# FACTORS ASSOCIATED WITH AGREEING TO EARLY CHILDBEARING AMONG ADOLESCENT GIRLS IN SELECTED RURAL DISTRICTS OF ZAMBIA.

By

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**A dissertation Submitted to the University of Zambia in partial fulfilment of the requirements of the degree of Master of Science in Epidemiology.**

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## DECLARATION

I, Priscilla Nkonde, hereby declare that the dissertation is my original work and has not been presented for any other awards at the University of Zambia or any other University.

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**Nkonde Priscilla**

## APPROVAL

'This dissertation by **Nkonde Priscilla** is approved as partial fulfilment for the requirements for the award of the degree of Master of Science in Epidemiology in the School of Public Health by the University of Zambia.

Examiner 1: ……..Signature…….Date:……..…….

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Examiners:……Signature……Date:……

Supervisor…….Signature…….Date……..

## DEDICATION

I dedicate this dissertation to my children; Nelia, Twapalwa, Seth and Esther, not forgetting my dear husband Joseph Gardner and my mother Evelyn Nkonde for their support and encouragement during my time in school.

## ACKNOWLEDGEMENT

Great thanks to the LORD God Almighty for HIS grace rendered unto me in my journey towards the attainment of this master's degree, it was not easy but worth it. Not forgetting my supervisor Professor Patrick Musonda for this tireless support and encouragement throughout the process. Lastly but not the least, I thank my dear father for attaching a great value to education and sacrificing the little he had for education. Dad your words and works are still fresh.

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## ACRONYMS

| | |
|---|---|
| CDC | Centre for Disease Control. |
| CISMAC | Centre for Interventions Science in Maternal and Child health |
| CSO | Central Statistical Office |
| RISE | Research Initiative to support the Empowerment of Girls |
| UNDP | United Nation Development program |
| UNFPA | United Nations Population Fund |
| UNICEF | United Nation International Children Emergency Fund |
| USAID | United States Agency for International Development |
| WHO | World Health Organisation |
| ZCPH | Zambia Country Population Health |
| ZDHS | Zambia Demographic Health Survey |
| ZSBS | Zambia Sexual Behavioural Survey. |

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## DEFINITION OF TERMS

**Adolescent**: According to the United Nations Convention on the Rights of the Child (CRC): an adolescent is a person in the age range 10-19years.

**Social economic factors**: social economic factors are defined as social and economic experiences and realities that help shape or mould one's personality, attitude or lifestyle.

**Cultural norm/beliefs**: Standards of moral behaviour within a culture.

**Early Childbearing**: Early childbearing in this study is defined as having a child by adolescent girls within or below the ages of 10 to 15 years which is in line with the constitution of Zambia which does not allow an adolescent girl to give concert for sex before the age of 16.

## ABSTRACT

In Zambia, approximately 7.2% of sexually active girls, aged 15-19, reported having had a sexual partner. The National Health Strategic Plan 2017-2021 highlighted the high adolescent birth rate which was at 141 per 1000 live births between the year's 2013 and 2014. According to the laws of Zambia, an adolescent girl can consent for sex at the age of 16 and above; early childbearing is any pregnancy before the age of 16 which is the focus for this study. This study was investigating factors that influence early childbearing among adolescent girls in some selected rural districts of Zambia at baseline of the RISE cluster randomised trial. The investigated factors included; cultural beliefs, social economic factors, knowledge and access to reproductive health information and peer pressure.

The study was a nested quantitative cross-sectional design embedded in a Cluster Randomised Trial of the Research Initiative to Support the Empowerment (RISE) of girls. Participants were girls attending grade seven at various schools in 2016. Information on factors that could influence the participants' view on childbearing were collected at baseline. A complete enumeration of approximately 4900 girls recruited in 12 rural districts of Central and Southern provinces was analysed. Descriptive statistics are presented as frequencies and percentages in tables. To check for the association between the outcome variable which was categorical in nature and the independent variables, Chi-squared test was used or Fisher's exact test for frequencies which were less than five. Univariate and Multiple Logistic regression analysis was used to test the association between independent factors and early childbearing. Clustering in the study was accounted for using robust standard errors.
Results: The findings showed that more than two-thirds 3189 (73.7%) of the participants had no knowledge regarding adolescent sexual and reproductive health information on family planning use, only 1137( 26%) had knowledge. A number of adolescents with mobile phones 235(77.6%) agreed to engaging into early childbearing practices as opposed to those who had none. Majority of adolescent girls 227 (69%) who agreed to early childbearing were aged 10 to 15 years, whilst the least number of adolescents who agreed to early childbearing were 99(30.3%) in the age ranges of 16 to 20 years. In addition, results reviled that one-year increase in age of an adolescent girl increases early childbearing by 30% (OR=1.30, 95% CI (1.01, 1.67), p- value=0.03). Overall, very few factors (mobile phone and age) at baseline were found to be associated with child bearing. In conclusion, Only mobile phone use and age were associated with early childbearing at baseline.

Cultural norms and socio-economic factors were not associated with early childbearing in this study. Given that this information was at baseline of the original cluster randomised trial, the information suggests that there was no evidence of a difference in factors that may affect early childbearing. Hence, in the original study, it appears like randomisation worked as there is no evidence of difference on a number of possible factors that may affect early childbearing.



***Key Words: Early Child bearing Knowledge, Adolescent, Reproductive health.***

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background Information

Early childbearing among adolescents has been the focus of numerous studies in the world over the past 20 to 25 years; yet, knowledge about the phenomena of early childbearing and prevention continues to be elusive and at best tentative as the problem poses potential threat to the future generation (Moore, 2008). Thirteen million pregnancies occurred to women under the age of 20 worldwide and 90% of these early child-bearings were in developing countries (Save the Children, 2005).

Nevertheless, Africa is the continent with highest rate of adolescent pregnancy of 143 per 1000 girls (World Bank, 2010).

In Zambia, approximately 7.2% of sexually active girls, aged 15-19, reported having had a sexual partner with a high adolescent birth rate of 141 per 1000 live births between the year's 2013 and 2014 (Zambia National Health Strategic Plan, 2017-2021).

Adolescent early childbearing has not only become a public health issue, but also a media focal point because of its societal, socioeconomic and health impact (Acharya et. al, 2010). Early childbearing is a complex and serious problem in the world today and it has many negative implications on society, economy, and youth. Early childbearing is a major health concern because of its association with higher morbidity and mortality for both the mother and child (Bouzas, 2014).

Childbearing during the adolescent years also has adverse social consequences, particularly on female education attainment, because women who become mothers in their early years are more likely to curtail education (ZDHS, 2007).

Adolescent health is the main element in the long run of every country's development and cannot be transferred under shorter term concerns of macro-economic and other forms of instability (Spear et al, 2003). Adolescent fertility has shortened the life span among generations resulting in serious social-economic deterioration (Masanyiwa et al., 2011). Adolescent childbearing rates vary between regions and countries, and often within the same country. Teenage pregnancies are less in developed countries and are more than twice as high compared to rates in developing countries, the percentage of girls 15-19 giving birth ranges

from less than 1% per year in places like Japan and Korea, to over 20% per year in the Democratic Republic of Congo (Amin and Brown, 2006).

In addition, nearly 16 million women aged between 15–19 years give birth each year, which accounts for 11% of all births worldwide, in low and middle income countries, almost 10% of girls become mothers by the age 16, with the vast majority being in sub-Saharan Africa (WHO, 2010). The proportion of women who become pregnant before age 15 varies enormously even within regions and countries. For example, the rate in Rwanda is 0.3% compared to 12.2% in Mozambique (Guttmacher, 2002).

Early childbearing has become a very serious social problem in Zambia and rural areas in particular, and pregnancy under the age of seventeen has been viewed as a catastrophe for most individuals, family and the district as a whole (Zambia Sexual Behavioural Survey, 2009). Teenage mothers are having more babies compared with a generation ago, Moreover, the younger adolescents are when having their first child, the more likely they are to have another child whilst teenagers (Kafue District Health Management Board, 2010).

Adolescents from rural areas live in a society that is characterised by poverty with almost the whole population being seasonal peasant farmers (Matenga, 2008). Seasonal peasant farming cannot curb the problem of unemployment the rural areas has been facing and as a result, most adolescents do not go to school because their parents cannot afford to sponsor their education, additionally, most people in rural areas lack basic needs and adolescents tend to look for other alternatives as a means of survival by engaging themselves in promiscuous activities hence early childbearing (Kafue Child Development Agency, 2014).

A preponderance of very young persons in Zambia poses a great economic burden in the family and the entire nation as a whole as they consume much more services which require large capital outlays than they can provide (IMF,2004). In such circumstances, the majority of them become engaged in various social activities which lead to health related problems such as; prostitution, early marriage, teenage pregnancy resulting in high teenage fertility and adolescent female headed households, drug abuse, smoking, alcoholism, and HIV/AIDS (Child Frontiers, 2015).

In addition, it should be realised that adolescence is a period of physical, psychological and social maturation from childhood to adulthood. Therefore, the importance of the health of adolescents with respect to early childbearing as well as reproductive health promotion in

general had to receive recognition hence the need to look at this problem and its attributes in a structurally deeper, broader and serious manner as this study attempts to do.

This study investigated factors that would lead to agreeing to early childbearing among adolescent girls of selected rural districts of Zambia.

## 1.2 Statement of the Problem

In Zambia, teenage childbearing is a national health problem that affects all the communities with a teenage childbearing rate of 146.8 per 1000 girls in the year 2010. Teenage childbearing is not a new phenomenon in Zambia, but it is strange that in the era of sexual literacy and contraception, early childbearing is still a major problem throughout the country (United Nations, 2010).

The problem of early childbearing is still rampant in rural areas of Zambia even though the government has put up several measures to combat the problem (CSO, 2009a).

Despite the government as well as other non-governmental organization's efforts to sensitize teenagers on contraceptives and the implication of early childbearing, there has been a rise in sexual activities among adolescents accompanied by non-use of contraception thereby worsening the problem of early childbearing (Kafue Child Development Agency, 2014).

Nevertheless, these efforts have been fruitless as the number of girls who graduate from primary to secondary level is decreasing every year due to teenage childbearing (ZDHS,2009).
Teenage childbearing is a major social and health issue in our country Zambia and rural areas in particular as it causes severe health problems for both the mother and the child. Moreover, an early start to childbearing greatly reduces women's educational and employment attainment (MOE, 2009).

Additionally, it is believed that lower educational levels, high poverty levels, abuse of drugs and alcohol, lack of education, lack of availability of contraceptive measures, sexual abuse, incorrect use of contraception, inter-generational relationships, lack of parental guidance, cultural factors and peer pressure are the problems the adolescents in the rural areas are facing today (UNICEF, 2011).

