


**ADDIS ABABA UNIVERSITY**

**COLLEGE OF DEVELOPMENT STUDIES**

**CENTER FOR POPULATION STUDIES**

# Determinants of Adolescent Fertility in Oromia National Regional State of Ethiopia

**By**

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**September, 2021**

**Addis Ababa**

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# Determinants of Adolescent Fertility in Oromia National Regional State of Ethiopia

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**A THESIS SUBMITTED TO COLLEGE OF DEVELOPMENT STUDIES, CENTER FOR POPULATION STUDIES IN PARTIAL FULFILMENT OF THE REQUIRMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN POPULATION STUDIES (REPRODUCTIVE HEALTH)**

**September, 2021**

**Addis Ababa**

# ADDIS ABABA UNIVERSITY

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# CENTER FOR POPULATION STUDIES

This is to certify that the thesis prepared by **Lidia, Teklu Olana** entitled: "Determinants of Adolescent Fertility in Oromia National Regional State of Ethiopia" and submitted in partial fulfillment of the requirements for the degree of master of science in population studies (Reproductive Health) complies with the regulations of the university and meets the accepted standards with respect to the originality and quality.

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## DECLARATION

I, the undersigned, declare that the thesis which is entitled "Determinants of Adolescent Fertility in Oromia National Regional of Ethiopia: Evidence from EDHS 2016" and submitted in partial fulfillment of the requirements for the Degree of Master of Science in Population Studies complies with the regulations of the University and meets the accepted standards with respect to originality and quality. Therefore, it is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the study have been duly acknowledged.

Name: Lidya Teklu

Signature: _____

Date: _____

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# Table of Contents

ACKNOWLEDGMENT ..... ii

List of Tables and figures ..... iv

ABSTRACT ..... v

CHAPTER ONE ..... 1

INTRODUCTION ..... 1

1.1. Background of the Study ..... 1

1.2. Statement of the Problem ..... 3

1.3. Research Questions ..... 5

1.4 Objectives of the Study ..... 5

1.4.1. General Objective of the Study ..... 5

1.4.2 Specific Objectives of the Study ..... 5

1.5 Significance of the Study ..... 5

1.6 Scope of the Study ..... 6

1.7 Structure of the Thesis ..... 6

CHAPTER TWO ..... 7

*REVIEW OF RELATED LITRATURE* ..... 7

2.1 Introduction ..... 7

2.2. Determinants of Adolescent Fertility ..... 7

2.3. Factors that affect Fertility ..... 9

2.3.1 Age at First Sex ..... 9

2.3.2 Age at First Marriage ..... 10

2.3.3 Education ..... 11

2.3.4 Dwelling Place ..... 12

2.3.5 Contraception Awareness and Practice ..... 13

2.3.6 Religion ..... 14

2.3.7 Economic Status/Wealth Index ..... 14

2.3.8 Exposure to Media ..... 15

2.3.9 Marital Status ..... 15

CHAPTER THREE ..... 19

RESEARCH DESIGN AND METHODS ..... 19
3.1 Study Site Description ..... 19
3.2 Research design and data source ..... 19
***3.3* Sample Size** ..... 20
3.4. Methods ..... 20
3.5 Study Variables ..... 21
3.5.1 Dependent Variable： ..... 21
Ever had a child or pregnant ..... 21
3.5.2 Independent Variables： ..... 21
3.5.3 Other variables - ..... 21
CHAPTER 4 ..... 22
RESULTS ..... 22
4.1 Socio-demographic and socioeconomic characteristics of the study group ..... 22
4.2 Fertility status of adolescents and related variables ..... 23
4.3 Factors associated with adolescent fertility status ..... 24
CHAPTER 5 ..... 28
Discussion, Conclusion and Recommendation ..... 28
5.1 Discussion ..... 28
5.2 Conclusion ..... 29
5.3 Recommendation ..... 30
REFERENCES ..... 31

# List of Tables and figures

Table 1: Sociodemographic and Socioeconomic characteristics of adolescent girls in Oromia regional state, 2020 ……..…22

Table 2: Fertility related behaviour of adolescent girls who participated in the 2016 EDHS ..... ……23

Table 3: Fertility status of adolescents by background characteristics in Oromia regional state in the 2016 EDHS ..... ……..25

Table 4: Factors associated with adolescent's fertility status in Oromia regional state, in the 2016 EDHS ..... …27

# ABSTRACT

***BACKGROUND:*** *Adolescent pregnancy and fertility are often discussed in literature as causes of health concern and as a social problem. High teenage fertility is recognized as a worldwide challenge given its adverse consequences. In sub-Saharan Africa, adolescent childbearing remains common. Maternal and child mortality is greatly affected by adolescent pregnancy and contribute hugely to the vicious cycle of ill-health and poverty.*

***OBJECTIVES:*** *To examine the determinants of adolescent fertility in Oromia National Regional State of Ethiopia.*

***METHODS****: A cross-sectional sample survey design using stratified cluster sampling method by the Ethiopian Demographic Health Survey 2016 (EDHS-2016) was used. After the data for adolescents aged from 15 to 19 years were extracted from the large data set, descriptive statistics and logistic regression were done. Multivariable logistic regression model was fitted to identify socio demographic and economic determinants of adolescent fertility.*

***RESULTS:*** *A total of 415 adolescent girls from Oromia regional state were included in the selected sample in EDHS-2016. The prevalence of adolescent girls who ever had a child or pregnant was 17 %. Adolescents who had no education and primary education were 5.5 and 5.3 times more likely to have a child or be pregnant than those with secondary and above education respectively. [AOR=5.5; 95%CI (1.38,22.29)] [AOR=5.3; 95% CI (1.53,18.46)] Those ever married adolescents were 138 times more likely to have a child or be pregnant than never married adolescents. [AOR=138.7; 95% CI (70.83, 271.83)*

***CONCLUSION:*** *A considerable proportion of female adolescents in Oromia regional state had a child or was pregnant already. Being married and at low level of education were significant predictors of adolescents' fertility status. In addition even though almost universally adolescents know about contraceptives (97%) utilization level is very low (4%).*

***RECOMMENDATION****: Concerned stakeholders should work towards supporting girls' education and delaying marriage of adolescent girls*



*Key Words: Adolescent fertility, Oromia, Marriage, Contraceptive use*

# CHAPTER ONE

# INTRODUCTION

## *1.1. Background of the Study*

Maternal and child mortality is greatly affected by adolescent pregnancy and contribute hugely to the vicious cycle of ill-health and poverty. *The Global Strategy for Women's and Children's Health*, launched by the United Nations Secretary-General in 2015, emphasizes the issue of improving health and welfare of adolescent girls (aged 15–19 years youth) are not just beneficiaries of this from the above- stated process – they are essential actors in achieving the seventeen Sustainable Development Goals (UN, 2017). Adolescence is the transitional stage from childhood to adulthood followed by significant physiological, psychological and social changes. Those individuals in the age bracket which ranges from 10 to 19 years are defined as adolescents (WHO, 2020).

