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MODERN CONTRACEPTIVE PREFERENCE AND KAP STUDY AMONG WOMEN OF REPRODUCTIVE AGE GROUP (15-49) IN BAHIR-DAR TOWN AND PERIURBAN AREA, NORTH WEST ETHIOPIA, 2002

By

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1. B/R - Bahir-Dar
2. CBRHA – Community Based Reproductive Health Agent
3. CI - Confidence Interval
4. CPR - Contraceptive Prevalence Rate
5. CSA – Central Statistical Authority
6. DHS - Demographic Health Survey
7. FGAE - Family Guidance Association of Ethiopia
8. FGD - Focus Group Discussion
9. HHs - House Holds
10. MCM - Modern Contraceptive Methods
11. NGO – Non-Government Organization
12. OCP – Oral Contraceptive Pill
13. OR – Odds Ratio
14. PAs - Peasant Association
15. SD - Standard Deviation
16. STD - Sexually Transmitted Diseases
17. TFR - Total Fertility Rate
18. X^2 - Chi square

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ABSTRACT

This is a community-based cross-sectional comparative study conducted in Bahir-Dar town and periurban area in December 2002, North west Ethiopia with the purpose of assessing determinants related to modern contraceptive preference and KAP study among women of reproductive age group. A multistage sampling procedure was carried out to interview 892 women in both study areas. A pre -tested structured questionnaire complemented with focus group discussion were the main tools for data collection.

The study revealed that there is statistically significant difference between Bahir-Dar town and periurban area by: age, marital status, education, occupation, family size, monthly income, age at first marriage and birth, number of current and desired number of children. Ninety eight per cent of women in urban and ninety six percent of women in the periurban area have heard of modern contraceptives. Among respondents 10% knew at least one method and 19% knew three methods. The most popular modern contraceptive were oral pill, injectable and Norplant. More than 90% of respondents approved modern contraceptive use and 85% of women intend to use modern contraceptive in the future in both study areas.

The contraceptive prevalence rate in Bahir-Dar town was 37.7%, while in the periurban area it was 16.3%. Desire for more children in periurban and being single in urban were the major reason for non use of modern contraceptive methods, while desire for more children and preferred method is not available were the major reasons for use discontinuing in both study areas. Injectable was the most commonly preferred modern contraceptive (62.9%) both in urban and periurban followed by oral pill (30.1%) and Norplant (4.0 %) .

In multivariate analysis statistically significant associations were seen between higher knowledge and age, marital status, education, occupation and currently using methods. Attitude towards modern contraceptives in relation to age, marital status, education, and currently practicing methods was found to be statistically significant. Practicing of modern contraceptive method also showed significant association with socio demographic variables. In the analysis of preference: - age, marital status, education, occupation, and number of children showed statistically significant association with preference of oral pill and injectable, while preference of Norplant showed statistically significant association with age, marital status and number of children. Improving the quality of family planning service to satisfy clients in their method of choice and improving the service in periurban area by organizing Community Based Distribution family planning program under government health institutions are recommended.

1. INTRODUCTION

The world population is growing faster than ever before. The total world population in 1750 was about 791 million with annual growth rate below half percent. In 1998, the world population stood at 5.9 billion persons, growing at the rate of 1.3 % annually, and in 1999, it reached to 6 billion with the same annual growth rate. According to the United Nations official population estimates and projection in 2050 the world population will be in the range of 7.3 billion to 10.7 billion persons. About 96 per cent of the total annual population increase occurs in less developed regions. Africa is growing annually by 2.4 per cent, followed by Latin America and Caribbean which is 1.6 per cent and Asia 1.4 per cent. Only Northern America with 0.85 per cent, and Europe with 0.03 per cent exhibit growth under one percent per year (1).

Variations in fertility among the major areas of the world persist. The average number of births per woman in the less developed regions declined from 5.4 during 1970 – 1975 to 3.0 in 1995 – 2000. In the more developed regions, fertility declined from 2.1 births during 1970 - 1975 to 1.6 for the period of 1995 – 2000. According to United Nations 1998 revision of the world population Total Fertility Rate (TFR) range from 1.4 and 1.9 births per woman in Europe and Northern America, respectively. The highest TFR is observed in Sub Saharan Africa (5.48), followed by Latin America (3.1) and Asia (3.0). Given such uncontrolled population growth and its impact on the socio economic development of the society great emphasis has been given to family planning, which plays a substantial role to reduce fertility worldwide (2).

Family planning – is a decision made by an individual or couple about how many children one would like to have, when to start having children, when to stop having children and how long to rest between each pregnancy. The decision has to be made freely without any coercion, after the individual has been fully informed about the benefits of planning of family size, the methods one can use, the relative advantages of each of the methods as well as the expected side effects of all the methods described (3).

The International Planned Parenthoods Federation (IPPF) has played a great role in the expansion of family planning programs worldwide. Today the Federation works in over 140 countries, serving millions of clients. IPPF has adopted the concept of sexual and reproductive health agenda in its vision 2000. In 1994, the International Conference on Population and Development (ICPD) held in Cairo gave great attention to IPPF's reproductive and sexual health agenda. It emphasized people's right to reproductive health and most important quality service. Services should be accessible, acceptable, and convenient to all contraceptive users (4).

Moreover at the Fourth World Conference on women in 1995 (Beijing), it was agreed on the sexual and reproductive health issue. This conference reaffirmed that reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and limiting of their children and to have the information and means to do so. The right was formulated at the World Population Conference held in Bucharest in 1974 (5).

Every minute of every day at least one woman dies from complications of pregnancy and childbirth, a total of more than 585,000 deaths every year. Ninety nine per cent of these deaths occur in developing countries. Women in these countries face greater risks during pregnancy, childbirth, and the post partum period because they are more likely to deliver without trained assistance and have limited access to adequate medical care in the event of complications. In parts of Sub-Saharan Africa , there are more than 1,500 maternal deaths for every 100,000 live births; in U.S.A this ratio is 12 deaths per 100,000 live births (6).

Family planning can prevent at least 25 per cent of all maternal deaths by allowing women to prevent unintended pregnancies and unsafe abortions, and to protect themselves from sexually transmitted diseases including HIV. A study in Chile in 1960 revealed that, less than 3 per cent of married women were practicing family planning and the abortion rate was 77 per 1000 married women of reproductive age. By 1990, use of family planning had increased to 50 % of married women and the abortion rate had dropped to 45 per 1000. (7)
Approximately one in four births in the developing world are unwanted. At least 50 million induced abortions occur every year, however an estimated 20 million unsafe abortions take place every year in places where access to safe abortion is limited. Most of these abortions are performed in developing countries. The risk of death from unsafe abortion is one hundred to five hundred times greater than that for abortions performed under safe conditions. The World Health Organization estimated that about 70,000 women die each year as a result of unsafe abortion. Thousands more women suffer serious complications that can result in chronic pain and infertility (8)

Every day more than 31,000 children under five die in developing countries and more than 11 million children die every year. Babies born less 2 years after their next child are twice as likely to die in the first year than those born after an interval of at least two years (9). Although the overall proportion of births that are closely spaced has been declining since the 1970, it is still high in many countries. Analysis of data from 25 countries shows that on average infant mortality would be reduced by one quarter if all births were spaced at least two years apart (10).

Ethiopia – is considered to be one of most populous countries in Africa following Nigeria and Egypt. The growth rate, estimated at less than 0.5 % in 1900, increased to 2.0% in the 1950s, to 2.5% during the late 1970s, and to 2.9% in 1984 (11). According to the first census, in 1900 the population of Ethiopia was estimated to be 11.0 million and by 1994 it was about 53.5 million. Between 1999 and mid 2000, the population of Ethiopia was estimated to be 62 million with annual growth rate of 3 % (12).

The total current population is estimated to be 65,344,000 million with the same growth rate. Total fertility rate (TFR) - estimated to be 5.8 children per women, and infant mortality is 98.8 per 1000 live births, maternal mortality 450-500 per 100,000 live births (13) .

The 1990 nationwide population based family and fertility survey revealed that the TFR was 7.7 and the overall contraceptive prevalence rate was 4.8 among currently married and non- pregnant women of reproductive age. In 1999-2000 the estimated TFR was 6.5 (14).

In Ethiopia the contraceptive prevalence rate (CPR) for currently married women, using any method of family planning, is 8 per cent, while the CPR for modern methods is 6 percent. Current use of any modern contraceptives among currently married women in Ethiopia by residence place is found to be 28.3 % and 3.3% for urban and rural respectively (15).

Although the family planning services are available in most places, the national as well as the regional CPR is still low, in addition there is insufficient distribution of modern contraception and wide rage of modern contraceptive choice is also lacking to meet the demand of clients. Studies on contraceptive preference are rare in Ethiopia and non existent in Bahir-Dar and the surrounding area. Therefore this study tries to assess the determinants related to modern contraceptive preference and knowledge, attitude and practice of modern contraception.

2. LITERATURE REVIEW

Since the beginning of "Safe Motherhood Initiatives'' in 1987 several international governmental and nongovernmental organizations have worked together to reduce the toll of maternal illness and death. Although there has been a small reduction in the global risk of dying from pregnancy and childbirth, the total number has actually increased because the number of births increased. Family planning is an important component of safe motherhood initiatives, which received great attention throughout the world. This is because of the ever-expanding population, high maternal mortality, and increased economic and health care demands in the society (16).

Much progress has been made during the past twenty years to build global and national commitment to principles of individual choice in family planning. Professional medical and health associations worldwide have adopted ethical principles recognizing the importance of individual choice within and consent to health care. In addition the role of the client's right of choice and consent has been strongly endorsed by most nations of the world through support of the program of action of the 1994 International Conference on Population and Development (ICPD) in Cairo. " These rights rest on the recognition of the basic rights of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so" (17).

Contraceptive choice is a central element of quality of care in the provision of family planning services. It is also an important dimension of women's reproductive rights.

Consequently, the introduction of new fertility regulation technology into family planning programs often is advocated as a means of expanding women's options (18).

Bruce (1990) has specified that quality of care in family planning services may be assessed by :

(1) The choice of contraceptive methods offered

(2) The amount and quality of information given to clients

(3) The technical competence of providers

(4) Interpersonal relations between providers and clients

(5) The mechanisms instituted to encourage contraceptive continuity and

(6) The appropriateness of services rendered. (19)

Over the past 30 years, the development of modern contraceptive methods has given people greater individual freedom and enhanced their ability to plan their families (20)

In the provision of contraceptive methods, understanding how and why women make contraceptive choices is very important. Minimizing the likelihood of unintended pregnancy depends on maximizing use satisfaction; user effectiveness and continuation of use, by providing the methods of choice for that individual at that time (21)

2.1 Use of a method in the context of women's choice

A fourth genre of studies has attempted to understand women's decision making by exploring what methods women actually use when given a choice. Such studies either analyse differences between women who choose one method over another, or randomize women to one of two choices and afterwards evaluate their satisfaction with each of the methods.

Many of the early US studies that adopted this approach tended to focus narrowly on demographic and attitudinal differences among users (22). A review of US studies on contraceptive choice, for example, found that religious women were less likely to prefer the pill, intrauterine device (IUD) or sterilization than other women and Catholic women were more likely to choose barrier than Protestant women. African Americans are more likely to choose female sterilization and less likely to use coitus dependent methods than Whites (23).

A woman's preferences and tolerance for various methods attribute vary according to the type of relations and other aspects of her life. A recent global review of women's perspectives on fertility regulating devices concluded that almost universally, women need highly effective methods that are perceived to be safe and free of side effects. Beyond these factors, only direct involvement of the user in the choice of method, advance information on possible side effects, and spousal support have consistently predicted uptake and continued use of a method (24).

Over half of all couples in developing countries use contraceptive methods, compared to one in ten couples in the 1960s. On average, couples are having between three and four children, compared to six children thirty years ago (25). However, today at least 350 million couples do not have access to the full range of safe and effective modern methods of family planning or social support for its use. Surveys from more than sixty developing countries indicate that more than 100 million women who are not currently using contraceptive methods want to delay the birth of their next child or to stop childbearing altogether (5).

2.2 The availability of a range of contraceptives has the following advantages.

1- The number of different contraceptive methods offered on a consistent basis is important because access is enhanced when couples can choose from alternatives. Individuals vary in their personal preferences and in assessment of the risks and benefits of each. The contraceptive experience in many countries suggests that each additional method offered attracts a new group of contraceptive users.

2- A choice of methods is also important from a health perspective. Users naturally would prefer to use methods that are both absolutely safe and 100 per cent effective, but no method can guarantee to meet these requirements completely all of the time.

For instance many women find birth control pills satisfactory, while others experience unacceptable side effects (26).

3- The availability of a range of methods provides alternatives for individuals dissatisfied with their current choice of contraceptive. The ability to change methods is important since a third of all couples discontinue a method within a year of initiating use and about half discontinue use within two years.

4 - Access to a choice of contraceptive methods is a key element of quality of care in family planning. A greater choice of methods increases contraceptive continuation and effectiveness, as well as overall use of family planning .Thus expanded method choice also contributes to efforts to slow population growth and advance social and economic development (26).

A study done in East Java Indonesia on the effect of the client choice of contraceptive methods on contraceptive use among 617 married women attending family clinic found that 12 months after receiving contraceptive service, 25% of the women stated that they had been denied their first contraceptive choice. Of these 85% reported they had ceased practicing contraception. Thus the highest rate of discontinuation occurred when method choice was denied (women reported they had been given contraceptive method that differed from their own prior first choice) (20).

A Cross sectional focus group study that was undertaken in seven countries (Cambodia, India, Mexico, Pakistan, Peru, South Africa and U.S.A) regarding women's preference for contraceptives methods, showed that among women in Cambodia, Peru, Pakistan, and Mexico, preference for long acting methods such as injectables; IUD and Norplant was observed among older women and those with higher parity.

In India sterilization was preferred by the majority of women of reproductive age, as a standard for effectiveness. Women in South Africa also described a preference for injectables that would allow them to make less frequent visits to health facilities. Contraceptive effectiveness was highly valued by participants in all site and this was the principal reason for choosing method (27).

2.3 Women' s preferences among hormonal methods

Although many new contraceptives have been developed in recent decades demographic and health surveys (DHS) conducted worldwide showed that the hormonal pill is still the

most popular contraceptive method. In 21 African countries, 10 countries in Asia and 9 Latin America and Caribbean countries, the contraceptive pill was the most preferred method (39%, 30% and 27 % respectively) followed by injectables (27%, 15% and 11% respectively). However , injectables were preferred by more women in Africa than in the two regions. The reasons given for preference of oral contraceptive pill (OCP) were that it was easy to use, highly effective and could be used to regulate menstruation (5).

In Bangladesh and Thailand the monthly injectables have been widely used in the family planning program. An early evaluation of the Bangladesh family planning program stated that people liked injections better than pills, and that convenience, effectiveness, and suitability for lactating mothers were factors contributing to their popularity. In Thailand women preferred injectables because of the freedom from fear of forgetting pills, the ease, convenience, high effectiveness, and secret use possible (28).

In Indonesia, where the largest numbers of implant users worldwide are found, the main reason reported for selecting implants were that they were long lasting and convenient (29).

Other study done in United Kingdom (UK) in 1995 about women's contraceptive choices revealed that over half of the respondents preferred reversible methods of contraception i.e. OCP (22 %), male condom (16 %), IUD (6%). Other methods: diaphragm, cap; natural family planning were used by less than 5 % of the sample. Thirteen per cent of the women interviewed had been sterilized and 14% reported that their partner had had a vasectomy (21).

A study done at a university family planning clinic in Nigeria indicated that Norplant users were found to have more children and a higher educational level than oral contraceptive users. The authors suggest that Norplant was being used as an alternative to sterilization while women who still wanted more children were choosing the pill. (30).

A study conducted in more developed regions in 1990 showed that the three most commonly preferred methods were: pill (16%), condom (14%) and withdrawal (13%). In less developed regions: tubal legation (20%); IUD (13%), pill (6%) and vasectomy (5%). In countries, where trend data are available in both less and more developed regions, the greatest increase was in the use of tubal ligation (7.13%) among married women in the former and 3.7 % in the latter region. Tubal ligation accounts for most of the recent growth in prevalence in developing countries especially in Latin America and some countries of Asia. The IUD has also grown in prevalence and the preferred method in Egypt, Tunisia, and Vietnam (31).

A study done in China also showed that one half of all 15 – 49 year old married women who practiced contraception preferred to use IUD (32).

