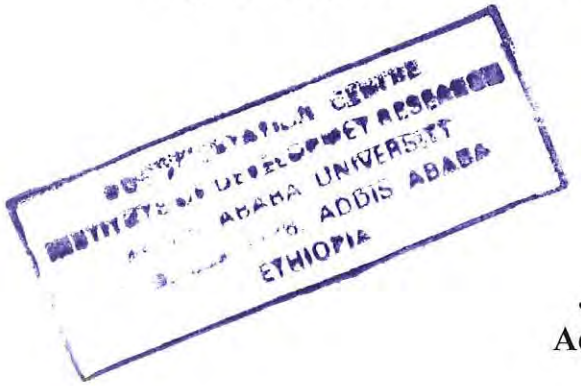
ADDIS ABABA UNIVERSITY
COLLEGE OF DEVELOPMENT STUDIES

DETERMINANTS OF AGE AT FIRST BIRTH IN GORO WOREDA: WELKITE TOWN

By Habtegebrial Wolde



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A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN POPULATION STUDIES

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Habtegebriel Wolde Barega

Institute of Population Studies
College of Development Studies

Approved by the Examining Board

Dr. Eshetu Gurmu Chairman, Department Graduate Committee	Signature
Dr. Mulugeta Betre Advisor	Signature
Dr. Butte Gottu Examiner	Signature

Acknowledgments

First of all, I would like to extend my heart felt gratitude and profound appreciation to my advisor Dr. Mulugeta Betre for his advise, valuable comments and suggestions during the entire period of this study.

I would also like to acknowledge all the subjects who contributed their part during the whole process of this work. Especially, my indebtedness goes to the workers of Wolkite Health and Education Office and workers of the town municipality for their invaluable co-operation during the data collection process. Furthermore, my special thanks go to the IPS; CDS staffs for their support during the entire study.

Then, it's my pleasure to record my acknowledgment to my family and friends particularly, to Elzabet Degef, Fasil Almayehu, Alemayehu Agezew, Agazi Amha and W/ro Zewdu Geber for their unreserved advice and moral help in my study.

Finally, though words can never fully express how much deeply, I am indeed very thankful to my brother, Esayas Wolde, my sister, Kidist Wolde and my faïence, Liya Tegene for their unmentionable gifts, love and courage throughout my career including my Graduate Study.

Table of Contents

Table of contents (cont..)

List of Tables

List of Figures

Acronyms

A.M.S.	=	Above Mean Sea level
CSA	=	Central Statistical Agency
DHS	=	Demographic and Health survey
FGD	=	Focus Group Discussion
GIS	=	Geographic Information System
NGO	=	Non Governmental Organization
OR	=	Odds Ratio
PPS	=	Proportion to Population Size
SRS	=	Simple Random Sampling
TFR	=	Total Fertility Rate
UN	=	Unite Nations
WFS	=	World Fertility Survey
WHO	=	World Health Organization

Abstract

A woman's first birth is one of the most significant events in her life. In many parts of Ethiopia the median age at first birth was too young (below 18). This cross-sectional survey was conducted in March 2009 at Goro Woreda, Welkite Town, SNNPR, to examine the median age at giving the first birth and its' determinants. Both quantitative and qualitative data were employed to undertake this study. For the quantitative section, a standardized questionnaire was prepared while in-depth interview and Focus Group Discussions (FGDs) were conducted to collect qualitative data. A total of 423 women in the age range 15 to 49 years had participated in the study.

The finding revealed that, the median age at giving the first birth in Wolkite town was 19 years of age. The logistic regression statistic indicated that age at first marriage, age at first sex, contraceptive use and education exhibited statistically significant impact on the mothers' age at giving the first birth. Correspondingly, the chi-square test had also shown that, age at marriage, age at first sex, contraceptive use, education and work status of the women in Welkite town had a significant ($p<0.001$) relationship with the age at giving the first birth.

Variation in age at first sexual intercourse, marriage, education, and the extent of contraception are found to be the determinant factor on the age of women at first birth. It therefore, girl's enrolment at higher education and target family planning programs.

Key words

Age at first birth

Age at first marriage

Censoring

Logistic regression

Socio-demographic variables

Socio-economic variables

CHAPTER ONE

INTRODUCTION

1.1 Back ground of the study

It has been now almost 30 years since John Bongaarts observed the social, economic and cultural factors that influence fertility through what he called 'proximate determinants' (Bongaarts 1978). Later, his study showed that until the mid 1990s, birth rates had remained high in developing world since deliberate birth control to limit family size was practiced by only small minority of couples (Bongaarts 1990). However, some ten years later, another study by Mahy *et al* (2001) indicated that, in developing countries, the fertility has dropped by about one-third from an average of six life time children per women in 1960's to around four today.

Moreover, the fertility experience of developing counties has wide variation in terms of cross country level. Thus, the substantial fertility decline was recorded in East Asia, Latin America and South Asia countries during 1960s and 1980s (2.4, 4.1 and 4.6 respectively). In contrast, fertility in Africa (declined from 6.6 during 1960-65 to 6.3 during 1980-85), in particular, Sub-Saharan Africa (from 6.7 to 6.6 births per women in the same period) has remained stagnant (Bongaarts *et al* 1990). The UNFPA study indicated that the average fertility decline in Latin America and Asia shows from 6.6 to 3.5 children per women while in most Sub-Saharan African countries have from 6.5 to 5.5 between 1960 and 1999 (UNFPA 1999).

Correspondingly, the mean age at first birth is an important indicator of aggregate level fertility. Some studies had found out that, due to the patterns of early marriage, low contraceptive use, and the social expectation of having children; early childbearing is high in many developing countries (Mahy *et al* 2001; Uddin 2009). The above mentioned factors favour for the higher total fertility rate of each country. Other studies in Sub-Saharan Africa further investigated that, the age of mothers at first birth had still young due to different determinant factors such as religion, culture and education, age at first marriage, and income status of mother (Tallahassee 1993;

Baschieri *et al* 2007). For instance, in Nepal, the median age at first birth is about 19.9 years, with 41% of the women already pregnant with their first child by age of 19 (Choe *et al* 2005). The other study by Mahy *et al* (2001) also emphasize that, in Sub-Saharan Africa, the level of adult and adolescent childbearing had one of the highest in the world.

Likewise, births to unmarried women, especially adolescent and teenagers have risen substantially in recent decades in both developed and developing countries. According to Michel (2008) from 14 million adolescent births in world wide, 90 % of them occurred in developing countries. The same study depicted that 20-40% of teenage were women who are mother or currently pregnant in Sub-Saharan Africa. The proportions are lower in other regions: 6–21% in Asia—with Bangladesh an outlier at 35%—and 13–25% in Latin America. On the other hand, studies in developed countries had indicated that, one in every three births occurred outside of marriage in USA by 1999. (Schulenburg *et al* 1997).

In addition, adolescent marriage and early pregnancy are the major health risks in relation to the birth of the first child. A study by Humen *et al* (2001) had found out that

> "*women under age of 20 years who bear a child face a greater risk of dying of maternal causes than women who become mothers in their 20s and 30s. Very young women who become pregnant and give birth may also suffer health consequences such as preterm labor, obstructed labor, and permanent damage of the reproductive organs.*"

In Ethiopia, the total fertility rate has shown an upward trend for a couple of decades, i.e. "*from 5.2 children per women in 1970 to 6.8 children per women in 1981, 7.5 in 1984 and 7.7 in 1990*" (Assefa 1992). On the other hand, according to CSA and DHS report, in the late 1980s the fertility has declined from 6.4 children per woman in 1990(CSA 1993) to 5.9 births in the 2000 EDHS, and it has further declined to 5.4 in 2005 (CSA and ORC Macro 2005).

Like other Sub-Saharan African countries, early marriage and births are the two common socio-demographic characteristics of the country, particularly in rural areas. A study by Assefa (1992) indicate that early marriage and childbearing, infant and child mortality, low contraceptive knowledge, the low status of women are the key determinants for high fertility in Ethiopia. On the other hand, significantly larger proportion of teenage mothers in Ethiopia lived in rural areas; were largely uneducated, poorer, and gave history of divorce, separation or no marriage (Taffa 2004).

In conjunction with fertility, the age of women at first birth is early in Ethiopia. Assefa (1992), again, indicated that "*among women aged 25 years in 1990, 25% had their first birth before the age of 17years and 75% had their first birth before the age of 22 years*". The recent demographic and health survey report indicated that, 16.3% of the Ethiopian women aged 15-19 years were already mothers or pregnant with their first child at the time of the survey (EDHS 2005).

In general, changes in the age of mother at first birth can influence the trend and pattern of fertility. Similarly, age at first birth is also influenced by a number of factors that could be social, economic, cultural and demographic.

1.2 Statement of the problem

The first visible indicator of fertility process is the birth of the first child. This birth marks the timing of mother's age and it also has a strong effect on levels of fertility. Different studies (Mahy *et al* 2001; Makinwa-Adebusoye 2001 and Lorentozon 2005) had found out that, the mean age at first birth is a decisive index of total fertility.

The timing of first birth has a significant influence to a woman on the number of children that she can bear through out her reproductive period in the absence of any fertility control measures. Researches show that, in the absence of contraceptive

use, young age child bearing becomes higher while on the other hand, the completed family size has been limited if the women delayed the first birth (Ngalinda 2006).

The same author had depicted that the length of the first birth interval is of crucial indicator of fertility decline since the first birth can be considered to be the start of parenthood and the beginning of the reproductive process. And early child bearing has a subsequent influence on the spacing of child bearing, increased chance of unwanted births and the general fertility pattern of the family.

Apart from early birth, early marriage is also a common practice in many rural societies of Ethiopia. The Ethiopian DHS 2005 report indicated that, 13% of girls in Ethiopia were married by age 15 but those married before age 18 remained high. This traditional practice has a significant role on the child bearing pattern of those women.

Women's status in terms of education and employment is another important factors for the age at first birth. For instance, those women who attend at least secondary education have only two children while among women with no education have 6.1 children per women (EDHS 2005).

On the other hand women's age at first birth also has an impact on the health of both the mother and the child. In a recent study by Muthengi (2008) indicates early child bearing has been linked with fistula, complicated pregnancy and even maternal mortality.

The main reason for choosing Goro Woreda particularly, Welkite town is that, little research has already been made on mother's age at giving the first birth and the existing studies were conducted at national and multinational level. The other reason is that, many studies are conducted in few large urban areas of Ethiopia and they show, the trends in age at first birth are increasing but the existing trends in small towns are not soundly evidenced. Moreover, the prominent ethnic, cultural and religious diversity makes the region an ideal stetting to explore how these diversifications influence the age at first birth.

1.3 Significance of the study

The principal purpose of the study is to generate both quantitative and qualitative information on the determinants of mother's age at first birth in Wolkite town. Earlier researches had examined age at first birth in terms of demographic trends, fertility and educational attainment and other related factors in country or cross country level. Furthermore, increasing mother's age at first birth through different kinds of intervention requires knowledge of the problem and factors that contribute to the problem. The proposed study attempts to identify the major determinants of age at first birth in Welkite town.

1.4 Objectives of the study

The overall objective of this study is to indicate median age at first birth and to identify the major demographic and socio-economic factors that determine age at first birth in Wolkite town.

The specific objectives are:

- Indicate the median age at first birth.
- Analyze which socio-demographic and economic characteristics of women determine the age at first birth in the town.
- Examine the relative influence of demographic and socio- economic factors on age at first birth.
- Draw implication for research and suggest recommendation based on the study result for the town.

1.5 Research Questions

With the aims of addressing general and specific objectives of the study, the research work will be guided by the following specific question.

i .What is the median age of women at first birth in the study area?

ii. What are the determinants of age at first birth in the study area?

iii. Is age at giving the first birth in the study area determined by socio- economic

factors?

iv. Is age at giving the first birth in the study area determined by socio-demographic factors?

v. What is the level of association between age at giving the first birth to socio-demographic and socio-economic variables.

1.6 Operational Definition

In a research, operational definition of variables and concepts are given by a researcher to give clue or contextual meaning to the readers in the study. Likewise, the researcher of this study would like to give the following working definitions in this study.

Age at birth: the beginning of motherhood.

All closed Birth intervals: this refers to the interval in months between live births of all birth orders from first birth to each successive birth.

Censorings: all the respondents have given their first birth at the time of survey.

Early marriage: a marriage before the age of 18 years.

Fecundity: is defined as the monthly probability of conception.

First birth interval: the period between the first birth and menarche.

Last closed birth intervals: The interval in months between the last but one (penultimate) and last (ultimate) live births for each woman in the study.

Marriage: a universal social institution through which an adult male and an adult female generally involves in marital relationship.

Neonatal mortality: the probability of dying between birth and exact age of one month (0-28 days after live birth).

Sexual coercion: an individual woman's lack of choice to pursue other options [to avoid sexual interactions] without sever social and physical consequence.

1.7 Limitation

In this study, one of the basic problems was the changing of the classification of Kebele's in the study area because recently, the town was considered to be one administrative town and divided into two administrative sub-cities (Bekure and Addis sub-city) and five kebeles (01, 02, 03,04,and 05). This situation had its own impact on the data collection days. To overcome the problem the searcher has taken an appropriate measure to distribute the desired sample size of the study. The other problem was lack of reliable information on the age of respondents, age at first sexual intercourse and partners/husbands age. To resolve the problem, the researcher had cross-tabulated the above mentioned variables with other related information.

1.8 Ethical consideration

The study was undertaken after obtaining a letter from the Institute of Population Studies of the Addis Ababa University. Afterwards, the verbal consent was asked from responsible body of the town administration and the respective Kebeles before the data collection was carried out.

After getting the permission, the objective of the study was thoroughly explained to the recruited enumerators and supervisors. Then, the selected respondent was informed about the overall objective and the significance of the study. In addition, all respondents were asked for verbal informed consent before participation. Finally, all the information gathered during the survey was kept confidentially.