According to (Gideon, 2013) Adolescent pregnancy and fertility are main cause of health concern and social problem besides one of the global challenge is high adolescence fertility and the subsequence is bad. In sub-Saharan Africa, adolescent childbearing remains common. The health and development of adolescence girls is affected by early child bearing. The high risk of maternal death and disability for adolescents; and early childbearing often limits girls' opportunities for education, training, and livelihood development. Adolescent childbearing is more common in developing countries (Population Reference Bureau, 2013). Adolescent fertility thus remains a major health and social problem resulting in inter-dependent consequences. It further initiates into early childbearing which, in turn, lengthens the reproductive period and subsequently increases individual lifetime fertility rates. Following adolescent child bearing depends on some specific factor such as specific cultural, familial, and community settings; its physical or health-related consequences at the individual level are more problematic (Buvinic & Kurz, 1998; Lancet Commission, 2016). Such understanding about factors that influence adolescent fertility is critical to addressing this challenge**.** Generally, adolescent are highly exposed and suffer from various reproductive health problem. According to (Stella *et al*.,2004) early marriage, unwanted pregnancies, unsafe abortions, sexually transmitted infections (STIs)

including HIV/AIDS, female genital cutting, malnutrition, anaemia, infertility, and sexual and gender based violence are the major reproductive health problem.

Adolescent birth is when a girl below age 20 gave to a live birth and adolescent fertility is a measure the rate such birth occurs per thousand adolescents. Adolescent birth rate is calculated as the proportion of girls aged 15-19 years .who have a child. (CSA & IFC-International, 2017). In the world, average adolescents birth rate for the period of 1990 – 2017 was 18.8 live births per 1,000 women aged 15 to 19 years (UNFPA, 2019). Studies show that the average fertility rate of adolescent in the developing countries are five times greater than developed counties. This means that one third of adolescent women in developing countries give birth before the age of 20 years.(Tewodros *et al*., 2010; UNDESAPD, 2019).

Worldwide, a sizable number of adolescents suffer from reproductive health problems. Throughout the world, over 14 million adolescents aged 15-19 years give birth annually (Mekonnen, 2013). About 16 million adolescent girls give birth every year – most in low- and middle-income countries. An estimated three million girls aged 15–19 undergo unsafe abortions every year. In low- and middle-income countries, complications from pregnancy and childbirth are a leading cause of death among girls aged 15–19 years. Stillbirths and new born deaths are 50% higher among infants of adolescent mothers than among infants of women aged 20–29 years. Infants of adolescent mothers are therefore more likely to have low birth weight (WHO, 2014).Fertility in the least developed countries is not only high but also characterized by a very early onset of childbearing. Accordingly, the least developed countries show some of the highest adolescent birth rates in the world. There are over 14 million births to adolescent women aged 15-19 each year, which accounted for 91 present of these in low and middle-income countries (UN, 2009). There are higher rates of teenage pregnancy and childbearing among Latin American, African, and Asian and Caribbean countries than other parts of the world (UN, 2019).

Accordingly, Ethiopia is a country having one of the highest fertility rates in the world. According to the United Nations Population Fund (2019), The fact that the great majority of women of reproductive age in Ethiopia are young suggests the potential of sustained high fertility, as levels of any method of contraceptive use was lower 15.36% among married women

of reproductive age and adolescents in age group of 15 – 19 years was computed to be 32% in 2016 (CSA, & ICF-International, 2017). The survey also showed that early marriage was common in Ethiopia, with a median age at first marriage among women aged 25-49 was 16.1 years. Abortion and pregnancy complications are widespread. For instance, in 2008 an estimated 382,000 induced abortions were performed in Ethiopia, and an estimated 52,600 women were treated for complications of such abortions (Singh et al., 2010). Most of these complications occurred among teenage women (Haile, 1992). Additionally, 17.4% of the total deaths that had occurred seven years preceding the Demographic and Health Survey were among those women aged 15 – 19 years old in Ethiopia (CSA & ICF-International, 2017).

## *1.2. Statement of the Problem*

The issue of adolescent fertility is important for health, demographic and social reasons. Adolescent mothers themselves are more likely than older women to suffer from severe complications during pregnancy and delivery because of physiological immaturity (CSA & ICF, 2016). According to a report of UNFPA (2019), prior studies from developing countries have shown that married adolescents have earlier and higher fertility, poor fertility outcomes, and inadequate number of years between children than have married young adults (Huma, 2011).

The fertility among adolescents aged 15-19 years in Ethiopia is 80 births per 1,000 women. The crude birth rate in Ethiopia was 36.5 births per 1,000 populations in 2016, and 2017, respectively (CSA & ICF-International, 2017). Women of reproductive age have been the main agents of change in the size and structure of the population in sub-Saharan Africa. In 2007, women in the reproductive age group accounted for 23% of the Ethiopian population and about a quarter of those women were teenagers (CSA, 2008). The fact that the great majority of women of reproductive age category in Ethiopia are young suggests the potential of sustained high fertility, as levels of contraceptive use are low, at 39.2%, among married women of reproductive age, according to the 2016 Ethiopian Demographic and Health Survey (EDHS) (CSA & IFC-International, 2017). Apart from its huge contribution to the overall fertility level of a population, teenage fertility and parenthood have enormous consequences on the wellbeing and

quality of life of the teenage mothers, expressed in the form of poor reproductive health, school discontinuation and disruption of opportunities to advance further in life. Moreover,the younger adolescents exposed to pregnancy are at increased risk than older ones. Parenthood for a 19-year old is a completely different experience than parenthood for a 14 year old. The younger women are not yet reached at a stage of physiological development and maturity to become mothers (Coleman & Dennison, 2006).

There is an inverse relationship between age at first marriage and fertility in populations where little or no fertility control is practiced and childbearing outside wedlock is uncommon (Bekele & Hailemariam, 2010). In Ethiopia, marriage marks the point in a woman's life when childbearing becomes socially acceptable. Age at first marriage has a major effect on childbearing because women who marry early have, on average, a longer period of exposure to pregnancy and a greater number of lifetime births. Early marriage is directly associated with the early initiation of childbearing and high fertility which may have adverse effects on the health of mothers and new-borns. From most sub Saharan countries Ethiopian women marry at younger age on average which is 17.1 years in 2016 (CSA & ICF-International, 2017). According to EDHS 2016 total fertility rate of Oromia national regional state is 5.4. 10% of this result is adolescent fertility in Oromia. Therefore, it is imperative to undertake empirical study on determining factors of adolescents' fertility in Oromia National Regional State of Ethiopia.

