ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

CONTRACEPTIVE USE AMONG URBAN AND RURAL WOMEN IN DEBRE TABOR TOWN ADMINISTRATION, SOUTH GONDAR ZONE, AMHARA REGION

BY

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Contraceptive Use Among Urban and Rural Women in Debre Tabor Town Administration, South Gondar Zone, Amhara Region

By

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List of Abbreviations

AYRH: Adolescent and Youth Reproductive Health

BOFED: Bureau of Finance and Economic Development

CPR: Contraceptive Prevalence Rate

CSA: Central Statistical Authority

E.C. : Ethiopian Calendar

EDHS: Ethiopia Demographic and Health Survey

ETB: Ethiopian Birr

FGD: Focus Group Discussions

FP: Family planning

IPS: Institute of Population Studies

IUD: Intra-Uterine Device

KAP: Knowledge, Attitude and Practice

m.m.: Mili Meter

MOFED: Ministry of Finance and Economic Development

MOH: Ministry of Health

OR: Odds Ratio

SPSS: Statistical Packages for Social Scientists

TFR: Total Fertility Rate

UN: United Nations

WFS: World Fertility Survey

X^2 : Chi-Square value

Abstract

*The **objective** of the study is to examine the levels of contraceptive use of women of childbearing age in Debre Tabor Town administration, South Gondar zone, Amhara Region. The contraceptive use of 630 (296 sub-urban and 334 urban) women of childbearing age (15-49 years) and some correlates of contraceptive use in the study area have been dealt.*

*The **main rationale** of the study includes assessing and determining the level of contraceptive use and the reasons for use and non-use of contraceptive methods and provides institutions with opportunities for inteervention in contraceptive use.The study is **cross-sectional study design** employing both quantitative and qualitative methods.*

*The current contraceptive use of the study area is 34.3 % (38.02% for the urban residents, 30.07% for the sub-urban residents) whereas the ever use of contraceptives was 39.7%. Current contraceptive use by age indicates that there is high contraceptive use in the age group 25-34 years compared to 15-24 and 35+ age groups. In addition, the main **results** of the chi-square test and binary logistic model revealed that contraceptive use is significantly affected by the number of living children, desire for more children, educational level of women, work status of women and media exposures. The knowledge of any method of contraceptive was 94%. The commonly used methods of contraceptives in the study area include injectables followed by pills, condoms and norplants for women. The two main purposes of using contraceptives include spacing for children (50%) and limiting for children (33.3%) and other reasons (16.7%).Spacing dominates over limiting. The most important reasons for non-use include method related reasons followed by fertility related and opposition related reason of the total non-users reasons.*

*On the part of the **conclusion**, women as a whole have low contraceptive use. Finally,the **recommendations** of the study forwarded include promotion of IEC, provision of forums, debates, trainings, workshops, discussions, experience sharing, educating women and providing option for women, providing education on the benefits of small family size and family planning , and enhancing females decision making and autonomy.*

CHAPTER ONE

1. Introduction

1.1. Background of the Problem

During the past three decades, government support for population policies has increased substantially in Africa. An increasing number of African governments viewed the rate of population growth as too high. This was a major change in the view held by most African governments at time of 1974 population conference in Bucharest. In 1976, only one third of African governments perceived that their population growth rate as too high. As of 2005, three fourths of African governments viewed their population growth as being too high and the majority of governments adopted policies to lower the growth rate. Of the 53 African countries, 35 enacted policies aiming at lowering their population growth rate (UN; 2006).

Nearly all developing countries shifted their policies in favor of increased direct support for contraceptive methods during the last 30 years. Even previously, pro-natalist governments gradually changed their stance and accepted family planning and contraception as an integral part of maternal and child health programs (UN, 2003).

A key issue for policy makers seeking to influence fertility trends is the extent to which contraceptive use is affected by family planning services. For a prospective family planning user the mode and cost of transportation, the cost of child care and of contraceptive supplies, and the hours of service and adequacy of supplies at the family planning outlets may also be considered importantly. Accessibility is related to use of specific methods. Contraceptive use is closely associated with fertility declines. Increase in gross national product (GNP) per capital, education and modernization is usually positively associated with the level of contraceptive use. Contraceptive use cannot be expected to spread widely before massive economic development has occurred (WFS, 1984).

The majority of developing countries are advancing in the transition to low fertility. Increasing urbanization, female education and exposure to mass media have been found to be closely associated with changes in wanted fertility. In addition, women's knowledge, approval, and use

of contraception (particularly of modern methods as well as husbands' education) have shown to be significantly related (Population Reports, 1992)

Despite some advances in fertility decline and contraceptive use, about one fifth of currently married women- in the less developed world-have an "unmet need" for family planning. These women express a desire to space or limit their families and yet are not using any contraceptive method (UN, 2003).

Family planning service in Ethiopia has its inception with the concern for maternal health by some philanthropic individuals who undertook the foundation of the Family Guidance Association of Ethiopia (FGAE) in 1966. In 1982, the council of Minister of the Provisional Military Administration gave a written directive to the FGAE to offer services to persons 18 years old and above' and hence, to continue its family planning services officially under the guidance of the Ministry of Health.

The national population policy that was launched in April 1993, laid down specific objectives of reducing the total fertility rate from 7.7 in 1993 to 4.0 by the year 2015, and increasing the contraceptive prevalence rate (CPR) from 4% (in 1993) to 44% by 2015 (CSA and ORC Macro, 2006).

To put these and other pertinent policies into effect the MOH has launched the National reproductive health strategy in March 2006, followed by its tracker the adolescent and youth RH strategy (AYRH) that was launched in April 2007. It has targeted to increase the contraceptive rate to 60% by the year 2010 (MOFED, 2007).

The rapidly growing population of Ethiopia is exerting unsustainable pressure on infrastructure and natural resources. The population is expected to reach 90 million by 2015. High fertility levels are sustained by cultural preferences for large families rein-forced by law awareness of, or access to, contraceptives. Over 80% of Ethiopians live in rural areas, where traditional beliefs have greater influences, prevailing attitudes, and practices than governmental policies (MOH, 2006).

In Ethiopia, as in many other cultures across the world, childbearing is considered the customary right and duty of women. The preference for large families is partly to insure against expected

child mortality, and partly reflects the lack of knowledge and/or access to modern contraceptive methods. Women exhibit greater approval for smaller families and conception than do their husbands. The benefits of birth spacing -healthier mothers and babies-are widely acknowledged by women, and more-rarely-men. Women get pregnant mostly without planning (WFS, 1984).

Gender inequalities undermine female control over fertility. In Ethiopia, women are less likely to seek or receive adequate care, and are inhibited from accessing contraceptive methods.Women approve the concept of family planning, but are constrained in their utilization of modern contraceptive methods by physical access factors combined with male opposition to the modes and principle of birth control. Some women use natural contraceptive strategies, such as lactation amenorrhea while others rely on prayer. (MOH, 2006)

Enabling couples to decide when and whether they wanted to have children is vital for safe motherhood and child health (UN, 1996). In Ethiopia, there exists a wide regional variation in the reported contraceptive acceptance rate for 2006/2007: The variations ranges from 1.84% in Somali, 7.9% in Afar, and 10% in Benishangul-Gumuz medium to 43% in Amhara, 55% in Tigray, 62% in Harari, and 78% in Dire Dawa Regional States (MOH, 2007).

Such gaps appear to be an indicative for considering the need for special focus in areas with low contraceptive acceptance rate through providing different choices of family planning methods. The performance in contraceptive acceptance rate by region indicates that Afar, Tigray, Benishangul-Gumuz, Gamballa, and SNNPR regional states reported decline in 2006/2007 compared to what was reported in 2005/2006. The decrease in percentage terms for SNNPR and Tigray were very significant. However, remarkable increases in contraceptive acceptance rates were reported for Dire Dawa and Harari Regions (Ibid, 75).

Women of reproductive age comprise high proportion of the total female population. The peak age of contraceptive use was 30-34 years while in adolescents and youth the level of contraceptive use is often very low. Family planning, maternal and child health, immunization, adolescent reproductive health and nutrition are five of the seventeen packages of health service extension program (MOH, 2005)

One of the major objectives of the Health Sector Development program (HSDP-III) in the years 2005/06 to 2009/10 is to reduce the total fertility rate from 5.9 to 4, increase family planning

service coverage from 25% to 60%, and to increase adolescent awareness and knowledge on contraceptives from 80% to 95%(MOH, 2005).

Ethiopia had a population of only 11 million in the year 1900, 19 million in the year 1950, and 54.65 million in the year 1995(CSA and ORC Macro, 1995). In addition, in the year 2007, it has the projected population of over 75 million. The growth rate of the population was 0.2 from 1900-1905, 2.1 from 1950-1955 and expected at that 2.62 from 2005-2010. By the year 2007, the growth rate was estimated to be 2.67 percent (MOFED, 2007)

In this respect, the country is one of those countries with high number of population in sub-Saharan Africa because of high annual growth rate resulting from high birth rate, relatively low death rate and low contraceptive prevalence and use. Huge population with out accelerated and balanced socio-economic development has its own implications on the countries overall situation. Hence, one of the most essential measures to alleviate the problems of fast and growing population is to have acceptable and effective methods of contraception.

The total fertility rate of the country based on the 1990 National Family and Fertility Survey and the 2000 and 2005 Ethiopia Demographic and Health Surveys was 6.4 and 5.9 and 5.4 respectively (CSA and ORC Macro, 2006).

Fertility is one of the major components of population change that determine the size and age structure of the population at a given point in time. The lower the contraceptive prevalence rate, the higher the total fertility rate and vice versa. However, there are significant variations both in the total fertility rates and in contraceptive prevalence rates between the urban and rural areas. The total fertility rates for urban areas of Ethiopia in the years 1990, 2000 and 2005 was 5.8, 3.3 and 2.4 respectively as compared to the total fertility rates of rural areas of the country with total fertility rate values of 8.0, 6.4 and 5.4 for the successive years. As a whole, the total fertility rate of the country was 6.4, 5.9, and 5.4, respectively (MOFED, 2007). According to the Ethiopian Demographic and Health Survey 2005, the contraceptive prevalence rate (CPR) for the urban and rural residences was 47 and 11 percent respectively and the total contraceptive prevalence

rate(CPR)for the country is only 15%.This indicates that there is high unmet need for contraceptive methods and family planning (CSA and ORC Macro, 2006). Though the contraceptive prevalence rate for the urban areas is higher than the rural areas, there are problems related to the patterns of the contraceptive use such as availability of contraceptives.

To solve the problems of rapid population growth in the country and to achieve one of the eight-millennium development goals, *improving maternal health*, it is very crucial to investigate and explain the determinants and differentials of contraceptive methods through a combination of mechanisms.

This study has attempted to investigate the patterns of contraceptive use among urban and rural women in Debre Tabor town administration of South Gondar Zone, Amhara Region.

1.2. Statement of the problem

In sub-Saharan Africa, family planning programmes can be framed by using the attempt to change people's views about the desirability of large families or by stressing the benefits of birth spacing through contraception. However, there are considerable practical difficulties in delivering a family planning service designed primarily for spacing needs.

The goals and bench marks of the United Nations related to reproductive health include that governments should ensure by 2015 all primary health care and family planning facilities, provide safe and effective family planning and contraceptive methods, essential obstetric care, prevention and management of respiratory tract infections and barrier methods, such as condoms, countries should attempt to close the existing gap between expressing a desire to space or limit their families (UN, 2006).

Bongaarts demonstrated, in an analysis of 41 developing, developed, and historical populations, that four proximate determinants (marriage, contraceptive use, abortion, and postpartum insusceptibility) explained 96% of the variation in fertility. The small amount of unexplained fertility is, in part, a result of variations in the remaining three proximate determinants-fecundability, sterility, and intrauterine mortality. These minor proximate determinants are thought not to vary substantially by country or across time (Bongaarts J, 1983). .

A key determinant of high fertility is low contraceptive use. Multiple factors contribute to low level of contraceptive use, including both supply and demand factors. On the supply side are issues such as limited availability, quality, and cost of family planning services. Because of limited number of functional health facilities, many urban women lack easy access to modern family planning services. Where the services are easily accessible, their quality is often poor, blemished by inadequate contraceptive supplies, insufficient numbers of trained service providers, and limited availability of medical equipments. On the demand side of contraceptive use are determinants related to community norms, household characteristics, and other individual factors. In addition, gender norms and relative powerlessness of women, household poverty, the low level of education, myths and rumors about modern contraceptive methods, parity, pro-natalist attitudes and wide spread son preferences have key influences on the demand side of contraceptive use (Hutchinson ,P. & Wheeler, J., 2006).

In Ethiopia, the prevalence of unplanned and positive attitudes towards pregnancy correlates with adequate birth spacing and the age of the mother, while emotionally and physically immature women are considered unprepared for pregnancy. Ethiopian women demonstrate strong awareness of associations between high parity and child bearing, and increased risks of maternal morbidity and mortality. However, women are not able to use contraceptives, are using inefficient method with failure rate. These lead to not stopping or postponing childbearing through contraceptive use. Some women may refuse family planning for their own reasons but if women are more fully informed about contraception, contraceptive use begins to snowball, once relatives and neighbors begin to use (MOH 2006, CSA, and ORC Macro 2006).

The Ethiopian Demographic and health survey 2005 indicated that knowledge of any method of contraception among all women age 15-49 was 86.1% and for currently married women and sexually active unmarried women 87.5% and 91.2% respectively. The respective values for the knowledge of any modern methods were 86%, 87%, and 91.2% and for any traditional methods, it was 20.6%, 17%, and 53.2 % respectively (CSA and ORC Macro 2006).

The trends in contraceptive use indicated that currently married women who are currently using any contraceptive method were 4.8%, 8.1%, and 14.7% in 1990, 2000 and 2005 respectively. On the other hand for any modern method the percentage was 2.9%, 6.3%, and 13.9% in the successive years where as it was 1.9%, 1.7%, and 0.8% for any traditional methods (CSA and ORC Macro 2006)

The reasons for discontinuation for all methods of contraception in Ethiopia by the year 2005 were that wants for pregnancy (30.2%) followed by health concerns (26%), the need for effective methods (5.6%) and inconvenience to use (5.1%). A problem facing many family planning programmes is rumors on side effects of modern contraceptive methods that often result in high discontinuation rates and non-use (CSA and ORC Macro 2006).

The delivery of contraceptive services in Debre Tabor is done principally through government program. Health institutions (hospital, health centers, and health posts) provide contraceptive services in the town administration. Few non-governmental organizations and private institutions provide contraceptive services.

The contraceptive use in Debre Tobor is expected to be low through the researcher's social observation because of various demographic, socio-economic and family planning related reasons. As a result, there is a gap in family planning. This study is important to identify the determinants of contraceptive use and to intervene in contraceptive technology and provide important recommendations.

1.3. Rationale of the Study

Family planning is an essential tool for enhancement of the health and well-being of mothers and their children, and one of the major approaches to harmonize population growth with socio-economic development as well as ensuring women's human, economic, and political rights and their full participation in the development process. It makes possible the couples to have children as they choose. It can also provide the chance for spacing pregnancies. It contributes to the reduction of unplanned pregnancy and its major undesirable consequences (MOFED, 2007).

Many research works, surveys, and studies have been done on demographic and socio-economic determinants, levels, and trends of contraceptive use in different parts of Ethiopia. However,

there is a fundamental need to be done on differentials of contraceptive use and its correlates in the study area.

The main rationales of this study are:

1. To propose and determine the contraceptive prevalence and the corresponding reasons for use and non-use of a given contraceptive method.
2. To deal with contraceptive use among women in the child bearing age (15-49 years old) and to examining the effects of the factors that may have played roles in determining contraceptive use and method choice in the study area. This can help institutions working in the study area to have information and general over view on the demand and supply of contraceptive methods for urban women in the town.
3. The findings from this study will also have some planning and development implications on the population related matters .This will in turn assist different governmental and non-governmental organizations to intervene in to contraceptive services.
4. .Based on the contraceptive knowledge, attitude, and practice among the study population different bodies will be guided to increase the supplies based on the acceptability of modern methods in the town.

1.4. Organization of the Study

The study is sub-divided in to five main chapters. The first chapter deals with the introduction part and its constituents. The second chapter touches the most essential concepts related to the study. It includes the review of related literatures that have related linkages to the findings of the study. Thirdly, the study design and methodology part was included. The predominant research methodologies are included(study design, study area and population, sample size determination, data collection procedure, data quality assurances, ethical considerations and data analysis and management techniques). The fourth chapter focuses on the results and discussions of the study. It includes the results of bi-variate and multivariate analysis that stresses on the demographic, socio-economic, fertility related, family planning variables, and their associations and effects on contraceptive use of childbearing age group of women. The fifth chapter provides summary, conclusions and recommendations of the study.

1.5. Limitations of the Study

In the study, there were some drawbacks while conducting the survey. The most observed limitations of the study include the absence of well-organized information and data concerning population in the study sites, the dominance of household heads over the younger targets, the information obtained for the husbands was from the respondent women and might have some distortions in providing reliable data on their husbands. The new map of the town is not yet delineated with the new included kebeles. There were also some problems in the study sites including the existence of newly assigned officials at the town administration and the kebeles to get quick and relevant information.

CHAPTER TWO

2. Review of Related Literature

2.1. Contraceptive prevalence

The global averages in contraceptive prevalence mask wide disparities among the major areas of the world and this is particularly true in the less developed regions, where prevalence ranges from only 25 percent in Africa to over 65 percent in Asia and Latin America and the Caribbean. Africa has the lowest contraceptive prevalence in the world, with on average a quarter of couples using family planning. Africa is also unique among the major areas of the world in having the majority of its countries at the lowest end of the contraceptive prevalence scale (lower than 20 percent) (UN, 2003).