It is in this regard that this study will contribute to knowledge on factors leading to adolescent girls agree to early childbearing practices in selected rural districts of Zambia at baseline in the Rise Trial. The investigated factors included individual factors that made adolescents to agree into engaging in early childbearing practices such as knowledge regarding adolescent sexual and reproductive health information, cultural norms and socio – economic factors among adolescent girls of selected rural districts of Zambia. It is hoped that the results of this study will influence policy on adolescent reproductive health for it to be strengthened.

### 1.3 Justification of the Study

The factors influencing the increase of adolescent childbearing are not well known, however hypothetical factors assumed to influence this problem are inadequate knowledge about reproductive health, inaccessibility to reproductive health services, poverty, early sexual practice, single parent care which lead to poor upbringing, attending initiation rites at early age, negative culture and beliefs towards utilization of reproductive health services (Juvenallis, 2015).

This study identified some individual socio-economic factors (mobile phone use) and knowledge gaps on reproductive health information (family planning use by adolescent girls) contributing to agreeing into early childbearing practices among adolescent girls of selected rural districts. The findings of this study will help researchers advance their understanding on the relationship between different social and economic factors and how they influence an adolescent girl to agree into early childbearing. It will further add to the existing knowledge about early childbearing studies among adolescent girls in rural areas. Deep understanding of this problem following results of this study will help lay a stepping stone for further in depth studies towards understanding this social phenomenon and how to curb it.

The information will further be used for effective planning and designing of interventions for minimising the problem and the negative impacts it has on adolescents. The study has produced vital information for decision makers, donors and other relevant stake holders that are involved and intend to be involved into early childbearing prevention or reduction programs. This study will help effectively plan, implement and scale up appropriate interventions in rural districts and Zambia at large for improving health status of adolescent

girls hence increasing their chances of having a better future and improve their dignity as well as increasing the number of educated women.

## 1.4 Research Question

**a)** What are the determinants of agreeing to early childbearing among adolescent girls in selected rural districts of Zambia?

## 1.5 Research Objectives

### 1.5.1 General Objectives

a) To investigate factors leading to adolescent girls agreeing to early childbearing in selected rural districts in Zambia

### 1.5.2 Specific Objectives

a) To determine knowledge and access to reproductive health information and services by adolescent girls
b) To identify social- economic factors associated with agreeing to early childbearing among adolescent girls.
c) To identify the cultural determinants of early childbearing in selected rural districts of Zambia

## 1.6 Research Hypothesis

### 1.6.1 Null Hypothesis:

a) There is no significant relationship between socio-economic factors and agreeing to early childbearing among adolescent girls.

### 1.6.2 Alternative Hypothesis:

b) There is a significance relationship between cultural factors and agreeing to early childbearing among adolescent girls.

# CHAPTER TWO: LITERATURE REVIEW

## INTRODUCTION

The problem of early childbearing has for a long time persisted in many communities and countries at large. The causes of this problem vary from place to place and the consequences are far-reaching both at individual, household or community level (Zambia Sexual Behavioural Survey, 2009).

This section revealed the literature related to factors influencing early childbearing and enabled the researcher to familiarize the problem and related the study to the findings of other researchers who investigated on the same problem. The review consisted of empirical and theoretical review.

### 2.1 Knowledge and Access to Reproductive Health Information Services

Adolescents may lack knowledge of, or access to, modern methods of preventing pregnancy, as they may be too embarrassed or frightened to seek such information. Adequate knowledge of contraception is often lacking among young women in Africa and rural areas in particular, due to negative attitudes regarding sexual activity before marriage (Arai, 2003).

Rural young girls are not educated about contraceptive use because most African cultures believe there is no need to educate them; they must wait until they are married to have sexual intercourse (SAfAIDS, 2011).

According to Panday (2009), he pointed out that until recently knowledge and access to reproductive health services in Southern Africa has concentrated its effort on older women, or women who are already mothers. In other words, there is a lack of support from surrounding communities, lack of co-operation between schools, clinics, and Youth Health Centres, and adolescent services often forming part of over-crowded adult family planning services.

As a result, adolescents do not have access to these reproductive health services in fear of being pointed at as prostitutes, fornicators and other labels by older people due to the perception that reproductive health centres and contraception is only for married women (Hughes et al, 2001).

Adolescents believe correctly or not that their peers are having sex, they are more likely to have sex hence falling pregnant, when adolescents believe their peers support contraceptive use, they are more likely to use contraception (Whitaker, 2000).

In South Africa a study by Gouws revealed that many adolescents believe that the use of contraceptives makes them sterile, and that plastic wrap make an effective condom. Some teenagers believe that they can't get pregnant in the first time of sexual intercourse, if they are having their period, if the male withdraws in time, and they are having sex in a standing position (Gouws, et al, 2008).

**2.2 Socio-Economic Factors and Early Childbearing**

In most of the third world countries there are communities which still lack information on early childbearing brought about by research (Anderson, 2013). Childbearing among adolescent girls in sub-Saharan Africa remains high, the adolescent fertility rate is 108 births per 1000 girls aged 13-19 in the region, compared to 73 in South Asia, and 72 in Latin America and the Caribbean (World Bank, 2010). A study conducted in Sudan showed that the factors contributing to teenage pregnancy included: lack of school fees, lack of parental care, communication and supervision, poverty, peer pressure, non-use of contraceptives, desire for a child, forced marriage, low educational level and need for dowries (Gwido et al, 2015).

However, lack of education, lack of access to media resources, lack of self-esteem, low family income, poor family structure, poor health and social welfare structures make early childbearing hard to curb (Klepinger, 2012). People who lack education do not have insight understanding on sexuality. For instance, they fail to understand how teenage pregnancy can negatively affect their socio-economic lives thereby engaging in premarital sex without full knowledge on the subject. Therefore, lack of comprehensive understanding of sexuality brought about by illiteracy and ignorance is a fundamental cause of teenage pregnancy

Furthermore, (Manlove, 1998) noted that 40% of teenagers, who are academically successful, feel connected to their school and community, and have expectations for the future and are more likely to delay sexual intercourse or, if they decide to have sex, they use contraception. In his study, he noted that 60% of teenagers who become teenage parents tend to have lower grade point averages, more school absences, and more difficulties with school work or lack education are more likely to become pregnant than their peers.

In addition, early childbearing is highly correlated with adolescents living in poverty. Adolescents living in poverty are more likely to get pregnant than teenagers who do not because they lack most of the basic needs for a decent life which result in prostitution, peer pressure, and alcohol and drug abuse. In addition, poverty results in parents and children sharing a single room, under such circumstances it is unavoidable for children to hear or see their parents making love (Klepinger, 2012). Out of curiosity, these kids may be tempted to experiment or feel what sex is with their partners, often with devastating results. The social standings of a family influence the increase in teenage pregnancy and early childbearing where some girls from poor families opt to sell their bodies in order to assist the family. At times parents can't afford to take the children to school and thus leave them to be as ignorant and clueless about the dangers of early childbearing and life in general (ibid).

Additionally, it has been noted that in unstable families where there are no good relationships between the two parents, children particularly girls tend to be involved in sexual affairs at an early age. This is due to the fact that these children miss and lack parental care that might give them a better education towards sexuality and pregnancy. Further, most of the parents do not talk about sexuality with their children which result in most adolescents not being well educated about sexual activities and its impacts. Most of them get this information from peers, traditional myths and school mates. However, this information is not always correct and is misleading (Rexburg, 2007).

Kirby (2001) concluded in his study that there is a link between early childbearing and self-esteem. He argued that the risk of early childbearing is raised possibly by 50% among adolescent girls with lower self-esteem than their peers. Girls with low self-esteem often base their worth on being in a romantic relationship, despite the quality of the relationship. He further argued that girls who do not value themselves tend to accept poor treatment from the boyfriend because they have few supports in their lives.

### 2.3 Cultural Factors and Early Childbearing

Initially there were some sexual control traditional practices that were practiced by African societies. These practices include initiation ceremonies, where adolescents were instructed about sexual matters (Clark, 2004). During initiation ceremonies, adolescents were taught how to have sex, what behaviour to portray during sex and what a man expected of girls

during sexual intercourse (Nangoma, 2013). As a result, certain amount of sex play was expected and allowed after initiation and this gave adolescents the courage to engage themselves in premarital sex, hence early childbearing (Macleod, 1999). In certain cultures, early childbearing is accepted and welcomed (Panday et al, 2009).

Culture plays a role in adolescent childbearing in many parts of sub-Sahara Africa. In Malawi, girls are taught about the importance of childbearing at an early age, this message is communicated in such a way that many adolescents do not see early childbearing as a problem (Jimmy-Gamma, 2009). At the end of the first initiation ceremony an older man is enlisted to be the first sexual partner of the adolescent to mark womanhood (Guttmacher Institute, 2005). In the absence of contraception, this puts adolescent girl at risk of childbearing. Similarly, in Zambia, The findings from the Bemba and Lozi women's sexual practices, puberty or menarche indicated that 96% of Bemba women and 100% of all Lozi women in this study were exposed to puberty rites for sexual moral values otherwise known as ''chisungu'' in Bemba and ''Sikenge'' in Lozi. It was noted that Bemba women were more influenced by kin members on desired family size than the Lozi whose decision was more of the women's own determination (Likwa, 1996). During the ritual passage, girls are kept indoors and taught how to sexually satisfy a man and also how to observe certain traditional customs and beliefs in marriage amongst other things (Nangoma, 2013). These initiation ceremonies involving preparation of children for marriage influence early marriages among young people can lead to early childbearing (Gillian et al, 2015). In each context, it is clear how culture plays an important role in preventing or promoting adolescent childbearing. According to the Zambian laws a girl can consent for sex at the age of 16 and the legal age of marriage for girls is 18 years while for the man is 21 years (The Zambian constitution, Marriage ACT chapter 50 part 4 section 33 and 34).