Adolescent fertility and child bearing have harmful consequence at different level such as global, societal and personal. When women have their first child at teen age that resulted in prolonged reproductive period and subsequently increased fertility enhance global population growth. (Habte & Haider, 2010) Africa remains one of the continents with the highest levels of teenage pregnancies in the world. In spite of this, there are limited empirical studies conducted on determinants of teenage and adolescent fertility in Africa (Odejimi & Bellingham-Young, 2016). This study adds to current knowledge in the research community by thoroughly examining the determinants of adolescent fertility in the study area. Thus, this study aims at determining factors for adolescents' fertility in Oromia National Regional State of Ethiopia.

## *1.3. Research Questions*

- Which socio-demographic characteristics of the adolescents determine their fertility in Oromia National Regional State?
- Which socio-economic characteristics of the adolescents are associated to their fertility in Oromia National Regional State?
- Which fertility related behaviour of adolescents determines their fertility in Oromia National Regional State?

## *1.4 Objectives of the Study*

### 1.4.1. General Objective of the Study

The study generally intends to examine the determinants of adolescents' fertility in Oromia National Regional State of Ethiopia.

### 1.4.2 Specific Objectives of the Study

The specific objectives of this study include:

- To examine the relationships between socio-demographic and socio-economic characteristics, and adolescents' fertility in Oromia National Regional State; and
- To examine the level of contraceptive knowledge and use of adolescents and their association with fertility status of adolescents in Oromia National Regional State.

## *1.5 Significance of the Study*

Some studies are conducted on adolescents' fertility country wise. However, studies that have examined determinants of adolescent fertility are very limited in Oromia National Regional State. Thus, the paper examines factors that affect adolescents' fertility so as to fill the gap in literature and contribute towards the academic attempts in adding some knowledge about it. The study can be used as a source of information and a stepping stone for researchers to do more study on the topic and can also be used as a valuable input for any stakeholder(s), especially for the government and/or policy makers which are working towards reducing preventable maternal and child deaths, and improving adolescent reproductive health.

## *1.6 Scope of the Study*

The study is all about the factors that affect adolescents' fertility in Oromia National Regional State of Ethiopia. The sample of women in reproductive age who are selected and participated in the 2016 Ethiopian Demographic and Health Survey (EDHS) was 1892. (CSA & ICF-International, 2017). From these those in adolescent age group of 15 -19 were 415. Therefore this study is based on data from this eligible sample of girls extracted from the 2016 EDHS. Adolescents younger than 15 years were not included in the study as the EDHS does not include women outside of the conventional reproductive age group.

## *1.7 Structure of the Thesis*

The thesis is organized into five chapters. Chapter One introduces the background of the study, statement of the problem, research questions, objectives of the study, significance of the study, and scope of the study. Next, chapter two presents review of related literature on socio-demographic and socio-economic factors affecting the adolescents' fertility, proximate factors which may influence on the adolescents' fertility, and conceptual framework of the study. The Third Chapter explains the research design and method of the study. Chapter Four describes the results of the study and chapter five presents discussions of the findings in light of the findings of similar studies conducted elsewhere in the world. Finally, conclusions are drawn from those major results of the data analyses and then recommendations are suggested for plausible actions in various socio-economic contexts at different levels in Oromia National Regional State.

# CHAPTER TWO

## *REVIEW OF RELATED LITRATURE*

### *2.1 Introduction*

This chapter presents and reviews available related literature on socio-demographic and economic characteristics which are identified as affecting adolescents' fertility in different parts of the world. It also discusses about major determinants of adolescent fertility

### *2.2. Determinants of Adolescent Fertility*

The determinants of adolescent fertility in developing countries have been identified as mainly social, cultural, and economic factors (which include socioeconomic conditions; educational attainment; urbanization; family and cultural structure; and under-utilization of healthcare services (Chemuru & Srinivas, 2015; Dev-Raj, 2010; World Bank, 2010). Isaranurug, Mo-suwan and Choprapawon (2006), and Shrestha (2002) highlighted poor socio-economic conditions (such as income, employment status, and income status are associated with high adolescents' pregnancy rate. Consequently, poor socio-economic status of individuals is now being recognized not only as a risk factor but also an end result of adolescents' pregnancy (Health Development Agency, 2003; WHO, 2006). This is because adolescents' parents often become deprived families and the vicious cycle continues (Gökçe, Ozsqahin, & Zencir, 2007).

Fertility is the actual capability of giving life/birth. The size and structure of a population is determined by fertility, one of the three major components of population dynamics. Fertility is thus a major explanatory force in population dynamics and a major counteracting force to population attrition through mortality. Differential in fertility behaviour and fertility levels in different areas and among population strata or characteristics have been among the most pervasive finding in demography (Ramesh, 2010). The major factors that affect fertility are classified in to proximate (direct) and distal (indirect) according to Bongaarts (Bongaarts, 1984) The proximate factors are bio-behavioural factors, like being sexually active, use of

contraceptive, duration of postpartum infecundability, abortion and sterilizing which affect fertility directly, whereas, distal determinants are socio-cultural factors which affect fertility indirectly through affecting the bio-behavioural factors. (Bongaarts, 1984)

Human fertility is also responsible for the biological replacement and maintenance of the human species. In fact, fertility is a major counteracting force to population attrition from mortality and therefore, has a significant expansionary force in population dynamics. However, the phase of actual reproductive performance is counted in terms of the physiological potential of a woman to conceive and bear children. This phase is termed as the fecund period, which has two extremes, viz., menarche and menopause. In demographic studies, the reproductive span (i.e., the child-bearing period of women is usually taken as between 15 to 49 years of age). Thus, a fecund woman may or may not be fertile but a fertile woman must be fecund. The main events or phenomena associated with fertility are age at menarche and age at menopause. It is found that a later age at marriage reduces fertility. Educational level, economic status, religious attitudes, women's work participation etc. are other factors affecting fertility in addition to contraception control practice and attitudes (Samson & Mulugeta, 2009).

According to Mcquestion, Silverman, & Glassmanm, 2012, the wide spread consensus among advocates of reproductive health is that adolescent fertility in low and middle income countries is an obstacle to development. Policymakers believe that apart from the well-established health risks, adolescent pregnancy can result in poor socioeconomic outcomes such as dropout of school, lost productivity, and the intergenerational transmission of poverty (McQueston, Silverman, & Glassmanm, 2012).

However adolescent pregnancy is a problem in and of itself, or merely symptomatic of deeper, ingrained disadvantage. To inform policy choices and create a revised research agenda for population and development, scholars in the field have argued that identification of determinant and proximate factors may have importance in reducing the adolescents' fertility. Now, let me consider and explain identified proximate factors, socio-demographic and economic characteristics of the adolescents.

