Determinants of Abortion Decision in Addis Ababa

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This is to certify that the thesis prepared by **Daniel Alemayehu** entitled: ***"Determinants of Abortion Decision in Addis Ababa"*** and Submitted to Partial Fulfillment of the requirements for the Degree of Master of Science (Population Studies) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

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Abortion continues to be an issue for medical, legal and ethical grounds. Many are hard to say that the desire to abort by a woman is mainly brought by unintended pregnancies. Unintended pregnancy most of the time leads to induced abortion. People also claim that induced abortion is one of the major causes of maternal mortality. But the relationship is not as such linear. There are other more factors to intervene. Thus this paper tried to investigate how a woman reaches a decision of abortion in Addis Ababa with a view of identifying policy options that will assist in reducing the high deaths associated with abortion. The study utilized a facility based study and was conducted from February to Mid-March 2012 in seven selected service providers in Addis Ababa.

The model the study used is developed from the Economic theory of Demand and is carried out using a simple probit regression. Abortion decision is modeled as a function of the full price of the abortion and the respondent's characteristics. This is based on the assumption that abortion is a posterior decision-the decision by a woman who is pregnant not to have the child.

The study reveals that the probability that a pregnant woman chooses an abortion is dependent on prices and cost factors. The opportunity cost of child bearing is found to be positively associated with the demand for abortion. As the associated costs of pregnancies (child delivery and child rearing) increases abortion decision increases. The opportunity cost of abortion (education and unemployment) was found to be significant in some age groups. Among the demographic characteristics marital status is found to be a significant in all age groups where as age of women is not found to determine the probability of abortion in all cases. Taste of abortion (religion and religiosity) is found to be a significant determinant factor of the probability of abortion. Being Catholic/Protestant and being very religious is also found to be important determinant factor of abortion. Direct price of abortion and Contraceptive knowledge and practice are found to be important determinants for abortion in all age groups.

Thus, the study proposed that various policy options aimed at reducing unwanted pregnancies should be set and faithfully implemented. In addition, since nearly half of those who demand for abortion have post abortion complications, the availability of post abortion services in various health facilities can help to prevent unnecessary maternal deaths as a result of these complications.

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ACRONYMS

AA	Addis Ababa
AAU	Addis Ababa University
ANC	Antenatal Care
CEB	Child Ever Born
CPR	Contraceptive Prevalence Rate
CSA	Central Statistical Agency
DHS	Demographic and Health Survey
EDHS	Ethiopian Demographic and Health Survey
EDRI	Ethiopian Development Research Institute
ESOG	Ethiopian Society of Obstetrics and Gynecologist
FGAE	Family Guidance Association Ethiopia
FMoH	Federal Ministry of Health
FP	Family Planning
ICPD	International Conference on Population and Development
IPAS	International project Assistance service
IUD	Intrauterine Device
KAP	Knowledge, Attitude and Practice
LNNP	Last Normal Menstrual Period
MA	Medical Abortion
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MVA	Manual Vacuum Aspiration
NGO	Non-Governmental Organization
PAC	Post Abortion Care
PRB	Population Reference Bureau
RH	Reproductive Health
SPSS	Statistical Package for Social Studies
UNFPA	United Nations Fund for Population Activities
VIF	Variance Inflation Factor
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

Most of the time abortion is considered either in a political or moral context. Thus, when we think about women making the decision to have an abortion, we easily get caught in the idea that their decision is based on a moral stand or that it is a reflection of their values and belief system. While this may be a factor in the decision making process for most women trying to decide what to do when faced with an unplanned pregnancy, their decision is based on the reality of everyday practicalities. The circumstances of their lives are often a crucial part of the decision to choose abortion.

Lawrence et al (2005) indicate that abortion was not something the woman desired to do; instead, these women were deciding not to have a child at that time. Facing unintended pregnancies, they clearly understood the implications of having a child (most of them firsthand) and were aware of their options. They viewed not having a child as their best (and sometimes the only) option.

More than one third of, the approximately 205 million, the pregnancies that occur worldwide annually are unintended and about 20% of all pregnancies end in induced abortion. Of the 23 million pregnancies that occur in developed countries, more than 40% are unintended, and 28% end in induced abortion (ORC Macro International Inc. Calverton, 2007). Approximately 95% of unsafe abortion takes place in poor countries, where access to family planning service is limited. Unsafe abortion accounts for 17% of all maternal death in East Africa (WHO 2007).

In Ethiopia, death and morbidity as a result of unsafe abortion is perhaps one of the least discussed health problem in the country. Every year 25,000 Ethiopian women die due to complication of pregnancy, labor and child birth. This represents a total of 68 deaths per day. Five hundred thousand women also suffer from disabilities related to pregnancy and child health that occur due to unsafe abortion (WHO 2007).

Ethiopia has the fifth highest number of maternal deaths in the world (WHO, 2005). One in 27 women die from complications of pregnancy or childbirth (PBR, 2008) and the maternal mortality ratio, which is estimated to be 673 per 100,000 live births, is extremely high (EDHS, 2005).

Death and disability from unsafe abortion can be prevented in three ways: preventing unintended pregnancy, treating the complications of women who seek post abortion care, and providing a safe, legal alternative to unsafe abortion.

In Addis Ababa and other urban centers, abortion is one of the major four cases of maternal deaths. In Addis Ababa, the finding of Kwast et al, (1986) indicates that unsafe abortion accounted for almost 54% of maternal mortality. A survey of illegal abortion in Addis Ababa shows that abortion hospital occupancy rate among mothers represents 32.2% (MOH, 2008). According to Singh et al (2010) abortion rate in Addis Ababa (49 per 1000), which is twice the national average, is likely to be the result of many factors. Among them is a strong motivation on the part of couples to have small family that is not matched by consistent use of contraceptive.

Women who suffer from the complications of unsafe abortion require immediate medical intervention. A host of complications are associated with unsafe abortion and studies have shown that morbidity is as high as 40% (Moodley, 2003).

The decision to terminate a pregnancy would have a multi-dimensional risk on women. Risks of abortion extended up to effects on physical, psychological, sexual and other relationships. Such problems would limit the productivity of women inside and outside home.

The decision to abort is typically determined by multiple, diverse and interrelated factors. Demographic, Socio-economic and societal knowledge, attitude and practice towards abortion, not using contraceptives are the major determinant factor of induced abortion.

Until 2005, the Ethiopian penal code permitted abortion that is intended only to save the pregnant woman's life or to preserve her health from grave danger, and required diagnosis and certification by a medical practitioner, as well as confirmation by an obstetrician/gynecologist. In 2005, the penal code was amended to permit abortion under a much broader set of circumstances. Abortion is permitted in the case of rape, incest or fetal impairment. It was also allowed if pregnancy continuation or birth would endanger the health or life of the woman or the fetus; if the woman has physical or mental disabilities, and if the woman is a minor who is physically or mentally unprepared for childbirth (MOH, 2006). In most cases, a woman's statement is sufficient to establish the legal indication for her, and to allow her to abort. Although the reformed code is in practice for the last six years are hardly changed, and the expansion of safe abortion services has progressed slowly. Ipas (2010) indicates that notwithstanding the new law, almost six in 10 abortions in Ethiopia are unsafe.

Thus, this study investigated the demographic, socio-economic and contraceptive determinants of abortion decision in Addis Ababa.

1.2 Statement of the problem

Abortion becomes a controversial and complicated issue due to its political, ethical and religious dimension in the society. Especially, in developing countries, where there are restrictive abortion laws and low contraceptive knowledge, limited access and practice to safe abortion practices, induced abortion continues to be the major reproductive health problem.

The high mortality arising from unsafe abortion has led to research on how to reduce the maternal death arising from abortion. Studies have shown that abortion has high economic consequences given the high amount of funds that goes into both abortion and post abortion care (Henshaw, 2008).

The outcomes of spontaneous versus induced abortion have been analyzed by ESONG (2005) and have lead them to the conclusion that maternal deaths are more often outcomes of induced abortion. Even in studies where the majority of cases reported were spontaneous abortions, the majority of deaths were attributable to induced abortions.

Unsafe abortion continues to be common in Africa, despite global efforts to improve post abortion care and advance reproductive rights, rising contraceptive use and a continent wide trend toward easing abortion restrictions. Unsafe abortion remains a leading cause of maternal mortality and morbidity in Africa, accounting for an estimated 14% of maternal deaths. Every year, nearly 5.5 million African women have an unsafe abortion; as many as 36,000 of these women die from the procedure, while millions more experience short- or long-term morbidity (WHO, 2007).

Ipas' (2004) estimation indicates that, each year about 70,000 women across the globe die from unsafe abortions and countless others suffer serious injuries. Unsafe abortion affects women, their families and their communities.

The annual number of induced abortions in Africa rose between 1995 and 2003, from 5.0 million to 5.6 million in 2003. Most of the abortions occurred in eastern Africa (2.3 million), Western Africa (1.5 million) and North Africa (1.0 million). Despite the increase in the number of abortions, the annual abortion rate declined between 1995 and 2003 from 33 to 29 abortions per 1000 women aged 15-44 (Guttmacher, 2009).

One of the causes of maternal mortality in Ethiopia is induced abortion (WHO, 2007). According to WHO (2011), in Ethiopia, an estimated 382,500 induced abortions were performed in 2008, for an annual rate of 23 abortions per 1,000 women aged 15–44. Some 103,000 abortions (27% of induced abortions) were safe procedures performed in health institutions. An additional 58,000 abortions (15%) were safe but were not captured by the survey's count of legal procedures provided by public and private sector

hospitals, health centers and clinics. Some of these abortions were legal, and most were performed by private providers, whether in private practice or in small facilities. About half of all health facilities in Ethiopia provide induced abortion services. However, the proportion is much higher for public hospitals (76%) and private or nongovernmental organization (NGO) facilities (63%) than for public health centers (41%). These proportions are changing rapidly, as efforts are being made to expand abortion services in public facilities. Currently, private and NGO facilities provide the most induced abortions. Access to second-trimester abortions is severely limited. Only 9–10% of all facilities have a provider who can perform this service (WHO, 2011).

In Ethiopia, death and morbidity as a result of unsafe abortion is perhaps one of the least discussed health problem in the country. WHO (2007) indicates that one in seven women die from pregnancy-related causes; unsafe abortion causes more than half of the 20,000 maternal deaths that occur annually in the country; abortion with sepsis, a toxic and often fatal blood condition, is the sixth-leading cause of hospital admissions for Ethiopian women and girls.

A nationwide study from June to December 2000 by Tekle-ab et al. (2000) indicated that Amhara and Oromia accounted for 48% and 20% of all cases, respectively. The distribution of patients by region shows that the majority were from Amhara (27.6%), Addis Ababa (25%), Tigray (15.9%), and Oromia (13.2%). The leading institutions that report the highest number of abortion cases are Gondar (16.8 %), Mekele (15.7 %), Ghandi Memorial (12.8 %), and Yekatit 12 (10.1 %) hospitals.

MOH (2006) suggests that both in and outside of Africa, legal reform is not enough to eliminate unsafe abortion. Researchers and policymakers emphasize the need to reduce abortion stigma, inform citizens of their rights, and address inequities in abortion accessibility.

Globally, abortion complications alone constitute 13% of all maternal deaths (Banerjee, 2007). Tackling this problem will go a long way towards achieving one of the millennium development goals, which aims to reduce overall maternal mortality by two thirds by year 2015.

Though related researches have been made on abortion issues, determinants of abortion decision in Addis Ababa are not clearly known. In order to fill this gap in evidence based information, and help in programming for the reduction of maternal deaths due to unsafe abortion, a cross sectional hospital based study of in 7 health facility providers in Addis Ababa was conducted. The demographic and socio-economic determinants as well as attitude, knowledge and practice towards abortion and women's contraceptive use were considered for the analysis of women's decision to abort.

CHAPTER TWO

LITERATURE REVIEW

2.1 Consequences of unsafe abortion

Abortion has consequences on the physical, psychological and sexual aspects of women's life. Physical risks of abortion are extended from short term to long term effects that limit women's productivity inside and outside home. Abortion would have long term adverse mental health effects, like feelings of guilt, unresolved loss and lowered self-esteem. It also affects sexual and other relationships of women.

In 2008, an estimated 52,600 women received care in a health facility for complications of unsafe abortion. One hundred women die in Ethiopian health facilities each year from abortion-related complications, but many more suffer from injuries or illness related to unsafe procedures. Four out of ten women seeking post abortion care show signs of infection or invasive injuries when they arrive at a health facility. Twenty-three percent of all women seeking post abortion care suffered complications severe enough to require hospitalization. Ethiopian health professionals estimate that 58% of all women who have an abortion experience serious complications and that only about a quarter of these women (or about 14%) receive treatment for these complications. The remaining 42% do not have complications that require medical care. The rate of complications treated in facilities in urban areas is substantially higher than the national average. These higher rates can be attributed to several factors including lower access to health facilities. Women from rural areas need to travel long distances to urban centers where they can obtain post abortion care. (Singh S. et.al, 2010)

2.2 Factors that determine abortion decision of women

Factors that determine abortion decision of women can be classified in to demographic and Socio-economic factors.

2.2.1 Demographic factors

The most important demographic factors that are considered in this study which lead women to the decision to abort are age and marital status. Studies conducted by Bicker (1981), Medoff (2008) and Olanike (2011) in different part of the world, showes that young and single women are more likely to perform induced abortion than their old and married counterparts.

Age of the women is one of the most important demographic factors that determine the rate of abortion among women. A recent review found out that nearly 2.5 million of all unsafe abortions in developing countries are performed by women less than 20 years of age and from this the proportion of those who have had induced abortion were higher in Africa than in any other region in the world (WHO, 2004). Bankol et al. (1999) also

found out that in the continent of Africa, the age of a woman plays crucial role on her likelihood of experiencing abortion. The likelihood of young women to perform abortion is by far larger than older women.

Some research has indicated that demographic factors are significantly related to psychological outcomes of abortion. For example, younger and unmarried women without children are more likely to experience negative outcomes than those who are older and who has already given birth (Adler et al., 1992). More recently Adler et al. (2003) found out that for adolescents having an abortion is associated with better psychological outcomes, including reduced anxiety, higher self esteem and more internal locus of control.

Although concern for abortion is experienced by all groups, different age groups of women give diverse reasons for having abortions. According to Lawrence et al's (2005) finding younger women who have not begun to bear children often report that they are unprepared for the transition to motherhood, while older women, the large majority of whom were already mothers, regularly cite their responsibility to children or other dependents as a key factor behind the decision to have an abortion.

Olanike et al (2011) found out that in Nigeria age of the woman is important factor, as very young and older women have higher probability of demanding for abortion and single women are also found to have higher probability of abortion than married women.

A single woman (or a married woman who has been unfaithful) may want to avoid public knowledge of her sexual activity. A young single woman may feel unready to parent, particularly if her boyfriend is not supportive. For a teen, the reaction (or anticipated reaction) of her family members, can lead to the decision to abort. A married couple in a poor financial situation may already feel overwhelmed with the burden of supporting their family, and feel unable to accept an additional child. A couple with older children may be dismayed at the thought of starting all over again with the lengthy process of raising a child.

Induced abortions are much more common in urban regions, where fertility rates are low. Induced abortion is being used by younger women who want to space births, rather than by older women who have already had all the children they want. Women seeking induced abortion in 2008 had a mean age of 23, and the majority (54%) was single. Women seeking post abortion care had a mean age of 28, and the large majority (81%) was married. Some 79% of women who had had an induced abortion and 92% of women who had sought post abortion care were already mothers. (Singh S. and et al, 2010)

2.2.2 Socio-economic factor

Economic theories indicate that the demand for a product is determined by the price of the product, the taste (preference) of consumers, the income of consumers and the price of related goods (substitutes and complements) or the opportunity cost of related goods. Likewise, the demand for abortion is determined by price of abortion, taste of abortion,

income and opportunity cost of child bearing and rearing. Since abortions are not fundamentally different from other conventional goods and services one would expect the fundamental law of demand to hold. Bicker (1981), Medoff (2008) and Olanike (2011) and others use abortion as conventional goods and services in their studies.

Though there are many socio-economic factors that determine the decision of a woman to terminate a pregnancy, only the major ones are considered in this study. These are opportunity cost of child bearing and rearing, direct cost (price) of abortion, income and taste of abortion.

2.2.2.1 Opportunity Cost

Opportunity costs can be captured by educational attainment and occupation of the woman. The occupation is a measure of the probability of the young woman working or finding a job to do. Working women are hypothesized to have a higher value of time than an otherwise identical but unemployed woman or housewife.

Even women who have support and resources still choose abortion, as they feel "not ready" to provide for and meet the physical and emotional needs of a child. In counseling, women talk about circumstances such as financial security, marriage, school, work, and messages that they receive from society that impact their decision. Also, if women already have children, the consideration of being ready to add to their family is a factor. At the other end of the spectrum, women in their 30s and 40s may have grown children and don't wish to go back to raising a baby. Some women also decide that they don't want to be a mother at all.

Medoff (2008) indicated that women in the labor force, regardless of marital status, have a greater opportunity cost of an additional child than women not in the labor force and should have a greater demand for abortion.

Lawrence et al (2005) found out that having a child would interfere with a woman's education, work or ability to care for dependents; that she could not afford a baby now. Olanike et al (2011) discovered that level of educational attainment of women is found to be significant determinant of abortion, and the costs of abortion to more educated women are higher than costs of less educated women.

Given the full price of an abortion is directly related to the time-intensive activity of birth and childbearing, we measure the opportunity cost of abortion with several variables in order to attempt to capture different dimensions of the value of the respondent's time.

2.2.2.2 Direct Cost / Price of Abortion

Demand for abortion is expected to be influenced by the price and costs of abortion procedures. According to economic theory of demand, demand for a product decreases as price increases. This implies that as the price of abortion increases, the demand for abortion decreases or women's need to abort decreases.

Treating the complications of unsafe abortion often requires surgery, expensive drugs and supplies, and prolonged hospital stays (Vlassoff et al., 2008) and the cost of treating a septic abortion is estimated to be four times that of an assisted delivery (Konje et al, 1992). In some developing countries, treating complications of unsafe abortion consumes up to 60%of the total annual budget for gynecologic care (Johnston et al., 2007). According to one estimate, the annual cost of treating abortion complications in Ethiopia— including expenditures incurred by either women or the health system—was almost US$8million in 2000 (Tekle-ab M. et al, 2007).

In Ethiopia the average cost for the treatment of incomplete abortion per woman in government health facilities was estimated at Birr 309.08. This cost estimate showed the direct medical cost incurred without taking into account depreciation costs of facilities, and medical equipment. Other opportunity costs like absence from work, school, and time lost in providing household care, etc. were difficult to either measure or estimate. When the average cost of treatment was disaggregated by severity of illness, it was found out that the direct medical cost showed a progressive increment with the severity of illness. Accordingly, the cost for mild abortion was Birr 124.03, for moderate Birr 428.11, and for severe abortion was Birr 1007.54. This showed that the cost for moderate and severe abortion was more than three-fold and 8-fold, respectively when compared to the mild abortion cases. (Tekle-ab et al, 2007)

A similar study in Nigeria by Henshaw (2008) showed that an estimated $19 million are spent annually in treating unsafe abortion complications, and that it would cost only $4.8 million to prevent those unintended pregnancies, a cost-benefit ratio of four to one.