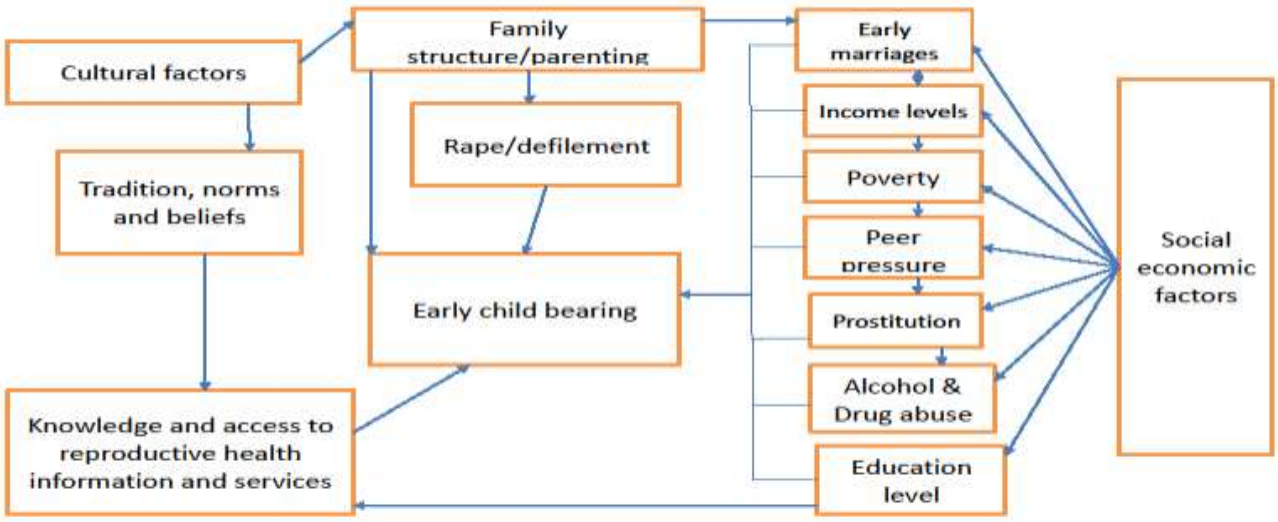
Early sexual debut has become a trend in most societies and this often pressurizes adolescent girls to indulge in sexual intercourse because of fear of being stigmatized by their peers (SAFAIDS, 2011).

### 2.4 Conceptual Framework Examining the Factors Associated with Early Childbearing

The conceptual framework used in this study was adopted from the Prototype/Willingness theory that is designed specifically to apply to unplanned behaviours, such as adolescent sex (Gibbons et al. 1998). The framework revealed that most of the identified social and economic factors cause each other. It can be deduced that an adolescent who lives in poverty

is more likely to engage herself in prostitution due to low levels of income at home and peer pressure. In addition, most poor parents do not have enough income to provide basic needs to their female children; as a result they decide to marry them off at a tender age thereby exposing them to early childbearing. Most of the decisions that adolescents make are peer oriented. Therefore, alcohol and drug abuse are mostly catalysed by peer pressure hence early childbearing. Furthermore, when someone has high levels of education, they are capable of visiting reproductive health service providers for knowledge on contraceptives and vice-versa henceforth both education level and knowledge and access to reproductive health services contribute to early childbearing. Cultural factors such as beliefs, norms, values and tradition in the sense that in some traditions early marriages are promoted and other traditions do not allow the use of contraceptives and this has an effect on early childbearing and teenage pregnancy.

**Figure one: Conceptual framework adopted from the Prototype/Willingness theory.**




**By Gibbons et al. 1998.**

## 2.5 CONCLUSION/ RESEARCH GAP

According to the review of literature from various studies in different places by different researchers that have been exploring different factors contributing to adolescent early childbearing. There were a number of socio and economic factors that were associated with adolescent childbearing among adolescent girls including cultural beliefs and a notable gap in knowledge and accesses to adolescent sexual and reproductive health information on family planning use. Therefore, this study will contribute to the knowledge and understanding on individual factors leading to adolescent girls agreeing to early childbearing practices in selected rural districts of Zambia.

# CHAPTER THREE: METHODOLOGY.

## 3.1 Study Design and Setting

This study was a nested cross sectional study, utilizing a quantitative method that is embedded on the study "Research Initiative to Support the Empowerment of girls" (RISE) clinical trial.

### 3.1.1 The Research Initiative to Support the Empowerment of girls (RISE)

The Research Initiative to Support the Empowerment of girls (RISE) is a Cluster Randomised Trial being conducted in 12 rural districts of Zambia by CISMAC. With an objective of providing economic support to girls in rural areas in form of social cash transfers and community dialogue sessions on sexual reproductive health in order to encourage girls to remain in a school as opposed to getting married early, which leads to early childbearing among teenage girls.

The study setting included 12 selected rural district of Zambia namely, Kalomo, Choma, Pemba, Monze, Mazabuka, Chikankata, Chisamba, Chibombo, Kabwe, Kapiri Mposhi and Mkushi districts (Sandøy, 2016).

## 3.2 Study Population and Eligibility

The study population was comprised of grade seven girls who were enrolled in the RISE study at baseline aged 10 and above. It was assumed that for a girl to qualify into agreeing to early childbearing practices she should be less than 16 years, according to the laws of Zambia.

## 3.3 Sample Size

The main study CISMAC calculated the sample size using an electronic software PASS 14 (NCSS Statistical Software, Kaysville, UT, USA) to calculate sample size required for a cluster randomized trial with the primary outcomes "incidence of births within 8 months of the end of the intervention period", "incidence of births before girls' 18th birthday" and "proportion of girls who sit for the grade 9 exam". They used the 2010 census estimates of the percentages reporting ever giving birth in the study districts to estimate the incidence of

childbearing in the control arm: 2% at the average age of 14.5 years, 4% at 15.5 years, 9.5% at 16.5 years, 22% at 17.5 years, and 35% at 18.5 years. (Sandøy, 2016).

However for this study, a complete enumeration of approximately 5000 girls recruited in schools at baseline was used.

### 3.4 Sampling Procedure and Data Sources

This study used secondary data that was collected at baseline in the CISMAC RISE project. Only selected questions relevant to this study from the CISMAC questionnaire were analysed**.**

### 3.5 Data Collection Tool

There was no data collection done in this study because the study analysed secondary from CISMAC rise project that was collected at baseline.

A checklist of selected questions relevant to this study was made and sent to the data manager for CISMAC who gave information that was specifically relevant to this study.

### 3.6 Study Variables

#### 3.6.1 Dependent Variable

The outcome variable is Early Childbearing which had four questions; question 38, 55, 58, and 59, adolescent girls who answered 2 to 4 questions correctly were coded as one in excel representing agreeing to early childbearing, girls who scored zero to one were coded as zero in excel representing disagreeing to early childbearing practices.

#### 3.6.2 Explanatory Variables

Independent variables included the following;

a) Knowledge
b) Culture
c) Socio –economic factors
d) Demographic characteristics included average age at enrolment to grade one, biological father and mother alive, number persons living in a household above 18 years, number persons living in a household below 18 years.

As for independent variables, Knowledge on sexual reproductive health information had questions ranging from 31 to 33. Adolescent girls who answered correctly 2 to 3 questions were coded as one in excel representing those who were knowledgeable whilst adolescent

girls who scored 0 to 1 were coded as zero representing those who were not Knowledgeable. Cultural beliefs had questions ranging from 34 to 39. Adolescent girls who scored 3 to 6 were coded as one in excel representing adolescent girls who were Cultural and agreeing to early Childbearing practices whilst adolescent girls who scored zero to two were coded zero in excel representing adolescent girls who were not cultural and disagreed to early childbearing practices, for social-economic factors a composite variable consisting of a wealth index was done which had different social classes of people ranging from the lowest class to the higher class. Social economic factors had selected questions from 6, 7,8,10 and 11 in the Cismac Rise questionnaire. Adolescent girls who scored 3 to 5 questions correctly were coded as one in excel representing those who agreed to the association between socio economic factors and early childbearing practices whilst adolescent girls who scored 0 to 2 were coded as Zero in excel representing those who disagreed to the association between socio-economic factors and agreeing to early childbearing.

**Table: 1 Variable Table and Measurements.**

| Variable name | Operational definition | Indicators | Scale of measurement | Variable type | Question number |
|---|---|---|---|---|---|
| **DEPENDENT VARIABLES** | | | | | |
| **Primary outcome variable**: Early childbearing | Occurrence of births before 20 years | Number of early childbearing occurrence in the age groups of 10 to 19 years to total population of 4900 adolescent girls recruited at baseline | Number agreeing to childbearing before 19 years or disagreeing to childbearing before the age of 19 | Binary | 55,58,59, 38 |
| **INDEPENDENT VARIABLES** | | | | | |
| Cultural norms | Agreed- upon expectations and rules by which a culture guides the behaviour of | Number abiding to a norm over total number of girls recruited at baseline | Number agreeing to a norm or not agreeing to a particular norm | Binary | 34-39 |

| | | | | | |
|---|---|---|---|---|---|
| | its members in any given situation | Reasons of cultural norms in respective communities | | | |
| Knowledge | Either one has information regarding sexual reproductive health | number of girls with information regarding sexual reproductive health over total number of girls recruited at baseline | Number agreeing of having information regarding sexual reproductive health or not disagreeing. | Binary | 31-33 |
| Socio-economic status | Social standing or class of an individual or group. It is often measured as a combination of education, income and occupation. | Number able to meet the minimum living condition e.g. able to buy lotion. | Number agreeing to meet minimum living conditions or disagreeing | Binary | 6,7,8,10, 11 |
| Number persons living in a household less than 18 years | Descriptive statistics | Number of persons less than 18 years over total number of persons in a household. | number of persons less than 18 years in a household over total number of household member | Continuous | 1 |
| Number persons living in a household above 18 years | Descriptive statistics | Number of persons above 18 years over total number of persons in a household. | Number of persons above 18 years in a household over total number of household member | Continuous | 2 |
| Number living with biological father alive | Descriptive statistics | Number of girls living with biological father over total number of girls recruited in the study | Number of girls with biological father alive out of the total recruited at baseline | continuous | 3 |
| Number living with biological mother alive | Descriptive statistics | Number of girls living with biological mother over total number of girls recruited in the study | Number of girls with biological mother alive out of the total recruited at baseline | continuous | 4 |
| Average Age of girls at enrolment to grade one | Descriptive statistics | Mean age of girls at grade one enrolment | Average age of girls at grade one enrolment | continuous | 18 |

### 3.7 Data Management and Quality Assurance

Data was collected from the project data manager RISE which was only accessed by the Principal Investigator for this study and stored on a computer protected with a password. The project manager gave data on selected information relevant to this study. The dataset

comprised of unique research identity numbers for each participant. Data was entered in excel, labelled and checked for completeness, all missing values were replaced with a dot. A clean dataset was established and this data set was used for the rest of the analysis as follows; Responses in the questionnaire were coded into binary, the outcome variable for this study was early childbearing, which is defined as having a child by an adolescent girl within or below the ages of 10 to 15 years in line with the laws of Zambia which allows an adolescent girl to concert for sex when she is 16 and above years.

### 3.8 Statistical Analysis

After quality control procedures were done data was entered in stata version 14 and checked for completeness. A complete case analysis was done for incomplete data. Descriptive statistics were analysed first to observe the basic characteristics of the variables. All the response and outcome variables were made into binary outcomes in which frequencies and percentages were calculated. The Pearson's Chi-squared test was used to examine independent categorical variables with the outcome variables where the assumptions of the chi square were met, and if not, fisher's exact test was used to check for significance. The analysed data was collected in clusters which were schools, clustering was accounted for using robust standard errors because there was no data weighting at baseline. Univariate logistic regression was done to determine the relationship between each explanatory variable and the outcome variable. Multiple logistic regressions with the logistic function obtaining odds ratios were done. Odds ratios were used to determine the proportion of girls who were agreeing to early childbearing and disagreeing to early childbearing at baseline in the RISE trial. Back ward stepwise logistic regression was also done in order to determine the factors that influence the dependent variable and control for any confounding.

