCWs adhere to professional ethics. (42)

Challenges: ADFHS were not clearly defined and structured resulting ineffective implementation. Since inception of ADHSP 2011-2015, none of the health facilities provided ADFHS compared to international standards. (102) Further, facilities had inadequate trained staff in field of adolescent health (ADH), long distances and negative staff attitude towards adolescent were cited as barriers impeding adolescents access to health services. Furthermore, limited financial resources allocated to the programme hampered its roll-out to meet the target of 80% of the facilities offering ADFHS by 2016. (20,102) It must be noted that adolescent health activity plans were incorporated in the midterm expenditure framework (MTEF) for MoH, but eventual disbursement of funds was poor. (20) This could be explained in part by failure to prioritise adolescent health programmes by planners. (97) Community sensitisation is key for acceptance of services; however, adolescents faced stigma and discrimination for accessing SRH services and the operating hours were inconvenient for adolescents. (20) The hindrances to obtain ADFHS could have influenced teenage pregnancy.

4.1.2 Comprehensive Sexuality Education (CSE)

CSE is age appropriate teaching that is accurate, realistic, and culturally accepted aimed at empowering young people with knowledge to guide them make informed choices regarding sexuality and relationships. (6,29)

Challenges: The approach to teach CSE in carrier subjects among them optional subjects' results in systematic elimination of pupils not taking such courses from benefiting. The outcome of CSE is dependent on means of delivery and teachers are critical. In Zambia, it was found that teachers omitted topics they felt uncomfortable to teach. (48) Perhaps of great concern is the curriculum content which lacks topics on how to prevent pregnancy, contraceptives and where to obtain SRH services based on the UNESCO recommendations regarding CSE. (60,103) There are no clearly outlined strategies of reaching out-of-school adolescent even though they are disproportionately affected by unintended pregnancy. There was weak linkage between school and health facilities and provision of contraceptives within the school premises is not allowed. (32,102) The impact of CSE can be realised when it targets adolescents before puberty. (48) With the majority of pregnancy occurring among primary school girls was suggestive that CSE information was not reaching the most at risk group, which is consistent with assertions by Ochiogu and colleagues. (104)

Overall, the implementation of programmes targeting youths (10-24 years) were done in silos by various agencies with little or no proactive participation of others. As put by Centre for Reproduction Health and Education (CRHE) that there is poor coordination and collaboration among the various relevant ministries of the state on the best way to address teenage pregnancy. (105) Ministries of Health, Education, Youth, and Gender have programmes addressing teenage pregnancy however, coordination was weak. To illustrate this, programmes like school health and nutrition were health personnel offered services in schools have over the years weakened. (20) Most programmes had poor monitoring and evaluation which is relevant to identify bottlenecks and adapt to challenges. (24,102)

4.2 Opportunities

There is political will to address teenage pregnancy evident from CSE framework and ADHSP being anchored in the 7NDP. (24,102) The Government of Zambia also ratified various protocols that aim to protect the rights of adolescents, which seems to be a step in the right direction. High level of political will was evidenced by Minister of State making public pronouncement for Government to act to expand services to adolescents; for example, during the policy workshop on teenage pregnancy, the Minister of Gender reiterated government commitment to act in a coordinated manner and reach-out to girls. (67) The country can tap into the financing mechanism from the Global Financing Facility (GFF) to drive the ADH agenda towards universal health coverage on reproductive health. (106) Furthermore, collaboration between government, local and international partners like WHO, UNFPA, UNESCO, UNICEF, Planned parenthood association of Zambia (PPAZ) who have vast expertise in SRHR and education for adolescents should be strengthened. (14) Even though collaboration is weak between government ministries, in existence is the adolescent health technical working group (ADH-TWG). (18) There is an assurance of having nurses and teachers who are trained in adolescent health and comprehensive sexuality education as the colleges have incorporated ADH and CSE in their curriculum. This would reduce on the cost for conducting in-service training drastically. (48,102)

4.3 International best practices

This section looks at best practices to improve adolescents' health and education that have been implemented in SSA. The following programmes would be presented: **GREAT** (Gender Roles, Equality, and Transformations) **Project** (Uganda), (107) **Zero pregnancy in schools** (Ivory Coast), (42) **Berhan Hewan** (Ethiopia) (108) and **Programa Geração Biz** (PGB-Mozambique). (109) In all programs, a multi-sectoral approach was used with the responsibilities of stakeholders outlined. The programmes have been summarized in **Table 3.**

Table 4: international best practices to address teenage pregnancy.

#	Author/year	Country	Objective	Study design	Sample/target	Interventions	Outcome	Limitation	Quality Assessment
1	Institute for Reproductive Health (107). (GREAT Project run from 2012-2014)	Uganda	To reduce GBV and improve SRHR outcome among adolescents	Quantitative	Sample 2,465 Adolescents (10-14) from 20 villages in Amuru and 26 villages from Lira and 28 schools	1. Community engagement with traditional leaders. 2. Increasing access to SRH for adolescents' through Village Health Teams who referral of those in need of SRH services. 3. Radio drama	3.4% of the target group participated in group meeting. 60% adolescents were reached by GREAT interventions. i.e. Radio reached 90% target. Boys advocated to parents for sister to go to school (Effect size 16%, CI 6.2-26.2. $p<0.05$). Adolescent's acceptance that contraceptive are safe for girls (effect size 13%). Men accepted wife to request condom (Effect size 11%, CI -16.9 -5.7). Change in norms-considered okay for girls to carry condoms. Girls and boys in both control and intervention viewed changes occurring during puberty as normal. Decrease perception of childbearing as sign of womanhood (effect size 16%, CI -17.3, -5.9). GBV acceptance reduced $p>0.05$	The activities were conducted at a parish. This could affect outcome of the project because religion take negative stance on contraception.	***
2	Loba PO. Zero pregnancy in schools project	Ivory Coast	To reduce the number of pregnancies in schools	Cross sectional intervention targeting	Youth (10-24 years) (Others-Teachers Parents,	1 Formation of clubs 2 SRH delivery to adolescents 3 strengthen	Status of adolescents health before start of project-source routine DHS data) ABR=111per 1,000. One-third of adolescents dropped-out of school.	No baseline assessment to measure success.	**