2.4 Contraceptive preference by characteristics of clients

A study done in rural South Africa on contraceptive prevalence among women of reproductive age group indicated that oral contraceptives was preferred by 43% of 15- 19 year olds but less than 20 % of 30 – 44 year old. In contrast reliance on injectables rises gradually with age peaking at about 65 % among women in their 30s. Female sterilization was most common (23.1%) among women in their 40s (33).

A study done in Kenya in 1996 showed that among 1076 modern contraceptive users OCP was preferred by younger users (15 – 24 years) (40%) and those with fewer children (1-3) than the IUD or injectables users. Injectables were preferred by older users (75%) with the largest family sizes (> 4). OCP users were single, while almost three-quarters of IUCD and injectables users were married (34).

Another study conducted in Nigeria in 1998 to identify factors determining the choices of contraceptives among 230 pregnant women attending the antenatal care revealed that 52.1% chose a natural method, 25.7% traditional, and 22.2 % modern contraceptives. The grand multipara ($\geq$ 5) group preferred to use IUD (14.3%) and injectables (4.8%). Women who desired 1-3 children most commonly preferred pill (23.5%). Reasons for choice of contraception were : safety, ease of use, husband's decision, fear of side effects (35).

A study done in Zimbabwe in 1999 indicated that the pill (76%) was the most commonly preferred method among women in the age group of 20 – 29 year while injectable was preferred by the age group of 25 –35, female sterilization among 35 -45 year of women (36).

Study done in Nigeria in 1995 indicated that the prevalence of contraception is lowest among young clients aged 15 – 19 but rises gradually among those in the 25 - 34 age group, declining again among the older clients. Less than 23% of the family planning users were illiterate while over 77% were literate and it has been observed that the more educated clients are, the more likely they are using family planning.

Clients living in urban area (66.1%) are more likely to use contraception than clients living in rural areas (33.9%). The correlation between family planning use and the number of children of the clients has shown that the use of contraception appears to increase with number of children a couple has up to the fifth child, but decreases slightly after the fifth child (37).

Many factors may influence modern contraceptive practice. For instance, a study done in Gaza, Palestine revealed that, 98% of women respondents favor family planning and 88% plan to use a contraceptive in the future, however 58 % of women of reproductive age group do not use any method, because of lack of knowledge, husbands' opposition, and fear of side effects (38).

2.5 Levels and trends of contraceptive use (as assessed in 1998)

Modern methods account for the majority of currently global contraceptive practice, almost nine out of every ten contraceptive users rely on a modern method. Female sterilization, intrauterine device (IUD) and oral pill account for more than two-thirds of all contraceptive practice worldwide. Globally, female sterilization (37 per cent) is the single most used methods and alone accounts for one-third of all contraceptive use worldwide. The IUD is used by 22 per cent and oral pill by 14 per cent of all contraceptive users (39). The use of modern contraceptive methods differs significantly between the more and less developed areas. In the less developed areas, modern methods account for a much larger

share of total contraceptive use (90 per cent) than in more developed areas (70 per cent). This is largely because certain traditional methods including withdrawal and various forms of the calendar rhythm methods are commonly used in the more developed regions. Nearly 400 million women in developing countries use family planning. Among the less developed areas, contraceptive prevalence rate (CPR) is lowest in Africa, where on average only one out of five married couples is currently using a contraceptive (39)

2.6 Family planning in Ethiopia

The introduction of modern family planning services in Ethiopia dates back to 1966, when the Family Guidance Association of Ethiopia (FGAE) was established as a non governmental and non profit organization to provide information, counseling and clinical services to families who voluntarily expressed their need and desire for spacing the birth of their children. By 1970 the association was accepted as an associate member of the International Planned Parenthood Federation. The family planning service was developed and further strengthened when the Ministry of Health integrated family planning with Maternal and Child Health in 1980 (40)

In July 1993 the government of Ethiopia officially launched a population policy that aims at harmonizing the fast population growth with economic development of the country, primarily by addressing the problem of high fertility. The policy proposed goals of reducing the total fertility rate to 4 and increasing the contraceptive prevalence rate (CPR) to 44 % by the year 2015 (41).

Studies in Ethiopia and elsewhere show that 30 per cent of all pregnancies are unwanted. Many women desperately resort to illegal abortion resulting in large number of maternal deaths. By preventing too early, too late, too close and too many pregnancies about 20 per cent of maternal deaths could be avoided every year in Ethiopia. (42).

According to the DHS Ethiopia 2000 report, 86.2% of currently married women in Ethiopia knew any methods and 85.3% knew at least one modern method. Currently married women, who are urban dwellers and who know at least one modern method were found to be 98%, while for rural residence it was 84.5% (15).

RATIONALE OF THE STUDY

- Despite the presence of a family planning service, the contraceptive prevalence rate (CPR) is still low (8%). According to DHS Ethiopia 2000, the national CPR is estimated to be 8.1 per cent for any method and 6.3 per cent for any modern method while for Amhara National Regional state CPR for any method is 7.5 per cent and for any modern method 6.6 percent. It could be an important determinant of sustained use of contraceptive, if contraceptive users were provided more freedom to choose their own contraceptive methods. Hence a great choice of methods increases contraceptive continuation as well as the overall use of family planning.

- Lack of modern contraceptive choice

Contraceptive choice is a key element of quality care in family planning service program. By helping each couple to find a method of their choice, it contributes to improved child spacing and enhances the health of mother and children.

The findings of this study may provide important information for family planning policy makers and program managers to improve the family planning service in the future, to identify risk factors for dropout and overall to increase client satisfaction.

3. OBJECTIVE OF THE STUDY

General objective

Assessment of determinants related to modern contraceptive preference and knowledge, attitude and practice of modern contraception among women of reproductive age group (15 – 19) in Bahir-Dar town and periurban area.

Specific objectives

1. To describe socio-demographic, economic and cultural factors influencing modern contraceptive practice among women of productive age group (15-49) in Bahir-Dar town and periurban area
2. To identify modern contraceptive preferences and its determinants
3. To assess knowledge, attitude and practice of modern contraceptive methods.
4. To determine the prevalence of modern contraceptive method among women of reproductive age group (15-49) in Bahir-Dar town and periurban area.

4. Methodology

4.1 Study design

A Community based cross-sectional comparative study was conducted.

This study includes both quantitative and qualitative type of studies.

4.2 Study area

The study was conducted in Bahir-Dar special zone and periurban area.

Bahir-Dar - is the capital city of Amhara National Regional State (ANRS). In ANRS there are 11 zones, and one of them is Bahir-Dar special zone. Bahir-Dar special zone is found in the northwest part of Ethiopia at 1801 meters above the sea level. The climatic condition is hot and wet. Total population size in 2001 estimated to be 138, 672 among which 65,536 and 73.136 are male and female respectively. Women of reproductive age group are estimated to be 41,509 (43).

There are 2 woredas and 17 kebeles. In Bahir-Dar there is one zonal hospital, one health center and one health station, which are under special zone department. In this study, a periurban area was selected for comparison with Bahr-Dar town. There are 14 peasant association (PAs), which are located within 10 – 15 Km radius from Bahir-Dar. Total population is estimated to be 190,000. Women of reproductive age group who are residents of this area utilize family planning services in nearby clinics or in health institution found in Bahir-Dar town. Family planning service is provided in government and non-government health institutions.

Quantitative study

4.3 Source population

In this study the source population was all women of reproductive age groups (15-49) who are residents of Bahir-Dar town and periurban area found within 10-15 Km radius to health institution found in Bahir-Dar town (B/ R). The study subjects were women of reproductive age group who were selected by multistage sampling procedures.

4.4 Sample size determination

The sample size was calculated using the formula for two population proportion with the following assumptions: The prevalence of preference on modern contraceptive methods among the study subjects in Bahir-Dar is not known, therefore it is assumed that the prevalence to be 50 % for Urban (P1) and 35 % for Periurban (P2).

Type 1 error = 5%

Power = 80%

Confidence level = 95%

$$n_1 = \frac{[Z\alpha/2\sqrt{(1+1/r)P(1-P)} + Z\beta\sqrt{P_1(1-P_1) + P_2(1-P_2)/r}]^2}{(P_1 - P_2)^2}$$

Where:

P =Pooled or weighted average of P_1 and P_2 $\rightarrow$ $P = \frac{P_1 + r P_2}{1 + r} = 0.4$

r = ratio of the two sample size(1:2)

$Z\frac{\alpha}{2}$ = The Z-score corresponding to 95 % confidence level = **1.96**

Z_{β} = The Z-score corresponding to Power = 0.84

n1 = 136(town) n2 =272 (periurban area)

Non-response rate = 10%

Design effect = 2

Sample required: n1 = 300(town) n2 = 600 (periurban area)

The total final sample size was 900

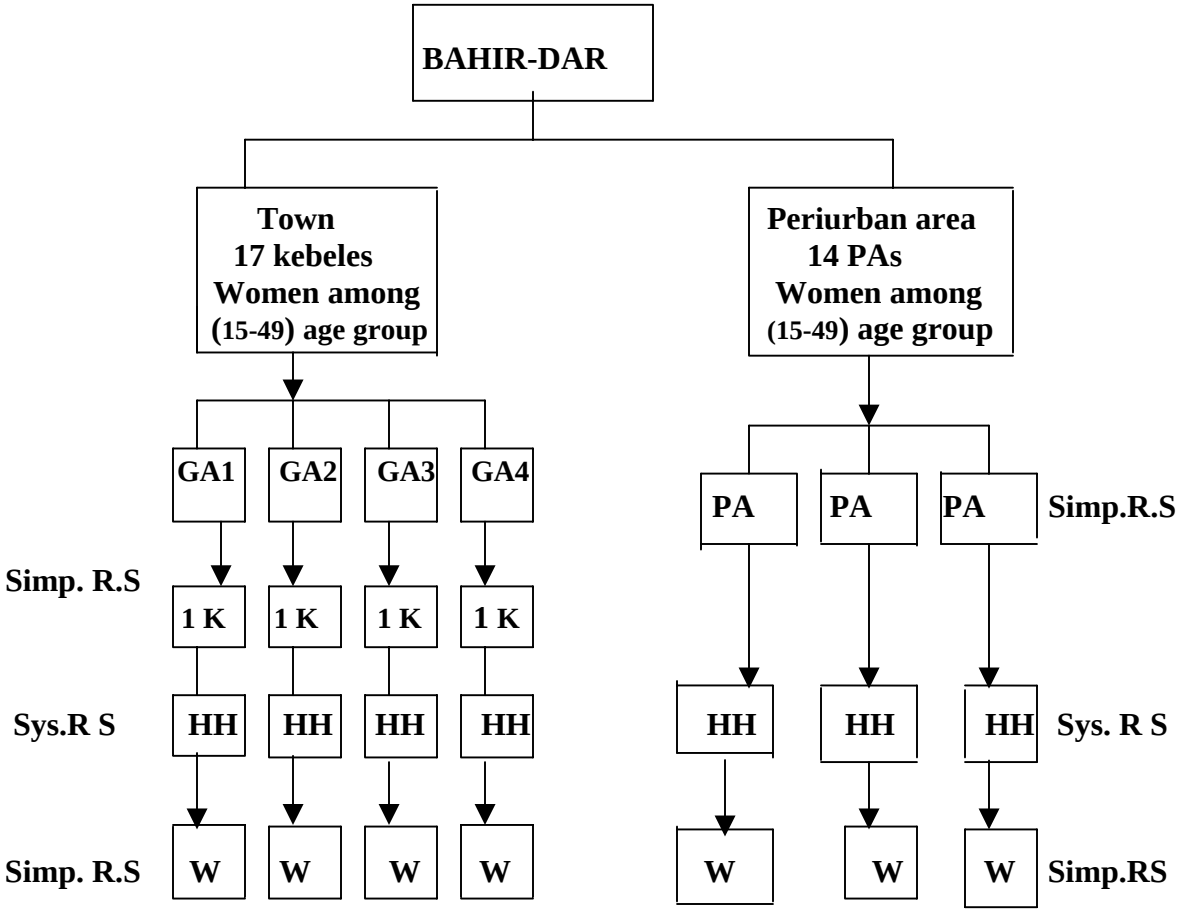
4.5 Sampling procedures

Selection of study subjects was carried out through a multistage sampling technique . In B/R there are a total of 17 kebeles. These total kebeles were stratified into four geographical areas (groups) based on the distance of the kebeles to health institution.

In the first stage one kebele was selected using simple random sampling from each geographical area (groups) to get a total of four kebeles. In the second stage systematic sampling procedures was employed to obtain required number of households (HHs) from each selected kebele. Finally from each of selected HHs one woman aged 15-49 was selected by simple random sampling methods.

From the periurban area out of 14 peasant associations, 3 (PAs) were selected by simple random sampling. The required number of households was obtained by using systematic sampling procedure, and then one woman of reproductive age group was selected from each selected household by simple random sampling technique.

Fig. 1 SAMPLING FRAME AND SELECTION HIERARCHY



KEY:

GA - Geographic area

K - Kebele

HH - House hold

W - Woman

Simp. RS - Simple random sampling

Sys R S - Systematic random sampling.

4.6 Data collection

Twelve 12th grade complete students have collected data using structured interview questionnaires.

The questionnaire was developed using questionnaire that was applied in different studies related to family planning previously. Other questions were carefully designed to elicit information with regard to the preference of study subjects with respect to types of family planning methods.

There were nine data collectors among them among them nine were females, and three were males. There were three supervisors who were nurses. Some of the interviewers had previous experience on data collection.

The interviewers were trained for 3 days on questions included in the questionnaires, detail of interviewing techniques, approach to interviewees, respect and maintaining privacy and confidentiality of respondents. They were also briefed on the objectives and importance of the study.

The questionnaire was initially prepared in English and then translated in to Amharic, and was back translated to English to check consistency. In addition, an interviewer's manual was prepared in English by principal investigator describing the duties and responsibilities. After training interviewers, a pretest was conducted in adjacent kebeles, which are not included in the actual study. Certain questions were corrected based on the pretest in order to make clear to both interviewees and interviewers.

4.7 Study variables

Independent variables

- **Demographic variables**: age, marital status, religion, family size, ethnicity and education
- **Socio- economic**: employment, monthly income
- **Reproductive history** : age at first marriage; age at first birth , parity, age at which modern contraceptive methods started to use.
- **Service delivery:** preference of the service delivery (government, NGO, private, Pharmacy)
- **Source of information** about modern contraceptive methods**.**

Dependent variables

- Knowledge; attitude and practice
- Preference of modern contraceptive methods.

4.8 Data Analysis

After data collection was completed, data entry and clearing was done using EPI- INFO version 6 and analyzed using SPSS version 10 statistical packages. During analysis frequencies of the different variables were determined, followed by cross-tabulation and chi-square test were used to compare frequencies.

P – value was utilized to see statistical significance on selected variables.

OR (with confidence interval) was used to measure the association between selected variables and to see statistical significance. Multiple regression analysis was carried out to assess the relative effect of explanatory variables to dependent variables

4.9 Data quality

- Proper training of interviewers and supervisors was made.
- The questionnaires were reviewed and checked for completeness, accuracy and consistency daily.
- The principal investigator supervised daily during the pre-test and actual study.
- Discussion was held with interviewers and supervisors daily.
- The questionnaire that was prepared in English was translated into Amharic and back translated to English to check consistency.
- Pre-testing and standardizing of the questionnaires were made.

Operational definition

Current user : -

A woman who is using modern contraceptive method at the time of the study.

Ever user : -

A woman who has practiced modern contraceptive methods sometime in the past but not using at the time of this study.

Non user : -

A woman who has never used modern contraceptive methods up to the date of interview.

Periurban area: -

An area, which is found within 10 – 15 Km radius from Bahir-Dar town.

Contraceptive prevalence rate (CPR) : -

Number of respondents currently using a family planning method / total number of respondents x 100

Intention to use modern contraceptive methods: -

Number of respondents currently using modern contraceptive methods as well as respondents, who are not using during the survey, but intended to use family planning methods in the future.

Higher knowledge: - A woman who scores 3rd quartile and above among the listed answer.

Questions with knowledge have equal grades, therefore first they were computed to know the frequency of points that have been answered, then dichotomized taking into consideration that higher knowledge is those who score third quartile and above.

Lower knowledge: - A woman who scores below 3rd quartile .

Ethical considerations

Ethical clearance was obtained from the Department of Community Health, Addis Ababa University. Permission also obtained from Amhara Regional Health Bureau, zonal health department, and other local authorities to conduct the study.