2. LITERATURE REVLEW

The aim of this chapter is to give an introduction of other scholars' work on the subject matter. The discussion will concentrate on findings based on sub-Saharan Africa and other developing countries. Emphasis will be given to the current state of knowledge on determinants of age at giving the first birth in many developing countries including Ethiopia. Therefore, the discussion focuses on the determinants of age at first birth by considering some selected socio-demographic and socio-economic variables

2.1 Theoretical Frame work

Modernization theories

" *...industrialization promotes marital fertility delays for young adults through increased educational and employment opportunities and ensuring ideation change"* (Caldwell 1982). A study by Gjonca *et al* (1995) had substantiated this theory through deep investigation in developing countries. The explanation is, delayed child bearing has been linked with rapid increase of educational opportunities and the will of economic independency among young adult women. Thus, the expansion of industries provides an opportunity to participate in gainful employment outside their home, and this competes with the demand of child bearing.

Other study (Nath *et al* 1999) also found that, the household economic condition has an influence on the reproductive pattern of the mother i.e. the expansion of industries and urban centres provide an increase in household income. This condition of the household contributed to reduce infant mortility by increasing age at giving the first birth.

Moreover, the expansion of urbanization has its own implication on women's access to family planning services, education, and other related demographic and socio economic elements. A study by Makinwa-Adebusoye (2001) had indicated that, in

most developing countries of Africa, the rural-urban disparities in terms of women's demographic and socio-economic status are quite pronounced.

2.2 Socio-Demographic variables

2.2.1 Age at first Marriage

Age at first marriage is a fundamental aspect to develop marital relationship. Many societies have their own norms that restrict the age of young girls entering into marriage, but in most sub-Saharan African countries, the age limits are not taken into considerations. For instance, in Tanzania, the traditional marriage practice has forced girls enter into early marriage and then followed by early child birth (Nigalinda 2006). Loughran *et al* (2004) also had indicated that early child bearing has been associated with early marriage and also delayed marriage reduces the number of years available for child bearing.

Another study by Westoff (1992) has also mentioned that, the age at marriage is a determining factor for first birth interval. Thus, in Liberia, Botswana, Mali, the age of marriage increased but the first birth interval was decreased due to the preference of children. Moreover, the age at first marriage is early in most rural parts of Africa, which is related to early child birth (Tallahassee 1993).

In Ethiopia, early marriage is common for sizeable proportion of rural women. Studies had found out that a considerably high proportion of women (over 50%) marry before they reach age of 20 years and by 30, the proportion of married women exceeds well over 95 % (Assefa 1992). The rate of early marriage figure showed, 82 percent in Amhara, 79 percent in Tigray, 64 percent in Benshangul, 64 in Gambella and 46 percent in Afar (Pathfinder international 2005). Moreover, EDHS 2005 report had indicated that, 13 percent of girls are married by age 15 and these marriages also associated with early childbearing.

2.2.2 Contraceptive use

Despite societal efforts to reduce adolescent sexual activity, most adolescents have had sexual intercourse by the time they reach adulthood. These levels of teenage sexual activity reinforce the importance of promoting the use of contraceptives to prevent both adolescent pregnancy and the spread of sexually transmitted diseases (STDs). Apart from this the use of contraceptives has direct impact on the age at first birth.

Contraceptive uses, to delay or avoid unintended and early child bearing might determine the age at giving the first birth. Experience in Tanzania showed that, women use contraceptives in order to delay the first birth and not to have a pre-martial birth (Nigalinda 2006). Another study by Kumar *et al*(2006) had also found out that, early child bearing has been linked with contraception i.e. women with no experience on contraception has more births than equally fecund women but with contraceptive. And early child birth was common among non users. In societies such as India where contraception is non-existent prior to first birth the timing of first birth is considered as a measure of fecundity. Specifically, it is presumed that child bearing in traditional Indian society brings prestige (Nath *et al* 1999).

A study conducted by Mahy *et al* (2001) had indicated that "*A strong family planning program in the community could indirectly influence an adolescent's familiarity with contraception and knowledge of the health risks of early sex and childbearing.*" Thus, the strength of health programmes in the community can be seen through the proportion of adults getting family planning services. Another study in Nigeria indicated that the national family planning programme had an impact on the knowledge of family planning practice in the society.

Studies in Ethiopia had also indicated that, contraceptive use is the major factor in reducing fertility and had postponement effect on age at first birth (Assefa 1992). On the other hand contraceptive use of the country as a whole is exceptionally low, even compared to Sub-Saharan African standards. (CSA 2001).

Moreover, the prevalence of contraceptive use among regions has some variation. For instance, the partnership in improving reproductive health background report (2000) indicated that,

> *"less than five percent of all women age of 15-49 years in Oromiya were currently using a contraceptive method, and only 6.6 percent of married women were using contraception. Among women who practice birth control, use of modern methods is twice as common as use of traditional methods."*

According to the UNICEF report, the contraceptive prevalence rates in Ethiopia were 15 percent between 1997 and 2005 (UNICEF 2007). Similarly, the percentage of young women and men, aged 15 to 24 years in Ethiopia who used condom last time they had sex with a casual partner were 14.6 percent and 36.1 percent respectively (UNAIDS 2006).

2.2.3 Migration

The effect of migration on the timing of first birth is not conclusive due to the difficult nature of the study on migrants. But, a study in Europe shows that, those women/couple's with a migration background experience had delayed in their first birth. The reason for this is that, the household income and stability of the couples determine the timing of first birth. Rahman et al (2004) has also substantiated the aforementioned idea that, in some European countries, women with migration background experience first birth in the late age while a woman by place of origin has early in their first birth.

Nedoluzhko *et al* (2006) on their finding showed that *"the chance of having a first birth decreased by 32% for current migrants compared to non-migrants. This means the interval between marriage and the first birth is longer for current migrants."* This study has also indicated that the adaptation of new environment has its own impact on the timing of first birth.

2.2.4 Sexual Behaviour

The start of sexual activity in the early age has increased the probability of early childbearing. A recent study by Kumar *et al* (2006) found out that, early childbearing corresponds to a higher rate of fertility and population growth. But the fertility behaviours of adolescent are different with in a social groups of many countries.

Research findings show an increasing trend in sexual activity among adolescents in both developed and developing countries. For example, the proportion of sexually active adolescents in Latin America varies from 18% in Peru to 30% in Paraguay. Similarly, in Sub-Saharan Africa it ranges from 14% in Rwanda to 68% in Cameroon (Hughes and McCauley 1998).

A study by Mahy *et al* (2001) has shown that, the adolescent fertility behavior in eight sub-Saharan African countries has been declining. But the trends in age at first birth have a wide variation between these countries due to their own reproductive characteristics. Zaba and *et al* (2004) also suggest that the exposure of pregnancy and age at first birth has been determined by the reproductive behaviour of women.

The DHS 2005 report showed that among sexually active youth age 15-24 years old, 6% of women and 37% of men were engaged in higher-risk sexual activity. Urban youth are considerably 10 times more likely than rural youth to have engaged in risky sexual behaviour (CSA and ORC Macro 2006). Young people were faced with enormous pressure to engage in sex, especially from peers, exposure to unlicensed erotic video films and the desire for economic gain. Cultural shaping of young people's sexuality gave privileges for males to be sexually active, be in control of sexual relationships and be less responsible for precautions to prevent HIV/AIDS (Negussie *et al* 2002).

2.3 Socio-Economic variables

2.3.1 Education

Many researchers are widely recognizing the inverse relationship between education and fertility (Assefa 1992; Forste et *al* 2002; Lorentozon 2005; Kumar *et al* 2006).Another study by Pathefinder international (2005) had indicated that education plays an important role in the start of sexual activity, entrance in to marriage, and the on the starting of childbearing. Lillard *et al* (2007) also emphasized "*the prolonged and higher education of women is related with delay in the timing of motherhood, however, the relation- ship is not always explicit. This can be explained through the direct and the indirect effect of education on the timing of first birth*"

The direct effects of delaying of motherhood were observed in the various researches (Nath *et al* 1999; Nyamongo 2000; Loreatozon 2005; Kumar *et al* 2006) and they suggest that the reasons for the delay in the timing of first birth could vary across modern and traditional societies. The indirect effect of educational attainment on the timing of first birth can be observed in the following way. Higher educated women spend a longer time in education, and because combining student roles and motherhood roles is difficult to cope with, there is a delay in the first birth. Furthermore, higher educated women have better access to information and hence greater control over their fertility career.

Studies in Latin America indicated that, the education effect is similar to most of other countries; the secondary levels of schooling had extended a significant effect on both marriage pattern and age at first birth (Foster and *et al* 2002).

2.3.2 Work status

The empirical analysis of the relationship between the timing of birth and women's work status depends on the opportunity cost of time pays the human capital cost. A study by Wetzels (2004) indicated that, the timing of first birth depends on two motives "*the consumption smoothing motive and the woman's career planning motive. The consumption smoothing motive implies that children should be at a point of time*

when household income is at its highest so that other consumption needs can also be fitted into the budget." Therefore traditionally, husband's income profile matter on the timing of parenthood, this is increasing with age. The other motive implies also a call for a postponement of birth i.e. *"if a woman aspires to labour market career, she will have to finish education and become established in a job before she starts a family which also leads to postponements of first birth".*

The same study further indicated that *"women who are not in paid work give birth to their first child at earlier age than women in paid work regardless of their parent's employment status.*" On the other hand, Assefa (1992) and Baschier *et al* (2007) indicate that, occupation and fertility behaviour have an inverse relationship.

2.3.3 Religion

A study conducted by Makiwa- Adebusoue (2001) showed, polygamy has its impact on fertility trends. The consequences of polygamy are that the women marry at early ages and thus recruitment of young girls into marriage increasing the likelihood of women to be withdrawn from school and combination of pregnancy during labor. The study by Assefa (1990) reveals that higher Muslim fertility is associated with lower status of women. And the status of women is lower in Muslims than Christian.

A study in India (Nath *et al* 1999) showed that among the various socio-cultural factors influencing fertility, religion and caste systems are the most prominent determinant factors on fertility behaviour of Hindus society.

2.3.4 Ethnicity

In the North Indian, kinship system of Gona ethnic group, the newly wedded couples have to remain separated for a period of time immediately after marriage and it delays the first birth (Syamala 2004). Another study in India (Nath *et al* 1999) indicated that, in traditional societies, early child bearing can be considered as a prestige to woman while a childless woman receives less respect. A study in Gambia (Sonko 1993) indicated that both TFR and teenage (15-19) births have a significant difference among the major ethnic groups of the country.

2.3.5 Mass media Exposure

In most regions where mass media are thought to have affected reproductive behavior, these media have been intentionally used to influence the behavior of their audiences, inundating consumers of these media with advertisements and other messages that promote family planning practices. Mahy *et al* (2001) indicate that "*access to modern goods and ideas can affect an individual's reproductive decision.*" In particular mass communication has an effect on contraceptive use and age at marriage.

Several researchers have suggested a link between mass media and ideational change at the community level. Lee *et al* (1983) suggest that material aspirations, which are not easily satisfied, may nonetheless be aroused by the influence of the mass media in less industrialized nations. Cleland added the idea that, the growth of communication media, together with economic development "*bring new opportunities, goods, and services, which may affect tastes and aspirations more rapidly*" (Cleland 1985).

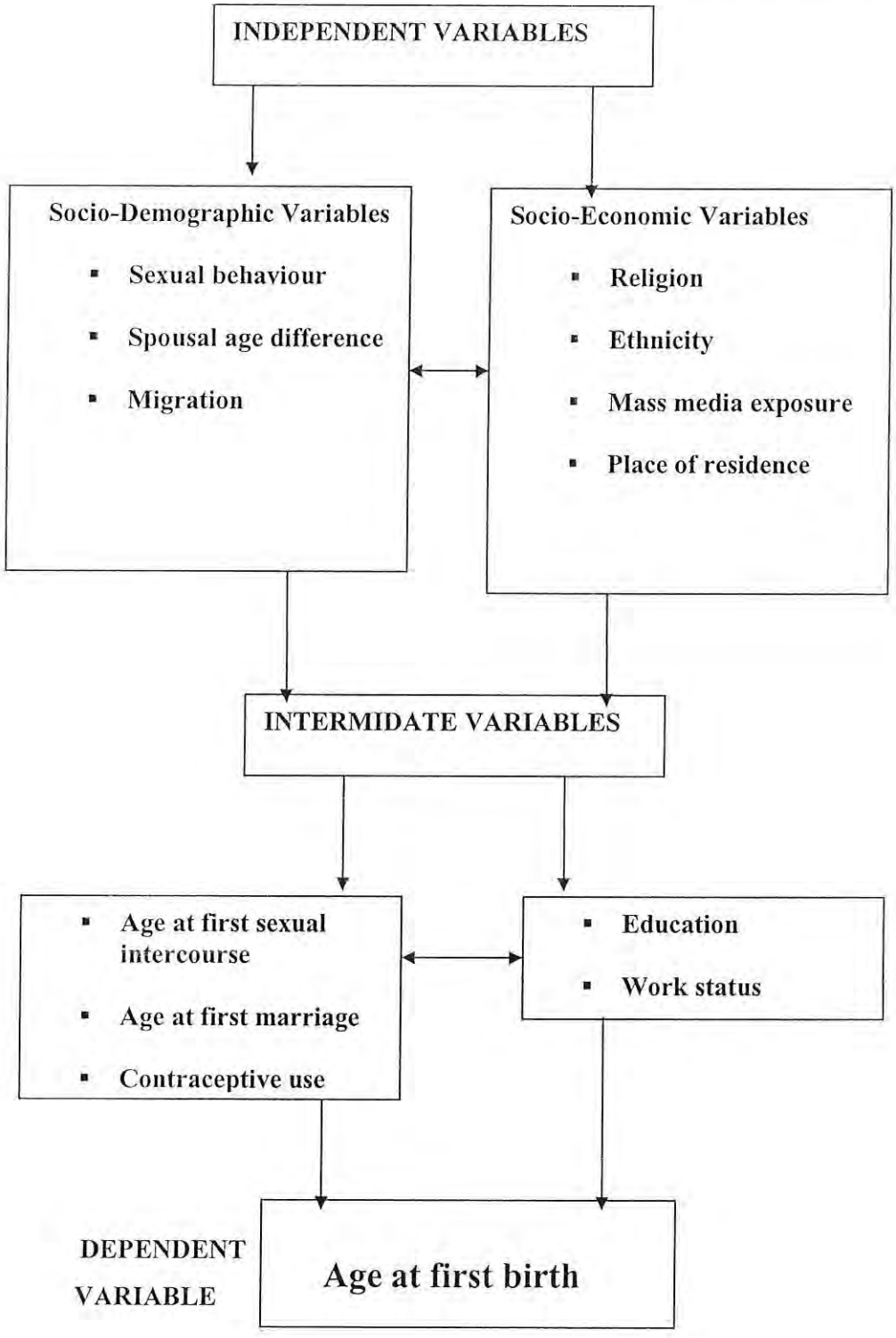
2.3.6 Place of Residence

Place of residence is another variable which can determine the age of the women at first birth. Gani (1999) suggested that urban areas provide better and more access to education, greater employment opportunities, better income and information flows and supplies of fertility planning services. Therefore, these factors positively contribute towards the upward displacement of age at first birth. Mahy *et al* (2001) also stated that "*in an urban setting an adolescent has more work or education opportunities that might motivate woman to delay child bearing*".