	(42). 2013-2015.		through an accelerated plan	school-going adolescent	Traditional and religious leaders)	delivery of SRH in schools 4 capacity building for teachers 5 Establishment of school clinics. 6 CSE in school 7 Strengthened Judicial system to punish perpetrators	Increase in contraceptive use among adolescents from campaign period compared to six months after. Condom increased by 1.5times. Injectable contraceptives by 6.6 times. Established 120 school clinics Pregnancy reduced from 5076 in 2013 to 4104 in 2014 20.1% reduction.	
3	Hainsworth G and colleagues 2009. (109) (110)	Mozambique	To improve ASRH, increase gender awareness, reduce incidence of unplanned pregnancies and decrease vulnerability of young people to HIV/AIDS	Cross sectional intervention	Youths (10-24)	1.YFHS (qualified nurses and peer educators-expanded operating hours 2. School-based interventions (Peer educators and Teachers 3. Youth centre and community-based outreach	Before intervention-41% adolescent began child bearing. After intervention More school going girls utilised YFHS. Adolescents using YFHS services increased from 23,000 in 2000 to 165,000 in 2006 in Maputo. Condom distribution increase from 24,72 to 142, 894 In 2003 (10% adolescents below age of 15 gave birth). Adolescents aged 15-25 years, 20% reported have STI 2001- 1 in 10 reported using condom last sex in 2002 increased to 2 in 3 female used condoms. After scale up: contraception use	***

						increase from 35% to 60.2% by 2009.		
4	Erulkar AS & Muthengi E 2009 (108). Berhane Hewan Program	Ethiopia	To establish appropriate and effective mechanism to protect girls at risk of forced marriage and support those already married.	N=668 Adolescents 10-19 years(married and unmarried)	Safe spaces for discussion and interaction with caring adults. Financial support for girls to remain in school, livelihood training for out-of-school adolescents. Community discussions on child marriage	Achieved to reach girls 10-14 years. End-line adolescents were more likely to be in school (OR 3.0), less like be married (OR 0.1) 2004-2006 In-school attendance girls sharply increased in both control and intervention groups by 18.4% &20.4%. Number of married adolescents reduced both groups 23.4% to 21.3% at endline. School attendance increased from 72% to 97%. Use of any contraceptive method baseline 43.2% endline 71.1% ($p<0.001$)	Program. Intensity of intervention differed between groups married and unmarried.	**

Quality assessment based on meeting one or all four components of PICO and reported as: high ****, moderate ***, low ** or critically low *

Source: Compiled by author.

4.4International best practices

Quality assessment for the programmes was done using AMSTAR (A Measurement Tool to Assess Systematic Reviews). Though AMSTAR was exclusively used for assessing randomized clinical studies, its application extends to observational studies. The PICO (population or problem, intervention/indicator, comparison and outcome) construct on AMSTAR was used to determined the quality of the studies and results were reported as high, moderate, low or critically low (See **Table 4**). (111) In table 4, column eight shows limitations identified by the author that could have influenced the results like conducting group meeting at a parish. Some programmes did not incorporate monitoring and evaluation within the project cycle and disparity in frequency of meeting between married and unmarried adolescents. Married adolescents' met less compared to their unmarried counterparts.

4.4.1 Programmes Interventions

The primary targets in all programs were adolescents (10-19years), (42,107,108,109) but also youths (10-24), teachers, HCWs, traditional leaders where targeted and in the case of Berhan Hewan and GREAT project married and unmarried adolescents (see **Table 4**). Implementation duration ranged from 2-8 years and the intervention covered a district/county to some the whole country. The following interventions were implemented in all programs: improving adolescents' access to SRH services, working with communities through dialogue and sensitizations, creating safe spaces for girls. (42,107,108,109) Other specific intervention per programme were: GREAT- information dissemination through radio; (107,112) Zero pregnancies in school- CSE in school, capacity building for teachers, establishing of school clinics, working with legal system to prosecute perpetrators of GBV, and media campaigns; (42) PGB- human rights sensitisation, capacity building for HCWs, flexible operating time, improving referral system between school and Health facility; (109) Berhan Hewan conditional cash transfer (CCT), skills training for out-of-school adolescents. (108) Except PGB and Zero pregnancy in school, the others had interventions and control groups that made comparison possible. The results from the interventions can be relied upon, as they were verified through systematic review and some by external evaluators who conducted end-line survey which helped to eliminate performance bias

4.4.2 Programmes outcome.

In Ivory Coast, teenage pregnancy reduced from 5076 in 2013 to 4104 after one year of implementation representing 20.5% achievement, (42) in Ethiopia, child marriage reduced from 23.4% to 21.3%; (108) GBV reduced from 9% to 4% and fertility reduced from 175/1000 to 103/10000 live birth in Uganda. (112)