Worldwide contraceptive prevalence (the percentage of couples currently using contraception) is estimated 58 percent in 1998, 70 percent in more developed regions, and 55 percent in less developed regions. While the overall levels of contraceptive use remain higher in more developed regions, the gap is narrowing (UN, 2000).

Modern methods predominate, accounting for 90 percent of contraceptive use worldwide. In particular, three female-oriented methods are most commonly used: female sterilization, IUDs and the pill. The three methods account for 69 percent of methods used worldwide and 74 percent of methods used in the less developed regions. On average, more contraceptive users use modern methods in the less developed regions (91 percent) than in the more developed regions (84 percent). The prevalence of traditional methods in more developed countries is twice as high as the less developed regions (11 percent and 5 percent of couples, respectively (Ibid, 2000).

It was estimated that 57 percent of couples with the wife of reproductive age were currently using some form of contraception by the year 1990 and the level had probably reached 60 percent by the year 1994. In more developed countries, the average level of use in 1994 was 72 percent and in less developed regions, it was 53 percent. The level of current use varies greatly among the less developed regions, from an estimated 18 percent of couples using contraception in Africa,

and only 12 percent in sub-Saharan Africa, to 79 percent in Eastern Asia. The level of use in Asia, Latin America and Caribbean countries was around 58 percent. While considering the individual developing countries, the levels of use range from zero to 80 percent, while in the developed countries levels of use are always above 50 percent and in most cases range between 70 and 80 percent (UN, 2000).

According to United Nations estimates and projections, the total fertility rate (TFR) for the world averaged 2.9 births per women in 1993, 2.6 births per woman by 2000 and projected to decline to 2.2 by 2025. Form 1993-2020, the level of contraceptive use would need to rise by about 0.4 percentage points per annum in developing regions as a whole. (UN, 2006)

The growth in contraceptive prevalence in the developing regions has taken place since the mid 1960s and many developed countries show arise in contraceptive prevalence in the recent years. In more developed regions, the main trend has been towards greater use of modern methods (UN, 1996)

The most widely used methods used by women including female sterilization, intra-uterine devices, and oral contraceptives and the main male methods include condoms and vasectomy. On the other hand, the main "couple" methods are rhythm and withdrawal .Globally, female sterilization accounts for one third of all contraceptive use, followed by IUD and oral pills. Individual countries display a wide diversity in method mix and contraceptive use. In more developed countries, the modern method mix is heavily dominated by temporary and short acting supply methods (oral pills and condoms) while in less developed regions, the methods mix is comprised of longer-acting clinic methods (female sterilization and oral pills) (WFS, 1984).

Contraceptive use is strongly associated with fertility levels and contraceptive practices are the single most important direct or "proximate" determinant of fertility. Fertility is projected to continue declining while contraceptive use increases in most developing regions. By 2015, contraceptive prevalence need to be above 65 percent in all regions ranging from 47 percent in

Africa to 81 percent in Eastern Asia, in order to produce in fertility indicated in the 1994 United Nations medium-variant projections. (UN, 2006)

Analysis of correlates of current contraceptive use and the investigations of the relationship between residences, respondent's level of education, fertility preferences, and accessibility of a supply source and current use of any contraceptive method showed that these are more important factors affecting current use of contraception with some degree of variations (http://journals.cambridge.org//download, php? file=).

In Ghana, relationship between current use of contraception and selected background characteristics such as type of place of residence, region, level of education and number of living children was significant where as urban residence, the wife's attitude towards family planning and discussion of family planning between spouses have independent significant effects on use of contraception. This result showed that women aged 15-49 were currently using contraception by selected demographic and socio-economic characteristics including women's age, number of living children and level of education (Tawiah;1998).

In Ethiopian context, modern methods are more widely known than traditional methods. According to EDHS 2005, 87.4 percent of currently married women know of a modern method, and only 17 percent know of a traditional method. The most widely known method is pill (84.2%) followed by injectables (82.6%). The mean number of methods known, a rough indicator of the breadth of knowledge of family planning, is highest among sexually active unmarried men (5.6 methods) and women (4.7 methods) (CSA and ORC Macro 2006).

Overall, knowledge of contraception has remained high in Ethiopia; knowledge of any modern method among currently married was 85% in 2000 and 87 percent in 2005. Ever use of contraception indicate that 18 percent of all women and 24 percent of currently married women have used a method at some time. Twenty three percent of currently married women have used a modern method at some time compared to 2 percent who have used traditional method (Ibid, 2006).

2.2. Methods of contraception

Female teenagers are more likely than males to have older partners, which place them at a reduced likelihood of contraceptive consistency. Some 60% of currently married, non-pregnant women in Vietnam use contraceptive method and two-thirds of these rely on a modern method, generally the IUD in 1995(UN, 1996).

Clinic and supply methods include contraceptive sterilization, IUDs, hormonal methods (Oral pills, injectables, Norplant ®), condoms and vaginal barrier methods (diaphragm), cervical cap and spermicidal foams, jellies, creams or sponges). These methods are generally considered effective at preventing pregnancy than traditional methods. Clinic or supply methods are generally referred to as "modern" methods and non-supply methods as "traditional" The vast majority of married contraceptive users are women, most of whom are using modern methods. Modern methods make up a much larger fraction of contraceptive use in less developed regions than in the more developed regions (UN, 2006).

2.3. Determinants of contraceptive use

Overall, method use patterns tend to vary widely by country and by region, and the range of methods available in a country or locality is one obvious contribution to this variation. The determinants of method use patterns are complex and reflect the influence of a great many factors at both an individual and aggregate level. In addition to programmatic or policy constraints, these include historical context, monitory costs, and cultural and legal barriers, as well as the interaction of these social and behavioral factors with characteristics of the methods themselves. All of these can affect the popularity as well as the physical availability of a particular method or methods in a given country or locality (UN, 2000).

Family planning has long been a central component of population policies and programmes and is an integral part of reproductive health. It allows couples and individuals to realize the basic right of deciding freely and responsibly the number, spacing and timing of their children, a right well established at the United Nations World Population Conference on Population And Development in Cairo in 1994 (UN, 2003).

Individual background factors include the women's age, education and household assets, as well as family planning programme variables. Together with these variables, futility preferences affect contraceptive practice, which, in turn, affects fertility (Chen and Guilkey, 2003).

2.4. Demographic, socio-economic, and family planning related varibles

2.4.1. Demographic variables

Age of women

Age of women is a strong and significant predictor of contraceptive use. The odds of method use peak among women aged 30-34 and 35-39, who are significantly more likely to use a method than those above age 40.Association between age of women and contraceptive use increases with age until it reaches ages of 30-34, remains high at the ages of 35-39 and then declines(KOC, 2000). Age of Women is an important predictor variable among the demographic variables of contraceptive use (Tigist Addis, 2005).

Generally, current use is positively associated with age. The age pattern of first use of contraception shows that younger women are more likely to start using contraception at lower parities than older women. Most women below age 30 started using contraception after they had one child, suggesting the intention of younger women to space the intention at earlier parities than older women (CSA and ORC Macro, 2006).

Number of living children

Number of living children is positively related to women's contraceptive use. Women who had large number of living children are more likely to use contraception than those with fewer numbers of children (Dilnesaw 1995 and Bizualem, 2005). Contraceptive use is associated with the number of living children a women has; it is highest among currently married women with one or two children (17 percent) and lowest among women with no children (12 percent) (CSA and ORC Macro, 2006)

The WFS (1984) indicated that a successful family planning programme could, therefore, directly contribute to a decline in infant and child mortality by reducing the number of women with very many births, and by lengthening the interval between successive births. The desire to stop childbearing increases with the number of living children from 9 percent among women with no children to 72 percent among women with 6 or more children (CSA and ORC Macro, 2006). The association between the number of living children and contraceptive use is positive, that is, the more children a women has, the more likely she is to use contraception (Koc, 2000).

Total desire for children

Women who reported that they wanted to have more than four children were less likely to use contraception than women who wanted to have at most four children. (Dilnesaw, 1995).Women who desired more children are less likely to use contraceptives than those with few or no desire.

As women's ideal number of children increases, so does their contraceptive use for spacing. Women whose ideal number of children is 3-4 and 5 and over, are twice as likely and four times as likely, respectively, as women with zero ideal number to have an contraceptive use for spacing. Women who gave a non-numeric response are also much more likely to have contaceptive use for spacing as the reference group. This pattern is in contrast to contraceptive use for limiting, where women whose ideal number is 3 or more, and those who are unable to articulate a number, less likely to have an unmet need for limiting, as women who desire no children(Eldahab, 1993).

Marital status

In sub-Saharan Africa, the percentage of contraceptive users who are not in a union is even greater. In a few sub-Saharan countries where contraceptive use (prevalence) is particularly low, unmarried women have even higher levels of contraceptive use than married women (UN, 1994).

Many women (about one fifth of the currently married women) in the less developed world have 'unmet need' for family planning (UN, 2000). These women express a desire to space or limit their families and yet are not using any contraceptive method. The term "currently married" used includes women in both formal and informal unions. Women in monogamous union are expected to have higher chance of Contraceptive Use (Daniel, 1995).

About 97.5 % and 91.1 % of all women and currently married women in the age group 15-19 are currently not using contraceptives. Similarly 93.7% and 91.9% of this group of women in the age group 45-49 are not using contraceptives (CSA and ORC Maro 2006). The contraceptive prevalence rate for married Ethiopian women who are currently using a method of family planning was 15%. Almost all of these users are using modern methods. Use of contraception among the small number of sexually active unmarried women is higher than among all women and currently married women. The Ethiopian Demographic and Health survey 2005 reveals that about 13.9 percent of currently married women currently using modern contraceptive while another 0.8 percent use traditional method. On the other hand, 85.3 % of currently married women 45.1 % of sexually active unmarried women and 89.7 % of all women are not currently using contraceptive methods (CSA and ORC Maro 2006).

Women of childbearing age are to be studied because of the fact that comparative information is rarely available for married populations than for unmarried ones, is more available for women than men owing to women's reproductive role and unique health need. The level of contraceptive use among all women of reproductive age, both married and unmarried, tends to be lower than the prevalence among married women exclusively. This reflects the situation in many countries where high proportions of unmarried are not sexually active. Nonetheless, at the individual country level, considerable variation exists among the proportion of the population currently in union and the relative percentages of contraceptive use among the married and unmarried populations (WFS, 1984).

Location of residence

Urban women are significantly more likely than rural women to use contraceptives and the difference is significant. Women living in urban areas many have better access to family planning information and services are more likely to use contraceptives than those living in rural areas. Women who live in urban areas are much more likely to be contraceptive users than rural women. Much of these differences can be attributed to education and other socio-economic factors, as well as to the wider availability of contraceptives in urban areas (Ayele, 1995).

2.4.2. Socio-economic and family planning variables

Women's education

It is the most important variable to influence the behavior of contraceptive use. Educated women are more likely to adopt contraceptive than uneducated women are and more motivated to space or limit children as the level of education increases. Education, measured by literacy as well as years of schooling, is closely associated with contraceptive use at the national level. It is a critical ingredient in the mix of factors contributing to high contraceptive use. Contraceptive use increases dramatically as women's years of schooling rise. Regardless of the number of living children they had, the more educated women were more likely to use contraception than those with less schooling (MOFED, 2007).

The odds of method use among illiterate women are lower than those with a secondary or higher education; husband's education is a stronger predictor of contraceptive use. Couples in which the husband is illiterate or has a primary education are less likely to practice contraception an those in which the husband has more education, but couples in which the husband has a primary education are more likely to use a modern method than are those in which the husband is more highly educated(Ahn D. , 1995).

Certain education threshold is necessary for women to use contraception. Increasing female education is not only good in itself but also for improving the status of women. Females should be given at least secondary education so as to improve the effectiveness of contraceptive use that will lead to lower fertility and better health.

(http://journals.cambridge.org/download.php?file=%2FJBS%2FJBS29_02%FS0021932097001417a.pdf&code=obdfdf70f6439853bcc11dafcdd37ae9)

Occupation of wife or husband

It is not only the occupation of women that can determine current use of contraception but also their husband's occupation is equally important factor. The type of occupation of women contributes to contraceptive use (Daniel, 1995 and Tigist 2005). Education enhances women's opportunity, such that the higher the educational level of women, the more likely she is to be

employed. As a result, work status of women is also related with the use of contraception in a study conducted in Addis Ababa. (Tigist A, 2005)

Family planning and attitudinal variables

Women's exposure to mass media was not found to have a significant effect on use of contraception. Knowledge of Contraceptive Methods, discussion with husband about Family Planning, women and their husbands approval of family planning were found to influence contraceptive use after holding the other explanatory variables constant (Tribani,1989).

Discussion with husband about family planning

The discussion between partners about Family Planning was found to be significant in determining contraceptive use. Joint-decision making was more strongly associated with contraceptive use than individual decision-making (KOC, 2000).

Approval of family planning

Women who approved of family planning were better users of family planning compared to their counter-parts (WFS, 1984). Husband's attitude towards family planning associated to women's experience of contraceptive use. Both respondents and their husband's approval of the practice were equally important in determining the use of contraception. There were women in urban areas that use contraception secretly with out the knowledge and approval of their husbands (Ayele, 2005).

Exposure to media (information, communication, and education)

In recent years, the international conference on population and development (Cairo, 1994) and the fourth World conference on Women (Beijing, 1995), the international community of governments affirmed the rights of individuals and couples to choose the number and timing of their children, and to have access to the information and means to do so(UN,2000).

Female exposure to education and mass media has been found to be closely associated with changes in wanted fertility. Women's knowledge, approval, and use of contraception (particularly of modern methods) as well as husbands' education have been shown significantly related to longer preferred birth intervals (UN, 2003).

2.5. Unmet need for family planning

The association between preferences and contraceptive use is strong at both the aggregate and individual levels. In recent years, researchers have emphasized the discrepancy between preferences and contraceptive practice (use). This is the "preference-use" gap commonly termed "unmet need for contraception." Unmet need is regarded as an indicator of unsatisfied demand for family planning Sub-Saharan Africa is also distinguished by the dominance need for birth spacing, where as unmet need for family size limitation is the norm elsewhere (WHO,1984).

The 21st special session of the General Assembly at the International Conference on population and development was held for an overall review and appraisal of the implementation of the programme of action. It was agreed that if a gap existed between contraceptive use and fertility preference. countries should attempt to close the gap by at least 50 percent by 2005, 75 percent by 2010 and 100 percent by 2050 (UN, 2003).

Many women especially in the less developed countries are still unable to control their fertility effectively. They get pregnant before they expect to or when they want no more children. In other words, those women are unable to translate their fertility preferences in to contraceptive practice since; in general, women who get pregnant are those who were not using family planning. Women who would like to postpone or terminate child bearing but are not practicing contraception. Women who are experiencing a gap between their fertility preferences and their contraceptive practice are having "unmet need for family planning" (WFS: 1984).

Reasons for the unmet need for family planning in sub-Saharan Africa is evidenced by the fact that substantial proportions of women are not aware of any modern form of contraception (Westoff and Bankole, 2001). Other reasons include weakly held preferences and low perceived risk of conceiving, lack of necessary knowledge of family planning, cultural, social, health and economic concerns, such as opposition from husbands and other members of the extended family, fear of side effects of contraceptive methods, high cost of contraception and fatalism, associated with adopting and/or continuing to use contraception. In most countries, limiting behavior dominates, except in Sub-Saharan Africa. Unmet need for birth spacing constitutes two-thirds of the total unmet need in Sub-Saharan Africa; whereas unmet need for limiting purposes exceeds unmet need for birth spacing in the other regions. In Sub-Saharan Africa, less than half of the women who need family planning for spacing or limiting purposes are using

contraception, whereas in the other developing regions more than 60 percent of the need is satisfied (Chen and Guilkey, 2003).

2.6. Objectives

2.6.1. General Objective

The overall objective of this study is to examine the contraceptive prevalence and the factors for differentials of contraceptive use (practice) among women of childbearing age (15-49 years) in Debre Tabor Town administration, South Gondar Zone, Amhara Region.

2.6.2. Specific Objectives

The specific objectives of the study are:

a) To determine the levels and prevalence of contraceptive use among women of childbearing age(15-49 years old) in Debre Tabor town administration.

b) To assess the knowledge, attitude and practice of contraceptive methods (modern methods and traditional methods) among child bearing age women.

c) To identify the determinants of contraceptive use (demographic, Socio-economic, family planning and information, education and communication related variables) and the major reasons of contraceptive use and non-use among women of childbearing age.

2.7. Research Questions

Based on the objectives of the study the following research questions were assessed.

1. Are there any major differences in the prevalence and type of contraceptive use and the reasons in using and not using in the study area? And if so, what factor or combination of factors account for the differences?
2. Do current users use modern or traditional methods of contraception, and what factors explain their contraceptive use?
3. Does age of women, educational level of wife or husband, sex prefernce for children, total desire for more children, total number of living children, location of residence, income, and work status determine contraceptive use?

4. Do current practices and preferences towards contraceptive methods relate to information, education and communication?
5. What will happen to contraceptive use with increase in the number of living children , the total desire for children and how the desire to limit or stop childbearing are related to contraceptive use and number of living children?
6. What are the main reasons of contraceptive methods that lead women for not using contraceptives?
7. Does occupational status of women have significant effect on the current use of contraceptives?

2.8. Conceptual Framework

Conceptual framework for patterns and preferences of contraceptive use among urban women indicates that demographic variables, socio-economic variables as well as information, education and communication related variables affect the practice of contraceptives. The analytical framework is shown below using causal relationship or association (Developed by the author, 2009).