2.4 Conceptual framework

Based on the review of the literature and objective of the study the conceptual framework of the research was shown in Figure 2.1. As shown in the figure the independent variables are categorized into two socio-demographic variables (sexual behaviour, spousal age difference and migration) and the socio-economic variables (religion, ethnicity, mass media exposure and place of residence). Furthermore, among the socio-demographic variables: age at first sexual intercourse, age at first marriage and contraceptive use and from socio-economic variables: education and work status are found to be the intermediate variables. Finally, age at first birth is a dependent variable, determined by both independent and proximate variables.

Figure 2.1 The schematic representation of dependent and independent variables



3. METHODOLOGY

3.1 Profile of the study area

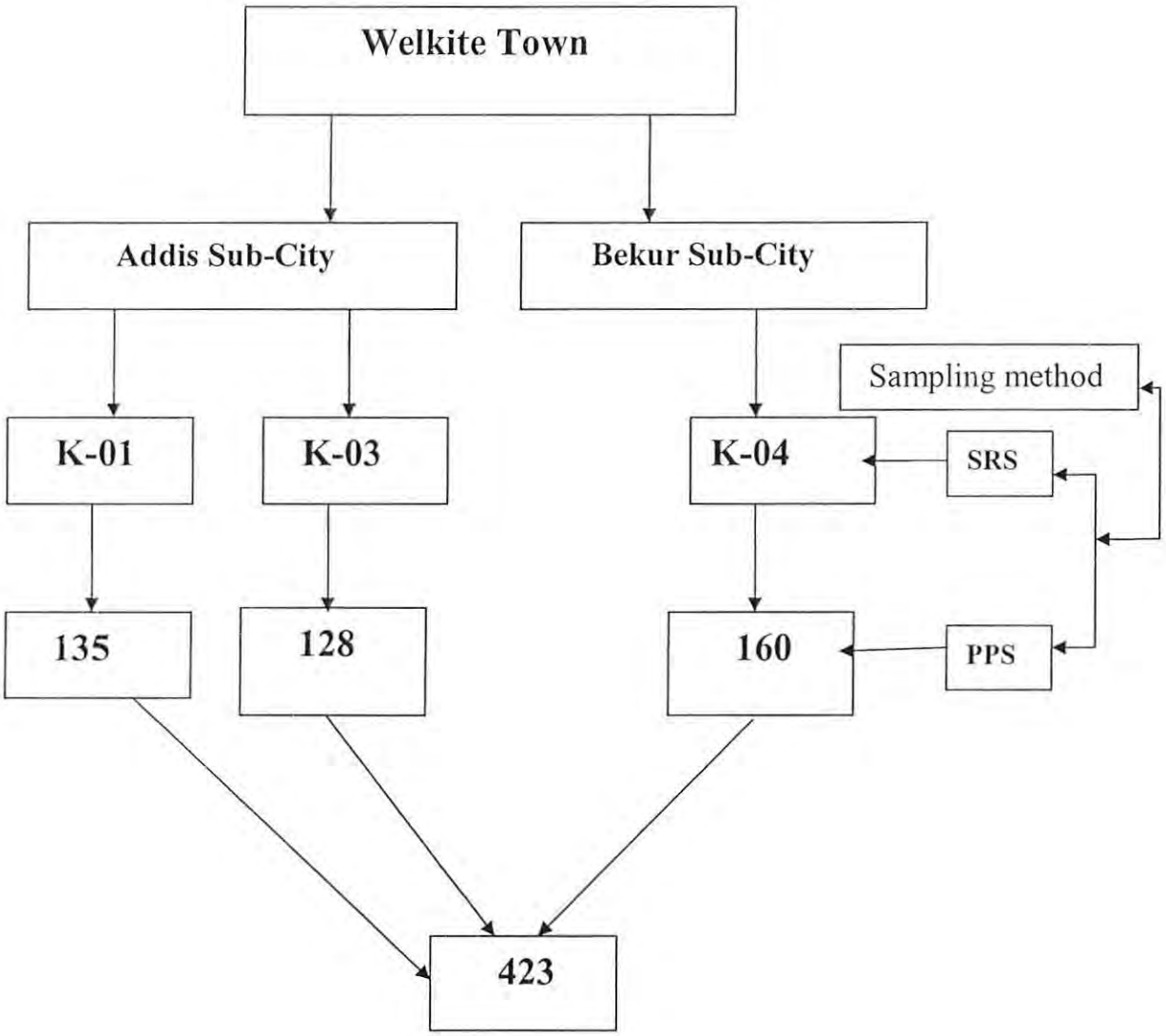
The area selected for this study is Welkite town; it is located at about 155 Kilometres to the south west of the capital city (Addis Ababa). The GIS location of the town is between $9^0$37'46'' North and $8^0$17'53'' South with an elevation of 1912 meters A.M.S. and the total area of the town is around 20 square kilometres. Welkite town is divided into two sub-cites, Bekur (constitute two Kebeles') and Addis sub-city (constitute three Kebeles'). The town is surrounded by Kebena and Hola Woredas in the North and South respectively whereas, the East and West part of the town is encircled by Abesege Woredas

According to the information from the town municipality, the town now is the home of about 39,636 populations of which 20,215 are female. And the town has 18 ethnic groups of which Sebatbet Gurage, Kebena and Selites are the dominant ones. Amararign (Amharic) and Guragea (Sebetbet Gurage) are the dominant language of the people.

3.2 Sampling design and procedure

A community based cross-sectional survey was conducted among women aged between 15 and 49 in the study area. A two stage sampling techniques was employed for the selection of the sampling units. From the total of 5 Kebeles', three of them were selected by using simple random sampling technique. The reason for selecting the three Kebeles' was the homogenous nature of the study population, i.e. the social, economic and demographic characteristics of the 5 Kebeles' were similar. Then, on the bases of the sampling frame of the households in each Kebele, women whose age is ranging between 15 and 49 were selected based on the probability proportion of population size of each Kebele. The overall number of household size in each Kebele was obtained from the Kebeles' administrative office.

Figure 3.1 Schematic presentation of the sampling procedure of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009



Sample size determination

For the selection of an appropriate sample size the following underlining assumption are considered. The assumptions are:

- The proportion of first birth occurring to a woman before age 18 is too small and to get the largest sample size 50% proportion will be taken.
- The desired level of confidence is 0.95, which corresponds to a Z value of 1.96.
- The error estimate of the true value of population is to be with in E=0.05.
- The contingency is 10%

The required sample size is calculated using the formula (Wikinson and Banndera: 1984)

$$n=p(1-p)(Z/E)^2+10\%$$

where n= the size of the sample.

P=the estimate of population proportion to be interviewed.

Z=the standard normal value corresponds to the level of confidence.

$$n=0.5(1-0.5)(1.96/0.05)^2$$

$$n=384$$

The total sample size will be 384+39(contingency) =423

3.3 Data source

The study is a community based on cross sectional design that combines both qualitative and quantitative research methods. The source of data for this study will be mainly primary, but secondary data are also used for estimating the sample size. The detailed discussion about the techniques and data collection instrument and procedures is given (in the subsection) below.

3.4 Data collection instrument

Based on the review of international, national, regional, and district level document and research reports, three types of instruments were used to collect qualitative and quantitative information on determinants of age at first birth. These include a structured individual questionnaire, key informant interview guides and FGD guides.

The structured questionnaire

The individual questionnaire is the most important instrument which was used to collect most of the quantifiable information on the determinants of age at giving the first birth of women between ages 15 and 49 years. This instrument is helpful to collect the quantitative information of respondents' socio-economic demographic characteristics and issues addressing the determinant factors on the age at giving the first birth. The questionnaire was administrated to a representative sample of 423 respondents in the specified age group.

Key informant interview guide

A semi- structured interview guide was developed and applied to knowledgeable persons, including women associations, community leaders and nurses and the interview guide will be structured in the following main themes.

- Perception of the status of early marriage in the town.
- Perception of the determinants of age at giving the first birth.
- Existing programs or interventions against early age at first birth.
- Laws, polices and action plans on age at first birth.
- Perception of the consequences of early age at first birth.

Focus group dissection Guide

A focus group discussion guide was developed to grasp detailed group case information on the issue. The guide was administering FGDS with 2 groups of informants about their experience regarding age at first birth, and unmarried adolescents share their attitudes towards the practice and the tradition of the area.

Techniques for data collection

The qualitative information's was collected through focus group discussions (FGOS) and in-depth interviews with key informants. The FGDS were carried out with a member of 6-10 peoples and the interviews also were carried out with social sector head and /or worker of the women's association, hospitals, clinics, school teachers' religious leaders and other community leaders in the town.

The quantitative information was collected by using structured questionnaires. In the initial step, data collection process had involved the supervisors, enumerator and the researcher. Then, the assigned supervisors were charged to check whether questionnaires are filled correctly or not and, moreover, they had checked to see whether interviewers had conducted successfully interviews and record appropriate response. In addition the researcher also had supervised the over all data collection process.

3.5 Preparation and Filed Work

Recruitment and training

Supervisors, FGD moderators and note takers, and interviewers were recruited on merit. The recruitment was based on the previous survey experience, familiarity of the study site and their educational status. After recruitment, training was carried out in Goro high school for three days on key issues related to the purpose of the study, questions included in the questionnaire, interviewing techniques, importance of privacy, discipline and handling of respondents and confidentiality of the respondent.

Pre-test and its result

One of the methods of checking the consistency, relevance and the quality of the questionnaire is pre-testing. The survey was done February 8 and 9. And the survey period was from January 26- February 30. In this study, 10 percent of the total sample size (22 respondents) was taken to test the quality of the questionnaire. The participants of the pre-test could not be included in the total sample size of the study. Based on the pre-tested questionnaire some amendments were made on few questions.

3.6 Data quality control and management

To verify the quality of data, different mechanisms were used during data collection stage and on data entry. Thus, at first step the questionnaires were pre-tested on similar setting for improvement on clarity, comprehensiveness, ordering and acceptance. Second, at the end of each day each questionnaire filled by enumerator were reviewed and cross checked for its completeness and constancy by the researcher and supervisors. Then, as deemed necessary corrective measures were undertaken. Third, the data collected from the filled were entered into the computer software immediately after the questionnaires were reviewed and then, data cleaning and editing were carried out.

3.7 Data processing and analysis

After the completion of data collection, tabulation of information was carried out with in a given time frame. The analysis and process of data were performed by using a computer soft ware, SPSS. But before the actual data processing, open ended questions were edited and coded. Following that, all the required data obtained from the respondents were entered in to computer and checked its consistency.

In order to know the median age at giving the first birth, censoring method was applied. On the other hand, in order to test the effect of each predictor variable on the dependent variable, both bivariate and multivariate analysis techniques were employed. At the bivarate stage, cross tabulation and chi-square test are employed in order to identify the important explanatory variables which should be retained in the multivariate analysis for further investigation. At the multivariate stage, logistic regression model was used.

Logistic regression is based on the concept of odds ratio = $\frac{p}{1-p}$' where p is the probability that the event Y occurs. P (Y=1) and (1-p) is the probability that the event Y does not occur, P (Y=0). The logistic regression model is given by the function:

$f(Z) = \frac{1}{(1+e^{-Z})}$, where Z is the linear combination.

$A = b_o + b_1 X_{1+} b_2 X_2 \ldots + b_K X_K$

The logit model solves these problems where:

Logit(p*i*)=ln(p(*i*))/1-p(*i*))

In is the natural logarithm

P is the probability that the event Y occur, P(i) (Y=1)

P (i) 1-(p(ii) is the "odds ratio"

In [P/(1-p)] is the log odds ratio, or logit

X_i is independent variable, where (i=1,2,3, ... K)

B_i refers to the effect of Xi on the logs odds Yi = 1 for other Xi values.

In this case, P would be the probability of occurring first birth before age 18, where as 1-p would the probability of occurring first birth after age 18, a is the constant term, and B is the logistic coefficient which can be interpreted with a one unit change in the independent variable. Or exp (B) is the factor by which the odds change when the independent variables increases by one unit.

Chapter Four

Analysis of quantitative study

The knowledge of the socio-economic and demographic characteristics of the respondents facilitates the interpretation of the findings in this study. The quantitative analysis in this section of the study entailed uni-variate, bi-variate and logistic regression statistics. The uni-variate statistical part expressed socio-economic and demographic characteristic of the respondents. Where as, the bi-variate and logistic regression tests described relationship between dependent and explanatory variables.