Contraceptives use increased from 43.2% to 71% among adolescents in Ethiopia; (108) in Mozambique, contraception use was 57% among those exposed to PGB compared to 53%) in the general population. (109) Perception are important constructs that influence contraception usage; in Uganda's GREAT project findings at the endline indicated that men were supporting the use of contraceptive and even accepted requests to use condom from their partners. It was also found that stigma towards girls carrying condoms lessened. (112) Similarly, condom use among adolescents in Mozambique increased from 10% in 2000 to 66% in 2002. Normative beliefs are important and reinforce risky behaviour. Community engagement helped change perception that girls' major role is that of procreation (Effect

size-16%). (112) It was observed that girls were open to discussing issues of sexuality with an elderly confidant or among themselves. Furthermore, girls developed a wide social network that was attributed to participation in group meetings. Adolescents reported that the physiological changes coming with puberty were normal. (108) Radio programmes reached 60% (GREAT Project) and 90% (PGB) of the target population and in case the Behan Hewan of Ethiopia managed to reach early adolescents (10-14). School attendance improved from 72% to 97% among girls while drop-out reduced. Most outcomes were desirable; however, there was less participation (3.4%) from group meeting in Ethiopia' Berhan Hewan. (108)

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION

This review was conducted to provide a broader understanding of the determinants of TP, the challenges and the opportunities to prevent its occurrence in Zambia and to know what makes some interventions work better than others in order to inform policy makers on the development and implementation of effective strategies to address TP in Zambia.

Regarding the determinants of TP, the review found predisposing, reinforcing or enabling factors influences adolescents to engage in unprotected sex. The important determinants were: inadequate knowledge on SRH and gender inequality. Findings further revealed that poverty, lack of boarding facilities, poor parent-teen communication, limited access to health services continue to put adolescent girls at risk of unintended pregnancies and their male counterparts at similar risk of making girls pregnant. Cultural practices like initiation ceremonies also influence risky sexual behaviour.

The current interventions to improve the health and development of adolescents being implemented in Zambia are ADFHS in public health institutions, CSE and school re-entry policy in the educational sector. Implementation issues and gaps that have been identified in the review were: inadequate funding, inadequate CSE curriculum content, weak linkage between programmes and limited access to SRH services. However, opportunities for mitigating the challenges exist, including new funding mechanisms, availability of experts and evidence from best practices was highlighted. Regarding CSE curriculum, it must include the following to be considered comprehensive: safe sex education, gender and rights, prevention of pregnancy and contraceptives. For healthcare facilities to meet requirements for providing ADFHS, they must adhere to characteristics recommended by WHO. Overall, interventions are more likely effective when offered for longer duration using a mulitsectoral approach that target different factors simultaneously and requires the participation of teenagers and communities.

Predisposing factors: Knowledge plays a role to informed decision-making. The reviewed found that adolescents in Zambia have inadequate knowledge on SRH topics. Inadequate knowledge was reflected in how adolescents frequently engage in risky behaviours and persistent misconception of the effects of contraception. Inadequate knowledge could in part explain why unintended pregnancies were high among teenagers in primary school compared to those at secondary school. However, some reports indicate that adolescents (15-19years) are knowledgeable on modern contraceptives methods. (36) Regardless of knowledge level, other factors like stereotypical cultural beliefs, gender roles and practices may still exacerbate risky behaviour among adolescents. For example, society's equivocal view of teenage sexuality which emanates from cultural beliefs put adolescent girls at substantial risk of getting pregnant unintentionally. For a teenager girl, sex outside marriage is not condoned- but if it occurs within marriage, it is endowed. (75) This could have been recipe for early marriage and to address these, interventions need to focus on empowering adolescents with knowledge but also to engage boys and men to address masculinity beliefs. Empowering adolescents' can start by recognising that knowledge by itself is not adequate, in addition, aim at building the skills of adolescents; enhancing their risk perception - improving their attitude towards contraceptives use and addressing both

descriptive and subjective norms. As norms and beliefs are ingrained in culture, changing them require time and involvement of communities and traditional leaders. It therefore means that adolescents' sexual behaviour should not be seen as a morality issue that needs correcting the girls' behaviour as a solution.

Reinforcing factors: Poor parent-teen communication on sexuality was reported as a risk factor for unintended teenage pregnancy in Zambia. With the socio-environmental context in Zambia changing towards nuclear families and weakening extended family system, (18) it calls for parents to take up roles that grandparents and aunties previously played in the lives of their grandchildren – roles like teaching them about sexuality. As myths and misinformation regarding sex and reproduction are prevailing, the evidence suggests the need for parents to adopt more open communication with their teens. Therefore interventions must equally address parental needs on sexuality education by building their communication skills and self- efficacy to initiate such discussions with their children in a positive manner without the parents feeling guilty. The disparity between social services like health and education in rural areas compared to urban areas in Zambia was reported as an important reinforcing factor. For example, limited dormitory facilities in rural areas remain a huge challenge. (69) As a result, adolescents girls who leave their parental homes to live in rented accommodation to enable them attend school frequently face the risk of sexual exploitation. Government is urged to expand school infrastructure based on community needs as doing so would alleviate sufferings currently faced by pupils particularly in rural areas. This would be a great undertaking as it comes with cost of construction. Meanwhile the short- to medium-term solution to this could be considering bursaries to vulnerable pupils with assistance with NGOs.