### 3.9 Validity and Reliability

For this study only content validity was upheld because the study used secondary data. Content validity was upheld by ensuring that all relevant information in the CISMAC RISE questionnaire pertaining to the study was included during data analysis. As for reliability a pilot study was conducted by CISMAC in a similar setting and all data collection tools were simplified and translated in different local languages for easy understanding.

## 3.10 Ethical Considerations

This study used secondary data that was collected in the RISE trial and the analysed data was de- identified.

### 3.10.1 Beneficence:

The study added to the body of knowledge towards the understanding of the determinants of early childbearing among adolescent girls in rural districts of Zambia and how to curb the phenomenon

### 3.10.2 Justice:

The data that was being analysed was from a cluster randomised trial in which there was randomization of study participants which gave individuals equal and fair chances of being selected into the study.

### 3.10.3 Approval:

Ethical clearance was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC), on the 25$^{th}$ of September, 2017 reference number 025-06-17.

In addition this study was published in the Zambia National Research Conference book and a paper has been submitted to the international journal for publication.

## 3.11 Limitation of the Study

a) This study was using secondary data that was collected at baseline in the RISE study. The data that was being analysed had limited information on variables such as peer pressure and cultural beliefs.
b) Limited information on data regarding access to reproductive health information by adolescent girls in selected rural districts

# CHAPTER FOUR: FINDINGS

## 4.1 Introduction

This section provides an overview of the main results presented in this study. A total sample consisting of approximately 5000 grade seven girls recruited in the CISMAC RISE project aged between 10 to 15 years was analysed.

The findings of this study are presented in a chronological order starting with socio demographic characteristics, followed by knowledge on family planning use by adolescent girls, knowledge gaps according to provinces, early childbearing and socio economic factors, the relationship between culture and early childbearing and lastly but not the least results on logistic regression analysis.

## 4.2 Social Demographic Characteristics.

Overall adolescent girls who agreed to early childbearing practices at baseline in the RISE study were 326 (6.4%) and total number of adolescent girls who disagreed to early childbearing practices were 4735 (93.5%).

The age distribution ranged from 15 to 20 years. Most respondents agreeing to early childbearing 227 (69.6%) were aged 10 to 15 years, the least agreeing to early childbearing

99 (30.3%) were in the age group of 16 to 20 years.

In terms of provinces the majority of the respondents who agreed to early childbearing 218 (62.8%) were from southern province, whilst the smallest number was from central province 29 (37.1%).

Many adolescent girls with biological fathers alive 263 (82.7%) agreed to early childbearing as compared to those without biological fathers 55(17.2%)

Similarly adolescent girls who had their biological mother's alive had a greater percentage in terms of agreeing to early childbearing practices 297 (93.3%) as opposed to those who had no biological mothers alive 21(6.6%).

About three quarters of adolescent girls who had mobile phones 235(71.8%) agreed to early childbearing practices as compared to those who had no mobile phones 92 (28.1%).

**TABLE 2: Social Demographic Characteristics - Univariate Comparison.**

| Characteristics | Agreeing to early childbearing n= 326(6.4%) Frequency (%) | Disagreeing to early childbearing n=4735 (93.5%) Frequency (%) | P value |
|---|---|---|---|
| ***Age Group*** | | | |
| 10- 15 | 227(69.6%) | 3525 (74.54%) | 0.05[a] |
| 16- 20 | 99 (30.3%) | 12 (0.25%) | |
| ***Province*** | | | |
| Central | 129 (37.1%) | 1909 (40.2%) | 0.25[a] |
| Southern | 218 (62.8%) | 2830 (59.7%) | |
| ***Household member greater than 18years*** | | | |
| Number ≤ 5 persons per household | 245 (74.4%) | 3575 (75.4%) | 0.9[b] |
| Number > 5 persons per household | 81 (24.6%) | 1164 (24.5%) | |
| ***Household member less than 18years*** | | | |
| Number ≤5 persons per household | 1796(37.8%) | 108 (33.1%) | 0.08[b] |
| Number > 5 persons per household | 218 (66.87%) | 2943 (62.1%) | |
| ***Biological father alive*** | | | |
| No | 55(17.2%) | 722(15.5%) | 0.4[a] |
| Yes | 263(82.7%) | 3917 (84.4%) | |
| ***Biological mother alive*** | | | |
| No | 21 (6.6%) | 299 (6.4%) | 0.9[a] |
| Yes | 297 (93.3%) | 4351(93.5%) | |

***KEY: [a] = Chi-squared P-value, [b] = fishers exact P-value***

The age distribution at enrolment to grade one ranged from 5 to 12 years. The larger percentage was 7 years with the lowest at age 12.

**TABLE 2a: Age at enrolment to grade one**

| Age (years) | Frequency (%) |
|---|---|
| 10 | 190 (3.7%) |
| 11 | 24 (0.47%) |
| 12 | 21 (0.41%) |
| 5 | 350 (6.9%) |
| 6 | 946 (18.6%) |

| | |
|---|---|
| 7 | 2359 (46%) |
| 8 | 812 (16%) |
| 9 | 364 (7%) |
| **TOTAL** | **5066 Girls** |

### 4.2 Knowledge on Family Planning Use by Adolescent Girls.

Figure 2 shows results for knowledge among adolescent girls regarding sexual and reproductive health information on family planning use. Despite the insignificant p. values (0.2), many adolescent girls 3404 (74%) had no knowledge regarding adolescent sexual reproductive health issues, only 1226 (26%) girls had knowledge.

**KEY**

- Not Knowledgeable
- Knowledgeable

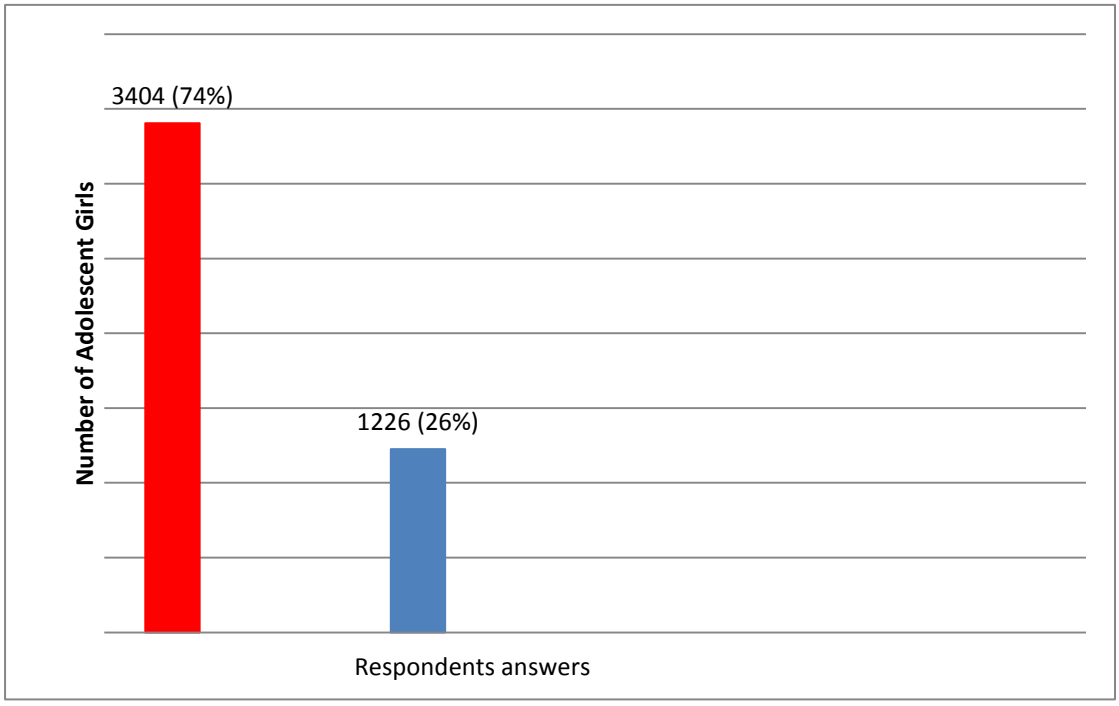



***Figure 2: Knowledge on adolescent sexual and reproductive health information regarding family planning use.***

### 4.2.1 Reproductive Health Information according to Provinces.

There was an association between the differences in knowledge regarding adolescent family planning use between provinces with a statistically significant p value of 0.0001. With regards to having little or no knowledge, central province had a greater percentage of respondents 1403 out of 1794 representing 1408 (78%) who were not knowledgeable whilst southern province had a lesser percentage 2001 (70%) 2001 out of 2836 respondents. Furthermore, in terms of being knowledgeable; Many respondents who had knowledge on family planning were from southern province 835(29%) the least were from central province 391(21%).

**Table 3: Knowledge On Family Planning Use By Adolescents According to Provinces**.

| **Variable** | **Provinces** | | |
|---|---|---|---|
| **Knowledge** | **Central province n (%)** | **Southern province n (%)** | **P value** |
| Not knowledgeable | 1,403 (78.2%) | 2001 (70%) | 0.0001 |
| Knowledgeable | 391 (21%) | 835 (29%) | |
| Total | 1794 (100%) | 2836 (100%) | |

### 4.3 Early Childbearing and Socio-Economic Factors

For socio-economic factors a composite variable for the wealth index was created in which variables that were capturing household index were entered into stata e.g. floor material, has phone, has radio, owing a television set, fridge, electricity, bicycle, plough, cart and cattle were fitted following a principle component analysis command (PCA) to predict wealth. After the variable wealth was created, four classes were created in ascending order of low to high class using a command “xtile quintile =wealth, nq(4)”. After the quintiles were formed the variable was labelled "Wealth Quintiles" with a clear definition of the quartile using the following command in stata

“Label define lab1quintile 1 "Lowest" 2 "Second" 3 "Middle" 4 "highest”; which was followed by “label value quintile lab1quintile”.

After the wealth index variable was formulated a cross tabulation was done between early childbearing and the wealth index in which it was noted that there was no association between an individual’s social class and early childbearing.

This led to a further analysis of individual factors from the composite variable (floor material, has phone, has radio, owing a television set, fridge, electricity, bicycle, plough, cart and cattle) in which owing a mobile phone was statistically significant at Univariate level and reporting unadjusted values and crude odds ratios with a P value of 0.006.