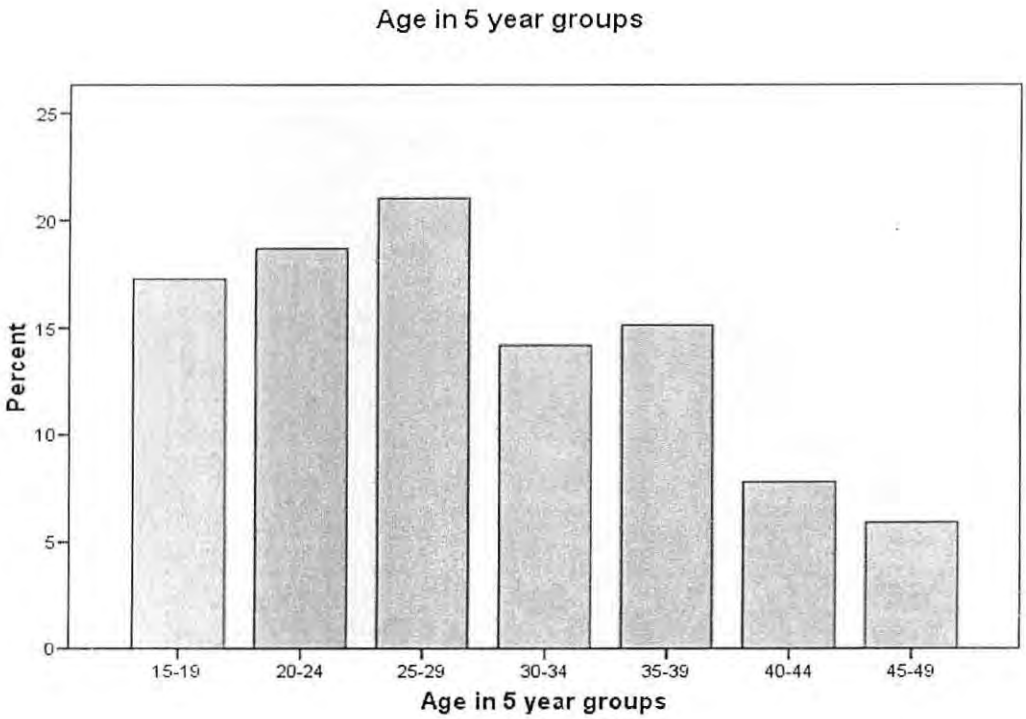
4.1 Results of the uni-variate analysis

This section deals with the background characteristics of the 423 women in the age range between 15 and 49 years, in Wolkite town. It includes socio-economic factors such as religion, education, residence, occupation, ethnicity and exposure to mass media as well as demographic factors like, age, number of living children, number of ever born children, age at first marriage, age at first birth and number of children died. Family planning factors like knowledge, attitude towards family planning and decision making power of the partners.

4.1.1 Socio-Demographic characteristics of the respondents

Accordingly, from among 423 respondents more than half of the interviewed women were under age 30 years. The respondents in this category (age 15-30) are around 57 percent of the total sampled women. Of these 73(17.26%), 79(18.68%) and89 (21.04%) were in the age group 15-19, 20-24 and 25-29 years respectively. The rest 182 (43%) sampled women were in the age group of 30-34, 35-39, 40-44 and 45-49. The youngest and oldest participant in the study was 15 and 49 years old respectively. Figure 4.1 shows the percentage distribution of the respondents according to their corresponding age group. Additionally, the mean, median and standard deviation of the respondent ages was 28.8, 28 and 8.8 years respectively.

Figure 4.1 The percentage distribution of the respondent in 5 years age group, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey 2009

With regard to other demographic variables, the percentage distribution of women according to their marital status, birth history, age at first birth and sex of the first child were presented in Table 4.1. As indicated in the Table, 73.52 percent of the participants were married/engaged/cohabited whereas, the proportion of single were 16.31 percent. Where as, 10.17 percent of the participants were separated/ divorced, cohabitation and widowed. The survey result further revealed that, the majority of the participants (69.98%) had at least given their first birth at the time of survey while the rest of the participants have no child bearing experience. In relation to birth experience of the participant, almost 43.74 percent of the participants reported that, they had a child bearing experience before age 18. With regard to the sex of the first child, the proportion was slightly higher for males (50.68%).

Table 4.1 The percentage distribution of socio-demographic characteristics of the participants , Welkite town, Goro Woreda SNNPR, Ethiopia,2009.

Variables		Frequency	Percent
Age (years)	15-19.....	73	17.26
	20-24.....	79	18.68
	25-29.....	89	21.04
	30-34.....	60	14.18
	35-39.....	64	15.13
	40-44.....	33	7.80
	45-49.....	25	5.91
	Total.....	423	100.00
Marital status			
	Single.....	69	16.31
	Married/ Engaged/ Cohabitation	311	73.52
	Separated/Divorced / Widowed	43	10.17
	Total	423	100.00
Birth history	Have given birth..... ..	296	69.98
	No birth experience.....	127	30.02
	Total.....	423	100.00
Age at first birth	Before age 18.....	185	43.74
(in years)	Between 18 and 25.....	182	43.03
	After age 25.....	56	13.23
	Total.....	423	100.00
Sex of the first child	Male.....	150	50.68
	Female.....	146	49.32
	Total.....	296	100.00

Source: Field survey 2009

Respondents were also asked on their age at first marriage and the survey result indicate that 52.76% of the respondents' had already married before the age of 18 years whereas, 47.24% of the participants were married after age of 18 years.

4.1.2 Socio-economic characteristics of the respondents

Regarding the participant's religion, Orthodox Christianity accounts for largest proportion (47.04%), where as the percentage of Muslims, Protestant and Catholics were 36.17, 7.33 and 8.06 respectively. The ethnic composition also tells about 51.30 percent of the participant's were Guragea, while Amhara and Oromo ethnic groups constitute about 22.22 and 10.17 percent respectively. Others (Seilti and Kebena) had also a sizable proportion (16.31%).

As reflected in Table 4.2, less than one quarter of the women in the study sample (20.80 percent) has never attended school (illiterate). On the other side the proportion of women who had attended primary and secondary school education were 30.73 and 32.15 percent respectively. In relation to occupation structure of the respondents, about 32.62 percent of the respondent reported as a housewife, while 31.2 percent of the participants were employed either in government or non- governmental organization, but the proportion is dominated by government organization (26.71%). The other 40.66 percent of respondents were under self employee and other type of work. Correspondingly, on this study the income status of the respondents were classified into three categories, as shown in Table 4.2 and it indicate that only 198 participants were engaged in some kind of income generating activities. About 59.09 percent of them have an average monthly income below birr 300, whereas 5.05 percent of the participants have an average income of more than 1000 birr.

Table 4.2 also indicates that more than half (52.96%) of the respondent were born in urban areas, while the remaining participants were born in rural areas of the Goro Woreda.

Table 4.2 The percentage distribution of socio-economic characteristics of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia,2009.

Variable		Frequenc	Percent
Religion			
	Orthodox	199	47.04
	Catholic	34	8.06
	Protestant	31	7.33
	Muslim	153	36.17
	Other	5	1.22
	Total	423	100.00
Ethnicity	Guragea	217	51.30
	Amhara	94	22.22
	Oromo	43	10.17
	Others	69	16.31
	Total	423	100.00
Education			
	Illiterate	88	20.80
	Attend elementary school	130	30.73
	Attend secondary school	136	32.15
	Attend higher education	69	16.31
	Total	423	100.00
Occupation	Government employee	94	22.22
	NGO employee	19	4.49
	Self employee	85	20.09
	House Wife	138	32.62
	Others	87	20.57
	Total	423	100.00
Mass media exposure	Yes	393	92.91
	No	30	7.09
	Total	423	100.00
Birth place	Urban	224	52.96
	Rural	199	47.04
	Total	423	100
Monthly income	Less than 300 birr	117	59.09
	300-1000 birr	71	35.86
	More than 1000 birr	10	5.05
	Total	198	100

Source: Field survey 2009

4.1.3 Husband's /Partner's background characteristics

Among the 423 participants, around 75 percent of women reported that either are married, cohabited or living together with a man. The knowledge of the husband's /partner's background characteristics may determine the reproductive behaviour of the women; therefore, Table 4.3 clearly shows some of the background characteristics of the husband/partner.

Table 4.3 Percentage distribution of husband's/partner's background characteristics, Welkite town, Goro Woreda,SNNPR, Ethiopia, 2009.

Variables		Frequency	Percent
Grouped husband's/partner's current age			
	15-24	21	6.75
	25-34	116	37.30
	35-44	105	33.76
	45-54	47	15.11
	55-64	15	4.82
	Above age 65	7	2.25
	Total	311	100.00
Religion	Orthodox	154	43.50
	Catholic	29	8.19
	Protestant	26	7.34
	Muslim	144	40.68
	Other	1	0.00
	Total	354	100.00
Ethnicity	Oromo	30	8.47
	Amhara	48	13.56
	Gurage	210	59.32
	Selti	7	1.98
	Kebena	31	8.75
	Others	28	7.90
	Total	354	100.00
Education	Illiterate	58	16.38
	Attend primary school	86	24.29
	Attend secondary school	80	22.60
	Attend higher education	130	36.72
	Total	354	100.00

Occupation	Government employee.....	126	35.59
	NGO employee.....	25	7.06
	Self employee.....	139	39.26
	Others.....	64	18.07
	Total.....	354	100.00

Source: Field survey 2009

As can be observed in Table 4.3 above, from the total of 423 respondents 354 women were eligible for the description of the background characteristics of husband's/ partner's. About 71.06 percent of the respondents reported that their husband's partner's current ages were found in the age range between 25 and 44 years. The youngest and oldest ages of the husband/partner current age were 18 and 75 years respectively. The mean, median and standard deviation are 37, 35 and 10 respectively.

With regard to husband's/partner's religion, like the respondent religion, Orthodox Christianity is the dominant one (43.50%). On the other hand the survey result shows some variation on the proportion of Muslims (40.68%). The proportion of Protestants and Catholics were 7.34 and 8.19 percent respectively. Concerning about ethnicity, more than half (59.32%) of the respondents husband/partner were Guragea. Next to Guragea, Amhara and Kebena place the second and the third position with the percentage distribution of 13.56 and 8.75 percent respectively. Also, Oromo was sizable enough, 30(8.47%), share.

In terms of educational status of the husband/partner, only a small proportion (16.38%) of respondents reported no educational background of their husband's/ partners'. The table also indicate that, the percentage distribution of attending higher education, secondary and primary school were 36.72, 22.60 and 24.29 percent respectively. Regarding occupational structure, 39.26 percent of the participant's husband/ partner were engaged in self employed activities whereas, the proportion of government employees were 35.59 percent.

4.1.4 Sexual characteristics of the respondents

It is common thinking to associate the reproductive behaviour of women and their age at first birth. Table 4.4 illustrates some of the reproductive characteristics of the respondents. As shown in the Table, the age of the respondents during the first sexual intercourse were classified into six groups whereas, their partners age at the first sex of the respondents were categorized into four groups. The rationale behind this classification was to see whether the minimum and the maximum age between the age of the respondent and their partner's had a wide variation. According to the result, the minimum age of the respondent at first sexual intercourse was 12 years old while the respondents' sexual partner at the first sex of the respondent was 18 years old.

Table 4.4 indicated that, more than half of the respondent had started their first sexual intercourse before the age of 18 years. Among 350 respondents, 57.14% of them had started their first sexual intercourse before the age of 19 years whereas, 8.57% had started before the age of 14 years. Regarding the age of the sexual partner, the majority of the respondents reported that they had a sexual partner whose age was above their corresponding ages. As indicated in the Table, around 62.56% percent of the eligible respondents have a sexual partner with age range of between 18 and 34 years. Also 28.86 percent of the partner's age was above the age of 45 years. The study further revealed that, 74.27 percent of the respondents have an age difference (1 to 10 years) with their sexual partner. And only in few cases the age of respondent was found to be less than that of the partner. The study also indicates, the mean and median of the sexual partner of the participants were 36 and 30 years of age respectively. Correspondingly, the mean and median age at first sexual intercourse of the respondents' was 15.6 and 18 years respectively.

Table 4.4. The percentage distribution of sexual characteristics of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.

Variables		Frequency	Percent
Respondents' Age at first sex (in years)	Before age 14.....	30	8.57
	15-19.....	200	57.14
	20-24.....	83	23.71
	25-29.....	28	8.00
	30-34.....	8	2.29
	After age 35.....	1	0.00
	Total.....	350	100

Age of the sexual partner(at first sex of the respondents)			
	18-24.....	96	27.42
	25-34.....	123	35.14
	35-44.....	30	8.57
	More than 45.....	101	28.86
	Total.....	350	100.00
Partners' age difference	Less than 1 year.....	21	6.75
	Between 1 to 10 years.....	231	74.27
	Above 10 years.....	59	18.97
	Total	311	100.00

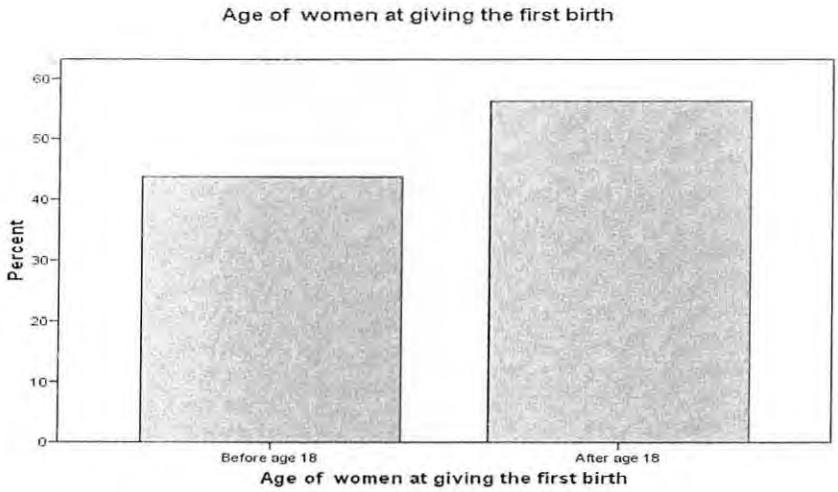
4.2 Results of the Bi-variate analysis

In this section, censoring, percentage ratio and chi-square test, was applied to show the bi-variate analysis. Censoring method was used to calculate the median age of mother's at giving the first birth. Some percentage descriptions were used to indicate the proportion of both socio-demographic and socio-economic variables in relation to the age at giving first birth before and after age 18 years. And chi-square tests were also used to indicate the association between the dependent and independent variables in the study and their relationships with the age of women at first birth were investigated separately. In so doing, some variables were found to have associated while some others had remained to have no association at all.

