

**Socio-economic and demographic determinants of  
adolescent fertility in Zambia**

**By**

**NAMAKANDO SIMAMUNA**

**A dissertation submitted to the University of Zambia in partial  
fulfilment of the requirements for the award of the degree of  
Master of Arts in Population Studies (MA Population Studies).**

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## DECLARATION

I, Namakando Simamuna hereby declare that this dissertation represents my work and has not previously been submitted for a degree at this University or any other university; and does not incorporate any published work or material from another dissertation.

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## APPROVAL

The dissertation of **Namakando Simamuna** is approved as fulfilling part of the requirements for the award of the degree of **Master of Arts in Population Studies** by the University of Zambia.

**Signed:**

**Date:**

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## ACRONYMS

CPR	Contraceptive Prevalence Rate
CSE	Comprehensive Sexuality Education
FGD	Focused Group Discussion
HIV and AIDS	Human Immunodeficiency Syndrome/ Acquired Immune Deficiency Syndrome
ICPD	International Conference on Population and Development
LARC	Long Acting Reversible Contraceptives
MoGE	Ministry of General Education
NGO	Non-Governmental Organisation
SDGs	Sustainable Development Goals
SRH	Sexual and Reproductive Health
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organisation
ZDHS	Zambia Demographic and Health Survey

## ABSTRACT

Adolescents in Zambia face complex and significant challenges in addressing their sexual and reproductive health (SRH) needs and this is evident in the rise in adolescent pregnancies. According to the Ministry of Education, Science, Vocational Training and Early Education bulletins of 2012, 2012 and 2014; 14 773, 15 707 and over 16 000 girls dropped out of school due to teenage pregnancy respectively. The implications of adolescent fertility include fistula, unsafe abortions, school drop outs and a huge health cost burden on the nation.

The aim of the study was to investigate the factors that influence adolescent fertility in Zambia, guided by the following objectives; examining the relationship between social, economic and demographic factors and adolescent fertility in Zambia; establishing whether or not service provider attitude is a barrier to access to contraceptive services by adolescents; identifying and analysing the explanatory variables of adolescent fertility in Zambia; and examining the differences between determinants of adolescent fertility for married and unmarried adolescents.

This research employed a cross sectional study design using the 2013/2014 Zambia Demographic and Health Survey to examine social, economic and demographic determinants of adolescent fertility. The study population consisted of married and unmarried female adolescents aged 15-19 years in Zambia who had or had no birth(s) in the five years preceding the survey. Qualitative data was collected through focused group discussions at youth friendly health corners, in Government health facilities. Data was analysed using the Statistical Package for Social Sciences Software (SPSS). The multi variable regression analysis was employed. Statistical tests specifically descriptive, multivariate and bivariate correlations analysis were performed in order to analyse the relationships between or among variables. Qualitative data was transcribed and then manually analysed using themes.

Study findings through the quantitative analysis revealed that older adolescents were 4 times more likely to experience adolescent fertility than younger adolescents. The odds of having adolescent childbearing were 1.4 times higher among adolescents living in rural areas compared to adolescents living in urban areas. When taking all factors into consideration, socio-economic and proximate variables downplay socio-demographic variables. The influence of proximate variables marriage and contraceptive use on adolescent fertility is very significant.

The low contraceptive use revealed in the quantitative analysis is explained in the qualitative analysis by the negative service provider attitude and lack of service provider training to deliver comprehensive youth friendly sexual and reproductive health services. The health providers interviewed in the study attributed the escalating teenage pregnancies to teenagers shunning contraception services in fear of being seen by parents, guardians and friends. This view is consistent with that of the adolescents, for not visiting the health facilities to access contraceptives.

The study shows that there is a need to scale up operationalisation of youth friendly health corners in government health centres and capacity building to health service providers to provide youth friendly health services; and scaling up of Comprehensive Sexuality Education for both in and out of school adolescents because early initiation of sexual intercourse in the absence of comprehensive information and services exposes adolescents to risk of childbearing and sexually transmitted diseases.

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## **CHAPTER ONE: BACKGROUND**

### **1.1 Introduction**

This chapter presents the background information on the problem of teenage pregnancies, the statement of the problem, research objectives, research question, the significance of study and definitions of terms.

Teenage pregnancy is more common in developing countries than developed countries and it is also associated with numerous social issues; poverty, low education levels, and the lack of awareness about sex and pregnancy prevention. It is of concern because it has well known negative health consequences for both mothers and children. For example, according to the U.S. Bureau of the Census (1996), teenage mothers are at greater risk of maternal mortality than older women.

One of the Sustainable Development Goals, goal number 3 is to; ensure healthy lives and promote wellbeing for all and at all ages. One of the targets for this is to ensure universal access to sexual and reproductive health-care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes by 2030. The Seventh National Development Plan (7NDP, 2017-2021) which is the country's blue-print for development has expanding capacity to increase quality of health care as one of its strategies for enhancing human development. It also states that among the reasons for high fertility rates in the past were low employment levels, low literacy rates among females and low access to reproductive health services, especially in rural areas. This was despite an increase in the contraceptive prevalence rate from 15 per cent in 1992 to 49 per cent in 2013-14 and unmet needs for family planning of 21 per cent in 2013-14.

According to the Zambia National Health Policy (NHP, 2012), the health of individuals and communities is, to a large extent, determined by the environments and circumstances in which they live and operate. These include the social and economic environment, the physical environment, and the person's individual characteristics, behavior and circumstances.

Adolescent child-bearing is reported globally as a problem. It is estimated that 14-15 million women in the ages of 15-19 years give birth every year, and for adolescent girls, pregnancy related problems are the leading cause of death. In 2008, there were 16 million births by adolescents aged between 15-19 years; this accounts for 11 per cent of all births worldwide. Notably, about 95 per cent of these births occurred in low- and middle-income countries (WHO, 2000). Alarming, in sub-Saharan Africa, the

average birth rate is at 143 per 1000; this is one of the highest compared to other parts of the world. A report from the National Research Council on adolescent child-bearing shows an increase in child-bearing among unmarried female adolescents in sub-Saharan Africa which raises religious and cultural concerns (Bledsoe, 1993). Early child-bearing shapes the mother and her child's opportunities.

The Government of the Republic of Zambia and its cooperating partners have made efforts to realise better health outcomes among adolescents. the attainment of Universal Health Coverage (UHC) is pivotal to this realisation and the efforts employed include; The introduction of the Ministry of Education re-entry policy, introduction of youth friendly spaces in health facilities and integration of Comprehensive Sexuality Education (CSE) into the curriculum. However, evidence is limited on what CSE and wider Sexual and Reproductive Health and Rights (SRHR) provision (information and access to services) is available to young people, adolescents and young people still face age-related barriers to accessing services and access to sexual and reproductive health information and services continues to be a problem amongst young people as seen by the alarming numbers of teenage pregnancies Ministry of Education (2015)

In Africa, teenage child-bearing usually brings a sudden halt to young women's formal education and few girls find ways to continue education after giving birth, but the majority do not (Bledsoe, 1993). Furthermore, in sub-Saharan Africa, the most central problems facing young people relate to sexuality and reproduction. The combination of poverty and conflict further compound the situation.

## **1.2 Statement of The Problem**

Adolescents in Zambia face complex and significant challenges in addressing their sexual and reproductive health (SRH) needs, and this is evident in the adolescent pregnancies which have been a growing concern in the past few years. It has been a major cause for school drop-outs of young pregnant girls in order to avoid social stigma. To continue attending school, girls in Zambia have to resort to induced abortions, which can often be accompanied by devastating consequences (Warenius, 2006). According to the Ministry of Education, Science, Vocational Training and Early Education bulletins of 2010 and 2011, 14 773 girls (2010) and 15 707 girls (2011) dropped out of school due to pregnancies. The implications of adolescent fertility vary at different levels. Adolescents who bear children before the age of twenty usually have less educational qualifications, fewer job possibilities, lower income and more likely to live in poverty (Kiragu, 1998). Adolescents face the risk of infections,

such as anaemia and haemorrhage which are more likely to occur in adolescent pregnancies than in older women (Kiragu, 1998). As a consequence, young women are more likely to attempt abortions, most of which are unsafe. (Bledsoe, 1993), writes that most of the implications of adolescent fertility such as abortion are not only from adolescent child-bearing, but condemnation from society. All of these vulnerabilities are intensified whenever the affected adolescent and her infant are not placed on program priorities. The United Nations estimated that in Angola 200 out of 1 000 women aged between 15-19 years gave birth each year, 115 in Zambia and about 99 in Namibia (UNFPA, 2002).

There are various reproductive health challenges that young people in Zambia are facing which among them include low use of contraceptives. The Ministry of General Education (MoGE) policy does not allow distribution of condoms in lower institutions of learning. However, sexual activity which is often unprotected begins early and is associated with risks such as HIV/AIDS, pregnancies and unsafe abortion, economic hardship and school drop-outs. Girls aged between 15-19 face higher reproductive risks than older women. Premature pregnancies are the leading cause of death among young women aged between 15-19 worldwide, with complications of childbirth and unsafe abortion being the major risk factors (WHO, 2000)

Teenage mothers may be physically less mature and less able to handle the demands of pregnancy, child-birth, and subsequent child care. Furthermore, teenage mothers may lack experience and tend to be less psychologically mature and emotionally stable, leading to poorer maternal and child health care and infant feeding behaviours (Senderowitz, 1995) The young mothers also face greater risks of obstetric fistula, hemorrhage and pelvic bone immaturity increase the likelihood of cephalopelvic disproportion which is associated with a higher incidence of premature birth, prolonged labour, and otherwise difficult childbirth (UNICEF, 2001)

The problem of teenage pregnancies is compounded by lack of clear government policies on teenage reproductive health in many countries in the region. This creates uncertainty and hinders provision of information and services. In order to develop measures that prevent teenage pregnancy, it is important to understand factors that contribute to it and its consequences. It is therefore evident that more studies to identify determinants of adolescent child-bearing are needed to inform policy and programme implementing interventions, therefore, this study will examine how factors in terms of socio-demographic and socio-economic influence teenage pregnancy in Zambia using evidence from the

Zambia Demographic and Health Survey (2017) (ZDHS) data as it represents teenagers at the national level and qualitative data collected through focused group discussions and in-depth interviews.

### 1.3 Research Objectives

1.3.1 **General Objective:** To examine the relationship between socio-economic and demographic factors and adolescent fertility in Zambia.

#### 1.3.2 Specific Objectives

- i. To establish the level of adolescent fertility in Zambia.
- ii. To determine the socio-economic and demographic factors associated with adolescent fertility in Zambia.
- iii. To document how adolescents' service uptake for Sexual and Reproductive Health services is influenced by provider's attitude.

### 1.4 Research Question

Is there an association between socio-economic and demographic factors and adolescent fertility in Zambia?

### 1.5 Significance of The Study

The Zambia Sexual and Reproductive Health Policy and the National Population Policy provide for provision of contraceptives to all sexually active men and women. However, this service is not easily available to adolescents (Warenius, 2006). Hence, this leaves female adolescents with periodic abstinence. Therefore, given this limited access to modern contraceptives, adolescents resort to unprotected sex that exposes them to unwanted pregnancies, HIV/AIDS and STIs. The need to reduce teenage pregnancy is necessary because it is associated with poor socio-demographic outcomes such as high fertility, high mortality and teenage motherhood.

In Zambia, adolescent sexual and reproductive health needs are neglected. Many clinics and family planning programmes serve only married women, leaving unmarried adolescents to seek these services through informal ways or local medical practitioners. An increase in the proportion of adolescents using modern contraceptives may show an important step towards decline in fertility and this underscores the importance of this study.