Enabling factors: Access to health services and schooling are protective factors for teenage pregnancy. In this regard, HCWs are essential in influencing access to health services and acceptability of SRH services by adolescents. The review found that HCWs' attitude when rendering services to adolescents was among the barriers to access SRH services. This requires addressing the personal values of the HCWs through self-reflection and working with professional bodies to strengthen the need to uphold ethical and professional principles. Capacity building of the HCWs would improve their skills to attend to adolescents and provide services in a respectful and confidential manner. Literature has revealed that linkage between the school and health system improves RH outcomes among adolescents (48) as without access to contraceptives, the decision to prevent pregnancy is left to the girl- and preventing pregnancy becomes a matter of chance. (14) In the same manner community normative beliefs may influence whether SRH services are provided to adolescents, hence programmes must have this in mind and engage communities.

Poverty is a cross-cutting factor across predisposing, reinforcing or enabling factors. An adolescent girl engages in transactional sex as a means to obtain financial or material resources due to poverty. Further, it influences her access to health services or school. As poverty cuts across many other determinants and influences them, therefore attempts for broader economic improvement and investment in human capital can lead to tangible improvements.

Challenges and opportunities for addressing teenage pregnancy in Zambia

Teaching CSE as intergraded topics in carrier subjects led to systematic exclusion of pupils' access to life-long skills and SRH information. An option that can overcome this challenge is teaching CSE as a standalone subject as it more likely ensures young people acquire knowledge, skill and attitude. (113) However, such an approach would bring added subject load to pupils and also additional funds to train and recruit more teachers. This would be a challenge for Zambia due to limited resources. Based on the CSE framework which lack contents on contraceptives indicate that what is currently offered in Zambia may be sexuality education and not necessarily comprehensive sexuality education as it does not meet the recommendations set by UNESCO. Such a strategy was described by an adolescent health expert as being ineffective. (114) This entails engaging stakeholders to address contentious issues and gain their acceptance to include contraceptives in the CSE framework. Therefore, alternative ways to improving the effectiveness of the current CSE delivery approach could mean conducting periodic monitoring by the District Education Board Secretaries (DEBS) to ascertain what is taught. Furthermore, capacity building through in-service training of teachers on CSE skills as was done in Ivory Coast can go a long way to improve teaching of comprehensive sexuality education in schools.

Best practices: In trying to increase use of contraceptives among adolescents WHO recommends that the health system looks beyond the traditional way of providing services within the health facilities to offering outreach services closer to where adolescents live. GREAT project in Uganda, Berhan Hewan in Ethiopia and PGB in Mozambique used outreach and achieved better SRH outcomes for adolescents. In the context of Zambia, such programmes will require changes in the regulatory framework to more accommodative ones that ensures availability of a whole range of contraceptives to adolescents in their natural settings such as school. This approach was adopted in Ivory Coast's Zero pregnancy in school project and achieved a 20.5% reduction in teenage pregnancy in a year of implementation. (42) The success of the Zero pregnancies in school project was in the manner the interventions were tailored. The programme provided CSE in schools, offered capacity building for teachers and also established school clinics. Such a strategy when adopted in Zambia would require first working with traditional and religious leaders to gain their support.

Making contraceptives accessible to adolescents has been noted to reduce teenage pregnancy. (43) In Mozambique for example, peer educators were trained to provide counselling on RH to adolescents and further referred them to health facilities to access SRH services. Though evidence found that peer education by itself is ineffective, (114) it therefore calls for programme planner to take this into consideration.

Community norms beliefs and attitude were among the cross-cutting issues the review identified which influence adolescent access to health and education and hence engaging communities is necessary. Uganda's GREAT project engaged community members who together with programme staff identified gender inequities in society; they prioritized them and developed strategic implementation plans together. (107) They were involved from inception which improved ownership of the programme. As a result, the programme achieved success in changing perception and cultural norms. Achieving this level of acceptance in Zambia would go a long way to promote safe sex practices among

adolescents, where contraception use is low like condom use among sexually active adolescents.

Looking back at the determinant of teenage pregnancy, they cut across sectors- education, health, labour, agriculture, economic and the PP model helped to explain the interrelatedness on the determinants- predisposing, reinforcing and enabling factors. In the same manner addressing teenage pregnancy requires integrated multilevel and multi-component approaches. However, reaching this level of collaboration requires time and careful planning. Where adequate planning is lacking, the process may drag at the expense of service delivery. A typical collaborative structure includes-steering committee composed of relevant ministries, technical working group (TWG), programme units at provincial and districts and finally at facility level school or health facility. (15) When planning interventions, monitoring and evaluation component must be put in place and the approach by GREAT project to use external evaluator was good practice. Progress to achieve better health outcome for adolescents exists with possibilities of securing funding from new financing mechanism of bilateral and multilateral partners and an abundance of technical expertise. (40,106) The growing political will in Zambia can also be effectively utilised to advance the agenda of adolescent health. Learning from the experience of Ivory Coast's zero pregnancy in school project where political figures championed the project and recorded success is a good example for Zambia.

This thesis was a desk-study and literature review and therefore only what has been reported in peer-reviewed works and grey-literature published online could be accessed. However, the extensive search conducted and the rich experience of the author in the field has helped to enrich the findings reported here. It was difficult to obtain information on policies such as the school re-entry and the impact of free education in Zambia to understand how they have contributed to addressing teenage pregnancy.