## *2.3. Factors that affect Fertility*

Researchers have identified different factors that affect the fertility of the adolescents. These include: age at first sex, age at marriage (e.g. Atsbaha et al., 2016; Islam, 2009), education, dwelling/residence place, contraception awareness and practice (e.g. Habitu et al., 2018; Laelago et al., 2019; Mihret, Tewabe, & Dejene, 2017; Zaba et al., 2004), religion, economic status/wealth index, exposure to media, and marital status (Bongaarts, 1984; Yosef, 2012), as well as children ever born, knowledge of family planning, work status, age at first pregnancy, current pregnancy, not communicating with parents on reproductive health issues and not living with parent(s) (e.g. Goicolea, 2009; Santos et al., 2011; Sofia et al., 2014), income of parents (e.g. Ayele et al., 2018; Olurinda, 2016), under-utilization of health care services, and ethnicity (e.g. Cortez et al., 2016; Nyarko, 2012).

### 2.3.1 Age at First Sex

The key determinant of adolescent childbearing is age at first sexual inter course. In Malawi, 52 percent of adolescent females had first intercourse at the age of 17 (Malawi Demographic & Health Survey, 2014). 12% of adolescent females 15-19 had first intercourse by the age of 15 in Zambia. (Zambia Demographic & Health Survey, 2007). In Kenya's demographic and health survey of 2008-9, when women were asked how old they were when they first had sexual intercourse 12 per cent of women aged 20-49 years reported that they had sex before their age of 15 years, and about half had their first sex by their 18$^{th}$ year's birthday (KDHS, 2008-9)

Several studies showed that at early adolescent stage sexual activity is common. This is as the result of influence by family and peer pressure. According to a study of six Sub Saharan Africa countries, based on data from demographic and health surveys, it is found that Gana, Kenya, and Uganda experienced more decline in age at first first sex at 13 years, whereas in Tanzania, Zambia and Zimbabwe recorded lower rate of premarital sex. (Zaba et al., 2004). The study found that in Uganda there was a short interval between initiation of sexual activity and marriage. Thus, in the absence of contraceptives, early initiation of sexual intercourse can lead to high prevalence of adolescent childbearing.

Cesari & Vignoli (2006) found that among female adolescents in Kenya, the onset of sexual activity was early, and this exposed adolescents to early marriage and early childbearing. Similarly, Ikamari and Towett (2007) found that older age at the first sexual intercourse had a negative effect on adolescent mother. In Ethiopia Oljira et al. (2012) found that 79 per cent off adolescents initiate sex before age of 18 years (Olijira, 2012)

### 2.3.2 Age at First Marriage

Marriage is one of the direct determinants of fertility (Bongaarts, 1978). It affects fertility because there would be frequent and regular exposure to sexual relation when the adolescent enter in to marital life. It is more likely that fertility takes place with in marriage, there is also inverse relationship between age at first marriage and fertility. This is because of exposure to the risk of becoming pregnant and actual commencement of the presence of child bearing is determined by age at first marriage. (Islam, 2009).

Socio-economic development, particularly improvement in women's education, provision of increased employment opportunities for women and raising their status can contribute to higher age at marriage. World fertility survey data show, however, that postponement of marriage by a few years in many developing societies where age at marriage is very low has little reduction effect on fertility. It appears that in most countries only where age at marriage is raised substantially above the level of around age 21 is associated with lower fertility. Even above that age the impact of higher age at marriage is not always clear. Women who marry late tend to be better educated, have a higher social status and practice contraception to a great extent than women marrying younger (Hakim, 1994).

Family and cultural norms such as early marriage in developing countries have also been noted to account for high teenage pregnancy in Africa (Chemuru & Srinivas, 2015). Mangiaterra et al. (2008) explained that 90% of all teenage births in Africa occur within marriage and this is close to 100% in Northern Africa. Although Westoff, Blanc and Nyblade (1994) highlighted that the

age of female at marriage is subsequently increasing in Sub-Saharan Africa, however, the Synopsis of World Bank (2010) makes clear the pace is quite slow.

An explanation given by Sharma et al (2002) is that early marriage is culturally acceptable in many developing countries. In addition, Dev Raj et al. (2010) rightly point out those adolescent girls rarely take part in decision making. In about 80% of cases, the marriages were decided by the parents without obtaining consent from their daughters (Shrestha, 2002).

### 2.3.3 Education

There are numerous channels through which education can affect fertility. It is contended that education provides individuals with a new vision and normative orientation, better health care, better employment opportunities outside home, better knowledge of and access to family planning method these in turn, may produce a depressing effect on fertility (Cochrane, 1979). Educational attainment alters parent's perceptions of the advantages of small families brings changes in the status of women, changes the social and economic aspirations, and affect attitude towards contraception and ability to understand and make use of particular methods. The empirical findings of a number of studies have supported such an inverse relationship between education and fertility.

Cochrane (1979) has also shown that the aggregate level of education in the community affects the level of fertility, and she also concluded that an inverse relation is much more consistent for female than male education. Caldwell (1980, pp. 227-249) considered that the greatest impact of education is not direct but through the restructuring of family relationships and family economies and the effect of these on the direction of net wealth flows between generations. Fundamentally, schooling attacks the traditional family economic structure by weakening the authority of the old over the young and of the male over the female. Elaborating on this theme, Caldwell (1982) maintains that intergenerational cost and benefit shifts occur when parents begin to invest more in the education of their children than children contribute to the family through child labour and care for aged parents. This reversal in the intergenerational flow of wealth from that of children to parents to that of parents to children encourages couples to opt for smaller families.

Of all the social factors that have been widely studied for their impact on fertility, women's educational attainment is the one that has proved most consistently and strongly related to fertility. Education provides women with some of the basic skills and confidence to begin their lives. It gives opportunities for participation in the outside world. It influences attitudes and perceptions. It gives openness to ideas. Education gives rise to liberal attitudes towards the sex of the child (Sharma, 1998).

Likewise, low education attainment and under-utilization of healthcare services particularly, sexual health services among female adolescents have been associated with high teenage pregnancy in Africa (Bonell et al., 2005; Health Development Agency, 2003; Imamura, 2007; Lemos 2009; Were, 2007; World Bank, 2010; WHO, 2012). Furthermore, Lemos (2009) highlighted that low educational attainment remains one of the most important determinants of teenage pregnancy, as it greatly impacts on the socioeconomic status of individuals as well as utilization of sexual health services.

### 2.3.4 Dwelling Place

The urban-rural differential in fertility is one of the most widely studied areas in fertility. It is generally expected that, in societies undergoing socio-economic, cultural, and demographic changes, fertility will be lower in urban than in rural areas due to the impact of a host of factors. The lower fertility in urban areas may be viewed from two perspectives. Firstly, at the aggregate (macro) level of analysis, urban fertility may be lower because the urban population has a larger proportion of white collar jobs and who are thus likely to marry late and have smaller families. Secondly, at the individual (micro) level of analysis, one may hypothesize that the same level of education and income will produce lower fertility in urban setting. Moreover, the urban population contains a higher proportion of those who are expected to adopt new ideas and new life styles first and of those for whom a large family does not represent an economic benefit but rather a burden (Hakim, 1994).