**Table 4: Socio- Economic Factors.**

| **Early childbearing** | **COR at 95% Confidence Interval** | **P value.** |
|---|---|---|
| **Wealth Index** | | |
| Lowest Class | Ref | |
| Second Class | 0.85 (0.63,1.14) | 0.28 |
| Middle Class | 0.95 (0.69, 1.32) | 0.79 |
| Higher Class | 0.92 (0.68, 1.23) | 0.58 |
| **Owns a mobile Phone** | **Ref** | |
| **Has no mobile Phone** | **1.99 (1.21, 3.28)** | **0.006** |
| No Radio | Ref | |
| Has Radio | 0.85 (0.68,1.07) | 0.18 |
| **Floor material** | | |
| Natural floor | Ref | |
| Rudimentary floor | 0.90(0.71,1.12) | 0.36 |
| Finished floor | 0.912 (0.10,6.14) | 0.84 |
| **Roof material** | | |
| Natural roof | Ref | |
| Rudimentary roof | 1.04 (0.80, 1.34) | 0.73 |
| Finished roof | 0.47 (0.064, 3.47) | 0.46 |
| No television | Ref | |
| Have television | 0.88 (0.70, 1.11) | 0.31 |
| No fridge | Ref | |
| Has fridge | 0.89 (0.61, 1.30) | 0.57 |
| No electricity | Ref | |
| Have electricity | 0.95 (0.71, 1.27) | 0.73 |
| No bicycle | Ref | |
| Has bicycle | 1.03 (0.81, 1.31) | 0.78 |
| No plough | Ref | |
| Has plough | 0.95(0.76,1.19) | 0.68 |

| | | |
|---|---|---|
| No cart | Ref | |
| Has cart | 0.97 (0.76, 1.24) | 0.83 |
| No cattle | Ref | |
| Has cattle | 0.74 (0.33, 1.62) | 0.45 |

**KEY: COR= Crude Odds Ratio.**

### 4.4 Early Childbearing and Cultural Factors

An association between early childbearing and cultural factors was done at univariate level reporting unadjusted crude odds ratio. Results showed that there was a decreased chance (COR =0.877, P Value=0.38) of engaging into early childbearing practices by adolescent girls.

**Table 5: Cultural Factors.**

| **Variables** | | |
|---|---|---|
| **Early childbearing** | **COR at 95% Confidence Interval** | **P value** |
| Not cultural | Ref | |
| Cultural | 0.877 (0.65,117) | 0.38 |

**KEY: COR= Crude Odds Ratio.**

### 4.5 Logistic Regression Analysis

Binary logistic regression analysis was done in which odds ratios and 95% confidence intervals with p-values set at 0.05 for the level of significance were reported in this study. Univariate and multiple logistic regression analysis was done. At Univariate analysis reporting crude odds ratios individual factors were checked for their association with agreeing to early childbearing in which one year increase in age of an adolescent girl increases chances of agreeing to early childbearing practices by 27%, the increase could be as high as 99% or as low as 67% with a statistically significant p value of 0.05 (COR=1.27, P value=0.05) and owing a mobile phone by adolescent girl increases chances of agreeing to early childbearing practices by 99% the increase could be as high as 28% or as low as 21% with a statistically significant p value of 0.006 (COR=1.99 P value=0.006) were associated with agreeing to early childbearing among adolescent girls. In order to rule out chance finding multiple logistic regression was done in which variables were fitted in the model following the formula: logit (y) =a + $\beta 1\ \chi 1$ ... +$\beta 1 \chi 2$. In which all the independent variables were fitted in a model and checked for their association with the outcome variable agreeing to

early childbearing. Insignificant variables were removed in the model one by one starting with the highest p values. After adjusting for confounding using backward stepwise logistic regression results from adjusted odds ratios revealed that one year increase in age of an adolescent girl increases chances of agreeing to early childbearing practices by 30%, the increase could be as high as 67% or as low as 10% with a statistically significant p value of 0.003 (AOR=1.30, p- value=0.03) and an adolescent girl with a mobile phone was two times more likely to agree into early childbearing practices. The likelihood could be as high as 32% or as low as 26% with a statistically significant p value of 0.003 (AOR=2.05, p-value=0.003).

**TABLE 6: Multiple Logistic Regressions: Factors Associated With Agreeing To Early Childbearing Among Adolescent Girls.**

| **Early childbearing** | **Univariate analysis: COR at 95% CI** | **P value** | **Multivariable analysis (with robust standard error): AOR at 95% CI** | **P value** |
|---|---|---|---|---|
| Knowledgeable | Ref | | | |
| Not Knowledgeable | 1.16 (0.89,1.49) | 0.25 | 1.18 (0.91, 1.53) | 0.2 |
| Not Cultural | Ref | | | |
| Cultural | 0.877 (0.65,117) | 0.38 | 0.89 (0.65, 1.21) | 0.45 |
| **Age Group** | | | | |
| 10 To 15 | Ref | | | |
| **16 To 20** | **1.27(0.99, 1.62)** | **0.05** | **1.30 (1.01,1.67)** | **0.039** |
| **Wealth Index** | | | | |
| Lowest Class | Ref | | | |
| Second Class | 0.85 (0.63,1.14) | 0.28 | 0.86 (0.64,1.16) | 0.32 |
| Middle Class | 0.95 (0.69, 1.32) | 0.79 | 0.98 (0.70,1.36) | 0.91 |
| Higher Class | 0.92 (0.68, 1.23) | 0.58 | 0.95 (0.71, 1.28) | 0.75 |
| Has No Mobile Phone | Ref | | | |
| **Has Mobile Phone** | **1.99 (1.21, 3.28)** | **0.006** | **2.05 (1.26,3.32)** | **0.003** |
| No Radio | Ref | | | |
| Has Radio | 0.85 (0.68,1.07) | 0.18 | 0.81 (0.63, 1.05) | 0.11 |

| | | | | |
|---|---|---|---|---|
| **Floor Material** | | | | |
| Natural Floor | Ref | | | |
| Rudimentary Floor | 0.90(0.71,1.12) | 0.36 | 0.80 (0.60, 1.06) | 0.12 |
| Finished Floor | 0.912 ( 0.10,6.14) | 0.84 | 0.916 (0.11, 7.13) | 0.93 |
| **Roof Material** | | | | |
| Natural Roof | Ref | | | |
| Rudimentary Roof | 1.04 (0.80, 1.34) | 0.73 | 1.11(0.82, 1.52) | 0.47 |
| Finished Roof | 0.47 (0.064, 3.47) | 0.46 | 0.45 (0.06, 3.41) | 0.44 |
| No Television | Ref | | | |
| Have Television | 0.88 (0.70, 1.11) | 0.31 | 0.93 (0.70, 1.24) | 0.64 |
| No Fridge | Ref | | | |
| Has Fridge | 0.89 (0.61, 1.30) | 0.57 | 0.92 (0.55, 1.55) | 0.77 |
| No Electricity | Ref | | | |
| Have Electricity | 0.95 (0.71, 1.27) | 0.73 | 0.87 (0.57, 1.33) | 0.54 |
| No Bicycle | Ref | | | |
| Has Bicycle | 1.03 (0.81, 1.31) | 0.78 | 1.00 (0.76, 1.30) | 0.99 |
| No Plough | Ref | | | |
| Has Plough | 0.95(0.76,1.19) | 0.68 | 0.93 (0.69, 1.24) | 0.64 |
| No Cart | Ref | | | |
| Has Cart | 0.97 (0.76, 1.24) | 0.83 | 0.97 (0.71, 1.33) | 0.89 |
| No Cattle | Ref | | | |
| As Cattle | 0.74 (0.33, 1.62) | 0.45 | 0.78 (0.32, 1.88) | 0.59 |

**KEY: COR= Crude Odds Ratio; AOR=Adjusted Odds Ratios; CI=Confidence Interval.**

# CHAPTER FIVE: DISCUSSION OF FINDINGS

## 5.1 Introduction

This chapter presents discussion of the research findings. It specifically discusses the results according to the research objectives. This chapter answers research questions that were raised in the research proposal in order to address the research objectives. It focuses on discussing on the current information in relation to what has been reported in literature.

## 5.2 Demographic and Socio Characteristics of Adolescent Girls Agreeing to Early Childbearing Practices

Findings from the demographic characteristics in this study revealed that most of the respondents who agreed to early childbearing were within the ages of 10 to 15 years and it is in this age group in which if a girl happens to have a child is referred to as early child birth according to the constitution of Zambia. In addition it was reviewed that a year increase in age of adolescents increases the likelihood of early childbearing. These findings were in line with several literatures which revealed that proportions of women who become pregnant before age of 15 vary enormously within regions and countries, the rate in Rwanda was 0.3% compared to 12.2% in Mozambique (Guttmacher, 2002). A similar study was done in rural districts of Zambia by Zambia Demographic Health Survey (ZDHS), 2007 showed that, as adolescent girls increases in age, the percentage of early childbearing increases for example; at the age of 10 the percentage of a agreeing to early childbearing was at 4.9% by the time a girl reaches 15 years the percentage increased to 58.9%.

Therefore, it is of great importance that the government and key stakeholders provide health education messages on the consequences of early childbearing to these adolescent girls which may include fistulas, post-partum haemorrhage, pelvic inflammatory diseases, and abortions and in some instances death.

## 5.3 Socio –Economic Factors and Early Childbearing

This study was investigating individual factors and their association with agreeing to early childbearing among school going adolescent girls in selected rural districts. Despite the study having a large sample size, certain factors that are practically key in issues to deal with early childbearing in rural areas were not associated with early childbearing in this study. Socio-economic factors were not associated with early childbearing in selected rural districts in this

study however; a study from Tanzania revealed that there was a significant association between socio-economic factors and early childbearing. It also noted that the absence of support from parents had been the cause of teenagers to find support from outside the trusted person resulting into finding themselves in sexual activities in exchange of gifts or assistance received putting the girls at a higher risk of early childbearing (Ahikire et al, 2011). The findings on socio-economic factors were contrary to the literature that was revealed.

A further analysis of individual variables on socio economic factors which included floor material, owning a mobile phone, owning a radio, owing a television set, fridge, electricity, bicycle, plough, cart and cattle by adolescent girls were analysed and investigated for their association with agreeing to early childbearing. It was noted that owning a mobile phone by an adolescent was associated with agreeing to early childbearing.

Ownership and access to mobile phones in Zambia has changed significantly since 2006, rural households have shown an increase in ownership from 8.8% in 2006 to 32% in 2010 (Hinduja, 2010). About 51% of people aged 10 years are active users of mobile phones and 71% of individuals that own smart phones use the device to access social media applications such as Facebook and WhatsApp, (ZICTA, 2015).

Cell phone usage promotes easy communication among peers and their partners and also gives them easy access to the internet which they use without regulation, to surf explicit content motivating early sex (Berkshire District Attorney, 2010).

Literature has shown that engaging in various forms of social media is a routine activity that benefits children and adolescents by enhancing communication, social connection, and even technical skills (John D et al , 2010).