Relevance of the analytical framework

The Precede-Proceed model was used in describing the interrelationship of the predisposing, reinforcing and enabling factors to influence risky behaviour which then leads to teenage pregnancy. The strength of the model is its ability to guide the process from intervention development through implementation to monitoring and evaluation which makes it suitable when designing intervention aimed at addressing teenage pregnancy.

5.2 CONCLUSION

The determinants of teenage pregnancy have been presented using the PP model. The review found that predisposing, reinforcing and enabling factors continue to influence adolescent girls to engage in risky behaviour. Evidence has pointed to the fact that adolescents are sexually active and acknowledging this fact by society would be a good starting point. In the context of Zambia, the following determinants were identified to contribute to unintended teenage pregnancy: inadequate knowledge on SRHR, culture beliefs and practices, gender and gender inequality, child marriage, poor parent-teens communication, inadequate dormitories and poverty. Teenage pregnancy is a problem is Zambia and its prevalence is unacceptably high.

Understanding the various factors influencing risky behaviour leading to pregnancy is very important and this thesis has laid a foundation. Adolescents are faced with problems associated with unintended pregnancy which goes beyond the adolescents themselves. This calls for urgent attention from programme planners and policy makers to tackle teenage pregnancy. The cost of not taking action to address unintended teenage pregnancy could be huge in future.

Programmes were implemented to address teenage pregnancy by various stakeholders who often implemented them in isolation with inadequate linkages and collaborations. Other identified challenges were inadequate finance allocation, and poor monitoring and evaluation. The current CSE framework needs review to ensure that topics on prevention of pregnancy and contraceptives are incorporated. The healthcare system should be equipped and respond to calls to provide services which are adolescent friendly (ADFHS).

Despite the challenges highlighted above, a number of strategies can help to address them. To begin with, the MoGE should engage stakeholders to ensure that topics considered contentious such as contraceptives are included in the CSE Framework and access to SRH services accepted to make CSE more comprehensive. MoGE to plan to expand the training of teachers in CSE as this is a necessity. Challenges impeding the success of programmes require the concerted effort of all stakeholders such as establishing viable linkage between programmes like the school and health facilities as the former creates demand for SRH services. To address funding challenges, government can look at new funding mechanism from GFF and to honour commitments made to adolescent health programmes.

Evidence from best practices (GREAT Project-Uganda, Berhan Hewan-Ethiopia, Programa Geração Biz-Mozambique and Zero Pregnancies in school-Ivory Coast) points to the fact that integrated and mulitsectoral approach are necessary if the goal of preventing TP is to be achieved. Promising strategies include providing contraceptives to adolescents, community engagement, and capacity building for teachers and HCWs. Providing CSE and ADFHS in a manner meeting international standards is recommended, further the interventions must involve adolescent girls and work with boys/men.

There is also need for Government to act through a coordinated mulitsectoral response. Such responses calls for joint planning of teenage pregnancy reduction programme in Zambia that has clear roles and responsibility spelt out for the different organisations/agencies. In particular collaboration among the following agencies is key: Ministries of - Health, Education, Gender, Youths, Finance and Justice, and with Bilateral

organizations, NGOs and CSOs. Doing so would eliminate duplication of work while maximising the utilisation of limited resources. The ADH-TWG needs to be re-organised and ensures that it is proactive, and decentralised to reach implementation levels at school/Health centre.

5.3 RECOMMENDATIONS

The section outlines the recommendations based on the best practices.

Ministry of Health

1. To strengthen resource allocation and political support to the ADH-TWG by line ministries: health, education, youth and sport, gender, justice, finance, labour. The ADH-TWG should be supported to jointly develop teenage pregnancy prevention action plan which has clear objectives, roles, responsibilities and reporting systems that is based on consensus of all stakeholders.
2. To formulate policy guidelines for outreach to provide SRH services to marginalised populations in their natural setting beyond the traditional clinic set-up. Reviving community based FP distribution especially in rural areas because adolescent girls suffer from limited mobility due to cultural restrictions. Empowering community family planning distributors with skills to attend to adolescents in non-judgemental manner must be prioritised.
3. To procure visual aids - reproductive system models and contraceptives for use during trainings to develop skill and self-efficacy. To plan and conduct orientations for HCWs on attending skills to meet adolescents needs. To engage professional organisations that enforces adherence to ethical standards by HCWs. The visual aids would further be used to improve self-efficacy among adolescents on use of available contraceptives - after policy review to allow such an approach.

Ministry of General Education

4. To enhance CSE framework through policy review to incorporate missing topics on contraception in line with UNESCO recommendations. This can be done after wide consultative process with parents, religious and traditional leaders. To continue offering CSE in school, however aim at reaching the at risk groups - grades five-seven and to develop a strategy to reach out of school adolescents with collaboration other Ministries- Health, Youth. To carry-out capacity building for teachers on CSE with support of CSOs, NGOs.
5. Strengthen school health services in collaboration with MoH and to establish an effective referral system between school and health facilities.

Civil Society Organisations

6. To engage and work with traditional and religious leaders to address stigma and discrimination towards adolescents accessing SRH services like contraceptives, and sustain discussion on gender norms that impede girls' rights, and to form groups where adolescents can have open discussion with their peers on sexuality.

7. To conduct sensitisation among parents, building their self-efficacy to have open discussion with their teenagers on sexuality and reproductive health.

Ministry of Youth and Sports

8. To conduct sensitisation and information dissemination campaigns to markets, sports and cultural events to create demand for SRH among vulnerable groups. This can be done in collaboration with media houses-community radio stations, print, short text messages by working with mobile service providers, social media and distribution of flayers on consequences of teenage pregnancy.