Ethiopia, being one of the developing countries where subsistence agriculture is the major economic activity, families often prefer larger number of children since they are considered as economic asset rather than liabilities. In rural areas, parents want to have a large number of children to get assistance in farming activities and emotional as well as economic support during old ages. According to Caldwell (1982), the economic importance of children is over lifetime. African children do not only provide support during childhood and adolescent ages but also beyond these ages. More psycho-social and economic support is expected when parents are getting older. Old-age security is one of the major motivational forces for having as many children as possible in Africa. In traditional societies, children are also expected to strengthen the extent of kin relations, which implies not only economic benefits but also physical protection. Getting larger in number is tantamount to strength in physical security. Like many countries in Sub-Saharan Africa, traditional norms and values in Ethiopia are in favour of high fertility. Having many children is considered as a virtue and respect of God in a number of Ethiopian rural communities (Desta & Seyoum, 1998).

### 2.3.5 Contraception Awareness and Practice

Family planning plays a pivotal role in checking the global population crises. According to United Nations estimates, family planning accounted for two-thirds of the decline in total fertility rate (TFR) in the developing world from 1960-65 to 1980-85. The DHS 2000 report indicates that there is a high total fertility (5.9) and population growth rate (2.9%) in Ethiopia. In July 2018, the Ethiopian population is estimated to be over 73 million. Many studies have been conducted in order to uncover obstacles of family planning acceptance and its continued use. Historically, however, women were typically the respondents of demographic research and most of this study recurrently documented various socio-demographic, fertility and other cognitive and affective attributes of women as determinants of contraception use since a long time ago. However, the socially defined gender roles of men and women gauge the power balance between the two sexes (Haile & Enqueslassie, 2006).

In developing countries, most communities afford inferior positions to women. In effect, women are either under collective decision-making with their partners or completely rely on the male partner’s decision on issues that affect their reproductive live. Many of the studies conducted in this area also showed spousal influence on each other’s fertility preference and reproductive

decision-making. Despite this fact, until recent years, men's role in couple's fertility decision-making was ignored. However, demographic studies examined the role of men in family planning in the past few years and many of them showed the importance of involving husbands for couples' family planning adoption (Haile & Enqueslassie, 2006).

Besides men's involvement, improving the status of women was underlined in the past few years as one of the key strategies to ensure the sexual and reproductive health of men and women. However, except women's education only a few studies explored the implication of other proxy indicators of women's status, i.e. women's socio-economic and domestic decision-making position etc. on couples' contraceptive behaviour. (Haile & Enqueslassie, 2006).

### 2.3.6 Religion

Demographers have historically been interested in the relationship between fertility and religion in Sub-Saharan Africa because of the region's high fertility and dynamic and influential religious environment. For example, John Caldwell and Pat Caldwell began their 1987 article with the statement: Sub-Saharan Africa may well offer greater resistance to fertility decline than any other world region. The reasons are cultural and have much to do with a religious belief system that operates directly to sustain high fertility but that also has moulded a society in such a way as to bring rewards for high fertility (Caldwell & Caldwell, 1987, p. 409). They were not alone in this sentiment: Religion was and to an extent still is seen largely as a barrier to fertility decline and to family planning adoption in the region. McQuillan (2004) proposed three preconditions necessary for religion to influence fertility. He argues that religion will affect fertility behaviour when it: (1) articulates norms relevant to fertility; (2) can communicate these values and promote compliance; and (3) is central to the social identity of its followers. In isolated communities, such as the rural villages of sub-Saharan Africa, norms are articulated by religious leaders and fostered within local congregations around which social identity develops. (McQuillan, 2004)

### 2.3.7 Economic Status/Wealth Index

Using data from Demographic and Health Surveys conducted in the 1990s, the World Bank has produced a series of demographic and health indicators by wealth quintiles for 22 Sub-Saharan African Countries (Gwatkin et al., 2000). These results indicated that, in most countries, fertility

clearly decreased with increasing economic status. Using the Côte d'Ivoire LSMS survey, Ainsworth (1989) found a slightly negative relationship between economic status and fertility among uneducated women.

Household economic status of women also plays an important role in fertility levels. Women of upper class household economic status are likely to possess maximum and expensive household goods and have exposure to modern amenities and also likely to be better educated. For maintaining their standard, they may prefer to have fewer children compared to women of lower economic class. Now under the economic pressure, the overall perception of the people is changing as it is becoming difficult to afford large families of the past and it is truer for those who want modern amenities (Hakim & Miller, 1996).

### 2.3.8 Exposure to Media

One of significant factors that influence adolescent fertility is exposure to media in disseminating information and bringing social changes in respect to attitude towards fertility behavior the role of mass media is vital. In Ghana, Nyarko (2012) found that for adolescent that were not exposed to media child bearing was high on the other hand child bearing were lower to those exposed to media. Probably because of lack of knowledge to make informed choices concerning their sexual and reproductive health matters. This is because the mass media are believed to play a significant role in promoting social attitudes about fertility and reproductive behaviors. In another study, Ferara et al. (2008) explored the effects of television on fertility in Brazil. Results showed that exposure to the media among women led to a lower level of fertility.

### 2.3.9 Marital Status

Several studies have been conducted to explore the relationship between marital status of adolescent and its influence on their fertility. In Uganda, from data of DHS 2011, Rutaremwa (2011) found that having a child or being pregnant is found to have strong relationship with marital status. Similarly,,Nyarko (2012) in Gana, found that childbearing is highest among married adolescent and lowest for those never married. In Zambia, Nwogwugwu (2013) found that marital status to be significantly associated with adolescent fertility. Married adolescents are more likely to have one or more children compared with unmarried.

Studies by, Alemayehu et al. (2010) and Alemayehu (2008) showed that marital status was significantly associated with adolescence fertility in Ethiopia. Married adolescent are more likely to have one or more children compared with UN married. On the other hand, a study by Beguy et al. (2013) on entry into motherhood among adolescents in two informal settlements in Nairobi found that marriage was significantly associated with early childbearing among adolescent females aged 15-17 years and for adolescents aged 18 – 19 years, where marriage hastened the timing of entry into motherhood. In another study, Chike (2001) found that much of the adolescent fertility in the South of Nigeria occurs outside marriage while in Northern Nigeria, most births occurred within marriage. The high level of premarital fertility in Southern Nigeria was attributed to the existence of a sexual revolution among adolescents in search of intimacy and friendship, pleasure and money for self-maintenance under a crumbling moral and economic order.

According to Cesari and Vignoli (2006) they also found that in Brazil, being married had a positive and significant effect on the probability of being an adolescent mother. Married adolescent females were predisposed to start their reproductive life and hence had higher probability of being mothers than their unmarried counterparts. Results of a study by Woldemichael in Eritrea (2005) also indicated that married adolescents were more likely to have initiated childbearing than unmarried adolescents. Even, 97 per cent of all first births occurred among married adolescents.

The review above showed that studies have documented the factors associated with adolescent fertility and the logical implications across different parts of the world. This study is to examine which factors are associated with and affecting fertility of adolescents in the age range 15 -19 in Oromia regional state. The following conceptual framework is drawn based on the synthesis of the review.