In the study, socio-demographic determinants of adolescent fertility also focus on married adolescents' births because adolescent marriages remain common in many parts of the developing world, especially in sub-Saharan Africa e.g., in Northern and Southern Africa, 20 per cent of girls get married before the age of 19 years (UNICEF, 2001). In Zambia, 1 out of 4 adolescent females aged between 15-19 years is married before the age of 19 (Tawiah, 2002). Early marriage has possible dire consequences for adolescents; i.e., when an adolescent girl gets married, she is expected to start bearing children, this leads to population growth, and it usually cuts off her education and employment opportunities.

The gaps in information on adolescent sexuality and subsequent adolescent fertility will need to be filled so that the data must inform policy and programme makers and provide a basis for an effective advocacy on the matter. In addition, the study will help program planners and policy makers in schools and health care facilities in implementing the National Adolescent Health Strategy 2018-2022. This may further contribute to the promotion of gender equality and empowering of women through seeking to eliminate gender disparity in primary and secondary education and improve ratios of females to males in tertiary education.

This research will potentially contribute to the body of knowledge that aids in reducing unwanted pregnancy in adolescents. The study seeks to examine how socio-economic and demographic factors influence adolescent fertility in Zambia and provide insight on how they relate to each other. The research will identify the significant levels and patterns of social, economic and demographic factors and adolescent fertility. Furthermore, it will substantiate for the importance of the specific needs of adolescents highlighted in International Conference on Population and Development (ICPD) 1994. In addition, the study will help inform planners and policy makers in creating programs aimed at reducing adolescent childbearing.

### **1.6 Study Limitations**

The ZDHS data does not include qualitative information on perceptions and beliefs that shape certain behaviours. This study however obtained this information from focus group discussions that gave a deeper understanding of adolescent fertility.

The Zambia Demographic and Health Survey 2013 only captured adolescents aged 15-19 years only; as a result, the definition of adolescence in this study will be restricted to females aged 15-19. The qualitative study also captured perspectives from younger adolescents 10-14 years old.

## 1.7 Ethical Consideration

The study used the 2013 Zambia Demographic and Health Survey (ZDHS) dataset. Thus, anonymity is guaranteed; the names or personal information of the respondents was not disclosed. The ZDHS SPSS data set was obtained from an online site: The DHS program (<https://dhsprogram.com/data/access>) after undergoing the dataset access approval process. The condition of use of the data set is that the requested data should only be used for the purpose of the research or study.

Approval from the Humanities and Social Sciences Research Ethics Committee (HSSREC) was sought and granted and the study acquired informed consent from the respondents in the focused group discussions.

## 1.8 Definitions of Terms

**Comprehensive Sexuality Education:** Comprehensive sexuality education is “a life-long process of acquiring information and forming attitudes, beliefs and values about identity, relationships and intimacy.” (SIECUS 2004)

**Contraceptive Prevalence Rate:** the percentage of currently married women using a method of contraception (ZDHS, 2013)

**Family Planning 2020 (FP2020):** A Global partnership that supports the rights of female and girls to decide freely and for themselves whether, when and how many children they want to have. <https://www.familyplanning2020.org/about-us>

**Modern Contraceptive Method:** A product of medical procedure that interferes with reproduction from acts of sexual intercourse (Hubacher, 2015)

**Universal Health Coverage:** A care system that provides the promotive, preventive, curative rehabilitative and palliative health services its citizens need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship. [www.who.int/health\\_financing/universal\\_coverage\\_definition/en/](http://www.who.int/health_financing/universal_coverage_definition/en/)

**Unmet need:** The percentage of females who do not want to become pregnant but are not using any contraception (Bradley et al, 2012)

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter gives an overview of the determinants of adolescent fertility through the reviewing documented literature, looking at variables including contraceptive practices, cultural practices, socio-economic status, age at first sex, age at marriage, and type of place of residence. The chapter gives the trends of adolescent fertility in Zambia and further discusses the theoretical and conceptual framework.

### **2.2 Factors Associated with Adolescent Pregnancy**

Although there are different measures of adolescent fertility, including the proportion of women who have had a child by the age of 15, 18 or 20 years, this study's measure of adolescent fertility is births to adolescents before the age of 20 years; this describes current incidence of adolescent child-bearing, five years before the survey. The merit of this measure is that it describes the exact age of adolescent child-bearing Singh (1998).

In sub-Saharan Africa, adolescent child-bearing has received a lot of attention. This is due to the serious implications associated with early child-bearing. For instance, numerous studies have been published which focused on adolescent sexuality, child-bearing and HIV/AIDS Meeker (1994), while others have concentrated on pre-marital child-bearing among adolescents Mturi (2001). In addition, some studies have placed emphasis on trends, levels and factors associated with adolescent childbearing Singh (1998). A recent study in Ethiopia by Alemayehu (2010) found that the major factors associated with adolescent fertility were age, educational status, place of residence, employment, use of contraceptives and marriage. This is consistent with Bledsoe (1993) which reported similar findings.

One-third to one-half of women in the developing world become mothers before their 20<sup>th</sup> birthday. Stone (2003) cites the situation in South Asian countries as severe as there are higher proportions of teenage pregnancies in this region due to common practice of early marriage and social expectation to have a child soon after marriage. Other studies in sub-Saharan Africa investigating the effects of socio-demographic factors on teenage fertility have shown that socio-demographic characteristics of teenage girls have an association with teenage fertility.

### **2.2.1 Access to contraception**

Many adolescents are embarrassed to inquire information on contraceptives and health providers on the other hand, face a huge challenge of how to prescribe family planning services to adolescents. Jewkes (2006) undertook a qualitative study on the barriers of adolescent girls to access clinic services of contraception in Limpopo, South Africa. He used thirty-five in-depth interviews, five group discussions with girls aged 14 to 20 years and interviews with nursing staff at 14 clinics. He found out that despite contraception being free, a third of adolescent girls became pregnant before the age of 20 years. Barriers included inaccurate notions of how conception occurs, fears about the effects of contraception on fertility and menstruation which were not taken seriously by nurses. The nurses' attempts to stigmatise adolescent sexuality: with their scolding, harsh treatment and unwillingness to acknowledge adolescents' experiences as contraceptive users reduced the effective use of contraception by girls. Similarly, the Malawi Demographic Health Survey (2004) indicated that contraceptives were not commonly used among adolescents, placing most of the adolescents at risk of child-bearing. The reason(s) for not using modern contraceptives are consistent with findings from South Africa; poor quality of services, negative attitude from service providers, misconceptions, fear of side effects and stigma associated with the use of contraceptives as adolescents may be labelled as promiscuous (Soldan, 2004)

According to the US Census bureau (1996), low levels of contraceptive use among sub-saharan adolescent women is attributed to the fact that these women once married are often under social pressure to have children.

### **2.2.2 Education**

Low literacy levels can lead to unemployment, early marriage and non-use of contraceptive, thereby increasing the adolescent pregnancy and child-bearing. Education is among the factors that affect fertility. Ferre (2009) conducted a research with a topic 'The Age at First Child: Does education delay fertility timing? The Case of Kenya'. He found that adding one more year of education decreases by at least 10 percentage points the probability of giving birth when still a teenager. The probability of having one's first child before the age of 20, when having at least completed primary education, is about 65 percent; therefore this means a reduction of about 15 per cent in teenage fertility rates for this group

Education influences fertility in several ways; it changes the norms and values of couples towards the desired family size; for example educated teenage mothers prefer to have fewer children Bledsoe (1993). According to the Zambia Demographic Health Survey (2007), 49 per cent of women with secondary education and 57 per cent with more than secondary education had used contraceptives. On one hand, the survey indicates that Zambia's literacy level is high among the 15-19 year olds (73 %), but, on the other hand, there is a high prevalence of adolescent child-bearing; this indicates that there are still unmet need(s) of supply and use of contraceptives and adolescents who seek contraceptive services might still be stigmatised Warenius (2006). Education also increases the opportunity cost of women's time. Additionally, education eliminates barriers to the use of contraceptives through increasing awareness among adolescents and the willingness to adopt family planning United nations (1987). Bates (2007) also found out that more education leads to delayed pregnancy and therefore higher levels of education are associated with lower probability of becoming pregnant.

The 1996 Education Policy in Zambia indicates that the benefits of education in improving the overall quality of life multiply with increased participation of girls and women. The empowerment of a girl-child with education is particularly associated with significant reductions in infant mortality and morbidity, improvement in family nutrition and health, lowering of fertility rates, improved chances of the girl child's education and improved opportunities in both wage and non-wage-sectors MoE (1996). Were (2007) writes that in Kenya lack of access to sex education predisposes adolescent females to pregnancies.

### **2.2.3 Wealth quantile**

Wealth index is measured by the household wealth of either their parents or guardians. It affects teenage pregnancy in that poor and marginalized girls are among those more likely to become pregnant, not only after getting married very young, in some contexts in exchange for a dowry but also because they may engage in consensual or forced transactional sex to support themselves and their families (UNFPA, 2002). The inability of adolescents to meet personal and basic needs expose them to pre-marital sex in exchange for money and material gains and such factors are likely to predispose them to unwanted pregnancies and child-bearing. Furthermore, studies in Bida local government in Nigeria by Odimegwu (2002) revealed that adolescents whose parents were poor were more likely to engage in premarital sex which can lead to adolescent childbearing than adolescents whose parents were middle to high income level. According to Manlove (1998) It is visible that adolescents from lower socio-economic status are more prone to engage in early sexual activities. In a qualitative research conducted in Uganda, young

people described poverty as an impetus for having children as a source of income, labour and old age insurance Bayeza (2010), also DiCenso (2002) asserted that teenagers of poor economic status are mostly in this social problem of teenage pregnancy. The parents of these teenagers cannot afford the financial involvement for their maintenance at home or school.

#### **2.2.4 Cultural practices**

Culture plays a role in adolescent childbearing in many parts of sub-Saharan 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). The initiation ceremonies by Yao and Chewa tribes in Malawi promote early sex and early marriage. Furthermore, 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, Allan Guttmacher Institute (2005). In the absence of contraception, adolescent girls are more likely to have children. As a result, this puts adolescent girl at risk of childbearing. Similarly, in Zambia, the Chewa allow limited and discrete sexual relations among adolescents but stipulate that women should only have children when they get married (Warenius, 2006). In most parts of the Zambian culture, girls are treasured as wealth and once they become of age, parents are willing to see them off to their husbands. According to the UN population agency UNFPA (2002) in Zambia early and forced marriages are common in Luapula Province, where the prevalence of early pregnancy and under-age marriage is estimated at about 70 percent among teenage girls. In each context, it is clear how culture plays an important role in adolescent childbearing.

#### **2.2.5 Residence**

In his study, Palumuleni (2007) notes that fertility is higher for adolescents whose childhood residence from birth to the age of 12 years was in the rural areas than adolescents who dwell in the urban areas. Furthermore, studies by Bledsoe (1993) showed that fertility in sub-Saharan African countries was higher in the rural areas than in the urban areas. One's residence influences fertility in some way. Differences in fertility by urban and rural residence occur due to locational factors that affect aspirations and family sizes preferences. Region also affects teenage pregnancy in some way.

### **2.2.6 Marital Status**

Marital status is also an important determinant of teenage pregnancy. In developing countries, marriage is the predominant context for child-bearing and also marks the transition to adulthood in many societies. In two-thirds of Sub-Saharan African countries, one out of every four women aged between 15-19 is married. Hobcraft (1997) notes that, first sex is usually within marriage for Asian and North African women, whereas sexual activity before marriage is more the norm in sub-saharan African. Studies indicate that women who marry early on average have a longer exposure to the risk of pregnancy which often leads to higher fertility Pumuleni (2007). This could be attributed to the fact that married teenagers have high incidences of sexual activities compared to teenagers in the other marital status categories.