The purpose of study was discussed with respondents before the data collection. The right of respondents to refuse to participate in the study was thoroughly explained and informed consent was obtained from study subject.

Confidentiality of the respondents of this study was maintained and respected.

Qualitative study

In order to supplement the result of quantitative data, and to obtain much more detailed information or important issues that could not be quantified focus group discussion (FGD) were held at the end of data collection. Discussion was made with 6 focus groups and each group consisted of 6-8 participants who were selected from respective areas.

The key informants were selected from different categories including the following :

- Females in the age group 15-30 and who are single
- Females in the age group 15-30 who are married
- Females in the age group of 31-49 who are married/single
- Males group with 25 – 49 year of age
- Community elders and religious leaders
- Health care providers and zonal representatives.

A checklist was prepared to guide the discussion in such a way as to produce relevant information. FGD was held in quiet and comfortable place, and it took 2 – 2 and a half-hours with each group. The principal investigator was a moderator and there was one observer. All discussions which were recorded using a tape recorder and note was taken during discussion.

5. Results

5.1 General descriptive

A total of 900 women of reproductive age group from urban and periurban area were selected .Of these, data were collected from 892 women comprising 99.1% of the respondent rate. Eight women were non respondents. Out of the total 892 women of reproductive age group who have been interviewed during the study period, 297 were from Bahir-Dar town (urban) and 595 were from periurban area. The reasons for non response to survey questions were : 1) Husbands of two respondents opposed to conduct interview .

2) The rest six women refused to be interviewed by themselves.

Sociodemographic characteristics of respondents

Selected sociodemographic variables of the study subjects are summarized in Table 1. The age of interviewees ranged from 15 - 49 years. The mean age was found to be 26.9 with SD = 7.6 and 27.5 with SD = 7.4 for the town and periurban area women respectively. There was a statistically significant difference between Bahir-Dar town and periurban by age ($P<0.05$).The majority of women were Amharas by ethnicity, among which 95% in urban and almost 100% from periurban area. Five per cent from the town were Tigrie, Gurage, and Oromo. Above 80 % of women were Orthodox by religion from both study areas; while Muslims constituted only 15.5%; other religions were very few (<2%). Among the study groups, currently married women 59% were from urban and 85 % from periurban. Single constituted about 28.6 % and 4.2 % in both urban and periurban respectively. Divorced, widowed and separated comprised less than 12 % in each study area. This difference was found to be statistically significant ($P < 0.05$)

Table 1. Comparison of study subjects by socio demographic characteristics in Bahir-Dar town and periurban area , 2002

Variables	Urban n (%)	Periurban n (%)	X^2	P- value
Age (years)	**n = 297**	**n = 595**		
15 - 19	44 (14.8)	75 (12.6)		
20 - 24	89 (29.9)	147 (24.7)	15.73	0.015
25 - 29	75 (25.3)	131 (22.0)		
30 - 34	30 (10.1)	119 (20.0)		
35 - 39	30 (10.1)	59 (10.0)		
40 - 45	18 (6.1)	43 (7.2)		
46 – 49	11 (3.7)	21 (3.5)		
Mean ± SD	**26.85 ± 7.62**	**27.46 ± 7.47**		
Marital status				
Single	85 (28.6)	25 (4.2)	125.59	0.0001
Married	175 (58.9)	505 (84.9)		
Divorced	16 (5.4)	45 (7.6)		
Widowed	13 (4.4)	18 (3.0)		
Separated	8 (2.7)	2 (0.3)		
Ethnicity				
Amhara	282 (94.9)	595 (100.0)		
* Others	15 (5.1)	-		
Religion				
Orthodox	248 (83.5)	584 (98.2)		
Muslims	46 (15.5)	10 (1.6)		
‣ Others	3 (1.0)	1 (0.2)		
Education				
Illiterate	66 (22.2)	510 (85.7)	463.35	0.0001
read and write	13 (4.4)	52 (8.7)		
1 – 6 grade	55 (18.5)	21 (3.5)		
7 – 12 grade	143 (48.1)	11 (1.8)		
12 +	20 (6.7)	1 (0.2)		
Family size				
1 - 2	126 (42.4)	70 (11.8)	82.20	0.0001
3 - 5	121 (40.7)	284 (47.7)		
6 and above	50 (16.8)	241 (40.5)		
Mean ± SD	**3.03 ± 2.65**	**5.18 ± 2.70**		

* includes (Tigrie, Gurage and Oromo) ‣ (Protestant and Hawariat)

Table 2. Comparison of study subjects by economic variables in Bahir-Dar town and periurban area , 2002

Variables	Urban n (%)	Periurban n (%)	X^2	P- value
Occupation	**n = 297**	**n = 595**		
House wife	145 (48.8)	72 (12.1)		
Student	54 (18.2)	16 (2.7)	473.69	0.0001
Gov't and non-gov't Employee	33 (11.1)	2 (0.3)		
Private	35 (11.8)	29 (4.9)		
Unemployed	19(6.4)	5 (0.8)		
Farmer	11(3.7)	471 (79.2)		
Family monthly income (Birr)				
None (0)	59 (19.9)	20 (3.4)		
1 - 99	27 (9.1)	165 (27.7)		
100 – 199	55 (18.5)	280 (47.0)	286.01	0.0001
200 - 299	41 (13.8)	82 (13.8)		
300 - 399	30 (10.1)	41 (6.9)		
400 - 499	25 (8.4)	6 (1.0)		
> 500	60 (20.2)	1 (0.2)		
Mean $\pm$ SD	**255.04 $\pm$ 253.80**	**136.23 $\pm$ 81.99**		
No. of cattle				
None (0)	-	104 (17.5)		
One	-	43 (7.2)		
Two	-	87 (14.6)		
Three and above	-	361 (60.7)		

N.B respondents who were dependent on their relatives or parents , income considered as none (0)

In the town 78% of the respondent were literate, while in the periurban area 14% and 86% were literate and illiterate respectively. Literate group of women in both study areas have attained various level of education. There was a statistically significant difference between the town and periurban area by educational status ($P< 0.05$).

In the town 42.4% of respondents have 1-2 of family size and 17% have 6 and above. In periurban area almost half of the women have a family size of 3-5 and 41% have 6 and above. A statistically significant difference was seen by family size between urban and periurban respondents.

5.2. Economic characteristics

The highest family monthly income among urban respondents was 500 birr and above (20%), while for periurban the highest was in the range of 100-199 birr. A statistically significant difference existed between the town and periurban areas respondents in their family monthly income distribution ($P < 0.05$). (Table 2)

In the town 48.8% of women were housewives and among respondents who worked outside their home, self employed comprised 11.2% followed by government and non government employees (11.1%). Students were 18.5%, and unemployed constituted 6.4%. In the periurban total of 79% of women were farmers, followed by housewives (12%) and self employed (4.9). The others such as unemployed, government, and non-government employee comprised less than 1 % (Table 2). Statistically significant difference was seen in occupation between urban and periurban respondents ($P < 0.05$).

Table 3. Comparison of study subjects by reproductive characteristics in Bahir-Dar town and periurban area , 2002

Variables	Urban n = 297	Periurban n = 595	X^2	P - value
Age at first marriage	**n= 212**	**n = 570**		
7 – 9 (years)	5 (2.4)	76(13.3)		
10 – 14	35 (16.5)	298 (52.2)	201.26	0.0001
15 - 19	113 (53.3)	186 (32.5)		
20 and above	59 (27.8)	10 (1.8)		
Mean ± SD	**17.25 ± 3.91**	**12.65 ± 3.23**		
Ever been pregnant	**n = 297**	**n = 595**		
Yes	201 (67.7)	563 (94.6)	114.85	0.0001
No	96 (32.3)	32 (5.4)		
Wanted pregnancies	**n = 201**	**n = 563**		
Yes	179 (89.1)	505 (89.7)	0.01	0.90
No	22 (10.9)	58 (10.3)		
Age at first birth	**n = 201**	**n = 563**		
< 15	13 (6.4)	50 (8.9)		
16 – 18	47 (23.4)	353 (62.7)	135.91	0.0001
19 – 21	84 (41.8)	132 (23.4)		
22 – 24	38 (18.9)	21 (3.7)		
25 and above	19 (9.5)	7 (1.2)		
Mean ± SD	**20.11 ± 3.14**	**17.71 ± 2.07**		
History of still birth	**n = 201**	**n = 563**		
Yes	11 (5.5)	54 (9.6)	2.72	0.09
No	190 (94.5)	509 (90.4)		
History of induced abortion	**n = 201**	**n = 563**		
Yes	23 (11.4)	77 (13.7)	0.47	0.49
No	178 (88.6)	486 (86.3)		
No. of current children	**n = 201**	**n = 563**		
None (0)	6 (3.0)	-		
1 – 2	117 (58.2)	233 (41.4)	25.29	0.0001
3 – 4	52 (25.9)	168 (29.8)		
5 and above	26 (12.9)	162 (28.8)		
Mean ± SD	**2.4 ± 1.75**	**3.3 ± 2.0**		
No. of desired children	**n = 297**	**n = 595**		
1 - 2	93 (31.3)	24 (4.0)		
3 - 4	157 (52.9	187 (31.4)		
5 - 6	36 (12.1)	228 (38.3)	235.85	0.0001
7 - 8	8 (2.7)	98 (16.5)		
9 – 12	3 (1.0)	58 (9.7)		
Mean ± SD	**3.45 ± 1.49**	**5.59 ± 2.13**		

5.3 Reproductive characteristics

In the study group, it was found that women married for the first time as early as 7 years old and as late as 26 years of age. The mean age at first marriage in urban respondent was found to be 17.25 with SD = 3.9, while for periurban respondents the mean age was found to be 12.65 with SD= 3.2. A statistically significance difference was seen in age at first marriage between urban and periurban women ($P < 0.05$) (Table 3)

Out of 201 women in the urban area, their age at the time of first birth range from less than 15 (6.4%) to 25 years and above (9.5%). The mean age was 20 with SD= 3.14.

Out of 563 women in the periurban area their age at the time of first birth range from less 15 (8.8%) to 20 years and above (1.2%). The mean age at first birth was found to be 17 with SD =2.0. There was a statistically significant difference in age at first birth between urban and periurban women. ($P<0.05$)

In the present study it was found that age at first contraceptive use among urban women from 17-19 years was 28 %, while among periurban women the same age group was 16.3%. The highest percentage was found among women aged between 20 –24 in urban area 41%, and periurban area 32% respectively.

Women who had a history of induced abortion were 11.4% in the town and 13.6% in periurban area respectively. Among respondents (n=201) in town 5.5%, and 10% in periurban area (n=563) have had history of stillbirth. There was no statistically significant difference in the history of stillbirth and induced abortion between urban and periurban areas.

The average number of current children per woman in the town was 2.4 with SD = 1.75 and 3.3 with SD= 2.0 in periurban respectively. Percentage of women who had 5 and above children in urban was found to be 12.9%, while in periurban comprised 29% ($P<0.05$). The average number of children women desire to have was found to be 3.4 with SD =1.4 in urban, and 5.5 with SD=2.1 in periurban respectively ($P<0.05$). (Table 3)

5.4 Knowledge of modern contraception

Ninety-eight per cent of women in urban and ninety-six percent of women in periurban had heard of modern contraceptive methods. Ten per cent of women of both study areas mentioned at least one method and 47 % of women knew two and 18% knew three modern contraceptive methods. (Table 4)

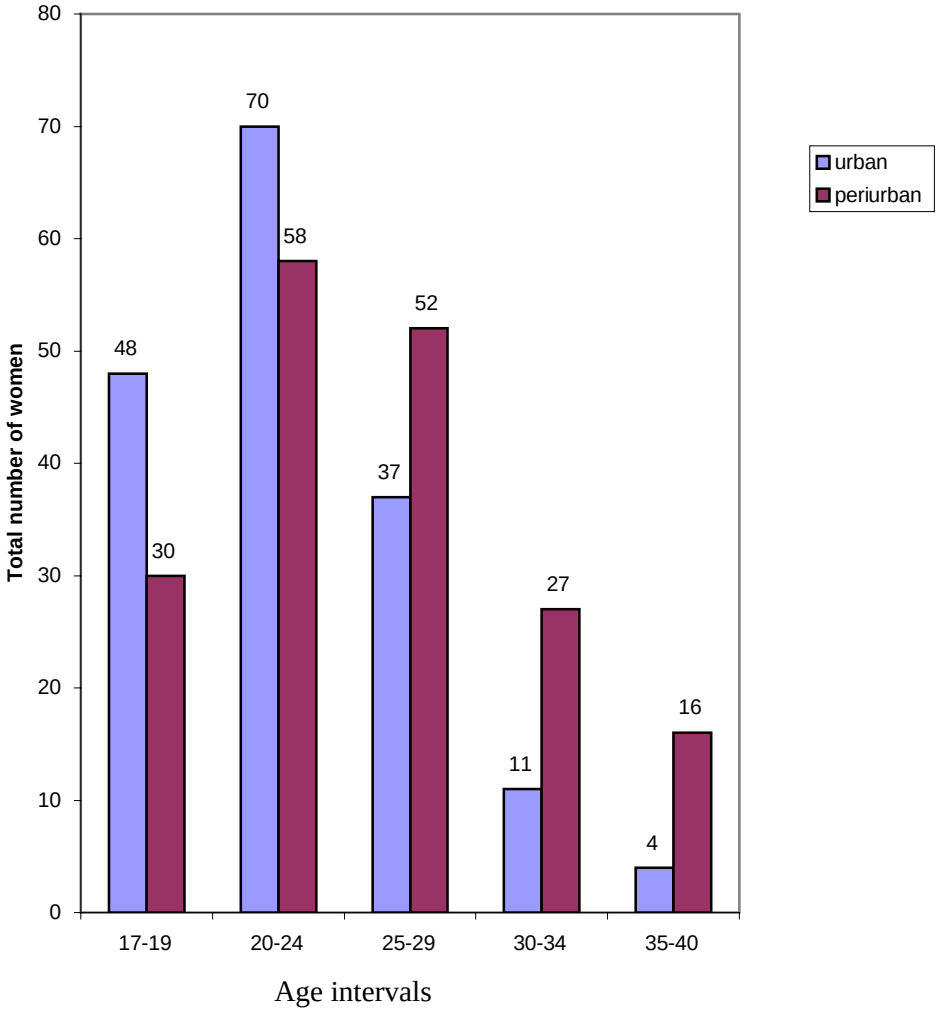
Reason for using MCM by women

In order to asses the knowledge of family panning methods, respondents were asked why women are using contraception and 95% respondents in the town and 93% of respondents in periurban areas reported that for child spacing while 89% in the town and 57.4% in periurban area reported for prevention of unwanted pregnancy followed by child limiting (49% Vs 31%) (Table 4)

The most frequently mentioned source of knowledge of modern contraceptive methods in Bahir-Dar town was through mass media (69.8%), secondly by government health facilities (66.0%), followed by school (35.7%). In periurban area, the majority of respondents reported that government health institutions (62.3%) , followed by relatives (52.3%)and friends (14.4 %) were the sources of knowledge of modern contraceptive methods (Table 4).

Fig. 2

Distribution of age at first contraceptive use among women of reproductive age in Bahir-Dar town and periurban area,2002



KEY:

Age (years)	Urban (n=170)	Periurban (n=183)
17-19	48 (28.2%)	30 (16.3%)
20-24	70 (41.1%)	58 (31.6%)
25-29	37 (21.7%)	52 (28.4%)
30-34	11 (6.4%)	27(14.7%)
35-40	4 (2.3%)	16 (8.7%)

Table 4 . Comparison of knowledge and practice of modern contraception among study subjects in Bahir-Dar town and periurban area, 2002

Variables	Urban n (%)	Periurban n (%)	X^2	P –value
- Women's knowledge of MCM	n = 297	n = 595		
Yes	291(98.0)	575 (96.6)	0.83	0.36
No	6 (2.0)	20 (3.4)		
- Reason for using MCM by women	‣ n	‣ n		
Child spacing	277 (95.2)	532 (92.5)		
Prevention of unwanted pregnancy	285 (88.7)	330 (57.4)		
Child limiting	142 (48.8)	177 (30.8)		
Prevention of STD	137 (47.1)	56 (9.7)		
Medication	24 (8.2)	3 (0.5)		
- Practice of MCM	n = 297	n = 595		
Current user	112 (37.7)	97 (16.3)		
Non- user	127 (42.8)	412 (69.2)	64.2	0.001
Ever user	58 (19.5)	86 (14.5)		
-Source of information about MCM	‣ n	‣ n		
Gov't health facility	192 (65.9)	358(62.3)		
Private health facility	69(23.7)	66 (11.5)		
Non-gov't health facility	58 (19.9)	64 (10.8)		
Mass media	203 (69.7)	81 (14.1)		
News paper, magazine	100 (34.4)	6 (1.0)		
School	104(35.7)	17(3.0)		
Husband	55 (18.9)	42 (7.3)		
Friend	89 (30.9)	278 (48.3)		
Relatives	43 (14.8)	301 (52.3)		

Note : ‣ n totals greater than 297 & 595 and percentage more than 100; since respondents can mention more than one reason. MCM – modern contraceptive methods

The reason why women of reproductive age group utilize modern contraceptive methods, 95% of respondents from urban reported: for child spacing (95%), followed by prevention of unwanted pregnancy (88.7%), prevention of STD and child limiting (47%). In periurban, the most frequently mentioned reason were child spacing (92%) , and secondly prevention of unwanted pregnancy (57%), followed by child limiting (30%).