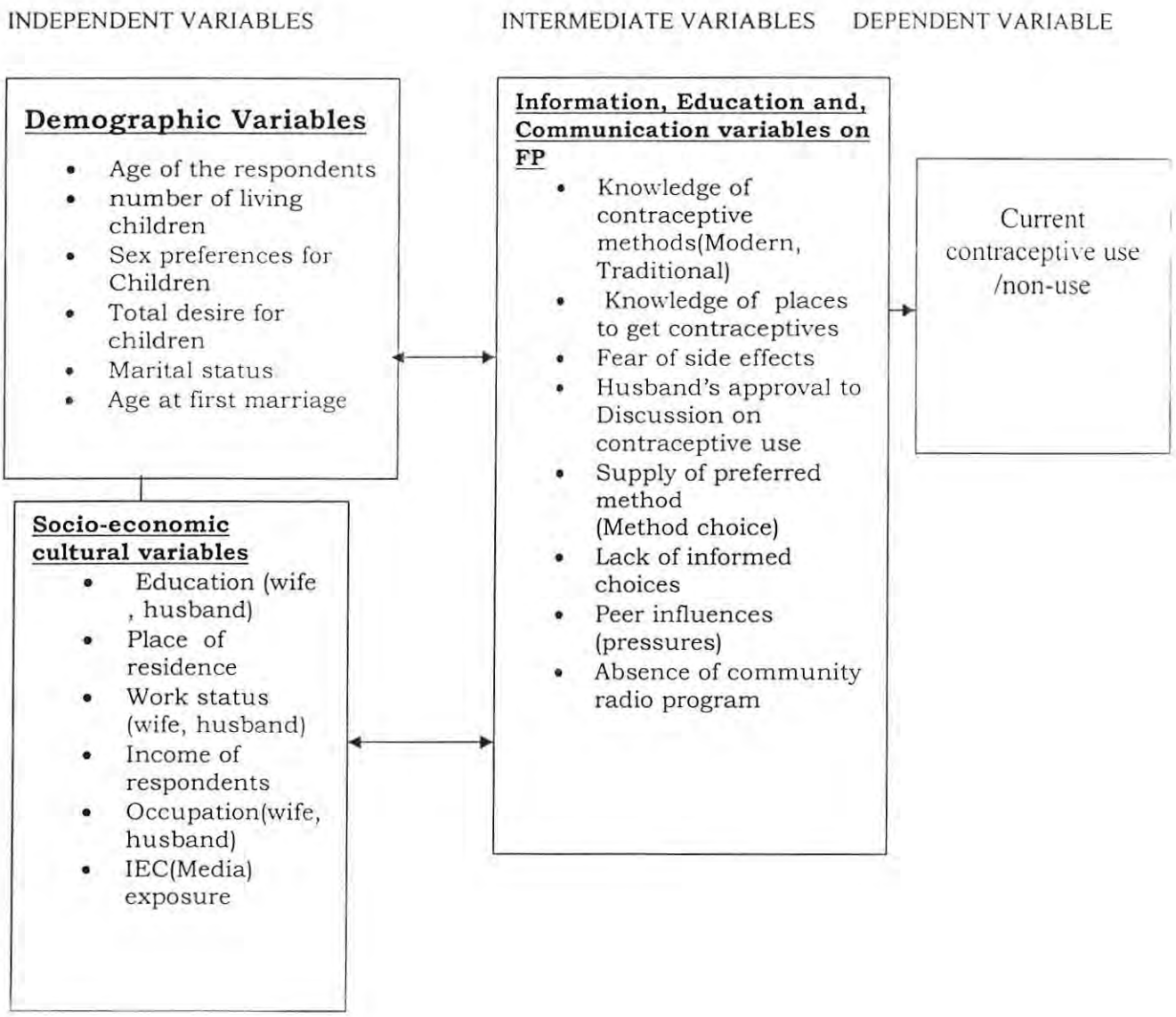


Figure 1: Conceptual framework (developed by the author, 2009)

2.9. Operational definition of key terms

Contraceptive prevalence: is the proportion currently practicing contraception among women of reproductive age (15-49 years old).

Current use of contraception: it is the use of any method contraception at the time of the survey.

Currently married women: are women who live together with their husbands/partners irrespective of marriage legality.

Ever use of contraception: it is the cumulative experience of women whether they have used any method at some time that they have heard about.

Fecundity: It is the biological capacity of bearing a child.

Formerly Married women: those women who are categorized under divorced, widowed and separated

Future use of contraception: refers to the intention and desire for using contraceptive method meanwhile.

Method mix: distribution of married contraceptive users by method type, or more specifically, to the patterns of method use in a residence or within a population of contraceptive users (WFS, 1984).

Town administration: includes both the urban and rural kebeles (the smallest administrative units making a district in terms of size) found in the study area.

Rural: the part of the study area found around the vicinity of the town administration ("Sub-urban")

Unmet need for family planning: Women who are experiencing gaps between their fertility preferences and contraceptive practices.

CHAPTER THREE

3. Study Design and Methodology

3.1. Study design

Cross-sectional study design was employed for this particular study. Quantitative Data collection tools were used to collect primary data. These tools included in-depth structured questionnaires. For qualitative data, the study used focus group discussions (FGD) selecting participants. Basic demographic data such as, age, marital status and income group were collected. Key informant interview questions were also designed for health professionals. The number of focus groups consisted of 10 respondents in one group and had 2-focus group categories. The focus groups were facilitated by the researcher at different times and the minute was written by the supervisors. To this end, 4 kebele units (2 urban kebeles and 2 rural kebeles) were selected out of the 8 kebeles using systematic random sampling.

3.2. Study area and study population

South Gondar zone is one of the 11 zones in Amhara National Regional State. The zone has 12 districts (10 rural districts and 2 town administrations). The administrative zone is located at the centre of Amhara region. Among the two town administrations of the zone Debere Tabor town administration is the biggest and is also the zonal center.

The town is the center of three administrations; South Gondar Administrative Zone, Debre Tabor town administration and Farta werda administration. Astronomically, Debre Tabor town administration is located at around 38^0 East longitudes and 11^0 North latitudes. The altitudinal location is around 2297 meters above seal level. The town is 100kms from Bahir Dar and 667 km away from Addis Ababa. Debre Tabor has 8 (eight) wider kebele units (4-urban and 4-rural kebeles) according to the new structural and administrative arrangement of towns. The total land size of the 4- urban kebeles under the town administration is 1562 hectares and 9450 hectares of 4-other additional surrounding sub-urban areas (the so-called "rural" kebeles).

The main climatic divisions of the town include 'Dega' (cold climate) and 'Woina Dega' (temperate climate) with the altitude of 2884 meters the highest and 2440 meters the lowest. It has an estimated total annual rainfall of 1553.7 m.m. and an average temperature of around 15^0c. The main economic activities in the town are agriculture, government employment work small-scale trade and others (Source: Debre Tabor Town Administration Office Report, 2008/09) and The Town Administration's Rural and Agricultural Development Main Office (Planning Section), 2008/09).

Debre Tabor town has a total population of 64,308 (Males = 31,479 Females = 32,829). Out of the total projected population of South Gondar zone is 2,349,021. Sixty-four thousand three hundred eight (64,308) (2.74%) lives in and around the zonal center (Debre Tabor). The urban population is projected to be 39,026 (Males = 18,360 Females = 20,666) and the rural population of the town is 25,282 (Males =13118 females = 12,163) in 2001 E.C. The reproductive age group of women (15-49 years) in the urban kebeles account for 11,103 (50.72%) and 6103 (50.17%) in the rural kebeles 17,204(52.4%) of the total projected female population(Amhara Region BOFED population projection for 2008/2009).The study population are those eligible women in child bearing age in four selected kebele units, women age 15-49 years old.

3.3. Sample size determination

The sample size for the study was determined based on the formula of single proportion sample size determination formula by Pelosi, M.K.Sandifer, T.M and Sakaran, U., (2001). The percentage of women by contraceptive method currently using for Amhara Region based on the Ethiopian Demographic and Health Survey, 2005 was 16.1% for any method (modern or traditional methods).

Accordingly, the sample size (n) was determined using:

$$n = \frac{Z^2 * P(1-P)}{E^2}$$

Where n=the required sample size

Z=the confidence interval (or limit) which is 1.96, at 95% confidence interval

P= the estimate of the percentage of women currently using any method of contraception for Amhara Region, based on EDHS 2005 which is P = 16.1%.

E=the acceptable margin of sampling error for the proportion being estimated that the study is willing to accept, assumed to be 3% (or 0.03).

Then, according to the above sample size formula and procedure

$$n = \frac{1.96^2 * 0.16(1-0.16)}{(0.03)^2} = \frac{573.67}{}$$

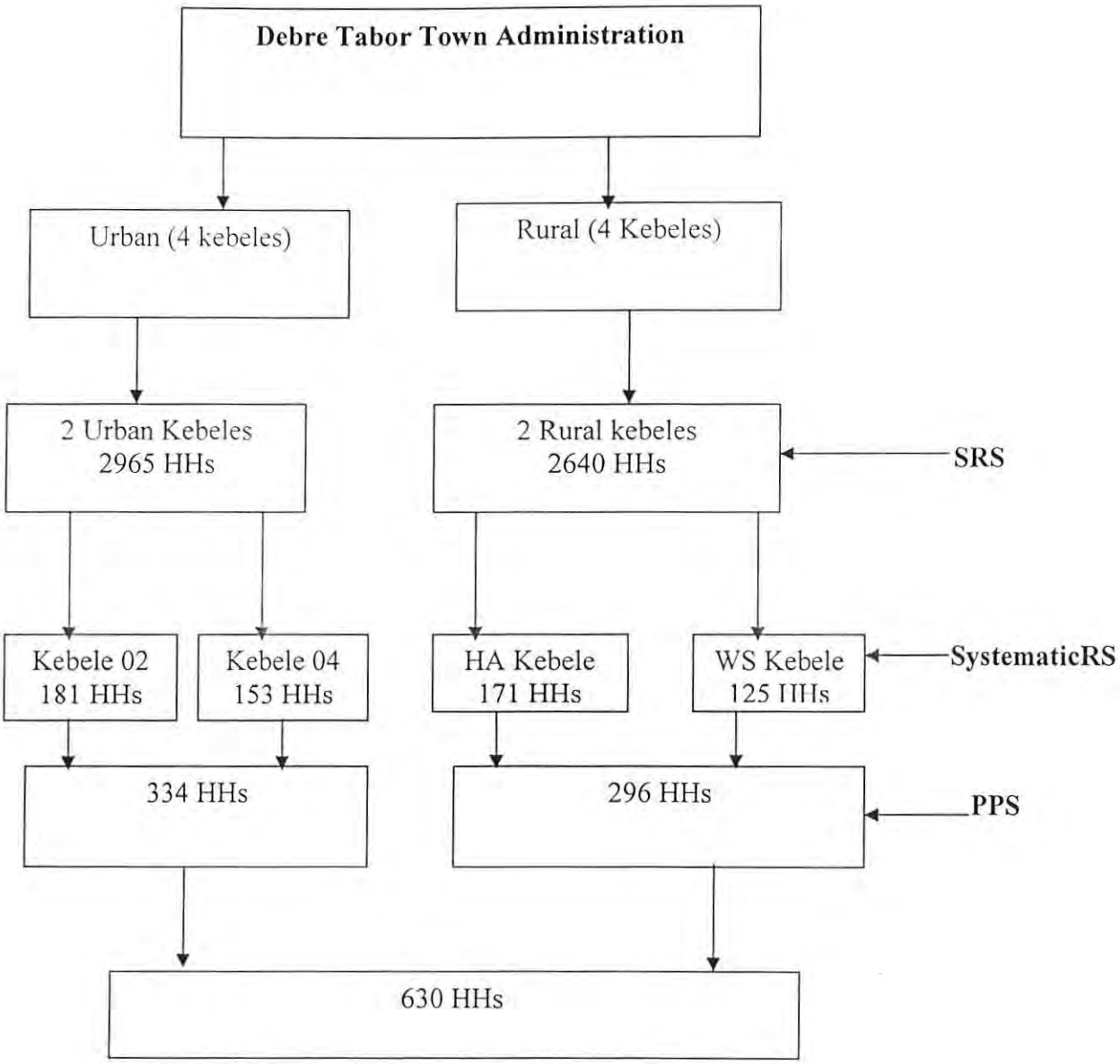
Moreover, 10% contingency was taken. Hence, the total sample size determined for the study including 10% the non-respondents (or contingency) was 573.67 + 10% of 573.67 = 630

3.4. Sampling procedure

The study area, Debre Tabor town Administration, has four (4) urban and four (4) rural(sub-urban) kebele units. Two (2) urban kebeles (kebele 02 and kebele 04) and other two 'rural' (sub-urban) kebeles (Hiruy and Aba Aregay Kebele and Weybla Selamko kebele) were selected using simple random sampling (SRS).

Simple random sampling was used to draw kebeles with proportion to their total household. Within each selected site, starting points for the selection of household were randomly picked. Again using proportion of households in each kebeles, women were selected for the interview and eligible respondents were interviewed continuously by systematic random sampling technique till the total proportion of sample was achieved. In the sampling process 53% of the households were taken from the urban kebeles and 47% from the rural kebeles.

Figure 2: Sampling Procedure



HA= Hiruy and Aba Aregay

WS = Weybla Selamko

HHs= Households

SRS= Simple Random Sampling

PPS= Proportion taken from the total number of estimated households

3.5. Data collection procedure

The structured questionnaires for household interviews, semi-structured key informant questionnaires for health professionals and focus group guide for selected participants were prepared in English by the researcher. The translated version in to Amharic was provided for language editors. The most accepted and communicative language based on the local context and uttering was finally accepted.

Two supervisors (one for urban and one for rural) who are BA holders were assigned for supervision work. Four data collectors who are attending college education at Debre Tabor Health Science College were selected. Intensive **Training** was provided for one day for data collectors and one day for supervisors based on prepared questionnaires. At the training certain arrangements and modifications were made on the questionnaires based on the comments provided by the supervisors and the data collectors. Only eligible women within each household were selected for interview using systematic random sampling technique (every fifth household). The eligibility criteria were age and non-menopausal women.

Pilot survey was done by the researcher and the two supervisors. Once the sampling procedure has been chosen and the measurement instruments or questionnaires were pre-tested and modified, the field works of the study including data collection, key informant interview points and focus group discussions were undertaken sequentially. Before the actual work started, there was a pilot survey on a small sample of 20 households with the objective of testing the questionnaires and dominate any unclear imperfections in the study. This was a primary method of data collection.

In addition information was obtained from secondary published and unpublished reference materials, such as demographic and health survey data, CSA data, books, thesis, websites and others.

3.8. Data management and analysis

After data collection, data was edited and analyzed with the help of SPSS^{+} version 13.00. Then, statistical frequencies and percent distributions were used. The significance of the dependent variable (contraceptive use) and its relation with explanatory variables was tested using statistical techniques, such as chi-square and logistic regression model and multi-collinear diagnosis effect.

For the analysis of data, bi-variate and multivariate regression methods are used. In the first part of analysis, the bi-vairate regression methods are used to identify the important demographic, socio-economic, and related factors that may have association with the dependent variable. The dependent variable in this study is current contraceptive use at the time of the study. Women under analysis were categorized as current users coded 1 and those non –users coded 0.

The multivariate analysis used a set of independent variables, consisting of demographic (age of women, number of living children, sex preferences for children, martial status, residence, total number of children desired, socio-economic variables including religion, income, work status, exposure to media) and other selected factors were analyzed. After identifying the associations between the dependent variable and the independent variables in the chi-square test, multivariate statistical technique was employed to determine the effects of these factors on contraceptive use, by controlling for the effect of other predictor variables. The dependent variable was represented dummy variables (1 for current user otherwise 0). The independent variables were coded and categorized based on the questionnaires.

The binary logistic regression model was used in the multivariate analysis process to describe and answer the research questions stated earlier. It is also used to predict the odds ratio (likelihood) of the outcome variable (contraceptive use/contraceptive non-use) based on the predictor variables. Some variables which have multi-collinear effect on others were avoided in the model fitting. The method employed to fit the model was Enter Method.

For more than one independent variable the logistic regression model can be put in the form of :

Prob(event)= $e^z/1+e^z$ =$1/1+e^{-z}$

Where Z is the linear combination **$Z= B_0+B_1X_1+B_2X_2+ \ldots+ B_PX_P$** ($B_0$ and B_1 are coefficients from the data, X is the independent variable, e is the base of the natural logarithm. The logistic regression model equation can be written in terms of odds as:

Prob (event) $= e^{B0+BiXi+\ldots+BpXp}$

Prob(no event)

$$= e^{B0}.e^{BiXi}\ldots e^{BpXp}$$

Then e raised to the power B_i (e^{Bi}) is the factor by which the odds change when the i^{th} independent variable increases by one unit .If B_i is positive this factor will be greater than 1,which means the odds are increased; if B_i is negative the factor will be less than 1, which means the odds are decreased. When B_i is 0 the factor equals 1, which leaves the odds unchanged.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

4.1. Demographic and Socio-Economic Characteristics of Study Subjects

4.1.1. Demographic Characteristics

The age structure of respondents of sampled women of reproductive age (15-49), 25.23%,22.69%, and 52.06 % were found in the three main age categories 15-24, 25-34 and 35+ respectively. That is 47.92% of the respondents were below age 34 and 52.06% were from age 35-49 years old. Women age 35 and above were slightly higher than those below age 34 years old.