Olanike et al (2011) revealed that in Ibadan, Nigeria the probability that a pregnant woman chooses an abortion is dependent on prices and cost factors. The opportunity cost of child bearing is found to be positively associated with the decision for abortion. This is premised on the availability and use of contraceptives to prevent unwanted pregnancies and the association and the associated costs of pregnancies, child delivery and child bearing.

2.2.2.3 Income

Income is used to reflect the primary measure of opportunity cost of time by being considered as a proxy for the value of time. Income earnings are included as a measure of the ability to finance the cost of children.

Financial problems exacerbated by other forms of instability, limit women's ability to provide sufficient support to additional children. Many women choose abortion for these kinds of financial considerations. Many women state that they "have no real choice," as they do not have the financial resources to support themselves and a child. According to Laurence et al (2005), women's limited resources, such as financial constraints and lack of partner support, regularly appeared in survey and interview responses. Majority of women cited financial hardship, often along with other reasons.

The concept of responsibility is inseparable from the theme of limited resources; given their present circumstances, respondents considered their decision to have an abortion the most responsible action. The fact that many women cited financial limitations as a reason for ending a pregnancy suggests that further restrictions on public assistance to families could contribute to a continued increase in abortions among the most disadvantaged women.

Financial difficulties are often the result of lack of support from one's partner, or lack of a partner altogether; and the financial and emotional responsibility to provide for existing children without adequate resources makes it too hard for some women to care for another child.

Another face of the relationship between income and abortion is that according to the theory demand, as prices are getting higher and higher irrespective of the increase in income, demand will decline. Likewise, as prices of abortion are getting higher and higher, the demand for abortion by women decreases because it becomes unaffordable. In countries where abortion is considered as illegal, the price of abortion becomes expensive. Most women believe that safe abortion are offered at better facilities which are associated with higher prices and as such the type of facility and prices charged significantly influence the decision to abort and where.

2.2.2.4 Taste of abortion

Another determinant factor for women's decision to abort is her tastes and preferences towards abortion. The taste for abortion is measured by the religious inclinations of the respondents as well as their choice of religious affiliation. Each religion has many varying views on the moral implications of abortion with each side citing their own textual proof. Most of the time, these views span from acceptance to rejection. Religiousness measures how a woman is committed to her religious commandments. As more religious a woman is, the lower her opportunity to terminate a pregnancy.

In light of the public debate over the morality of abortion, it is notable that women emphasized their conscious examination of the moral aspects of their decisions. Although some women describe abortion as sinful and wrong, many others describe the indiscriminate bearing of children as a sin, and their abortion as "the right thing" and as "a responsible choice." In the studies by Lawrence et al, (2005), respondents often acknowledged the complexity of the decision, and described an intense and difficult process of deciding to have an abortion, which took into account the moral weight of their responsibilities to their families, themselves and the children they might have in the future.

Olanike et al (2011) found out that in all age groups, Christians and Muslims have less probability of demand for abortion than women who practice other religions. However, in the case of religiosity, it is only those who are fairly religious that have less probability of abortion demand. They also noted that in the case of women above 30 years old, taste for abortion is not a significant determinant of abortion demand.

2.3 Societal Knowledge, Attitude and Practice towards abortion

Abortion is common and it should be considered as part of a broader reproductive health agenda. Uterine evacuation is one of the most common surgical procedures worldwide. As shown in one cross-sectional study reported in this review, 21% of a random selection of married women reported a history of abortion. Still, one 5-year review of maternal deaths in a teaching hospital pointed to the finding that 91% of those deaths occurred among un-booked mothers with no history of care before their obstetrical emergency treatment. Interventions and studies that encourage an open and reliable exchange of information and attack on the stigmatization of these women can save lives by encouraging early access to information and treatment of incomplete abortion.

According to the KAP studies included in this review, the majority of women with a history of abortion do not receive the formal health care system while terminating pregnancy. One KAP study reviewed here indicated that only 16% of women who reported to have had an abortion ever attended a health facility. One study cited that 1/3 of women who confessed to having had an abortion bled for seven days or more.

Little work has been done to look at the issue of abortion through women's eyes. More qualitative research that builds a body of work from women's own experiential perspectives is needed. In addition, it is necessary to conduct more community-based descriptive studies that examine the true extent of the problem and the impact on the lives and livelihoods of women and men.

2.4 Contraceptive Knowledge and Practice

The availability of high-quality contraceptive services would be associated with lower levels of abortion, since women who use an effective method of contraception simply are much less likely to face an unintended pregnancy and the possibility of an unwanted birth or abortion. Policies concerning induced abortion prevention alone are not enough for reducing maternal mortality.

Women who undergo an abortion need to be also fully assisted in RH services in order to avoid complications that jeopardise their health and lives. Therefore, comprehensive post-abortion care must be considered a priority.

EDHS (2011) indicate that the CPR is doubled from that was reported in the 2005 EDHS (29 percent compared to 15 percent). While CPR among urban women has only slightly increased in the last five years (47 to 53 percent), CPR has doubled from 11 percent in 2005 to 23 percent in 2011 among rural women. There are large differences in levels of contraceptive use by region. Addis Ababa has the highest CPR at 63 percent. While about one-third of married women in Amhara, Gambela, Harari, and Dire Dawa are using a method, the corresponding rate in both Affar and Somali is below 10 percent

(EDHS, 2011). Low levels of contraceptive use lead to high levels of unintended pregnancy, the root cause of abortion.

Gebreselassie H et.al (2010) in 2005, one in three Ethiopian women had an unmet need for contraception; that is, they were able to become pregnant, did not want a child soon or at all, and were not using any method of contraception.

Women who indicate that they either want no more children or want to wait for two or more years before having another child, but are not using contraception, are a group identified as having an unmet need for family planning. A higher proportion of women in rural areas (28 percent) have an unmet need for family planning (18 percent for spacing and 9 percent for limiting) compared with urban women (15 percent), whose unmet need for both spacing births and limiting childbearing is 8 percent and 7 percent respectively. At the regional level, total unmet need for family planning is highest in Oromia (30 percent) and lowest in Addis Ababa (11 percent). Fifty-three percent of currently married women in Ethiopia report that their demand for family planning is satisfied; over 50 percent of demand is satisfied by modern methods. (EDHS, 2011)

Limited access to contraceptives for all groups of women has been clearly identified as a determinant factor of unwanted pregnancy and subsequently, induced and even spontaneous abortion in some studies. Studies also provide compelling evidence that not only lack of access to reproductive health services but also lack of knowledge and misconceptions about contraceptive methods lead to unwanted pregnancy. Drawing attention to the unmet demand for family planning methods among all groups is essential in reducing unwanted pregnancy and in decreasing abortions.

2.5 Legalization of abortion in Ethiopia

As is the case in many developing countries, availability of annual data on incidents of abortion is very difficult in Ethiopia. This is because of the criminality of abortion and the social stigma attached to the practice. In places where religious and traditional beliefs are still predominating, abortion is strictly prohibited by the family, the church, the policy and other social institutions. Abortion has been condemned by religion and is labeled as sin, immoral and punishable by law.

Restrictive laws only drive women to undergo abortion illegally and in unsafe conditions. Nevertheless, safe abortions for all cannot be achieved without legislative changes in the countries where they are prohibited.

In 2005, Ethiopia expanded its abortion law, which had previously allowed the procedure only to save the life of a woman or protect her physical health. Article 551 of the penal code of the FDRE allows termination of pregnancy under the following conditions:

a) the pregnancy is the result of rape or incest;

b) the continuance of the pregnancy endangers the life of the mother or the child or the health of the mother or where the birth of the child is a risk to the life or health of the mother;
c) where the child has an incurable and serious deformity;
d) where the pregnant woman, owing to a physical or mental deficiency she suffers from or her minority, is physically as well as mentally unfit to bring up the child.

In the case of terminating pregnancy in accordance with sub-article (1) (a) of Article 551 the mere statement by the woman is adequate to prove that her pregnancy is the result of rape or incest. (EFDR Criminal code, 2005)

Four years after the abortion law was liberalized, only a quarter of all abortions in Ethiopia occur in safe and legal settings. Efforts to provide safe abortion care have been most successful only in urban areas; services remain especially limited in rural areas, where the majority of Ethiopian women live. Many women and health care providers alike are unaware of the expanded criteria under which abortion is legal and that too few health care facilities outside of urban areas are equipped to offer the services. (Hailemichael G., 2010).

2.6 Conceptual Frame work

Although the reviewed literature identifies a number of factors that affect the rate of induced abortion, only the major ones are included in this study. Therefore, the conceptual framework is given as follows:

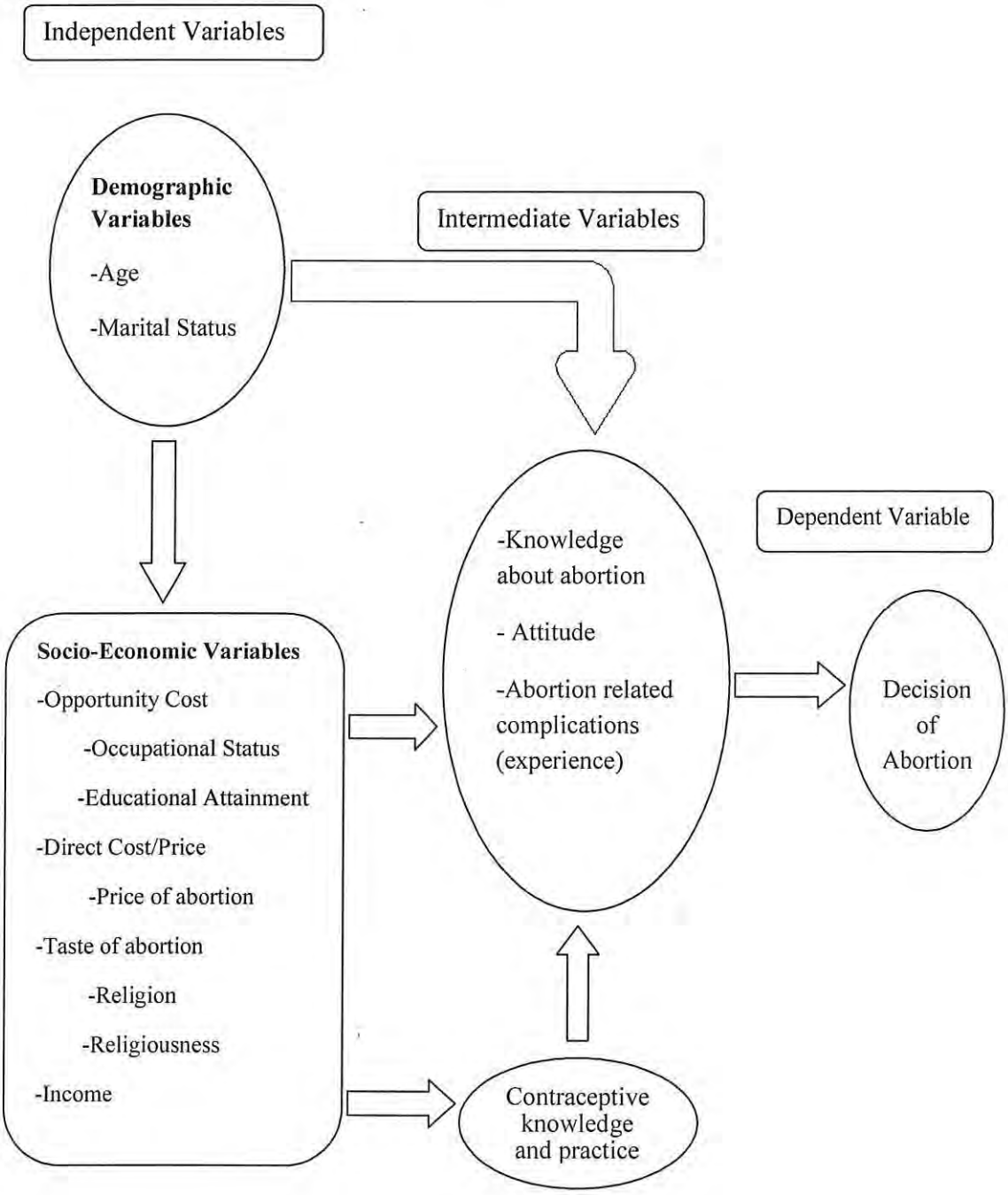


Figure 1.1: Conceptual framework

2.7 Objectives of the study

2.7.1 General Objective

The objective of the study is to investigate the factors that determine the decision of woman to abort in Addis Ababa with a view of identifying policy options that will assist in reducing the high deaths associated with abortion.

2.7.2 Specific Objectives

The study has the following specific objectives:

1- identifying the determinants of women's decision to abort;

2- examining the effects of knowledge, attitude and practice of women towards abortion;

3- explaining the relationship between the decisions of abortion and contraceptive practices.

2.8 Research Questions

In view of the problems mentioned above, the research attempts to answer the following basic questions.

1- Why do women decide to abort?

2- What are the socio-economic factors that lead women to undergo abortion?

3- Does inconsistent use of contraceptives affect abortion?

4- Do women decide to abort based on prior knowledge of the outcomes of abortion?

2.9 Significance of the study

ICPD (1994) emphasizes that women who have unwanted pregnancies should have ready access to reliable information and compassionate counseling. But most of the time abortion is considered as a taboo and is made a religious issue. Because of this, researches do not frequently consider it. Lack of reliable information or shortage of necessary data on this problem has put a number of activities in one basket that would have helped in making the situation better.

Given the huge gap in abortion information, which has resulted in a lack of solid data-based information for initiating and orienting programs, the need for well-designed quantitative and qualitative studies is crucial.

The abortion studies already conducted need not only to be replicated to validate information, but also to be improved and methodologically strengthened. More studies need to be conducted in both clinical settings as well as in communities. Intervention and operations research that evaluate practical service in reproductive health should be encouraged in order to explore options for the future.

This study hopes to add knowledge on the determinants of abortion decision in Addis Ababa. Evidence on the magnitude and structure of the demand for abortion is critical for policymakers, service providers and advocates seeking to mobilize resources to improve the situation. It is against this background that the study was conceived. It aims at investigating the demand for abortion and intuitively drawing possible inferences and recommendations for policy making purposes.

2.10 Limitations of the study

The limitations of the study are the following:

i) The issue of abortion by itself is sensitive and is not to be talked in public by the society. Therefore, abortion practices are subjected to misreporting. For this reason, women who practiced abortion were not ready to give information about their earlier practices. Those Women who are going to abort also were not voluntary to discuss this issue in public.

ii) Purposive (non-probability) sampling method was employed, which is commonly used method for such type of studies though it restricts further analysis of data and generalization of the result to the source population. The type of people who are available for the study in the specified time may be different from those in the population who can't be located and this might introduce a source of bias.

iii) There may also be a possibility of recall bias and age heaping.

2.11 Operational Definitions

Abortion - is the termination of pregnancy before the fetus is capable of extra–uterine life.

Age of women - age in completed years at the time of the study

Antenatal Care - a care given to women from pregnancy to the time of delivery

Childbearing - the process of carrying a child in the womb and giving birth to it

Childrearing - care for child until fully grown

Demand for abortion - the level of desire or need that exists for abortion

Direct cost of abortion - the price incurred to make abortion

Gravidity - the number of pregnancy ever experienced by women

Induced abortions - are abortions caused by deliberate interference and include those performed in accordance with legal sanctions and those performed outside the law.

Opportunity cost of abortion - the cost of abortion decision regarded as the value of the alternative that is forgone.

Parity - the number of children born alive to women

Post Abortion Care - is health care given to women after abortion.

Spontaneous abortion - is an abortion where the expulsion of an embryo or fetus due to accidental trauma or natural causes.

Still birth - the birth of a dead fetus after the 28^{th} week of pregnancy

Taste of abortion - the response of the women towards abortion and this is mainly expressed by the religion and the religiosity of the women

Unmet need - women and couples who do not want another birth within the next two years, or ever, but are not using a method of contraception

Unsafe abortion - refers to the termination of an unintended pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards, or both. (WHO definition)

Unwanted pregnancy- is a pregnancy that is untimely and unacceptable to the other, the partner or their parents and the society in general.

CHAPTER THREE

RESEARCH METHODOLOGY

In this part, subjects like instruments, procedures and techniques used for data collection and model employed for data analysis are described.

3.1 Research Design

3.1.1 Study Area

The study was conducted in Addis Ababa. According to the 2007 Population and Housing Census, the population of Addis Ababa was 2,739,551. Out of these 1,305,387 were males and 1,434,164 were females. From the 1,434,164 females 66.1% (947,855) are in their reproductive ages (15-49).

In Addis Ababa, there are 37 hospitals (two NGO, twelve governmental, and twenty three private), 29 Health centers, 116 private non-profit and 357 private for profit clinics (Jemilla, 2008); 32 health posts and more than 500 private health institutions. All provide health services including ANC and delivery (Hussein, 2008).

3.1.2 Study Design

A facility based cross-sectional study design was employed. Both qualitative and quantitative data analysis were carried out to assess factors that determine the demand for abortion in the city.

3.1.3 Study Population

The target population was pregnant women in reproductive age group (15-49) who visited the selected hospitals/clinics for ANC and abortion services in the city during the study time.

3.1.4 Sources of Data

Primary as well as secondary sources of data were used. Primary data were collected using structured questionnaire and in-depth interview with key informants. The questionnaire was prepared in English and then translated into Amharic. The secondary data sources were published and unpublished sources mainly from CSA, MOH, WHO, IPAS, JSTOR and Marie Stops International.

3.1.5 Sampling Design

The sample size of the study covers all women who seek abortion and ANC service and visit the selected health facility provider within six weeks time. Since it is difficult to get the number of abortions made by each health providers in the previous years, it is difficult to allocate the sample size among providers.

A stratified sampling design was used in which stratification was made based on the type of health facilities (government, private / NGO). There are 12 government hospitals, 23 private hospitals and 2 NGO health facility providers which deliver comprehensive abortion care in Addis Ababa. Five government health facilities and two private/NGO facilities were selected for the study. The governmental ones include Gahndi Memorial, Yekatit 12, Zewuditu Hospital, Arada Health Center and Kazanchese while, Family Guidance Association Addis Ababa model Clinic Branch and Family Guidance Association Saris Branch are from the NGO/Private group. All voluntary women who visited these health facility providers for abortion and ANC service within six weeks were interviewed.