5.5 Attitudes toward modern contraception (Table 5)

More than 90 % of women approve use of modern contraceptive and among these 96 % were from urban and 90 % were from periurban. More than half of the women believed that their husbands approve family planning too. There was statistical significant difference between urban and periurban women in their attitude toward family planning ($P < 0.05$).

However 9.4% and 29.7% from urban and periurban respectively reported that their husbands disapproved use of MCM, while 5.4 % and 7.9 % respondents in urban and periurban respectively said that, they don't know about husbands' attitude towards MCM (table 5) ($P < 0.05$). Regarding the question desire to know about MCM, 90% in urban and 78% in periurban have positive attitude ($P < 0.05$).

The majority of respondents reported that their cultural belief supported the use of family planning methods by couples, on the other hand 31 % in periurban and 14% in urban reported their cultural belief opposed use of MCM. There was statistical difference in the cultural belief between two areas ($P<0.05$).

Table 5 Comparison of study subjects by attitude towards modern contraception in Bahir-Dar town and periurban area , 2002

Variables	Urban n = 297	Periurban n = 595	X^2	P - value
- Desire to know about MCM				
Yes	267 (89.9)	464 (78.0)	18.22	0.0001
No	30 (10.1)	131 (22.0)		
- Decision of family size				
NA	85 (28.6)	30 (5.0)		
Wife	34 (11.4)	101 (17.0)		
Husband	9 (3.0)	59 (9.9)		
Both	166 (55.9)	394 (66.2)	105.99	0.0001
Parents	3 (1.0)	11 (1.8)		
- Women's approval of MCM use				
Yes	284 (95.6)	537 (90.3)	7.08	0.0001
No	13 (4.4)	58 (9.7)		
- Husband's / partner's attitude towards M CM				
NA	86 (29.0)	45 (7.9)		
Approves	160 (53.9)	312 (52.4)	99.18	0.0001
Disapproves	28 (9.4)	177 (29.7)		
Neutral	7 (2.4)	14 (2.4)		
Don't know	16 (5.4)	47 (7.6)		
- Cultural belief about use of MCM				
Supported	254(85.5)	407 (68.4)	30.55	0.001
Opposed	42 (14.1)	186 (31.3)		
No response	1 (0.3)	2 (0.3)		
- Too large family is harmful for general well being of the children				
Agree	294 (99.0)	556 (93.4)	12.37	0.0004
Disagree	3 (1.0)	39 (6.6)		
- Intention to use MCM in the future				
Yes	263 (88.6)	507 (85.2)	1.60	0.20
N0	34 (11.4)	88 (14.8)		

NA – not applicable

their cultural belief oppose use of MCM. There was statistical significant difference in their cultural belief between two areas (P< 0.05) .

All respondents were asked to answer the question " do you intend to use MCM in the future", more than 85 % of women replied they intend to use in the future, only 13% on average reported that they did not intend to use in the future. There was no statistically significant difference in their intention to use MCM between both study areas (P> 0.05). (Table 5)

Regarding decision of family size, 55.9% of women in urban and 66.2% of women in periurban areas reported that both husband and wife make decision of family size, followed by decision made by wife only 11.4% Vs 17% in urban and periurban respectively (P<0.05). This study revealed that 59% in urban and 48% in periurban reported that they discussed family planning with their husbands/ partner prior to interview, while others did not.

5.6 Practice of Modern contraceptive

The level of knowledge of modern contraceptive methods were relatively high and attitudes toward MCM were also positive, but the level of actual use of contraception is low. The contraceptive prevalence rate (CPR) in Bahir-Dar town is 37.7 % and 16.3% in periurban. Nonusers (n=539) were much more(60.4%)than current users (n=209)(23.4%)

This shows there the gap between knowledge and current use of modern contraception. The average age of starting modern contraception was 22.8 with SD=4.5 in urban and 25.5 with SD =5.7 in periurban respectively. Twenty-eight percent in urban and 16% in periurban areas started to use MCM between 17-19 years of age, while 2.3% in urban and

8.7 %in periurban areas started at the age of 35 –40 (Fig 2). A statistically significant difference existed in the age at which MCM was started to use in both study areas ($P<0.05$). The mean time to reach a health institution for family planning service in the town was 23.54 minutes (SD=17.92), while for the periurban area it was 99.9 minutes (SD=40.6). There was a statistically significant difference between urban and periurban women in the time to reach health institution ($P<0.05$).

5.6.1 Types of contraception currently used

The oral contraceptive pill was the most commonly used method by 60% of women in both urban and periurban areas .The second most commonly used method was injectables (38%). The least used method were: Condom, IUD and Norplant. Study subjects did not use the diaphragm, spermicide, tubal ligation, and vasectomy (Fig.3).

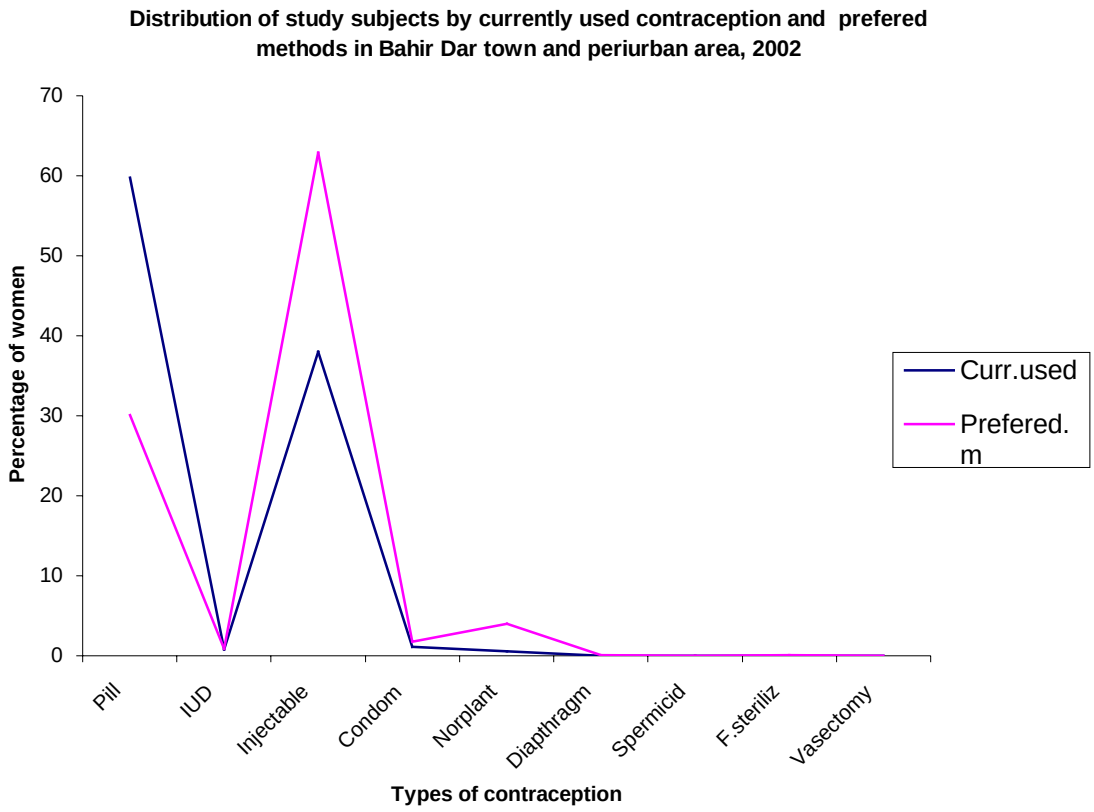
5.6.2 Reason for current use of modern contraception

The most commonly mentioned reason for using contraception among currently users was child spacing 52% in the town and 61% in periurban area , followed by child limiting (24% Vs 28%) and prevention of unwanted pregnancy .

5.6.3 Reason for non-use of MCM

Various reasons were given for not using MCM during interview. The majority of women mentioned more than one reason . In urban the most common reason mentioned was no husband /partner during interview (44%), and second frequently mentioned reason was

Fig.3



Key: Currently used (n=353) Preferred method **(**n= 770)

Place	Pill	IUD	Injectable	Condom	Norplan	Diaphrag	Spermc	Fem sterl	Vasect
Currently used	59.8 %	0.8%	38.0 %	0.6%	1.1%	-	-	-	-
Preferred method	30.1 %	0.9%	62.9%	4.0	1.8	0.1	-	0.1	-

religious taboo (18%), followed by desire to have more children (15%), and other reasons constituted small proportions.

Respondents from periurban area who desired more children were the most common reason cited by 58%, and the second reason was lack of knowledge (43%), followed by religion taboo (35%) and cultural taboo (26%). A statistically significant difference was seen between urban and periurban in their reasons ($P<0.05$)

5.6.4 Reason for discontinuing of MCM

In both study areas the most common reason mentioned was desire to have more children , followed by preferred method is not available .

5.6.5 Ever use of modern contraception

The ever use of modern contraceptive methods among respondents was 19.5% of women in urban and 14.5% in periurban area.

The majority of women in both study areas, who discontinued use of MCM, have mentioned different reasons. Here also the majority of respondents cited more than one reason. Desire for more children was the most frequently mentioned reasons, followed by preferred methods were not available and medical problems.

5.7 Preference of modern contraceptive methods

The study revealed that the most commonly preferred modern contraceptive method was injectable in both urban (46.8%) and periurban area (71.2 %); The second most commonly preferred method was oral contraception , 41.1% and 24.5% in urban and periurban areas respectively. Norplant (4.9 %Vs 3.6 %) , condom (4.2 % Vs 0.6 %) , and IUCD (2.3 % Vs 0.2 %) were the least preferred methods . (Fig. 4).

A statistically significant difference was seen in their preference of MCM between urban and periurban ($P< 0.05$) .

Ninety (53%) of respondents in Bahir-Dar town and eighty four (46%) of respondents in periurban area get contraceptive methods according their choice .

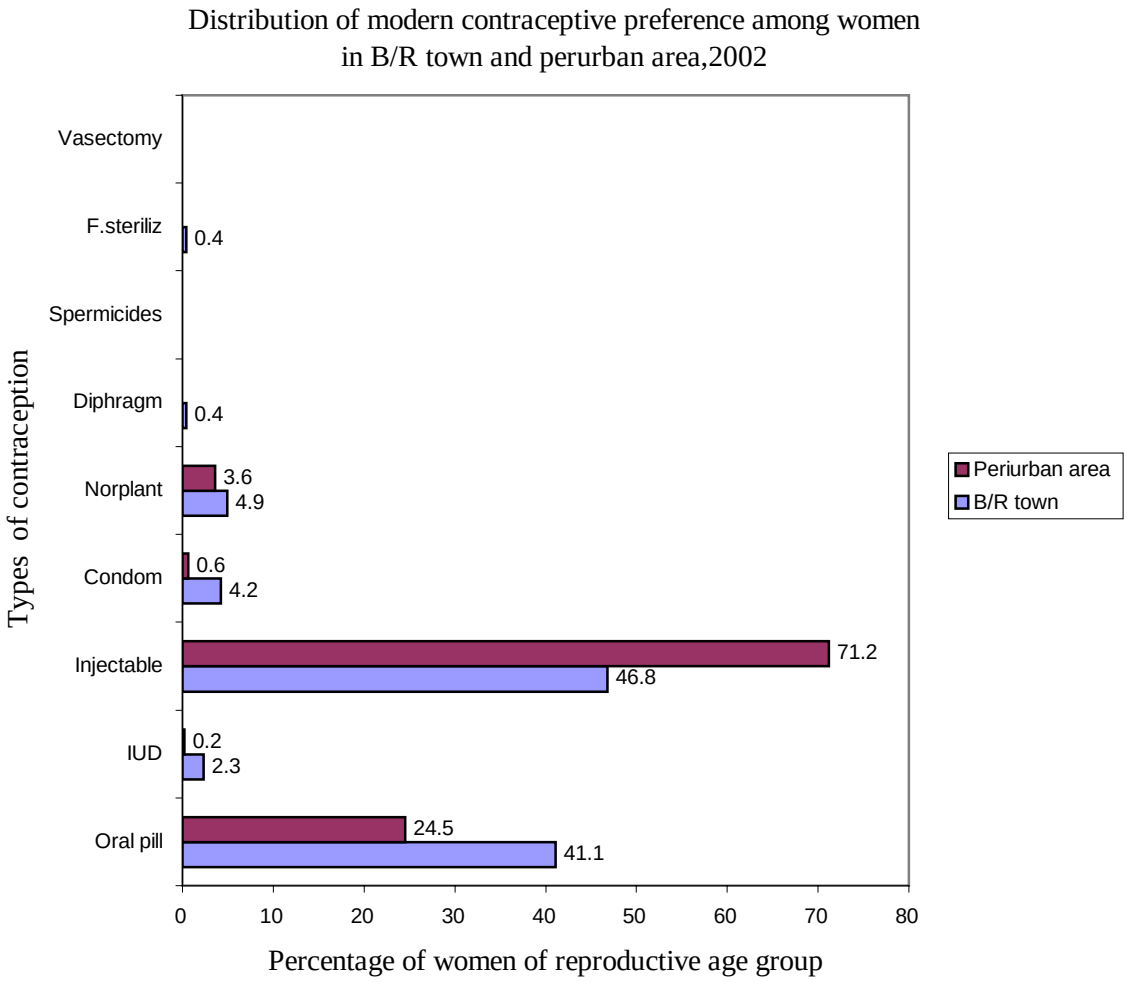
Source of supply of modern contraception.

The major source of supply of MCM in periurban were government health institutions (62.6%) and the second most important source of supply was found to be FGAE (30.6 %) followed by Marie Stopes International clinic (4.9%), and in urban also similar findings (40%, 38 % and 10 % respectively). (Fig. 5)

Preference of health facilities to get family planning service.

The majority of respondents in urban (>50%) and in periurban (>80%) preferred government health institutions followed by FGAE (33% in urban and 14% in periurban). Others (Private clinic and pharmacy) constituted least proportion.