4.2.1 Age at first birth

The onset of child bearing is an important demographic indicator as pointed out in the introductory chapter. In the study area (Wolkite town) the median age of mother at giving the first birth was calculated through censoring indicate 19 years. Moreover, the mean age at first birth in the area was 21 years. Correspondingly, the detail description of women at giving the first birth has been indicated in Figure 4.1.

Figure 4.1 The percentage of women according to age at giving the first birth, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey

As shown in the Figure, about 44.23 percent of women in the study area gave birth before the age of 18 years. The survey finding indicated that, 46.12 percent of the participants have had their first child before the age of 19 years. Moreover, Figure 4.2 below indicated that, around 42.44 percent of the respondents had given their first child before the age of 29 years. Of them, 29.32 percent had given the first child in the age range 20 years to 24 years.

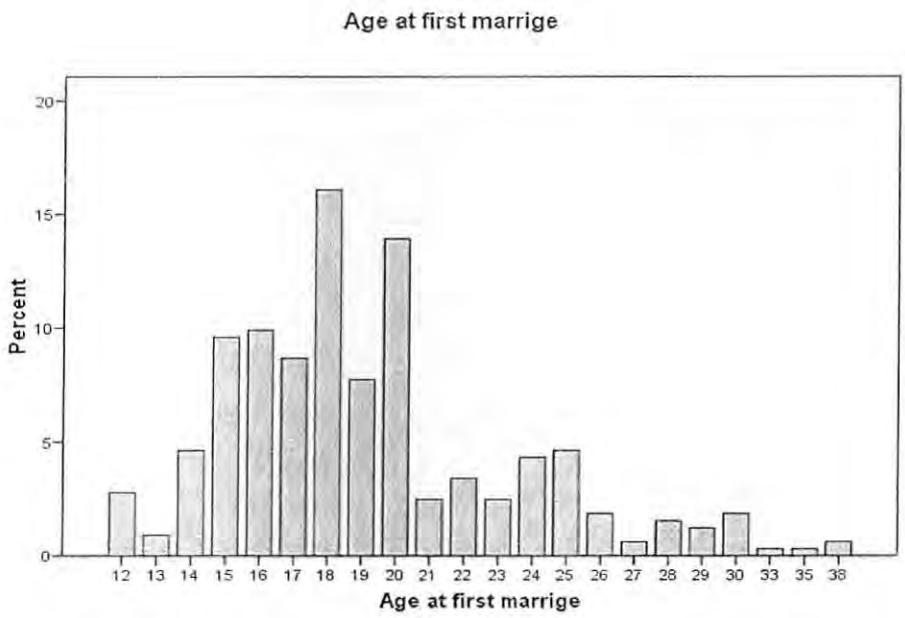
Figure 4.2 The percentage distribution of grouped age of respondents at giving the first birth, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.

Source: Field survey

4.2.2 Age at first birth and age at first marriage

Marriage is an important index in explaining differentials in women's fertility because age at marriage marks the transition to adulthood in many societies. Variation in age at marriage helps to explain the difference in age at first birth and also helps to explain the trend in fertility within individuals over time.

Figure 4.3 The percentage distribution of age at first marriage of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey

The survey result reveals that, the median age of the respondent at first marriage in Wolkite town was 18 years. As indicated in Figure 4.3 the minimum and maximum age of the respondents at first marriage was 12 and 38 years respectively. Around 35 percent of the respondents had already married before the age of 18 years. Correspondingly, the relationship between age at first birth and age at marriage can be shown in the Figure 4.4 below. As indicated in the figure, around 62 percent of the first births before age 18 had occurred to women who married before the age of 18 years. Correspondingly, 83.66 percent first births occurred after the age of 18 years for those women who had married after the age of 18 years. The survey result further revealed that, 42.68 percent of the participant's who married more than once had an experience of giving the first child before the age of 18 years. Furthermore, more than 80 percent of the respondents had reported that, they have the knowledge of marriage by abduction and a very few cases were reported that have had marriage by abduction.

Figure 4.4 Age at first birth and age at marriage relationship of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.

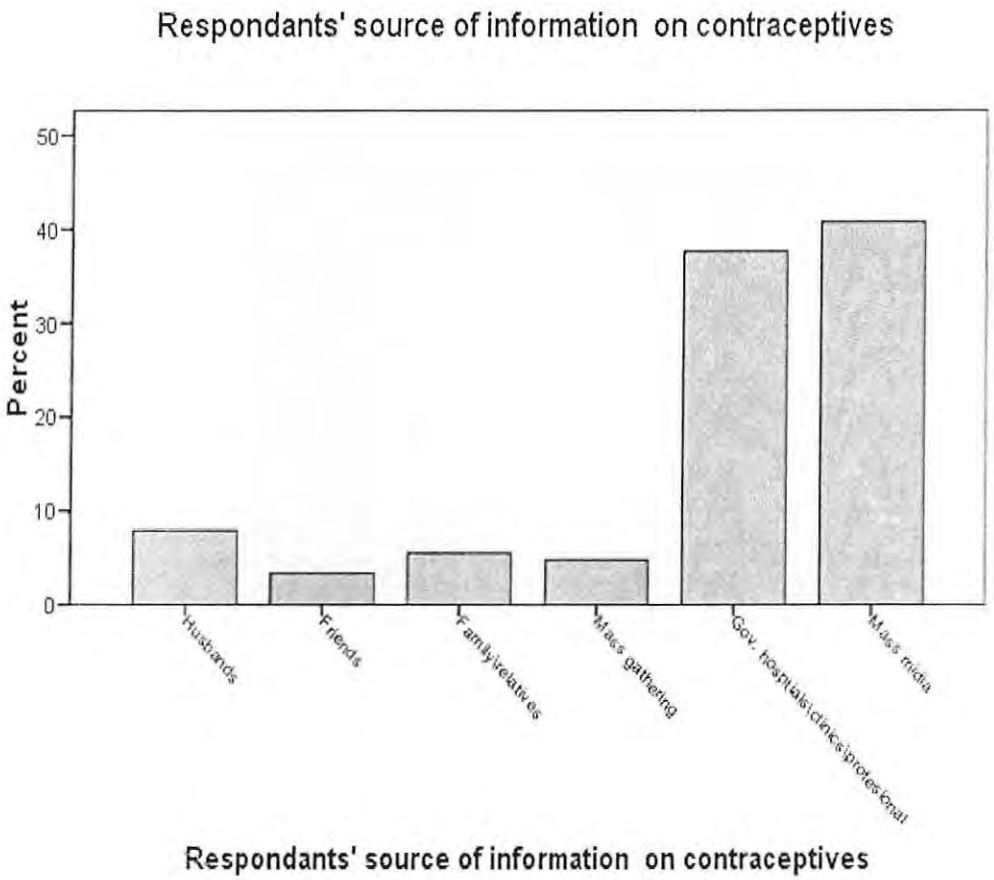
Source: Field survey

4.2.3 Age at first birth and contraceptive use

As indicated in the literature review, the age of at first birth has been linked to the contraceptive use of women during sexual intercourse. The field result shows that more than 85 percent of the respondents had knowledge of modern contraceptives. Among them, 74.79 percent had ever used condom during sexual intercourse. In the contrary, only half of them had attended family planning education or health education.

As indicated in Figure 4.5 about 39.93 percent of the respondents were getting information about family planning from mass media whereas, 37.12 percent of the participants getting from government hospitals/ clinics or from professionals. On the other hand, the reason for non-users of contraceptives, 45.34 % of them reported a desire to have a child; 12.12% opposition to family planning; 17.54% husband's disapproval and the rest 24.98% reports church or cultural disapproval of family planning.

Figure 4.5 The percentage distribution of information on Contraceptive, Welkite town, Goro Woreda SNNPR, Ethiopia, 2009.

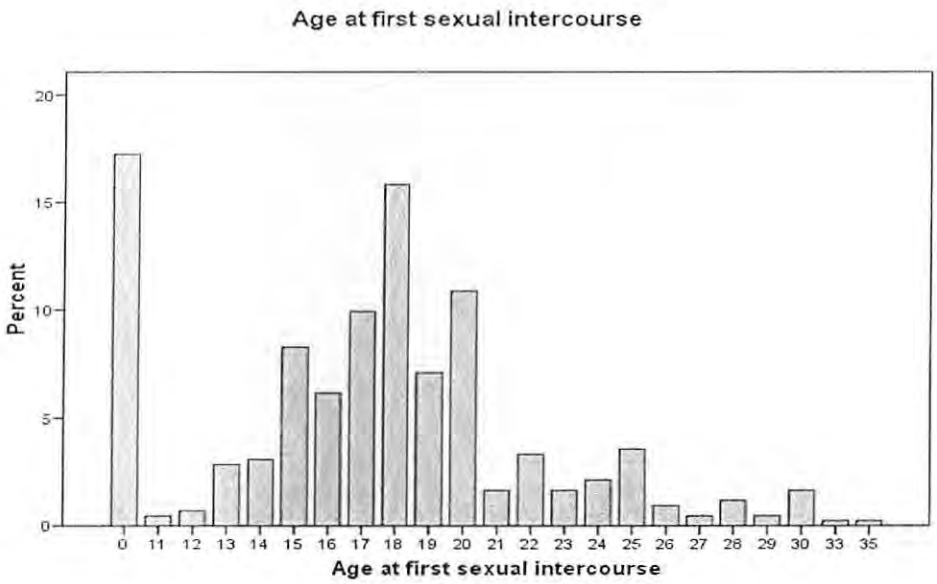


Source: Field survey

4.2.4 Age at first birth and Sexual behaviour

Most of the previous studies agreed upon a strong association between the age at first birth and the sexual characteristics of women. The present study also had found out that more than half of the respondents start their first sexual intercourse before the age of 18 years. Figures 4.6 indicate that around 17.32 percent of the respondents had reported to have no sexual intercourse before the age of 18 years ('0' in the diagram) whereas a small proportion of the respondents started sexual intercourse after the age of 18 years.

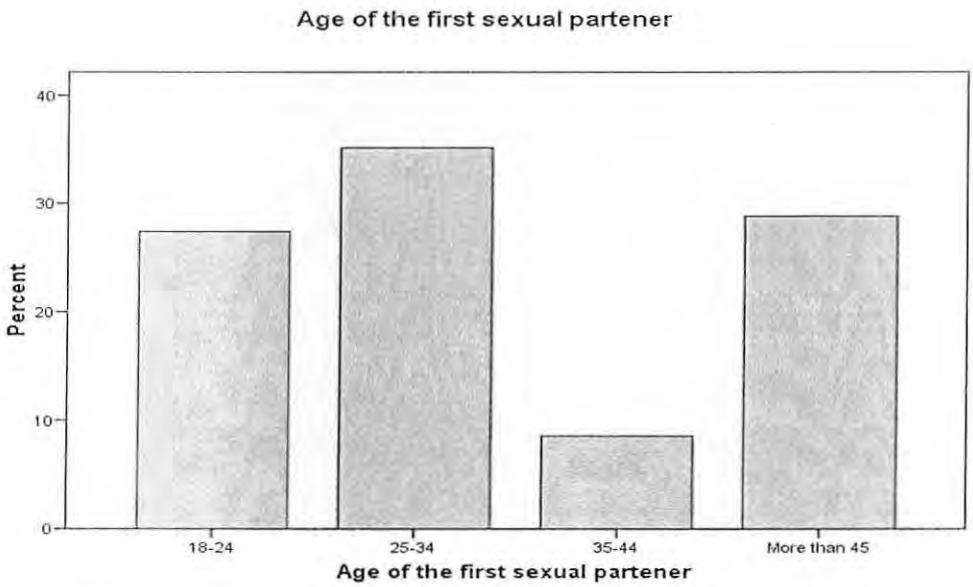
Figure 4.6 Age at first sexual intercourse of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey

On the other hand the age gap between the respondents and their corresponding sexual partners was too large. Thus, 29.12 percent of the respondents' sexual partners were aged of 45 years and above. Moreover, the field study indicated that more than 43.89 percent of the sexual partners' ages were in the age of range 25 years and 44 years. The average age difference between the respondents' and the sexual partners' was 5 years and the maximum and the minimum age differences were 28 and 2 years respectively. Only few cases have been reported that the age of the respondents' being greater than that of the corresponding sexual partner.

Figure 4.7 The percentage distribution age of the sexual partner, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey

4.2.5 Age at first birth, fertility and infant mortality.

The trend and level of fertility of women can be determined by the age at which the women had started the first birth. As supported in many literatures, the fecundity of women was strongly related with the age of women at first birth. This study also shows that among 296 eligible women, who already had given the first birth, 42.69 percent of births occur before the age of 18 years and those women had at a higher probability of having more numbers of children.