# Conceptual Framework

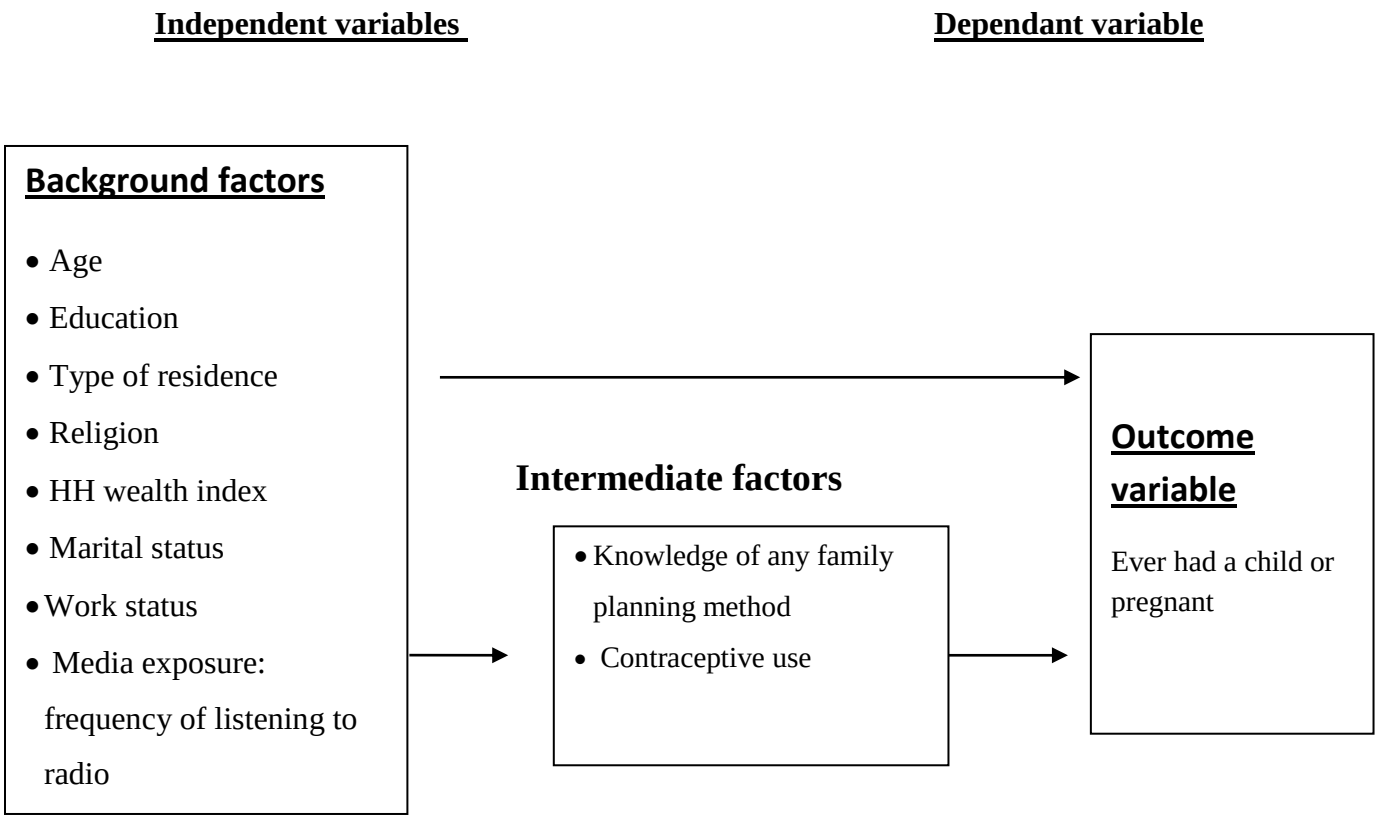



**Figure 1: Conceptual framework of the study**

**Conceptual framework adapted from different literatures**

# CHAPTER THREE

# RESEARCH DESIGN AND METHODS

## *3.1 Study Site Description*

Ethiopia is divided into nine geographical regions and two administrative cities. Oromia national regional state is one of the nine regions. Addis Ababa is the capital city of Oromia the largest and most populous regional state in the country. It has a land area of 359,620 square kilometres, straddling the middle of the country, and has a very varied Topography (high mountains, valleys, rolling plains and lowlands, including part of the Rift Valley). Oromia's economy is based on agriculture (mainly rain-fed, subsistence) (Federal Democratic Republic of Ethiopia, [FDRE], 2010).

Oromia has the largest population size in the country at about33, 444,793(2017 projection). As the age structure depicts, about 47.6% of the total population is below the age of 14 and nearly 3.2% is above the age of 64. Youth population comprises about 27% while the economically active population (age 15 - 64) takes a proportion of 49.2%. The youth population, in total terms, is above 7.4 million. According to the Agricultural Growth Programme of the dependent population, compared to the economically active population, is around 103 per 100 active persons (FDRE, 2010).

## *3.2 Research design and data source*

This study was based on the Ethiopia Demographic and Health Survey (2016 EDHS). It was cross-sectional sample survey design and implemented by the Central Statistical Agency (CSA) beginning from January 18, 2016 to June 27, 2016. It is the fourth major survey designed to provide estimates for the health and demographic variables of interest for the following domains: Ethiopia as a whole, urban and rural areas of Ethiopia (each as a separate domain), and all geographic areas (regions). In the 2016 EDHS, representative samples of approximately 17,067

households from 624 clusters were selected. (187 urban and 437 rural).The feature of the EDHS methodology is accessible in EDHS 2016 Report. (CSA & ICF 2016).

### *3.3 Sample Size*

Based on the 2016 EDHS, a total of 415 eligible individuals in the age range 15-19, residing in Oromia region were in the sample of the study. Although 17,067 households were covered in the actual national survey, the interviews were made with a total of 16,650 persons thereby giving a response rate of 98%. Out of those households interviewed, in Oromia 1,892 eligible women of reproductive age were identified for individual interviews at household level and from these, adolescents in the age range 15-19 were 415 forming the sample for this study

### *3.4. Methods*

In this study the researcher intended to identify and analyse the socio-demographic and economic variables affecting and determining fertility of adolescent girls in Oromia National Regional State of Ethiopia based on data from the 415 sampled adolescents of the EDHS. As discussed in the literature review, socio-demographic and economic characteristics were considered as important determinants of the adolescent girls' fertility. Proceeding to the extraction of the eligible adolescents from the EDHS 2016 women data, all female adolescents aged from 15 to 19 years who were sampled for the EDHS from those living in Oromia National Regional State from the women data were selected and analysed using descriptive univariate analysis, bivariate analysis, and binary logistic regression analysis.