The quality of age reporting data from the respondents was tested using after data collection using Myer's blended index based on age group of women for both urban and rural women. Myer's blended index is based on the assumption that if there are no systematic irregularities in reporting of age, the blended sum at each terminal digit (0-9) should be approximately equal to 10 percent of the total population. The deviations of percentages of the blended population indicate the patterns of digit preferences or avoidances from 0 to 9 while the household questionnaires were undertaken. The calculation of the indexes shown below indicates the preferences or avoidances for terminal digits in the age range 15 -49 years old.(0 terminal digits consisted of 20,30,40; 1 terminal digit consist of 21,31,41, 2 terminal digit consist of 22,32,and 42 continuing up to terminal digit 9 with19,29,39 and 49 years old).(see the Table in Annex)

As computed in the index there was a tendency of reporting ages ending in certain preferred digits often "0" and "5".There is a phenomenon of age heaping at the two terminal digits. The index measures the amount of preference for ages ending in each of the ten digits with the expected proportion of 10 percent. The theoretical limits are zero (no heaping at all) and 180(all heaped on a single digit).The Myer's index for the urban and rural female populations (15-49 years old) interviewed on the household questionnaires are presented above. The Summary index indicates that in the study area there is high level of digit preference (25.57) because it is greater than 20 but not different from Sub-Saharan Africa. The value of the index less than 10 is no

heaping, 10-20 moderate heaping and greater than 20 high ages heaping (DHS, IRD/Macro Systems, 1990, see table on the appendix).

The marital status of respondents indicates that 73.65 % were currently married 13.49 % were formerly married (divorced, widowed and separated) and never married groups were 12.86% respectively. That is, ever-married women (currently married and formerly married women) constituted married, divorced, widowed and separated accounting 87.1 % and never married women comprise of 12.86% of those who were respondents at the time of the survey.

The age at first marriage of married women was grouped into three (8-15, 15-19 and greater than or equal to 20 years old). The age at first marriage indicates that 43.53%, 32.24% and 24.22 % of them were married in the age groups 8-15, 15-19 years old and 20 years or older respectively. This implies that early marriage is the commonest practice in the study area with age at first marriage of about 43.53% below 15 years old. The mean age at first marriage was 16.75 years old.

The total number of living children (alive) is the difference between the total number of children ever born and children dead. Within the respondents, 25.07% had no children, 25.39% have 1-2 children, 24.92% have 3-4 children, and 24.60% have greater than 4 children who are alive.

Respondents were interviewed their current desire for the total number of children irrespective of their number of children. Accordingly, 11.74% have no desire. On the other hand, women who had total desires 1-4, 5-8, and 8 or more children constituted 38.88%, 36.51% and 12.86% respectively. There is an implication of high desire for children among urban women. The reasons for high desire of children among women may be probably because of various social, economic and psychological reasons like social pride (fame), economic support in old age and inheritance, demand for child labor (assistance need from children), considering children as an asset, and loving or would like to have children like other peer groups.

Sex preference is because of male influences (dominance of men) over female in decision-making. The sex preference for children indicated that male preference 24.92% and followed by female preference 26.35%, God (Allah) knows 24.76%, and sex does not matter 23.97%

respectively. This indicates that the study population has relatively higher sex preferences for both sexes that are dominated by the religious perceptions as if children were gifts from their God (Allah). Male preference is the usually culturally taken as the 'wining' or 'losing' of sexual activity by the couples 'wining' for men if the child is male and losing for men if female. Husbands are in need of male child when ever they had female child. In general, sex preference is viewed as an instrument of balancing the sex of living children (See table 1).

Table 1: Percentage distribution of respondents by demographic characteristics, Debre Tabor Town Administration, 2009.

Age Group(N=630)	Frequency	Percent	**Total number of Living Children**	Frequency	Percent
15-24	159	25.23	No children	158	25.07
25-34	143	22.69	1-2 children	160	25.39
35+	328	52.06	3-4 children	157	24.92
Total	630	100.0	>4 children	155	24.60
Marital Status(N=630)			Total	630	100.0
Currently Married	464	73.65	Mean number of children		5
Formerly Married	85	13.49	**Sex preference for children**		
Never Married	81	12.86	Male	157	24.92
Total	630	100.0	Female	166	26.35
Age at first marriage (N=549)			Sex does not matter	151	23.97
8-15 years	239	43.53	Up to God (Allah)	156	24.76
15-19 years	177	32.24	Total	630	100.0
>=20 years	133	24.22	**Total desire for children**		
Total	549	100.0	No desire	74	11.75
			5-8 desire	230	36.51
			8+ desire	81	12.86
			Total	630	100.0

4.1.2. Socio-Economic Characteristics of the study subjects

Based on place of residence or location, 47% of the respondents were from the two rural kebeles and 53% were from the two urban kebeles. Those who were born in Debre Tabor town constituted 54.8 % and the remaining 45.2 % were born outside of the town.

Among the total respondent women 31.58% were not attending formal school, 33.17% attained primary education (1-8 grade), and the remaining 16.83% and 18.41% respectively were secondary education (grade 9-12), TVET and College (University) graduates .This implies that 68.42% respondents have attendded some form of education.

The educational attainment of husbands/partners also showed that 25.55%, 15.39%,16.82%, 19.68% and 22.53 % were grouped under never attend, primary (1-8), secondary, TVET/college/university graduates and no husband/partner. Those with no husband or partner were 22.5% including never married, divorced and widowed (See Table 2).

The occupation of women indicated that mainly 38.25% were housewives, 17.14% were governmental organization/Nongovernmental employees, 11.75% agriculture 19.20% traders and the remaining 13.65 % were daily laborers and others. Respondents were also asked about their monthly income in to three groups. Accordingly, no income accounted 11.95%, and 67.30% and 21.11% had monthly income of less than 1000 Birr and greater than or equal to 1001 Birr respectively.

Table 2: Percentage distribution of respondents by Socio-Economic Characteristics, Debre Tabor Town,2009.

Place of residence (N=630)	Frequency	Percent	Occupation of women (N=630)	Frequency	Percent
Rural	296	47.00	Agriculture	74	11.75
Urban	334	53.00	Trade	121	19.20
Total	630	100.0	GO/NGO	108	17.14
Educational status of women(N=630)			House wives	241	38.25
Never Attend	199	31.58	Others	86	13.65
Primary(1-8)	209	33.17	Total	630	100.0
Secondary(9-12)	106	16.83	**Monthly Income of women (N=630)**		
TVET and above	116	18.41	No income	73	11.59
Total	630	100.0	Less than 1000 Birr	424	67.30
Educational status of Husbands/partners (N=630)			> = 1001 Birr	133	21.11
Never Attend	161	25.55	Total	630	100.0
Primary(1-8)	97	15.39			
Secondary(9-12)	106	16.82			
TVET and above	124	19.68			
No Husband	142	22.53			
Total	630	100.0			

4.1.3. Husband/partner desires for more children

With regard to perceived husband (partner) desire for number of children (n=488) and their reasons for having more children and fertility preferences 24.39% of women perceived that their spouse wanted (desired) more children compared with 37.30% who have the same desire. Only 2.66% of the respondents perceived that their husband (partner) desire was fewer than wife was. The remaining 35.66 % reported that both of them desire to have more children.

The main reasons, as perceived by the respondent women(n=119), were economic reasons 35.29%, psychological reason and loving children 33.61%, social fame (pride) 19.33% and replacing child mortality 11.76% respectively. Whatever the reasons for many children, women are implicitly influenced to decide the number of children by their spouses (husbands).

4.1.4. Abortions and reasons for abortions

The history of respondent women on abortions and reasons (n=630) was also assessed. Accordingly, 16.5% of the respondents have history of abortion, either spontaneous or induced. Induced abortion constituted higher percentage than spontaneous abortion. Spontaneous abortions were mentioned by 6.8% women and induced abortions by 9.7 %. The question on abortion is almost sensational and secrecy for every women because women could not explicitly tell their experiences with confidences. This might have undervalued the rate of abortion practices.

The main reasons for induced abortion(n=61) included disagreement with husband (partner) 37.7% followed by economic constraint to grow up a child 27.9%, health problem 26.2%, and contraceptive failure 8.2% respectively.

Those who want to delay (avoid) the next pregnancy (n=493) accounted 78.3% where as those who do not want to delay (avoid) it were 9.5%. The remaining 12.2% were undecided at the time of the study. The main reasons for delaying or avoiding pregnancy were spacing for children 50% followed by limiting for children 33.3% and other reasons including health concerns, medication and sub fecundity (16.7%) respectively(See table3)

Table 3: Percentage distribution of respondents by history of abortions, types of abrtions, reasons for abortions; purpose of contraceptives,Debre Tabor Town Administration ,2009.

History of abortion (N=630)	Frequency	Percent	**Want to delay (avoid) pregnnacy(N=493)**	Frequency	Percent
Yes	104	16.50	Want to delay(avoid) pregnancy	386	78.3
No	526	83.50	Do not want to delay(avoid) pregnancy	47	9.5
Total	630	100.0	Undecided	60	12.2
Types of abortions (N=104)			Total	493	100.0
Spontaneous	43	41.34	**Reasons for using contraceptives(N=216)**		
Induced	61	58.65	For spacing children	108	50.00
Total	104	100.0	For limiting children	72	33.3
Reasons for induced abortions (N=61)			Others	36	16.7
Contraceptive failure	5	8.2	Total	216	100.0
Disagreement with husband/partner	23	37.7			
Health problem	16	26.2			
Economic problem	17	27.9			
Total	61	100.0			

4.2. Knowledge, Attitude, and Practice (KAP) of Contraceptives

4.2.1. Knowledge of Contraceptive Methods

Table 4 depicts knowledge, attitude, and practice (KAP) of contraceptives. Knowledge of any contraceptive method (n=630) has reached 94%. The knowledge of any modern methods and any traditional methods accounted for about 94% and 70% respectively. This indicates the dominance of modern contraceptive methods to that of traditional methods. It was because of the fact that people are not aware of traditional methods as a method of contraception. Even those traditional methods such as breast-feeding are commonly practiced not as a method of contraception but as a tradition of providing children with appropriate diet up to the time when children can take additional food and the mother needs the next child.

The most commonly reported specific methods of contraception include injectables 91.7%, pills 88.3%, norplants 51.7%, IUD 30.3%, diaphragm 20 %, female sterilization 29.7%, male sterilization 25.7%, prolonged abstinence 59.4%, calendar method 54.3%, withdrawal 24.6%, condoms 62.5 %, breast-feeding 50% and other methods 5.1 %. Respondents were able to give multiple responses to the knowledge of contraceptive methods.

4.2.2. Family planning and Information, Education and Communication

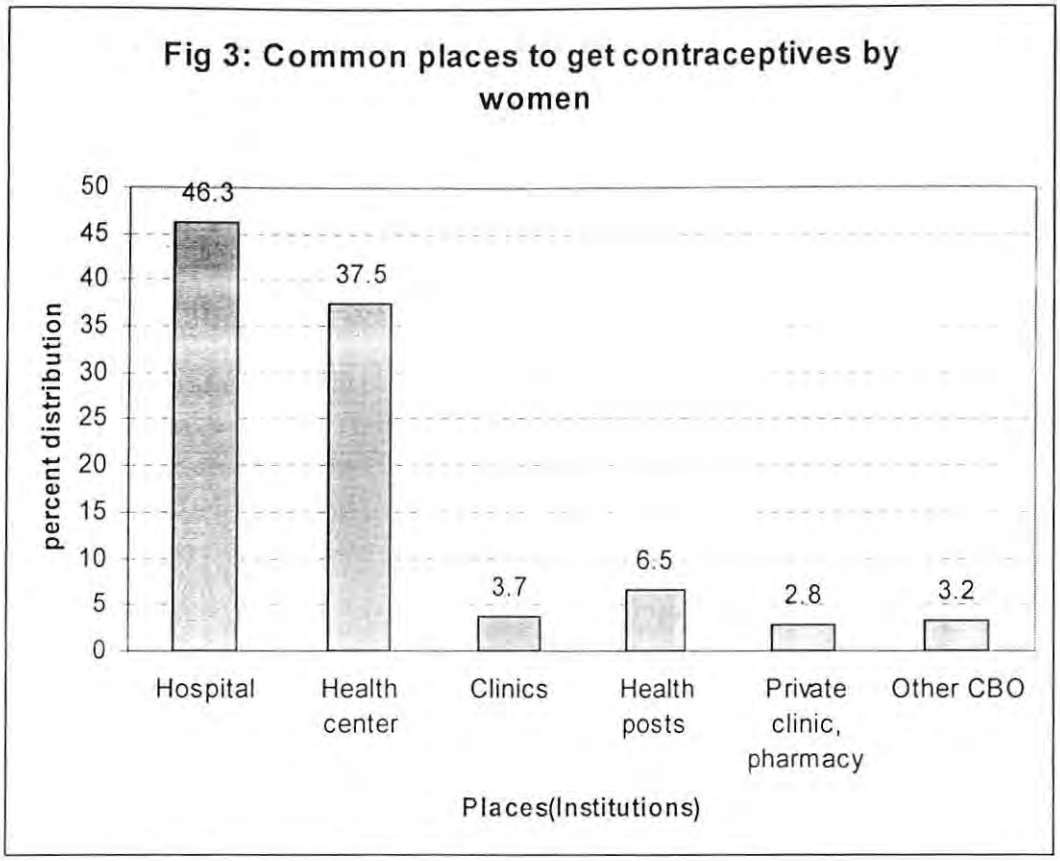
Exposure to media sources widens people's perception and practice towards contraceptive use. Family planning knowledge is at its peak unlike practice of family planning. It was 94 % of the total respondents who have heard of any family planning methods at least once in the last three months. The main sources of information for family planning methods as reported by the respondents(n=630) were radio 27%, television 16.5%, both radio and television 39.8%, bulletins and news 18.3%, friends or husbands 19.2%, health workers 52.4% and meetings, trainings and workshops 26%. From this, the main source by the majority of respondents was health workers 52.4% followed by radio and television 39.8% and radio only 27% respectively.

Information about side effects of contraceptives were also asked and only 26.2% has had information about the side effects of contraceptives from different sources. On the other hand, 18.7% of the respondents reported that they have been informed if experienced side effects. This indicates that the level of information gaining is low in the study population.

Respondents (n=630) were asked whom were the primary discussants about family planning. The reported result indicated that 34% and 29.7% made discussions with health workers and husbands (partners). The rest 9.2% and 7% had ever discussed with teachers and relatives about family planning. The remaining 20.2% never had discussions on family planning.

4.2.3. Knowledge of places to obtain contraceptives, time taken to the source, cost of contraceptives, distance to the source

The most commonly cited source of contraceptive methods(n=216) are hospital 46.3%, health center 37.5%, clinics 3.7% health post 6.5 %, private clinics, pharmacies 2.8% and other community based institutions such as ADA (Amhara Development Association) constituted only 3.2%.



The time taken to travel to the source might be taken as one factor that affects contraceptive use. Since all of the kebeles are found with in 5km radius, it takes a maximum of 60 minutes to travel to the relatively far point get the services. Out of 216 current contraceptive users, 65.74% travel less than half an hour and 34.26% travel 30 to 60 minutes to get the services.

Current users were also asked to rate the perceived cost of contraceptives being provided at the governmental and private health institutions. 54.16% and 37.04% rated the cost as "cheap" and "free" respectively. On the other hand, 4.63% and 4.17% rated the cost as reasonable (fair) and expensive respectively. In the town, there are three opportunities concerning cost. These are 'cost free' and 'cheap' and 'private services'. Most of the current users get free services and others are paying some charge especially at the hospital level. What women preferred is the quality and convenience of the method being provided at the health institution.

Considering the distance traveled to the source (outlets), the perceived distance traveled to the source was 56.9% nearer (closer), 36.6% medium, and only 6.5% far.

4.2.4. Attitude of women and husbands towards contraceptive use

Women's attitude towards contraceptive use (n=630) was asked to know their approval or disapproval concerning contraceptive use. Accordingly, 82.38 % of the respondents were in favor of contraceptive use while the remaining 17.62 % were against contraceptive use for their own reasons.

Men, who were in favor of contraceptive use as perceived by their wives, were 53.27% and against contraceptive use was 45.08 %. The remaining 1.64 % could not perceive about their husbands' attitude.

The decision on the use of contraceptives was also examined whether women are free to decide of using contraceptives or dominated by their husbands. The result on decision of current contraceptive use (n=216) showed that 40.74% of women could decide by their own while the rest 23.15% were under the decision of husband or partner. Only 23.41% jointly decide on the use of contraceptives and 3.7% do not know.

Finally, the attitude of husband's /partners towards family planning was interviewed to married women (n=488) whether they perceived that husband (partner) encourages /discourages the use of contraceptives. Only 38.32% of husbands (partners) encourage their wives to use on the other hand, 50% discourages their wives while using contraceptive methods. The remaining 11.68 % of the respondents could not know and were unsure about their husband's (partners) attitude toward family planning.

Table 4: Knowledge, Attitude and Practice of respondents and their husbands on contraceptives

Heard any contraceptive method	Frequency(Yes)	Percent (%)
Any method	592	94.0
Any modern method	592	94.0
Any traditional method	441	70.0
Specific methods known (ever heard by) respondents		
Injectabes	578	91.7
Pills	556	88.3
Norplants	326	51.7
IUD	191	30.3
Diaphragm	126	20
Female sterilization	187	29.7
Male sterilization	162	25.7
Prolonged abstinence	374	59.4
Calendar method	342	54.3
Withdrawal	155	24.6
Condoms	394	62.5
Breast Feeding	315	50.0
Others	32	5.1
Attitude of Women towards Contraceptive use(N=630)	Frequency	Percent
In favor	519	82.38
Against	111	17.62
Total	630	100.0
Attitude of husband towards contraceptive use(N=488)		
Infavour	268	54.92
Against	220	45.08

Total	488	100.0
Decision on the use of contraceptives(N=216)		
Mainly wife/respondent	88	40.74
Husband or partenr	50	23.15
Jointly decided	70	23.41
Do not know	8	3.7
Total	216	100.00
Husband(partner)attitude of Contraceptive Use(N=488)		
Encourage to use	187	38.32
Discourage use	244	50.0
Not Sure about husband	49	10.04
Do not know	8	1.64
Total	488	100.00

4.2.5. Contraceptive prevalence in the study area

The study has attempted to determine contraceptive use by different age groups of women in Debre Tabor Town Administration. The relationship between contraceptive use versus demographic and socio-economic variables, the exposure of women to family planning services, and their fertility intentions were also investigated.