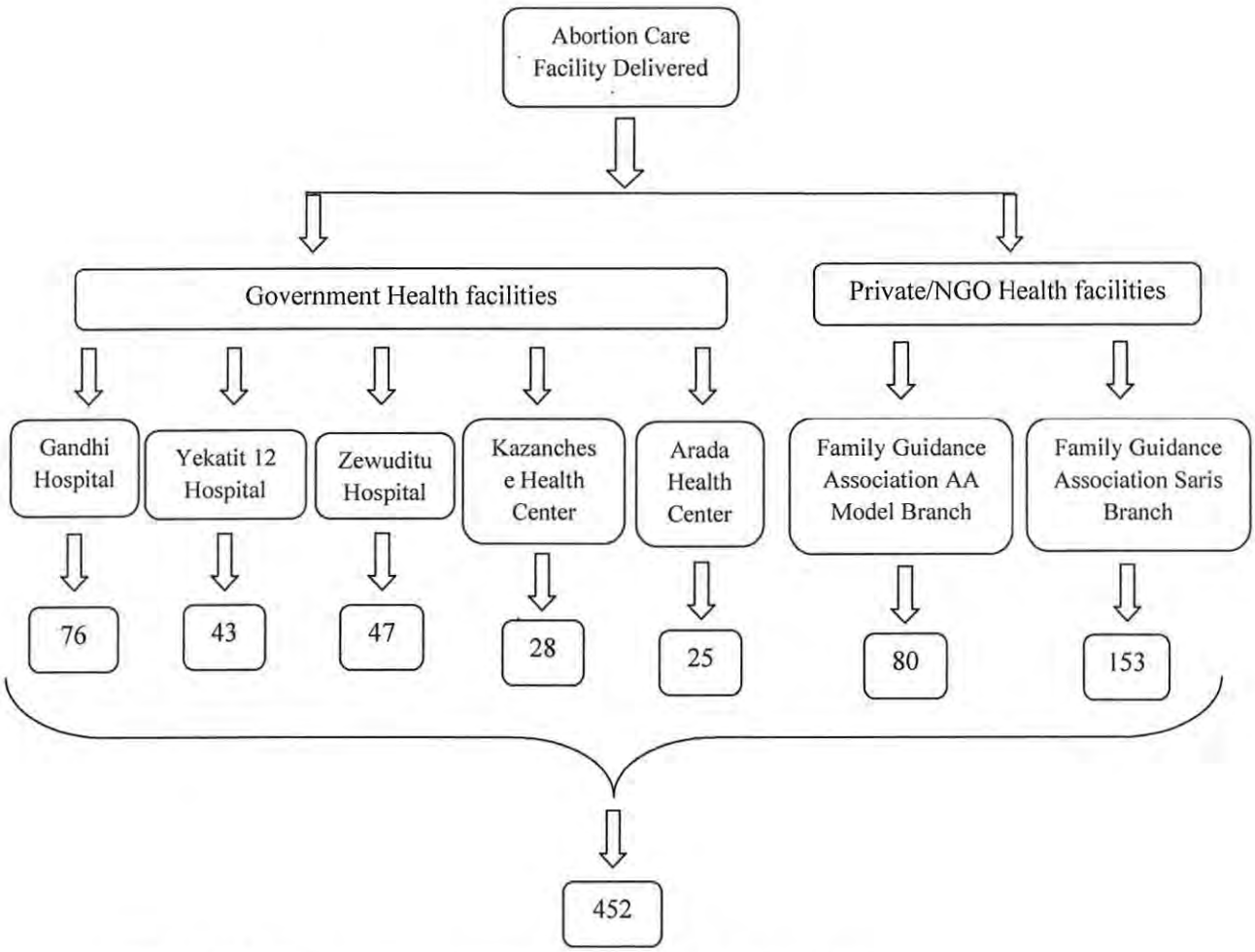


Figure 2.1: Schematic presentation of the sampling procedure

3.1.6 Data Collection

Quantitative data regarding the demographic (individual) and Socio-economic determinants of induced abortion were collected through structured questionnaire. The questionnaire had six parts. The first part included the demographic characteristics of the respondents and the second part incorporated the socio-economic characteristics of the

study population. The third part dealt with the attitude, knowledge and practice of women towards abortion. The fourth part discussed the knowledge and use of contraceptive and the last one incorporated the decision of women to abort. In addition to this, to support the quantitative data, qualitative data were collected through in-depth interviews with key informants working in the health facilities. The data collection was held within 6 Weeks by trained data collectors/ midwives.

3.1.7 Data quality

To insure data quality training, supervision and pretest were made. Proper theoretical and field training were given to data collectors and supervisors. Close supervision and immediate feedback were made when problems occurred.

Pretests were also conducted by two trained investigators on 20 women. This helped to evaluate the applicability of the whole study. Based on this result, the research methodology including the questionnaire was revised.

3.1.8 Variables

a) Dependent Variable

The dependent variable is abortion decision of a woman. Pregnant women who have decided to abort and visited health facility providers were considered.

b) Intermediate Variables

These are variables that measure the knowledge and attitude of women towards abortion and contraceptive use. Women's knowledge on abortion includes their knowledge of safe and unsafe abortion, consequences of abortion and abortion law. Women's attitude towards abortion and knowledge of contraceptive use were also among the intermediate variables.

c) Independent Variables

Demographic and socio-economic characteristics are the independent variables. Variables that explain demographic factors are age and marital status of the women. Socio-economic factors are also explained by the opportunity cost of child bearing and rearing (educational and employment status of a woman), direct cost (price of abortion), taste of abortion (religion and religiousness) and income of the women.

3.1.9 Data Processing and Analysis

Both descriptive and inferential statistics are used to analyze the data. For data processing, univariate and bivariate analysis SPSS statistical package version 16 is used and for the multivariate analysis STATA 11 econometric package is used. Estimations

are made using Probit regression both by dividing the population into different age groups (15-25 and 26-49) and by taking the population as a whole (age 15-49). Marginal effects of each variable are estimated to compare the significance and magnitude of each determinant in the corresponding age groups.

3.1.10 Ethical considerations

The study proposal first got official approval from the department of population studies, Addis Ababa University. Since the research was undertaken in Addis Ababa, Addis Ababa Regional Health Bureau is the primary body which will be informed and requested for an official approval. After the research team had approved the proposal, letter of collaboration was sent to all selected health facility providers.

Reproductive health problems in general and abortion in particular are sensitive and uncommunicative issues in communities like Ethiopia. As a result, it was critical to take into account different ethical issues while this research is underway especially during data collection. Moreover verbal consent and written consent were prepared and read to the respondents to get their consent before the interview. For those who were not be comfortable to participate in the study, their right were respected; confidentiality and privacy were maintained for all the respondents. Detailed explanation about the objectives and importance of the study was given verbally to all respondents; name and other identifiers remain undisclosed in the study. They were also be insured that their response were only be utilized for research purpose. Data collectors were also be informed and trained to approach women in friendly manner so that they can develop trust and express their feeling freely.

3.2 Model Specification

The theoretical model in this study is adopted from Olanike and Olaniyan (2011), Medoff (2008), Coelen and McIntyre (1978) and is developed from the Economic theory of Demand. Abortion decision is modeled as a function of the full price of the abortion and the respondent's characteristics. This is based on the assumption that abortion is a posterior decision-the decision by a woman who is pregnant not to have the child. Since abortion can be considered a method of contraception, the demand for abortions is modeled in terms of the explicit and opportunity costs at the time of the abortion decision {(Coelen and McIntyre (1978) and Olanike and Olaniyan (2011)}.

The abortion choice (given a pregnancy) is thus binary in nature as the effect of variables on the decision to abort is the negative of the decision to give birth.

We use a probit specification to estimate the likelihood (probability) that a pregnancy will be aborted. It is assumed that when pregnant, two choices of whether to deliver the baby or terminate the pregnancy are presented to a pregnant woman and one of the alternatives must be chosen.

The maximum utility that the woman receives or expects to receive by making either choice can be expressed as functions of characteristics specific to the individual. Thus the utility received by the already pregnant i^{th}-individual choosing alternative A would be

$$U_{iA} = \sum_{j=1,k} \beta_{jA} X_{ij} + u_{iA} \qquad (1)$$

Where A is either choice 0 (birth) or 1 (abortion), j is an index representing 1 through k variables, and u_{iA} is a random error term associated with each equation. There exists an unobservable random variable of the difference in utilities such that two equations indicated by (1) can be expressed as

$$y_i^* = U_{i1} - U_{i0} = w_i + u_i = \sum_{j=1,k} \beta_j X_{ij} + u_i \qquad (2)$$

Where $\beta_j = \beta_{j1} - \beta_{j0}$, $u_i = u_{i1} - u_{i0}$ and $X_{i1} = 1$, but observations on the outcomes of the decision-making process are limited to

$$y_i = \begin{cases} 1, \text{ if } U_{i1} > U_{i0} \text{ or } -w_i < u_i \\ 0, \text{ otherwise} \end{cases} \qquad (3)$$

If the disturbances in (1) are independently and identically distributed as normal, then a probit model can be specified for maximum likelihood estimation of the parameters β_j. The probability the woman chooses an abortion, P_i is

$$Pi = \text{Prob}(y_i = 1) = \text{Prob}(u_i > -w_i) = F(w_i) \qquad (4)$$

Where $F(w_i)$ represents the normal cumulative distribution function. Given the above the estimated equation becomes

$$\Pr(\text{abortion}) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

X_1 = Individual variables (demographic variables)
X_2 = Opportunity Cost (employment and education opportunity for parents)
X_3 = Price of abortion
X_4 = Income
X_5 = Taste for abortion (measured by the religious inclinations of the respondents as well as how religious the women are in their chose religious affiliation)

CHAPTER FOUR

FINDINGS OF THE STUDY

The survey collected a wide range of information essential for understanding the determinants of maternal decision. A total of 452 women who were pregnant at the time of the survey and in the past seven days before the data collection time (February to Mid-March, 2012) were interviewed.

4.1 Response Rate and Quality of Age Data

Response Rate

For this study 452 pregnant women were successfully interviewed on voluntary basis. Among them were 232 (51.3%) women who decided to terminate the pregnancy starting from a week prior to the study time and 220 (48.7 %) women who decided to continue their pregnancy. In terms of response, all questionnaires have been filled out, and hence, the findings accurately reflect the response of these people. Women who visited the selected health facilities from the beginning of February to mid-March 2012 (for six weeks) and only those willing to provide the information were interviewed.

Quality of Age Data

Obtaining reliable age information in surveys and censuses is challenging. Thus the researcher used the techniques developed to measure the extent of age misreporting (age heaping and shifting). The most commonly used index for measuring age heaping is Whipple's Index. United Nation published the scale for the quality of the data as: Highly accurate for whippele's index value under 105, Fairly accurate for value between 105 and 109.9, Approximate for value 110 – 124.9, rough between 125 and 174.9 and very rough quality for value 175 and above. To compute the value of whipple's index the following formula was used to measure heaping on age ending with multiples of five.

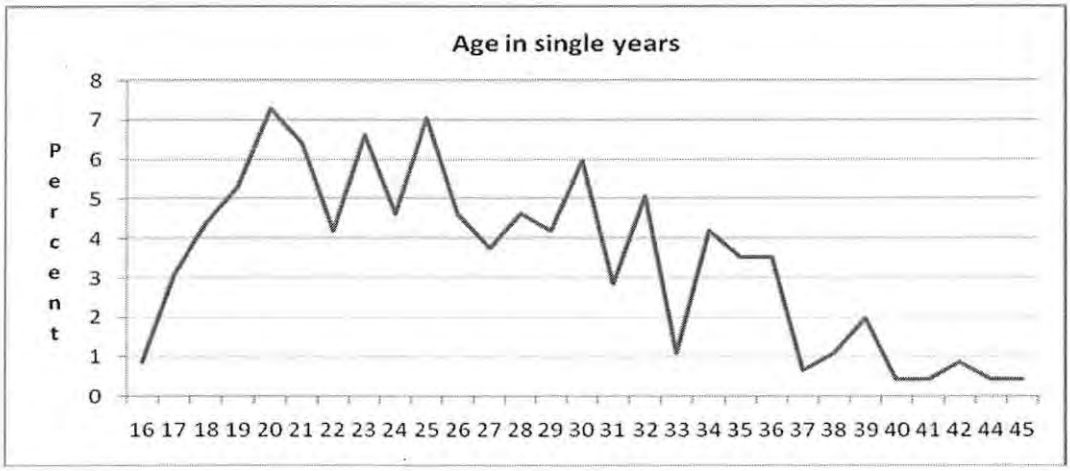
$$WI = \frac{(p_{20} + p_{25} + ... + p_{40} + p_{45})}{\frac{1}{5}(p_{16} + p_{17} + p_{18} + ... + p_{43} + p_{44} + p_{45})} \times 100$$

$$WI = \frac{(33+32+...+2+2)}{\frac{1}{5}(452)} \times 100$$

$$= 123.9$$

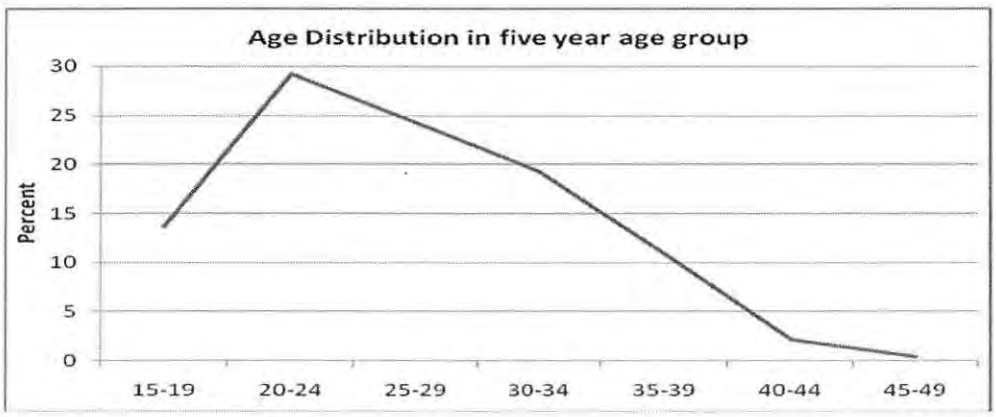
The magnitude of the error occurred in the single age data in view of the whipple's index is that the data is approximately near to rough. That means, the data is affected by age preference and much more heaping on multiple of '5' (see Figure 4.1). The population tabulated at these ages for the study may be said to overstate the corresponding unbiased population by about 24%, compared with no age heaping population.

Figure 4.1: Percent distribution of respondents by Single Years of Age, Addis Ababa, February 2012



It is not recommended to use a single year age data for demographic analysis. To minimize the effect of the error, it is preferable to combine the single year ages into groups because this approach eliminates the irregularities within these groups. The most common form of grouping which is less sensitive to age heaping is a five years age group.

Figure 4.2: Percent distribution of respondents by Five-years Age Group, Addis Ababa, February 2012



As it is illustrated in Figure 4.2, the plot of the five years grouping is smoother than the plot of the age distribution by single years.

4.2 Demographic and Socio-economic Characteristics of Respondents

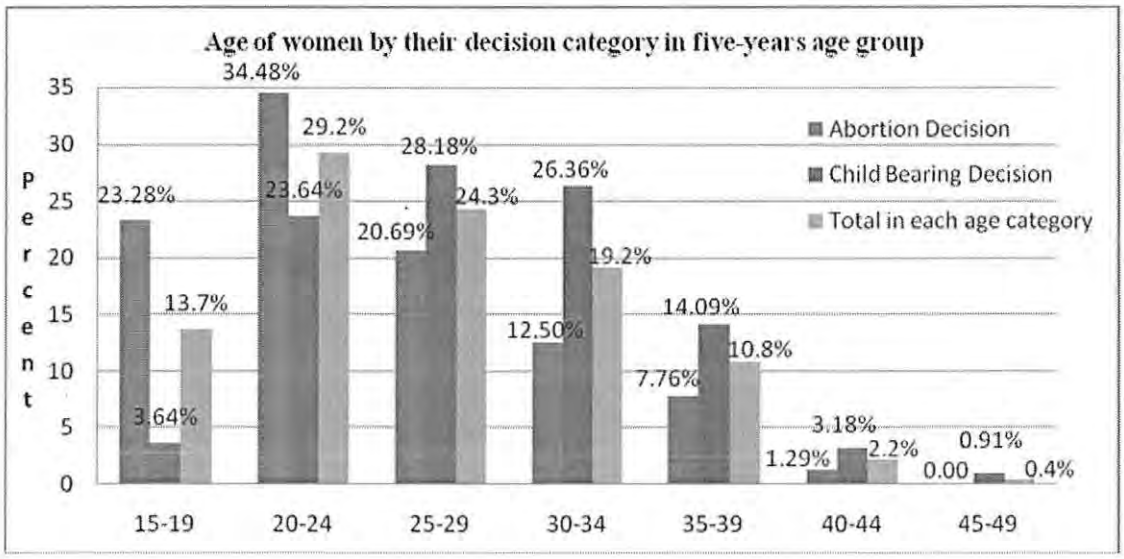
In this study, as indicated earlier, Cases of 452 pregnant women who visited the selected health facilities during the specified time were included. The detailed demographic and socio-economic characteristics of respondents included in the study are presented using tables and charts.

4.2.1 Demographic characteristics of respondents

The demographic characteristics considered are age, marital status and age at first marriage.

Age - All women were asked to report their age in completed years at the time of the study. The minimum age reported was 16 years and maximum 45 years. The overall mean age was 26.55 years and the standard deviation was 6.407. The mean age for the women who decided to abort and bear children was age 24.44 and 28.77, respectively. As it is shown in Figure 4.3, majority (53.5%) of the respondents were aged between 20 and 29 years (55.2% women who decide to abort and 51.8% women who decide to give birth). Women aged 40 years and older cover 2.65% of the respondents and women age under 20 constituted 13.7% of the total. The percentage distribution in each age group indicates that abortion decision was found to be higher in the first two age groups 15-19 and 20-24. Likewise, child bearing decision dominates the remaining age groups.

Figure 4.3 Percentage distribution of Age of respondents by their decision type, Addis Ababa, Feb. 2012



Marital Status – Marital status was one of the main variables in the study. About 56.4% of the women were currently married or cohabitated; 32.7% unmarried and 10.8% widowed or divorced or separated (Table 4.1).

Age at First Marriage – Women who were ever married at the time of the study were asked to report their age at first marriage. Results indicate that 1.33% were married very early before age 15 years; 9.51% were married between 15 and 17 years of age; 24.56% were married between ages 18 and 22; 27.43% were married after 24 years of age. The minimum age at first marriage was 12 years and the maximum 38 years. The mean age at first marriage was 21.53 and the standard deviation is 4.165.