## *3.5 Study Variables*

### 3.5.1 Dependent Variable :

Ever had a child or pregnant

### 3.5.2 Independent Variables:

**Socio-demographic and Socio-economic**

Age

Marital status

Religion

Type of place of residence

Educational status

Working status

Wealth index

Media exposure /frequency of listening to radio

### 3.5.3 Other variables -

- Knowledge of any contraceptive method
- Contraceptive use

# CHAPTER 4

# RESULTS

## *4.1 Socio-demographic and socioeconomic characteristics of the study group*

A total of 1234 adolescent's girls (weighted data) were considered in this study. Close to two-third, 61.7%, of participants were in the age group of 15-17 years. About 54.9% of participants were Muslim and other traditional by religion. About 76% of respondents were never married. Regarding their education, about 67.2% of them had completed their primary education. Rural residence accounted for 82.6% and a bit less than half, 48.9%, of adolescents were from richer and richest wealth group. Only 22.9% of adolescent's were currently working. **(Table 1)**

**Table 1: Sociodemographic and Socioeconomic characteristics of adolescent girls in Oromia regional state, 2020**

| Variables | | N (%) |
|---|---|---|
| Age | 15-17years | 762 (61.7) |
| | 18-19 years | 473 (38.3) |
| Religion | Christian | 557 (45.1) |
| | Muslim and others | 677 (54.9) |
| Place of residence | Urban | 215 (17.4) |
| | Rural | 1019 (82.6) |
| Educational attainment. | No education | 203 (16.4) |
| | Primary education | 830 (67.2) |
| | Secondary education | 202 (16.4) |
| Marital status | Never married | 938 (76) |
| | Ever married | 296 (24) |
| Currently Working | Yes | 283 (22.9) |
| | No | 952 (77.1) |
| Wealth group | Poorest and poorer | 370 (30) |
| | Average | 261 (21.1) |
| | Richer and richest | 603 (48.9) |

## *4.2 Fertility status of adolescents and related variables*

As a measure of fertility status the variable used is whether a girl had a child already or pregnant at time of survey. The proportion of adolescents in the study group who had a child or pregnant at the time of survey was 17%. This variable is the dependent variable in the correlational analysis coming up later. In the assessment of the study group in relation to other fertility related features, it is found that 97% of them have knowledge of contraceptive methods, whereas only 4% are using contraceptives at time of survey. and a very small proportion (1.1%) experienced terminated pregnancy (abortion). 64% of the adolescents did not at all listen to radio and only 19 % listen at least once a week, as possible source of information on contraceptives. (Table 2)

***Table 2: Fertility related behaviour of adolescent girls who participated in the 2016 EDHS***

| **Fertility related variables** | **Values** | **Number (%)** |
|---|---|---|
| Knowledge of any contraceptive method | 0= none | 33 (3%) |
| | 1= knows contraceptive methods | 1202 (97.4) |
| Current use of contraceptives | 0 = No | 1178 (95.4%) |
| | 1. Yes | 57 (4.6% |
| | | |
| Ever had a terminated pregnancy (abortion) | 0= No | 1221 (98.9) |
| | 1 = Yes | 13 (1.1) |
| Frequency of listening radio | 0= No at all | 791 (64 %) |
| | 1=Less than once a week | 204 (17 %) |
| | 2=At least once a week | 239 (19 %) |
| Ever had a child | 0= no | 1056 (85.5%) |
| | 1=yes | 179 (14.5%) |
| Currently pregnant | 0= no | 1197 (97%) |
| | 1=yes | 38 (3%) |
| Ever had a child or currently pregnant | 0= no | 1025 (83%) |
| | 1= yes | 210 (17%) |

Since the proportions of contraceptive users and those who experienced abortion are very low, almost universal contraceptive non-use and abortion non-practice the two variables were not considered in the bivariate and multivariable analysis.

## 4.3 Factors associated with adolescent fertility status

At first to get a descriptive assessment of possible association between fertility status of adolescents and the predictor (independent) variables, cross-tabulations of data of the independent and dependent variables were generated as below. Since a very high percentage of the study population has knowledge on contraception and also not using contraceptives, the two variables were not considered in the analysis of determinants of fertility status, as it will not be possible to show variation across levels.

The percentage distributions in the two-way cross tabulation showed a higher level of adolescent fertility for those in age group 18-19, at lower level of education, living in rural, followers of Muslim or traditional religion, ever-married, in poorer or poorest household wealth group and with no media (radio) exposure. (Table 3)

**Table 3: Fertility status of adolescents by background characteristics in Oromia regional state**

| Independent variables | | N | Fertility status | | Chi-square significance |
|---|---|---|---|---|---|
| | | | Has a child or pregnant No (%) | Neither | |
| Age | 15-17years | 762 | 87 (11%) | 675 (89%) | 0.000 |
| | 18-19 years | 473 | 122 (26%) | 350 (74%) | |
| Religion | Christian | 557 | 37 (7%) | 521 (93) | 0.000 |
| | Muslim and others | 677 | 173 (26%) | 504 (74) | |
| Place of residence | Urban | 215 | 11 (5%) | 205 (95%) | 0.000 |
| | Rural | 1019 | 199 (20%) | 820 (80) | |
| Educational attainment. | No education | 203 | 68 (33%) | 135 (67%) | 0.000 |
| | Primary education | 830 | 137 (16%) | 693 (84%) | |
| | Secondary education | 202 | 4 (2%) | 198 (98%) | |
| Marital status | Never married | 938 | 12 (1.3%) | 927 (98.7) | 0.000 |
| | Ever married | 296 | 198 (67%) | 98 (33) | |
| Currently Working | Yes | 283 | 38 (13%) | 245 (87) | 0.073 |
| | No | 952 | 172 (18%) | 780 (82) | |
| Wealth group | Poorest and poorer | 370 | 93 (25%) | 277 (75) | 0.000 |
| | Average | 261 | 56 (22%) | 205 (78) | |
| | Richer and richest | 603 | 60 (10%) | 543 (90) | |
| Frequency of listening radio | No at all | 791 | 151 (19%) | 641 (81) | 0.028 |
| | Less than once a week | 204 | 27 (13%) | 176 (87) | |
| | At least once a week | 239 | 31 (13%) | 208 (87) | |

To further examine if this indication is statistically significant for each of the predictors after controlling the rest of the variables a multivariable logistic regression was applied. Firstly based on bivariate logistic regression crude odds ratios (COR) were determined to identify potential predictors for the multivariable model. Seven variables were found to have significant association in the bivariate model. These variables were: age, religion, marital status, residence, wealth group, educational level and, frequency of listening to radio. In the multivariate analysis, the significant and dominating predictors for adolescent's fertility status were found to be level of education and marital status.