In order to know the contraceptive prevalence among childbearing age group of women interview questions on contraceptives (modern, traditional or natural) were addressed for eligible groups of women in the study population. Therefore, the contraceptive prevalence was 34.3 %, which implies the proportion of women currently using contraceptive use among women of reproductive, age (15-49).

Contraceptive prevalence = Current contraceptive users X 100%
Total women from age 15-49 (Tribani, 1990)

=216/630*100=34.3%

4.2.6. Current contraceptive use (practice)

Women's current contraceptive practice (use) was the dependent variable explained by different predictor variables. It was found out that of the total respondents 216 (34.3%) women were currently using one of the contraceptive methods. The other 414 (65.7%) women were not using any method of contraception at the time of the study. Even though the town is the zonal center and many health institutions are available, women could not use contraceptive methods as one expects.

The most commonly mentioned and reported methods of contraception which were currently used by women(n=216) included injectables 74.07% followed by pills, norplant and condom accounting 19.44%, 2.78% and 3.7% respectively. The use of contraceptives is currently dominated by the use of injectales (particularly by Depo provera).

Women in the study area are currently utilizing injectables for the reason that this method of contraception has long duration for taking and that it is unforgettable by many women for provided every three (3) months. Hence, it is the question of time and memory of users which led to its dominance. Previously, women were using pills as a major method. Use of modern current methods was higher in urban women, 38.07 %, compared to the rural women (sub-urban women) who are currently using 30.02%.

Among the current users of male modern contraceptive methods (n=39) male condom and male sterilization were utilized and provided at the hospital level. Male condom accounted, as reported by women, 69.23%, only 12.82% has performed male sterilization, the rest 12.82 % used withdrawal as a method of contraception, and other methods contributed only 5.13%. Low current contraceptive use was because of a desire to have more children, fear of rumors among never users and religious prohibitions. The covert use of contraceptives by women(n=216) was 19.91% while the rest 77.32 % used overtly communicating to their husbands (partners).The remaining 2.78% reported that they do not have any know-how about their husbands (See table 5).

Table 5: Currently used methods of contraceptives by women and men and Covert use of contraceptives by women, Debre Tabor Town Administration, 2009

Modern contraceptives currently used by women (N=216)	Frequency	Percent
Injectables	160	74.07
Pills	42	19.44
Norplant	6	2.78
Condom	8	3.70
Total	216	100.00
Modern contraceptives currently used by husbands (N=39)		
Male condom	27	69.23
Male sterilization	5	12.82
Withdrawal	5	12.82
Others	2	5.13
Total	39	100.0
Covert use of modern contraceptives by women(N=216)		
Yes	43	19.91
No	167	77.32
Do not Know	6	2.78
Total	216	100.00

4.2.7. Ever Use of Contraceptives

The ever users of contraceptive methods were higher than current use; 39.7% versus 34.3%. This because of women's current desire to have children and become pregnant, need method that is more effective and hence stopped using the method now. The ever use of contraceptives by women showed that pills accounted 30.5 % followed by injectables 29.9%, Norplant 3% and

condom 3.7%. Women ever used mostly pills because it was previously available at every health institution but currently the supply shifted to injectables.

4.2.8. Reasons for not using contraceptives

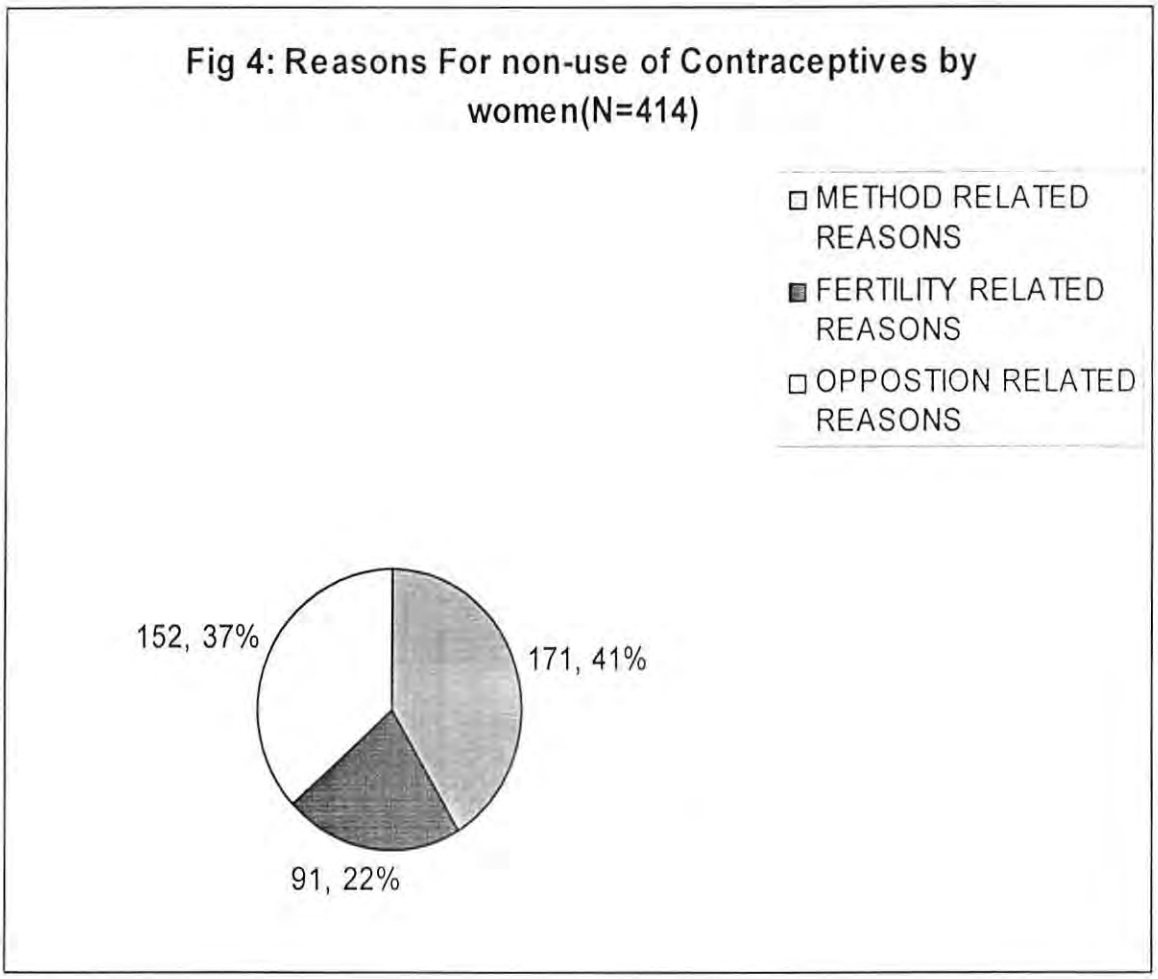
The main reasons for not using contraceptive methods (n=414) were that women want more effective method, want to become pregnant, discontinuation of methods, health problem (concern) , fear of individuals (persons)and method failure while using. These reasons accounted for about 12.56%, 33.82%, 34.78%, 17.39%, and 0.48 % each for the last 3 reasons respectively among the current non-users. The reasons for discontinuation of contraceptive methods were also elicited in the focus group discussions. Women usually discontinued contraceptives because of their thinking that there would be best method convenient for them. Most women reported that the main reasons for discontinuation of contraceptive methods were 30.56% wanted other effective methods, 53.64% were inconvenient with the current method, 5.56% faced disagreement with individuals, 3.47% due to contraceptive failure, and others reasons accounted only 1.38%.

The main reasons for non-users of contraceptives were broadly classified into method related reasons, fertility related and opposition related reasons.

Among the non-users of contraceptives (n=414), method related reasons account for about 41.3% of the total reason for non-users which included fear of side effects 35.67%, health problem 25.73%, inconvenience to use 14.04%, method unavailability 10.53%, lack of access or supply 7.01% and cost problem 7.01%.

The other dominant reason next to method related reason was that opposition to use contraceptives from different individuals and the respondents themselves. Opposition related reason contributed 36.71% of the total non-user reasons, which was the second, most important reason cited by the respondents. Oppositions to use contraceptives were faced (experienced) from husbands and relatives of both wife and husband 26.32% for each, from the respondents 25% and other peers or friends accounted 15.13%, and other reasons were 7.23% of the total non-user reasons.

Fertility related reasons for non-users contributed 21.98% of the total reason for non-users which included infrequent sex/no sex 9.4%, sub-fecundity 5.6% and desire for more children 7% respectively. Infrequent sex (or no sex) was reported by single, separated, divorced and widowed women as a reason but sub-fecundity was reported by those women above age 44 (45-49 years). On the other hand, the desire for more children was cited as a reason among those who have no any children and never married ones.

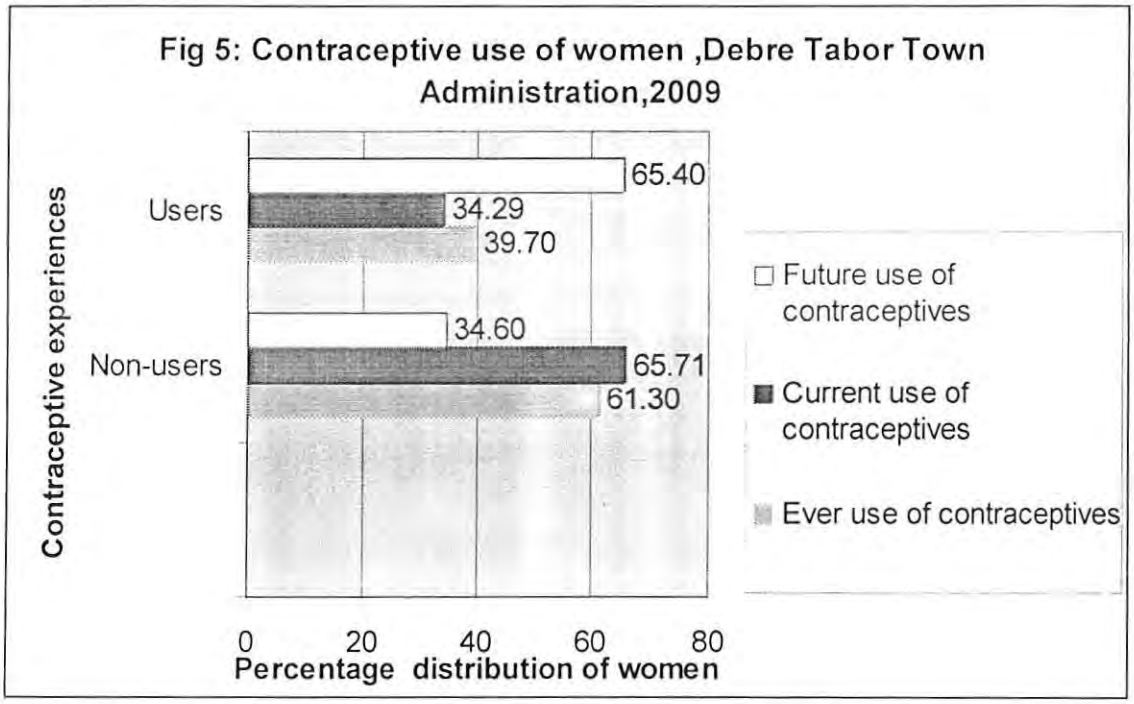


4.2.9. Future Intentions to use contraceptives

The future intention of women (n=630) for using contraceptive was assessed. Around 65.4% of the total respondents intend to use contraceptives (mainly modern methods) for the future. 24.6%

of them were not intending to use and 10% were not decided at the time of the study when to use contraceptives in the future.

Women included in the study were also asked whether they have future intentions for permanent methods irrespective of their age. Permanent methods are available at hospital but 82.7% reported that they do not want to perform permanent methods, such as female sterilization. Only 17 % believed that they will use permanent female method in the future. These intentions were mostly reported by women above age 35 years old either because they have faced health problems or have had many (sufficient) numbers of children.



4.3. Results of bivariate and multivariate analysis

4.3.1. Determinants of contraceptive use: Bi-variate analysis on contraceptive use and selected demographic, socio-economic, and family planning variables

The relationship between the dependent variable, current contraceptive use, and the independent demographic, socio-economic and family planning and IEC related variables were tested statistically using the cross-tabulation statistics and chi-square test. Cross-tabulations were made on the descriptive statistics to test significance (P-value) of the variables with respect to the main dependent variable. The chi-square cross-tab showed the x^2 value, degree of freedom (df) and P-value (significance) for each given independent and dependent variables. Pearson chi-square (X^2) was taken together with significance value (P) to explaining the relationships (See table 4).

4.3.1.1. Contraceptive use and age of women

The current contraceptive use of any method was 11.95%, 41.96%, and 41.77% respectively for the age groups 15-24, 25-34, and 35-49 years old. Contraceptive use is high among women 25-34 was 41.96 % who are significantly more likely in using contraceptive method than 15-24 and 35+ age groups respectively. Therefore, the association between women's current contraceptive use and age of women was statistically found to be significant by chi-square test (X^2= 47.095 and P=0.000).

4.3.1.2. Contraceptive use and marital status

Currently married women are using 38.36%, formerly married women were using 23.53% and never married women 22.22%. Taking currently married women as a reference category, formerly married and never married women were 14.83% and 16.14% respectively less likely to

use contraceptives. The association between contraceptive use and marital status is significant at P=0.001.

4.3.1.3. Contraceptive use and number of living children

Current contraceptive use increases as the number of living children increases. Compared to women with no children (21.52%), women with 1-2, 3-4 and >4 children are currently using 33.75%, 35.03% and 47.10 % respectively. The chi-square test indicates that the number of living children is significantly associated with current contraceptive practice (or use) with P=0.000.

4.3.1.4. Contraceptive use and total desire for children

The total desire for children indicated that those who have no desire currently are 50% users compared to those who have desires of children 1-4, 5-8 and 8+ children who were using currently any method of contraception 61.22 %,11.74% and 2.47% respectively. The chi-square test indicated that the number of living children is significantly associated with current contraceptive practice (or use) with X^2= 175.311 and P=0.000.

4.3.1.5. Contraceptive use and sex preference for children

Women who have male child preference were currently using 42.68 % compared to those who preferred female child, sex does not matter and up to God(Allah) with percent values of 26.51%,24.50% and 43.59 % respectively. The chi-square test indicated that the number of living children is significantly associated with current contraceptive practice (or use) with X^2= 21.771 and P=0.000.

4.3.1.6. Current contraceptive use and place residence

In comparison with women who live in rural kebeles, women living in the urban kebeles are better users of contraceptives. The current contraceptive practice in the urban and rural kebeles is about 38.02% and 30.07 % respectively. The variation may be probably because of the presence of many alternative institutions (private, government) in the urban areas than those of the limited social settings in the rural kebeles. The chi-square test for current contraceptive use and place of residence have significant association with X^2= 4.409 and P=0.036

Table 7: Bivariate Results on current contraceptive use and selected demographic variables, Debre Tabor Town Administration,2009.

Variables	Current Contraceptive use/non-use						Pearson Chi- Square	P-value
	User	percent	Non user	percent	Total	percent		
Total Desire for children								
No desire	37	50.00	37	50.00	74	100	175.311	0.000*
1-4 children	150	61.22	95	38.78	245	100		
5-8 children	27	11.74	203	88.26	230	100		
8+ children	2	2.47	79	97.53	81	100		
Total	216	34.29	414	65.71	630	100		
Sex preference for children								
Male	67	42.68	90	57.32	157	100	21.771	0.000*
Female	44	26.51	122	73.49	166	100		
Sex does not matter	37	24.50	114	75.50	151	100		
Up to God(Allah)	68	43.59	88	56.41	156	100		
Total	216	34.29	414	65.71	630	100		
Place of Residence								
Rural	89	30.07	207	69.93	296	100	4.409	0.036**
Urban	127	38.02	207	61.98	334	100		
Total	216	34.29	414	65.71	630	100		

* P<0.01 and ** P<0.05(Significance level was at P 0.01 and 0.05 respectively)

4.3.1.7. Contraceptive use and women's education

The chi-square cross-tabulation result showed that women's educational attainment is significantly associated with current contraceptive practice at (P=0.000). Taking the literate groups as a reference it was observed that the current contraceptive use increases radically to secondary education (9-12) and then shows decline from secondary to TVET, College/University (49.06% versus 41.38 % respectively). Those respondents in primary education (1-8), secondary (9-12) and TVET, college and university were 41.63%, 49.06% and 41.38 % respectively to use any contraceptive methods currently than the never attend groups (14.57%). The pattern indicates that education up secondary level promote contraceptive use, that is, education has a highly significant power, with the likelihood of contraceptive use increasing with the respondents' educational attainment.