Table 4.1 Percentage distributions of demographic characteristics of respondents, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
Marital status	Currently Married/ Cohabiting (living with a man)	73	31.47	182	82.73	255	56.42
	Not married	131	56.47	17	7.73	148	32.74
	Widowed / Divorced / Separated	28	12.07	21	9.55	49	10.84
Age At First Marriage	below 15	3	1.29	3	1.36	6	1.33
	15-17	7	3.02	36	16.36	43	9.51
	18-22	39	16.81	72	32.73	111	24.56
	above 24	44	18.97	80	36.36	124	27.43

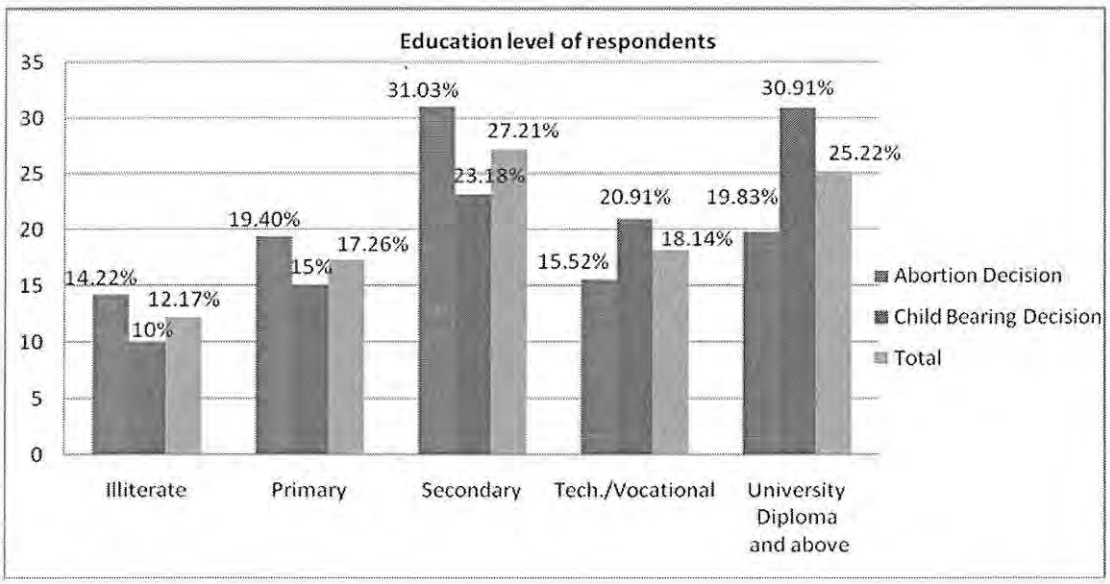
4.2.2 Socio-economic characteristics of respondents

The socio-economic characteristics included in the study are education, religion, religiosity, employment, employment specification, income, birth place and living condition of respondents.

Education – Information on respondents' literacy status and educational level was obtained by asking the respondents whether they were able to read and write. If the response was affirmative, the highest grade they have completed were registered. Of all the respondents, 12.17% are unable to read and write and did never attend school at all. Only 17.26% attended primary school and completed one of the grades 1 up to 8. Around 27.21% of the respondents attended secondary school and completed one of the grades 9 up to 12. About 18.14% of respondents attended one of the programs in technical and

vocational education and 25.22% of respondents attended university. Majority of the women who had secondary and less than secondary education level were found to perform abortion than others. But women with technical/vocational education level and above were found to make child bearing decision (Figure 4.4).

Figure 4.4 Percentage distribution of women by level of education, Addis Ababa, February 2012



Religion – The majority, 52.65%, of respondents are Orthodox Christians: 50% of the Orthodox Christians decide to abort and 55.45% of the women to give birth. Muslims are 20.58 %. Among the Muslims 20.26% decide to abort and 20.91% decide to give birth. Protestants account for were 19.69%: 21.98% decide to abort and 17.27% decide to give birth. The remaining respondents 5.97% are Catholics: 6.03% decide to abort and 5.91% decide to give birth. And others number 1.11%: 1.72% decide to abort and 0.45% decide to give birth.

Religiosity- Religiosity of respondents in this case measures how religious the women were in their choice of religious affiliation. Information on religiosity were obtained by asking each respondent the following questions: How many times do you go to religious places in a month?, Do you fast?, Do you respect the rules and regulations of your religion before making decisions?. The response to these questions is recoded as one variable shown below. 29.65% of respondents were very religious: 13.36% of women who decide to abort and 46.8% of women who decide to give birth are found to be very religious. 44.47% of respondents were fairly religious: 50.43% of women who decide to abort and 38.18% of women who decide to give birth are found to be fairly religious. And 25.88% of

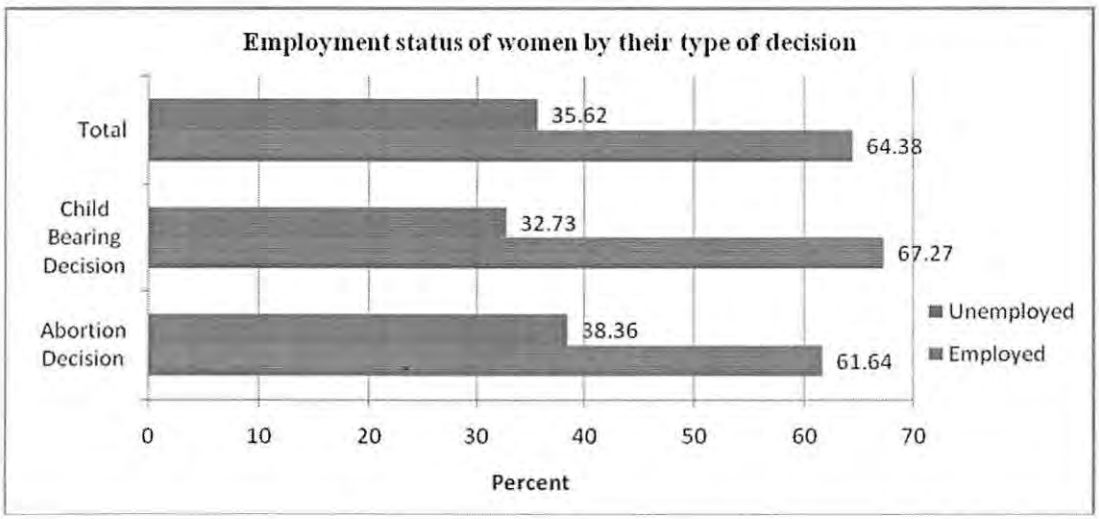
respondents were non-religious: 36.21% of women who decide to abort and 15% of women who decide to give birth are found to be non-religious. Majority of the women who decide to abort are fairly religious and majority of women who decided to bear are very religious.

Table 4.2 Percentage distribution of religion and religiosity of respondents, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
Religion	Orthodox	116	50.00	122	55.45	238	52.65
	Muslim	47	20.26	46	20.91	93	20.58
	Protestant	51	21.98	38	17.27	89	19.69
	Catholic	14	6.03	13	5.91	27	5.97
	Other	4	1.72	1	0.45	5	1.11
Religiosity	Very	31	13.36	103	46.82	134	29.65
	Fairly	117	50.43	84	38.18	201	44.47
	Not Religious	84	36.21	33	15.00	117	25.88

Employment Status of Respondents-In the study, respondents were also asked about their employment status in the last seven days prior to the survey date. As figure 4.5 shows out of the 452 respondents, the majority of the respondents (64.38%) are employed. The rest of the respondents (35.6%) are found to be unemployed at the time of the survey.

Figure 4.5 Percentage distribution of employment status of women, Addis Ababa, February 2012



Employment specification- Employed women (291) were asked to tell their employment specification. Majority (39.73%) of the respondents is employed in private sector; 33.56% are self employed; 12.67% are employed in government, 9.73% are working for family member and 3.77% are employed in NGO (Table 4.3).

Income from occupation- Income in this case is income received from occupation. The minimum amount of income from occupation other than the unemployed is 200Birr and the maximum amount is 10,000Birr. The mean income of respondents is 1,445.80Birr. In addition 35.6%, 27.9%, 19.2%, 5.35% and 11.9% of the study respondents get monthly income from occupation of below 200,200-800 birr, 801-1,600 birr, and 1,601-2,400 birr and above 2,400 birr, respectively. Income varies approximately with similar pattern in the two categories (Table 4.3).

Table 4.3 Percentage distribution of employment specification and income of women, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 291)	
		Abortion (Number 143)		Bear (Number 148)			
		N	%	N	%	N	%
Employment Specification Of women (N=291)	Working for family member	13	9.09	16	10.81	29	9.93
	Employed in Government	17	11.89	20	13.51	37	12.67
	Employed in private sector	59	41.26	57	38.51	116	39.73
	Employed in NGO	8	5.59	3	2.03	11	3.77
	Self-Employed	47	32.87	51	34.46	98	33.56
Income from occupation (N=452)	below 200	88	37.93	73	33.18	161	35.62
	200-800	78	33.62	48	21.82	126	27.88
	801-1600	44	18.97	43	19.55	87	19.25
	1601-2400	9	3.88	15	6.82	24	5.31
	>2401	13	5.60	41	18.64	54	11.95

Birth place – Among the entire respondents, majority 246(54.42%) of the women born outside Addis Ababa and the rest 206(45.58%) were born in Addis Ababa. Abortion and child bearing decisions follow similar pattern in the case of their birth place conditions (Table.4.4).

Living condition - Half of the women (50%) live with their husbands, 21.46% with their parents, 14.38% alone, 5.97% with their partners, 5.53% with their employers, and 2.65% with their children/friends/relatives. Of the total numbers of respondents who decide to perform induced abortion, 82(35.34%) of the respondents are living with their parents and 57(24.57%) are living with their husbands. Moreover, 54(23.28%) of the women are living

alone; 23(9.91%) are living with their employer and 5(2.16%) are living with their children/friends/relatives. But among the women who decided to bear, majority of respondents (76.82%) are living with their husband and the rest are living with their parents, partners, employers and children/friends/relatives or alone (Table.4.4).

Table 4.4 Percentage distribution of birth place and living condition of respondents, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
Birth Place	Addis Ababa	107	46.12	99	45.00	206	45.58
	Out of Addis Ababa	125	53.88	121	55.00	246	54.42
With whom are you living now? (Living condition)	Husband	57	24.57	169	76.82	226	50.00
	Parent	82	35.34	15	6.82	97	21.46
	Alone	54	23.28	11	5.00	65	14.38
	Partner	11	4.74	16	7.27	27	5.97
	Employer	23	9.91	2	0.91	25	5.53
	Children/Friends/Relatives	5	2.16	7	3.18	12	2.65

4.3 Knowledge, Attitude and Practice of abortion

4.3.1 Knowledge of abortion

Knowledge takes the major share in women's decision of abortion. In this section the results on women's knowledge of unsafe abortion, knowledge of consequences of abortion and knowledge of abortion law is presented.

Knowledge on termination of pregnancy performed somewhere other than a health center or hospital- Majority of respondents (72.8%) replied a women will always experience the problem, 13.5% replied sometimes experience a problem, 11.7% replied I do not know and 2% replied do not experience the problem.

Table 4.5 Knowledge on unsafe termination of pregnancy, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
How likely is a woman who went **somewhere other than to a health center or a hospital** to terminate an unwanted pregnancy will experience a series health problem afterwards?	Always experience the problem	140	60.34	189	85.81	329	72.8
	Sometimes experience the problem	42	18.1	19	8.64	61	13.5
	Do not experience the problem	9	3.88	0	0	9	2
	Don't know	41	17.67	12	5.45	53	11.7

Knowledge on consequences of abortion-Knowledge on consequences of abortion is an important input for a woman to make decisions. Of all the respondents 79.4% know vaginal bleeding , 39.2% know other vaginal discharge, 30.1% know abdominal pain, 19% know fever, 42% know death, 10.2% know sterility and 7.5% know vaginal infection as consequences of abortion. (Table 4.6)

Table 4.6 Respondents' Knowledge on consequences of abortion, Addis Ababa, February 2012

Variables	Category	N (N = 452)	%
What problems can happen in a woman after terminating pregnancy? (Consequences of abortion)	Vaginal bleeding	359	79.4
	Other vaginal discharge	177	39.2
	Abdominal pain	136	30.1
	Fever	86	19
	Death	19	4.2
	Sterility	46	10.2
	Vaginal Infection	34	7.5

Knowledge of the country's Abortion Law- Knowing of abortion law is important to decide and make safe or unsafe abortion. Majority of the women (39.2%) believe that abortion is legally allowed for some specific reasons; one third (33%) believe that it is not allowed for any reasons; 21.5% are not sure on the abortion law; and 6.4% of believe that abortion is legally allowed in Ethiopia for any reasons. Majority of the women who decide to abort believe that abortion is allowed by law for some specific reasons and majority of women who decide to carry the pregnancy to term believe that abortion is not allowed by law for all reasons in the country. (Table 4.7)

Table 4.7 Knowledge of respondents on Ethiopian abortion law, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
Is it legal for a woman to terminate an unwanted pregnancy according to the abortion law of Ethiopia?	Yes, for all reasons	9	3.87	20	9.1	29	6.4
	Yes, with some specific reasons	94	40.52	83	37.73	177	39.2
	No, for all reasons	63	27.16	86	39.1	149	33
	Not sure	66	28.45	31	14.1	97	21.5

Sources of information- The majority of the respondents 389(86.1%) and 383(84.7%) get these reproductive health information from media and friends respectively. 16.4%, 19.1%, 37.2%, 9.5% and 8.6% of all the respondents, get information from family, health center, school, religious places and work places, respectively. (Table 4.8)

Table 4.8 Sources from which respondents get information, Addis Ababa, February 2012

Variables	Category	N (N = 452)	%
From where did you get the information?	Media (Radio, Television, News paper)	389	86.1
	Friends	383	84.7
	Family	74	16.4
	Health Centers	90	19.1
	School	168	37.2
	Religious place	43	9.5
	At work place	39	8.6

4.3.2 Attitude towards abortion

Attitude of women towards abortion is assessed through their attitude towards seeking abortion services, legalization and liberalization of abortion and the outcomes of making abortion legal.

Women's attitude towards getting abortion service- Among the entire respondents majority (62.6%) support the idea of providing abortion services for women that face unwanted pregnancy and the rest (37.4%) don't support the idea. (Figure 4.6)

Figure 4.6 Percentage distribution of women's attitude towards getting abortion service, AA, Feb. 2012

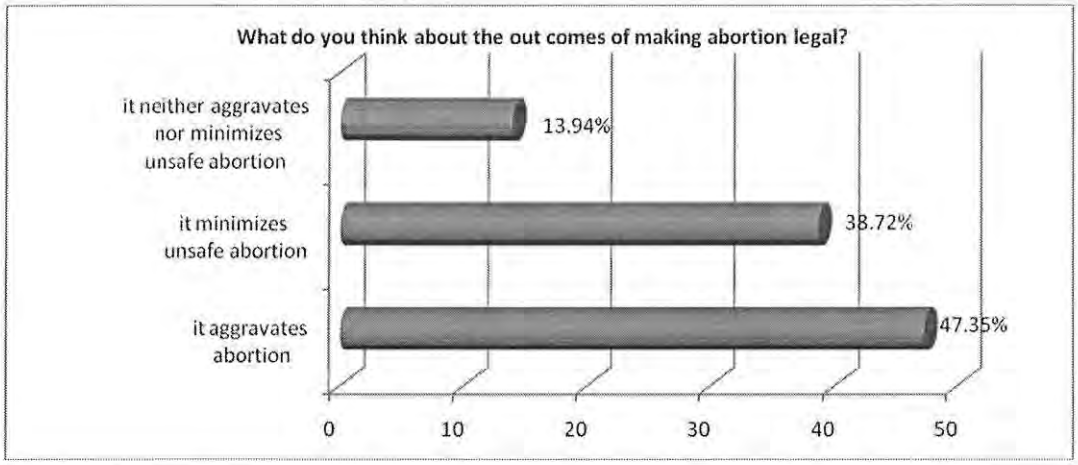
Attitude towards legalization and liberalization of abortion- Majority of the respondent (52.65%) do not agree if abortion is legal and liberal. But 77(17.04%) of the respondents strongly agree and 82(18.14%) of the respondents agree with the legalization and liberalization of abortion. The rest 45(9.96%) fairly agree and 10 (2.21%) do not at all agree with the legalization and liberalization of abortion.

Table 4.9 Percentage distributions of attitude of respondents towards legalization and liberalization of abortion, Addis Ababa, February 2012

Variables	Category	N (N = 452)	%
Do you agree if abortion is legal and liberal?	Strongly agree	77	17.04
	Agree	82	18.14
	Fair	45	9.96
	Do not agree	238	52.65
	Do not know	10	2.21

Attitude towards outcomes of making abortion legal- Out of the total respondents 47.35% (214), believe that making abortion legal aggravates abortion and 38.72%(175) replied that it minimizes unsafe abortion. The rest, 13.94% (63) replied that legalization of abortion neither aggravates nor minimizes unsafe abortion (Figure 4.7).

Figure 4.7 Respondents' opinion about towards outcomes of making abortion legal, Addis Ababa, February 2012



4.3.3 Practice of Abortion

Respondents' abortion practice is assessed through gravidity, parity, abortion experience, outcomes of abortion and health institution preference of women.

Gravidity – Gravidity is the number of pregnancies the women had before. Majority of the respondents, 188(41.59%), had been pregnant once: 122(52.59%) with abortion decision and 66(30%) of with child bearing decision. About 158(34.96%) of the women were pregnant for 2-3 times: 70(30.17%) of women with abortion decision and 88(40%) with child bearing decision. Around 106(23.45%) of the women were pregnant four or more times: 29(12.50%) of them with abortion decision and 48(21.82%) with child bearing decision. Majority of the women who decide to abort were pregnant only once before and majority of the women who decide to bear were pregnant 2-3 times.

Parity - Respondents' fertility experience is also detailed in Table 4.10. The mean number of children ever born (CEB) among all respondents was 1.15. As far as Parity of the women is concerned, 234 (51.77%) were nullipara: 158(68.1%) of them who decide to abort and 76(34.55%) of them who decide to bear. About 141(31.19%) of the women were parity of 1-2: 45(19.40%) of them who decide to abort and 96(43.64%) of them who decide to bear and 77(17.04%) of them were of parity 3 or more children: 29(12.50%) of them who decide to abort and 48(21.82%) of them who decide to bear. Majority of them who decide to abort had no child and majority of women who decided to bear had 1-2 children. (Table 4.10)

Table 4.10 Percentage distribution of parity and gravidity of women, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
How many times have you been pregnant? (gravidity)	Only Once	122	52.59	66	30.00	188	41.59
	2-3 Times	70	30.17	88	40.00	158	34.96
	4 or more times	40	17.24	66	30.00	106	23.45
How many children have you ever born alive? (CEB/ Parity)	has no child	158	68.10	76	34.55	234	51.77
	has 1-2 Children	45	19.40	96	43.64	141	31.19
	has 3 or more children	29	12.50	48	21.82	77	17.04

Age at first birth – Women with at least one child were asked for the age at which they had their first baby. The minimum age at first birth is 14 years and the maximum is 32 years. The mean age at first birth is 22.37 years. Among the 215 respondents, majority (51.16%) were above 22 years old when they gave birth for the first time. About one third (36.28%) were 18-22 years old and 12.56% were below 18 years of age at the time of their first birth.