Ministry of Justice

9. To carryout community sensitisations regarding the legal provisions of marriage age by working with traditional leaders, religious and other civic leaders, and law enforcement agencies.

Further research

10. Explore the factors influencing readmission of girls back to school after pregnancy. The aim of the study would be to understand the perspectives from adolescents with pregnancy experience. Studies have focused on challenges of those who were readmitted leaving out those who never attempted.

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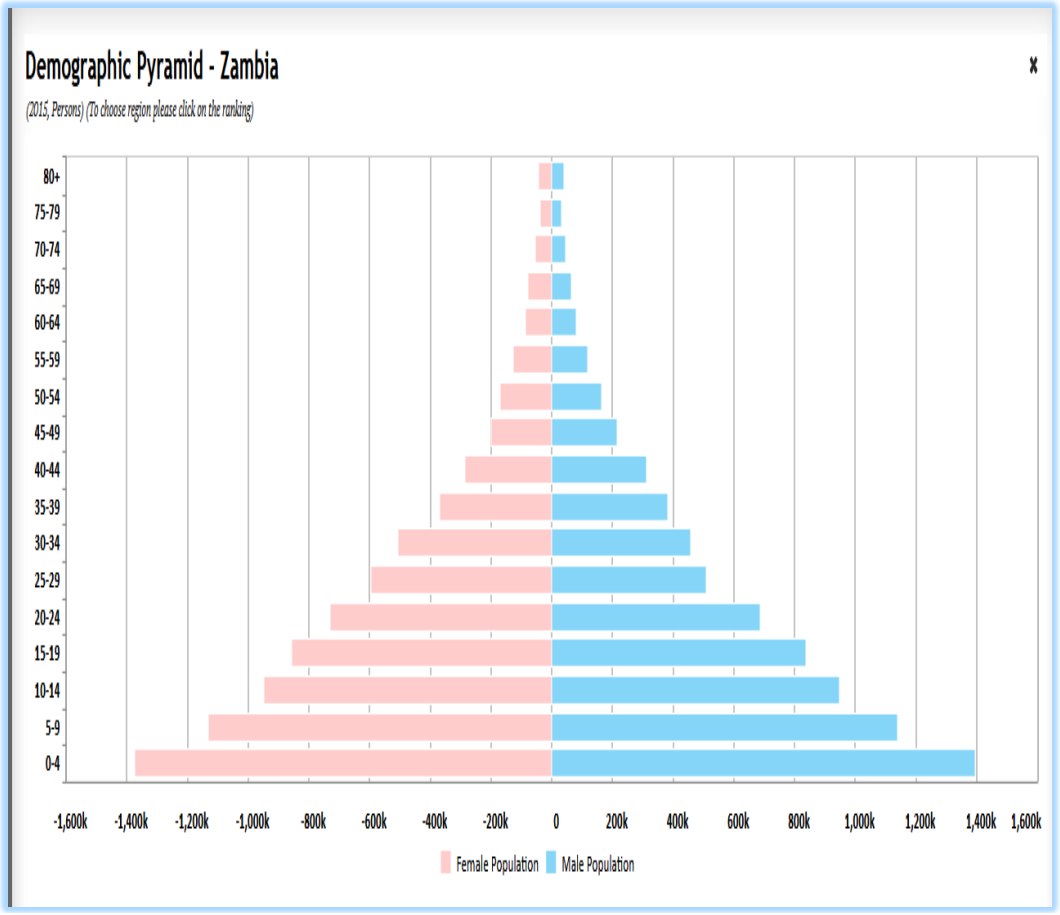
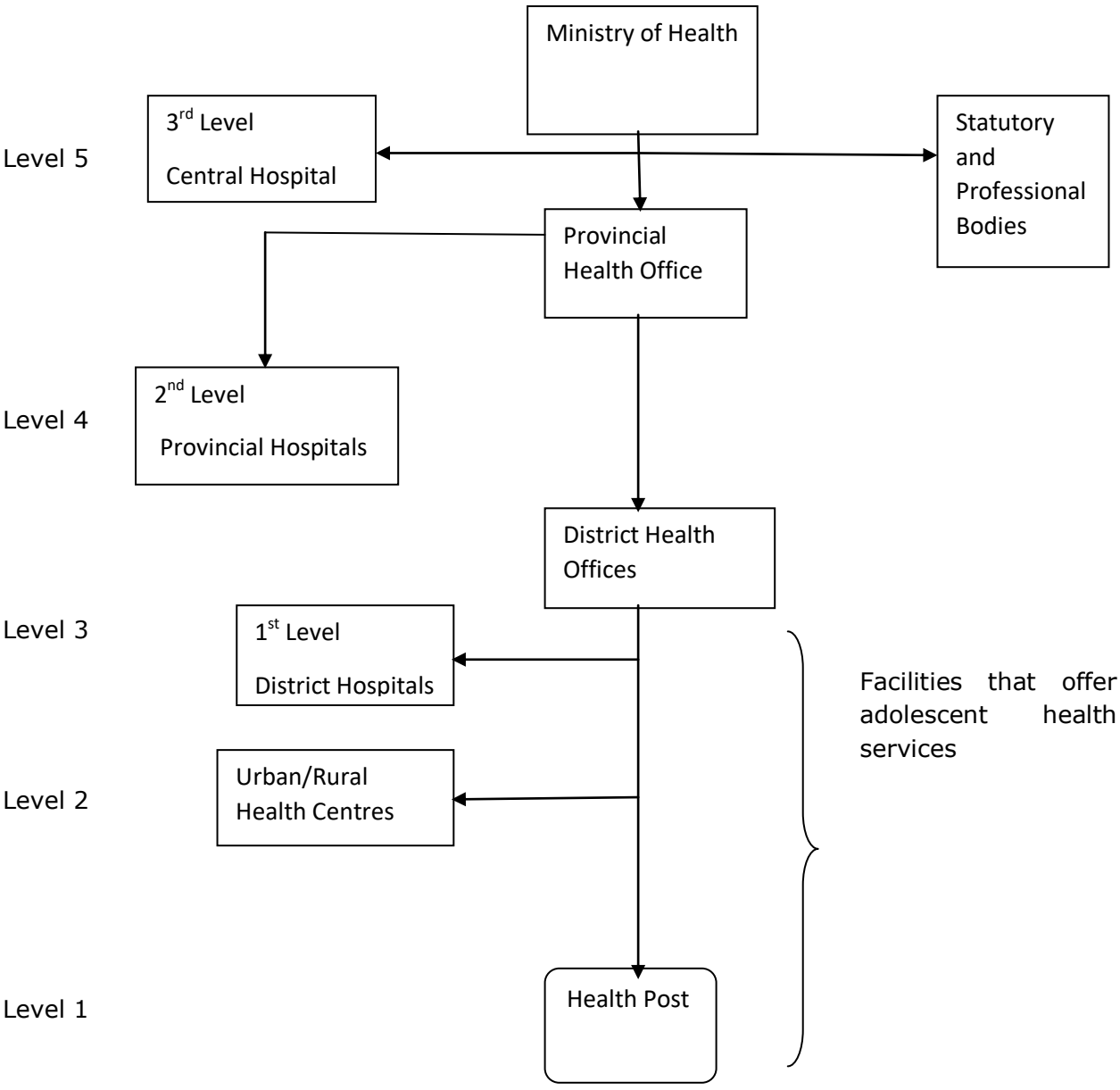
ANNEXES