### **2.2.7 Age at first sex**

Age at first sex is an indicator of exposure to the risk of pregnancy during adolescence. In Malawi, 52 per cent of adolescent females had first intercourse at the age of 17 MDHS (2004). In Zambia, 12 percent of adolescent females aged between 15-19 had first intercourse by the age of 15. Local and global studies indicate that sexual activity is common and initiated early in adolescent years; family and peer pressure may influence the initiation of sexual intercourse.

### **2.2.8 Age at Marriage**

Age at marriage is an important factor in the life of an adolescent because it is associated coital frequency, fertility and implications of adolescent child-bearing. Cochrane (1998) points out that In sub-Saharan Africa, entry into union has generally occurred at an early age, and although union dissolution is frequent in many regions, remarriage occurs rapidly. In Zambia, 62 per cent of women are married or are in a union ZDHS (2013). Early marriage has a negative social and physical outcome for an adolescent and her infant. A study by Ahmed (2007) to find out the age at marriage and fertility patterns among 15-19 year olds married female adolescents in rural areas of Bangladesh showed that most of the respondents got married at 15 years of age. The total fertility rate for the respondents was 2.6 births; the study also found out that husband's education was significantly associated with age at marriage.

### **2.2.9 Religion**

In her research, Fathi (2003) examined the determinants of teenage pregnancy in Cameroon using the Cameroon Demographic Health Survey 1998 data set. The emphasis in her study was on the influence of Islam religion on teenage pregnancy and the main findings revealed that very early sex, early marriage and being a Moslem significantly influence teenage pregnancy in Cameroon. However, a study by Oyefara (2011) discovered that religious affiliation is not significantly associated with adolescent fertility in contemporary Yoruba society in Nigeria. Conclusively, age at first intercourse and religion did not show any association with adolescent fertility in the bi-variate analysis of the study by Nwamaka (2013) to establish factors associated with adolescent fertility in Zambia.

### **2.3 Adolescent fertility in Zambia**

Zambia has a high rate of fertility at an average rate of 6.2 in 2007 ZDHS (2007) and 5.3 in ZDHS (2013). The number of pregnancies among teenagers has been rising in Zambia over the past decade. In 1992 slightly more than one-third of Zambian mothers were teenagers. In 1996, a reduction of 3 per cent in teenage fertility was recorded. In 2001/2002 the percentage of teenage pregnancy rose by one per cent higher than 1996. This rise can probably be accredited to the introduction of the Re-entry Policy. But teenage fertility reduced further in 2007, showing that the effect of the policy was temporary and was outweighed by reproductive health interventions. Nevertheless, a rate of 28 per cent recorded in 2007 was still high. Mutombo (2010)

In 2015, the Population Council of Zambia in conjunction with UNFPA conducted a study that drew on data from the 2013–14 Zambia Demographic and Health Survey (ZDHS) and the Census (2010) to identify where adolescent pregnancy is most likely to occur in Zambia. Study findings reaffirmed that adolescent pregnancies were high in Zambia. According to the ZDHS (2013), 28 per cent of girls aged between 15–19 years have ever been pregnant or had a live birth. The rates of adolescent pregnancy are higher in rural areas, where 37 per cent report ever being pregnant or having a live birth compared with 20 per cent in urban areas. Reports by MoE (2015) on adolescent pregnancies in schools reveal that between 2007 and 2015, a total of 120 024 in-school girls became pregnant and dropped out. The majority of the girls, 103 621, were in primary school when they became pregnant as compared with 16 403 who were in secondary school.

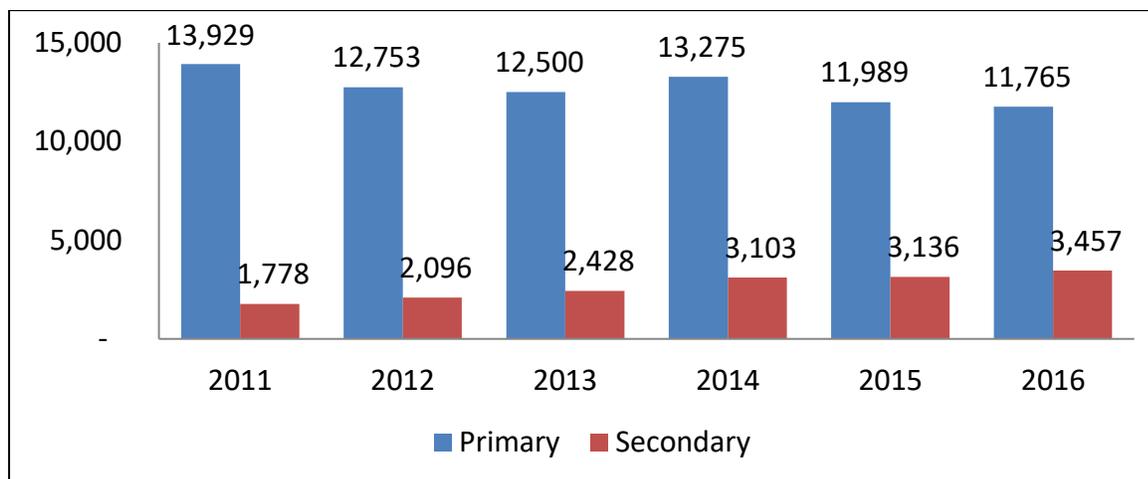


Figure 2.1 Numbers of girls discontinuing school due to pregnancy

Source: Ministry of Education Statistical bulletin, 2015

#### 2.4 Gap analysis arising from literature review

Most researches done in the previous studies involved primary data and were quantitative research. For instance, Katamoyo (2010) investigated on determinants of teenage pregnancy in Lusaka District. In his research, female teenagers (13 to 19 years old) attending clinic at centres where antenatal services are available was his study population and employed a multivariate logistics regression that showed that teenagers below 16 years were 70 per cent less likely to get pregnant compared to those above, singles were 60 per cent less likely to be pregnant compared to those who were married and lack of knowledge on condoms and shyness to access contraceptives by teenagers increased chances of pregnancy by 50 per cent. A study conducted by Banda (2015) who employed logistic regression on a number of variables associated with teenage pregnancy, showed that the use of contraceptives had a significant and strong effect on teenage pregnancy, the effect remained strong in the presence of a number of controls while type of residence had no influence on teenage pregnancy once other variables were controlled for. This study however, like many others did not gather qualitative data to compliment and explain the results. In addition, the study made a recommendation for further investigations on factors associated with contraceptive use, to ascertain the association of other variables. A recommendation for a qualitative study was made by Sungwe (2015) “Qualitative studies are needed to know more about the phenomena of teenage pregnancy from the perspective of teenagers, their parents and families and the community members”

To significantly add to the body of knowledge on adolescent fertility, this study therefore investigated which factors among those identified from previous studies are statistically significant in determining adolescent fertility by examining the levels of significance as they associate with other variables in Zambia, using evidence from the 2013 Zambia Demographic and Health Survey (ZDHS) data. This study further took into consideration the recommendations made by Banda (2015) and Sungwe (2015) to investigate on factors associated with contraceptive use among adolescents and investigate qualitatively, the teenagers' perspectives on teenage pregnancy respectively. In doing this the study contributed qualitative data to the body of knowledge, on adolescent fertility in Zambia.

## **2.5 Theoretical Framework**

Many analyses of the determinants of fertility make a distinction between proximate and background determinants. The former include behavioural factors such as the use of contraception or abortion through which the background determinants such as social and economic variables affect fertility. These relationships were first recognized by Blake (1956), who defined a large set of 'intermediate fertility variables.' In the late 1970s Bongaarts (1984) identified a smaller set of proximate determinants and developed a relatively simple model to quantify their fertility effects.

Bongaarts (Ibid) refined Davis and Blake's framework into 7 important factors, which were termed as the 'proximate determinants of fertility', in order to understand variations in level of fertility between populations. The 7 proximate determinants are: proportion of married women among all women of reproductive age, contraceptive use and effectiveness, duration of postpartum infecundability, induced abortion, prevalence of permanent sterility and spontaneous intrauterine mortality.

Out of the 7 proximate determinants of fertility, Bongaarts (Ibid) showed that 4 determinants are most important in terms of explaining variations in fertility levels of populations, these are; proportions of women married or in sexual union (as proxy of percentage of women exposed to sexual intercourse), contraceptive use and effectiveness, duration of postpartum infecundability and induced abortion. These 4 proximate determinants are of most importance both because they differ greatly between populations and because fertility is highly sensitive to changes in them.

It is assumed that the number of women of reproductive age married or living with someone determines the proportion of women in a society exposed to the risk of becoming pregnant. The greater the number

of women exposed, the higher is the resulting fertility. The use of contraception to delay or limit the number of children born clearly affects a society's fertility level.

According to this framework, the socio-demographic or background variables operate through the proximate determinants which have direct influence on fertility to affect fertility. The study is based on this theoretical framework for fertility. Figure 2.2 conceptualises the use of these variables in this study, contraceptive use and marital status will be used as proximate determinants (intermediate variables) of adolescent fertility. The dependent variable (outcome variable) is adolescent fertility.

## 2.6 Conceptual Framework

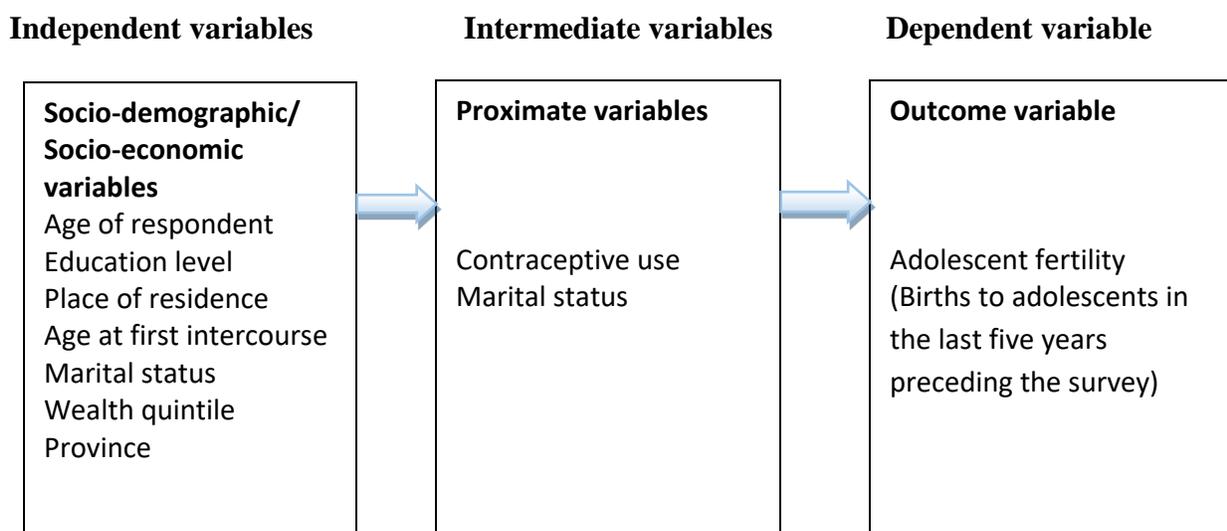


Figure 2.2 Conceptual framework of the determinants of adolescent fertility  
Adapted framework for the study of socio-demographic determinants of adolescent fertility: Bongaarts (1984)

Social demographic variables influence adolescent fertility through their effect on the proximate variables. The proximate variables then have a more direct impact on the outcome variable, adolescent fertility. Education affects fertility through knowledge and access to contraceptives; adolescents who are educated are more likely to delay marriage and child-bearing, and this reduces fertility, Bledsoe (1993). Religion has an influence on contraceptive use and marital status. For example, Catholics have negative attitude towards use of modern contraceptives, and such factors are likely to predispose adolescents to unwanted pregnancies and child-bearing. Furthermore, age at first marriage and first intercourse influence decisions about and access to contraceptives, this later influences adolescent fertility.