Table 4.5 Sex of the first child and number of children ever born to women with their corresponding age at first birth, Welkite town, Goro Woreda, SNNPR, Ethiopia,2009

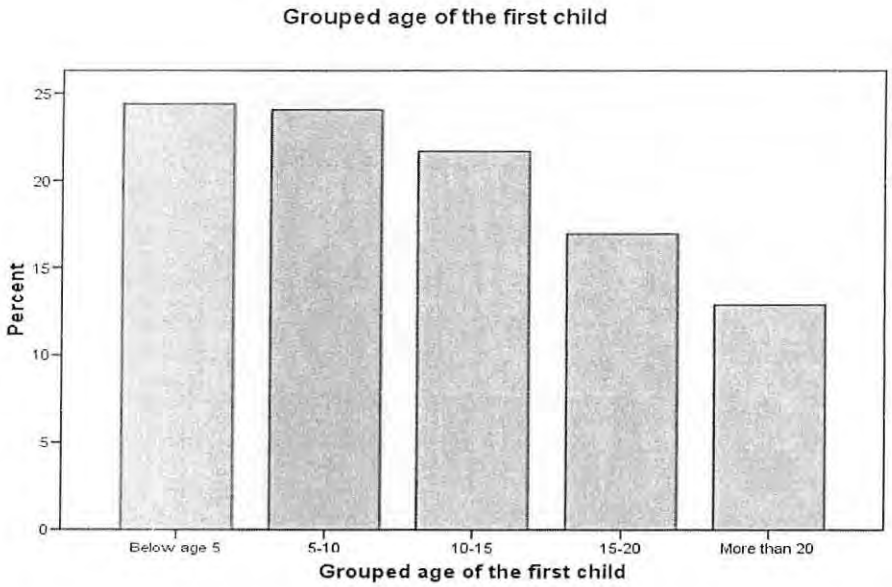
Age at giving the first birth	**Children ever born**			
	Male		Female	
	Count	Percent	Count	Percent
Before age 18 years	95	41.85	132	51.15
After age 18 years	132	58.15	124	48.44
Total	227	100.00	256	100.00

Source: Field survey 2009

As indicated in the above Table 41.85 percent of male first births had occurred before the age of 18 years and also 51.15 percent of female first child was born with mothers'

age before age 18 years. Furthermore, 227 first births were occurred before the age of 18 years in both sexes. Figure shows the percentage distribution of grouped age of the first child.

Figure 4.8 The percentage of grouped age of the first child, Welkite town, Goro Woreda SNNPR, Ethiopia, 2009.



Source: Field survey 2009

The ages of women at giving the first birth were closely linked with infant death. It is believed that for young mothers, the probability of infant death is high. This study also gathered some information about the mortality experience of the respondent and it indicated that 46 cases of infant deaths were recorded to women who gave birth before the age of 18 years. The percentage of male infant deaths was higher in the study area.

Table 4.6 The percentage of infant died by sex with their corresponding age at first birth, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.

Age at giving the first birth	Death			
	Male infants		Female infants	
	Count	Percent	Count	Percent
Before age 18 years	24	61.54	18	51.43
After age 18 years	15	38.46	17	48.57
Total	39	100.00	35	100.00

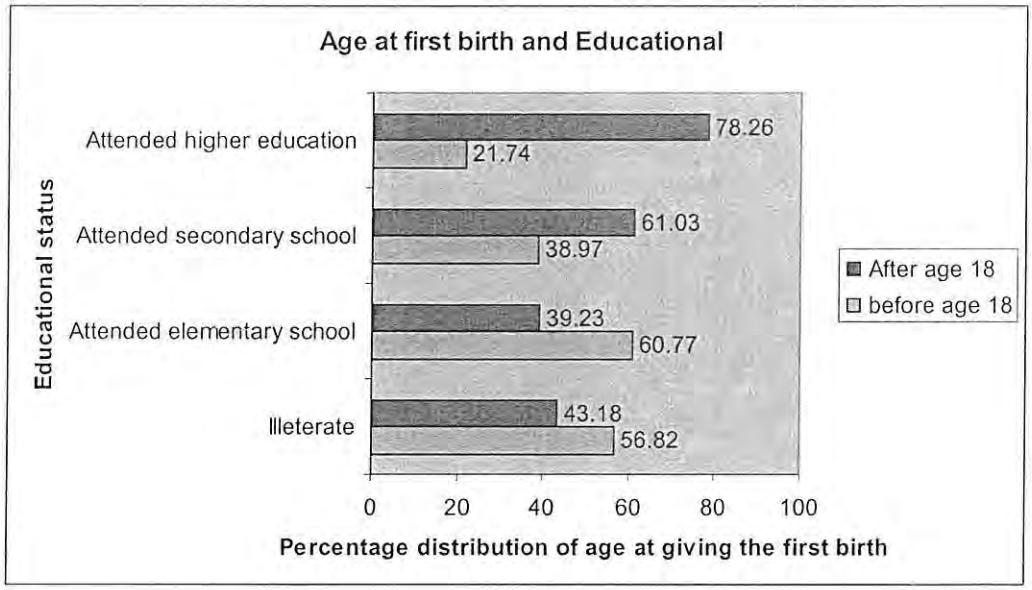
Source: Field survey 2009

4.2.6 Age at first birth and Educational status

There is a direct relation between rising education level of women and the postponement of age at giving the first birth. But the contributions of education are more complicated. Figure 4.9 indicate the proportion of women who give the first birth before and after age 18 by educational status.

As illustrated in the Figure below 56.82 percent women in the study area had given their first birth before the age of 18 years and 60.77 percent of women who attended the elementary education had also gave their first birth before the age of 18 years. On the other hand, only 21.74 percent of the respondents who had given the first birth before the age 18 years with a higher educational background. Correspondingly, 38.97 percent women who attended secondary education had given the first birth before the age of 18 years.

Figure 4.9 Age at first birth and educational attainment of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



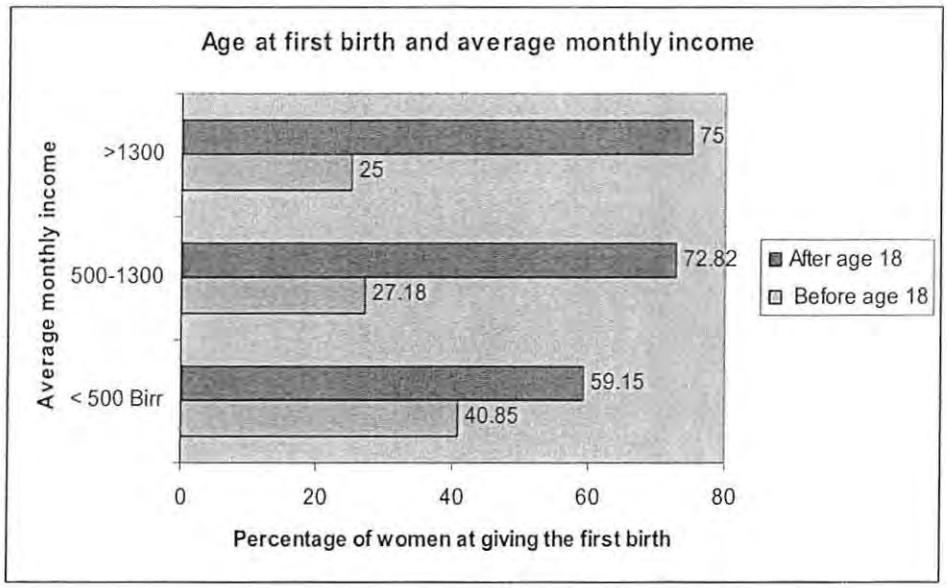
Source: Field survey 2009

4.2.7 Age at first birth and Income

In many rural areas of Ethiopia child birth was considered as an income and life time insurance for the family in their older age. Moreover, the income status of women has its own impact on the child bearing plan and the age at giving the first birth. Figure 4.10 indicate the percentage distribution of women at giving the first birth by their average monthly income.

It can be seen that, 75 percent of women who had given their first birth after the age of 18 years had an average monthly income of above 1300 birr. On the other hand, only a small proportion of women with an average income of less than 1300 birr. On the other hand, 40.85 percent of women with an average monthly income of less than 500 birr had given their first birth before the age of 18 years.

Figure 4.11 Age at first birth and average monthly income of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



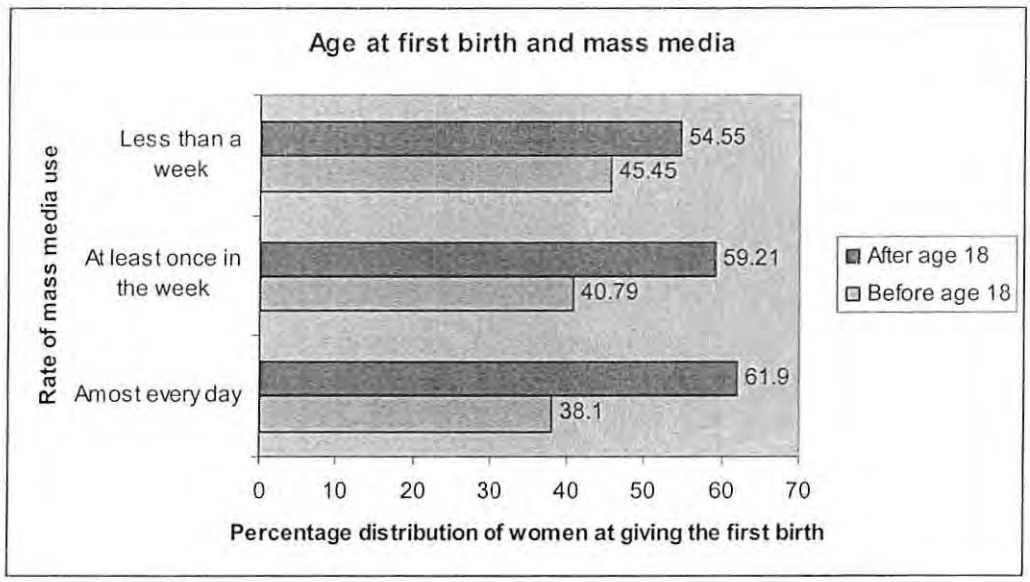
Source: Field survey 2009

4.2.8 Age at first birth and Mass media exposure

As indicated in chapter two, in many rural areas of Ethiopia, women do not have any access to mass media. This situation may have its own impact on information about different family planning education and other related information. The following figure shows the percentage distribution of women at first birth corresponding with mass media exposure.

As indicated in the Figure, 45.45 percent of women who had an exposure of mass media less than a week gave their first birth before the age of 18 years. In contrary, 38.1 percent of women in the study had given their first birth before the age of 18 years with less mass media exposure. The survey result further depicted that 47.84 percent of the respondents have lessen a radio while 48.60 percent watch a television.

Figure 4.11 Age at first birth and mass media exposure of the respondents, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.



Source: Field survey 2009

Considering the age of women at giving first birth as the dependent variable, a statistical analysis was carried out to identify the impact of the socio-demographic and socio-economic variables. The results of the chi-square(X^2) are shown in Table 4.7 and 4.8. The first Table (Table 4.7) examined whether or not there was significance impact of socio-demographic determinants on the age of mother at giving first birth. The second Table (4.8) also examined the significant impact of socio-economic variables on the age of mothers at giving the first birth.

4.2.9 The chi-square test of socio-demographic variables with age at first birth.

The variables age at first marriage ($p<0.000$), contraceptive use ($p\leq0.001$) and age at first sex ($p<0.000$) appeared to have a statistically significant impact on the dependent variable of age at giving the first birth. The variable age at first marriage was considered here in two different categories: 'married before the age of 18 years' and 'married after the age of 18 years'. Contraceptive use was considered in two different categories: users and non-users. The other variable age of women at having first sexual intercourse also was categorized in to two: 'before age 18' and 'after age 18'.

Moreover, the age of the sexual partner and the death of infant during the first birth have a statistically significant ($p<0.05$) impact on the age at having the first birth. And the age of the sexual partner was categorized in to three: 'older', 'younger' and 'about the same age'. In the study the mortality experience also had included and was classified in to two: 'yes' and 'no'. On the other hand the migration status of women in the study area has no significant ($p>0.05$) impact on the age of the mother at giving the first birth. It was categorized into 'migrant' and 'non-migrant'.

The result of chi-square test also shows that the presence of a strong inter-relationship between the variables of age at first marriage and age at giving the first birth, contraceptive use and age at giving the first birth, age at first sex and age at giving the first birth, which indicates that the proportion of women who married before the age of 18 years had the higher probability of having their first birth. Table 4.7 depicted that 61.76 percent of women who married before the age of 18 years had given their first child before the age of 18 years whereas, 16.34 percent of women who had given their first birth before the age of 18 years while they had married after the age of 18 years. On the contrary, the proportion of women who married before the age of 18 years but, they had their first birth after the ages of 18 years was 38.24 percent. Correspondingly, the percentage of women who had married after the age of 18 years and also had their first birth after the ages of 18 years was 83.66. Therefore, age at first marriage was highly related with the age of giving the first birth.

With regard to contraceptive use and the age of at giving the first birth, 42.44 percent of first births occurred before the age of 18 years with in non-user of contraceptives. On the other hand, 57.56 percent of the first birth after the age of 18 years occurred among those non-users of contraceptives. As indicated in Table 4.7 the relationship between age at first sex and age at giving the first birth was statistically strong ($p<0.000$).

The Table further depicted that 58.65 percent of birth before the age of 18 years occur for those who had a sexual intercourse experience before age 18. Moreover, 64.88 percent of births after the age of 18 years occur for those who had a sexual intercourse experience before the age of 18 years.

Considering the age of the sexual partner, the majority of women have a sexual partner whose age was older than them. As the same time, women had to give their first birth before the age of 18 years.

Regarding the relationship between infant morality and age at first birth, 55.56 percent of death of the first child occur for those who give birth before the age of 18 years whereas,44.44 percent of child death occur for those women giving birth after the age of 18 years.

As was stated above, the migration status of women in the study area was insignificantly associated with the age of women at giving the first birth (p=0.820). Meanwhile, 51.35 percent of first births before the age of 18 years occur for non-migrants. The proportion of first birth after age 18 for non-migrants were 48.65 percent.

Table 4.7 Chi-square result of age at first birth by socio- demographic characteristics, Welkite town, Goro Woreda ,SNNPR, Ethiopia,2009.