Annex 1: Population Pyramid of Zambia according to 2010 Population



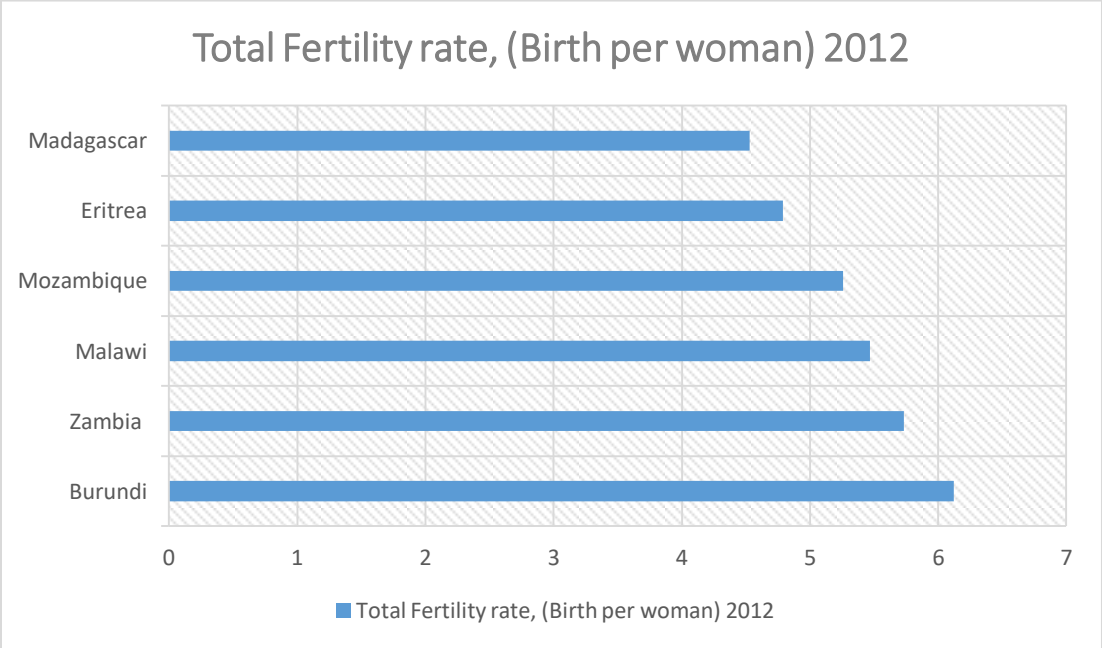
Source: CSO (115)