## **2.7 Statement of Hypothesis**

Ho: There is no association between socio-demographic and social- economic factors and adolescent fertility

Ha: There is an association between socio-demographic and social- economic factors and adolescent fertility.

The assumption will be tested at 5 per cent significance level.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

In order to achieve the objectives and research question stated above, a vigorous systematic and scientific approach was employed. This chapter discusses the study design, data source, the data analysis process, variable identification and definition.

### **3.2 Study Design**

The adopted study design was a cross-sectional study which used data collected at one point in time to examine socio-demographic determinants of adolescent fertility. This study utilised already existing data from the 2013 Zambia Demographic Health Survey. The cross-sectional study is used to gather preliminary data about the possible relationships between the dependant variable, adolescent fertility and the independent variables; to support further research which is then done through statistical tests.

### **3.3 Data Source**

The Zambia Demographic and Health Survey (ZDHS) is a nationally representative sample survey of women and men of reproductive age. The main objective is to provide information on levels and trends in fertility, childhood mortality, use of family planning methods, maternal and child health indicators including HIV/AIDS. The Demographic Health Survey applies comprehensive consistency checks and data quality methodologies that make the data of high quality. Thus, it accounts for high levels of both validity and reliability of data for analysis. This quantitative analysis was complemented by a qualitative analysis from focused group discussions and in-depth interviews.

The data from the ZDHS was collected from November 2012 to January 2013 by Central Statistical Office using standardised, structured and pre-tested questionnaires. The sample for ZDHS 2013 was a stratified sample selected in two stages from the Census of Population and Housing (CPH) 2000 frame. Stratification was achieved by separating every province into urban and rural areas. The sample is a nationally representative survey of 16 411 women aged between 15-49 and 14 773 men aged between 15-59 years. The survey is part of the Demographic and Health Surveys (DHS) programme.

Adolescents aged from 15 to 19 years were selected and all variables considered to be relevant to this study were analysed guided by the conceptual framework.

The qualitative data was obtained from focused group discussions and in-depth interviews with adolescents and service providers from public health centres with a functioning youth friendly health corner in each of the following provinces; Central Police Health Centre in Kabwe, Kabwata Clinic in Lusaka, Buchi Clinic in Kitwe, Kaonga Clinic in Mazabuka, Liyoyelo Clinic in Mongu and Sinalo Clinic in chadiza.

### 3.4 Sample Description

There were a total of 3 686 females between the ages of 15 and 19 years interviewed in the Zambia Demographic Health Survey 2013 and the variables used in this research included age of respondent, age at first marriage, education, residence, religion, marital status, contraceptive use, age at first intercourse and adolescent fertility. The study population for this analysis consists of married and unmarried female adolescents aged between 15-19 years in Zambia who had or had no birth(s) in the five years preceding the survey.

The study also employed Focused Group Discussions (FGDs) and in-depth interviews with adolescents and health providers from the following health centres and youth friendly health spaces; Central Police Health Centre in Kabwe, Kabwata Clinic in Lusaka, Buchi Clinic in Kitwe, Kaonga Clinic in Mazabuka, Liyoyelo Clinic in Mongu and Sinalo Clinic in chadiza. The qualitative analysis of this study also covers the personal views of the respondents regarding issues of teenage pregnancy to gather information on service provider attitudes and establish whether or not it is a barrier for adolescents to access contraceptives and family planning services.

**Table 3.1 Background characteristics of participants in Focused Group Discussions**

Clinic	Total number of participants	Age range	Female	Male
Central Police Clinic (Kabwe)	10	13 -17years	4	6
Kabwata Clinic (Lusaka)	14	14 -19years	7	7
Buchi Clinic (Kitwe)	12	13 -18years	5	7
Kaonga Clinic (Mazabuka)	11	12 -19years	5	6
Liyoyelo Clinic (Mongu)	12	12 -18years	6	6
Sinalo Clinic (Chadiza)	12	13 -19years	6	6

### 3.5 Data Analysis

*Objective 1: To establish the level of adolescent fertility in Zambia*

Data was exported to the Statistical Package for Social Sciences Software (SPSS). Frequency tables and cross tabulations were produced in order to inspect the distribution of the variables. This was to establish the prevalence of adolescent fertility among the study population. Results for this objective have been presented in the next chapter.

*Objective 2: To determine the socio-economic and demographic factors associated with adolescent fertility in Zambia*

The multi-variable regression analysis was employed because numerous variables were obtained for analysis from each individual studied.

Statistical tests, specifically descriptive, bivariate and multivariate correlations analysis were performed in order to analyse the relationships between/among variables. In order to perform logistic regression, a model was developed in which the dependent variable was recoded into a two-response (binary) category variable and then regressed with the independent variables. The stepwise (forward) elimination method was used in order to eliminate variables that were not significant in the model, based on the p-value. The variables were fitted on the model as follows:

*Model 1:* This model determined the odds of experiencing adolescent fertility in the different regions of Zambia when residence and age were introduced to the model.

$$\text{Logit (Adolescent fertility)} = \beta_0 + \beta_1 \text{region} + \beta_2 \text{residence} + \beta_3 \text{age}$$

*Model 2:* This model introduced socio-economic variables to model one, education and wealth quintile were identified and fitted;

$$\text{Logit (Adolescent fertility)} = \beta_0 + \beta_1 \text{region} + \beta_2 \text{residence} + \beta_3 \text{age} + \beta_4 \text{education} + \beta_5 \text{wealth quintile}$$

*Model 3:* The third model was a full regression model that included the proximate variables marital status and contraceptive use. This model yielded the odds of experiencing adolescent fertility while controlling for the influence of all other factors in the study.

$$\text{Logit (Adolescent fertility)} = \beta_0 + \beta_1 \text{region} + \beta_2 \text{residence} + \beta_3 \text{age} + \beta_4 \text{education} + \beta_5 \text{wealth quintile} + \beta_6 \text{Age at first intercourse} + \beta_7 \text{Marital Status} + \beta_8 \text{Contraceptive use}$$

*Objective 3: To establish whether service provider's attitude is a barrier to accessing contraceptives*

Qualitative data obtained from the in-depth interviews and focused group discussions have been transcribed and manually analysed using themes. This was to establish adolescent and service provider perspectives on causes of teenage pregnancy, awareness and access to contraception and adolescent experience at health facilities.

### **3.6 Variable Identification and Definition**

The independent variables consist of demographic and socio-economic profile of the respondents. The demographic and socio-economic characteristics of adolescents are the background variables that predict sexual and contraceptive behaviours. These variables are, therefore, expected to be associated with fertility. Table 3.2 shows all the explanatory variables that were used in this study and their definitions. The variables are segregated into socio-economic characteristics, demographic characteristics and proximate determinants.

The variables; 'highest educational level', 'place of residence' and 'wealth quantile' are used as indicators of socio-economic status. Age at first marriage is generally associated with fertility. The variable 'age at first intercourse' is often used as a proxy for the first exposure to intercourse. The variables; 'age of respondent', 'religion' and 'region' are demographic variables that aid in describing the sample of adolescents which took part in the study.

The variable 'Marital status' was coded as '0' for women never married and '1' for married, divorced and widowed adolescents.

**Table 3.2 Definition and categorisation of variables used in the study**

<b>Variable</b>	<b>Definition</b>	<b>Coding</b>
Age of respondent	Current age in completed years	15-17 (1), 18-19 (2)
Age at first intercourse	The reported age in years when women and men had their first sexual intercourse. Respondents who had never had sex are coded 0.	Never (0), <16 (1), ≥16 (2)
Age at first marriage	The reported age in years when women and men first lived with spouse or consensual partner.	<16 (1), ≥16 (2)
Highest educational level	Highest education level attended	Primary (1), Secondary and Higher (2)
Wealth quantile	A composite measure of a household's cumulative living standard.	Poorest (1), Poorer (2), Middle (3) Richer (4) Richest (5)
Place of residence	Type of place of residence where the respondent was interviewed as either urban or rural.	Urban (1), Rural (2)
Region/ Province	Region in which the respondent was interviewed.	Central (1), Copperbelt (2), Eastern (3), Luapula (4), Lusaka (5), Muchinga (6), Northern (7), North-western (7), Southern (9), Western (10)
Marital status	Status of women and men according to current status of marriage or cohabitation.	Never married (0), Married (1)
Contraceptive use	Number of women who say they use any modern method of contraception. Never users are coded 0.	No (0), Yes (1)
Adolescent fertility	Births to adolescents five years prior to the survey "did you have any births in the last five years?"	No (0), Yes (1)

## CHAPTER FOUR: FINDINGS

### 4.1 Introduction

This chapter presents the findings from the study. The chapter is divided in two, the quantitative and the qualitative analyses.

### 4.2 Descriptive Analysis

There were a total of 3 686 females between the ages of 15 and 19 years interviewed in the Zambia Demographic Health Survey 2013 and the variables used in this research include; age of respondent, age at first marriage, education, residence, religion, marital status, contraceptive use, age at first intercourse and adolescent fertility.

The section presents tabulations showing the background characteristics of all women that were sampled in the 2007 ZDHS. The statistics are based on weighted figures.

Table 4.1 below shows that 66.8 per cent of the adolescents were below the age of 18 and 33.2 per cent were either 18 or 19 years old. Of the married adolescents, 216 got married before the age of 16, which is the legal age of marriage with parental consent, accounting for 26.3 per cent. On the other hand, 605 adolescents got married between the ages of 18 and 19 years old and accounted for 73.7 per cent.

With regards to education, 52.1 per cent adolescents had primary education and below, while the proportion of adolescents who had secondary education or higher was 47.9 per cent.

The majority of the adolescents were Protestants accounting for 78.3 per cent and 19.9 per cent were Catholics. Other religions accounted for 1.8 per cent. This indicates that the dominant religion among adolescents in Zambia is Christianity.

Respondents were drawn from all the 10 provinces of Zambia. The majority of the respondents were from Copperbelt province, accounting for 13.8 per cent and the least from North western province accounting for 8.7 per cent of the sample, while 47.7 per cent and 52.3 per cent were from urban and rural areas, respectively.

The majority of the respondents were never married (2 865 were never married,) accounting for 77.7% and only 821 were married, accounting for 22.3 per cent.

About half (51.7%) of the respondents reported that they had not engaged in sexual intercourse, 31.7 per cent had their first sexual intercourse before the age of 16 and 16.7 per cent had their first sexual intercourse after age of 16.

In terms of wealth quintile, 20.4 per cent of the adolescents were from the richest category while the least percentage (18.7%) were from the poorer categories.

The majority of the adolescents reported not using any form of contraceptives. Table 4.1 below shows that only 383 of the 3 686 were using a contraceptive method, accounting for only 10.4 per cent. About 76.2 per cent had not had a child before and 23.8 per cent reported having had at least one child in the past five years.