Social media sites such as Facebook and WhatsApp offer multiple daily opportunities for connecting with friends, classmates, and people with shared interests. During the last 5 years, the number of adolescents using such sites increased dramatically. Twenty two Percent of teenagers log on to their favourite social media site more than 10 times a day, and more than half of adolescents log on to a social media site more than once a day (Common sense media, 2010) 75% of teenagers now own cell phones, and 25% use them for social media, 54% use them for texting, and 24% use them for instant messaging (Hinduja et al, 2010).

A large part of this generation’s social and emotional development is occurring while on the Internet and on cell phones.

Some of the adolescents use mobile phones for sexting. Sexting can be defined as "sending, receiving, or forwarding sexually explicit messages, photographs, or images via cell phone, computer, or other digital devices." Many of these images become distributed rapidly via cell phones or the Internet (Berkshire, 2010). This phenomenon does occur among the teen population; A recent survey revealed that 20% of teens have sent or posted nude or semi-nude photographs or videos of themselves via a mobile phone (National Campaign to Prevent Teen and Unplanned Pregnancy, 2010), These predisposes adolescents into engaging in early childbearing activities.

### 5.4 Cultural Norms and Early Childbearing

Cultural norms were not associated with early agreeing to early childbearing among adolescent girls of selected rural districts although other studies have shown as association between culture and early childbearing. For example a study by Panday, 2009 revealed that in certain cultures, early childbearing is accepted and welcomed. There is a high cultural value placed on fertility, and it is believed that bearing a child is an essential part of being a woman and achieving success as women (Panday, at al, 2009). The findings on culture were contrary to the literature that was revealed in this study. This could have resulted from the fact that, data that was being analysed in this study was from a cluster randomised trial in which there was randomization of study participants. Usually during randomization there is no evidence of a difference between groups, which may have led to failure to detect a difference by the software thereby giving higher P-values in selected variables.

### 5.5 Knowledge on Sexual Reproductive Health Information on Family Planning Use by Adolescent Girls

Adolescent Sexual and Reproductive Health information is a broad term that includes knowledge on family planning services, teenage pregnancies, sexually transmitted infections, and abortions. This study was focusing on knowledge and information on family planning use by adolescent girls.

A critical barrier facing adolescents is a lack of knowledge. Girls and boys go through puberty with little understanding of the changes taking place in their bodies and even less understanding of contraception (Dixon Muellen, 2008).

Results from this study showed that the majority of adolescents 3404 (74%) had no knowledge regarding adolescent sexual and reproductive health services. This is in line with a study by Panday, 2009 who pointed out that until recently knowledge and access to reproductive health services in Southern Africa has concentrated its effort on older women, or women who are already mothers. Another study by Gouws, 2008 revealed that many adolescents believe that the use of contraceptives makes them sterile, and that plastic wrap make an effective condom. Some teenagers believe that they can't get pregnant in the first time of sexual intercourse, if they are having their period, if the male withdraws in time, and they are having sex in a standing position. It is from this vain that adolescent girls need to be abreast with correct information regarding sexual and reproductive health both in school and out of school in order to prevent early childbearing.

### 5.6 Knowledge Comparisons between Central and Southern Provinces of Zambia

A further analysis on the knowledge levels regarding sexual and reproductive health information on family planning services was done according to provinces. Southern province had a greater percentage 835(29%) regarding knowledge on adolescent sexual and reproductive health information specifically family planning use whilst central province had the least percentage and stood at 391(21%). Even though southern province showed a slight increase in knowledge, the knowledge gap between the two provinces is quite minimal and below average.

A similar study was done by the Zambia Demographic Health Survey in 2007 in which 313 (31.7%) adolescents from the Central province of Zambia had some knowledge in family planning services and 319(31%) were from the Southern province of Zambia. These findings revealed that the knowledge levels according to provinces were almost the same indicating a knowledge gap in these provinces. This is in line with the findings of this study in which all the two provinces were below average in terms of knowledge hence the need to intensify on information regarding adolescent sexual and reproductive health (family planning use) for adolescent girls.

# CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

## 6.1 Introduction

In this chapter, the conclusion will be discussed followed by recommendations, dissemination of findings and lastly but not the least limitations of the study.

## 6.2 Conclusion

In conclusion, use of a mobile phone by an adolescent girl and increase in age of an adolescent girl were related to early childbearing practices in this study, furthermore, a notable knowledge gap regarding sexual reproductive health information among adolescent girls in selected rural district was discovered in this study.

## 6.3 Recommendations

a) If possible there's need to restrict the use of mobile phones by adolescents by key stakeholders e.g. parents or guardians and ZICTA.

# REFERENCES


Abdallah B.A 2011. "Girl Child marriage and women development in Nigeria: Contemporary issues." Journal of Developmet and psychology: 14 (9) 248-259.

Acharya, D.R Bhattarai, R Poobalan A . 2011 Teijlingen V.E and Chapman. "Factors associated with teenage pregnancy in South Africa . A systematic review." Health Science Journal :12 (3) 21-28.

Adedokum G.N; Tochukwu, H.E and Adedeji, O. 2012 "Early Child marriage and early pregnancy as a risk to safe Mother report on regional conference on traditional practices affecting the health of women and children in Africa. ICA adolescent pregnancy rate in the greater Giyani Municipal, Limpopo Province :18 (16) 64-68.

Ahikire, J and Madanda, A. 2011. A survey on re entry of pregnant girls in primary and secondary schools in Uganda: 5(17) 21-26.

Akpan, E. O. 2003. Early Marriage in Eastern Nigeria and the Health Consequences of Vesico Vaginal Fistulae(VVF) among young mothers, gender and development : 30(7) 48-55.

Alhassan. E. 2015. "causes and implications on academic progression in the Talensi District of the upper east region of Ghana." Early pregnancy of junior high school girls :2 (4) 47-59.

Amin S, Selim N Waiz N.K. 2006 "Causes and consequences in sending girls to school in Bangladeshi, come quantitative evidence working paper." poverty, Gender and youth group poputation council: 81(19) 69-70

Anderson R et al. 2013. Demystifying Data: A guide to using evidence to improve young peoples sexual health and rights, New york: Guttmacher Institute..

Annie, E. "Casey Foundation Kids count data book. 2007. Baltimo attainment in Bangladesh. journal of political economy: 116 (5) 881-930.

Attoney, Berkshire District.2010. Sexting. Pittsfield, MA: Commonwealth of Crime_Awareness_%_Prevention &L2_Parents%26_youth&sid_Dber&_terminalcontent&f_parents_youth_sexting&csid_Dber.accessed. september 7.

Bayisenge .J. "A Developmental Challenge in Africa. 2012. Journal of social Psychology. Early Marriage as a barrier to girls Education : 12 (6) 23-48.

Berkshire District Attorney. 2010. "Sexting Pittfield, MA: Commonwealth of Crime _Awareness_%26_prevention?&L2_Parents%26_Youth&sid_Dber&b_terminalcontent&f_parents_youth_sexting_csid_Dber."

Blum Robert . 2004. "Risk and protective factors affecting adolescent sexual and reproductive health in developing countries: ." an anlysis of adolescent sexual and reproductive health literature from and around the world:17(44) 102-111.

Bouza L.C.S Cader S.A , and Leao L. 2014. "Pregnancy in adolescence: A systematic review of the impact of maternal age on clinical , obstetric and neonatal complications in the first phase of adolescence. adolescence and health journal, 11(3): 7-21."

Central Statistical Office (CSO) [Zambia], Ministry of Health (MOH) [Zambia], ICF International. Zambia Demographic and Health Survey 2013-14. Rockville, Maryland, USA: Central Statistical Office, Ministry of Health, and ICF International; 2014.

Central Statistical Office (CSO) [Zambia], Ministry of Health (MOH) [Zambia], ICF International. Zambia Demographic and Health Survey 2009. Rockville, Maryland, USA: Central Statistical Office, Ministry of Health, and ICF International; 2009a.

Child frontiers. 2015 "Quantitative study of child marriages in six districts of Zambia." (2015).

Clark, S. 2004. "Early Marriage and HIV Rsiks in Sub-saharan Africa, Studies in family planning." (2004): 35 (3) 149-160.

Common sense media 2010. "Is technology Networking Changing Childhood?" A National poll san francisco. CA available at www.commonsensemedia.org/sites/default/files/CSM_teen_social_media_080609_final PDF .

Dasgupta A. 2011. Sex Education and teenage pregnancy. Only my health editorial journal : 10(13) 11-15.

Dixon Muellen, R. 2008. "How young is too young? studies in family planning,." 39.(4 ): 247-62.

Duflo E. 2011."Women's empowerment and economic development." Cambridge: National Bureau of Economic Reasearch.

Du Plessis G. 2003 "HIV and fertility in South Africa: Some theoretical and methodological consideration." Human Science Research Council Press : 5(11) 22-29

Everaerd W Hindle C Bot and A and Vander Werff B.M.1993 "Development in Adolescence: Psychology, social and biological aspects: Nijhoff Publishers."

Field E and A Ambrus. 2008. "Early Marriage, Age of Menarche and female Schooling."

Fishbein and Ajzen I. 1980. "Understanding attitudes and predicting social behaviour. Englewood Cliffs, NJ: Prentice Hall." (1980).

Gangadharan, L and Maitra P. 2001. "Two Aspect of fertility Behaviour in South Africa: Economic Development and Cultural Change." The University of Chicago Press : 50 (1) 183-199.

Geronimus A and S Korenman. 1993."The Socio economic costs of teenage childbearing: Evidence and Interpretation. Demography: 30 (2) 281- 290.

Gillian Mann, Padraig Quigley and Rosal Fischer. 2015 "Quantitative study of Child marriages in six districts of Zambia. Child frontiers for UNICEF, Sheung wan, hong kong."

Gong W Li Z and Stump. R. 2007. "Global internet use and access: cultural considerations." Asia Pacific Journal of Marketing and Logistics : 30 (2) 281 - 290.

Gouws E.Kruger N and Burger. 2008. "The adolescent Johannesburg: Heinmann Publishers (Pty) Ltd: Johannesburg."

Groat H.T Giordano, P.C Cernkovich, S.A Pugh, M.D and Swinford S.P. 1997"Attitudes towards toward childbearing among young parents." Journal of Marriage and family : 59 (3) 568-581.

Guttmacher 2002. centre for population research inovation and dissemination:14 (28) 8-13.

Gwido V and Fekadu M. A. 2015. "Factors contributing to and effects of teenage pregnancy in Juba, Juba college of nurisng and midwifery. South Sudan."

Hamilton, Brady E., et al. 2012. Hyattsville, MD. "Births: Preliminary data for 2011. National Vital Statistics Reports." National Centre for Health Statistics. 61 (5) 55-13.

Hinduja S, Patchin ,J. 2010"Offline consequences of online victimization." school violence and deliquency :3 (8) 89-112.

Hoffman , Saul D and Rebecca A. Maynard. 2008. "Kids Having Kids. Economic costs & social consequences of teen pregnancy." 2nd edition . Washington D.C : The Urban Institute Press.