Fig.4

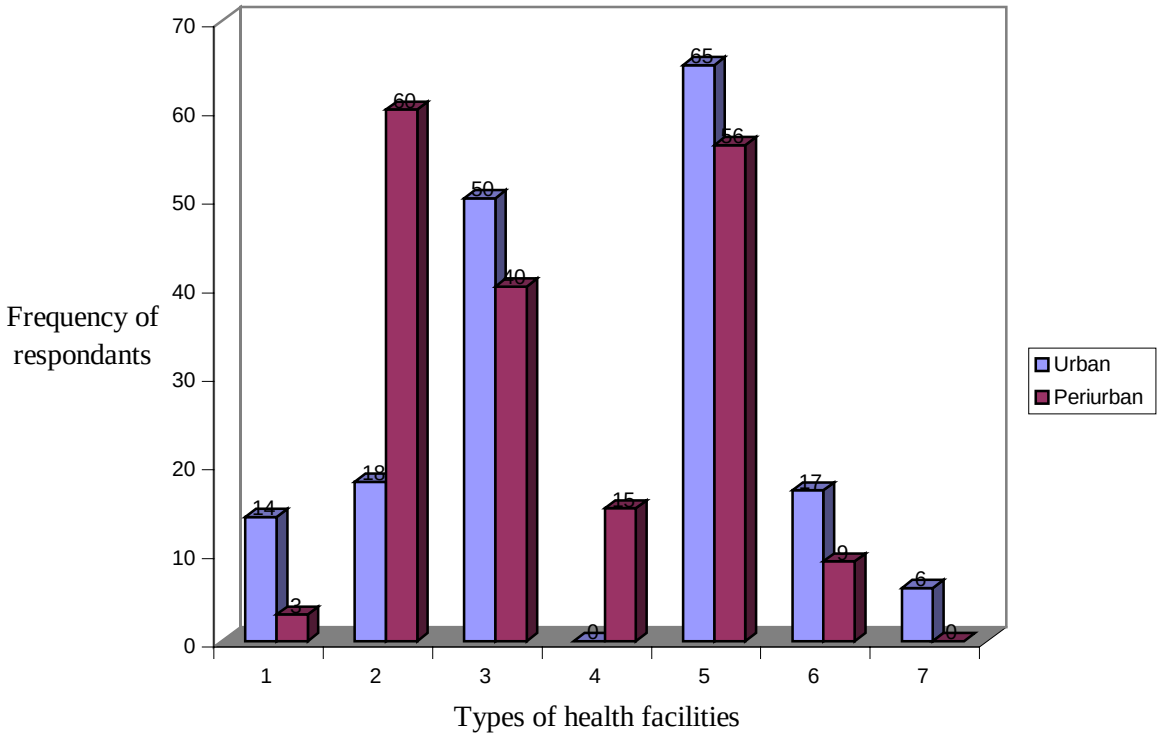


Key: B/R town (n=263) Periurban area (n= 507)

Place	Pill	IUD	Injectable	condom	Norplan	Diaphrag	Spermc	Fem sterl	Vasect
B/R Town	41.1 %	2.3 %	46.8 %	4.2 %	4.9 %	0.4 %	-	0.4 %	-
Periurban area	24.5 %	0.2%	71. 2 %	0.6 %	3.6 %	-	-	-	-

Fig. 5

Source of modern contraceptive methods by type of health facilities in Bahir-Dar and periurban area ,2002



Key:	**Urban (n=170)**	**Periurban (n=183)**
1- Private clinic	14 (8.2%)	3 (1.6%)
2- Gov't hospital	18(10.5%)	60(32.7%)
3- Health center	50(29.4%)	40 (21.8%)
4- Gov't clinic	0	15 (8.1%)
5- FGAE	65(38.2%)	56 (30.6%)
6- Marie Stops International	17 (10%)	9 (4.9%)
7- Pharmacy/ drug vendor	6 (3.2%)	0

Logistic regression analysis

To see the relative effect of independent variables on the dependent variables, logistic regression analysis was carried out using SPSS version 10. This was done to control for the effects of possible confounding factors to knowledge, attitude, practice, and preference of modern contraception methods.

Preference of modern contraception

Oral pill (Table 6)

In the analysis of independents variables in relation to preference of modern contraception the following results were found: women whose age is between 15-24 are 1.24 times more likely than women in age group of 35- 49 to prefer oral pill. This was statistically significant. Single women are more likely to prefer oral pill than others (divorced, widowed, separated) women. Among occupation categories government and non-government employee are as 2 .08 times more likely than farmer to prefer oral pill. This was statistically significant. Women who have 0-2 children are more likely to prefer oral pill than those women with 5 and above children.

Injectable (Table 7)

Respondents, whose age is between 25-34 years, are 1.83 times more likely than those women between 15-24 to prefer injectable. Married women are also more likely to prefer injectable than single women. Women who have 3-4 children are 2.54 times more likely than women with 0-2 children to prefer injectable. Again women with 5 and above children are 2.47 times higher than those with few (0-2) children prefer injectable. Among occupation categories, being government and non-government employee are more likely to prefer injectable. All the above mentioned results were statistically significant.

Table 6. Preference of oral pill among study subjects in relation to selected variables in Bahir – Dar town and periurban area , 2002.

	Oral pill n= 770			
Variables	**Yes**	**No**		
	n (%)	**n (%)**	**Crude OR (95% C.I)**	**Adjusted OR (95% C.I)**
Age				
15-24	117 (36.8)	201 (63.2)	1.87 (1.16 , 3.02)*	1.24 (1.18 , 2.46)*
25-34	82 (26.2)	231 (73.8)	1.14 (0.70 , 1.86)	0.85 (0.50 , 1.46)
35-39	33 (23.7)	106 (76.3)	1.00	1.00
Marital status				
Single	46 (46.5)	53 (53.5)	1.67 (0.88, 3.20)	1.33 (1.17 , 5.80)*
Married	158 (26.8)	431(73.2)	0.71 (0.42 , 1.19)	1.51 (0.80, 2.85)
Others	28 (34.1)	54 (65.9)	1.00	1.00
Religion				
Orthodox	213 (29.8)	502 (70.2)	0.80 (0.44, 1.49)	0.65 (0.30 , 1.40)
Muslims & others	19 (34.5)	36 (65.5)	1.00	1.00
Ethnicity				
Amhara	225 (29.7)	533 (70.3)	3.32 (0.89, 13.37)	2.91 (0.57 , 14.79)
Others	7 (58.3)	5 (41.7)	1.00	1.00
Education				
Illiterate	119 (24.7)	363 (75.3)	1.00	1.00
Primary	36 (29.5)	86 (70.5)	1.28 (0.80 , 2.03)	1.74 (0.87,3.44)
Sec. & higher	77 (46.4)	89 (53.6)	2.64 (1.80 , 3.88) *	1.74 (0.85,3.53)
Family size				
1-2	68 (39.5)	104 (60.5)	2.29 (1.49 , 3.60)*	1.50 (0.64,3.49)
3-5	110 (31.0)	245 (69.0)	1.57 (1.06 , 2.33)*	1.00 (0.56,1.78)
6 and above	54 (22.2)	189 (77.8)	1.00	1.00
No. of current Children				
0-2	144 (37.7)	238(62.3)	2.09 (1.35,3.23)*	1.72 (1.57 , 1.92)*
3-4	50 (22.8)	169 (77.2)	1.02(0.61,1.69)	1.39 (0.76 , 2.56)
5 and above	38 (22.5)	131 (77.5)	1.00	1.00
Occupation				
House wife	59 (31.4)	129 (68.6)	1.47 (0.98 , 2.19)	0.87 (0.53 , 1.42)
Student	37 (56.9)	28 (43.1)	4.24 (2.39,7.54)*	1.51 (0.27 , 8.28)
Gov. & non- gov. employee	14 (43.8)	18 (56.3)	2.49 (1.13, 5.50)*	2.08 (1.05 , 4.12)*
Private	16 (30.2)	37 (69.8)	1.39 (0.70, 2.71)	0.78 (0.34 ,1.77)
Unemployed	9 (37.5)	15 (62.5)	1.92 (0.75, 4.85)	0.68 (0.08, 5.56)
Farmer	97 (23.8)	311 (76.2)	1.00	1.00

N.B * Statistically significant

Table7. Preference of injectable among study subjects in relation to selected variables in Bahir – Dar town and periurban area , 2002.

	Injectable n= 770			
Variable	**Yes**	**No**		
	n (%)	**n (%)**	**Crude OR (95% C.I)**	**Adjusted OR (95% C.I)**
Age				
15-24	182 (57.2)	136 (42.8)	1.00	1.00
25-34	212 (67.7)	101(32.3)	1.57 (1.12,2.20)*	1.83(1.70,2.56)*
35-39	90 (64.7)	49 (35.3)	2.27 (0.89, 2.12)	0.87 (0.53, 1.43)
Marital status				
Single	42 (42.4)	57 (57.6)	1.00	1.00
Married	396 (67.2)	193(32.8)	2.78 (1.77 , 4.40)*	2.88(2.21,4.75)*
Others	46 (56.1)	36 (43.9)	1.73 (0.92, 3.27)	0.65 (0.35,1.19)
Religion				
Orthodox	451 (63.1)	264 (36.9)	1.14 (0.63, 2.06)	1.68 (0.82 , 3.42)
Muslims & others	33 (60.0)	22 (40.0)	1.00	1.00
Ethnicity				
Amhara	479 (63.2)	279 (36.8)	2.40 (0.68 ,8.80)	0.53 (0.10,2.65)
Others	5 (41.7)	7 (58.3)	1.00	1.00
Education				
Illiterate	340 (70.5)	142 (29.5)	1.00	1.00
Primary	74 (60.7)	48 (39.3)	0.64 (0.42 , 0.99)*	0.54 (0.28,1.05)
Sec. & higher	70 (42.2)	96 (57.8)	0.30 (0.21, 0.45)*	0.61 (0.31,1.20)
Family size				
1-2	85 (49.4)	87 (50.6)	1.00	1.00
3-5	225 (63.4)	130 (36.6)	1.77 (1.20,2.61)*	0.90 (0.41, 2.00)
6 and above	174 (71.6)	69 (28.4)	2.58 (1.68,3.97)*	1.19 (0.69,2.06)
No. of current Children				
0-2	198(49.7)	200 (50.3)	1.00	1.00
3-4	161)78.5)	44 (21.5)	3.70 (2.47, 5.55) *	2.54 (1.49,3.18)*
5 and above	125 (74.9)	42 (25.1)	3.01 (1.98, 4.58) *	2.47 (1.80, 3.12)*
Occupation				
House wife	113 (60.1)	75 (39.9)	0.58 (0.39, 0.84)*	0.32 (0.20,1.85)
Student	21 (32.3)	44 (67.7)	0.18 (0.10, 0.33) *	0.49 (0.22, 2.68)
Gov. & non- gov. employee	14 (43.8)	18 (56.3)	0.30 (0.13, 0.65)*	1.38 (1.18,2.80)*
Private	30 (56.6)	23 (43.4)	0.50 (0.27, 0.93)*	1.14 (0.36 , 3.61)
Unemployed	11 (45.8)	13 (54.2)	0.32 (0.13, 0.80)*	0.30 (0.16,2.44)
Farmer	295 (72.3)	113 (27.7)	1.00	1.00

N.B * Statistically significant

Norplant (Table 8)

Women whose age is between 35-49 are 1.4 times more likely than those in the age group of 15-24 to prefer Norplant. Married women also more likely to prefer Norplant (OR= 1.18) than single. Women who have 3 – 4 children are 1.45 times more likely than women with 0-2 children to prefer Norplant, and women with 5 and above children are also 3.14 times higher than women who have 0-2 children to prefer Norplant. All these findings were found to be statistically significant. Others modern contraceptive methods (Condom, diaphragm,) were not found to have significant association in relation to explanatory variables.

Knowledge (Table 9)

The result of this analysis showed that the respondent's age between 25 – 49 was found to be statistically significant, showing that this age group is more likely to have higher knowledge of modern contraception than 15 – 24 age group. However married women and others are less likely to have higher knowledge than single. This was statistically significant.

Women with secondary and higher education are as 5.23 times more likely than illiterate women to have higher knowledge, again those women with primary education are 2.05 times more likely than illiterate to have higher knowledge about contraception. These results were statistically significant. Being student, government and non-government employee are more likely to have higher knowledge of contraception than housewives. This was statistically significant.

Table 8. Preference of Norplant among study subjects in relation to selected variables in Bahir – Dar town and periurban area , 2002.

Variable	Norplant n= 770			
	Yes n (%)	No n (%)	Crude OR (95% C.I)	Adjusted OR (95% C.I)
Age				
15-24	10 (3.1)	308 (96.9)	1.00	1.00
25-34	13 (4.2)	300 (95.8)	1.33 (0.54, 3.33)	2.15 (0.61, 7.56)
35-49	8 (5.8)	131 (94.2)	1.88 (0.66, 5.30)	1.4 (1.53 ,3.85)*
Marital status				
Single	4 (4.0)	95 (96.0)	1.00	1.00
Married	23 (3.9)	566 (96.1)	1.97 (1.32 , 3.92)*	1.18 (1.08, 2.43)*
Others	4 (4.9)	78 (95.1)	1.22 (0.22, 6.76)	0.96 (0.27 , 3.47)
Education				
Illiterate	17 (3.5)	465 (96.5)	1.00	1.00
Primary	7 (5.7)	115 (94.3)	1.66 (0.57,4.34)	1.06 (0.35, 3.16)
Sec. & higher	7 (4.2)	159 (95.8)	1.20 (0.44, 3.15)	0.73 (0.23, 2.30)
Family size				
1-2	8 (4.7)	164 (95.3)	1.00	1.00
3-5	12 (3.4)	343 (96.6)	0.72 (0.27,1.96)	0.67 (0.16,2.84)
6 and above	11 (4.5)	232 (95.5)	0.97 (0.35, 2.71)	1.12 (0.41, 3.02)
No. of current Children				
0-2	5(1.5)	320 (98.5)	1.00	1.00
3-4	9 (3.6)	242 (96.4)	2.38 (0.72, 8.27)	1.45 (0.62,5.33)
5 and above	17 8.8)	177(91.2)	6.15 (2.09,19.39)*	3.14 (2.01, 5.21)*
Occupation				
House wife	10 (5.3)	178 (94.7)	1.71(0.68 , 4.25)	1.07 (0.27,4.15)
Student	3 (4.6)	62 (95.4)	1.47(0.26, 5.56)	1.67 (0.49,5.65)
Gov. & non- gov. employee	1 (3.1)	31 (96.9)	0.98 (0.02,6.95)	2.04 (0.20,10.50)
Private	3 (5.7)	50 (94.3)	1.82(0.32,6.95)	1.12(0.41,3.02)
Unemployed	1 (4.2)	23 (95.8)	1.32 (0.03,9.55)	0.67(0.16,6.84)
Farmer	13 (3.2)	395 (96.8)	1.00	1.00

N.B * Statistically significant

Women who are currently using contraception are 1.66 times more likely than nonusers to have higher knowledge of contraception. Family size, religion, and ethnicity were not found to have significant association in relation to knowledge of contraception in the present study

Attitude (Table 10)

Respondents whose age is between 25 – 34 years are 1.96 times more likely to have a favorable attitude to modern contraception than those between 15 – 19 years of age.

Moreover, women in the age group of 35 – 49 are 1.57 times more likely to have favorable attitude towards modern contraceptive methods than the age group of 15 - 19.

Married women are as 1.92 times higher than singles to have favorable attitude towards modern contraception. Divorced, widowed, and separated women are also more likely to have favorable attitude towards modern contraceptive method. These findings were statistically significant.

Respondents with primary education are 4.04 times higher than illiterate women to have favorable attitude towards modern contraception. Moreover respondents with secondary and higher education are 7.03 times more likely to have favorable attitude than illiterate women. These findings were statistically significant. These results have shown that education is the determinant factor for having favorable attitude towards contraception.

Being current and ever user of contraception are more likely to have favorable attitude towards contraception than non-users. These categories were found to be statistically significant.

Practice (Table 11)

The result of analysis of independent variables in relation of practice showed that: women in the age group of 24-34 years are 1.68 times more likely to practice contraception than women in 15-19 years of age. Married women are more likely to practice modern contraception (OR= 8.96) than single women. This was statistically significant.

In the present study revealed that being private employee and student are less likely to practice modern contraception . Women with secondary and higher education are 3.14 times more likely to practice contraception than illiterate women, and those with primary education are also 1.74 times higher than illiterate women to practice modern contraception. Respondents with family monthly income in range of 1- 299 are more likely to practice contraception than those without monthly income.