**Table 4.1: Background characteristic of all women aged 15 to 19 years in the 2013/14 ZDHS**

Background characteristic	Unweighted number	Unweighted Percentage	Weighted Number	Weighted Percentage
<b>Age</b>				
15	789	21.4	793	21.6
16	992	27	1006	27.2
17	901	24.5	874	23.8
18	695	18.8	673	18.2
19	309	8.3	340	9.2
<b>Residence</b>				
Urban	1954	53	1757	47.7
Rural	1732	47	1929	52.3
<b>Region</b>				
Central	361	9.8	357	9.7
Copper-belt	475	12.9	509	13.8
Eastern	390	10.6	383	10.4
Luapula	343	9.3	338	9.2
Lusaka	392	10.6	390	10.6
Northern	358	9.7	344	9.3
North-western	342	9.3	320	8.7
Muchinga	323	8.8	347	9.4
Southern	343	9.3	350	9.5
Western	359	9.7	348	9.4
<b>Education</b>				
Primary and below	2079	56.5	1922	52.1
Secondary and higher	1607	43.5	1764	47.9
<b>Age at first marriage</b>				
Below 16	226	27.5	216	26.3
16 and above	595	72.5	605	73.7
<b>Marital status</b>				
Never married	2851	77.3	2865	77.7
Married	835	22.7	821	22.3
<b>Age at first intercourse</b>				
Never	1928	52.4	1904	51.7
Below 16	1159	31.4	1167	31.7
16 years and above	599	16.2	615	16.7
<b>Religion</b>				
Catholic	714	19.4	734	19.9
Protestant	2877	78	2885	78.3
Other	95	2.6	67	1.8
<b>Contraceptive use</b>				
No	3352	91	3303	89.6
Yes	334	9	383	10.4
<b>Adolescent fertility</b>				
No	2831	77	2808	76.2
Yes	855	23	878	23.8
<b>Wealth quantile</b>				
Poorest	741	20.1	739	19.9
Poorer	693	18.8	689	18.7
Middle	714	19.4	707	19.2
Richer	789	21.4	795	21.4
Richest	749	20.3	756	20.4
<b>Total</b>	<b>3686</b>	<b>100</b>	<b>3686</b>	<b>100</b>

## 4.2.1 Bivariate Analysis

In this section, the Chi-square test of independence is used to examine the relationship between the dependent and independent variables. Selected background characteristics were cross-tabulated with adolescent fertility to determine the relationship, using the Chi-square test ( $\chi^2$ ). The results are shown in Table 4.2. Their mean age was 17 years and the Standard deviation was 1.6 years.

**Table 4.2: Number and Percentage distribution of Adolescent fertility by background characteristics**

Background characteristics	Number	Percentage	Chi-Square ( $\chi^2$ )	P<0.05
<b>Age</b>			<b>189.2</b>	<b>0.000</b>
15-17	2682	16.0		
18-19	1004	39.5		
<b>Residence</b>			<b>20.8</b>	<b>0.001</b>
Urban	1954	23.5		
Rural	1732	24.2		
<b>Marital Status</b>			<b>408.1</b>	<b>0.000</b>
Never married	2851	23.2		
Married	835	25.8		
<b>Age at first intercourse</b>			<b>485.9</b>	<b>0.000</b>
Never	1928	0.0		
Below 16	1159	47.8		
16 years and above	599	37.6		
<b>Education</b>			<b>41.6</b>	<b>0.000</b>
Primary and below	2079	24.6		
Secondary and higher	1607	23.0		
<b>Wealth quintile</b>			<b>104.0</b>	<b>0.000</b>
Poorest	741	23.2		
Poorer	693	21.6		
Middle	714	19.7		
Richer	789	16.3		
Richest	749	9.8		
<b>Region</b>			<b>25.4</b>	<b>0.001</b>
Central	361	24.5		
Copperbelt	475	24.7		
Eastern	390	23.0		
Luapula	343	23.3		
Lusaka	392	21.5		
Muchinga	358	21.7		
Northern	342	21.7		
North-western	323	29.3		
Southern	343	27.2		
Western	359	22.1		
<b>Religion</b>			<b>0.2</b>	<b>0.974</b>
Catholic	714	23.8		
Protestant	2877	23.8		
Other	95	22.4		
<b>Age at first marriage</b>			<b>8.4</b>	<b>0.004</b>
Below 16	226	31.0		
16 and above	595	24.0		
<b>Contraceptive use</b>			<b>169.8</b>	<b>0.001</b>
No	3352	58.5		
Yes	334	19.8		

Source: 2013/14 ZDHS Dataset.

Mean age  $\pm$  SD = 17  $\pm$  1.6 years

A cross tabulation between age and adolescent fertility shows that there is a statistically significant relationship between the two variables ( $P\text{-value}<0.05$ ). Table 4.2 above shows that adolescent fertility is higher among older adolescents aged between 18 and 19 years old.

Further, table 4.2 above also shows that residence is associated with adolescent fertility. Compared to those in rural areas (24.2 %), adolescents in urban areas (23.5 %) are less likely to experience adolescent fertility.

With respect to marital status and age at first intercourse, results show a significant relationship with adolescent fertility. Adolescents who had their first intercourse below the age of 16 years experienced higher adolescent fertility than adolescents who had their first intercourse after 16 years old, at 47.8% and 37.6 per cent respectively.

The level of education is significantly related to adolescent fertility ( $P\text{-value}<0.05$ ). Adolescents with lower education have a higher percent (24.6 %) of adolescent fertility than women with higher levels of education.

With regard to wealth quintile, the variable is significantly related to adolescent fertility. Adolescent girls in the poorest category have the highest percentage of adolescent fertility (23.2 %). While the richest had 9.8 per cent.

Contraceptive use and adolescent fertility have a significant relationship. Adolescents who did not use a modern contraceptive method had 58 per cent while those who used a modern contraceptive had 19 per cent adolescent fertility.

#### **4.2.2 Model Building: Binary Logistic Regression Model**

In order to measure the extent of the effect of each independent variable on adolescent fertility, logistic regression analysis was performed. In this analysis, the dependent variable, adolescent fertility, was recoded into a binary form with 0 representing “no birth in the last five years” and 1 representing “experienced a birth in the last five years”. Reference categories among the explanatory variables were selected in order to compare the odds of experiencing adolescent fertility within respective explanatory variables.

**Table 4.3: Binary logistic regression: Unadjusted Odds Ratios of the association between adolescent fertility and socio-economic and demographic variables**

Explanatory Variable	Unadjusted Odds Ratios (UOR) [95% CI]	P-value
<b>Age of respondent</b>		
15-17	(RC)1.00	-
18-19	4.73 [4.18-6.92]	0.00
<b>Education</b>		
Primary education and below	(RC) 1.00	-
Secondary and higher	0.30 [0.16-0.46]	0.01
<b>Residence</b>		
Urban	(RC)1.00	-
Rural	1.36 [1.37-2.20]	0.00
<b>Marital Status</b>		
Never married	(RC)1.00	-
Married	13.01[8.64-15.59]	0.00
<b>Region</b>		
Lusaka	(RC)1.00	-
Central	1.15[0.48-1.35]	0.18
Copper belt	0.47[0.44-1.29]	0.31
Eastern	1.52[0.61-1.69]	0.91
Luapula	1.07[0.58-1.73]	0.63
Northern	0.53[0.48-1.35]	0.37
North-western	1.32[0.78-2.22]	0.31
Muchinga	1.01[0.38-2.69]	0.26
Southern	1.44[0.82-2.25]	0.38
Western	1.78[1.13-3.08]	0.03
<b>Contraceptive use</b>		
No	(RC)1.00	-
Yes	7.87[5.82-11.4]	0.01
<b>Age at first intercourse</b>		
Never	(RC)1.00	-
Below 16	1.64[0.42-0.71]	0.02
16 and above	1.12[0.69-1.21]	0.56
<b>Wealth quintile</b>		
Poorest	(RC)1.00	-
Poorer	0.86[0.65-1.21]	0.53
Middle	0.69[0.60-1.17]	0.41
Richer	0.31[0.46-0.93]	0.01
Richest	0.27[0.40-0.68]	0.00

\*Statistically Significant

RC = Reference category, CI= Confidence interval, UOR=Unadjusted odds ratio

From table 4.3 above, it is observed that the odds of women in age group 18-19 years to have a child in the last 5 years are about 4.7 times compared with women in the age group 15-17 years. In terms of educational attainment, adolescents with secondary education and higher [UOR=0.30: 95% CI: (0.16-0.46)] are less likely to experience adolescent child-bearing than adolescents with primary and no education. In addition, Table 4.3 shows that the odds of having adolescent child-bearing were higher among adolescents living in rural areas as compared to adolescents living in urban areas by 36 per cent.

Table 4.3 further shows that the odds of married women to experience adolescent child-bearing with reference to those never married is about 13 times. Adolescents who responded ‘yes’ to using contraceptives are 7.89 times more likely to experience adolescent fertility and adolescents who had

their first intercourse below the age of 16 years are more likely to experience adolescent fertility than those whose age at first intercourse was above 16 years.

Regarding wealth quintile, the reference category was the poorest class as women in this category are expected to experience higher adolescent fertility compared to the other categories, this may be because they have less access to contraceptives. Table 4.3 shows that the odds of adolescents in the richest category experience significantly lower adolescent fertility than those in the poorest category by 73 per cent.

The variable region was not statistically significant.

### **4.2.3 Multivariate Logistic Regression**

The final level of analysis was carried out to identify the main predictors of adolescent fertility. In this analysis, all variables were entered into the model and variables tested for significance at  $p < 0.05$  (5 per cent). The analysis was guided by the conceptual framework used in the study, categorising independent variables into socio-demographic variables (age, residence and region), social-economic variables (education and wealth quantile) and proximate variables (age at first intercourse, marital status and contraceptive use). Socio-demographic and socio-economic variables were first fitted into the model, then the proximate variables were added, and observations based on the behaviour of the variables were made.

*Model 1* comprised socio-demographic variables: age, residence and region were identified and fitted into the model. Model 2 introduced socio-economic variables to Model 1, education and wealth quantile were fitted and then the proximate variables: marital status, age at first intercourse and contraceptive use were fitted in Model 3. The results obtained are shown in Table 4.4.

**Table 4.4 Multivariate regression: Adjusted Odds Ratios of the association between adolescent fertility and socio-economic and demographic variables**

Variable	Model 1		Model 2		Model 3	
	AOR [95% CI]	P-Value	AOR [95% CI]	P-Value	AOR [95% CI]	P-Value
<b>Region</b>						
Lusaka	(RC)1.00	-	(RC)1.00	-	(RC)1.00	-
Central	0.75 [0.17-3.17]	0.72	0.94 [0.44-2.00]	0.51	0.68[0.18-2.56]	0.62
Copper-belt	0.38 [0.47-11.8]	0.31	0.66 [0.31-1.42]	0.23	1.36[0.29-6.41]	0.41
Eastern	0.62 [0.16-2.30]	0.91	0.71 [0.32-1.57]	0.91	0.63[0.17-2.28]	0.74
Luapula	0.32 [0.34-5.01]	1.00	0.86 [0.41-1.82]	0.86	1.02[0.29-3.80]	0.93
Muchinga	0.74 [0.20-2.67]	0.37	0.92 [0.81-3.35]*	0.28	1.16[0.91-2.98]	0.32
Northern	1.14 [0.71-18.6]	0.31	0.39 [0.16-0.98]	0.04	0.73[0.20-2.58]	0.37
North-western	1.24 [0.78-2.22]	0.26	0.98 [0.46-2.05]	0.21	2.07[0.42-10.2]	0.32
Southern	1.21 [0.32-4.48]	0.62	1.23 [0.61-2.49]	0.82	1.18[0.33-4.22]	0.01
Western	1.36 [0.26-5.74]	0.31	1.81 [0.91-3.60]*	0.37	1.19[0.27-5.27]	0.30
<b>Residence</b>						
Urban	(RC)1.00	-	(RC)1.00	-	(RC)1.00	-
Rural	1.4 [0.46-4.01] *	0.60	1.19 [0.72-1.97]	0.21	1.09[0.43-0.81]	0.01
<b>Age</b>						
15-17	(RC)1.00	-	(RC)1.00	-	(RC)1.00	-
18-19	4.52 [2.1-8.22]	0.00	4.13 [2.63-5.29]	0.02	3.21[2.65-10.56]	0.01
<b>Education</b>						
Primary and below			(RC)1.00	-	(RC)1.00	-
Secondary and higher			0.39 [0.20-0.95]	0.01	0.27 [1.19-2.03]	0.02
<b>Wealth quintile</b>						
Poorest			(RC)1.00	-	(RC)1.00	-
Poorer			0.82 [0.34-0.77]	0.03	0.79 [0.34-1.77]	0.21
Middle			0.58 [0.20-0.85]	0.02	0.89 [0.88-1.04]	0.37
Richer			0.35 [0.19-1.03]	0.41	0.24 [0.18-0.56]	0.01
Richest			0.31 [0.29-0.73]	0.00	0.21 [0.29-0.73]	0.00
<b>Age at first intercourse</b>						
Never					(RC)1.00	-
Below 16					1.70[0.42-0.71]	0.02
16 and above					1.16[0.69-0.91]	0.02
<b>Marital status</b>						
Never married					(RC)1.00	-
Married					11.14[0.08-0.83]*	0.02
<b>Contraceptive use</b>						
Yes					(RC)1.00	-
No					7.38 [2.46-5.73]*	0.01

\*Statistically Significant at  $P < 0.05$

RC = Reference category, CI= confidence interval, OR=Odds ratio

It is observed in Table 4.4 above that, the odds of experiencing adolescent fertility in rural areas reduces when age is introduced and reduces even further with the introduction of education. The odds of experiencing adolescent fertility among older adolescents reduce when education is introduced, compared to when regressed as a single variable with contraceptive use (refer to Table 4.3), it reduces even further to 3.21 when wealth is added to the Model. This implies that wealth quintile and education down-play the influence of age and residence on adolescent fertility. The odds of experiencing

adolescent fertility among adolescents in the age group 18 -19 reduces with the introduction of wealth quintile, this may be because adolescents with purchasing power have more access to contraceptives.