Hoffman Saul D. "By the numbers. 2006. The Public costs of teen childbearing. Washington D.C." National Campaign to prevent teen and unplanned pregnancy.

http://www.worldbank.org/html/extdr/hnp/population/ynglives/ynglives.htm:accessed on 23rd june, 2015.

Hughes J and McCauley AP. 2001. "Improving the fit: Adolescents' needs and future programs for sexual and reproductive health in developing countries. Studies in family planning .29, 233-245."

International Center for Research on Women and Plan (ICRW). 2013. "Summary of research in Bangladesh, India and Nepal. New Delhi: Plan Asia Regional Office." Asia Child Marriage Initiative.

John D and Catherine T MacArthur.2010. "Foundation Reports on Digital Media and Learning: Summary of findings from the digital youth project." available at http://digital youth. ischool.berkeley.edu/files/report/digitalyouth-Twopages summary.pdf. Accessed July 16, 2010 (2008).

Judith Bruce and Erica Chong. 2012. "The Diverse Universe of Adolescents and the gilrs and boys left behind: A note on research, program and policy priorities."background paper to the UN Millennium Project Public choices, Private Decisions:." Sexual and Reproductive Heath and Millenium Development Goals.

Juvenalis, Babilas Mauna. 2015. "Factors contributing to high prevalence of teenage pregnancy in Lindi Municipal , Tanzania."

Kafue Child Development Agency (KCDA) . "2012-2016 Strategic Plan Kafue." (2014).

Kafue District Health Management Board. 2010."Medical Statistics Annual Report . Lusaka Government Printers."

Kesterton A.J and M.C de Mello. 2010."Generating demand and community support for sexual and reproductive health services for young people." a review of the literature and programs. Reproductive Health 25 (20): 1-12.

"Generating demand and community support for sexual and reproductive health services for young people. 2010:." A review of the literature and programs. Reproductive Health : 7 (25) : 1- 12.

Khanna T., R Verma and E. Weiss. 2013. "Child Marriage in South Asia: Realities and Responses."

Klepinger H. 2012. "The effect of teenage pregnancy on society." eHow. Demand Media.

Kotchick, B.,A Shaffer, A and Forehand, R.2001 "Adolescent sexual risk behaviour: A multi-system perspective." Clinical Psychology Review: 21 (4) 493 -519.

LeFebvre, J., Quiroga, R and Murphy,. E.2004. "Future options foreclosed: Girls who marry early." Drawn in part from the UNICEF report, Early Marriage, Child Spouses.

Likwa N.R. "Fertility child survival and cultural practices in Zambia. 1996." A case study of Bemba and Lozi societies, PHD thesis pp 186-192.

Lloyd ,C.B and Mensch, B.S. 2006. "Marriage and child birth as factors in School Exit: An Analysis of DHS Data from Sub-saharam Africa." " Population Council 219.

Macleod., C. 1999. "Teenage pregnancy and its negative consequences: review of south African research. Part 1." South African journal of psychology :29(1)99-100

Madhavan S and K Thomas. 2005 "childbearing schooling." New evidence from south Africa "a comparative review": 49 (20) 15-49.

Manzini N. 2001 "Sexual initiation and childbearing among adolescent girls in KwaZulu Natal, South Africa." Reproductive Health Matters : 49 (4) 452 -467.

Masanyiwa Z.S Namwata B.M., Mbeba. 2011."Self help groups and access to sexual and reproductive health services and rights among youths in Mtwara and Lindi districts in Tazania.

Maseko V. 2010 . "Experiences of pregnant learners." implications for interventions university of witwatersrand. department of psychology.

Maticka - Tyndale ,E and J.P Barnet. 2010. "Peer - led interventions to reduce HIV risk of youth: a review, evaluation and program planning : 33 (2) 98 - 112.

Merwe, Dlamini L. S and Vander. 2002. "The development of the teenager in relation to the problems of the teenage mother in Swazilannd." African Journal of Nursing and Midwifery: 4 (2) 51-55.

Mkhwanazi N. 2010. "Understanding teenage pregnancy in a post apartheid South African township, culture, health and sexuality." An International Journal for Research , Intervention and Care): 12 (4) 347 -358.

Moore, K and Waite, L.J. 1977. "Early childbearing and Educational attainment ." Family Planning Perspectives: 9 (5) 220 - 225.

Mushwana .,L. Monareng L., Richter., S.,& Muller, H. 2015"Factors influencing the increase in teenage pregnancies and childbearing."

Nangoma N. 2013 "Final advocacy research report for the Zambian youth health project report. Plan international."

National Campaign to Prevent Teenage Pregnancy. 2014."Fast fact: Teen pregnancy and childbearing among non - hispanic black teens."

Nour N. W . "" Review of Obstetric Gynaecology. 2009 Child marriage: A silent Health and Human Rights Issue: 57(44) 51 -56.

Nour N.M . "Health Consequences of child marriage in Africa. 2006. Emerging infectious Disease.": 12 (11) 1644 -1649.

Nsemukila B et al . 1998 "A study of factors associated with matenal mortality in Zambia." MoH, Lusaka : 83 (11)19 - 42.

Ogunlesi T.A, Ayeni, V.A, Jagun, E.O and Ogunfowora. 2013."Socio-Clinical factors related to the perinatal outcome of teenage pregnancies in a Nigerian teaching hodpital." Nigerian Journal of paediatrics : 59(13): 290 - 294.

Panday . S. 2009 ."Teenage pregnancy in South Africa with specific focus on school going learners. child, youth, family and social development, Human sciences Research Council. Pretoria : Department of Basic education: 34 (21) 71-77.

Phipps, Manzini G and Sowers M. 2008. "Defining Early Childbearing." American Journal of Public Health : 92 (1) 125 - 128.

National Campaign to prevent teen and un planned. 2010. "sex and Tech: Results from a survey of teens and young adults. washington D.C." National Campaign to prevent teen pregnancy.

Rexburg M. 2007."Iam a Shame" A quantitaitive study of the prevelence of teenage pregnancy, Malmo University Zambia."

SAFAIDS. 2011 "Position paper on addressing adolescent pregnancy challenges in Africa in an error of HIV/AIDS ": www.safaids.net/.../adolescence (accessed on the 30th of september,2011).

Sandøy, I. F. et al. 2016. Effectiveness of a girls' empowerment programme on early childbearingmarriage and school dropout among adolescent girls in rural Zambia: study protocol for the cluster randomised trial. Trial 2016; 17(1):588.

Sekhri, S. and Debnath S. 2014. "International consequences of Early age marriages services focus on youth project. John Hopkins University. International Journal of Africa Nursing Sciences: 13 (2)10-18.

Singh R. "Teenage pregnancy: 2005. Young mothers in grade twelve, unpublished theis. University of Natal Durban - Westville.56 (41) 112

Solotaroff, J. L and R.P Pande. 2014."Violence against women and girls: Lesson from South Asia. Washington , D.C : World Bank."

Tanzanian Demographic Health Survey. (2012).

Tembo R Matenga, CR. 2008. "Extent and impact of child marriages in four districts of Zambia: Plan International.

UNFPA, (2015). Zambia update-country page list. (online), available at: http://countryoffice.unfpa.org/zambia/drive/UNFPAZambiaNewsletter_JantoMar2013.pdf . (accessed on 28.11.2013). United States Conference of the Catholic Bishops (USCCB), 2013. (online). An introduction to Natural Family Planning. Available at; http://old.usccb.org/prolife/issues/nfp/intronfp.shtml. (accessed on 06.12.2013).

UNICEF . 2011. "A glimpse into the world of teenage pregnancy in Sierra Leone. United Nations Children Fund, Freetown: Sierra Leone."

UNICEF. 2001."Early Marriage: Child Spouses, Innicent Digest No. 7 Florence Research Center.".

United Nation Development Program. 2016. "State of the worlds children: children with disabilities , New York." "full pdf retrieved in december wensday, 2016 from UNPD." http:// www.umdp.org/content/undp/en/home/mdgonereview.html (2013).

United Nations Population Fund. 2007."Making Reproductive rights and sexual and reproductive health a reality for all: Reproductive rights and sexual reproductive health framework. UNFPA, New York..

USAID. 2013."Youth reproductive health survey report: Ghana Social Marketing Vogelstein, R Ending Child Marriage." How Elevating the status of girls advances U.S Foreign policy objectives. New York: Council on Foreign Relations.

World Bank. 2012. Maternal mortality ratio. (online). Available at: http://www.tradingeconomics.com/zambia/maternal-mortality-ratio; (accessed on 14.12.2013).

World Health Organization. 2007. Child marriages country profile elinquency. J Sch violence: 6(3) 89-112.

World Health Organisation. 2017."Adolescent development. available from http://www.who.int/maternal_child_adolescent/topic/adolescence/dev/en."

Zambia Central Statistical Office. 2014. Zambia Ministry of Health, and ICF International. Zambia Demographic and Health Survey 2013-14. Rockville, Maryland, USA: Central Statistical Office, Ministry of Health, and ICF International.

Zambia Central Statistical OZ. Zambia Demographic and Health Survey 2007. 2009, Central Statistical Office/Zambia and Macro International: Calverton, Maryland, USA

Zambia Information and Communication Technology Authority (ZICTA). (2015).

## APPENDIX 1: QUESTIONAIRE

**CISMAC BASELINE SURVEY QUESTIONNAIRE 2016**

Enquiries: Dr. Patrick Musonda
Mobile Number 0963256318

**Instructions for interviewer/supervisors:**

i. This interview will be conducted immediately after the Case record form has been filled in
ii. Inform the participant that this is not a test and that there are no right or wrong answers. Ask the participant to be honest in her answers, and not to give answers that she thinks we want. We need to know what young people really think to develop the best programmes to empower girls.
iii. Do not read response options to the respondent unless the question tells you to do so.

- Study ID number
- Date of data collection *(should ideally be entered automatically)*
- *Name of District and school should be shown automatically when ID number is entered*

Any information you give me during this interview will be kept confidential, and your name will not be recorded together with this information. So please be honest when you respond.