Table 9. Knowledge of modern contraceptive methods among study subjects in relation to selected explanatory variables in Bahir-Dar town and periurban area, 2002

Variables	Knowledge (n=866) Higher	Lower	Crude OR (95% CI)	Adjusted OR (95% CI)
Age	**n (%)**	**n (%)**		
15 - 24	148 (43.1)	195 (56..9)	1.00	1.00
25 - 34	135 (39.0)	211 (61.0)	0.84 (0.61, 1.16)	1.97(1.20, 3.23)*
35 - 49	80 (45.2)	97 (54.8)	1.09 (0.74, 1.59)	1.57 (1.04 , 2.37)*
Marital status				
Single	76 (73.1)	28 (26.9)	1.00	1.00
Married	236 (35.6)	426 (64.4)	0.20 (0.13 , 0.33)*	0.30 (0.14, 0.60)
Others	51 (51.0)	49 (49.0)	0.38 (0.20, 0.72)*	1.92 (1.21 , 3.07)*
Residence				
Urban	212 (72.9)	79 (27.1)	7.54 (5.42 , 10.50)	6.12 (4.31 , 8.45)*
Periurban	151 (26.3)	424 (73.7)	1.00	1.00
Family size				
1 - 2	112 (59.3)	77 (40.7)	2.61 (1.75 , 3.88)*	1.33 (0.69 , 2.57)
3 - 5	150 (38.0)	245 (62.0)	1.10 (0.79 , 1.53)	1.18 (0.77, 1.83)
6 and above	101 (35.8)	181(64.2)	1.00	1.00
Religion				
Orthodox	328 (40.7)	478 (59.3)	2.04 (1.16, 3.59)*	0.70 (0.37, 1.31)
Muslim and ‣ others	35 (58.3)	25 (41.7)	1.00	1.00
Ethnicity				
Amhara	352 (41.4)	499 (58.6)	3.90 (1.14,14.63)*	1.29 (0.37, 4.42)
Others	11 (1.2)	4 (26.7)	1.00	1.00
Education				
Illiterate	146 (26.4)	408(73.6)	1.00	1.00
Primary	78 (56.9)	59 (43.1)	3.69 (2.46,5.55)*	2.05 (1.17, 3. 58)*
Secondary and higher education	139 (73.4)	36 (101.6)	10.79 (7.79 , 16.66)*	5.23 (3.04, 9. 00)*
Occupation				
Housewife	122 (56.7)	93 (43.3)	1.00	1.00
Student	54 (78.3)	15 (40.1)	2.74 (1.40 ,5.44) *	1.36 (1.24 ,3.55)*
Gov't and non- gov't employee	31(88.6)	4 (11.4)	5.91 (1.90 , 20.48)*	3.35 (1.14 ,4.85)*
Private	37(58.7)	26 (41.3)	1.08 (0.59, 1.99)	0.12 (0.04 ,1.39)
Unemployed	15 (62.5)	9 (37.5)	1.27 (0.50 , 3.31)	0.38 (0.19 ,1.74)
Farmer	104 (22.6)	356 (77.4)	0.22 (0.15 ,0.32)*	0.95 (0.30 ,2.95)
Types of users				
Current user	114 (54.5)	95 (45.5)	2.09 (1.49, 2.94)*	1.66 (1.93, 1.71)*
Ever user	62 (43.1)	82 (56.9)	1.32 (0.89, 1.95)	0.84 (0.53, 1.32)
Non user	187 (36.5)	326(63.5)	1.00	1.00

 includes{Tigrie(9) , Oromo+ Gurage+ Agew (6) } * Statistically significant

‣ includes { Protestant (3) and Hawariat (1) }

Table 10. Attitude towards modern contraceptive methods among the study subjects in relation to selected explanatory variables in Bahir-Dar town and periurban area, 2002

Variables	Attitude (n=892) Agree	Disagree	Crude OR (95% CI)	Adjusted OR (95% CI)
Age	**n (%)**	**n (%)**		
15 - 24	323 (91.0)	32 (9.0)	1.00	1.00
25 - 34	333 (93.8)	22 (6.2)	1.50 (0.82, 2.74)	1.96 (1.20, 3.23)
35 - 49	165 (90.7)	17 (9.3)	0.96 (0.50 , 1.87)	1.57 (1.04 ,2.37)*
Marital status				
Single	98 (89.90	11 (10.1)	1.00	1.00
Married	627 992.2)	53 (7.8)	1.33 (0.63 , 2.74)	1.92(1.21 ,3.07)*
Others	96 (93.2)	7 (6.8)	1.54 (0.52, 4.62)	1.33 (0.50 ,3.47)
Residence				
Urban	284 (95.6)	13 (4.4)	2.36 (1.23 , 4.60)	1. 52 (0.83, 3.22)
Periurban	537 (90.3)	58 (9.7)	1.00	1.00
Family size				
1 - 2	182 (92.9)	14 (7.1)	0.56 (0.31, 1.00)	1.17 (0.57 ,2.45)
3 - 5	372 (91.9)	33 (8.1)	1.92 (1.21,3.07)*	1.01 (0.57, 1.81)
6 and above	267 (91.8)	24 (8.2)	1.00	1.00
Religion				
Orthodox	764 (91.1)	68 (8.2)	0.59 (0.14,2.03)	0.97 (0.26,3.53)
Muslim and ‣ others	57 (95.0)	3 (5.0)	1.00	1.00
Education				
Illiterate	525 (91.1)	51 (8.9)	1.00	1.00
Primary	125 (88.7)	16 (11.3)	0.76 (0.40, 1.44)	4.04 (1.20 ,13.62)*
Secondary and higher education	171 (97.7)	4 (2.3)	4.15(1.41,13.72)*	7.03(2.05,24.16)*
Types of users				
Current user	206 (98.6)	3 (1.4)	9.25 (2.77,37.30)*	5.31(3.22, 8.45)*
Ever user	140 (97.2)	4 (2.8)	4.72 (1.61 ,15.50)*	2.57(2.68, 7.90)*
Non user	475 (88.1)	64 (11.9)	1.00	1.00

* statistically significant

Responses of women on question about advantages of modern contraceptives

In this study some questions were included which explain about advantages of modern contraceptive methods. In each variable the listed points have equal grade.

Respondents were asked also to mention the advantage of different modern contraception according to their preference. The finding was the following : Women , who preferred **oral pill,** have mentioned at least one were 13.4 % . And the majority of them have mentioned three (35%) out of five listed points, which describe the advantages.

The question regarding the daily dose, almost 94% of the women answered correctly. The respondents were also asked what to do if they forgot the daily dose, 66% answered correctly. Women, who preferred **IUD** have cited at least two were found to be 50% and three also 50% out of six listed points. Questions regarding the problem , 33% of the women mentioned at least two out of 5 listed points.

Among the women who preferred **injectables**, 3.5% cited at least one, 28.9% - three and 27.5% , five – 96% out of seven listed points . The majority of women also answered correctly to question how often the injection should be taken and in addition women who mentioned the reason for which they will go to clinic; 41% have mentioned at least one, and 13 % have cited four point out of five listed reasons.

Norplant - out of five listed advantages of Norplant, 67% of women have mentioned at least two points, again the majority of women (93%) answered correctly, to question for how long it can be left inside after insertion.

Condom - out of six listed advantages of condom at least two points were mentioned by 21% of women, while all points by 7% of the respondents.

Table 11. Practice of modern contraceptive methods among women of reproductive age group in relation to selected explanatory variables in Bahir-Dar town and periurban area, 2002

Variables	Practice (n=892) Yes	No	Crude OR (95% CI)	Adjusted OR (95% CI)
Age	**n (%)**	**n (%)**		
15 - 24	102 (140.5)	253 (71.3)	1.00	1.00
25 - 34	168 (47.3)	187 (52.7)	2.23 (1.61 , 3.08)*	1.68 (1.05, 2.68)*
35 - 49	83 (45.6)	99 (54.4)	2.08 (1.41, 3.07)*	0.94 (0.63, 1.38)
Marital status				
Single	7 (6.4)	102 (93.6)	1.00	1.00
Married	311(45.7)	369 (54.3)	12.28 (5.42,29.27)*	8.69 (2.77, 27.26)*
Others	35 (34.0)	68 (66.0)	7.50 (2.97 , 19.74)*	0.67 (0.38, 1.18)
Residence				
Urban	170 (57.2)	127 (42.8)	3.01 (2.24, 4.06)	2.15 (1.07 ,3.64) *
Periurban	183 (30.8)	412 (69.2)	1.00	1.00
Family size				
1 - 2	46 (23.5)	150 (76.5)	0.36 (0.24, 0.56)	1.58 (0.84 ,2.97)
3 - 5	174 (43.0)	231 (57.0)	0.89 (0.65, 1.23)	1.34 (0.90, 2.00)
6 and above	133 (45.7)	158 (54.3)	1.00	1.00
Religion				
Orthodox	317 (38.1)	515 (61.9)	0.41 (0.23 ,0.72)*	1.49 (0.73 ,3.01) *
Muslim and ‣ others	36 (60.0)	24 (40.0)	1.00	1.00
Education				
Illiterate	189 (32.8)	387 (67.2)	1.00	1.00
Primary	70 (49.6)	71 (50.4)	2.02 (1.37,2.98)*	1.74 (1.90, 3.38)*
Secondary and higher education	94 (53.7)	81 (46.3)	2.98 (1.66; 3.40) *	3.14 (1.64 ,5.98)*
Occupation				
Housewife	139 (641)	78 (35.9)	1.00	1.00
Student	13 (18.6)	57 (81.4)	0.13 (0.07, 0.27)*	0.55 (0.36 ,0.84)*
Gov't and non- gov't employee	24 (68.6)	11 (31.4)	1.29 (0.57, 2.98)	0.82 (0.27 ,2.48)
Private(self)	20 (31.3)	44 (68.8)	0.26 (0.13 ,0.48)*	0.35 (0.11, 0.92)*
Unemployed	3(120.5)	21 (87.5)	0.08 (0.02 , 0.30)	0.77 (0.37 ,1.58)
Farmer	353 (39.6)	539 (60.4)	0.03 (0.28 ,0.53) *	0.54 (0.10 , 2.82)
Family monthly income				
No (0)	7 (8.9)	72 (91.1)	1.00	1.00
1 - 99	53 (27.6)	139 (72.4)	3.92 (1.61, 9.97) *	5.37 (1.37, 21.05)*
100 - 199	113 (33.7)	222 (66.3)	5.24 (2.23 , 12.87)*	4.01 (1.62, 9.94)*
200 - 299	64 (52.0)	59 (48.0)	11.16 (4.50 , 28.90)*	3.80 (1.61,8.95)*
300 - 399	41 (57.5)	30 (42.3)	4.06 (5.29, 38.92)*	2.21 (0.91, 5.34)
400 - 499	24(77.4)	7 (22.6)	35.27(9.95, 34.48)*	1.80 (0.70,4.63)
> 500	51 (83.6)	10 (16.4)	52.46 (16.99, 71.81)*	1.36 , (0.42, 4.31)

N.B ***** statistically significant

Qualitative study

The qualitative study was carried out through Focus Group Discussion (FGD). Based on the checklist that was developed to guide the discussion, relevant information was obtained. The participants freely and actively expressed their ideas about family planning issues. The majority of participants clearly understood the general concept of family planning.

The results of the Focus Group Discussion revealed that most of the study subjects have heard of family planning, but they have limited knowledge about the specific modern contraception. This hindered most of the participants to have a range of choice of contraceptive and utilization. For instance the participants were asked to enumerate the modern contraceptive methods they know and those from the periurban area frequently mentioned pill and injectable, while women from the town cited pill, injectable, condom, IUD and Norplant. However few participants knew about diaphragm, spermicides, female and male sterilizations.

They also discussed with respect to regular dose of modern contraceptive and when woman should come to clinic, the side effects etc. Women from both areas usually said that " pill for example cause burning sensation of stomach, it can be forgotten, it should be take at daily base, but the injectables are once in three months and no fear of forgetting like that pill, it also save time ". Hospital, health center, FGAE, and Marie Stopes international were source of supply for contraception. Majority of participant said that the most common source of information about modern contraceptive cited by periurban women were health

institution followed by relatives and neighbors, while urban women reported that mass media followed by health institution and friends.

The participants also described about advantages of family planning methods and the most frequently mentioned reasons were:

1- Child spacing

2- Child limiting

3- Prevention of unwanted pregnancy.

The results from discussion showed that the majority of women approved of use of modern contraceptive methods, and those who are not currently using family planning methods, discussed that they intend to use in the future. Husband's attitude also found to be positive toward family planning methods. Participants from the periurban area desired to have 6-10 children, while women from the town wished to have 2-3 children. Two participants from periurban area said " God will decide how many children we will have" and the other said " to have many children is very important because they are means of income". Women from urban said that decision on number of children depends on monthly income.

The majority of male participants from the periurban area reported that women are responsible for practicing modern contraceptive methods, while male participants from the town said that it is responsibility of both husband and wife. Desire to have more children; religious and cultural taboo and lack of knowledge were the most cited reasons by periurban women for not using contraceptive methods, while being single, religious taboo and desire to have more children were the reasons mentioned by urban women.

The participants also discussed about reasons for discontinuing methods and the most frequent reasons mentioned by urban women were desire to have children followed by preferred method not available and fear of side effects. Desire to have more children and fears of infertility were the main reasons in periurban area for discontinuing using methods.

Injectables were preferred by the majority of participants, followed by pill, Norplant, and condom. Others methods such as diaphragm, spermicides, female and male sterilization. The reasons were lack of information about these methods and fear of side effects.

In addition the participants discussed, which health facilities they do like to get modern contraceptive methods, and the majority said " government health institution" particularly women from periuraban area and FGAE was mentioned by urban women. The reason they gave was they could get free of charge than non-government organization. Women who are not currently using family planning methods, discussed that they intend to use in the future .The participants also explained that there is discussion with their husbands or partner about the family planning methods.

Most of participants discussed that there is inadequate supply of different modern contraceptive methods particularly injectables, therefore either women will discontinue using method or she may switch to other methods which may not be methods of her choice. Poor IEC activity in health instititution. Participants said that that we have inadequate knowledge about specific contraception because of poor education and counseling activity in government health institutions.

6. Discussion

The range of contraceptive methods theoretically available to clients in Ethiopia is broad. According to a recent review of contraceptive requirements and logistics management needs over six brands of oral contraceptives are available (Microgynon, Neogynon, Lo-feminal, Marvelon 28, exlution and Microlute) in addition to injectables (Depo-Provera, Noristerrat), condoms , IUCD, sterilization, foaming tablets (Neo Sampoon) and Norplant in selected urban area (11).

Based on this assessment, different methods are available. Despite this apparent broad method availability, the National CPR is low (8.0%) according DHS Ethiopia 2000 report. Distribution of contraceptive method used in Ethiopia as a percentage of all family planning users in 1996 : pill comprised of 73.4 %, followed by injectables 18.3%, condom 7.5 % and Norplant 0.4 %. Others constituted very low proportion (IUCD, female sterilization, spermicides, diaphragm). There could be various explanations of why utilization of a full range of contraceptive method is not greater.

It is clear that contraceptive choice is an important element in quality care of family planning service. A greater choice of methods increases contraceptive continuation and overall use of modern contraceptive methods (26).

The study areas: Bahir-Dar town and periurban area have shown significant difference in socidemographic characteristics such as age, marital status; education and family size.

A statistically significant difference was found with economic variables between urban and periurban area. In the periurban area, monthly income was difficult to calculate since they do not know exactly their family monthly income, therefore we estimated by converting the total amount of crops they produce in the past one year into birr and was divided by twelve to get the average monthly income.

There was also a statistical significant difference by some reproductive characteristics between urban and periurban women except history of stillbirth and induced abortion. Eleven per cent of women in urban and thirteen percent of women in periurban had history of induced abortion. This is lower than the prevalence of induced abortion in Addis Ababa, which was 74 % on a survey of adolescent reproductive health. However when we compare the prevalence of stillbirth in the same study, it was found that it is higher in this study, 11% Vs 0.8%(66) Level of awareness about modern contraceptive methods in urban and periurban was not much different (98% Vs 96%). This could be explained by dissemination of information through different ways. The same finding was also seen in other study (63).

The majority of respondents reported that the reasons for using modern contraceptive methods by women were: child spacing, prevention of unwanted pregnancy, prevention of sexually transmitted diseases and child limiting. This finding was also strengthened by the findings of Focus Group Discussion. In the present study there was a difference between urban and periurban women in their attitude towards modern contraceptive and preference of modern contractive methods.

This might be explained by the fact that women in urban area have better access to information; education, communication, health facilities, occupation, and monthly income than their periurban counter parts. These findings are in line with other studies (35, 54,43). Moreover cultural and religious taboos are more prominent in rural area than in urban, which is similar to study done in another part of the country (62). Hence, all factors make urban women to have better knowledge and attitude towards family planning methods.

The present study revealed that the majority of women who are currently using modern contraceptive methods, and who are intending to use in the future among non-user in Bahir-Dar town and peri urban area preferred to use injectables. This was explained by reason cited for the preference of injetables among the study subjects as the long acting effect, freedom from fear of forgetting like daily pill; convenience; effectiveness and possibility of secrecy and ease of correct use. This finding also supported by previous studies done in other places (15,28,43,44, 45). The second most commonly preferred method was oral contraceptive pill followed by Norplant.

During the survey, women in Bahir-Dar town and periurban reported that major source of supply of modern contraceptive was government health institutions followed by Family Guidance Association of Ethiopia western Gojjam branch. The preferred health facilities which are mentioned by the respondents to get family planning service were government health institutions and Family Guidance Association of Ethiopia followed . The reason for preference of government health institutions could be explained, women may get the service free of charge. This was supported by the FGD.