Table 4.4 shows the results obtained when marital status and contraceptive use are regressed with adolescent fertility. It is observed that the odds of experiencing adolescent fertility among married adolescents, compared to unmarried adolescents reduce from 13.01 (refer to Table 4.3) to 11 times when contraceptive use is introduced. Therefore, contraceptive use downplays the influence of marriage on adolescent fertility.

In the final Model, the difference in adolescent fertility in urban and rural areas reduces from 1.4 to 1.29 with the introduction of marital status and contraceptive use.

With regard to age, the odds of experiencing adolescent fertility in adolescents aged 18 and 19 have dropped from 4.52 to 3.21, with the introduction of education and contraceptive use.

Regarding education, the odds of experiencing adolescent fertility in adolescents with secondary education and higher further reduce when all other variables are introduced in the model. This shows that contraceptive use explains the influence of education on adolescent fertility. As indicated by Bledsoe and Cohen (1993), educated women are more likely to access modern contraceptives than less educated women.

The final model also shows that the odds of married adolescents experiencing adolescent fertility reduce from 13 (Refer to Table 4.3) to 11.14 times when contraceptives are introduced to the model. In Table 4.4, all variables except region and wealth quintile are statistically significant at  $P < 0.05$ .

#### **4.2.4 Test of Hypothesis**

$H_0$ : There is no association between socio-demographic and social- economic factors and adolescent fertility.

$H_a$ : There is an association between socio-demographic and social- economic factors and adolescent fertility.

Bivariate and multivariate logistic regression analysis of association showed that the basic and proximate variables had significant association with adolescent fertility at a significance level of 5 per cent. The study failed to accept the null hypothesis and concludes that there is a statistically significant

association between socio-demographic and socio-economic factors and adolescent fertility of the age group 15 to 19 years in Zambia.

### **4.3 Qualitative Findings**

Subsequently, ascertaining from the quantitative analysis that adolescent fertility is influenced by socio-demographic and social economic factors, the study also investigated qualitatively the themes associated with adolescent fertility in Zambia.

The qualitative analysis of this study covers the personal views of the respondents regarding issues of teenage pregnancy in six provinces; Eastern, Western, Southern, Copperbelt, Central and Lusaka. The focused group discussions and in-depth interviews were conducted at public health centres with a functioning youth friendly health corner in each province; Central Police Health Centre in Kabwe, Kabwata Clinic in Lusaka, Buchi Clinic in Kitwe, Kaonga Clinic in Mazabuka, Liyoyelo Clinic in Mongu and Sinalo Clinic in Chadiza. Qualitative findings highlight issues as general understanding of sexual and reproductive health among adolescents, perceptions on teenage pregnancy, the perceived and confirmed consequences of teen pregnancy and barriers to accessing preventive initiatives. Adolescents and health staff acknowledged that teenage pregnancy was a big problem and they indicated that they considered teenage pregnancy wrong in terms of their culture and religion.

Factors influencing teenage pregnancies were found to be broad and complex, as identified by the adolescents in the various provinces. These largely bordered on socio-economic and cultural reasons.

#### **4.3.1 Causes of Teenage Pregnancy: The Adolescent's Perspective**

##### **Socio-economic factors**

Across the study Youth Friendly Health Corners (YFHC), the most recurring words from the Focus Group Discussions (FGD) were poverty, transactional sex and financial support. The adolescents cited lack of parental care and guidance, sometimes resulting from broken home situations as one of the major causes of teenage pregnancies especially among school going girls. Adolescents in Mongu and Chadiza cited lack of accurate information on how pregnancy occurs as a cause to teenage pregnancies. Peer pressure was cited at every YFHC as a major cause of teenage pregnancies. In emphasising the point

on peer pressure on girls to have sex, a participant from Central Police Health Center in Kabwe district complained in a FGD

*“Sometimes even if you do not intend to engage in sex, your boyfriend or man-friend may pressure you to have sex, and we all know how sweet talking these guys can be, you just end up doing something you did not want to do and you discover you are pregnant”.*

The pressure to remain abreast with fashion trends was a major concern. The competition for materials such as trending mobile phones, hair-dos, clothes and shoes among adolescents was high in all FGDs and this was mostly associated with the female adolescents. In trying to keep up with this, some have resorted to engaging in transactional sex. In exclamation, a 16-year old girl from Buchi Clinic YFHC in Kitwe district contributed to the discussion,

*“let us not beat about the bush, many of us are tempted to ‘hook up’ with a Taxi driver who has a daily income! They help most of the girls”. Another girl added, “Some girls in fact exchange sex in favour of exams. Honestly, do you think you will have power to even ask for protection from someone who has the power to make you pass?”*

Adolescents from Kaonga Clinic YFHC in Mazabuka district cited lack of financial resources as one of the causes of teenage pregnancy. Specifically, parents or guardians would request the young girls to sell food-stuffs on the streets and at bus stations in order to raise income for the family, including payment of school fees. A teenage girl explained that

*“Some girls sell things on the road, even at night and meet different people who make them friends and start relationships with them for sex”. They further requested for livelihood alternatives to transactional sex in the area “Young people should be helped with jobs to do when they are not at school”.*

### **Cultural factors**

Initiation ceremonies were reported in most FGDs as a cause of teenage pregnancies. Most adolescent girls participated in initiation ceremonies during school holidays.

*“Alu zwa mwasikenge, keluziba mwaku inela ni muna lusali baba inyani, kona molu itwelanga”* –When we come from the initiation ceremonies, we are equipped with knowledge

on how to satisfy a man sexually. That is how we get pregnant early; noted a female adolescent from Liyoyela clinic YFHC in Mongu.

Some girls in the FGDs noted that boys and men tended to refuse the use of condoms during sexual intercourse, a phenomenon to which they had little control.

*“Condoms are everywhere, but men sometimes will insist to have unprotected sex, and when you want to refuse, they will defend themselves with a question that you do not trust me or are you infected with STI or HIV?, These guys are clever!”*, remarked a female adolescent from Buchi Clinic YFHC in Kitwe district.

#### **4.3.2 Causes Of Teenage Pregnancy: *The Health Service Provider’s Perspective***

Six health service providers, four females and two males were interviewed on the causes of teenage pregnancies. In their discussions, the key informants, who were also the service providers in the respective YFHCs attributed the problem to the underutilisation of health facility services by the teenagers. Underutilisation of services, particularly those relating to contraception was noted to be because of fear of being seen by either their parents or guardians, lack of confidentiality among some health providers, and inconvenient Sexual and Reproductive Health (SRH) services hours. Some misconceptions regarding contraception use were reported to be responsible for the escalating pregnancies among adolescents. The misconceptions included *uncontrollable weight gain, genital rashes, and barrenness due to contraception use*. The health providers also cited inconsistent and incorrect condom use for those who had access to condoms as a major contributing factor to teenage pregnancies.

The service providers also noted that young people had lost fear for God and were engaging in sex at early age and that is causing teenage pregnancies. *“Young people don’t care anymore that it is a sin to have sex before marriage, no wonder we have so many of them falling pregnant, society needs to emphasize abstinence and the fear of Christ”* said a health service provider from Kabwata Clinic, Lusaka.

### 4.3.3 Adolescents' Experiences at Health Facilities

Participants across all the FGDs reported not having it easy to access SRH-related services from health facilities. Most indicated that teenagers had negative experiences interacting with service providers and those from small communities indicated that they were not free to access SRH-related services because the service providers know them and their families. In one narration, a participant from Liyoyelo clinic YFHC, Mongu revealed that

*“Nurses ask so many questions before they give out the contraception, and they would give it out only if one provided correct answers to their questions”.* A participant from Sinalo Clinic YFHC, Chadiza mentioned in a similar discussion that, *“They will ask you if you are married, if you say no they will not give you FP and they will tell you that you are too young to be doing sex and FP is not for those who are not married”.* *“At the clinic they will interrogate you!”* exclaimed one participant from Kabwata Clinic YFHC in a Lusaka FGD. *“They will ask how old you are, are you married or if you are in school and if you are not they will send you away or ask you to come with your parents”*

### 4.3.4 Adolescents' Awareness of Contraception

Across all six YFHCs, adolescents were relatively aware of basic information on contraception, with Condom being the most common method but the general understanding of the available contraception options was poor. In one narration from Kaonga Clinic YFHC, in Mazabuka a female adolescent noted,

*“I know there are pills that people take to prevent pregnancies but I don't know what they are or what they look like”.*

At Buchi Clinic YFHC in Kitwe, there was a misunderstanding on the facts about how emergency contraception works. The adolescents appreciated the notion of abstinence as a sure way of preventing teenage pregnancies. The discussion on abstinence sparked heated debates in all FGDs with most of them stressing that it is difficult to abstain in this modern generation, arguing that the majority of adolescents, in spite not appearing so were sexually active. Others still held the view that contraception encouraged promiscuity among teenagers.

However, adolescents at Kabwata Clinic in Lusaka had a contrary view and there was a unanimous understanding that enhancing access to contraceptives did not encourage promiscuity

*“That is why the Government has introduced Comprehensive Sexuality Education and Youth Friendly corners so that young people can have knowledge and use SRH services”* A female adolescent said.

#### **4.3.5 Access to Contraception**

In all the six FGDs, adolescents reported getting their FP services from pharmacies, with a few having cited the clinics and friends. The study observed that the most preferred source of contraception among them were pharmacies and most of them felt confident to buy the contraception of their choice over the counter. They also revealed seeing friends taking oral contraception. However, they also pointed out that some who do not have access to any contraception options resorted to the use of unconventional contraception such as *Panadol*<sup>1</sup> or *Cafemol*.

*“Sometimes, a female participant from Sinalo clinic in Chadiza revealed during a FGD, “you may find yourself in a situation where you do not have money to buy contraception, but you really need to have sex, so we use Panadol or Cafemol”*<sup>1</sup>. This view was reinforced by another participant.