4.3.1.8. Contraceptive use and husband's education

Considering the education of husbands (partner), it was also observed that 23.60%, 38.14%, 39.62%, 52.42% and 23.94% of wives use contraceptives with educational level of husband (partner) never attend primary (1-8), secondary (9-12) and TVET, college, and university graduates respectively. Those respondents in the never attend group and no husband (partner) group were using contraceptive methods less than TVET, college and university graduate husband wives were (52.42%). It was significantly associated with current contraceptive use at X^2= 34.975 and P=0.000.

4.3.1.9. Contraceptive use and women's occupation

The value of chi-square test on women's current contraceptive practice versus women's occupation indicated that women who work in non-agricultural are expected to be exposed to modern influences, including the use of family planning methods. They are also expected to have better educational level than those who were agricultural or housewives. It is observed that 65.74% and 32.23% of governmental or non-

governmental (professional workers) and traders respectively were currently using contraceptives than those engaged in agricultural (28.38%) In addition, housewives currently use 29.05%. The remaining sections of women account for only 17.44% of the current use. This implies that the types occupation of women and current contraceptive practice (or use) are associated significantly at X^2= 62.567 and P=0.000.

4.3.1.10. Contraceptive use and income of respondents

It is observed in the cross tabulation that contraceptive use increases with increase in monthly income. No income (26.02%), less than 1000 Birr per month (29.48%) and greater than or equal to 1001 birr (54.14%) respectively. The association between monthly income and current contraceptive practice is significant with p-value = 0.000 and X^2= 29.812.This implies the higher the income the higher the current contraceptive use by women.

Table 8: Bivariate Results on current contraceptive use and selected socio-economic variables,Debre Tabor Town Administration,2009.

Variables	Current Contraceptive use/non-use						Pearson Chi-Square	P-value
	User	percent	Non user	percent	Total	percent		
Education status of women								
Never attend	29	14.57	170	85.43	199	100	52.177	0.000*
Primary(1-8)	87	41.63	122	58.37	209	100		
Secondary(9-12)	52	49.06	54	50.94	106	100		
TVET,college and university	48	41.38	68	58.62	116	100		
Total	216	34.29	414	65.71	630	100		
Education status of husbands/ partners								
Never attend	38	23.60	123	76.40	161	100	34.975	0.000*
Primary(1-8)	37	38.14	60	61.86	97	100		
Secondary(9-12)	42	39.62	64	60.38	106	100		
TVET,college and university	65	52.42	59	47.58	124	100		
No husband/partner	34	23.94	108	76.06	142	100		
Total	216	34.29	414	65.71	630	100		
Occupation of women								
Agriculture	21	28.38	53	71.62	74	100	62.567	0.000*
Trade	39	32.23	82	67.77	121	100		
GO/NGO	71	65.74	37	34.26	108	100		
House wives	70	29.05	171	70.95	241	100		
Others	15	17.44	71	82.56	86	100		
Total	216	34.29	414	65.71	630	100		
Income of women							29.812	0.000*
No Income	19	26.02	54	73.98	73	100		
Less than 1000 Birr	125	29.48	299	70.52	424	100		
>=1001 Birr	72	54.14	61	45.86	133	100		
Total	216	34.29	414	65.71	630	100		

* P<0.01 and ** P<0.05(Significance level was at P 0.01 and 0.05 respectively)

4.3.1.11. Contraceptive use and attitude of husbands /partners

Attitude husband (partner) towards current contraceptive practice of women has significant effect. When husband (partner) is in favor of contraceptive use, women (wives) are more likely to use contraception. On the other hand, if husbands/partners are against use of contraceptive it decreases the chance of current use. Those women who perceived that their husband (partner) was in favor of contraceptive use were around 39.93 % and those whose husbands/partners attitudes were against their wives are 36.36%. The rest 24.67% do not have husbands/partners but used by themselves (21.13%). The low proportion percent in the no husband (partner) category is probably due to the reason that they do not have frequent sexual relations. The value of chi-square test is that P=0.016.

4.3.1.12. Contraceptive use and media exposure

Media exposure (Information, Education and Communication) contributes to the current contraceptive practice (or use) of women. As can be seen from chi-square table women with IEC exposures(low, high, and medium)and no IEC exposure are currently using 300(47.6%), 126(20%), 73(11.6%) and 131(20.8%) respectively. Women with IEC exposures are currently using 39.48% and those with no IEC exposures use only 14.5%. The current contraceptive use of respondent women was significantly associated with media exposure with X^2= 28.726 and P=0.000.

Table 9: Bivariate Results on current contraceptive use and selected family planning and attitudinal variables,Debre Tabor Town Administration,2009.

Variables	Current Contraceptive use/non-use						Pearson Chi-Square	P-value
	User	percent	Non user	percent	Total	percent		
Attitude of women towards contraceptive use								
In favor	180	34.68	339	65.32	519	100	0.205	0.650
Against	36	32.43	75	67.57	111	100		
Total	216	34.29	414	65.71	630	100		
Attitude of husbands/partners towards contraceptive use								
In favor	107	39.93	161	60.07	268	100	8.240	0.000*
Against	80	36.36	140	63.64	220	100		
No Husband/partner	30	21.13	112	78.87	142	100		
Total	216	34.29	414	65.71	630	100		
IEC/ Media Exposure								
Have IEC exposure	197	39.48	302	61.52	499	100	28.726	0.000*
No IEC exposure	19	14.50	112	85.50	131	100		
Total	216	34.29	414	65.71	630	100		

* P<0.01 and ** P<0.05(Significance level was at P 0.01 and 0.05 respectively)

4.4. RESULTS OF MULTIVARIATE ANALYSIS: Contraceptive Use and Demographic, Socio-Economic and Family Planning Variables

In this part of the study, multivariate analysis is made based on the dependent variable which is women's current contraceptive use (practice) at the time of the study. The independent variables included those of demographic, socio-economic, family planning and information, communication, education related variables. The analysis mainly focuses on the demographic determinants of contraceptive use, (such as age, total number of living children, total desire for the number of children and sex preference for children) and social variables such as education and occupation of women) and Information, Education and Communication variables (Media exposure of women), etc.

The study included that childbearing age group of women (15-49 years old) who are never users, ever users and current users of contraceptive methods. Specifically, the dependent variable, as mentioned previously, is current contraceptive use of women. The dependent variable in the logistic regression model has only two alternatives (1=Yes, for the current users 0=No, for the non-users). In the model, these values are represented by 1 for users and otherwise 0. In a similar procedure, the independent variables were categorical represented again as a set of dummy variables. The second aspect of this part of the analysis examines the odds of using a contraceptive use of any method (modern or traditional).

Table 10 presents the result of the logistic regression analysis of predictors of contraceptive use. All independent variables contributed to some degree of variation in explaining current contraceptive use. All these demographic and fertility intention variables were significantly affecting women's current contraceptive use (practice).To examine the determinants of contraceptive practice, binary logistic regression model was used by controlling for the effect of other variables.

4.4.1. Age of the women

The result of this study showed that age of the respondent women is a strong and significant predictor of contraceptive use when other variables are entered in to the equation and controlling for the effect of other variables significant at 0.005. The original data was coded in to three age-groups 15-24, 25-34 and 35 or older (35+), represented by a series of dummy variables.

In comparison to the reference category (15-24), women 25-34 and 35 or older respectively were 4.264 and 4.186 times more likely to practice any method of contraceptives than the reference category (15-24). Therefore, the finding on current contraceptive practice and age of the respondents imply that there is an inverted contraceptive use pattern, increases with age and then declines at older ages. The demand of current contraceptive use in the age group 25-34 may reflect an increasing need for contraceptive use than other groups of women. Although there are substantial variations in the current contraceptive practices, women at all age groups are likely to use different methods of contraceptives for spacing or limiting purposes.

4.4. 2. Number of living Children

Compared to women with no children (reference category), women with 1-2, 3-4 and greater than 4 children are more likely to use contraceptives (Exp (B) = 1.803, 2.805 and 5.023) respectively. The logistic regression model showed statistically significant value between the number of living children and any method of current contraceptive use (P=0.004).The model also showed statistically significant value on current contraceptive use and the number of living children women had. Compared to women with no children, women who have 1-2, 3-4 and more than 4 children are more likely to use any method of contraception currently 1.803, 2.805 and 5.023 times more likely respectively in using contraceptives than the reference group (no living children).

Table continued.....

Occupational Status Of Women				
Working	**RC**			1.000
Not Working	-2.550	.317	**.000***	.078
Table continued....				
Type of occupation of husbands				
Agriculture	**RC**		.920	1.000
Trade	.093	.507	.855	1.097
GO/NGO	.280	.540	.604	1.323
No Husband	-.154	.532	.772	.857
No Occupation	.206	.593	.728	1.229
Husbands approval of contraceptive use				
In favor	**RC**		.061	1.000
Against	.607	.331	.066	1.836
No Husbands	-.376	.482	.435	.686
Total Number Of living Children				
No Living Children	**RC**		**.004***	1.000
1-2 Children	.589	.426	.166	1.803
3-4 Children	1.031	.455	.023	2.805
>4 Children	1.614	.456	.000	5.023

Total desire for Children	**B**	**S.E.**	**Sig.**	**Exp(B)**
No Desire	**RC**		**.000***	1.000
1-4 Children	.809	.402	.044	2.246
5-8 Children	-2.311	.463	.000	.099
8+ Children	-3.381	.875	.000	.034
Sex preference for children				
Have male preference	**RC**		.051	1.000
Have female preference	-.456	.385	.237	.634
Sex does not Matter	-1.176	.424	.006	.308
Up to God	-.452	.379	.232	.636
Media Exposure				
Have media exposure	**RC**			1.000
Do not have media exposure	-1.469	.405	**.000***	.230
Monthly Income of women				
No Income	RC		.997	1.000
Less than 1000 Birr	-.014	.490	.978	.986
>=1001 Birr	-.038	.570	.947	.963
Constant	-.891	.855	.297	.410

* P<0.01 and ** P<0.05(Significance level was at P 0.01 and 0.05 respectively)

RC: Reference category in the binary logistic regression model

S.E.: standard error of estimate

4.5. Qualitative study results (Key informant interviews and Focus group discussions)

4.5.1. Key informants interview results

The main purpose of the key informant interview was to produce and have general understanding information on the contraceptive use of urban and sub-urban women in Debre Tabor Town Administration. Accordingly, the key informant interview was prepared and asked for health professionals mainly at health center and hospital. Their experience clearly indicated the cumulative judgment on contraceptive use.

The background characteristics of the key informants (mainly health professionals) included age in completed years, religious affiliation, and marital status, current place of work and institution, place of birth, educational level and work experience as a health professional. These characteristics showed the demographic and related conditions of the interviewee. Only interviews with 5 (five) key informants were taken and discussed qualitatively.

The main reasons for women in using contraceptives, as informed by the health professionals include economic, health related, spacing and limiting of children respectively. Economic reasons included the cost of rearing and growing up of children. Women also used contraceptives for maintaining their health status by avoiding their unwanted and consecutive pregnancies in the area. It also helps to improve maternal and child health. The use of contraceptive methods for the spacing and limiting of number of children were also found to be the crucial reasons. Hence, the most important reason for using contraceptives was economic followed by health related spacing and limiting of the numbers of children.

On the other hand, the main reasons behind not using contraceptives by women in the study area as perceived by the health professionals included religious prohibitions, fear of side effects, low behavioral change on contraceptive use, conflict of spouses (partners) ,the conservative behavior of the clients , need for more children and other reasons. Religious prohibition (not permitted religiously) accounted a dominant reason followed by the fear of side effects, such as saying

"Yameknal" meaning -"makes women sterile" and "Menta Yasweldal" –"followed by twin birth or three children at a time". Key informants have also put women's general impression that "contraceptive delays pregnancy" when ever women need to have children. Concerning the opposition from different individuals, it was reported that husbands (partners) were reported as the main constraints in use. Fearing of opposition from husbands (partners) is accompanied by users of injectables rather than pills (especially of Depo-Provera) once in 3 months without the knowledge of their husbands.

It was reported by the key informants that their clients have different experiences of problems of using contraceptives. The most important and commonly cited problems encountered by both urban and rural women included health problem, discontinuation ,opposition from their husbands (partners) as well as different individuals, contraceptive failure reasons such as "becoming pregnant while using" ,medical related side effects and other reasons were the problems experienced. The in availability of contraceptive method was reported by the key informants. They reported that clients of contraceptives prefer and accept injectables ("Depo Proveira") for two main reasons. These are it is because the method is ''unforgettable' by most women and they took it only once in three months irrespective of side effects.

Permanent methods are available especially at hospital level and there is a start on service provision. But most women and men fear of permanent contraceptive methods. Health professionals reported that permanent method was available and knew about the service delivery (provision) on permanent methods. Concerning unintended pregnancy by age group it was reported that 15-19 years old (adolescent women) face the exposure and followed by 20-24 and 25-29 years old women also faced unintended pregnancy. This finding suggests that adolescent fertility is the commonest practice and younger women mainly do not use contraceptives in the study area. This was because premarital sex is common and they were unable to use contraceptives due to less focus and emphasis given to adolescent younger age groups.

As perceived and reported by the health professionals who have had accumulated so many experiences on issues related to contraceptive use of urban and rural women in the study town, indicated that women have moderate interests to learn from media and professionals followed by high and low of local women's interest to learn and discuss about contraceptive use. This indicates that there is a direct relation between current use and the rate of interest to learn and discuss. Women of the local area have high potential to benefit from discussions and education being provided by the health institutions.

Provision and frequency of information on how to use contraceptives by health workers to women was reported that the majority of the health workers provide any information on how to use the contraceptive methods whether at the work place or at anywhere. Only small proportion of them do not provide information mainly because they were not aware and were not provided with in-service trainings on maternal and child health care. It was reported that the majority of the health workers discuss about contraceptive use at work place and the remaining discussed with women (clients) sometimes and rarely respectively.

It was reported by the health workers that the majority of the key informants inform to their clients about the side effects of contraceptives. Only in some instances that they were not informing to clients on what will happen to women while using it. Concerning the frequency of discussion on side effects of contraceptive use, they said that they made discussions more frequently, sometimes, rarely and never at all. Compared to providing information to use contraceptives health workers are less likely to inform about the side effects of contraceptive use.

Health workers were interviewed about their overall judgment, observation, and opinion as a health professional on the current birth rates of women. The main reasons mentioned by health workers as the reasons of high current birth rate were low contraceptive use, the existence of early marriage in the localities, premarital sex (or sex before and outside of marriage), absence or shortage of discussion on contraceptive use and population issues. Key informants were also interviewed about the general situation of contraceptive use supply and demand with respect to the beneficiaries of contraceptive. The health workers believed that the supply and demand are not balanced in health institutions in the area. As observed in health institutions (hospitals, health

centers and health posts) there were some constraints and imbalances between clients and the types of specific methods being used, clients and service providers, etc...

In general, the key findings from these part include the main reasons for women in using and not using contraceptives, the main side effects experienced by contraceptive users, the availability of specific modern methods (permanent methods), information provision and frequency on how to use contraceptives as well as the general trend of the supply and demand of current contraceptive methods in the locality.

4.5.2. Results from the Focus Group Discussions (FGDs)

The main purpose of this session is to get supportive information on contraceptive use of urban and sub-urban ('rural') women in the town administration, and describe the findings qualitatively. Focus group discussions were held at two different places, one at the center of the two urban kebeles and the other at the center of the two rural kebeles. The focus group had two groups for each (the first past users and current users in one group and the second group never users).

Before the discussions started, the researcher identified the backgrounds of participants and questions and the minute was taken at the spot. The two supervisors helped and assisted the researcher in facilitating and conducting the discussions. Since the participants of each group were volunteers and promised to give any information what they know, they were first filtered from the community (kebeles).There were common discussion points raised for the two groups separately and other questions were raised for discussion based on their contraceptive use (non-use). Questions concerning the contraceptive use were not raised for the non-users and vice versa while conducting the discussions separately.

The first group consisted of the users group with 10 contraceptive user women. Similarly, the second group consisted of 10 non- user women. All participants have pointed out and agreed that the tradition of discussion on family planning with husbands (partners) and other individuals was very uncommon some participants have raised interesting points on when and how they raise issues related to family planning. Those older age groups of women agreed that in those old days, the cost of child rearing was cheap but now a day it is burden for everybody. Therefore,

they agreed that we often discuss about family planning whenever we face severe economic problem in the home.

A women at the age of 36, Muslim follower, widowed, urban dweller of kebele 02, who has completed secondary education (literate) and current user said that:

"I got married at the age of 19. My husband was 24 years old when he married me. We had 5 children (3 males and 2 females). My children time and again request me all things what other neighbor children do. My option was to use (take) injectables (Depo-Provera) every three months and condom. I use currently condom to protect HIV/AIDS and injectable (Depo-Provera) to prevent pregnancy. I did so because I don't have enough money to support my family although my religion does not allow doing so."

The other woman, whose age is 33, said that:

> *"I gave birth to my first daughter without using any contraceptive method because I was not conscious about contraceptives. After 3 years, I delivered my second son. Everybody shouted and nagged me that why I deliver children while I am in such a situation. I didn't realize anything. Thirdly, I got pregnant and after 6-months I aborted the fetus, paying 120 birr for the illegal women. I did so because I could not even support the two. As a result, I decided to use depo-provera to prevent pregnancy. It is due to my economic problem and the method is convenient for me that I could be able to use contraceptives and also it is provided cost free at the health center."*

The other past user women at the age of 45 said that,

> *"I got married at the age of 14; I delivered my first son at the age of 18. Now I had 7 living children (5 males and 2 females) and two dead ones. After having the 5 living and the 2-dead children, I got the eighth child. I delivered at home without any assistance by traditional birth attendant women. My total situation was at risk. Then, my husband didn't stop his desire for children. I got pregnant the ninth child. I faced the same problem especially continuous bleeding after delivery. After that*

my brother who lives in Addis Ababa informed me to come to Addis. I went there. He told me to perform female sterilization (Tubaligation) at a hospital. I performed sterilization 5 years ago because I want to live healthy and stable for the rest of my children instead of dying, she said. "The method allowed me to lead stable and healthy life." Now I advice every female not to have more children not to face such complications instead to consult health workers and use contraceptive methods appropriate for them".