Table 4.11 Percentage distribution of age at first birth of women, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 215)	
		Abortion (Number 72)		Bear (Number 143)			
		N	%	N	%	N	%
What was your age when you have given birth for the first time?	Below 18 years	6	8.33	21	14.69	27	12.56
	18-22 years	26	36.11	52	36.36	78	36.28
	Above 22 years	40	55.56	70	48.95	110	51.16

Experience of abortion – Abortion can either be induced or spontaneous. Out of the total 289 women who experience abortion, 85.81% face induced abortion and 14.19% face spontaneous abortion.

Experience of Spontaneous abortion – In addition, 45(81.82%) of the respondents had experience of spontaneous abortion only once: 10(100%) of them with abortion decision and 35(77.78%) of women with child bearing decision. And 10(18.18%) of them had experience of spontaneous abortion twice: 10(22.22%) of them with child bearing decision.

Table 4.12 Percentage distribution of abortion experience of women, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number)	
		Abortion (Number)		Bear (Number)			
		N	%	N	%	N	%
Women's experience of abortion (N=289)	Spontaneous	0	0.00	41	71.93	41	14.19
	Induced	232	100.0	16	28.07	248	85.81
Women's experience of induced abortion (N=248)	One Time	172	74.14	10	71.43	182	73.98
	Two times	49	21.12	3	21.43	52	21.14
	Three and above times	11	4.74	1	7.14	12	4.88
Women's experience of spontaneous abortion (N=55)	One times	10	100.0	35	77.78	45	81.82
	Two times	0	0.0	10	22.22	10	18.18

Experience of induced abortion - From the total number of respondents that perform induced abortion (289), 182(73.98%) had at least one previous abortion: 172(74.14%) with abortion decision and 10(71.43%) of women with child bearing decision. But 52(21.14%) of them had two previous abortions: 49(21.12%) with abortion decision and 3(21.43%) with child bearing decision and nearly 12(4.88%) of the respondent had 3 or more previous abortions: 11(4.74%) of them with abortion decision and 1(7.14%) of them with child bearing decision.(Table 4.12)

Abortion experience can also be shown with respect to women's age. Out of the total 452 women, 46.02% had no abortion experience, 39.82% had only one abortion experience, 11.50% had two abortion experiences and 2.65% had three or more abortion experiences. Moreover, from those who had one and two abortion experience, the highest percentage is made by women aged 20-24. From those who had three or more abortion experiences, women aged 35-39 constitute the largest percentage. (Table 4.13)

Table 4.13 Percentage distribution of abortion experience by age of women, Addis Ababa, February 2012

Age Group	Not experience(N=208)	%	1time (N=180)	%	2times (N=52)	%	>3times (N=12)	%	Total (N=452)	%
15-19	8	3.85	45	25.00	9	17.31	0	0.00	62	13.72
20-24	49	23.56	59	32.78	21	40.38	3	25.00	132	29.20
25-29	62	29.81	37	20.56	8	15.38	3	25.00	110	24.34
30-34	52	25.00	24	13.33	9	17.31	2	16.67	87	19.25
35-39	28	13.46	12	6.67	5	9.62	4	33.33	49	10.84
40-44	7	3.37	3	1.67	0	0.00	0	0.00	10	2.21
45-49	2	0.96	0	0.00	0	0.00	0	0.00	2	0.44

Time of last abortion – Time of last abortion in this case is the length of time (in years) between last abortion and study time. Out of 289 women who had abortion experience, 232(80.28%) performed abortion during/seven days prior to the study time, 39(13.45%) two years before, and 18(6.23%) in the previous year.

Table 4.14 Time of last abortion performed, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 289)	
		Abortion (Number 232)		Bear (Number 57)			
		N	%	N	%	N	%
When did this last abortion happen?	Before two years	0	0.00	39	68.41	39	13.45
	During last year	0	0.00	18	31.58	18	6.23
	Now/within the last seven days	232	100.0	0	0.00	232	80.28

Age at recent abortion – Age of the women at recent abortion was asked for at the time of the study. The minimum age at recent abortion is 16 years and the maximum is 44 years. The mean age at recent abortion is 24.96 years. Most of the women (47.06%) were 18-24 years old and 46.71% were older than 24 years when they had their recent abortion. Only 6.3% of the women were below 18 years old when they performed the most recent abortion.

Marital Status at recent abortion – Marital Status at recent abortion is one of the main characteristics that determine abortion decision of women. Majority of the women 140(48.44%) are never married, 118(40.83%), are currently married or cohabiting and 31(10.7%) are widowed/divorced/separated at the time of last abortion.

Table 4.15 Demographic characteristics of women at recent abortion, Addis Ababa, February 2012

Variables	Category	N (N = 289)	%
Age at recent abortion	Below 18 years	18	6.23
	18-24 years	136	47.06
	Above 24 years	135	46.71
Marital Status at recent abortion	Currently Married/Cohabiting	118	40.83
	Never married	140	48.44
	Widowed/Divorced/Separated/	31	10.73

Health institution preference - women prefer one health institution from the other based on the service they required. Out of the total number of respondents that performed induced abortion, 57.44 % go to private/ NGO hospital/clinic and 38.75% go

to Government hospital / health center/clinic to get abortion service. The rest of them get the service elsewhere (at home or in somebody's house).

Moreover, those who choose to terminate their pregnancies in Government hospital / health center/ clinic (112) have given the following reasons: the service charge is affordable/reasonable (70.54%); the service quality is better (25.89%); the service facility is not too far from place of residence (14.29%); they want to have the service far away from the community (20.54%) and they like the privacy (6.25%). (Table 4.16).

Those who choose to terminate their pregnancies in Private/NGO hospital/Clinic (166) have the following reasons: they get quality service(54.49%); they were asked for reasonable price (29.34%); they want to go far from my nearby community (20.36%); the facilities respect their clients (18.56%); the facilities close to their home (17.37%); and the facilities keep their secret accounts (7.78%). (Table 4.16).

Table 4.16 Respondent's health institution preference for the service, Addis Ababa, February 2012

Variables	Category	N (N =)	%
Place where you get abortion service (N=289)	Govt. hospital / health center/ clinic	112	38.75
	Private / NGO hospital/Clinic	166	57.44
	Private (Some body's) home	6	2.08
	In my house	5	1.73
If you choose government hospital / health center/ clinic, why? (N=112)	To get quality service	29	25.89
	Since physicians respect their client	5	4.46
	Because they keep my secrete	7	6.25
	Because they ask reasonable price	79	70.54
	Because is near my house	16	14.29
	Because I want to go far from my nearby community	23	20.54
If you choose Private/NGO hospital/Clinic, why? (N=166)	To get quality service	91	54.49
	Since physicians respect their client	31	18.56
	Because they keep my secrete	13	7.78
	Because they ask reasonable price	49	29.34
	Because is near my house	29	17.37
	Because I want to go far from my nearby community	34	20.36

Post-abortion problems – Post-abortion problems are health related problems that arise as a result of abortion. Out of the total number of respondents that perform induced abortion, 53.29% of them face health related problem after going through the abortion process but 46.71% of them face no problem.

In addition, out of those who face health related problems, 66.42% vaginal bleeding, 30.66% abdominal pain, 25.55% other vaginal discharge, 14.60% fever, 6.57% vaginal infection and 4.38% inability of wall of uterus to carry the child. (Table 4.17)

Thus, to overcome these negative outcomes after abortion, 74.82% of women go to health center/hospital, 22.30% don't go anywhere and 2.88% of women go to traditional health service providers.

Table 4.17 Post abortion problems faced by respondents, Addis Ababa, February 2012

Variables	Category	N (N = 289)	%
Did you face any health related problem after you went through the abortion process?(N=289)	Yes	135	46.71
	No	154	53.29
If you have faced negative outcomes after the abortion you went through, can you mention some? (N=137)	Vaginal bleeding	91	66.42
	Other vaginal discharge	35	25.55
	abdominal pain	42	30.66
	Fever	20	14.60
	Vaginal infection	9	6.57
	In ability of wall of uterus to carry the child.	6	4.38
What did you do when you faced negative outcomes after the abortion?(N=139)	I went to health center/hospital	104	74.82
	I went to traditional health service providers	4	2.88
	I didn't go anywhere.	31	22.30

4.3.4 Family Planning

Women's knowledge of family planning can be assessed through their Knowledge of contraceptives and their contraceptive practice.

Knowledge of contraceptives - As indicated in Table 4.18, 437 (96.7%) of the respondents have heard about contraceptives methods and the remaining 15(3.32%) of the respondents have no information about contraceptives.

Table 4.18 Respondents' knowledge of contraceptives, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
Have you ever heard of modern contraception?	Yes	220	94.83	217	98.64	437	96.68
	No	12	5.17	3	1.36	15	3.32

Knowledge of contraceptive methods - Knowledge of contraceptive methods plays an important role in preventing unwanted pregnancy. Among the different family planning methods Pill, Injectables, Condom, IUDs, Implants/Norplant are well known methods by the respondents with the respective percentage of 93.14, 91.3, 75.97, 73.46 and 67.73. On the other hand, Calander Method, Female Sterilization and Male Sterilization are the least known methods with the respective percentage of 40.5, 27.00 and 13.7.

Table 4.19 Respondents' Knowledge of contraceptive methods, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 437)	
		Abortion (Number 220)		Bear (Number 217)			
		N	%	N	%	N	%
Knowledge of contraceptive Methods (N=437)	Pill	205	93.18	202	93.09	407	93.14
	IUDs	156	70.91	175	80.65	321	73.46
	Injectables	193	87.73	206	94.93	399	91.30
	Abstinence	30	13.64	17	7.83	47	10.76
	Condom	184	83.64	148	68.20	332	75.97
	Female sterilization	61	27.73	57	26.27	118	27.00
	Male sterilization	33	15.00	27	12.44	60	13.73
	Implants/Norplant	140	63.64	156	71.89	296	67.73
	Calendar Method	85	38.64	92	42.40	177	40.50

Contraceptive practice - Among 277 (61.28%) of the respondents who use contraceptives, 54.15% use Injectables, 24.55% Pills and 17.69% Condom. And other methods like Implants/Norplant, IUDs and Calendar method are also used by 10.11%, 9.03 % and 5.78% of the women respectively. (Table 4.20)

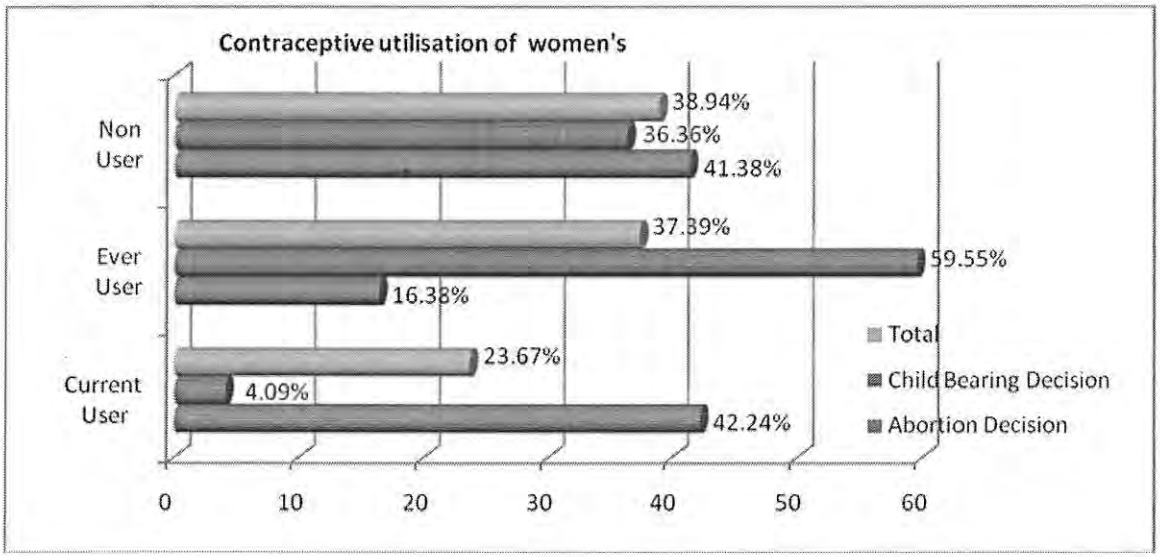
Duration of contraceptive practice – Duration of contraceptive practice in this case is the length of time (in years) between starting day of use and last day of use of contraceptives. The minimum number of years reported is less than or equal to 1 year and the maximum is 13 years. The mean number of years is 3.34 and the standard deviation is 2.489 years. From the total 277 contraceptive users, 71(25.67%) use contraceptives for a year or less, 144(51.99%) use contraceptives from 2-4 years and 62(22.38%) use contraceptives above 5 years. (Table 4.20)

Table 4.20 Respondents' contraceptive practice and duration of use by abortion decision, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 277)	
		Abortion (Number 137)		Bear (Number 140)			
		N	%	N	%	N	%
Methods of contraceptive used by the respondents	Pill	38	27.74	30	21.43	68	24.55
	IUDs	3	2.19	22	15.71	25	9.03
	Injectables	58	42.34	92	65.71	150	54.15
	Condom	43	31.39	6	4.29	49	17.69
	Implants/Norplant	6	4.38	22	15.71	28	10.11
	Calendar Method	12	8.76	4	2.86	16	5.78
How long did you use the method then?	1 year and below	39	28.47	32	22.86	71	25.63
	2-4 years	69	50.36	75	53.57	144	51.99
	Above 5 years	29	21.17	33	23.57	62	22.38

Contraceptive user group - Among the total respondents, 107(23.67%) were current users of contraceptive, 169(37.39%) have ever used contraceptive, and 176(38.94%) were non-users during conception time. Most of the women, 98(42.24%), who decide to abort are current users of contraceptive, and most of the women, 131(59.55%), who decide to bear are found to be ever users of contraceptive.

Figure 4.8 Percentage distribution of contraceptive user group of women's, Addis Ababa, February 2012



Reasons of being current user of contraceptive - Current users of contraceptive were asked to tell the reasons why they have been using the contraceptive methods. Accordingly, majority 96(89.72%) reported that they want to limit births, and 10(9.35%) to space births.

Table 4.21 Reasons given by current users of contraceptive, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 107)	
		Abortion (Number 98)		Bear (Number 9)			
		N	%	N	%	N	%
If you are currently using a contra-	birth spacing	7	7.14	3	33.33	10	9.35
ceptive method, for what purpose?	limiting birth	89	90.82	7	77.78	96	89.72

Reasons for not being current user of contraceptives - Here one can see a great discrepancy between knowledge and use of contraceptive methods. These discrepancies might be attributed to one or many of the following reasons: need for children, lack of knowledge, religious probation, parents' opposition to methods, side effects, etc.

Thus, among the different reasons, majority 124 (72.78%) of ever users of contraceptive stop using contraceptives because of their desire to have more children, and 19 (11.24%) due to fear of side effects. The other reasons account medical problem/rumors/husband is dead 5.28%, fear of infertility 4.73%, forgetting the time of taking 4.73% and not making sexual intercourse with anybody1.18% of ever user women.

Table 4.22 Reasons for not being current user of contraceptives, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 170)	
		Abortion (Number 40)		Bear (Number 129)			
		N	%	N	%	N	%
Why did	fear of side effects	14	35.00	5	3.88	19	11.24
you stop	fear of infertility	5	12.50	3	2.33	8	4.73
using the	desire to have more children	7	17.50	116	89.92	124	72.78
Contrac-	medical problem/ Rumors/	7	17.5	2	1.55	9	5.28
eptive?	my husband is dead						
(for ever	forget the time	5	12.50	3	2.33	8	4.73
users)	I do not make sexual	2	5.00	0	0.00	2	1.18
	intercourse with any body						

Reasons for not using contraceptives - The major reasons given by the respondents for not using contraceptive are religious probation (34.09%), rumors of fearing side effects (23.30%), not making sexual intercourse with anybody before but incidentally have (21.02%), not knowing what contraceptives are (5.68%) and husband's disapproval (2.84%). (Table 4.23)

Table 4.23 Reasons for not using contraceptives, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 176)	
		Abortion (Number 95)		Bear (Number 81)			
		N	%	N	%	N	%
Why are you not using Contrac-eptive(for non users)	want children	4	4.21	19	23.46	23	13.07
	I don't know what contraceptives are	9	9.47	1	1.23	10	5.68
	religious prohibition	17	17.89	43	53.09	60	34.09
	rumors of fearing side effect	25	26.32	16	19.75	41	23.30
	I do not make sexual intercourse with any body	35	36.84	2	2.47	37	21.02
	My husband is not voluntary to use	5	5.26	0	0.00	5	2.84

4.3.5 Women's Decision to abort

Women pass decision based on their existing conditions. Existing conditions differ from woman to woman. Their decision can be accessed through their gestation period during time of decision, their boyfriend/fiancée, pregnancy type and their readiness to abort/bear the baby.

Gestation period during decision- Gestation period during decision is in this case the length of pregnancy (in weeks) during the study time. The minimum number of weeks reported is 1 week and the maximum is 36 weeks. The mean number of weeks is 15.72 weeks. Among the 232 respondents who decide to abort, 90.5 %(210) are pregnant for less than or equal to 12 weeks, whereas among the 220 respondents, who decide to bear, only 14.55% (32) are pregnant for less than or equal to 12 weeks. Overall, 53.54% (242) are less than or equal to 12 weeks, 26.33 % (119) are 13-24 weeks and 20.13 %(91) are above 24 weeks pregnant.

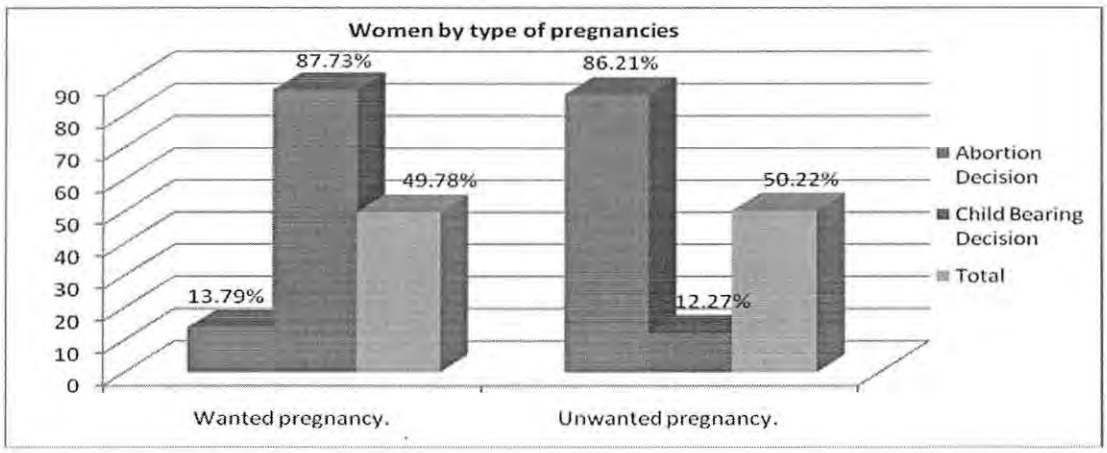
The person to whom they conceived – This refers to the father of the baby in the uterus. Of the total number of respondents, higher proportion of the women 254 (56.19%) become pregnant from husbands and 163 (36.06%) from boyfriends. But 19 women (4.2%) reported that they are raped and 16 (3.54%) of the respondents reported that they are made pregnant by strangers/neighbors/husband's brother.