When probed further as to who buys the contraceptives, some participants said either of the sexual partners can buy the contraceptive but most of the participants pointed out that the male partners are usually the ones responsible for buying contraceptives before or after sexual intercourse. *“Condom ni mwamuna agula”* (The man buys the condom), noted female participants at Sinalo Clinic, Chadiza. This suggests that most female participants leave the responsibility of practising safe/protective sexual behaviour to male partners, making them vulnerable to unintended pregnancy including STIs and HIV infections.

#### **4.3.6 How Teenage Pregnancy Can Be Prevented**

All the participants in the FGDs held the view that teenage pregnancy was preventable and had some considerable information on how that could be done. They believed that abstinence was the surest way

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<sup>1</sup> Common brand name for the pain relief, Paracetamol

of preventing pregnancy. In addition to abstinence, the participants were alive to the fact that there are teenagers who are sexually active and suggested the following as means to prevention of teenage pregnancies:

- i. Provision of Comprehensive Sexuality Education (CSE) with emphasis on contraception
- ii. Peer to peer education in the communities
- iii. Incorporate Income Generating Activities (IGAs) in SRHR programming
- iv. Provision of recreation activities for young people in communities
- v. Discourage practices that expose young girls to teen pregnancies during initiation ceremonies.
- vi. Ensure easy access to contraceptives for teenagers
- vii. Stiffen laws on access to alcohol for underage people.

#### **4.3.7 Service Providers' Knowledge and Skills in Adolescent Sexual and Reproductive Health**

All the key informants in the in-depth interviews were providers of SRH services. Four of the six service providers interviewed reported not having had any training in ASRH. The Common Reproductive Health services provided at all the clinics included but were not limited to:

- i. Antenatal and Postnatal care
- ii. HIV Testing and Counselling (HTC)
- iii. FP and contraception and
- iv. Elimination of Mother to Child Transmission (EMTCT).

The contraception provided in all the clinics included but were not limited to:

- i. Injectable;
- ii. Oral pills;
- iii. Implants and
- iv. Condoms.

All the six service providers interviewed reported having confidence in providing contraceptives to both adults and adolescents.

#### **4.3.8 Service Providers' Attitude to Provision of Contraception Services to Adolescents**

The health providers generally attributed the escalating teenage pregnancies to teenagers shunning contraception services in fear of being seen by parents, guardians and friends. This view is consistent with that of the adolescents, for not visiting the health facilities to access contraceptives.

All the service providers interviewed reported not having difficulties providing contraception to adolescents 16 year and older but had a challenge with the younger adolescents because the standards and guidelines require parental consent for them. *“We have no problem providing services to those of age, but the ones under the age of 16 are required to come with their parents, but in other circumstances we give, if they are below 16 but are sexually active or married. We use our discretion”* said a service provider from Sinalo Clinic in Chadiza.

There were divergent views among the health providers on the provision of Emergency Contraceptives (EC). Some noted that the provision of EC to adolescents was commendable, whilst others thought it would encourage promiscuity. Others were concerned that adolescents were not particularly aware of this option as a means of prevention of pregnancy.

The health provider’s views regarding the adolescents’ awareness of EC (as contraception) are consistent with the findings from the FGDs, in which they revealed limited knowledge about available contraception options.

On the question of having a well functional YFHC, all the service providers held a positive view. They noted that the idea would enhance adolescents’ confidence to visit the health facilities and adolescents’ openness in discussing their SRHR issues with health providers. The service providers also thought that running after hour’s youth clinics would be good because it would be shortly after school hours and before the pupils got back home.

All the health providers in the study clinics emphasised the need to intensify sensitisations and training in the provision of YFHS for service providers as they also noted that issues of confidentiality were key in the provision of health services to adolescents.

All the service providers interviewed reported that their health facilities were not adequately equipped to offer services for young people, nor was programming on a sustainable basis. The common challenge cited was lack of a separate space and inconvenient time for SRH services for young people. The inadequacy of human resource in most health facilities was reported to largely contribute to the minimal time allocated to adolescents’ SRH issues, especially counselling.

## **CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This section discusses the findings of the study and further provides the conclusion and recommendations based on the results.

### **5.2 Discussion**

The objective of the study was to examine the socio-demographic and socio-economic factors associated with adolescent fertility in Zambia. Quantitative results show that 23.8 per cent of the respondents reported having had a child before. This implies that about 1 out of 4 female adolescents aged 15-19 years had already given birth. This is also reflected in the Zambia National Health Strategic Plan (2017) which highlights that Zambia has the fifth highest adolescent birth rate in sub-Saharan Africa, which in turn has the highest rates in the world. The service providers interviewed acknowledged the high numbers of teenagers recorded for maternal services in their respective health facilities.

This study in both the quantitative and qualitative analysis indicated a huge gap in adolescent health programming in the Western Province of Zambia. The province had the highest proportion of respondents who had experienced childbirth. This is in line with the findings from the Zambia Demographic and Health Survey 2007, which also revealed that the Western region had the largest proportion (44%) of adolescents who had started child-bearing. Reasons for this could be that the Western region is underdeveloped, poverty is high, and adolescents do not have access to contraceptives. Furthermore, adolescents in Western province usually discourage the use of condoms and engage in unprotected sex as a means of entertainment. These factors have contributed to the growing rate of adolescent child-bearing (Phiri, 2012). This study's literature review shows that despite contraception being free, a third of adolescent girls become pregnant before the age of 20 years. In the focused group discussions, adolescents in western province cited the judgemental attitude of service providers as a barrier to them accessing contraceptives. These pregnancies have contributed to the high rates of maternal mortality and morbidity in the country. UNFPA (2019) reports that 33 400 women and young girls in Zambia have suffered from Fistula.

Across all six YFHCs, adolescents were relatively aware of basic information on contraception, with condom use being the most common method but the general understanding of the available contraception options was poor. Due to this inadequate knowledge, most adolescents reported getting

their Family Planning services from pharmacies and not clinics. The literature review demonstrates that education influences fertility in several ways; it changes the norms and values of couples towards the desired family size, for example educated teenage mothers prefer to have fewer children (Bledsoe, 1993). This could be part of the explanation as to why there is low uptake of Long Acting Reversible Contraceptives (LARC) among adolescent girls.

The study found that married adolescents had more births than unmarried adolescents. The Zambia Adolescent Health Strategy (2017) reveals that child and early marriage is a significant issue in Zambia, with 17% of adolescent girls aged 15-19 being in-union in 2014. Among adolescent boys of the same age group, only 1% reported having been married. The logistic regression model results confirmed that married adolescents were more likely to have children compared to unmarried adolescents. One of the reasons for this could be that in sub-Saharan African countries, premarital sexual activity and pregnancy is seen as a taboo. Mturi (2001)'s Findings from a study in Lesotho show that many aspects of Sesotho culture discouraged pre-marital pregnancy. Service providers indicated in the interviews that the age of consent restriction to accessing contraceptives is relaxed when the adolescents are married, as they do not need parental consent then. Studies reviewed in the literature review also indicate that women who marry early on average have a longer exposure to the risk of pregnancy which often leads to higher fertility (Palumuleni, 2007).

Furthermore, the study showed that the percentage of married adolescents is lower than unmarried adolescents, but the number of births to married adolescents is higher than that of unmarried adolescents. This could suggest that married adolescents are expected to start bearing children as early as possible; child-bearing immediately after marriage is integral to a woman's social status. Childlessness may lead to divorce or the husband may marry a second wife. Low levels of contraceptive use among sub-Saharan adolescent women is attributed to the fact that these women once married are often under social pressure to have children U.S Census (1995).

All the service providers interviewed in this study reported not having difficulties providing contraception to adolescents of 16 years and older but had a challenge with the younger adolescents because the standards and guidelines require parental consent for them. In Zambia, the law is not clear on the age of consent of adolescents for accessing family planning. This leaves service providers to make arbitrary decisions on when and who to provide family planning services to when a case involves the adolescents. As a result, adolescents do not easily access family planning services, as service providers often would require parental consent for those aged below 16 years. This is not withstanding

the policy not being clear on the age of consent. Age related barriers to access to SRH services are a significant challenge to attaining better health outcomes and evidence shows that due to lack of access to modern contraceptives, adolescents including those aged between 10 to 15 years are at risk of teenage pregnancy, HIV, fistula, school dropout cases and early childbirths. Teenage mothers may be physically less mature and less able to handle the demands of pregnancy, childbirth, and subsequent child care. In his study, Senderowitz (1995) explains that teenage mothers may lack experience and tend to be less psychologically mature and emotionally stable, leading to poorer maternal and child health care and infant feeding behaviours. Teenage mothers also face greater risks of obstetric fistula, haemorrhage and pelvic bone immaturity increases the likelihood of cephalopelvic disproportion which is associated with a higher incidence of premature birth, prolonged labour, and otherwise difficult childbirth (UNICEF, 2001)

There is a significant difference in fertility among urban and rural adolescents. The study through the bivariate logistic regression results confirmed that adolescents in the rural areas are 1.36 times more likely to give birth to one or more children than adolescents in urban areas. The difference could be as a lack of access to contraceptives and formal education in the rural areas. Further, this study shows that the likelihood of having one or more children reduces as the respondent's educational level increases. This is quite marked in respondents with a higher level of education and lower odds in the bivariate analysis (see Table 4.5). This coincides with findings in the literature review that 'Education influences fertility in several ways; it changes the norms and values of couples towards the desired family size, for example educated teenage mothers prefer to have fewer children' (Bledsoe, 1993)

Bongarts (1986) explains that having higher educational qualification and dwelling in urban areas are expected to have a relationship with low levels of adolescent fertility through the proximate determinants. The bivariate logistic regression model also shows that the likelihood of adolescents having one or more children in Western province is higher than adolescents in the Lusaka region, which was the reference category (see Table 4.5). In terms of educational attainment, the results of bivariate analysis in this study shows that adolescents with secondary education and higher are 0.30 times less likely experience adolescent fertility than those with primary education and below. This is consistent with bivariate result of a study in North-western Brazil, which found that the probability of adolescents 15-19 years giving birth is less among the adolescents who are educated, urban and exposed to mass media (Gupta, 1999). According to UNICEF (2013), while there are no visible differences between the sexes up to the age of 12 years (around Grade 6), starting from the age of 13 (Grade 7) and coinciding

with puberty, the proportion of girls dropping out of school is much higher than boys. Age 13-14 is also when the transition from Grade 7 to Grade 8 occurs marking the end of primary education. A study done in Botswana by Letamo (2002) that revealed that socio-economic and cultural factors typically do not affect fertility directly, but they can influence fertility decline through the proximate determinants. In Botswana, increased female education and women's participation in the labour force contributed to the fertility decline.

Taking other factors into consideration (see Table 4.5), adolescents with secondary and higher education had lower odds of adolescent fertility relative to adolescents with no education. Similarly, Bledsoe (1993) writes that exposure to schooling and higher level of education may undermine the traditional practices of sexual abstinence and prolonged postpartum breastfeeding that might have otherwise delayed a new pregnancy. Having higher educational qualification and dwelling in urban areas are expected to have a relationship with low levels of adolescent fertility through the proximate determinants. This exposes female adolescents to access and use of modern contraceptives.

To complement these findings (Table 4.5), on the influence of education on adolescent fertility, the adolescents at Kabwata health centre spoke highly of the Comprehensive Sexuality Education they receive in schools and how it raises awareness on sexuality; and where services and information can be obtained.

In this study, initiation ceremonies were reported in most FGDs as a cause to teenage pregnancies. Culture, traditions and social norms have also a key role in fulfilling or impeding adolescents' sexual and reproductive health and rights. Initiation typically occurs at puberty, when a young girl has begun to menstruate. In Zambia, initiation ceremonies are used as a platform by some parents/families to advocate for early marriage especially of the girl-child; when the initiation for the girl is over, it is advertised in the community that she is being released from seclusion, girls are sometimes taken out of such seclusion semi-dressed; and in some traditions, they are even given their own huts to be sleeping in since they are now regarded as adults. Local and global studies indicate that sexual activity is common and initiated early in adolescent years; family and peer pressure may influence the initiation of sexual intercourse. "Much concern has been expressed over the implicit connotation of the initiation ceremonies. Several young people believe that the ceremonies now give them a social sanction to engage in sexual activity as they have transitioned to being 'adults' Munthali and Zulu (2007).