(* = significant at P < 0.05 ** = significant at P < 0.01 *** = significant at P < 0.001)

Variables	Age of women at first birth				P-Value	X^2
	Before age 18		After age 18			
	Count	Percent	Count	Percent		
Age at first Marriage						
Before age 18 years	105	61.76	65	38.24	0.000***	69.1
After age 18 years	25	16.34	128	83.66		
Age at first sex						
Before age 18 years	162	59.34	111	40.66	0.000***	76.2
After age 18years	23	15.33	127	84.67		
Contraceptive use						
Users	15	21.43	55	78.57	0.001***	10.41
Non-Users	115	42.44	156	57.56		
Migration status						
Non-Migrant	38	51.35	36	48.65	0.820	.051
Migrant	61	39.35	94	60.65		
Mortality experience during 1st birth						
Yes	35	55.56	28	44.44	0.029*	4.75
No	92	40.17	137	59.83		
Age of sexual partner						
Older	131	40.81	190	59.19	0.013*	10.86
Younger	11.77	11.77	15	88.23		
About the same age	23.08	23.08	10	76.92		

4.2.7 The chi-square test of socio-economic variables with age at first birth

The relationship between socio-economic variables and the age women at giving the first birth on the chi-square test reflect that, education, work status, income and husband's ethnicity were statistically significant with the age at first birth with $p<$ 0.000, $p<0.000$, $p<0.05$ and $p<0.05$, (see Table 4.8)respectively. But, religion and ethnicity of the respondent and husband's religion does not have a significant relationship with the age of women at given the first birth. The educational status of the respondent in the study could be categorized into three groups: 'illiterate', 'attended primary' and 'attended secondary and above'. The work status of the women was also categorized into two: 'employed' and 'unemployed'. 'High', 'middle' and 'low' were the category used to classify the income status. Religion of the respondent and the husband were categorized in to three groups: 'Orthodox', 'Muslims' and 'Others'. The other variable, ethnicity of the respondent and husband's also categorized into 'Guragea' and 'others'.

According to the chi-square test result, educational status of the respondent's has a significant relationship with the age of women at first birth. Thus, around 56.82 percent of women who give birth after age 18 who has no educational back ground (illiterate). On the other hand 43.18 percent women who had no educational back ground had given their first birth after the age of 18 years. Regarding work status, about 54.22 percent of the births occur before the age of 18 years for those unemployed women whereas, 68.18 percent of employed women have given birth to their first baby after the age of 18 years. Correspondingly, the income status of women has been linked to the age at giving the first birth and the survey result shows that more than half percent of the women who were in the low and middle income category has given their first birth before the age of 18 years whereas, the less than 25.76 percent of births after the age of 18 years occur in the higher income categories.

Table 4.8 also depicted that there was no significant association between religion and the age at giving the first birth. Meanwhile, 42.71 percent births before the age of 18 years occur for those who follow Orthodox Christianity and 49.73 percent of Muslims

also given their first birth before age 18.On the other hand, the percent of women who give birth after age 18 were 57.29 and 50.27 for Orthodox and Muslims respectively. With regard to ethnicity, 45 percent women give the first birth before the age of 18 years with Guragea ethnic back ground. On the other hand the proportion of women who give birth after the age of 18 years was 54.84 percent on Guragea ethnic group and other ethnic groups constitute 57.77 percent. Correspondingly, the husband's ethnicity has a significant relationship with the age at first birth. About 35.24 percent of women who give birth before the age of 18 years were Guragea in their origin. Moreover, 64.76 percent women who give birth after age 18 at the same ethnic group.

Table 4.8 Chi-square result of age at first birth by socio-economic characteristics, Welkite town, Goro Woreda, SNNPR, Ethiopia, 2009.

Variables	Age of women at first birth				P-Value	X^2
	Before age 18		After age 18			
	Count	Percent	Count	Percent		
Religion						
Orthodox	85	42.71	114	57.29		
Muslims	76	49.73	77	50.27	0.077	5.123
Others	24	33.80	47	66.20		
Ethnicity						
Guragae	98	45.16	119	54.84	0.554	.368
Others	87	42.23	119	57.77		
Education						
Illiterate	38	43.18	50	56.82	0.000***	24.64
Attend primary	79	60.77	51	39.23		
Attend Sec. &above	68	33.17	137	66.83		
Work status						
Employed	63	31.82	135	68.18	0.000***	21.5
Unemployed	122	54.22	103	45.78		
Income status						
Low	54	46.96	61	53.04	0.006*	10.27
Middle	114	47.11	128	52.89		
High	17	25.76	49	74.24		
Husband's ethnicity						
Guragea	74	35.24	136	64.76	0.045*	4.011
Others	66	45.83	78	54.17		
Husband's religion						
Orthodox	59	38.31	95	61.69	0.631	4.756
Muslims	61	42.36	83	57.64		
Others	20	35.71	36	64.29		

As stated earlier, the husbands' religion has no significant relationship with the age of women at giving the first birth.

4.3 Multi-variate Analysis

4.3.1 Results of logistic regression

The analysis carried out so far shows that there are some association between the dependent variable, the age of women at giving the first birth, and socio-demographic and socio-economic variables. However, a bi-variate analysis does not determine the extent to which this association with the particular variable had concerned, and the extent to which they are the effects of other intervening variables. Regression analysis has been used in order to examine the relative importance of different socio-demographic and socio-economic variables as determinants of the age of mother's at giving the first birth. It is also necessary, also, to account for the inter-relationship between the chosen independent factors.

The dependent variable in the study is dichotomous. That is either giving the birth before the age of 18 years or giving the birth at the age of 18 years and above in the model. In the logistic regression model, the dependent variable is classified as, "0" when the birth occur before age 18, and "1" birth at age 18 and above. In the model, the coefficient exp (B) represents the increase or decrease in the log of odds of occurrence of an event.

The variables entered in the logistic regression analysis were age at first marriage, age at first sexual intercourse, contraceptive use, migration status, education, work status, religion, ethnicity, birth place of the respondent's and mass media exposure. Of these variables only five of them (age at marriage, age at first sexual intercourse, contraceptive use, education and religion) were the significant impact on the age at giving the first birth.

Table 4.9 The results of logistic regression on socio-demographic and socio-economic variables

Variable	B	S.E	EXP (B)
Age at marriage			
Before age 18(RC)			
After age 18	-1.910	0.591	0.148***
Age at first sex			
Before age 18(RC)			
After age 18	-1.694	0.314	0.184***
Contraceptive use			
Users(RC)			
Non-user	0.677	0.322	1.987*
Education			
Illiterate(RC)			
Attend primary	-0.438	0.391	0.645
Attend secondary & above	-0.742	0.346	0.476**
Work status			
Employed(RC)			
Unemployed	-0.464	0.302	6.29
Religion			
Orthodox (RC)			
Muslim	-1.453	0.448	0.234*
Others	-0.162	0.334	0.851
Ethnicity			
Guragea (RC)			
Others	0.278	0.275	1.758
Birth place			
Urban (RC)			
Rural	0.325	0.323	0.722
Mass media exposure			
Yes (RC)			
No	-0.202	0.521	0.817

* = significant at P < 0.05 ** = significant at P < 0.01 *** = significant at P < 0.001

The overall model is significant when all above independent variable are entered because the omnibus tests of model coefficient indicate the value of p is less than 0.001(significant). And also the classification Table indicate 78 percent of births before the age of 18 years were predicted correctly with this model but 83 percent those women who give birth after the age of 18 years were predicted correctly.

Age at first marriage of the respondents has statistically significant effect on the age of women at giving the first birth. Women who had married before the age of 18 years were 0.148 as likely to give the first birth before the age of 18 years. (The discussion is under the main findings).

Age at first sex of the respondent's has also a significant effect on the age of women at giving the first birth. The logistic regression model result shows that, the odds of age at first birth before the age of 18 years for those who had sex after the age of 18 years were 0.184 times less than those who had sex experience before the age of 18 years.

Contraceptive use is one of the important factors included in the model. The result of the analysis showed that, there is a significant influence on the age of women at first birth. Moreover, the birth of a child to a woman before the age of 18 years was 1.987 higher for non-contraceptive users than users.

Education is one of the socio-economic variables included in the model and the logistic regression result showed that the odds of age at first birth before the age of 18 years among those attending secondary and above women's are 0.476 times less than those illiterate women.

On the other hand, the variables (age at first marriage, age at first sex, education and religion) in the model had also a negative relationship with the age of at giving the first birth. But the other variables on the model included had no impact on the age of the mother at giving the first birth. Therefore, according to the logistic regression analysis the determinants of the age at giving the first birth in Wolkite town are the above mentioned variables.

4.4 Discussion on the Main Findings

We began by noting the median age of mothers' in Welkite town. As indicated in the earlier section, the median age at giving the first birth was 19 years old. We therefore, have looked more closely at the significant determinant factors on the age of giving the first birth in Welkite town.

Marriage is closely tied to childbearing in Ethiopia, where most girls report having their first sexual encounter within marriage (Population Council 2005). Other studies also indicated that, the age of women at first marriage had a significant effect on the age at giving the first birth (Loughran *et al* 2004; Gjonca *et al* 2008). Furthermore, the Ethiopian CSA (2006) reported that 13% of girls in Ethiopia had married by the age of 15 years but those married before the age of 18 years remained high at 66%. The study result indicated that, age at first marriage of the respondents has statistically significant effect on the age of women at giving the first birth. Thus, women who had married after the age of 18 years were 0.148 as likely to give the first birth before the age of 18 years.

Moreover, studies in Amhara region indicted that,14 % of women were married before the age of 10 years, 39 % before the age of 15 years and 56 % before the age of 18 years (Population Council, 2004 cited in Pathfinder International, 2005). Apart from the above finding, this study also indicated that, the median age of women at first marriage in the study area was 18 years. Likewise, in this study, the relationship between age of at giving the first birth and age at first marriage were found to be strong. The chi-square test was supported the findings on the logistic regression. Thus, 61.76 percent of women who marry before the age of 18 years had given their first baby before the age of 18 years at the same time. On the reverse, only 16.34 percent of women who give birth before the age of 18 years even if they married after the age of 18 years. The study result also substantiated the idea that, variation in age of entry into marriage helps to explain differences in age at giving the first birth of a women and trends in fertility within individual women in the study area.

The possible explanation for this by the religious leader was that *"the town is surrounded and settled by multi cultural societies and they practice early marriage*

and hence followed by early child bearing." Furthermore, the health professional of the town explained that *"most of the complicated pregnancies occurred in women whose age were less than 18 years and most of these cases were found to rural women. Additionally, there was a direct relationship between age of women at giving the first birth and age at first marriage because most of the time the family's child bearing plan was dominated by the husband or his families."* The FGD participants also indicated that, "*the majority of their families had a tradition of having child immediately after marriage.*"

Studies in Ethiopia indicated that, three in ten women in the age group 25-49 have had sexual intercourse by the age of 15 years, two in three by the age of 18 years, and more than 80 percent by the age 20 years. (Pav Gouindasamy *et al*, 2002). This study also indicated that, the age at first sex puts a significant influence on the age of a woman at giving the first birth. According to the DHS, approximately 46 percent of older adolescent (ages 20 to 24) females had begun childbearing by the age of 19, which is comparable to the life table estimated obtained in this sample of 50% having begun childbearing by the age of 18.

Correspondingly, the logistic regression and chi-square test result of this study supported the previous findings. Thus , the birth experience of those women who had a sexual intercourse after the age of 18 years were 0.184 times less than those who had sex experience before the age of 18 years. Additionally, the chi-square test result shows that the relationship between age at first sex and the age of at giving the first birth was statistically strong ($p<0.000$). Moreover, more than 50 percent of births before the age of 18 years occurred for those women who had a sexual intercourse experience before age of 18 years.

The qualitative study had also indicated that, the age at first sexual intercourse had its own impact on the age at giving first birth. The possible explanation for this suggested by the town health office head was that, "*most of the teen age girls in the town had started their first sexual intercourse at the early ages, around the age of 16 years. The starting of sexual intercourse at the early age had given an opportunity to have the first baby in the early age and even the girls had exposed to various health*

problems, i.e the complication of pregnancy, induced abortion, acquiring STDs and HIV/AIDS."

Furthermore, it was investigated from FGDs that *"some of them are starting some kind of relationship with their school mates and peer groups. Such relationship favour to start sexual intercourse with in a short period of time. Additionally, most of the teenage girls and adolescents in welkite town start their sexual intercourse with a person who gave them some kind of incentives like money. A* study by Robert indicated that, youth who engaged in high-risk activities (attending parties, going to discos, drinking alcohol) with their first close friend were more likely to ever have had sex, were to have a higher number of sexual partners over their life time and were less likely to have used condom (Robert *et al.*, 2000).The FGD participants also underlined that, *"most of the births before the age of 18 years were unwanted and even sudden because most women at first sexual intercourse did not remember to use any kind of contraceptives."*

A lot of studies were conducted on the issue of contraceptive use among women on the reproductive ages. A study by Manning et al (2000) indicated that, the couples in closer relationships are more likely to practice contraception to avoid the unwanted pregnancy and delaying the birth of the first child. Similarly, studies in Ethiopia indicated that, the low level of urban fertility was achieved with one of the weakest family planning programmes in the world (Ashagrea, 2002) and even resistance by medical personnel to the introduction of contraceptives (Kebede,2001). Correspondingly, contraceptive prevalence rate in Ethiopia had been increased with an increasing educational attainment i.e. it increases from 10% among women with no education to 53% among those with secondary and higher education (DHS 2005).

In this study it was found that the contraceptive use had a strong associate to the age of mother at first birth in Wolkite town. ($p< 0.05$, OR=1.987).The logistic regression analysis indicated that, non users of contraceptives are 1.987 times more likely to have a child after the age of 18 years than those before the age of 18 years. As indicated in the chi-square test, among the eligible respondents, 42.44 percent of the respondents had given their first birth before the age of 18 years who were non users of contraceptives.

According to the health professional of the town, "*the distributions of contraceptives were available in health centres, clinics, hospital and shops but the society is not willing to accept and use the contraceptives. The main reason for not accepting the contraceptives in the town might be culture (husbands' family influence) and religious factor.*" on the other hand, the FGD participants also indicate that, "*they have a fear of going to clinics to get family planning services and even some of them do not have any experience of using condoms during sexual intercourse. Apart from this, the only access to get condom in the town was from clinics and shops. The services might also be far apart from their surroundings. In addition, the uses of contraceptives were prohibited by the religious leaders and some groups of the societies.* According to one of the religious leader, *contraceptive use is strictly forbidden because the doctrine do not allow.*"

One of the most important elements of economic success in adult life is education. Most studies agree that early childbearing limits or delays future educational achievement. (Lorentozon 2005, Zhang and Lillard, 2007). The findings in Amhara region indicated that, education is an instrument for delaying the age of first birth for adolescent girls. Thus, "*the probabilities for not having a birth by the age of 18 years were positively associated with education: 34 percent with no education, 81 percent with some education, and 96 percent with primary education*" (Muthengi and Erulkar, 2008).