Table 4.24 Women's length of pregnancy and the person to whom they conceived, Addis Ababa, February 2012

Variables	Category	Decision of women				Total (Number 452)	
		Abortion (Number 232)		Bear (Number 220)			
		N	%	N	%	N	%
How many weeks pregnant are you?	Less than or equal to 12 weeks	210	90.52	32	14.55	242	53.54
	13-24 weeks	18	7.76	101	45.91	119	26.33
	Above 24 weeks	4	1.72	87	39.55	91	20.13
To whom are you conceiving this pregnancy?	Husband	74	31.90	180	81.82	254	56.19
	Boyfriend	126	54.31	37	16.82	163	36.06
	Rape	19	8.19	0	0.00	19	4.20
	I do not know(stranger)/ my neighbor/ my husband's brother	13	5.60	3	1.36	16	3.54

Type of pregnancies – Pregnancies can be classified in to wanted and unwanted. Almost half of the total pregnancies (50.22%) are unwanted. Out of these unwanted pregnancies 86.21% end in abortion. Whereas out of the wanted pregnancies, only 13.79% end in abortion.

Figure 4.9 Respondents by type of pregnancies, Addis Ababa, February 2012



Women's readiness for abortion - Of the total women who decide to terminate the pregnancy, 85.34% are psychologically and physically prepared to abort.

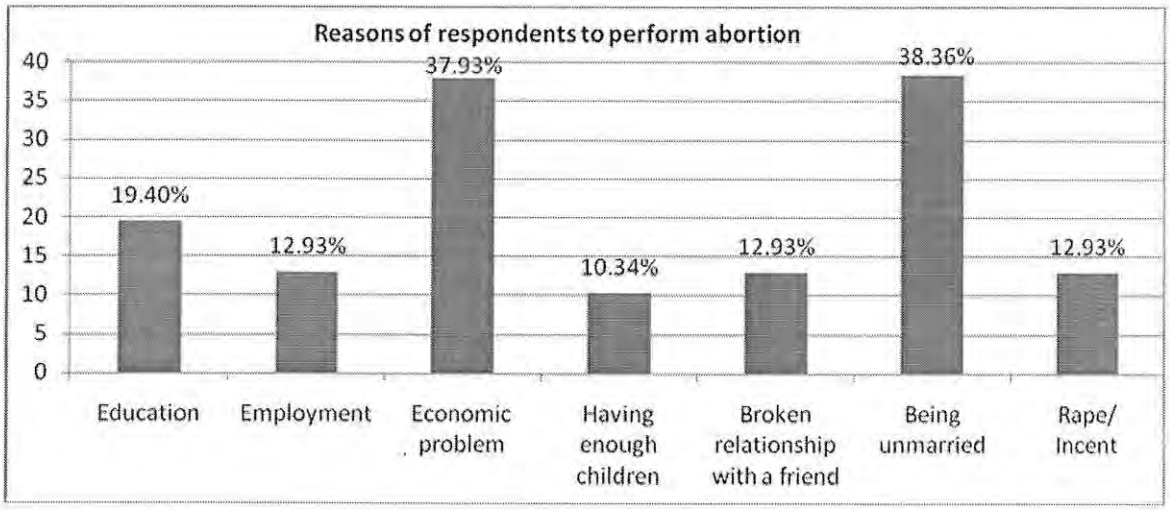
In addition, 56.9 %(132) of respondents who decide to terminate pregnancy seek advices from other people before making decision and 42.67 %(99) decide by themselves without consulting others. Among those who seek advice, 46.9% consult their friends, 43.94% their husbands/boyfriends, 6.6% their family and 3.03% their employers. (Table 4.25)

Table 4.25 Respondents' readiness for the decision of abortion, Addis Ababa, February 2012

Variables	Category	N (N = 232)	%
Are you psychologically and physically prepared to abort?	Yes	198	85.34
	No	34	14.66
Did you seek advice from anybody before you decide to abort?	Yes	132	56.90
	No	99	42.67
If yes, to whom did you tell? (N=132)	family	8	6.06
	husband / boyfriend	58	43.94
	friends	62	46.97
	employer	4	3.03

Respondents' reason to make abortion decision - The main reason given by the respondents to perform induced abortion are being unmarried (38.36%), economic problem (37.93%), being in school (19.4%), broken relationship with a friend (12.93%), being employed (12.93%), being raped/incest (12.93%) and having enough number of children (10.34%). (Figure 4.10).

Figure 4.10 Respondents' reason to perform abortion, Addis Ababa, February 2012



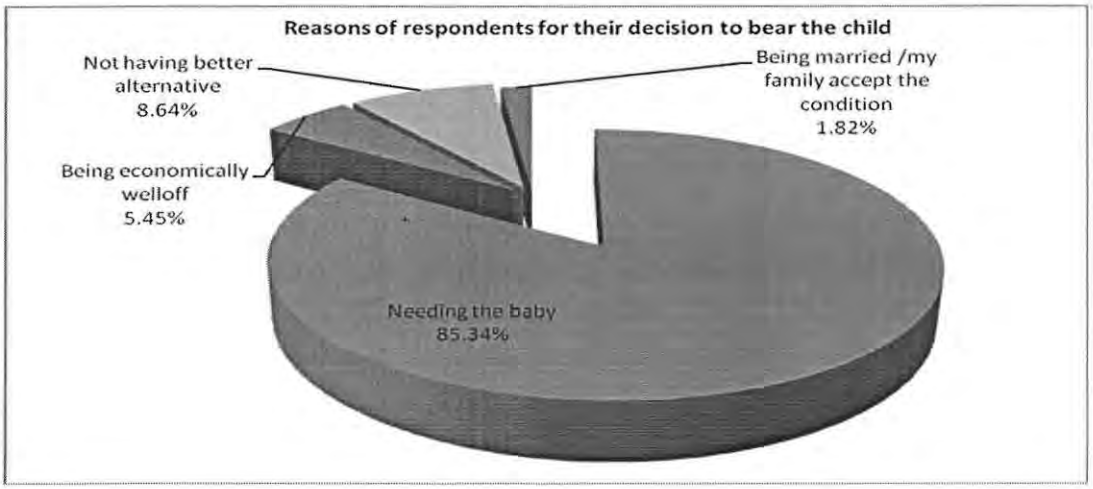
Fee paid for abortion service – Fee paid for abortion is the amount of money paid for the abortion service. The minimum amount of money is 0 (free) and the maximum 550 Birr. The mean amount of money paid for the service is 122.32 Birr. The majority, 42.67%, of the respondents who decide to terminate the pregnancy pay less than or equal to 100 Birr, 31.47% pay 101-150 Birr and 25.86% pay more than 150 Birr.

Table 4.26 Fee to get abortion service, Addis Ababa, February 2012

Variables	Category	N (N = 232)	%
How much did you pay for the abortion service?	Less than or equal to 100	99	42.67
	101-150	73	31.47
	Above 151	60	25.86

Respondents' reason to make child bearing decision - Respondents were asked to tell the reason why they decide to carry the pregnancy to term. Accordingly, the majority 85.34% (187) report that they want the baby, 5.45 %(12) are economically well off to rear and bear the child, 8.64 %(19) get pregnant incidentally and do not have any alternative except carrying it to term and 1.82% (4) are in marriage (their family accepted the pregnancy). (Figure 4.11)

Figure 4.11 Respondents' reason to bear the child, Addis Ababa, February 2012



Fee paid for ANC service – Fee paid for ANC is the amount of money paid for getting maternal health care during pregnancy. The minimum amount of money is 0 (free) and the maximum is 300 Birr. The mean amount of money paid for the service is 61.43 Birr. Most pregnant women 127(57.73%) pay less than or equal to 50Birr, 71(32.27%) pay 51-100Birr and 22(10%) pay more than 101Birr for ANC service. (Table 4. 27)

Table 4.27 Fee to get antenatal care service, Addis Ababa, February 2012

Variables	Category	N (N = 220)	%
If you come for MHC, how much did you pay for maternal health care service?	Less than or equal to 50 Birr	127	57.73
	51-100 Birr	71	32.27
	Above 101 Birr	22	10.00

4.4 Bi-Variate Analysis

Pearson Chi-square test is one way for examining a bi-variate relationship. It measures the association between a given independent variable and the dependent variable keeping the effect of the other variables constant (Montgomery and Peck, 1992).

Bi-variate result tables are presented for women's decision, attitude towards seeking abortion service, contraceptive use and unwanted pregnancy against their predictor variables. A test of association was carried out using the chi-square test.

Bi-Variate analysis between determinants

1. **Demographic and Socio-economic Factors Associated with women's decision**

The demographic characteristics of women such as age, marital status, parity and gravidity, and the socio-economic characteristics like education level, religion, religiosity, employment status and income from employment were tested. Of these tested independent variables, age, marital status, level of education, religiosity, income from work, parity and gravidity of the women had significant relationship with women's decision to abort or not to.

Age of a respondent is one of the demographic variables that are found to be related to women's decision of abortion. The relationship between age and women's decision illustrates that, abortion decision of women decreases as age increases and child bearing decision increases as age increases. The chi-square test indicates a statistically significant association between age and women's decision to abort ($\chi^2 = 43.243$, $P < 0.05$, $df = 2$).

As far as the relationship between marital status and women's decision is concerned, the percentage of child bearing decision of women is higher for married women than others. The percentage of women who decide to abort is higher for not married women than others. The test of association is significant ($\chi 2 = 135.20$, $P < 0.05$, $df = 2$).

Education plays an important role for women's decision. As shown in Table 4.27, the relationship between educational level of women and women's decision illustrates that abortion is higher among those respondents who are illiterate (14.22%), who have primary level of education (19.40%) and who are at secondary level (31.03%) than those who make the decision to carry the pregnancy to term. But the percentage of those who decide to abort is lower among those respondents with above secondary level education (35.34%) than women who decide to carry the pregnancy to term. In general, as the educational level of women increases, abortion decision decreases. The Pearson chi-

square test confirms that the association is statistically significant (χ^2= 12.546, P < 0.05, df = 3).

The relationship between religion and women's employment status with their decision to abort or not is found to be statistically insignificant. The bi-variate analysis also reveals that the association with religion and women's unemployment status is statistically insignificant ((χ2 = 1.687, P >0.05, df = 2) and (χ2 = 1.318, P >0.05, df = 1) respectively).

As far as the relationship between religiosity and women's decision is concerned, the percentage of those who decide to carry the pregnancy to term is higher, 46.82 % for those who are very religious than the other respondents. The percentage of abortion decision is higher (50.43 %) and 36.21 %(84) among those respondents who are fairly religious and not religious at all, respectively. This indicates that as religiosity of respondents decreases abortion decision of women increases. The test of association result indicates the existence of a statistically significant association between religiosity and women's decision (χ^2= 66.063, P <0.05, df = 2).

Regarding income from occupation and women's decision, statistically significant association is found between them. Of the total respondents, 37.93%, 33.62%, 18.97%, 3.88%, and 5.60% who decide to abort get income from occupation less than or equal to 200birr, 201-800birr, 801-1,600birr, 1,601-2,400birr and above 2,400birr respectively as compared with women with child bearing decision. As the income of the women increases, their decision towards abortion decreases and child bearing decision increases. The chi-square test exhibits a significant association between income from occupation and women's decision status (χ^2 = 24.269, P < 0.05, df = 4).

Parity and gravidity are also other demographic characteristics related to women's decision whether to abort or not. In this regard, as shown in Table 4.28, the majority of the women (68.10 %) who decide to abort do not have a child and 43.64% (96) of those who decide to carry the pregnancy to term have 1-2 children. The majority, 52.59 % (122), of the women who decide to abort have conceived only once before and 40% (88) of the women who decide to bear have conceived 2-3 times. The test of association result indicates that parity and gravidity have a statistically significant association with women's decision ((χ^2= 51.588, P <0.05, df = 2) and (χ^2= 24.808, P <0.05, df = 2) respectively).

Table 4.28 Chi-Square test result of the association between women's decision and Demographic and Socio-economic variables, Addis Ababa, February 2012

Independent Variable		Women's Decision			χ^2-Value	p-value(sig 2-tailed)
	Category	Abort (N=232)	Bear (N=220)	Total (N=452)		
Age(in completed years)	15-24	134(57.76%)	60(27.27%)	194(42.92%)	43.243	0.000**
	25-34	77 (33.19%)	120(54.55%)	197(43.58%)		
	> 35	21 (9.05%)	40 (18.18%)	61 (13.50%)	DF= 2	
Marital status	Currently Married/ Cohabiting (living with a man)	73 (31.47%)	182(82.73%)	255(56.42%)	135.20	0.000**
	Not married	131(56.47%)	17 (7.73%)	148(32.74%)	DF= 2	
	Widowed / Divorced / Separated	28 (12.07%)	21 (9.55%)	49 (10.84%)		
Education	Illiterate	33(14.22%)	22 (10.00%)	55 (12.17%)	12.546	0.006***
	Primary	45(19.40%)	33 (15.00%)	78 (17.26%)	DF= 3	
	Secondary	72(31.03%)	51 (23.18%)	123(27.21%)		
	Above Secondary	82(35.34%)	114(51.82%)	196(43.36%)		
Religion	Orthodox	116(50.00%)	122(55.45%)	238(52.65%)	1.687	0.43
	Protestant/Catholic	65 (28.02%)	51(23.18%)	116(25.66%)	DF=2	
	Muslim/Others	51 (21.98%)	47 (21.36%)	98 (21.68%)		
Religiosity	Very	31(13.36%)	103(46.82%)	134(29.65%)	66.063	0.000***
	Fairly	117(50.43%)	84 (38.18%)	201(44.47%)	DF=2	
	Not Religious	84 (36.21%)	33 (15.00%)	117(25.88%)		
Employment	Employed	143(61.64%)	148(67.27%)	291(64.38%)	1.318	0.251
	Unemployed	89 (38.36%)	72 (32.73%)	161(35.62%)	DF=1	
Income	<200	88 (37.93%)	73 (33.18%)	161(35.62%)	24.269	0.000***
	200-800	78(33.62%)	48(21.82%)	126(27.88%)	DF=4	
	801-1600	44(18.97%)	43(19.55%)	87 (19.25%)		
	1601-2400	9(3.88%)	15(6.82%)	24 (5.31%)		
	>2401	13(5.60%)	41(18.64%)	54 (11.95%)		
Parity(CEB)	has no child	158(68.10%)	76(34.55%)	234 (51.77%)	51.588	0.000***
	has 1-2 children	45(19.40%)	96(43.64%)	141(31.19%)	DF=2	
	has 2 or more children	29(12.50%)	48(21.82%)	77(17.04%)		
Gravity	Only Once	122(52.59%)	66(30.00%)	188(41.59%)	24.808	0.000***
	2-3 Times	70(30.17%)	88(40.00%)	158(34.96%)	DF=2	
	4 or more times	40(17.24%)	66(30.00%)	106(23.45%)		

Significant level *** at p<0.01, ** at p<0.05 * at p<0.1, DF = Degree of Freedom

2. Factors associated with women's attitude towards seeking abortion service

In this section an attempt is made to show the association between women's attitude towards seeking abortion service and its determinants such as education, religion, religiosity, knowledge about abortion law of Ethiopia and agreement on the legalization and liberalization of abortion law. Of these tested independent variables, religion, religiosity, knowledge on abortion law of Ethiopia and agreement on the legalization and liberalization of abortion law have significant relationship with women's attitude towards seeking abortion service.

Table 4.29 Chi-Square test result of the association between women's attitude towards seeking abortion service and its proximate variables, Addis Ababa, February 2012

Independent Variable		If a woman faces unwanted pregnancy, can she seek abortion services?				
	Category	Yes (N=283)	No (N=169)	Total (N=452)	χ^2-Value	p-value(sig 2-tailed)
Education					5.479	0.14
	Illiterate	30(10.60%)	25(14.79%)	55(12.17%)		
	Primary	47(16.61%)	31(18.34%)	78(17.26%)	DF= 3	
	Secondary	87(30.74%)	36(21.30%)	123(27.21%)		
	Above Secondary	119(42.05%)	77(45.56%)	196(43.36%)		
Religion					6.406	0.041**
	Orthodox	141(49.82%)	97(57.40%)	238(52.65%)		
	Protestant/Catholic	84(29.68%)	32(18.93%)	116(25.66%)	DF=2	
	Muslim/Others	58(20.49%)	40(23.67%)	98(21.68%)		
Religiosity					71.71	0.000***
	Very	47 (16.61%)	87(51.48%)	134(29.65%)		
	Fairly	136(48.06%)	65 (38.46%)	201(44.47%)	DF=2	
	Not Religious	100(35.34%)	17 (10.06%)	117(25.88%)		
Is it legal for a woman to terminate an unwanted pregnancy according to the abortion law of Ethiopia?					13.949	0.003***
	Yes for all reasons	17(6.01%)	12(7.10%)	29(6.42%)		
	Yes with some specific reasons	115(40.64%)	62(36.69%)	177(39.16%)	DF= 3	
	No for all reasons	78(27.56%)	71(42.01%)	149(32.96%)		
	Not sure	73(25.80%)	24(14.20%)	97(21.46%)		
Do you agree if Abortion is legal and liberal?					117.82	0.000***
	Strongly agree	73 (25.80%)	4 (2.37%)	77(17.04%)		
	Agree	72 (25.44%)	10 (5.92%)	82(18.14%)	DF= 4	
	Fair	36 (12.72%)	9 (5.33%)	45 (9.96%)		
	Do not agree	94 (33.22%)	144(85.21%)	238(52.65%)		
	Do not know	8 (2.83%)	2 (1.18%)	10 (2.21%)		

Significant level *** at p<0.01, ** at p<0.05 * at p<0.1, DF = Degree of Freedom

The chi-square test indicates a statistically significant association between the independent variables (religion, religiosity, women's knowledge on abortion law of Ethiopia and agreement on the legalization and liberalization of abortion law) and the

dependent variable (women's attitude towards seeking abortion service) with (χ^2 = 6.406, P <0.05, df = 2; χ^2 = 71.71, P <0.05, df = 2; χ^2 = 13.949, P <0.05, df = 3 and χ^2 = 117.82, P <0.05, df = 4) respectively. However, education is found to have no significant association with women's attitude towards seeking abortion service, since it has a P-value >0.05 (χ^2 = 5.479, P <0.05, df = 3). (Table4.29)

4.5 Determinants of abortion decision of women (Multivariate Analysis)

Besides bi-variate analysis demographic, socio-economic and contraceptive factors which determine women's decision of abortion were examined using probit regression model since the dependent variable is dichotomous. Binary probit regression model is the multivariate statistical tool used to analyze the relationship between the dependent variable (the probability of abortion) and the predictor variables namely; age, marital status, education level, religion, religiosity, employment status, income from occupation, contraceptive knowledge and contraceptive practice of women.