Some girls in the FGDs noted that boys and men tend to refuse the use of condoms during sexual intercourse, a phenomenon to which they have little control. Adolescent girls and young women remain particularly vulnerable with regard to gender based violence including sexual violence across the region as they continue to lack knowledge about their rights, and also lack skills to negotiate their well-being. Jewkes (2006) says that many adolescent girls are embarrassed to inquire information on contraceptives and health provider.

The qualitative analysis of this study shows that adolescents were relatively aware of basic information on contraception but there was still low usage of contraceptives among them. This is consistent with Banda (2015) whose findings reveal that knowing a method does not necessarily result into usage of the method. Among the many women who know modern methods of contraceptive, only 25.1 per cent actually use them, while 69.1 per cent do not use any method. Participants across all the FGDs were consistent with this as they reported not having it easy to access SRH-related services from health facilities, they indicated that they had negative experiences interacting with service providers and those from small communities indicated that they are not free to access SRH related services because the service providers know them and their families. This is consistent with the findings from Soldan (2004)'s qualitative study on the barriers of adolescent girls to access clinical services of contraception in Limpopo, South Africa, that highlighted that despite contraception being free, a third of adolescent girls become pregnant before the age of 20 years. Barriers to access included inaccurate notions of how conception occurs, fears about the effects of contraception and the nurses' attempts to stigmatize adolescent sexuality with their scolding and harsh treatment. A service provider's attitude is very instrumental in the realisation of Universal Health Coverage (UHC) and leaving no one behind. The World Health Report 2010 defines universal health coverage as: "providing all people with access to needed health services including prevention, promotion, treatment and rehabilitation of sufficient quality and to ensure that the use of these services does not expose the user to financial hardship".

The pressure to remain abreast with fashion trends was a major concern. The competition for materials such as trending mobile phones, hair-dos, clothes and shoes among adolescents was high in all FGDs and this was mostly associated with the female adolescents. In trying to keep up with this, some have resorted to engaging in transactional sex. A study in Malawi indicates that 66 per cent of adolescents have accepted money in exchange for sex (Allan Guttmacher Institute, 1999). According to Were (2007), the inability of adolescents to meet personal and basic needs expose them to pre-marital sex in

exchange for money and material gains, and such factors are likely to predispose them to unwanted pregnancies and child-bearing.

There is need to integrate SRH with social economic interventions to facilitate the building of social, health, and economic assets while equipping adolescent girls with life skills and knowledge to help maintain healthy lifestyles and the confidence to assert their rights and protect themselves from harm and threats. According to Manlove (1998) It is visible that adolescents from lower socio-economic status are more prone to engage in early sexual activities, and this is consistent with the study by Odimegwu (2002) which found that adolescent girls whose parents attained only primary education or low income had the highest level of sexual activity than adolescents whose parents had medium or high income.

### **5.3 Conclusion**

This study examined the factors associated with adolescent fertility among adolescents aged 15 to 19 years in Zambia using the 2013/14 Zambia Demographic and Health Survey data. Data descriptive, bivariate and multivariate analyses were done to achieve this. The study supported the hypothesis that adolescents of 18-19 years old are more likely to experience adolescent child-bearing compared to adolescents 15-17 years old. An explanation of this could be that as age increases, the likelihood of exposure to pregnancy and child-bearing also increases. Furthermore, it supports the hypothesis that married adolescents are more likely to experience adolescent child-bearing. This study further analysed qualitative data to complement the results of the quantitative analysis and those revealed in Banda (2015)'s insight of factors associated with modern contraceptive use in Zambia.

The bivariate and multivariate logistic regression analysis of association showed that the basic and proximate variables had significant association with adolescent fertility at a significance level of 5per cent. The study therefore fails to accept the null hypothesis and concludes that there is a statistically significant association between socio-demographic and socio-economic factors and adolescent fertility of the age group 15 to 19 years in Zambia.

The study shows the association between age and adolescent fertility. Adolescents of 18-19 years old are more likely to experience adolescent child-bearing compared to adolescents of 15-17 years old due to the likelihood of exposure to pregnancy and child-bearing. Furthermore, it shows that married adolescents are more likely to experience adolescent child-bearing due to the increased exposure to the

risk of pregnancy in marriage. In developing countries, marriage is the predominant context for child-bearing and also marks the transition to adulthood in many societies.

Regarding education, adolescents with more education are less likely to experience descent fertility than those with less education. The odds of experiencing adolescent fertility in adolescents with secondary education and higher reduces when marital status and contraceptive use are introduced in the model. This means that marital status and contraceptive use explain the influence of education on adolescent fertility.

Religion and age at first sexual intercourse were found to be insignificantly associated with adolescent fertility. This study also shows early sexual initiation among female adolescents, the mean age at first intercourse was 15.2; this is too early in comparison to other sub-Saharan African countries. For example, studies by Odimegwu (2002) showed that female adolescents in Nigeria initiated sex at 19 years. Early initiation of sexual intercourse in the absence of effective contraception exposes adolescents to risk of childbearing and sexually transmitted diseases. In addition, early sexual intercourse has implications on reproductive health of adolescents.

Results show that when taking all factors into consideration, the social-demographic variables; region, residence and age lose their significance in predicting adolescent child-bearing. The socio-economic variables; education and wealth quantile downplay the socio-demographic variables. It is clear that the influence of individual variables is downplayed or enhanced by other variables and the influence of proximate variables; marriage and contraceptive use on adolescent fertility is very significant. The variables; marriage and contraceptive use directly explain the risk to adolescent fertility through coital exposure in marriage and the ability to prevent, space or postpone pregnancies through contraceptive use.

The literature review indicated low contraceptive use among adolescents in Zambia; this was confirmed by the study in the high numbers of adolescents who reported having had experienced child birth in the Demographic Health Survey; and the negative service provider attitude and lack of service provider training to deliver comprehensive youth friendly sexual and reproductive health services that were cited in the FGDs and key informant interviews respectively. The study further shows that service providers' attitude towards service delivery for adolescents is deeply rooted in their religious and cultural beliefs.

## 5.4 Recommendations

1. The study shows that 27 per cent of adolescents aged 15-19 years got married before the age of 16 years and teenage pregnancy remains high at 28%. The ministries of Justice, community development and other line ministries should enhance the enforcement of laws and policies to prohibit early marriages in Zambia. The national strategy to end child marriage should be double edged and integrate strategies to end teenage pregnancy as the two variables are closely related. Integration is cost effective and enhances a multi sectoral coordination.
2. The findings from this study showed that adolescents with primary education or less are more likely to have one or more births compared to adolescents with higher education. This shows that acquiring secondary and higher education will help in reducing adolescent fertility. Adolescent females should be encouraged to pursue higher educational qualifications; this will reduce early marriage and adolescent child-bearing. Comprehensive Sexuality Education (CSE) should be rolled out to all schools and mechanisms be put in place for the effective delivery of out of school CSE. Parents and the community at large should be encouraged to break the silence and talk to their adolescents about sexuality and other related topics.
3. The results from the qualitative study highlight the inadequate youth friendly health services and poor service provider attitude towards adolescents and young people. There is need to operationalize youth friendly health spaces in health centres in all regions of Zambia, especially in the rural areas and the Western and Northern provinces which showed had higher cases of adolescent fertility; train health service providers in the provision of youth friendly, comprehensive and rights based sexual and reproductive health services; and include the youth friendly services training into the service provider pre service curriculum.
4. Based on the findings that peer pressure leads adolescents to have intergenerational sex there is need for the Ministry of Health and the Ministry of Youth and Sport to combine efforts and integrate Sexual and Reproductive Health with social economic interventions to facilitate the building of social, health, and economic assets while equipping adolescent girls with life skills

and knowledge to help maintain healthy lifestyles and the confidence to assert their rights and protect themselves from harm and threats. Enhance a multi sectoral approach.

5. Findings from this study showed low prevalence of contraceptive use; to address the problem of Adolescent child bearing, the Ministry of Health and its cooperating partners should enhance access to contraceptives by eliminating age related barriers to access. The Family Planning protocols should provide a rights based guidance to service providers on how to provide services to adolescents.
6. The study, in the quantitative analysis shows that adolescents who had their first intercourse below the age of 16 years experienced higher adolescent fertility than adolescents who had their first intercourse after 16 years old, at 47.8% and 37.6 per cent respectively; and service providers interviewed reported having a challenge with the younger adolescents because the standards and guidelines require parental consent for them. Fertility and health surveys usually have a lower bound of age 15, very little information is available for younger adolescents even though there is evidence that some adolescents had experienced a birth before their 15th birthday. Obtaining data on sexual and reproductive behavior directly from adolescents younger than 15 is essential to programming for younger adolescents and this requires obtaining approval from institutional review boards, consent for the adolescents' voluntary and confidential participation and developing appropriate survey methods. The researcher recommends that further studies should be done to obtain data on sexual and reproductive behavior directly from adolescents younger than 15 years old.

## Annex 1

### FGD guide for Adolescents in Youth Friendly Corners

#### Introduction of interviewer

Good morning/afternoon. My name is Namakando Simamuna, I am a student at the University of Zambia. I am here to get some information from you concerning adolescent having children and the reproductive health of young people in this community. The information gathered shall be used solely for academic purposes. I assure you that the information you will give me will be treated confidentially and your identity will never be disclosed to any person. I would like to record the discussion to make sure that I capture the thoughts, opinions, and ideas we hear from the group. No names will be attached to the focus groups and the recording will be destroyed as soon as they are transcribed.

You may refuse to answer any question or withdraw from the study at anytime. I understand how important it is that this information is kept private and confidential, I therefore ask participants to respect each other's confidentiality. I expect you to voluntarily accept to answer these questions as objectively as possible.

**Name of Community:** ..... **Health Centre:** .....

1. What do you understand by the terms 'Sexual and Reproductive health' and 'Sexual and Reproductive Health and Rights'?  
.....  
.....  
.....
2. In your own opinion, how would you describe the extent to which reproductive health services are needed by the adolescents in this community?  
.....  
.....  
.....
3. Have you ever heard about youth friendly reproductive health services? What have you heard? What are the factors that might be influencing young people to use or not to use SRH services at this health centre?  
.....  
.....  
.....
4. Are young people's Sexual and Reproductive Health needs comprehensively met at this youth friendly corner?  
.....  
.....
5. In your view, how easy is it, (in terms of the clinic's response to youths' fears, needs and concerns) to access these services?

.....  
.....  
6. Do you have any challenges with the service providers' attitude?  
.....  
.....

7. Which of the following reproductive health services are usually accessed by the young people and why?

- ✓ Family planning services
- ✓ Laboratory services
- ✓ Voluntary counselling and testing (VCT) for HIV
- ✓ Screening and treatment for sexually transmitted infections
- ✓ Male circumcision
- ✓ Post abortion care/ Comprehensive abortion care
- ✓ Screening for reproductive cancers
- ✓ Counselling for sexual and reproductive health issues
- ✓ Referrals to specialized services not available at the centre

8. What do you think are the causes of adolescent pregnancies?  
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.....

9. What are the community attitudes towards provision of SRH services like condoms and contraceptives to unmarried adolescents?  
.....  
.....

10. What are the factors that might be influencing adolescents to engage in unsafe sexual and reproductive practices?  
.....  
.....

11. . What do you think could be done in order to attract more young people to use SRH services and reduce adolescent fertility?  
.....  
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*Thank you*

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