In this research, education had its own impact on the age at giving the first birth. In both logistic regression and chi-square test educational status of the respondents has statistically significant effect on the age of at giving first birth. The chi-square test indicated that 56.82 percent women with no educational background had given their first baby before the age of 18 years. Correspondingly, the logistic regression analysis supplemented that, women who had no educational background (illiterates) are 0.476 as likely to have a baby after the age of 18 years as they have a child before the age of 18 years.

According to the records of the educational office of the town, "*the educational enrolment of females in the town is increasing from time to time. Thus, from the total*

of 26,236 kindergarten students around 47 percent of the students were girls in 2000 (Ethiopian calendar year). At the same time, the proportions of female student enrolment in primary, secondary and above were 38, 34 and 25 percent respectively when compared to the enrolment of male students." On the other hand, the FGD participants indicate that "*the best solution in the postponement of age at first birth was education because education delays the age at first marriage. Moreover, the time spent on education delay the age at giving the first birth."*

Chapter Five

Conclusion and Recommendation

5.1 Conclusion

In order to provide insights into the mechanisms of underlying changes on age at first birth, different socio-demographic and socio-economic variables were examined, namey age at first sexual intercourse, age at first marriage, contraceptive use, sexual behaviour, education, work status, religion, ethnicity and mass media exposure. According to the findings of the study, the median age at first birth in Wolkite town was 19 years. This can be explained in terms of different determinant factors.

In general, early entrance into marriage means early entrance into child bearing. Approximately, more than 50 percent of women who had married before the age of 18 years have given their first child before age 18 years. Moreover, the death of infants among those women who had given their first birth before the age of 18 years was relatively high. Additionally, the qualitative study also supports the idea that the practice of early marriage was followed by early child bearing in the study area.

The result indicates that contraceptive use and age at first intercourse are positively related to age at first motherhood. Both the qualitative and quantitative study show that, early entrance in to sexual intercourse had its own impact on the age of women at giving the first birth. On the other hand, contraceptive users had less probability to have the first baby before the age of 18 years. Correspondingly, the qualitative study also indicated that, most of the teenagers and young adults do not have an experience of getting family planning services from their near by hospitals and health centres.

Education was found to be one of the major factors determining the age at first birth for women in Wolkite town. Illiterates and primary school leavers have higher proportion at giving the first birth before the age of 18 years while women with secondary and higher education background have given their first birth after the age 18 years.

5.2 Recommendation

This study attempted to shed some light on determinants of the age of women at giving the first birth in Wolkite town. The individual level analysis carried out has answered a number of questions on the determinants of age of women at giving the first birth in Wolkite town. A very clear point from this study is that age at giving the first birth in Wolkite is a little above 18 but has started to rise up ward. So this study implies some recommendation based on findings.

- This study found out that, the age at first marriage is a determinant factor on the age at giving the first birth. Therefore, the age of women at first marriage tend to increase by different means such as increase the participation of girls on education especially in the secondary and above because the education delays the age at first birth. On the other hand, the health workers and other members of the community emphasize the impact of early marriage and its consequence.

- Since, majority of couples are still illiterate and under the influences of social and cultural factors in Wolkite town. Therefore, the town municipalities and the town educational office should give much attention on the enrolment of girls at school. Apart from this, the religious leaders and other local heads should try to encourage girls' education in the town.

- The age at first sexual intercourse has also its own contribution to early birth; therefore, school clubs activities in relation to reproductive health should be encouraged. Correspondingly, the health workers and other NGO should give much attention on the reproductive health education at school level especially secondary education.

- Increasing the access and the utilization of contraceptives are the best ways to delay the age at giving the first birth. Thus, women with health extension workers about reproductive health issues are needed to enhance the utilization

of family planning services. Correspondingly, other NGO in the town must increase the accessibility of contraceptives.

- Finally, it is recommended that further studies are needed to identify other determinant factor on the age of women at first birth.

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Annex-1

Questionnaire in English Version

Institute of Population Studies

College of Development Studies

Addis Ababa University

Study on determinants of age at first birth in Wolkite Town.

Informed Consent

Introduction: Hello. My name is _____. This is a survey conducting about determinants of age at first birth in Wolkite town: Goro Woreda, SNNPR, Ethiopia. I would very much appreciate your participation in the survey. I would like to ask you about issues related with birth, marriage, pregnancy and other relevant personal information. The result of this study will help to plan and design appropriate programme to issues related with age at first birth, what ever information you provide will be kept strictly confidential and will no be shown to other persons.

Are you willing to participate in this study? YES_____NO_____

Ok, Thank you,

THIS QUESTIONNAIRE HAS THE FOLLOWING THREE SECTIONS

SECTION	QUESTIONS ON	NO. QUESTIONS
ONE	RESPONDENTS' BACKGROUND	14
TWO	SEXUAL ACTIVITY AND FAMILY PLANNING	11
THREE	MARITAL STATUS AND REPRODUCTION	22

NO	QUESTIONS	CODING CATEGORIES	SKIP
101	What is your age?	AGE INCOMPLET YEAR_____	
102	What is your birth place?	URBAN --------1 RURAL---------2	
103	Are you living in your birth place?	YES----------1 → NO----------2	106
104	Just before you moved here, where did you live?	CITY----------1 TOWN----------2 COUNTRY SIDE---------3	
105	How long have you been living continuously in this area? IF LESS THAN ONE YAER,RECORD'00'	YEAR_____	
106	What is your religion?	ORTHODOX----------1 CATHOLIC----------2 PROTESTANT----------3 MUSLIM----------4 TRADITIONAL----------5 OTHER----------6 (SPECIFY)_____	
107	What is your ethnicity?	OROMO----------1 AMHARA----------2 GURAGE----------3 SELTI----------4 KEBENA----------5 OTHER----------6 (SPECIFY)_____	
108	What is your educational status?	ILLITERATE----------1 ATTENDED ELEMENTARY SCHOOL----------2 ATTENDED HIGH SCHOOL------3 ATTENDED HIGHER EDUC----4	
109	What is your occupation?	GOVERNMENT EMPLOYEE----1 PRIVATE EMPLOYEE----------2 SELF EMPLOYEE----------3 HOUSEWIFE----------4 → OTHER----------6 (SPECIFY)_____	111

NO	QUESTIONS	CODING CATEGORIES	SKIP
110	How much do you earn per month?	BIRR_____	
111	How do you classify your economic status by comparing with that of your neighbours?	LOW----------1 MIDDLE----------2 HIGH----------3	
112	Do you have any exposure to mass media?	YES----------1 NO----------2 →	201
113	Which Mass media method do you continuously used?	RADIO----------1 TV----------2 OTHER----------6 (SPECIFY)_____	
114	How much do you listen/watch to a radio/TV?	ALMOST EVERY DAY----------1 AT LEAST ONCE A WEEK-------2 LESS THAN A WEEK----------3	

SECTION TWO: SEXUAL ACTIVITY AND FAMILY PLANNG ENVIRONMENT.

NO	QUESTIONS	CODING CATEGORIES	SKIP
201	How old were you when you had sexual intercourse for the very first time (if ever)?	NEVER HAD SEX (NONE).....00 → AGE IN YEARS_____	306
202	How old was the person you first had sexual intercourse with?	AGE YEARS_____ DON'T KNOW.....98 →	304
203	Was this person older than you, younger than you, or about the same age as you?	OLDER.....1 YOUNGER.....2 ABOUT THE SAME AGE.....3 DON'T KNOW.....98	
204	The first time you had sexual intercourse, was a condom used?	YES.....1 NO.....2 DON'T KNOW/DON'T REMEMBER.....98	
205	Can you say no to your husband/partner if you do not want	YES.....1 NO.....2	

	to have sexual intercourse?	UNSURE.....98	
206	In the last few months have you heard/read about family planning?	YES.....1 NO.....2 → 308 DO NOT KNOW.....3 → 308	
207	From where do you mostly get information on family planning methods	HUSBAND.....1 FRIENDS.....2 FAMILY/RELATIVES.....3 MASS GATHERING (KEBELE,IDIR....4 GOVERNMENT HOSPITAL/ CLINIC/PROFFICINAL.....5 MASS MEDIA.....6 OTHER..... (SPECIFY)_____	
208	Do you know the place where modern contraceptive could be defined	YES.....1 NO.....2	
209	Have you ever attended family planning education in your community?	YES.....1 NO.....2 DO NOT KNOW.....3	
210	Have you ever used a contraceptive method to prevent or delay pregnancy(if she had sexual inter course)	YES.....1 NO.....2 DO NOT KNOW.....3	
211	If your answer for question 310 is NO, what is the main reason that you didn't use any modern concreting methods	YES NO DESIRE TO HAVE CHILD 1 2 OPPOSED TO FAMILY PLANNING 1 2 HUSBAND DIS APPROVAL 1 2 RELIGION/CULTURAL 1 2 PROHIBITION 1 2 LACK OF KNOW KEDGE OF SOURCE 1 2 OTHER	

SECTION THREE: MARITAL STATUS AND REPRODUCTION

NO	QUESTIONS	CODING CATEGORIES	SKIP
301	What is your martial Status?	SINGLE .....1→ ENGAGED.....2→ MARRIED.....3 LIVENING WITH A MAN AS IF MARRIED.....4 SEPARATED/DIVORCED.....5 WIDOWED.....7	211 203
302	How old were you when you first got married?	AGE IN COMPLETE YEARS|_____	
303	Have you been married/or lived with a man only once or more than once?	ONLY ONCE .....1 MORE THAN ONCE.....2	
304	Besides yourself, does your husband/partner have other wives or does he live with women other than his wives as if married? (IF NOT SEPARATED/DIVO./WIDOWED)	YES.....1 NO.....2 DON'T KNOW.....98	
305	Is your husband/partner living with you or is he staying else where?	LIVING TOGETHER.....1 STAYING ELSE WHERE.....2	
306	How old was your husband/partner on his last birthday? (IF NOT SEPRATED/DIV./WIDOWED	AGE IN COMPLETE YEARS ___	
307	What is your husband's/partner's educational status	ILLITERATE.....1 ATTENDED ELEMENTAR SCHOOL.....2 ATTENDED SECONDARY SCHOOL.....3 ATTENDED HIGHER EDUCATION.....4	
308	What is your husband's /partner's religion?	ORTHODOX----------1 CATHOLIC----------2 PROTESTANT----------3 MUSLIM----------4 TRADITIONAL----------5 OTHER----------6 (SPECIFY)_____	
309	What is your husband's /partner's ethnicity?	OROMO----------1 AMHARA----------2 GURAGE----------3 SELTI----------4 KEBENA----------5 OTHER----------6	

310	What is your husband's /partner's occupation?	(SPECIFY)_____ GOVERNMENT EMPLOYEE----1 PRIVATE EMPLOYEE----------2 SELF EMPLOYEE----------3 OTHER----------6 (SPECIFY)_____	
	NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE?		
311	Have you ever given birth?	YES----------1 NO----------2 → 220	
312	Do you have any son?	YES----------1 NO----------2 → 315	
313	How many sons do you have?	NO OF SONS_____	
314	Do you have any Daughter	YES.....1 NO.....2 → 317	
315	How many Daughters do you have?	NO OF DAUGHTER_____	
316	Who is the first child	SON.....1 DAUGHTER.....2	
317	What is the age of your first child	AGE IN COMPLETE YEARS ___	
318	Have you ever given birth to a boy or girl who was born a live bat later died	YES.....1 NO.....2 →	220
319	How many boys are died? And how many girls have died? If None, Record '00'	BOYS DEAD_____ GIRLS DEAD_____	
320	Have you ever heard of marriage by abduction?	YES.....1 → NO.....2	222
321	IF NO PROBE (For Que. 220): Have you ever heard of the practice in which a girl is abducted and forced into marriage?	YES.....1 NO.....2	
322	Have any of your daughters ever been married by abduction?	YES.....1 NO.....2	

INTERVEWERS OBSERVATIONS

COMMENTS ABOUT THE RESPONDENT

_____

_____

_____

COMMENTS ON SPECIEFIC QUESTIONS

_____

_____

SUPERVISOR'S OBSERVATIONS

_____

_____

Annex-2

CHECK LIST FOR KEY INFORMANTS IN-DEPTH INTERVIEW (NURSES, WOMEN'S ASSOCIATION WORKER, LOCAL LEADERS)

1. What is your status?_____
2. How do you perceive the status of women in your locality in terms of :
    a. education
    b. employment
    c. women empowerment
3 What do you think about the educational status of women in this locality?
    a. What do you view about its impact on the pattern and trend of first birth?
4. Do you think unemployed women has given birth earlier than the employed
5. Do you think that a woman in your locality has the right to delay her giving of the first birth?
    a. Who makes a decision?
6. What do you perceive on the age gap between couples in this locality? What is common and rare?
7. Which ethnic group dominate in your locality?
    a. What kind of tradition follow in your locality?
    b. What is the impact?
8. How do you relate the age at first birth and marriage in your locality?
9. What is your guess about the median age at first marriage and age at giving the first birth?
10. How do view the experience of early marriage in your locality?
11. How do view the experience of early childbirth?
12. What are the consequence of early marriage and child bearing in your locality?

13. How do perceive the family planning environment in your locality?
14. IF the interviewee is a nurse, which modern contraceptive method is widely used?
15. Hoe do you teach the society about the family planning methods in your locality?
16. How do view the pattern of family planning use in your locality?
17. How do you perceive the teenage pregnancies related to family planning practice in your locality
18. Just in case you may have some important point to share please?

Thank You!

Declaration

The thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Hastegeziel Worlde		June 30/2009
Student	Signature	Date

I confirm that this thesis has been submitted with my approval as the supervisor of the same.

Mulugeta Botre		June 30/2009
Advisor	Signature	Date