Women believed and reported that using contraceptives is good for limiting or spacing children. Most women believed in spacing than limiting of children because they want more children but did not want to limit numbers. Some women believed that it is up to their God to limit the number of children". Other groups of women reported family planning is very helpful because now a days there no resource and asset to support more family. It also helps children good mental and health status, maintains our health status although some side effects.

Some participants agreed that women face many problems on family planning both outside of home and at home. At home, some women (especially married ones), reported that husbands do not keep the wives interest. Husbands simply said "Lej Enwulede"-"Let us have a child" instead of saying "let us use contraceptives". But after having children males don't care about children. Some women faced oppositions, others faced problems from health care providers, even fearing individuals while using.

Women said that most contraceptive services are not sufficient. They want to use varieties of methods. But only limited methods are being provided at the health institution. Even the numbers of health professionals to clients are not balanced. Some women want to use nor plants, permanent methods, etc. Health workers provide good education for women but when ever women seek to use varieties of methods they could not get due to supply problem. The supply is mostly of injectables and pills. For permanent methods they have heard about it but not using. There are shortages of specialists to perform permanent methods. Therefore, women said "the government should train professionals and help women even at homes. They also said that they wanted different methods instead of limited supplies.

4.6. Discussions

The study has attempted to assess contraceptive use of women of childbearing age in Debre Tabor town administration. Both in the bi-variate and multivariate analysis results it was found out that current contraceptive use is significantly affected by age, educational level and occupational status of women. In addition, the total number of living children, total desires for children and media exposures on family planning has significant prediction powers on current contraceptive use of women. There are variations in the types of contraceptive methods used in the study area. Studies conducted in Ethiopia and other parts of African (such as Kenya and South Africa) indicated that contraceptive use is significantly affected by women's age. A study conducted by Worku Eshetu(1995) and Dilnesaw(1995) on the factors of contraception among women of 15 to 49 revealed that contraceptive use was highly and significantly related to age of women. The determinants of contraceptive use in Kenya revealed that age was one of the most important determinants of contraceptive use (NJOGU, 1991). This finding reflects an increasing need for contraceptive use amongst the middle group of women (25-34) mainly because older women have achieved their desired number of children and do not want to give birth or wanted to space children. As one would expect childless couples are less likely to practice contraception. It also implies couples are more likely to use modern methods in particular age groups 35-39 and then declines later than 40.

The pattern of current contraceptive use by education indicates that education promote contraceptive use, that is, education has a highly significant power, with the likelihood of contraceptive use increasing with the respondents' educational attainment. Compared to women with no education, women in the primary, secondary TVET/college and university were more likely to use contraceptives (Population Reports, 1992). A study in Bangladesh showed the effect of the respondents' education on current contraceptive use was found to be the most important one. Women with the highest level of education (secondary and higher level) were almost three times as likely to practice contraception as those who had no education. As expected, education increases receptivity to "new technologies," including awareness and use of contraception. Educated women also may desire fewer children than their less educated counterparts because of the incompatibility between formal-sector employment and childcare.

Compared to the never attend groups that the odds of current contraceptive use increases radically up to secondary education (9-12) and then shows decline from secondary to TVET/college/university. The husbands' educational attainment was not included in the analysis because of the multi-colinearity of the variable with other variables. Those respondents in primary education (1-8), secondary (9-12) and TVET, college and university are more likely to use any contraceptive methods currently. Education changes the behavior and increases the understanding of people on how to use contraceptives.

Women who are involved in agricultural sector and those who are out of the labor force are less likely to use any contraceptive methods in the study area. Those women whose occupation is related to trade, governmental and non-governmental organizations, and others (including daily laborers) will be more likely to use contraceptive methods. Studies in developing countries and such as Peru revealed that women in the working status are more likely to use modern contraceptives than those who are not in working conditions (Tucker, 1986, Population Reports, 1982). The findings from this study are also consistent with these results indicating working status of women is significantly affecting current contraceptive practices in the study area. The working condition of women indicated that those who are engaged in self employed and government employed occupations are more likely to use contraceptives than the not working category. This result is consistent with a study by Meseret Shiferaw and Samuel G/Hiwot, 1993 in South-Western Ethiopia. When women are engaged in occupations, they want to use contraceptives to empower themselves economically and socially and participate in any activities. This is influenced by different motivations done by women's affairs and other social affairs institutions which educate and provide basic education on family planning.

The IEC exposure of on family planning issues enhances women's awareness to practice it. Those who never had IEC exposures on family planning issues are less likely to use contraceptives than those who have had discussions. Exposure to family planning and contraceptive use are positively related (Tribani, 1989). A study conducted in Tunisia revealed that women who were exposed to family planning education on mass media were consistently

more likely to use modern contraceptives than those who have no media exposures (Cochrane & Guilkey, 1992). Information, Education, and Communication programmes on family planning affect current contraceptive practice and hence lead to fertility declines substantially in a social setting. Programmes broad casted and transmitted through different media such as radio, television, and other local methods at health institutions contribute to use of contraceptives. Such networks may facilitate the sharing of positive experiences by early adopters, through which specific methods may be popular.

Fertility is one of the major components of population change that determine contraceptive use. Contraceptive use increases with the number of living children and children ever born. The result of this study is similar to a study in Turkey that indicated that the probability of contraceptive use increases with the number of living children. Couples with two or more likely to use contraception than those with fewer than two children. Childless couples are less likely to practice contraceptives (Goldberg & Toros,1994).The number of living children a woman had appears to affect the motivation of women to use contraception(UN,1986). On the other hand, the total desire for children is inversely related to current contraceptive use; the higher the desire for more children, the lesser the contraceptive use of women (Shah, & Palmore, 1979). The desire for more children e husbands' emanates from attitude of husbands for more children and children are given high social and economic values. Whenever there is child mortality women do not want to use contraceptives to compensate the dead ones and hence high desire for bearing more children.

Sex preference is one of the crucial variables in fertility related variables. Usually, in the study area it is more common to hear people are very glad to have male child to female child. This is because of male influences (dominance of men) over female in decision-making. The sex preference for children indicated that 51.27% of the respondents have either male or female sex preferences followed by God knows, and sex does not matter respectively. This indicates that the study population has relatively sex preference for children and dominated by the religious perceptions as if children were gifts from God. In general, there is a variation in sex preference for children in the study population because of men's decision making power and influence, religious affiliation which encourages giving birth and multiplying and prohibitions not to use

CHAPTER FIVE

5. Summary, Conclusions, and Recommendations

In this part, the summary of main results, conclusions, and recommendations are pointed out. The summary part includes those important points and the researchers main implications on the findings included under each main topics, the conclusion part included those result interpretations in the study, and finally the recommendations are forwarded based on the results.

5.1. Summary

One of the merits of this study is that it examines a number of issues that are related to contraceptive use. Contraceptive use is becoming a sensitive area in Sub-Saharan African in general and that of our country in particular. Since our country Ethiopia is the second most populous country next to Nigeria in Sub-Saharan Africa, contraceptive prevalence needs to be promoted to alleviate the rapidly growing population imbalanced to the current economic growth.

As previously stated in the background of this paper, a key issues for policy makers seeking to influence fertility trends is the extent to which contraceptive use is affected by the range of family planning programmes and services. Today the majority of nations and countries are advancing towards transition from high fertility to low fertility. One of the contributing factors for this transition is contraceptive prevalence rate is becoming prominent in both rural and urban areas. The current government of Ethiopia perceives the high population growth that has great influences on the socio-economic growth and development of the country. The main objective of increasing contraceptive use is that to reduce maternal and child mortality at the national level through reducing fertility.

The main rationale of this study as a whole is to deal with contraceptive use among 630 urban and rural (sub-urban) women in Debre Tabor Town Administration. The study attempts to examine the effects of the factors that may have played roles in determining contraceptive practices.

The overall objective of the study is to examine the contraceptive prevalence and the variations of contraceptive use (practice) among women of childbearing age (15-49 years) in Debre Tabor Town Administration, South Gondar Zone, Amhara Region. In addition, the conceptual framework of the study indicates that the dependent variable is current contraceptive use/non-use which is affected by demographic variables (age of the respondents, number of living children, place of residence, childhood place of residence, number of living children, total desire for children, and sex preference for children), socio-economic factors (education of women, work status, income), family planning and IEC related variables (IEC exposure, knowledge of family planning methods, or places, fear of side effects, husbands attitude towards use).

The independent variables (demographic and socio-economic variables) act on intermediate variables (family planning and information, education and communication) and hence affect contraceptive use (the dependent variable). The dependent variable current contraceptive use is represented by dummy variables (1 for current users 0 otherwise). The independent variables are represented as categorical in the model to see the effects in the binary logistic regression model.

The study is cross-sectional study design employing both qualitative and quantitative analysis through structured questions and interviews, including the house-to-house interview questions, key informant interview for the health professionals (health care providers) and focus group discussions for the targeted groups. In this study 630 sample of women (334 in the urban and 296 in the sub-urban kebeles) were interviewed. A total of 4 kebeles (2- form urban, 2 from the rural) were purposively selected to this study.

The overall demographic and socio-economic characteristics indicated that out of the total respondents 25.23%, 22.69%, and 52.06% were found in age groups 15-24, 25-34 and 35 or

older. More than two-third of the study participants were literate and the rest were illiterate. The current work status of the study participants were currently working (31.58%) and 68.42% not in working status. Over 87.14 % of the respondents were ever married and 12.9% were never married.

There is an increasing demand for contraceptives among women aged 25-34 years old and less contraceptive use by the younger age groups of women (15-24) which requires high health and reproductive health investment in contraceptive supply. Unlike their knowledge, younger women were less probable to use contraceptives. Therefore, the overall trend of contraceptive use by the study population increases with age up to 34 years old and the declined after 35 years.

The contraceptive prevalence of the study town was calculated using the proportion of those women who are currently using any method to the total number of women. The result was 34.3%.On the other hand, current contraceptive use by place of residence revealed that urban women are currently using 38.02% where as rural (sub-urban) women currently using 30.07%.

About 94 % (n=630) of the study participants reported that they had head of (have knowledge of) any contraceptive methods, 94% reported that they were familiar and have heard of any modern methods and 70% have heard of any traditional methods respectively. The most commonly known modern methods of family planning included injectables followed by pills, nor plant condom , female sterilization and, male sterilization. Traditional methods included breast feeding, rhythm, prolonged abstinence and other methods. The main outlets cited by the current users included hospitals followed by health centers, clinics, health posts private clinic or pharmacy and others. The main sources of IEC included were radio, television, television/radio, bulletins/news, friends/husbands, schools, health workers, peers (friends), relatives, schools, husbands or partners and meetings, trainings/workshops and other sources. The main sources of IEC included health workers and television/radio followed by radio and public meetings, workshops or trainings sum up together.

In the analysis part, the results of the study were pointed out using percent distributions, cross-tabulations, and chi-square test in bivariate analysis and multivariate logistic regression model fitting using SPSS version 13+. In the bivariate analysis part of the chi-square tests it was found

out that age, marital status, , education of wife, work status, educational level of wife and husband, income of respondents, place of residence, IEC exposures, number of living children, total desire for children and sex preference were significantly associated with current contraceptive practice. On the Other hand, religion and attitude of women towards contraceptive use and were not significant. How ever, in the binary logistic regression model age, education level of respondents, occupation status of respondents, number of living children, total desire for children, IEC Exposure and monthly income of women were found statistically significant.

5.2. Conclusions

Based on the research questions, objectives and conceptual frameworks set to this study, the findings of the survey in Debre Tabor-Town Administration indicated the following crucial results.

- The determinants of current contraceptive use include age of respondent that increases with increasing contraceptive use and then decline at later ages. Current contraceptive practice is less in age groups 15-24 and 35+ than those of the middle age group 25-34 years. This shows that the pattern is "inverted u" which is coherent to most study findings.
- In this study working women are more likely to use contraceptives than non working women. The current occupational status of women also determines current contraceptive use.
- Women who have attained a certain level of education level have better chance of using any contraceptive methods than those who do not attend education. Contraceptive use increased with educational level up to secondary level and then declines. This may be probably because the economic powers of women can support their children. Education is the main instrument in promoting contraceptive prevalence.
- The contraceptive prevalence rate for the study area was 34.3%. Compared to women in the sub-urban area, women in the urban centers have high current contraceptive use. Urban women use 38.02 % to use contraceptives than sub-urban ("rural") women (30.07%). Mainly the current variations in contraceptive use are narrowed due to the wider opportunities of both settings.

- Both the total number of living children and total desire for children has significant effect on contraceptive use. Contraceptive use increased as the number of living children increases and contraceptive use decreases with increasing desire for children in life.Women with more number of living children were found to be more users than those with no children because they attained their maximum need and those having high desires for children in life are less probable to use contraceptives than those with no desires for children in life as a whole mainly because of traditional concepts on children in the society.
- Many literatures indicated that the sex preference of respondents results the variation in contraceptive use. In this study sex preference was not statistically significant with current contraceptive use. It is also determined by undecided behaviors and God's permission, which has important contribution on contraceptive use.
- There is a strong relationship between IEC exposure and current contraceptive use. Whenever women are exposed to IEC, they are more likely to use any methods of contraception and their attitude and behavior changes when exposed. There fore, media plays an important role in the promotion of contraceptive prevalence.
- Women are using contraceptives for two main purposes currently. These are for spacing the number of children in most cases and limiting as well. Using for spacing predominates than using for limiting the number of children. This finding is consistent with contraceptive use of women in developing countries particularly to Sub-Saharan Africa.
- There is a substantial demand and intention to future use of contraceptives by urban women (both temporary and permanent methods) by the urban women indicating that it will affect the high birth rates and fertility intentions in general.
- The main reasons, as indicated in many parts of this study, for non-use of contraceptive methods included method related reasons, fertility related reasons, and opposition related ones. From this method related reasons were found to be more important for non-use than the remaining two factors reasons followed by fertility related and opposition related. Therefore, currently there is high method related obstacles including fear of side effects and rumors on contraceptive use and the need for effective methods, inconveniency of the current method, etc. These factors bipedal the promotion of current contraceptive prevalence in the study area.

- The most commonly currently used methods of contraception (n=216) in the study area are very limited in number mainly injectables (74.7%) followed by pills (19.44%) and condom and nor plant have low proportions of current use for women accounting 3.7% and 2.78% respectively. Male methods of contraception included condoms (69.23%) followed by male sterilization and withdrawal with percent distributions of 12.82% for both. Other methods acconted only 5.13% .The current practice of permanent method use such as male sterilization and female sterilization is underutilized and almost unknown in practice. But health professionals motivate those concerned clients to perform such methods at the hospital level. Due to limited skilled health personnel and limited medical equipments; the service is currently not operating properly.

- The findings from the respondents interview, key informant interview and focus group discussions indicated the main reasons for women in using contraceptives included economic constraints of the family, health related problems encountered by women, spacing and limiting of the number of children, and sometimes to perform or facilitate induced abortions, etc. On the other hand, the most commonly cited problems for not using contraceptives in the study area included health related, discontinuations due to different desires, oppositions(conflicts) from husbands(or partners, programme related, fertility related and method related reasons. There are also many obstacles for non-use of contraceptives for the local women including religious prohibitions, fear of side effects and rumors, low behavioral change and conservative behavior of the community towards using.

5.3. Recommendations

Based on the conclusions and the findings of the study the following recommendations are forwarded:

1. The findings from this study demonstrated that the age of the respondents is a stronger predictor of contraceptive use with some degree of variations in the age groups. Special emphasis should be given on contraceptive use of 15-24 and 35-49 age groups mainly because the younger age groups were given less attention and focus similar to the older age groups. Adolescent and youth reproductive health education on contraceptive use should be given the priority concern. In addition, older age groups revealed higher interests for using permanent methods especially after the age of 35 and older instead of using oral contraceptives and injections at the health institutions. However, such permanent service delivery was underutilized. Hence, besides those limited supplies of methods being provided currently, permanent methods should be available widely at health institutions to provide women with opportunities.

2. The service delivery at present is at its low standard and most women in the study area prefer not to use. There fore, high quality family planning services that offer wide range of contraceptive opportunities and method choices to all client women shall be made available equally in both urban and rural areas to increase the prevalence and level of contraceptive use more effectively and efficiently at the health institutions. Efforts should be made for providing contraceptive services with full confidentiality and privacy to women and improving the quality of the services in the town especially at governmental health institutions

3. It is highly likely that there are many misperceptions by women regarding modern contraceptive use that may have important implications for contraceptive services. Therefore, to alleviate these and similar constraints in the health institutions ,it is very essential to share user experiences in the community, increasing communication and promoting counseling services of women to the grass roots level on the part of the health care providers. For these tasks information, education and communication aimed at both women and health care providers shall be provided by concerned governmental and non-governmental institutions.

4. Forums, debates, trainings, workshops and discussions on the use and non-use of contraceptives shall be carried out by the concerned bodies (such as schools, health institutions, NGOs, etc,) to promote women's limited contraceptive practice and effectively advocate issues regarding contraceptive use and its benefits.

5. It is very essential to recognize the fact that appropriate methods of contraception for the couples and individuals vary based on their age, parity, family size preferences and other factors. There fore, both women and men should be ensured by the widest possible range of safe and effective family planning methods in order to enable them to exercise free and informed choices. This is mainly because restricted choice of contraceptive methods has constrained the opportunity of women and couples to obtain a method that suits their needs resulting in lower levels of contraceptive prevalence.