**SECTION A: DEMOGRAPHIC DATA**

1. How many persons living in your household* are below 18 years?

**A household is a group of people who live together and have meals together and they have one person they identify as head. Persons who are temporarily away, such as at boarding school, should also be counted.*

2. How many persons living in your household are 18 years or above?

3. Are any of your biological parents living with you?
   - ☐ Yes, mother
   - ☐ Yes, father
   - ☐ No

4. Is your biological mother alive? *(skip if living with biological mother)*
   - ☐ Yes
   - ☐ No

5. Is your biological father alive? *(skip if living with biological father)*
   - ☐ Yes
   - ☐ No

6. What is the main material of the floor in your house?
    - ❑ Natural floor (earth, sand, dung)
    - ❑ Rudimentary floor (wood planks, bamboo)
    - ❑ Finished floor (parquet or polished wood, vinyl, ceramic tiles, concrete cement, carpet)

7. What is the main material of the roof of your house?
    - ❑ Natural roofing (no roof, thatch, palm leaf)
    - ❑ Rudimentary roofing (rustic mat, palm/bamboo, wood planks, cardboard)
    - ❑ Finished roofing (metal/iron sheets, wood, calamine/cement fibre/asbestos, ceramic tiles, cement roofing shingles, mud tiles)

8. Do you have any of the following in your home?

a) Mobile phone

❑ *Yes*

❑ *No*

b) Radio

❑ *Yes*

❑ *No*

c) Television

❑ *Yes*

❑ *No*

d) Solar electricity

❑ *Yes*

❑ *No*

e) Bicycle

❑ *Yes*

❑ *No*

f) Plough

❑ *Yes*

❑ *No*

g) Animal-drawn cart

❑ *Yes*

❑ *No*

*h) Cattle*

❑ *Yes*
❑ *No*

*If no to 8h, skip q9*

9. How many cattle does your household have? ___

*10.* Does any member of your household own# any agricultural land?

❑ *Yes*
❑ *No*

#Includes customary land

11. How many meals, excluding snacks, do you normally have in a day? __

12. In the last one week, did you or any member of your household have to go to bed hungry because you didn't have enough food to eat?

❑ *Yes*
❑ *No*

13. Last week, did you use
    a. Lotion

❑ *Yes*
❑ *No*

    b. Soap

❑ *Yes*
❑ *No*

    c. Make-up

❑ *Yes*
❑ *No*

*If not to 13 a-c, skip q 14*

14. If you used any of the items above, who paid for this?
    a. Your father
    b. Your mother

c. Someone else in the family
d. Your boyfriend
e. Yourself
f. Other, specify _____

15. Who do you ask if you need money?
    a. Your father
    b. Your mother
    c. Someone else in the family
    d. Your boyfriend
    e. Yourself
    f. Other, specify _____

16. If there is a need to provide a clarification, please add it here:

**SECTION B: EDUCATION BACKGROUND/DATA**

17. How old were you when you first enrolled in grade 1? __ years

18. Have you repeated any grade?

    ❑ *Yes*
    ❑ *No*

19. What kind of transport did you use to come to school today? *If did not attend school today, ask about the last time she attended school.*
    a. Walk
    b. Cycle
    c. Bus
    d. Motorcycle
    e. Car
    f. Other. Specify_____

20. How long did it take you to get to school from your home today (in minutes)? *If did not attend school today, ask about the last time she attended school.*

    …….

21. Are you a boarder?

    ❑ Yes

    ❑ No *(If No, skip the next two questions )*

22. What type of a boarder are you?

- ❑ Weekly
- ❑ Monthly
- ❑ Termly

23. Is there an adult supervising the boarding facility?
    - ❑ Yes
    - ❑ No
24. How far do you expect that you will go in your education?
    - ❑ Complete grade 7
    - ❑ Complete grade 9
    - ❑ Complete grade 12
    - ❑ Go to college or university
    - ❑ Don't know

25. If you had enough money to pay school fees and could choose freely, how far would you wish to go in your education?
    - ❑ Complete grade 7
    - ❑ Complete grade 9
    - ❑ Complete grade 12
    - ❑ Go to college or university
    - ❑ Don't know

**We would like to know whether you agree or disagree with the following statements about education on a scale from 1 to 5 where 1 means that you agree very much, 1, and 5 means that you disagree very much.**

26. My mother thinks that it is important for me to continue to grade 8.
    - ❑ *1 Strongly agree*
    - ❑ *2 Agree*
    - ❑ *3 Neither agree or disagree*
    - ❑ *4 Disagree*
    - ❑ *5 Strongly disagree*
    - ❑ *Does not have a mother*

27. My father thinks that it is important for me to continue to grade 8.
    - ❑ *1 Strongly agree*
    - ❑ *2 Agree*
    - ❑ *3 Neither agree or disagree*

- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*
- ❑ *Does not have a father*

28. If I complete grade 9, I will significantly increase my future income.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

29. If I complete grade 9, I will benefit even if it doesn't increase my future income.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

**SECTION C: KNOWLEDGE, BELIEFS AND NORMS TO PREGNANCY, MARRIAGE, CONTRACEPTIVES AND STIs**

**Below are some statements on pregnancy, family planning and sexually transmitted infections. Are these statements correct or not correct in your opinion?**

## Knowledge

30. If a girl is using the pill or injection, there is no need to use a condom when having sex

- ❑ *Yes/Correct*
- ❑ *No/Not correct*
- ❑ *I don't know*

31. Young girls who use contraceptive pills or injections are at risk of becoming infertile.

- ❑ *Yes/Correct*
- ❑ *No/Not correct*
- ❑ *I don't know*

32. A girl can get pregnant if she has unprotected sex with a boy three days after the end of her menstrual period.

❑ *Yes/Correct*
❑ *No/Not correct*
❑ *I don't know*

33. When a girl uses contraceptive pills or the injection for family planning, this protects her against sexually transmitted infections (STI).

❑ *Yes/Correct*
❑ *No/Not correct*
❑ *I don't know*

## Beliefs and norms

**We would like to know whether you agree or disagree with the following statements about education on a scale from 1 to 5 where 1 means that you agree very much, 1, and 5 means that you disagree very much.**

34. In my school, most learners my age have had sexual intercourse.

❑ *1 Strongly agree*
❑ *2 Agree*
❑ *3 Neither agree or disagree*
❑ *4 Disagree*
❑ *5 Strongly disagree*

35. In my school, most learners do not use a condom if they have sexual intercourse.

❑ *1 Strongly agree*
❑ *2 Agree*
❑ *3 Neither agree or disagree*
❑ *4 Disagree*
❑ *5 Strongly disagree*

36. If I become a mother before my 18$^{th}$ birthday, adults will treat me with more respect.

❑ *1 Strongly agree*
❑ *2 Agree*
❑ *3 Neither agree or disagree*
❑ *4 Disagree*
❑ *5 Strongly disagree*

37. If I become a mother before my 18th birthday, I will become a significant economic burden to my family.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

38. Overall it will be better for me if I have a child before I am 18 than to wait until later.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

39. My mother would strongly disapprove if I became pregnant now.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*
- ❑ *Does not have a mother*

40. My father would strongly disapprove if I became pregnant now.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*
- ❑ *Does not have a father*

41. My neighbours would strongly disapprove if I became pregnant now.

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

42. My mother would like me to get married within the next 3 years

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*
- ❑ *Does not have a mother*

43. My father would like me to get married within the next 3 years

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*
- ❑ *Does not have a father*

44. My neighbours would approve if I get married within the next 3 years

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree or disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

**SECTION D: MARITAL STATUS**
**I now have some questions about your marital status**

45. Are you married?

- ❑ *Yes*
- ❑ *No*

*Skip q48 and 49 if said yes to q45.*

46. If yes, how old were you when you first started living with your husband? ……. Years

47. *If no to q45*:At what age do you want to get married?

48. Have you ever had a boyfriend?

❑ *Yes*
❑ *No*

49. Do you currently have a boyfriend?

❑ *Yes*
❑ *No*

**Now we will ask you some questions about your behaviour. Please answer honestly. Remember that no one at your school or home will know your answers.**

50. Have you ever given birth?

❑ Yes
❑ No

*If no to q50, skip to 53.*

51. If yes, on which date and in which year did you give birth? ____

52. How many children have you given birth to in total in your life (include both those who are alive and those who have died)?

……

*If yes to q50, skip q53*

53. Have you ever been pregnant?

❑ *Yes*
❑ *No*

54. Are you currently pregnant?

❑ *Yes*
❑ *No*
❑ *I don't know*

55. If yes, how old were you when you first became pregnant? ……. years
56. Have you ever used a contraceptive method, e.g. condom?

❑ *Yes*
❑ *No*

*If no to q56, skip q 57*

57. The last time you used a contraceptive method, where did you get it?
    a. Government hospital
    b. Government health center/post
    c. Mobile clinic .
    d. Community-based distributor
    e. Private hospital/clinic
    f. Pharmacy
    g. Mission hospital/clinic
    h. Shop.
    i. Friends/relatives

**Please tell us your views about the following statements <u>even if you have never tried to obtain a condom or other contraceptive.</u>**

58. If you needed a contraceptive, e.g. a condom, how easy or difficult would it be for you to obtain one on a scale from 1 to 5 where 1 is very easy and 5 is very difficult?

- ❑ *1 Very easy*
- ❑ *2 Easy*
- ❑ *3 Neither easy or difficult*
- ❑ *4 Difficult*
- ❑ *5 Very difficult*

59. I would be able to go to a clinic to fetch condoms

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree nor disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

60. I would be able to go to a pharmacy or a shop to buy condoms

- ❑ *1 Strongly agree*
- ❑ *2 Agree*
- ❑ *3 Neither agree nor disagree*
- ❑ *4 Disagree*
- ❑ *5 Strongly disagree*

Thank you very much for answering my questions. Let me mention again that all the information you have given me will be kept confidential, and your name will not be recorded together with this information. Thank you very much for participating in this interview and this study.

**APPENDIX 2**

**THE UNIVERSITY OF ZAMBIA**

**BIOMEDICAL RESEARCH ETHICS COMMITTEE**

**Telephone: 260-1-256067**
**Telegrams: UNZA, LUSAKA**
**Telex: UNZALU ZA 44370**
Fax: + 260-1-250753
E-mail: unzarec@unza.zm
**Assurance No. FWA00000338**
**IRB00001131 of IORG0000774**

**Ridgeway Campus**
**P.O. Box 50110**
**Lusaka, Zambia**

28th September, 2017.

Your Ref: 025-06-17.

Ms. Priscilla Nkonde,
University of Zambia,
School of Public Health,
P.O Box 50110,
**Lusaka.**

Dear Ms. Nkonde,

**RE: RESUBMITTED RESEARCH PROPOSAL: "FACTORS ASSOCIATED WITH EARLY CHILD BEARING AMONG ADOLSECENT GIRLS IN SELECTED RURAL DISTRICTS OF ZAMBIA" (REF. No.025-06-17)**

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 25th September, 2017. The proposal is approved.

**CONDITIONS:**

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
- Any serious adverse events must be reported at once to this Committee.
- Please note that when your approval expires you may need to request for renewal. The request should be accompanied by a Progress Report (Progress Report Forms can be obtained from the Secretariat).
- Where appropriate apply in writing to National Health Research Authority for permission before you embark on the study.
- **Ensure that a final copy of the results is submitted to this Committee.**

Yours sincerely,

Dr. S. H Nzala PhD
**VICE-CHAIRPERSON**

**Date of approval**: 28th September, 2017. **Date of expiry**: 27th September, 2018.