Accordingly, adolescents who had no education and primary education were 5.5 and 5.3 times more likely to have a child or be pregnant than those with secondary and above education. [AOR= 5.5; 95%CI (1.38,22.29)] and [AOR= 5.3; 95% CI (1.53,18.46)]. Adolescents who are ever married were found very significantly more likely to have a child or be pregnant than those who were never married [AOR=138.7; 95% CI (70.83, 271.83)]. Therefore, dominant predictors of adolescents to have a child or be pregnant are being in marriage and at no or low level of education (Table 4)

Before running the multivariable model and examine net effect of each factor on fertility, variables that were found to have significant association with adolescents' fertility were, age, marital status. educational attainment, place of residence, religion, exposure to radio and household wealth index In the bivariate analysis, adolescents who were at age 18-19 than younger ones, who are Orthodox than Muslim, who lived in rural than in urban, who didn't listen to radio at all than those who had frequent use of radio or, those at a lower household wealth group than in households in the upper wealth index, ever-married than single, and those at lower educational attainment than secondary level were found more likely to have children or pregnant. However when considered in the multivariable model, except the last two, marital status and educational attainment, the effect of the rest of variables diminished and they lost their significance. (Table 4, comparing COR and AOR)

**Table 4: Factors associated with adolescent's fertility status in Oromia regional state, in 2016**

| Variables and values (n=415) | | Had a child or pregnant | | COR(95%CI) | p-value | AOR 95% CI | p-value |
|---|---|---|---|---|---|---|---|
| | | Yes | No | | | | |
| Age | 15-17 | 27 | 227 | 1 | | | |
| | 18-19 | 40 | 121 | 2.7[1.99-3.66] | **0.000** | 0.8[0.51-1.03] | 0.575 |
| Level of education | No education | 20 | 42 | 22.3[8.38-59.42] | **0.000** | 5.5[1.38-22.29] | **0.016**** |
| | Primary education | 45 | 246 | 8.6[3.34-22.42] | **0.000** | 5.3[1.53-18.46] | **0.009**** |
| | Secondary and above | 2 | 60 | 1 | | | |
| Religion | Christian | 13 | 180 | 4.8[3.34-7.11] | **0.000** | 1.5[0.87-2.81] | 0.135 |
| | Muslim and others | 54 | 168 | 1 | | | |
| Place of residence | Urban | 3 | 58 | 4.6[2.47-8.81] | **0.000** | 1[0.35-2.81] | 0.998 |
| | Rural | 64 | 290 | 1 | | | |
| Marital status | Never married | 5 | 316 | 1 | | | |
| | Ever married | 62 | 32 | 160.1[85.56-299.66] | **0.000** | 138.7[70.83-271.83] | **0.000**** |
| Frequency of listening radio | No at all | 47 | 216 | 1.5[1.02-2.35] | **0.037** | 0.96[0.48-1.94] | 0.927 |
| | Less than once a week | 9 | 62 | 1[0.59-1.78] | 0.916 | 0.7[0.31-1.82] | 0.539 |
| | At least once a week | 11 | 70 | 1 | | | |
| Household wealth status | Poorest and poorer | 30 | 85 | 3[2.13-4.33] | **0.000** | 1.2[0.67-2.40] | 0.449 |
| | Average | 17 | 73 | 2.4[1.63- | **0.000** | 1.4[0.74-2.68] | 0.286 |
| | Richest and richer | 20 | 190 | 1 | | | |

** Statistically significant

# CHAPTER 5

# Discussion, Conclusion and Recommendation

## *5.1 Discussion*

The overall female teenagers' fertility that was observed in the present study was 17%. It is important for programs to assist in reducing the rate of fertility in countries where population growth continues to be high. The finding was comparable to other study done in Ethiopia. (Alemayehu, T., Haider, J. and Habte, D., 2010) But lower than other previous studies conducted in Malawi (25.3%), Tanzania (19.6%) and Kenya (18.5%). The current study finding was higher than a research done in Rwanda (3.3%). (Macro International, 2008) The differences noted could be ascribed to the variations in study population, sample size, economic and policy difference between these populations.

Level of education was also independent predictor of adolescent fertility status. The risk of having children in adolescent years was greater for non-educated as well as primary educated woman than those who had secondary or higher education. This finding was consistent with the other study done in Ethiopia. (Alemayehu, T.,Haider, J. and Habte, D., 2010). Women's secondary or higher education acted as catalyst toward delayed childbearing. The findings may be explained by the way that the women who had at least secondary level of education have postponed substantial times during their schooling and married at later ages compared to their lesser educated counterparts. (Kamal, S.M., 2012.)

The influence of education on fertility is assumed to derive from various dimensions of the educational experience. Schooling provides literacy skills, enables peoples to process a wide range of information, and stimulates cognitive development and promoting cognitive and attitudinal change, education opens up economic opportunities and provides a vehicle for social mobility. All of these educational assets have a pervasive influence on women's lives, shaping both their productive and reproductive roles (De Vries, R.F., 1992.)

Women marital status as ever married was also significant predictor of ever had a child or pregnancy. The current study was comparable with the Amhara and Oromia regional studies.

(Silveira, S., 2018). Married adolescents were more likely to have children compared to unmarried adolescents. In Namibia, being married, divorced or not living together with your partner makes female adolescents more susceptible to childbearing as opposed to female adolescents who are never married. (Shinyemba, T. W.2014).

One of the reasons for this could be that in sub-Saharan African countries, sexual activity before marriage and pregnancy is seen as a taboo (Mturi and Moerane, 2001). This could suggest that married adolescents are expected to start bearing children as early as possible; childbearing immediately after marriage is integral to a woman's social status (Ezeah, 2012)

## *5.2 Conclusion*

Close to one in six (17.1%) of female adolescents had been with a child or pregnant n Oromia regional state during the survey period The current finding was relatively higher than previously done demographic health survey data assessments in sub Saharan Africa.. One of the proximate determinants of fertility which is being in marriage is analysed after controlling other background factors and found to be the major determinant of adolescents'' fertility. From background characteristics educational level of adolescents is found to be significant predictor. The two significant determinants are also linked in that adolescents who stay in school and continue to secondary level are mostly those who did not marry and thus not exposed to childbearing The other two proximate determinants of fertility according to Bongaarts (Bongaarts, J, 1978) contraceptive use and abortion practice were very low at 4.6 % and 1.1 % respectively in the study group, adolescents in Oromia region. This implies that contraceptive non-use and low practice of abortion can be considered as contributors of adolescent fertility. On the other hand age of adolescents, household wealth status, exposure to media through listening to radio, and religion were among potential predictors examined for their relative association with fertility but not found significant.

## 5.3 Recommendation

Based on the above finding, the following recommendations were made

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- Ministry of health should design effective strategies to deliver reproductive health services including counselling and access to contraceptives for female adolescents particularly those in marriage.
- Oromia health bureau should strengthen the provision and awareness creation towards utilization of family planning service for married adolescents.
- Ministry of Education, regional women's affairs office and other stake holders must design and implement programs that can support adolescent girls to stay in school than get married early
- The government of Ethiopia should work extensively to support girls' education and remove the barriers as an integral part of women's development and controlling fertility status of the country.

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