6. For enhancing contraceptive prevalence rate in the study area, it is important to provide counseling, education and option for the clients, supply of contraceptive methods, training of more health professionals, free provision of contraceptives, awareness creation on the acceptance of contraceptives, providing home to home education on family planning, working on contraceptives through local and community based institutions, such as "edirs", religious institutions and associations, teaching the local people on the advantages of (benefits of family planning) and disadvantages of not utilizing family planning methods through radio ,television, brochures ,pamphlets ,pictures, etc by concerned bodies.

7. Social changes in addition to family planning programmes, such as promoting and enhancing female decision-making and females' autonomy are equally important through the educational and economic empowerment of women. Social and labor affairs office, women affairs office and population offices found at different structural levels can do this.

8. An-indepth research on the determinants and barriers of contraceptive use on women should be done by concerned health and different non-governmental institutions in the study area.

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Institute of Population Studies (IPS)

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Addis Ababa University (AAU)

Field Work Questionnaires

General Information

Region **Amhara**

Administrative Zone: **South Gondar**

Town Administration: **Debre Tabor Town Administration**

Kebele : Name _____Code_____

Site Name _____Code_____

Type of Kebele :Urban____ Rural_____ (Put "✓" mark)

Household: Number _____Code_____

Date of interview (Date /month/Year) _____

Time of Interview Started_____

Time of interview Ended_____

Total Time Taken for the interview_____

Final Result: (Put "✓" mark)

Completed_____

Partially Completed_____

Eligible Respondent absent_____

Refused_____

Others (Specify) _____

Full Name of the interviewer_____ Signature _____

Full name of the Supervisor_____ Signature_____

Name of the Researcher_____ Signature_____

My full name is _____and I am here for the purpose of data collection for a graduate student who is doing his research thesis at Addis Ababa University, College of Development Studies, and Institute of population studies, on ***Contraceptive use Among Urban and Rural women in Debre Tabor Town Administration***. It would be very grateful if you could cooperate me by providing and then responding the questions that I am asking. The Data and information gathered from you will be kept confidential and kept with secrecy. It enables the researcher and the town administration a great deal in issues related to family planning.

Thank You in advance for your cooperation!

Questionnaire number (code) _____ *(To be given by the researcher)*

PART I- Background Characteristics of the Respondents				
No	Questions	Coding Categories/Response	Response	Skip to
101.	What is your age?	_____years		
102.	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholics 5. Adventists 6. Others (Specify)		
103.	What is your ethnicity?	1. Amhara 2. Agew 3. Tigre 4. Others (Specify)		
104	What is your marital status?	1. Married 2. Divorced 3. Widowed 4. Separated 5. Unmarried 6. Other (Specify)		
105	Type of Marriage Ceremony	1. Civil 2. Religious 3. Both 4. Consensual		
PART-II- Demographic Characteristics of the Respondents				
No	Questions	Coding Categories	Response	Skip to
201.	Type of Residence:	1. Urban 2. Rural		
202.	When do you come to Debre Tabore?	In Year_____		
203.	When is the year you were born?	Year _____		
204.	What is your childhood birth place?	1. Debre Tabor 2. Outside Debre Tabor		
205.	What is your age at first marriage?	_____years		

PART III- SOCIO-ECONOMIC CHARACTERSTICS OF RESPONDENTS				
No	Questions	Coding Categories	Response	Skip to
301.	Did you attend School?	1. Yes 2. No		
302.	If yes, what is your highest grade you attained?	1. Never attend 2. Primary(1-8) grade 3. Secondary(9-12)grade 4. Diploma+ 5. Others(Specify)		
303.	What is your husband's/partner/friend's educational level?	1. Never attend 2. Primary(1-8) grade 3. Secondary(9-12)grade 4. Technical/vocational 5. Diploma+ 6. Do not know		
304.	What is your current work status?	1. Working 2. Not working		
305.	If working, what is your current occupation?	1. Agriculture 2. Trade 3. GO/NGO employee 4. House wife 5. Daily Labor 6. Construction 7. Student 8. Others (specify) _____		
306.	What is your husband's/partners/friend's occupation?	1. Agriculture 2. Trade 3. GO/ NGO employee 4. Student 5. Daily Labor 6. Construction 7. Others (specify)		
307.	What is your monthly income in Birr?	_____Birr I can't specify_____		
308.	Where do you put yourself in terms of your income?	1. Rich 2. Medium 3. Poor 4. Poorest of poor		

		5. I can not put my self		
PART-IV Fertility Related Questions				
No	**Questions**	**Coding Categories**	**Response**	**Skip to**
401.	Have you given birth to any children?	1. Yes 2. No →		405
402.	If yes, what is your age at fist birth?	_____years		
403.	How many of living children do you have?	_____living children _____ Males _____ Female		
404	What is the sex arrangement of your living children?	1. Male only 2. Female only 3. More males than females 4. More Females than males 5. Equal number of males and females 6. No child		
405.	How many of your children were dead?	_____ dead _____ Males _____ Female		
406.	Have you the desire for bearing more children?	1. Yes 2. No → 3. God/Allah Knows 4. Do not know		411

No	Questions	Coding Categories	Response	Skip to
407.	How many children do you desire to have in the future in the whole of your life?	_____(write number) Up to God /Allah_____6		
408.	How many of your children would you desire to be males or females?	_____Males _____Females _____Total		
409.	Which gender/sex do you prefer most?	1. Male Female 2. Sex does not matter 3. Up to God/Allah 4. Do not Know		
410.	Do your husband/	1. Same		

	Partner wants the same number of children that you want or does he want more or fewer than you?	2. More 3. Less 4. Jointly decided 5. Do not know		
411.	If your husband wants more, what is his main reason?	1. Economic 2. Social pride 3. Mortality of children 4. Psychological 5. Others(Specify)_____		
412.	How many pregnancies have you ever had altogether?	_____total pregnancies		
413.	Are you currently pregnant?	1. Yes 2. No 3. Not pregnant 4. Do not Know		
414	Have you ever experienced pregnancy ended up in abortion?	1.Yes 2.No 3.Do not know		
415.	If yes, what is the type of abortion?	1.Spontaneous 2. Induced		
416.	If it was Induced abortion, what was your main reason?	1. Contraceptive failure 2. Disagreement with husband /partner/ friend 3. Health problem 4. Medical prescriptions 5. Fetus related problem 6. Economic reason 7. Others(Specify)_____		
417.	Do you want to delay or avoid pregnancy?	1. Yes 2. No 3. Do not decide 4. God /Allah knows		
418.	What is your main reason for delaying or avoiding pregnancy?	1. Spacing Children 2. Limiting Children 3. Want no more children 4. Other (Specify)		

PART-V -CONTRACEPTIVE KNOWLEDGE, ATTITUDE AND PRACTICE CONTRACEPTIVE KNOWLEDGE				
No	Questions	Coding Categories	Response	Skip to
419.	Do you Know (have you heard of) any Family planning Methods?	1. Yes 2. No		
420.	Do you know any modern method of contraception?	1. Yes 2. No		
421.	Do you know any traditional method of Contraception?	1. Yes 2. No		
422.	There are different methods of modern or traditional family planning. Which One have you heard of? Recall the following if necessary			
	Method(s)	Method Known		
	1. Pills	1.Yes 2.No		
	2. Injectables	1.Yes 2.No		
	3. Condoms	1.Yes 2.No		
	4. Implants	1.Yes 2.No		
	5. IUD	1.Yes 2.No		
	6. Diaphragm	1.Yes 2.No		
	7. Female sterilization	1.Yes 2.No		
	8. Male Sterilization	1.Yes 2.No		
	9. Prolonged abstinence	1.Yes 2.No		
	10. Rhythm	1.Yes 2.No		
	11. Withdrawal	1.Yes 2.No		
	12.Breast feeding	1.Yes 2.No		
	12. Other Methods(Specify)	1.Yes 2.No		
423.	Do you know the place where modern contraceptives were obtained	1.yes 2.No		
424	What is you familiar outlet for the supply of contraceptives?	1. Government hospital 2. Government health Center 3. Government clinic 4. Government health post 5. Private Pharmacy/ Drug stores 6. CBD centers 7. NGOs 8. Others (specify)		

		_____ ___		
425.	How long it takes to travel to the Outlet (or source)?	_____Minutes _____Hours		
426.	How do you perceive the cost of contraceptives?	1. Cheap 2. Fair 3. Expensive 4. Free		
427.	How about distance to the family planning source?	Closer (near) Medium Far		

CONTRACEPTIVE ATTITUDE				
No	Questions	Coding Categories	Response	Skip to
501.	Are you in favor of or against modern family planning methods?	1. In favor 2. Against 3. Do not Know		
502.	Is your husband/partner/ friend in favor of or against contraceptive use?	1. In favor 2. Against 3. Do not Know		
503.	Who decides about your use of contraception?	1. Mainly the female 2. Husband/partner 3. Jointly decide 4. Other's interfere 5. Others (specify) _____		
504.	What is your husband/ partner/ friend attitude of family planning?	1. Encourages to use 2. Discourages to use 3. Unsure about him 4. Other (Specify) _____		
CONTRACEPTIVE PRACTICE (USE)				
601.	Are you currently using any family planning method(s)?	1. Yes 2. No		606
602.	Does your husband/ partner/friend	1. Yes		

	currently using any family methods?	2. No 3. Do not Know		
603.	If yes for 601, which method are you currently using?	Female _____ Male _____		
604.	What is was your age at first use of contraception?	_____years		
605.	Do you use contraceptives without the knowledge of your husband/partner/friend?	1. Yes 2. No 3. Do not Know		
606.	Have you ever used any method of family planning?	1. Yes 2. No		
607.	Which method of Family planning have you ever used in the past?	_____		
608	How long have you been using the method with out interruption?	_____month _____year		
609.	What was your main reason for discontinuation of your former family planning method?	1. Method Fails 2. I want more effective method 3. Desire to become pregnant Health situation 4. Switched to another method 5. Health workers bias 6. Others (Specify)_____		
610.	If switched to another method, why you switched to another method?	1. Method Fails 2. I want a more effective method 3. Inconvenience method 4. Disagreement with health workers 5. Other (Specify) _____		
611.	Do you intend to use family planning methods in the future?	1. Yes 2. No 3. Do not Decide		613

612.	Which method of contraception would you prefer to use in the future?	_____ (Name only the most favorite Method)		
613	If permanent methods (such as female sterilization) are available would you like to use it?	1.Yes 2. No		
614.	What is your main reason for not using contraceptive methods?	Fertility related Opposition to use Lack of Knowledge Method related		616 617
615.	If your reason is method related which one?	1. Health concern 2. Fear of side effects 3. Lack of Access 4. cost is too much 5. Inconvenient to use 6. Biological reason 7. Method not available 8. Others (specify) _____		
616.	If your reason is fertility related, which one?	1. Infrequent sex/no sex 2. Sub-fecundity/ infecundity 3. Wants many children 4. Other (specify)_____		
617.	From whom you faced opposition for using?	1. My self 2. Husband/partner/friend 3. Relatives 4. Friends/Peers 5. Others (Specify) _____		

PART VI- FAMILY PLANNING RELATED QUESTIONS

No	Questions	Coding Categories	Response	Skip to
701.	Have you heard about family planning?	1. Yes 2. No		
702.	Where do you get information about family planning?	1. Radio 2. Television 3. Both TV and Radio		

		4. Magazines/news 5. Husband 6. Schools 7. Health workers 8. Trainings and Workshops 9. Others (Specify) _____		
703.	Were you informed about the side effects or problems you might have with the method?	1. Yes 2. No		
704.	Were informed about what to do if you experienced side effects?	1. Yes 2. No		
705.	With whom have you talked (discuss about) family planning mostly?	1. Health workers 2. Parents/ Relatives 3. Husband/partner/friend 4. Teachers 5. NGO workers 6. Others (Specify) _____		
706	How often do you discuss family planning with your husband/ partner/friend?	1. Always 2. Sometimes 3. Rarely 4. Never discuss		
707.	How do you rate your family planning exposure to IEC?	1. Low 2. Medium 3. High 4. Never know at all		

Questions for Focus Group Discussion

1. Do you discuss Family planning with your husbands/partners/friends or other individuals? When and how you discuss family planning?
2. Do you think that family planning is a useful mechanism to space or limit the number of children that women should have?
3. What are the most common challenges that women face or experienced in using family planning at home or outside of home? What measures should be taken by every individual to improve the demand and supply as well as the use of contraceptives?
4. Do you have some evidences about the side effects of contraceptive use? And from whom you heard about the side effects?
5. Why you prefer your current method than the previous method?
6. How do you see family planning in view of population perspectives? Do you think that Family planning is indispensable for growth and development of a given country, how?
7. What the situation looks like concerning males' involvement, encouragements, and decisions on contraceptive use.
8. What your current satisfactions look like with the family planning services rendered(provided) concerning institutions, personnel, types of methods used, sources of methods, method preferences/choice.
9. What are the reasons that women are not using contraceptives at large scale?
10. Why women want to have more number of children in this area?
11. What do you think is the better solution to increase contraceptive use in your locality?
12. Do you have any additional comments or measures to say for improving Family planning in general_____?

Key Informant Interview Questions for Health Professionals

Dear Respondent: These questionnaires are prepared for the purpose of post graduate studies research. The Questionnaires are designed to produce well summarized information on contraceptive use of Urban and Rural Women in Debre Tabor Town administration. I kindly request you to provide relevant information and Thank you in advance for your cooperation. Please would you like to mind filling the open ended questionnaires and/or circling the appropriate responses of your own from the given alternatives.

1. What is your sex? 1.Male 2.Female
2. How old are you? _____Years
3. What is your religion? 1. Orthodox 2.Islam 3. Protestant 4. Catholic 5. Adventists 6.Others
4. What is your Marital Status? 1. Married 2. Divorced 3. Widowed 4. Separated 5. Single 6. Others(Specify)_____
5. What is your current place of work? 1. Rural 2. Urban
6. What is the health institution in which you are working? 1. Hospital 2. Health Centre 3. Clinic 4. Health post 5.Private Clinics (Pharmacies) 6. Private drug Vendor 7. Others(Specify)_____
7. What is your place of Birth? 1. Rural 2. Urban
8. What is you educational level? 1. Health Officer 2. Medical Doctor 3. Mid wife 4.gynaecologist 5. Clinical Nurse 6. Laboratory technician 7. Pharmacist 8.Health Assistant 9. Health extension 10. Front Line worker 12. Others (Specify)_____
9. What is your experience as a health worker (professional)? _____Years
10. What do you think are the main reasons for women in using contraceptives?
11. Have you ever faced women experiencing the problems of family planning services?
12. If your answer for question 11 is yes, which types of problems (side effects) are mostly encountered by contraceptive users?
13. What do you think are the main reasons for women in not using contraceptives?
14. Which methods of contraceptives are mostly provided in the health institution you are working?_____

15. Which methods of contraceptive are mostly acceptable and preferable by women who are currently using contraceptives? What are the main reasons?Preferredmethod_____MainReasons_____
_____
16. Are permanent methods of Contraceptives available in this health institution?
17. If yes for question 15, are permanent methods being provided for the clients?
18. Which age groups of women are mostly facing unintended pregnancy?
19. How interested are women to learn about and discuss on contraceptives from media (Health Professionals)?
20. Do you provide information for women on how to use contraceptives?
21. If your answer is yes for question 20, how often?
22. Do you inform women (Clients) about the side effects of contraceptive methods?
23. How often do you discuss about the side effects of contraceptives with women (or clients)?
24. What is your observation and opinion as a health professional on the current birth rate of women in this locality?
25. If your answer is high for question 24, what do you think are the main reasons?
26. How do you rate the current birth rate (Child bearing) in this area prior to previous years?
27. If your answer to question 26 is increased, what do you think are the main reasons?
_____
28. Do the supplies of Contraceptive methods balanced to the demand for contraceptive users?
29. What do you think are the main activities to be accomplished for the acceptance of contraceptive methods?

By government_____
By NGOs_____
By the community_____
By Other bodies_____

30. What are your methods (strategies) used to provide information on contraceptive methods? _____
31. Would mind providing additional comments on contraceptive methods?
_____
_____

Thank You!!!

Table.11: Myer's Blended Index of Terminal digit preferences by location of Residence, Debre Tabor, 2009.

	Population with terminal Digit			Weights for		Blended Population	Percent Distribution (%)	Deviation from 10**
	(1)	(2)	(3)	(4)	(5)	(1*4) + (2*5)		
Terminal Digit	Rural Population	Urban Population	Total Population (Urban+Rural)					
0	54	66	120	1	9	594	17.82	7.82
1	0	30	30	2	8	240	7.19	2.80**
2	32	24	56	3	7	232	6.95	3.04**
3	2	28	30	4	6	174	5.22	4.78**
4	14	34	48	5	5	474	14.22	4.22
5	76	52	128	6	4	588	17.64	7.64
6	30	22	52	7	3	246	7.38	2.62**
7	14	16	30	8	2	130	3.89	6.11**
8	60	50	110	9	1	530	15.89	5.89
9	14	12	26	10	0	126	3.78	6.22**
Total	296	334	630			**3334**	100	51.14
Summary Index@								**25.57**

** Indicates Deviation from 10 irrespective of negative signs (-)

@ Computed by dividing total deviations from 10 by 2 which is 51.14/2= **25.57**

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.

Alemu Abegaz		03/07/2009
Student	Signature	Date

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

Habtamu Belete		03/07/09
Advisor	Signature	Date