Different studies have found positive relationship between preferences of modern contraceptive like oral pill and younger age group (15-24) and unmarried. Usually the younger age groups of women are single, have no or few children (less than three), and they are more likely to use methods to prevent unwanted pregnancy. This was explained by the ease and convenient to use, rare side effects. In contrast women who preferred to use injectables are in the age group of 25-34, moreover they are married, and have more than three children. This could be explained by its long acting and they are more likely to use for child spacing or limiting. This is consistent with findings in other place (33,45).

Preference of Norplant have shown statistically significant association in relation to age (35-49) ; being married and having 3 and above children This could be explained by its long acting (5 years), convenient and nothing to remember like pill once it is inserted . This was supported by the findings in FGD and study done in other place (20).

A statistically significant association was seen between using pill and age, marital status, occupation and current number of children. Practicing of injectable also found to have significant association with age, marital status, occupation and current number of children. No association was seen with religion, ethnicity, family size, and education. The modern methods preferred least in urban and periurban areas were Norplant, condom, and IUD. This finding is in contrary with study done in other places, where the prevalence of IUD, Norplant, and condom is higher (20, 35). This may be due to fear of side effects, inadequate information about these specific methods in the community.

Other characteristics like education, occupation, religion, ethnicity and family size, did not show a significant association with preference of pill, injectable and Norplant.

Moreover there was no association between selected independent variables another contraceptives, such as condom and IUD.

Ninety-eight per cent of urban and ninety six per cent of periurban women heard of modern contraceptive methods. Among them 10 % of respondents knew at least one method, 47.9% knew two and 18% knew three methods. Similar findings were reported in previous studies done in this country (15, 43, 48 ,52,64). This could be because of the dissemination of information about family planning through different mechanism, such as health education, which is provided in the different health institution, media, school etc. Most of respondents familiar with pill, followed by injectables. This finding is supported by FGD and other studies (15,47, 48,52).

Other methods like diaphragm, spermicides, tubal ligation, and vasectomy are poorly known because of fear of side effects and moreover not widely practiced in the community.

The same finding was revealed in FGD. The prevalence of female and male sterilization was almost none. This could be explained by the fact that female and male sterilizations are permanent methods and women in the study area desire to have more children, in addition due to fear of side effects. The same finding is in the line with the result of FGD.

The main source of information about family planning in urban was media; while government or service providers were in periurban area. This finding is in the line with other studies (43,47, 52).

In the present study, age, education, residence, marital status, occupation and currently using methods were found to be important predictors of knowledge of modern methods. The older women (25-34) had more knowledge than the younger one (15-19).

This difference is could be explained by, older women tend to use contraception for spacing or limiting of children, hence have cause to search for information on contraception, on the other hand the youngest women are not closer to their desired family, and thus have not bothered to look for family planning methods. Further the younger women tend to be shyer or less willing to ask other women. This finding also supported with other studies (15,47,51,50).

In other studies done else where women who are married and educated are more likely to have higher knowledge compare to the single and illiterate (15,47,50,51,52,56). In contrast in the present study married and others women (divorced, widowed) less likely to have higher knowledge than single. The reason could be, women who are single usually need to delay at least first birth or till they get married, so they are trying to know more about family planning inorder to prevent unwanted pregnancy .

Use of effective contraceptive methods is facilitated when couples have an positive attitude towards family planning. In the present study more than 90% of women have positive attitude towards family planning, but still the contraceptive practice is minimal.

Study done in Gaza, Palestine also indicated that 98% of women approved the use of family planning method, however 52 % do not use contraception. This might be explained by fear of side effects; husband's opposition, in availability of adequate contraceptive methods of their choice. This finding is in the line with other studies (15,38,51,52).

An important indicator of changing demand for family planning is the extent to which non users of contraception plan to use methods in the future. In the current study more than 85% of women intend to use modern contraceptive in the future and more than half percent of women reported that their husband/partner approves using modern methods.

In logistic regression analysis women whose age is between 25-49, being married , with primary and higher education and practicing contraception have shown statistically significant association in relation to attitude. This could be explained by the fact that women who are married, educated and practicing are more likely to have positive attitude towards family planning. This findings also supported by other studies (38,48,64).

In this study, the contraceptive prevalence rate was found to be 37.7% in Bahir –Dar, which is comparable with National urban CPR (35%) and 16.3% in periurban that is much higher than the national figure of CPR for rural setting (3%). Even though the majority of respondents have heard about contraception, the contraceptive prevalence rate is relatively low among periurban women comparing to urban women.

This could be attributed to different reasons: desire to have more children; poor outreach family planning activity to periurban area, cultural taboo, and religious taboo, inadequate

information on specific modern contraceptive methods rumors. These findings are in line with Focus Group Discussions. Other studies also supported these findings (37, 47,65). There is a gap between knowledge and contraceptive practice.

About 55.8% of women in the periurban area reported that the main reason for discontinuing was desire to have more children followed by preferred method was not available (24.4%), while in the town the reasons were the same with a proportion of 37.9 and 20.7% respectively. These reasons indicate that there is inadequate supply of modern contraceptive methods, which would help them to practice by method of their choice and intention to have more children.

The main reason given by respondents for not using modern contraceptive methods in periurban areas was desire to have more children followed by lack of adequate knowledge about specific methods, cultural and religious taboo. These findings were similar to Focus Group Discussions. In the town the reason for not practicing was being single or having no partner.

In the present study revealed a strong association between contraceptive practice and age, marital status, residence, religion, education, occupation and income. Women in the age group of 24-35 who are married, educated, urban dwellers and having an occupation and income are more likely to practice family planning methods than younger, single, rural dwellers, illiterate women with no income. These findings were consistence with other studies (33, 43, 48,56,58, ,65).

7. Strength of the study

In this study qualitative and quantitative methods were used and these methods improve the research outcomes as qualitative study complement or strengthen the quantitative study. Other strength of the study includes study subjects were selected using random sampling. The random sampling helps to avoid selection bias. Both urban and periurban were included for purpose of comparison. Comparative study uses to identify differences in the two settings. Using logistic regressions to control the possible confounding factors in order to assess the relative effect of independent variables to dependent variables.

Limitation of the study

Cross-sectional study design was used in the present study. This type of study design shows the exposure and outcome at the same point in time, but we cannot formulate the cause and effect relationship from this study design. The other limitation is that the periurban study population may not represent typical rural setting.

8. Conclusions

- Injectable was the most commonly preferred method followed by oral contraceptive pill and Norplant in both study areas.
- The CPR is 16.3% in the periurban area and 37.7 % in Bahir-Dar town.
- Clients are less likely to get the method of their choice in both study areas . Only 53% in urban and 46% in periurban get according their preference.
- Modern contraceptive methods like diaphragm and permanent method are poorly practiced
- More than 95% of respondents had heard about modern contraceptive methods, but non users were much more than current users (60% Vs 23%). There is a gap between knowledge and utilization of family planning methods.
- Most of the respondents were found to have favorable attitude towards modern contraceptive methods and their husbands too.
- The main reason for discontinuation of practicing MCM were found to be desire for more children followed by preferred method was not available.
- The reason mentioned by non-users in the periurban area for not practicing MCM desire for more children followed by lack of knowledge and religious taboo.
- Preference of Injectable showed statistically significant association in relation to age (25-34 years) , being married , having 3 and above children and being government and non government employee

- Respondents age between 15-24 years , being single , government employee , having few (0-2) children showed statistically significant association with preference of oral pill .
- Preference of Norplant showed significant association with age (35-49 years), being married and having 3-4 children.
- Knowledge, attitude, and practice have shown statistically significant association with socio demographic characteristics, monthly income and number of current children .

9. Recommendations

Based on the findings of this study, the following recommendations are forwarded:

1- To organize community based reproductive health family planning program and adequate training of CBRHA under government health institution to improve the accessibility of family planning methods at residence place in order to meet the demand of those clients who intended to use modern contraceptive methods in the future and to increase method acceptability and utilization.

2- Improve quality of care in family planning service:

- Clients should be able to choose contraceptive methods voluntarily;
- Clients should be provided with complete information about each modern contraceptive, which enable them to know very well.

3- To improve modern contraceptive supply in government health institutions so that clients may have access any time to different MCM of their choice; and it also provides alternatives for individuals dissatisfied with their current choice of contraceptive which may prevent dropout.

4- To conduct study on quality care in family planning provision, which will asses the elements of quality of care .

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Annex 1. Map of Bahir-Dar special zone

***** Felegehiwot hospital, Bahir-Dar health center , kebele 11 clinic

Annex 2.

Summary results of Focus Group Discussions, 15-30 years old single and married women participants. Bahir-Dar , 2002.

Issues for discussion		Single women in the age group of 15 – 30 years	Married women in the age Group of 15 -30
1.Knowledge of MCM	Yes No	+++++	+++++
2. FP use	Child limiting Child spacing Prevention of STD Delaying first birth medication	+++ +++ ++++ ++++	+++++ +++++ ++ ++++
3. MCM known	pill	+++++	+++++
	IUD	++	++++
	injectable	+++	+++++
	Norplant	++	+++++
	condom	+++++	++
	diaphragm	+	++
	spermicides	-	-
	Tubal ligation	+	++
	vasectomy	-	+
4. Source of information	Health institution Mass media Relatives school neighbor friends	+++ +++ ++ +++ + ++++	+++++ ++ +++ ++ +++ +++
5. Barriers to use MCM	Husband's /partner disapproval	-	+++++
	Lack of knowledge	+++	++++
	inaccessibility		
	religion and cultural taboo	+++	++++
	Fear of side effects	++	++++
	Inadequate supply	+++++	+++++
6. counseling	good	-	-
	Fair	++	-
	poor	++++	+++
7. preferred method	pill	+++++	+++
	IUD	-	++
	injectable	+++	+++++
	Norplant	+	++++
	condom	+++++	++
	diaphragm	-	+
	Female sterilization	-	+

+++++ indicate majority of respondents ,++++ average ,+++ some ,++ few, + very few , - no body

MCM- modern contraceptive methods F/P family planning STD- sexually transmitted diseases

Annex 2 (continued)

Summary results of Focus Group Discussions, 31- 49 years old single and married women participants . Bahir-Dar , 2002.

Issues for discussion		Single women in the age group of 31 – 49 years	Married women in the age group of 31-49
1.Knowledge bout MCM	Yes No	++++	+++++
2. FP use	Child limiting	++	+++++
	Child spacing	++	++++
	Prevention of STD	+	+++
	Delaying of first birth	+	++
	Medication	++	+++
3. MCM known	pill	+++	+++++
	IUD	++	+++++
	injectable	+++	+++++
	Norplant	+++	+++++
	condom	+++	+++
	diaphragm	++	+++
	Female sterilization	+	+++
	Male sterilization	-	+
4. Source of information	Health institution	++++	+++++
	Mass media	++	++
	relatives	+++	++++
	school	++++	+++
	neighbors	++	++++
	friends	++++	+++
5. Barriers to use MCM	Husband's/ partner's Disapproval	+++	++
	Lack of knowledge	++	-
	Inaccessibility	-	-
	Religion/ cultural taboo	+++	++++
	Fear of side effects	++++	++++
	Inadequate supply	++	+++++
6. Counseling	good		
	fair	++	
	poor		+++++
7. Preferred method	Pill	+++	++
	IUD	+	+++
	injectable	+++	+++++
	Norplant	+	+++
	condom	++++	++
	diaphragm	-	+
	Female sterilization	-	++
	Male sterilization	-	-

+++++ indicate majority of respondents ,++++ average ,+++ some ,++ few, + very few , - no body

MCM- modern contraceptive methods F/P family planning STD- sexually transmitted diseases

Annex 2 (continued)

Summary results of Focus Group Discussions , 20- 49 years old single and married men participants and community elders / religion leaders. Bahir-Dar, 2002.

Issues for discussion		Single and marries male in the age group of 20-49	Community elders and Region leaders
1.Knowledge bout MCM	Yes No	++++	++
2. Attitude towards family planning	Approve disapprove	++++	++
3. discussion with wife on F/P	yes	++	-
	no	++++	-
4. MCM known	pill	++	++
	IUD	+++	-
	injectable	++	+++
	Norplant	+++	-
	condom	+++	++
	diaphragm	-	-
	Female sterilization	++	-
	Male sterilization	-	-
5. Source of information	Health institution	++	+
	Mass media	++++	++
	Relatives	++	-
	Neighbors	++	+++
	Friends	++++	+
	Other	++++	+++
6. Desired # of children	1-3 4-6	++	-
	Above 6	-	-
		+++	++++
7. Responsibility for F/P use	Wife	+++++	++++
	Husband	++	+
	Both of them	+++	+++
	Do not know	++	
8. Advantage of using family planning	Child limiting	+++	++
	Delay of first birth	+++	++
	Child spacing	+++	++
	Prevention of STD	++++	-

+++++ indicate majority of respondents, ++++ average ,+++ some ,++ few, + very few , - no body
MCM- modern contraceptive methods F/P family planning STD- sexually transmitted diseases

Annex 2 (continued)

Summary results of Focus Group Discussions , Service providers and zonal representatives , Bahir-Dar ,2002

Issues for discussion		Service providers	Zonal representatives
1.F/P use	1. Child spacing	+++++	+++++
	2. Child limiting	+++++	+++++
	3. Delay first birth	++++	+++
	4. Prevention of STD	+++++	++++
2. Community attitude towards family planning	Approve	+++++	++++
	Disapprove	+++	++++
3. problem in service provision	Inadequate supply	++++	++++
	Lack of health facility	++	++
	Lack of resource	++++	+++
	F/P counseling	+++	++
4. F/P targets	Female of reproductive age	+++++	
	Adolescents	-	-
	Male	-	-
5. interaction with client	Good	++++	++++
	Fair	++	++
6.maintain clients choice of method	Yes	++	+++
	No	++++	++
7. IEC methods	Face to face	+++++	+++++
	Audio visual	+++	+++
	Posters, leaflets	+++	+++
8. reason for not using F/P methods			
	Fear of side effects	+++++	+++++
	Inadequate knowledge	++++	+++
	Husband's opposition	+++	+++
	Religion /cultural taboo	+++	+++
	Other	++++	+++
10. Out reach service activity	Yes	-	-
	No	+++++	+++++
11. Reporting and recording system	regular	+++++	+++++
	Irregular	-	-
13. Supervision and monitoring	Regular	+++	+++++
	Irregular	++	-

+++++ indicate majority of respondents ,++++ average ,+++ some ,++ few, + very few , - no body
MCM- modern contraceptive methods F/P family planning STD- sexually transmitted diseases

Annex 3 Structured questionnaires for quantitative study

CLIENT INTERVIEW

Greeting:

Hello! I would like to ask you some questions about modern contraceptive methods. We believe that it would help to improve family planning service in the future to meet your need. The aim of this study is to assess modern contraceptive preference, knowledge an attitude towards these methods among women of reproductive age group (15-49) , who are residents of Bahir-Dar town and periurban. I will not write your name. All information you give will be kept strictly confidential and you have aright not to respond any questions you don't want to. Your participation is voluntary.

May I continue?

Yes ☐ No ☐

Thank you !