In probit regression, the marginal effect or partial effect most often measures the effect on the conditional mean of the dependent variable of a change in one of the regressors. The marginal effect coefficient together with its sign indicates the magnitude and direction of probability of the effect on the dependent variable. Hence, for categorical variables with more than two possible values, the marginal effects show the difference in the predicted probabilities for cases in one category relative to the reference category. For continuous variables measure, the instantaneous rate of change, this may or may not be close to the effect on probability of success of a one unit increase in the independent variable. It will depend, in part, on how the independent variable is scaled (Long 1997, Long and Freese 2003 & 2006, Cameron & Trivedi's 2009).

Deviations will cause inconsistent estimators and in binary choice models, this typically arises when the probability of successes is misspecified as a function of the independent variable. Usually, such misspecifications are motivated from the latent variable model and reflect heteroskedasticity or non-normality (in the probit case) of the error term (ε_i) (Verbeek 2004).

Before estimating the chance of the event using binary probit regression model, normality and homoscadastisity of the residuals, goodness of fit of the model, multicollinearity between variables and significance test of the model were examined.

1. Outliers and Influential Values: Outliers and influential cases alter the estimated parameters in regression analysis (Long and Freese 2001; Gugirati 2004). In this study

outliers and influential values are checked with absolute value of the standardized residual. Absolute values of the standardized residuals greater than or equal to three are considered as outliers and influential Values. As a result 10 cases were removed from the final estimation result.

2. Normality Test

A normal distribution and those derived from it, are the most widely used distributions. Assuming that random variables defined over populations are normally distributed simplifies probability calculation (Woodrige 2003). To make estimations using probit, the distribution is expected to be normal. Thus, normality test should be made. Normality tests usually check for skewness (third moment) and excess kurtosis (fourth moment), that is they check whether $E\{\varepsilon^3_i\} = 0$ and $E\{\varepsilon^4_i - 3\sigma^4\} = 0$ (Verbeek, 2004). In this study Skewness/Kurtosis tests were used to check whether the residuals are normally distributed or not. The null hypothesis which states the distribution is normal, fail to be rejected in all the three tests; Skewness, Kurtosis and jointly of the two, since they have higher P-value. Thus the distribution is normal. (See Annex 1.1)

3. Homoscadastisity

Homoscadastisity states that the variance between the residuals should be constant. In this study the variance between residuals are found not to be constant (hetroscadastic). Presence of heteroskedasticity has the effect of making estimates of probit model inconsistent. Greene (2012) argues that this is a serious problem "because the probit model is most often used with microeconomic data, which are frequently heteroscedastic". Verbeek(2004) also agrees with this idea in such a way that heteroskedasticity of the error term will cause the maximum likelihood estimators to be inconsistent. Thus, to make the variance between the residuals constant (homoscadastic), the robust standard error are considered in the estimation process.

4. Multicollinearity Effects

Multicollinearity in probit regression is a result of strong inter-correlation among the predictor variables (Montgomery and Peck, 1992; Garson, 2009). To assess multicollinearity effect in the model Variance Inflation Factor (VIF) and Tolerance were used.

Tolerance is $1\text{-}R^2$ (coefficient of determination) for the regression variable on all other independent variable, ignoring the dependent variable (Garson, 2009). The higher the inter-correlation of predictor variables, the Tolerance estimate approaches to 0 (zero); when the inter-correlation gets lower, the estimate approach to 1 (one). VIF is the

reciprocal of Tolerance (1/ 1- R^2). The VIF $\geq$ 4 is an arbitrary but common cutoff criteria for deciding a given independent variable display multicollinearity effect. When the VIF value of a given independent variable exceeds 4, the variable reflects multicollinearity problem.

In this study, the estimate of Tolerance and VIF was done using multiple linear regression analysis for all independent variables. The values of VIF are found to be less than 4 and Tolerance is more than 0.3 for the predictors (see Annex 1.2). Hence, multicollinearity is not a threat for the estimation of the effect of the independent variable on the dependent variable.

5. Goodness-of-fit

In the study goodness-of-fit of the model is assessed using Goodness-of-fit test and Classification Table.

5.1 Goodness-of-fit test

A goodness of fit measure is a summary statistic indicating the accuracy with which the model approximates the observed data (Verbeek, 2004). Goodness- of- fit test is used to accept or reject the null hypothesis: "the model does not adequately describe the data". The null hypothesis is rejected for all the models suggesting that the model is adequate to describe the relationship between the dependent and explanatory variables (See Annex 1.3)

5.2 Classification Table

The other way of assessing how well the model fits the observed data is to produce a classification table. This is a tool which indicates how good the model is at predicting the outcome variable. Higher percentage of correct classification implies that the model is a good fit. The overall model is found to be 81.00% correctly classified. The model with age less than or equal to 25 years old is found to be 89.19% and the model with age above 25 years is found to be 85.91% correctly classified. (See Annex 1.3)

6. Test of Significance-

The likelihood ratio and Wald test statistics provide tests for the hypothesis that all coefficients in the model except the intercept term are equal to zero. The Wald test is based on the robust covariance matrix and thus is more appropriate than the likelihood ratio test (Verbeek 2004). Since we had a Robust standard error, Wald Chi-square test is used to test the significance of the overall model. In this study, the models as a whole were found to be statistically significant. That is, it fits significantly better than a model

with no predictor. The null hypothesis which states "the overall model is not significant" is rejected and the alternate was accepted. (See table 4.30)

Application of binary probit regression in this study is based on the dependent variable (abortion decision of women), coded as 1 if the women decided to abort and 0 if the woman decided to carry the pregnancy to term. The estimation was made for all age groups of women, for age less than or equal to 25 years old and for age above 25 years old.

The summarized result of probit regression is presented in Table 4. 30 below (See Annex 1.3 for detailed estimation of each model).

Table 4.30: Marginal Effects from Probit Regression (Dependent Variable: probability of abortion demand)

	All Women(15 – 49 years old)				**Women aged (15–25years old)**				**Women aged (26 – 49 years old)**		
pr(abortion)	**dF/dx**	**Robust Std. Err.**	**P>/z/**		**dF/dx**	**Robust Std. Err.**	**P>/z/**		**dF/dx**	**Robust Std. Err.**	**P>/z/**
Age	0.009	0.006	0.163		0.015	0.013	0.229		0.002	0.011	0.850
not married	0.529	0.056***	0.000		0.506	0.083***	0.000		0.216	0.294	0.450
married before	0.157	0.085*	0.092		0.135	0.040***	0.005		0.094	0.134	0.470
primary edu.	0.174	0.106	0.131		-0.086	0.142	0.502		0.333	0.167**	0.049
secondary edu.	0.168	0.102	0.115		-0.098	0.119	0.365		0.225	0.159	0.149
above seco. ed.	-0.069	0.114	0.544		-0.402	0.163***	0.006		0.037	0.152	0.809
catholic/protes.	-0.073	0.084	0.379		-0.032	0.084	0.696		-0.220	0.092**	0.040
muslim/others	0.046	0.082	0.573		0.061	0.068	0.426		-0.069	0.101	0.506
very religious	-0.475	0.089***	0.000		-0.505	0.187***	0.005		-0.357	0.099***	0.002
fairly religious	-0.090	0.080	0.262		-0.030	0.074	0.681		-0.029	0.104	0.778
employed	0.045	0.092	0.628		-0.037	0.086	0.664		-0.004	0.118	0.972
cont. knowled.	-0.353	0.062***	0.003		-0.127	0.035**	0.021		-0.451	0.227*	0.098
cont. ever user	-0.590	0.075***	0.000		-0.546	0.134***	0.000		-0.705	0.078***	0.000
Cont. non-user	-0.570	0.084***	0.000		-0.202	0.079**	0.018		-0.602	0.075***	0.000
Price	0.004	0.001***	0.000		0.003	0.000***	0.000		0.005	0.001***	0.000
income	0.000	0.000	0.231		0.000	0.000	0.221		0.000	0.000	0.287
Number of Observation		442			222				220		
Wald chi^2 (16)		135.30			76.44				79.570		
Prob > chi^2		0.0000			0.0000				0.000		
Log pseudolikelihood		-146.80024			-53.292298				-77.813388		
Pseudo R^2		0.5201			0.6149				0.458300		
obs. P .		0.5226244			0.6846847				0.3590909		
pred. P		0.6063941(at x-bar)			0.8823235 (at x-bar)				0.3196088 (at x-bar)		

*** = significant at 1% level; ** = significant at 5% level; * = significant at 10% level

Regression Results

The results from the probit regression indicate that abortion decision of women is influenced by demographic factors (age and marital status), opportunity cost (education and employment), taste of abortion (religion and religiosity), income, price (fee paid for the service) and contraceptive use and knowledge. The coefficients obtained from the probit regression are first transformed into marginal values and are presented in Table 4.30 above.

1. Demographic Factors

Age – Generally, age is not found to be a significant determinant of the decision to seek abortion as the coefficients are not statistically significant. Even, when women are grouped into broad age groups (15-25 and above 25 years old), the results indicate that age is not found to be a factor in determining the decision whether or not to abort.

Marital Status - Marital status of woman is found to be statistically significant in the age groups 15-49 and in age groups 15-26. Unmarried women in age groups 15-49 years old and 15-25 years old are 52.9% and 50.6% more likely to abort than women currently married respectively. Moreover, widowed/separated/divorced women in age groups 15-49 years old and 15-25 years old are also 15.7% and 13.5% more likely to abort than those who are currently married respectively. The coefficients are found to have satisfied our theoretical expectation that the probability of abortion demand should be higher in unmarried women and women married before (widowed/separated/divorced). However, marital status is not found to be statistically significant in women aged above 25 years.

2. Taste for abortion

The taste for abortion is measured by the religious inclinations of the respondents as well as how religious the women are in their choice of religious affiliation.

Religion - The results indicate that women's religion is not a significant determinant of abortion in all the cases except in women age above 25 years. In women aged above 25 years, Catholics and Protestants are 22.0% less likely to abort than Orthodox religion followers.

Religiosity - In the case of religiosity, being very religious is found to affect the probability of abortion significantly in all the cases. That is, highly religious women are 47.5%, 50.5% and 35.7% less likely to abort than are nonreligious women aged 15-49, 15-25 and 26-49 respectively.

3. Opportunity cost of abortion

Education attainment – Educational attainment is found insignificant in determining the probability of abortion in women aged 15-49 years old. However, it is interesting to note that above secondary levels of education among young women aged 15-25 and primary level of education among women aged 26-49 years are found to be statistically significant in influencing abortion decision.

Women who have secondary education level are 40.2% less likely to abort than women who have no education among those in age groups 15-26 years. This means that the probability of seeking abortion in women of age between 15 and 25 years is lower when compared to those with above secondary level education.

On the other hand, women who have primary education level are 33.3% more likely to abort than are women who have no education in age groups 26-49. Whereas women who have primary education are found to have higher probability of seeking abortion than those who have no education aged above 26 years.

Occupational Status - the occupational variable is not statistically significant. This may be due to individual's job attainment or it may be that job specification does not really matter when it comes to the issue of demand for abortion; even the unemployed seek abortion when the need arises.

4. Income from Occupation - One important finding from our results is that income is not a significant determinant of the probability of abortion demand. Income from occupation does not have a positive impact or influence on the demand for abortion in all age groups of women.

5. Price

The cost of abortion is important for the probability of abortion demand. Fee paid for abortion service is a significant determinant and it affects abortion decision positively in all the cases. The results indicate that the higher the price the higher the probability of abortion to be performed in that health provider.

6. Contraceptives

Women's contraceptive Knowledge and practice determines their abortion decision.

Contraceptive Knowledge - Contraceptive Knowledge is found to be an important determinant factor of abortion in all cases. Women who have contraceptive knowledge are 35.3%, 12.7% and 45.10% less likely to abort than were women who have no contraceptive knowledge in the age groups 15-49, 15-25, and 26-49 respectively. This

means, as contraceptive knowledge of women increases women's chance of using contraceptives to avoid unwanted pregnancy increases. As a result abortion decreases.

Contraceptive Practice - Not only contraceptive knowledge but also contraceptive practice is important to prevent unwanted pregnancy. Findings of this study indicate that contraceptive practice affects the probability of abortion significantly. Ever Contraceptive users are 59.0%, 54.6% and 70.5% less likely to abort than are current contraceptive users in the age groups 15-49, 15-25, 26-49 respectively.

4.6 Result of in-depth interview

In-depth interviews were made with health professionals who were trained and were providing abortion service for some time. Those professionals who work in the selected health facilities expressed their opinion during the interview as follows.

In terms of age, they revealed that in health facilities most of their clients are aged 18-25. Women in this age group are most susceptible to abortion. They also revealed that most of their clients are women who belong to low parity (nullpara) and gravidity, who are single (in unstable union with their friends), uneducated (educated at lower level) who had low income and who living with their parents.

The informants revealed that most of their clients practice medical abortion since they come at the earlier age of their pregnancy. Most women come for pregnancy check up if their manistration does not come at the right time. Thus they know earlier whether they are pregnant or not. Most of the women consult their best and trusted girlfriends before they decide to abort and come with them.

The informants also explained that most of the women who come to get abortion service know at least one contraceptive method and are not willing to use contraceptives at the time of counseling. This is because of fear of side effects and due to religious prohibition. The most preferred contraceptive methods are injectables (mostly for three months) and Condoms.

One key informant stated that although knowledge and awareness of contraceptive is higher among the residents of Addis Ababa, the practice of contraceptives to prevent unwanted pregnancy is not as the expected.

During interview, health professionals conformed that being in school, lack of money to carry the pregnancy to term and to rear the child, being not married, fear of family, fear of the community where they live, and peer pressure are the main reasons that women have to seek abortion services.

According to the key informants, most of the women do not have enough awareness about abortion law of Ethiopia as well as abortion's consequences. Concerning attitude of women towards abortion, the key informants explained that most women have negative attitude towards abortion.

Regarding the place where women prefer to go to obtain abortion service, the key informants indicated that most women want to go to private/NGO health facilities instead of government health facilities. They also indicated that most of the health facilities provide medical abortion (MA) and Manual Vacuum Aspiration (MVA) during first and second trimester. Most of the time third trimester abortion service is delivered in hospitals. It is also found that most women want to go far to get the abortion service instead of using services near their place of residence.

Government health facilities charge no fee or very low fee for services. However, service seekers need additional money for the drugs and supplies which are not available in the facility. But, private/NGO health facilities request more money to give the abortion service.

The informants also indicated that to give MVA service a total of 30 minutes (15 minutes for counseling and 15 minutes for MVA service) are required. Medical abortion (MA) service is made within a short period of time after counseling the women but requires two hours of waiting time (though it is not applied in many health facilities).

CHAPTER FIVE

DISCUSSION

In this part interpretations of the major findings are presented supported with previous relevant studies.

5.1 Demographic and socio-economic factors and abortion

The study has come up with somewhat similar results to previously conducted studies and brought some outputs that could help to better understand the underlying reasons and motivating factors for women to abort in Addis Ababa.

Majority of the women who sought abortion services are in the age group 20-34. A smaller proportion of them is found at 35 years of age or above. This finding is similar with that of Olanike et al (2011) in Nigeria, Ibadan. But the multivariate results indicate that, age is not a significant determinant of abortion in all age groups. This means that women may abort when their demand arises irrespective of their age.

With respect to marital status, among all the respondents who practice induced abortion, more than half (56.47%) were single women, whereas those currently married and married before (widowed/divorced/separated) account for 31.47% and 12.06% of the respondents, respectively. EDHS (2001) found out that, in Ethiopia never-married women are twice as likely to terminate pregnancy as compared to ever-married ones. Similarly, the study conducted in the northern part of Ethiopia by Elias et al. (2005) gives evidence that marital status is significantly associated with induced abortion. Dawud (2008) also found out similar results in his study conducted in Addis Ababa. The result implies that single women in the unstable union could have higher tendency of performing abortion so as to avoid social discrimination that arises following unwanted pregnancy before marriage.

However, marital status is not found to be statistically significant in women aged above 25 years. This is because as age increases, women want to have a baby irrespective of their marital status. Above 25 years of age most women do have their own income (a stable life better than before) to rear and bear a child.

Education is found to be the most important factor that influences the incident of induced abortion in the univariate analysis. The practice of abortion is found to be 35.34% among

women with above secondary education and 31.03% among those with only secondary education. The proportion decreases as the educational level of the women decreases. The information gathered from the key informants revealed that most of their clients have at least primary education. Other studies have reported similar findings. A study conducted in Northeast Ethiopia on induced abortion found out that 62.5% of the women with induced abortion have high school and above education (Elias Senbeto et al, 2005). The possible reason could be the fact that educated women are more likely than women with no education to deny space and limit their pregnancy and they tend to have little access to information to terminate mistimed pregnancy.

However, multivariate results indicate that educational status of women is found to be insignificant except in women aged 26-49 with primary education and in women aged 15-26 years with above secondary level education. Women who have secondary education level are 40.2% less likely to abort than women who have no education among those in age groups 15-26 years. This means that the probability of seeking abortion in women of age between 15 and 25 years who have no education is higher when compared to those with above secondary level education. Women aged 15-25 and have above secondary level education are expected to have better knowledge of reproductive health and awareness towards unwanted pregnancy. An aware woman would avoid risks and minimize unwanted pregnancy that leads to abortion. In addition, women at this age and education level would have better income to bear and rear children than women with no education. Thus, these women prefer to bear and rear than aborting.

On the other hand, women who have primary education level are 33.3% more likely to abort than are women who have no education in age groups 26-49. Whereas women who have primary education are found to have higher probability of seeking abortion than those who have no education among women aged above 25. Women at the lower level of education would have less income to support additional children. Hence, after a few children, there is higher probability of demand for abortion as the women are deemed to have more than enough children.

Of the total numbers of respondents majority (52.65%) are women who belonged to Orthodox Christians, followed by Muslims (20.58%), Protestants (19.7%), Catholics (5.97%) and others (1.11%). In a similar study in Addis Ababa, Dawud (2008) found out that among those who abort, Orthodox Christians account for 60.4%, Muslims 22.2%, Protestants 10.6%, Catholics 5.2 % and other's 1.6%.

In the multivariate analysis Catholic/Protestant women aged above 25 years, are 22.0% less likely to abort than Orthodox religion followers. This means that Protestants/Catholics have less probability of seeking abortion than women in orthodox religion. Though abortion is condemned and considered as sin by many religions, respondents are not found to obey the doctrines.