Annex 2: Organisation of Public Health Facilities in Zambia



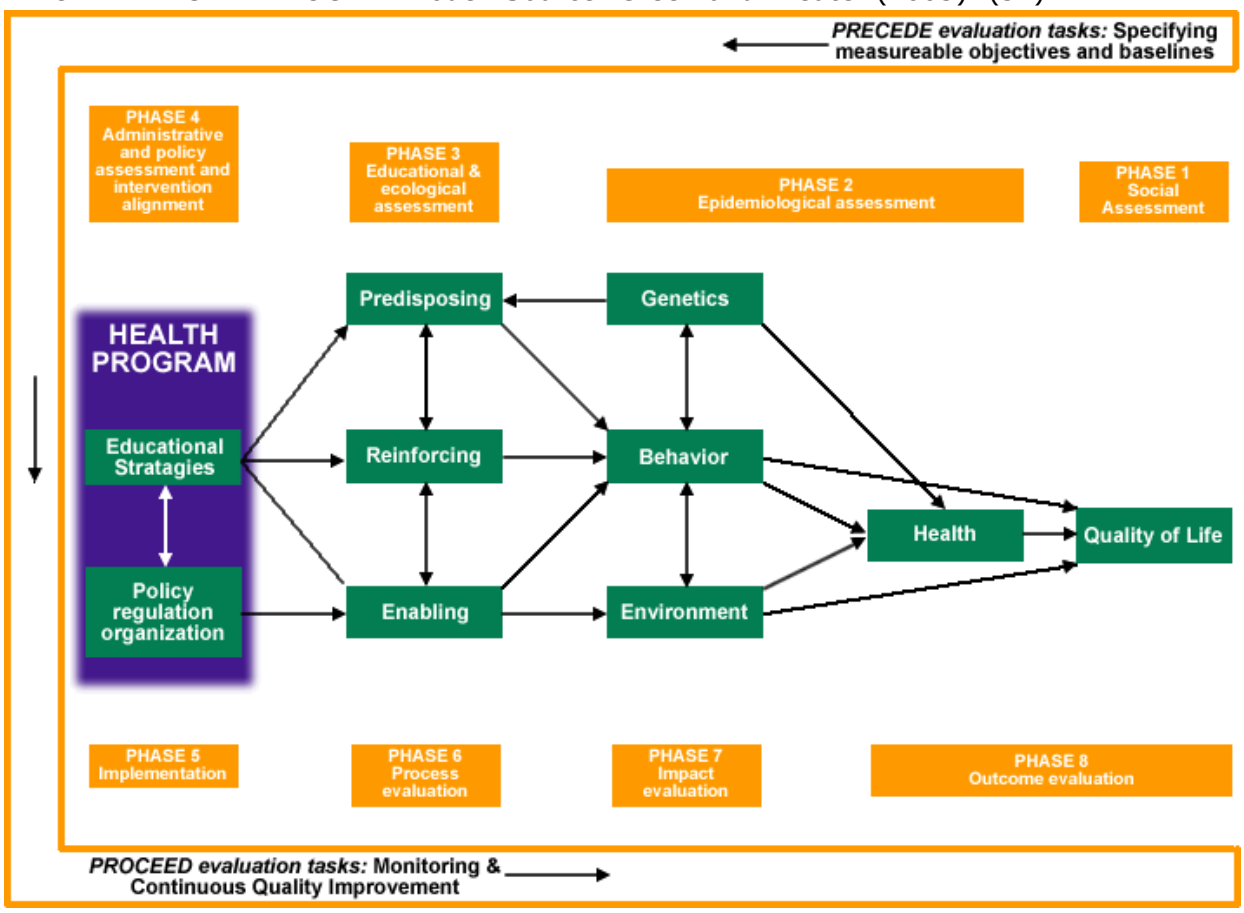
The organization of the health services from lowest level to highest are: Community, Heath posts, Health centers, 1st Level Hospital (district), 2nd level hospital (general), 3rd level hospital (central)

Annex 3**:** Comparison of fertility rate in countries in ESA. Source: Zambia Data Portal-Central statistics Office (116).



Zambia is among the countries with high total fertility rate in East and Southern Africa.

Annex 4: PRECEDE-PROCEED Model. Source: Green and Kreuter (2005). (51).



Annex 5: WHO-defined dimensions of quality health services to adolescents

EQUITABLE: All adolescents, not just some groups of adolescents, are able to obtain the health services that are available

Characteristics

- Policies and procedures are in places that do not restrict the provision of health services.
- Health care providers treat all adolescent clients with equal care and respect, regardless of status.
- Support staff treats all adolescent clients with equal care and respect, regardless of status.

ACCESSIBLE: Adolescents are able to obtain the health services that are available.

Characteristics

- Policies and procedures are in place that ensures that health services are either free or affordable to adolescents.
- Point of service delivery has convenient working hours.
- Adolescents are well informed about the range of reproductive health services available and how to obtain them.
- Community members understand the benefits that adolescents will gain by obtaining the health services they need, and support their provision.
- Some health services and health-related commodities are provided to adolescents in the community by selected
- Community members, outreach workers and adolescents themselves.

ACCEPTABLE: Adolescents are willing to obtain the health services that are available

Characteristics

- Policies and procedures are in place that guarantees client confidentiality.
- Point of service delivery ensures privacy.
- Health care providers are non-judgmental, considerate, and easy to relate to.
- Point of service delivery ensures consultations occur in a short waiting time, with or without an appointment, and
- (where necessary) swift referral.
- Point of service delivery has an appealing and clean environment.
- Point of service delivery provides information and education through a variety of channels.
- Adolescents are actively involved in designing, assessing and providing health services.

APPROPRIATE: The right health services (ie the ones they need) are provided to them.

Characteristics

- The required package of health care is provided to fulfill the needs of all adolescents either at the point of service
- Delivery or through referral linkages.

EFFECTIVE: The right services are provided in the right way, and make a positive contribution to their health

Characteristics

- Health care providers have the required competencies to work with adolescents and to provide them with the required health services.
- Health care providers use evidenced-based protocols and guidelines to provide health services.
- Health care providers are able to dedicate sufficient time to deal effectively with their adolescent clients.
- The point of service delivery has the required equipment, supplies, and basic services necessary to deliver the required health services.

Source: WHO 2012. (2)