Visiting table

	Visit 1	Visit 2	Visit 3
Date			
Result			

Result code : 1. Complete
2. Incomplete
3. Respondent not available
4. Other, specify

A. IDENTIFICATION

N0.	QUESTIONS	RESPONSE	CODE
001	Questionnaire number	☐☐☐☐	
002	Identification number of interviewer	☐☐	
003	House hold number (Urban) Peasant association (Periurban)	Wereda _____ Kebele _____ No. _____ Name _____	
004	Visiting period: a. visit one _____ b. visit two _____ c. visit three _____	Result code 1. Complete 2. Incomplete 3. Respondent not available 4. Other, specify _____	
005	Would you tell me please about your contraceptive practice? Are you: **(Tick only one answer)**	1. ☐ Current user 2. ☐ Non-user 3. ☐ Ever-user	
006	Date of interview (Eth.calander)	[_____ /_____ /_____] d m y	

B	**INTRODUCTION**		
SECTION 1	***SOCIO-DEMOGRAPHIC CHARACTERISTIC***		
101	What is your age?	Enter age in years _____	
102	What is your marital status?	1. ☐ Monogamous marriage 2. ☐ Polygamous marriage 3. ☐ Never Married 4. ☐ Divorced 5. ☐ Widowed 6. ☐ Separated	
103	Residence place	1. Urban 2. Periurban	
104	Family size Dependent	Enter the number _____ 00	
105	What is your religion?	1.☐ Orthodox 2. ☐ Muslim 3.☐ Protestant 4. ☐ Catholic 5.☐ Other, specify_____	
106	What is your Ethnicity?	1.☐ Amhara 2.☐ Oromo 3.☐ Gurage 4.☐ Tigrie 5.☐ Other, specify_____	
107	Educational level of respondent	1.☐ Illiterate (can't read or write) 2.☐ Can read and write 3.☐ 1-6 grade 4.☐ 7-12 grade 5.☐ 12 +	

108	Occupation of respondent	1.☐ Farmer 2.☐ Student 3.☐ House wife 4.☐ Government employee. 5.☐ NGO 6.☐ Daily laborer. 7.☐ Merchant 8.☐ Jobless/dependent 9.☐ Maid 10. ☐ Commercial sex worker	
SECTION II ECONOMIC STATUS			
201	Monthly total family (house hold) income in Birr?	Enter the number in Birr _____	
202	How many oxen do you have? (for farmers only)	1. ☐ One 2. ☐ Two 3. ☐ More than two 4. ☐ None	
SECTION III REPRODUCTIVE HISTORY			
If Que. 102 is "Never married" Go to 302			
301	At what age were you married? (for those who were ever married)	Enter age in years _____	
302	Have you ever been pregnant?	1.☐ Yes 2.☐ No 3. ☐ No response	

303	If "yes", is it before or after marriage ?	1.☐ Before marriage 2.☐ After marriage 3.☐ No response	
304	If you experienced pregnancy before marriage, how many times?	Enter the number _____	
305	Were all pregnancies unwanted?	1.☐ Yes 2.☐ No 3. ☐ No response	
306	How old were you when you first got pregnant? (If she had any pregnancy before)	Enter age in years _____	
307	How old were you when your first child was born?	Enter age in years _____	
308	How many live births have you had?	Enter the number _____	
309	How many live children do you have?	Total_____: M____, F____	
310	Did you have stillbirth?	1.☐Yes 2.☐ No 3.☐ No response	
311	If "Yes", how many?	Enter the number_____	
312	Have you ever had abortion?	0.☐ Not applicable 1.☐ Yes 2.☐ No 3.☐ No response	
313	If "Yes", how many?	Enter the number_____	

314	How many children would you like to have ?	Total _____ : M____ , F_____	
SECTION IV KNOWLEDGE ABOUT MODERN CONTRACEPTIVE METHODS			
Questions: 401 - 404 for all respondents			
401	Do you know about modern contraceptive methods ?	1.☐ Yes 2.☐ No ⟶ go to Que.501 3.☐ No response	
402	If "Yes" to Que. 401 what was source of information about modern contraceptive method? **(Tick all mentioned)** **(Please don't read out the list)**	1. Yes 2. No 1. Public health sector ☐ ☐ 2. Private health sector ☐ ☐ 3. NGO ☐ ☐ 4. Mass media ☐ ☐ 5. Print media ☐ ☐ 6. School ☐ ☐ 7. Spouse ☐ ☐ 8. Friend ☐ ☐ 9. Relatives ☐ ☐	
403	Which modern contraceptive methods do you know? **Tick all mentioned.** **(Please don't read out the list)**	1 . Yes 2. No 1. Pill ☐ ☐ 2. IUD ☐ ☐ 3.Injectables ☐ ☐ 4. Condom ☐ ☐ 5. Norplant ☐ ☐ 6. Diaphragm ☐ ☐ 7. Spermicides ☐ ☐ 8. Female sterilization ☐ ☐ 9. Male sterilization ☐ ☐	

404	Why do women use modern contraceptive methods? **Tick all mentioned.** **(Please don't read out the list)**	1. Yes 2. No 1. For child spacing ☐ ☐ 2. For prevention of unwanted pregnancy ☐ ☐ 3. For prevention of STD ☐ ☐ 4. Unwilling to have any more children ☐ ☐ 5. For medication ☐ ☐	
SECTION V ATTITUDES TOWARDS MODERN CONTRACEPTIVE METHODS			
501	Would you like to know more about modern contraceptive method ?	1.☐ Yes 2.☐ No 3.☐ No response	
502	Who is usually in the family make decision about family planning? (for those who are ever married)	0. Not applicable 1. ☐ You 3. ☐ Both of you 2. ☐ Your husband 4. ☐ Parents	
503	Do you yourself approve or disapprove of women using contraceptives?	1.☐ Approve 2.☐ Disapprove 3.☐ No response	
504	What is your husband's / partner's attitude towards modern contraceptive methods ?	0. Not applicable 1.☐ Supporting 2.☐ Against 3.☐ Neutral 4.☐ Don't know 5. ☐ No response	
505	Do you discuss about modern contraceptive methods with your husband or friend ?	0. Not applicable 1.☐ Yes 2.☐ No 3.☐ No response	

506	Who should take responsibility for practicing modern contraceptive methods?	1.☐ Wife 2.☐ Husband 3.☐ Both husband and wife 4.☐ Don't know 5. ☐ No response	
507	How is child spacing considered in your tradition using modern contraception?	1. ☐ Supported 2. ☐ Opposed 3. ☐ No response	
508	Too large family affect the family's economic condition	1. Agree 2. Disagree 3. No response	
509	Too large family can be harmful to the general well being of other children in the family	1. Agree 2. Disagree 3 . No response	
510	Do you have intention to use modern contraception in the future? **(for all respondents)**	1. Yes 2. No	
SECTION VI PRACTICE OF MODERN CONTRACEPTIVE METHODS			
Que. 601 – 610 for current and ever users			
601	Have you ever used modern contraceptive method in the past ?	1. ☐ Yes 2. ☐ No → **Go to 607**	
602	If "Yes" to Que. 601 how old were you when you first started to use contraception?	Enter age in years _____	

603	What was the method you used? **(Tick only one answer)**	1.Yes 2.No 1. Pill ☐ ☐ 2. IUD ☐ ☐ 3. Injectables ☐ ☐ 4. Condom ☐ ☐ 5. Norplant ☐ ☐ 6. Diaphragm ☐ ☐ 7. Spermicides ☐ ☐ 8. Tubal ligation ☐ ☐ 9. Vasectomy ☐ ☐	
604	Are you practicing the same method currently? **(for current users only)**	1. ☐ Yes 2. ☐ No	
605	If Que. 604 is No ,for how long did you practice this method ?	Enter the period in months/Year _____	

606	Why did you stop to use modern contraceptive method? **(for ever – users only)** **Tick all mentioned** **(Please don't read out the list)**	1. Yes 2. No 1. Fear of side effects ☐ ☐ 2. Medical problem ☐ ☐ 3. Fear of infertility ☐ ☐ 4. Cultural taboo ☐ ☐ 5. Preferred method is not available ☐ ☐ 6. Desire to have more children ☐ ☐ 7. Spouse disapproved ☐ ☐ 8. Lack of knowledge ☐ ☐ 9. It is sinful ☐ ☐ 10. Don't have marital or sexual partner at present. ☐ ☐ 11. Long waiting time to get the method ☐ ☐ 12. Service place is far from my residence ☐ ☐ 13. widowed/ divorced / separated	

607	If "N0" to Que .601 Why don't you practice modern contraceptive methods?	1. Yes 2. No . Fear of side effects ☐ ☐ 2. Medical problem ☐ ☐ 3. Fear of infertility ☐ ☐ 4. Cultural taboo ☐ ☐ 5. Preferred method is not available ☐ ☐ 6. Desire to have more children ☐ ☐ 7. Spouse disapproved ☐ ☐ 8. Lack of knowledge ☐ ☐ 9. It is sinful ☐ ☐ 10. Don't have marital or sexual partner at present. ☐ ☐ 11. Long waiting time to get the method ☐ ☐ 12. Service place is far from my residence ☐ ☐ 13. Due to infertility ☐ ☐	
608	If "No" to Que. 604 why did you change the first method? **(Tick only one answer)**	1.☐ Health problem 2.☐ Husband's disapproval 3.☐ Preferred method is not available 4.☐ Contraceptive failure 5.☐ Fear of side effects 6.☐ Fear of infertility	

609	Why do you practice modern contraceptive methods at present? **(Tick only one answer)**	Reason 1.☐ For child spacing 2. ☐ For prevention of unwanted pregnancy 3.☐ For prevention of STD 4.☐ Unwilling to have any more children 5. ☐ For medication	
610	How far family planning service from your residence	Per hour/minute (by walk) _____ Per hour/minute (by car) _____	
SECTION VII	***PREFERENCE ON MODERN CONTRACEPTIVE METHODS For current users and for those women who intend to use in the future***		
701	Which modern contraceptive method do you prefer to use? **(Tick only one answer)**	1.☐ Pill 2.☐ IUD 3.☐ Injectables 4.☐ Condom 5.☐ Norplant 6.☐ Diaphragm 7.☐ Spermicides 8.☐ Female sterilization 9.☐ Male sterilization	
702	Do you get modern contraceptive methods of your choice? **(for current users)**	1.☐ Yes 2.☐ No	

703	Where did/ do you get from modern contraceptive method you use? / (For current and ever users) **(Tick only one answer)**	1.☐ From private clinic 2.☐ From government hospital 3.☐ From health center 4.☐ From Clinic 5. ☐ From FGAE 6. ☐ From NGO 7. ☐ From pharmacy/Drug vendor	
704	Where do prefer to get family planning service ? **(for all women)**	1.☐ From private clinic 2.☐ From government hospital 3.☐ From health center 4.☐ From Clinic 5. ☐ From FGAE 6 .☐ From NGO 7. ☐ From pharmacy/Drug vendor	
Questions 705 - 707 (For women who prefer pill)			
705	Why do you prefer pill ? **(Tick all mentioned)**	1. Very effective ☐ ☐ 2. It is convenient ☐ ☐ 3. Reversible ☐ ☐ 4. Fewer side effects ☐ ☐ 5. Easy available ☐ ☐ 6. Other , specify _____	
706	How often should you take a pill?	1.☐ One every day 2.☐ Don't know 3.☐ No response	

707	If you forget to take a pill for one day , what do you have to do ?	1.☐ Take it as soon as you remembered it / take it together with next dose at regular time 2.☐ Take only the next dose at regular time 3.☐ Discontinue to take the rest pills 4.☐ Don't know 5. No response	
Question 708 - 709 (for women who prefer IUD)			
708	Why do you prefer IUD? **(Tick all mentioned)**	1. Yes 2. No 1. Very effective ☐ ☐ 2. Nothing to remember constantly ☐ ☐ 3. Doesn't affect lactation ☐ ☐ 4. Reversible ☐ ☐ 5. Doesn't need replacing before 8 year ☐ ☐ 6. Other, specify	
709	Beside the regular check-up visits for what problems, if any, should You come back to clinic? (**Tick all mentioned)**	1.Yes 2. No 1. Fever within 2-3 days ☐ ☐ 2. Pelvic or abdominal pain ☐ ☐ 3. Heavy bleeding ☐ ☐ 4. Increased vaginal discharge ☐ ☐ 5. Amenorrea ☐ ☐ 6. Don't know ☐ ☐ 7. No response	

Question 710 - 712 (for women who prefer injectable)			
710	Why do you prefer injectable? **(Tick all mentioned)**	1. Yes 2. No 1. Highly effective ☐ ☐ 2. Relatively long acting ☐ ☐ 3. Reversible ☐ ☐ 4. Nothing to remember but the return visit ☐ ☐ 5. Convenient ☐ ☐ 6. No effect on lactation ☐ ☐ 7. It saves time ☐ ☐ 8. Other, specify_____	
711	How often should you get an injection?	1.☐ Every two months 2.☐ Every three months 3.☐ Any other time 4.☐ No response	

712	For what problems, if any, should you come back to the clinic ? **(Tick all mentioned)**	1. Yes 2. No 1. Headache (persistent) ☐ ☐ 2. Weight gain ☐ ☐ 3. Amenorrhea ☐ ☐ 4. Prolonged or heavy bleeding ☐ ☐ 5. Don't know 6. No response	
Question 713 - 715 for women who prefer Norplant			
713	Why do you prefer Norplant? **(Tick all mentioned)**	1. Yes 2. No 1.Highly effective ☐ ☐ 2. Long acting ☐ ☐ 3. Reversible ☐ ☐ 4. Nothing to remember but the return visit ☐ ☐ 5. Convenient ☐ ☐ 6. Other, specify_____	
714	Would you tell me for how long can be left inside once it is inserted?	1.☐ 3 years 2.☐ 5 years 3.☐ Don't know	

715	For what problems, if any, should you come back to the clinic ? **(Tick all mentioned)**	1. Yes 2. No 1. Irregular/ heavy bleeding ☐ ☐ 2. Head ache (severe) ☐ ☐ 3. Infection at normal insertion site ☐ ☐ 4. Don't know ☐ ☐ 5. No response 6. when I feel sick	
Question 716 for women who prefer Condom			
716	Why do you prefer condom? **(Tick all mentioned)**	1. Yes 2. No 1. protects against STD ☐ ☐ 2. Effective ☐ ☐ 3. Convenient ☐ ☐ 4. Rare side effects ☐ ☐ Can be easily obtained ☐ ☐ 6. Protect HIV/AIDS ☐ ☐	
717	Why do you prefer female sterilization ? **(Tick all mentioned)**	1. Yes 2. No 1. Decided to have no more children ☐ ☐ 2. Permanent method ☐ ☐ 3. Highly effective ☐ ☐ 4. Other, specify_____	

718	Why do you prefer female barrier methods? **(Tick all mentioned)**	1.Yes 2. No 1 . Less side effective ☐ ☐ 2. Very effective ☐ ☐ 3. Reversible ☐ ☐ 4. Protect against STD ☐ ☐ 5. Other ,specify_____	
719	Why do you prefer spermicides?	1.Yes 2. No 1.Rare side effects ☐ ☐ 2. Reversible ☐ ☐ 3. Protect against STD ☐ ☐ 4.Very effective, if used together with condom ☐ ☐ 5.Other, specify _____	

The end!

Interviewer **Supervisor**

Name _____ _____
Signature _____ _____
Date _____/ _____/ _____ _____

d m Y

Anne 4 Structured questionnaires for qualitative study

GREETING!

We would like to improve the family planning service being provided in your area in the future. We hoped that discussion with you would be very helpful to strengthen the service and to promote the general well being of both the mother and children. Hence I would like to raise some questions for discussion about the general concept of family planning and utilization of modern contraceptive methods in the community. Before the beginning of the discussion I wish to express my appreciation to all of you for your voluntary participation.

QUESTIONS

1. How do you understand about family planning in general?
2. Do you know abut modern contraceptive methods and what kinds of modern contraceptive do you know?
3. Why do you and other women use modern contraceptive? Verify the reasons?
4. How far are you aware of the family planning service in your area?
5. Where do you get the information, which related to family planning?
6. What is the attitude of the community regarding family planning?

   Probing question related to acceptability, culture, religion, belief etc.
7. Do you want to know more about family planning?
8. What is the best family size in your opinion and do you agree having too large family can be harmful to the health of the mother?
9. When the woman should start to use modern contraceptive methods?

   Probing the question of age, marital status, parity and others

10. How do you think, who should decide about family size and who should take responsibility for practicing modern contraceptive methods?

11. Discuss about men's attitude towards family planning

12. What are the barriers for practicing modern contraceptive methods?

- ⦿ Accessibility
- ⦿ Availability of different kinds of methods
- ⦿ Acceptability
- ⦿Fear of side effects
- ⦿ Cultural and religious opposition
- ⦿Lack of adequate information about family planning
- ⦿ Spousal opposition
- ⦿Desire to have more children

13. Do you have intention to use modern contraceptive methods to control your future fertility?
14. Are you satisfied by the current family service being provided (for currently users)

15. Where do you get from the family planning service?

16. Which modern contraceptive methods do you prefer to use? Do you get method of your choice?
    (Pills, IUD, injectables, Norplant, diaphragm, spermicides, Tubal ligation)
17. Why do you prefer for example: Pills, IUD, injectables, Norplant etc.

18. Probing different types of modern contraceptive in relation to: religion; culture; Husband disapproval; safety; effectiveness; side effects; infertility.

19. Where do you like to get method of your choice and why?

DECLARATION

I , the undersigned, declare that this thesis is my original work and has not been presented for a degree in this or any other university an that all sources of materials used for this thesis have been duly acknowledged.

Name Hanna Yilma (MD)

Signature _____

Place Addis Ababa , Ethiopia

Date of submission April 18 / 2002

This thesis has been submitted for examination with your approval as University Advisor.

Dr. Misganaw Fantahun _____

Advisor' name Signature

Annex 1 **Map of Bahir-Dar town**

*** Felegehiwot hospital , health center and kebele 11 clinic**