Moreover, of the total respondents 44.47% are fairly religious followed by very religious 29.65%. Religiosity is found to have higher association in the bivariate analysis and also significant association in the multivariate analysis. In the multivariate analysis being very religious is found to affect the probability of abortion significantly in all the cases. This means that those women who are very religious have less probability of abortion demand than those who are not religious.

From the total number of women who practice induced abortion, higher proportion earn less than 800 Birr (lower economic status) followed by those who earn 801-1,600(medium economic status). Those women who earn more than 1,600 Birr (higher economic status) are in the third place. This result implies that women who earn less than 800 Birr prefer abortion than carrying the pregnancy to term. This is due to the inability to bear and rear the child. The bivariate analysis also shows the existence of association between income from occupation and abortion.

But the multivariate analysis indicates that income from occupation is found to be statistically insignificant. Income from occupation does not have a positive impact or influence on the demand for abortion in all age groups. This is true as the individual does not solely depend on the income from occupation but income from other sources like rental income or somebody's income used for the purpose of abortion. Income from occupation is not a significant determinant due to the fact that the factors responsible for unwanted pregnancies go beyond income issues.

The fee paid for abortion is found to affect the probability of abortion demand and abortion decision positively in all the cases. This finding is compatible with the findings of Olanike et al (2011) in Nigeria. The results indicate that the higher the fee for abortion services, the higher the probability of abortion demanded by the women. But this is against the law of demand which states: as the price of a product increases the demand for a product decreases. This is likely to be due to the fact that abortion is a onetime health service in which women want to give priority and much attention as compared to other goods and services.

This also portrays the regulatory structure of abortion availability in the country. Since abortion is considered illegal except in some cases, most women believe that safe abortion are offered at better facilities which are associated with higher prices and as such the type of facility and prices charged significantly influence the decision to abort and where to abort.

Contraceptive Knowledge is found to be an important determinant of abortion in all the cases. The result indicates that knowledge of contraceptives affects the probability of abortion decision significantly.

Women who have knowledge about contraceptives in age groups 15-49, 15-25 and 26-49 are 35%, 12.7% and 45.1% less likely to abort than were women who have no contraceptive knowledge in the respective age groups. This means that as contraceptive knowledge of women increases women's chance of using contraceptives to avoid unwanted pregnancy also increases. As a result abortion decreases.

Contraceptive practice is also found to be important to prevent unwanted pregnancy. Findings of this study indicate that contraceptive practice affects the probability of abortion significantly.

Women who had ever used contraceptives are 59.0% less likely to abort than are contraceptive current users in women aged 15-49 years. They are also 54.6% less likely to abort than are contraceptive current users among those women aged 15-25 years and 70.5% less likely to abort than are contraceptive current users among those aged 26-49 years. In this study most of current users of contraceptive (92%) decide to abort since pregnancies are unplanned (refer univariate analysis Figure 4.7). This shows that being only current user would not prevent from having unwanted pregnancy. Implying that, effectiveness and appropriate use of contraceptives also matters. But when we consider ever users, only 22.49% of women are among those who had decided to abort. These all leads to conclude that being ever user is less likely to be associated with abortion than being current user (refer 5.7 for explanation).

5.2 Knowledge on abortion and attitude towards abortion law

Creating awareness of abortion law has equal importance to legalizing abortion. In this study, out of 452, women 39.2% believe that abortion is legal with some specific reasons: 33% believe that abortion is not legal for all reasons; 21.5% are not sure on the legality of abortion and 6.4% believe that abortion is legal for all reasons. These all

indicate that only 39.2% of the women know the abortion law and the rest do not know the law correctly.

Key informants also revealed that many of their clients do not have knowledge/have little knowledge on abortion law of Ethiopia. They added that not only clients but also many of health care providers have little knowledge on the abortion law. According to ESONG's (2005) study, only 29% of the health practitioners are able to state the correct and legal provision of safe abortion.

In a study on KAP of family planning and abortion, similar results were obtained on abortion law knowledge among women in reproductive age. From 620 interviewed women in Addis Ababa, 21% reported at least one reason for their decision to abort. This was followed by 17.1% in other urban areas and the lowest was recorded 4.3% in the rural. In terms of specific reasons, rape and incest were reported by 4.1% and 4.5% of the women, respectively. In Addis Ababa and other urban areas, 10.5% of the women reported that the Ethiopian penal code allows abortion if a pregnancy occurs as a result of incest. Rape was reported as a reason by 10.3% and 7.6% of the women in Addis Ababa and other urban areas respectively. Other reasons were rarely reported in any of the three domains. (Engender Health, 2009)

5.3 Attitude towards abortion legality and its outcome

In this study, among 452 women, 62.6%support the idea of providing abortion services for a woman that faces unwanted pregnancy and the rest 37.4% do not support. It was also found out that majority (52.65%) of the women do not agree if abortion is legal and liberal. Whereas, 35.18% of the women agree if abortion is legal and liberal.

Respondents were also asked to report their opinion on the possible outcomes of legalizing abortion and it was found that 47.35% of the women believe that making abortion legal aggravates abortion; 38.72% of the women believe that making abortion legal minimizes unsafe abortion and 13.94% of the women believe that making abortion legal neither aggravates nor minimizes unsafe abortion.

In a consecutive five year study at Tikur Anbesa hospital here in Addis Ababa the abortion rate, decreased significantly after the revision of the abortion law. Even though absolute number of abortion and abortion related Maternal Mortality Rate (AMMR) fell substantially, the proportion of severe complications does not change while the case of fatality rate increases (Yirgu Gebrehiwot and Tippawan Liabsuetrakul 2008).

The effects of the revision of the abortion law on abortion-related maternal mortality vary from place to place. According to Yirgu and Liabsuetrakul's five year study (2003-2007), the point estimate of trends of abortion-related maternal mortality has declined after the revision of the abortion law, although the result is not impressive and thus needs a longer period of time of further observation.

In South Africa, researchers examined abortion complications in a nationally representative sample of public hospitals in 1994, when the country's abortion law was still restrictive, and after the new constitution allowed abortion on demand in 2000. The proportion of post abortion patients with high-severity morbidity declined from 17% in 1994 to 10% in 2000 (Jewkes et al, 2002). The decline observed in South Africa suggests that a similar trend may occur in Ethiopia.

Legal abortion prevents the problems of the unwanted child and economic burden of rearing large families. Liberalization was also argued to minimize the cost related to treatment of unsafe abortion, to provide safe and high quality abortion services and to expand safe abortion services. It also addresses human right and it empowers women. Nationally, liberalization was expected to bring economic, social and demographic harmony (WHO, 2004).

5.4 Reasons for abortion

Women who decide to abort have their own reasons. In this study, the main reasons given by the women to perform induced abortion are being unmarried (38.36%), economic problem (37.93%), being in school (19.4%), broken relationship with a friend (12.93%), being employed (12.93%), being raped/incest (12.93%) and having enough number of children (10.34%).

Similarly a study in Addis Ababa by Mihiret (2010) shows that 44% of the reasons are related to socio cultural factors, mainly being unmarried and having bad relationship with husband/fiancée, rape (5.5%), economic status (15%) and having enough family size (6%).

Dawud (2008), in his study at Marie stops International clinics in Addis Ababa, found out economic status(22.1%) , being in the school(20.4%), fear of society(8.5%), health reasons (8.3%), fear of family(8.5%) and peer pressure(10.7%) as the main reason to perform induced abortion.

Young women who end their pregnancy in induced abortion feel that they are too young or too poor to raise a child. Being unmarried had been also mentioned by majority of the women since there is fear of social stigma of raising an illegitimate child. Women with unhealthy relationship with their husband/fiancée prefer to have an abortion than having a child. Married women are inclined to mention both demographic (having enough children) and economic reasons (inability to raise additional children). There are also women who mention their current employment status (probably not entitled to maternal leave) as a reason to an abortion. There are also women who mention being in school (probably not entitled to maternal leave) as a reason to an abortion. Mudingo (2005) supports this idea stating that in many Asian societies, like Koreans and the Chinese, there is strong social stigma against single or unwed motherhood. In fact abortion is much more acceptable from a societal perspective in Asia than it is in Latin America or the USA.

By contrast, in more favorable economic environments, economic aspirations can also act as a determinant factor in the decision to end a pregnancy. This was clearly demonstrated in the study by Kwan and Colleagues of young women working in three export oriented industrial zones in the republic of Korea. The study attributes the growth in numbers of young women postponing marriage. They seek employment opportunities to improve their own and their parents' economic well being before they get married. These changes have inevitably led to an increase in premarital sexual activity. In a society that strongly condemns out of wedlock pregnancy, this has also brought about a rapid increase in the number of abortions among adolescents and young adults (Mudingo, 2005).

5.5 Unintended pregnancy and abortion

Unintended pregnancy is the main cause of abortion. In this study, from 452 women, 50.22% of the pregnancies are found to be unintended. Out of these, 86.21% of the women abort and only 12.27% bear their babies.

Similar results were obtained in a study conducted at Harar. Two hundred twenty five (33.3%) out of 675 pregnant women reported that their most recent pregnancies are unintended. Of these, 112 (50%) have unintended child births while the rest 113(50%) end in induced abortions. Guttmacher (2010) found out that, as of 2008, an estimated 41% of all pregnancies in Ethiopia are unintended. Unintended pregnancy is lowest in

Somali (9%) and highest in Addis Ababa (72%) where motivation to have small families is strongest.

Gebreselassie et.al (2010) also indicated that in 2008, 101 unintended pregnancies occurred per 1,000 women aged 15-44, and 42% of all pregnancies were unintended.

According to Gutmacher (2007), of the 182 million pregnancies that occur in developing countries, more than one-third are unintended, and 19% end in induced abortion (8% are safe procedures and 11% are unsafe).

5.6 The link between abortion and maternal mortality and morbidity

MDGs, adopted by 189 nations, include the goal of improving maternal health and the specific target of reducing the maternal mortality ratio by three-quarters between 1990 and 2015. Unsafe abortion is a major cause of maternal mortality, and measuring its incidence is important for monitoring progress on this goal. Unsafe abortion also has other consequences, including economic costs to health systems and families, stigmatization, and psychosocial effects on women.

In this study, out of 289 women who experience abortion, 137(47.40%) face complications after abortion. Out of these women, 66.42% face vaginal bleeding, 30.66% abdominal pain, 25.55% other vaginal discharge, 14.6% fever, 6.57% vaginal infection and 4.38% inability of wall of the uterus to carry a child.

Worldwide, 46 million pregnancies each year end in abortion, with 19 million of these abortions taking place under unsafe conditions. Nearly 70,000 women die and millions more are injured every year because they luck access to safe abortion services and treatment for abortion related complications. Globally, abortion complications alone constitute 13% of all maternal deaths (Banerjee, Sushanta, 2007).

5.7 The Relationship between Contraceptive use and induced abortion

Bongaart set a relationship between Contraceptive use and induced abortion. Bongaart's mathematical model revealed that the relationship between contraceptive practice and induced abortion is determined by some factors like contraceptive prevalence, number of children desired and total fertility rate of the population. Accordingly, in the population where contraceptive use is high and number of children ever born is high, the incident of induced abortion among the women decreases. Similarly, in this study almost 97% of the respondents know and 93.14% of them practices at least one contraceptive method.

Moreover, when the parity of the women increases, the proportion of women who practice contraceptive also increases and the proportion who seeks abortion decreases. This result implies that as the number of living children increases, women's tendency to use contraceptive to space and limit births also increases. This in turn decreases the incidence of induced abortion. The bivariate analysis that shows the socio-economic and demographic determinant of contraceptives use also supports this finding (refer Table 4.27).

In terms of age, both variables (contraceptive use and induced abortion) are found to be high in the middle age category (20-34) and low in the older age (above 34). This finding is supported by the qualitative results. This is in agreement with the practical implication of Bongaart mathematical model that states that longer sexual reproductive life tends to be positively related to the rate of induced abortion. The possible explanations of this could be due to the reason that women in the middle age category are engaged in longer period of sexual intercourse which might force them to use contraceptive so as to prevent unwanted pregnancy that eventually leads to abortion. It may also be due to the fact that women in the middle age category have achieved their desired number of children so that they use contraceptive so as to prevent unwanted pregnancy that eventually leads to abortion.

The other important practical implication of Bongaarts mathematical model is that in a given total fertility rate, contraceptive effectiveness exerts an increasingly important effect on abortion rate. This means as contraceptive prevalence increases, contraceptive failure or misuse becomes most important to determine abortion rate (Bongaarts and Westoff, 2000).

Similarly, in this study, women who are better user of contraceptive method are more likely to perform abortion as compared to those who are not (refer figure 4.8 and table 4.31). This might be due to the fact that most of them use less effective contraceptive methods. This is likely to lead to contraceptive failure that eventually increases induced abortion. This finding is consistent with the findings of Araoye and Fakeye (1998) that was conducted in Nigeria. Mpansile et al's (1993) study in Nigeria, ESOG (2005) as well as Dawud's (2008) study in Ethiopia also reach at similar findings.

5.8 Health institution preference (Quality of care)

Access to quality abortion service should be secured for all women in order to decrease maternal mortality. In this study, out of 289 women who required abortion service, 38.75% get the service at government hospital/health center/clinic; 57.44% get at private/NGO hospital/health center/clinic; and the rest get the service from people out of these facilities. Those who go to private/NGO health facility justify that they prefer these facilities mainly to get quality service. Those who go to government health facility justify that they prefer these facilities mainly due to their reasonable price to deliver the service.

Similarly, Mihiret (2010) found out that 65% of women get abortion service at private/NGO health facilities and 32% of women get abortion service at government health facilities.

Geressu (2007) indicated that a total number of 9387 women in five regional states receive comprehensive abortion services at from the reported health facilities during the period July 2006 to June, 2007. However, Marie Stopes International alone in 2007 provided the service to 80 000 women who were desperate to terminate their unwanted pregnancies. This shows a huge difference in the number of women using health institutions owned by government and the private/NGO centres. Clients of Marie Stopes International revealed that the service that is being provided by Marie Stopes International is of high quality, valuable and is needed by women who find themselves pregnant after they suffer rape.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1Conclusions

Unsafe abortion is found to have a strong relationship with maternal mortality and morbidity. Making abortion safe and legal has gone through different stages of debates and still the dialogue and disagreement has sustained. At the same time countries are also making a progress towards liberalization of their abortion law. In Ethiopia there is a step forward in making abortion safe and legal under some situations. Study by Yirgu Gebrehiwot and Liabsuetrakul in 2008 indicate the downward trends of unsafe abortion and its complication which in turn indicated a decrease in abortion related Maternal Mortality Ratio.

This study wants to argue that the prime agenda shouldn't be minimizing unsafe abortion through promoting safe abortion. Priority must be given to avoiding unwanted pregnancy and the subsequent decline in the number of abortion and related deaths.

Thus it examined the relative importance of some selected variables such as age, marital status, religion, religiosity, education, self occupation and income from occupation variables in affecting women's decision to abort in Addis Ababa.

Eventually, it reached the following conclusions:

1. It revealed that the probability that a pregnant woman chooses an abortion is dependent on prices and cost factors. The opportunity cost of child bearing is found to be positively associated with the demand for abortion. As the associated costs of pregnancies (child delivery and child rearing) increases abortion decision increases.

2. The opportunity cost of abortion (education and unemployment) is found to be significant at a certain level. Level of education attainment is significant in women aged 15-25 years old with above secondary level of education and in women aged 26-49 years old with primary level of education. Whereas, employment status is not found to be a significant determinant of abortion.

3. Among the demographic characteristics marital status is found to be a significant determinant in all age groups. Unmarried and married before women have higher probability of abortion than married women. On the other hand, age of women is not found to be a determinant of the probability of abortion in all cases.

4. Taste of abortion (religion and religiosity) is found to be a significant determinant of the probability of abortion. Being Catholic/Protestant in women aged 24-49 years old is found to be important determinant of abortion. Moreover, being very religious is also found to be important determinant of abortion. Religiosity also affects the demand for abortion negatively in all cases.

5. Direct price of abortion, which is fee paid for the service, is found to be a significant determinant that affects the probability of abortion positively. But self income from occupation is found to be insignificant determinant in all age groups.

6. Contraceptive knowledge and practice is found to be important determinant of abortion in all age groups. Majority of current user of contraceptive (42.24%) are found to have unwanted pregnancy and decide to abort. This is because of inconsistent use of contraceptives and also due to use of inefficient contraceptives.

7. With respect to outcomes of abortion, women do have knowledge on vaginal bleeding (79.4%), other vaginal discharge (39.2%) and abdominal pain (30.1%). The main reasons of abortion that a woman give are: being unmarried (38.36%), economic problem (37.93%) and being in school (19.4%).

Although the findings of this study cannot be said to be conclusive, it has in some degree highlighted the factors that affect the demand for abortion. However, there is still a need for further investigation into obtaining a crystal clear view of the determinants of abortion decision of women amongst a wider scope beyond the purposefully sampled population.

6.2 Recommendations

Based on findings of the study, the following recommendations are forwarded;

- The finding showed that the prominent reason for performing induced abortion is women's perception that their pregnancies are badly timed in terms of direct cost and opportunity cost. Therefore, improving women's socio-economic status are important means of reducing abortion in the study area.

- The result of this finding implies that unless unwanted pregnancies are prevented, many women will turn to abortion to avoid bearing the children they are not prepared to have. Therefore, to reduce unwanted pregnancy, policy maker should formulate policies that promote family planning counseling and information. It is also important to faithfully implement the existing ones.

- The study has revealed that induced abortion is higher among women who are young, and never-married, and who use contraceptives. This implies high contraceptive failure or inconsistency in use among this category of the study population. The result suggests the need for active promotion of effective family planning methods among young never-married women.

- The result of this study assures the existence of clear gap between knowledge about contraceptives and actual use of effective contraceptives to reduce unwanted pregnancy among the respondents. This shows a need of educational program in promoting effective contraceptive methods.

- Policy makers and any concerned bodies should design appropriate and realistic program within the framework of national population policy that focus on reducing socio-economic problems which are associated with induced abortion.

- The study has revealed that only 39.2% of respondents have knowledge of the countries abortion law. Thus, creating better awareness among stakeholders (Service providers and service recipient) on implementation of existing laws would reverse the tragic roll of unsafe abortion. Better improvement of the conditions under which abortion is currently permitted and making abortion available to the full extent of existing laws can have numerous benefits including: permitting services to be visible, accessible and affordable for all

women, helping health professionals feel protected in providing compassionate abortion services, allowing women to choose among providers and better enabling women to take legal action when their right are violated.

- Key informants revealed that most physicians who have been giving abortion service do not have interest on their work. To change this situation a series of training should be provided. Campaigns among health professionals are also needed to reduce the stigma of providing abortion, to recruit those who are sympathetic to women's need for abortion, to train as providers and to make abortion provision an acceptable career path.

- Around half (46.7%) of those who demand abortion encounter complications after abortion. Therefore, post abortion services should be available in various health facilities so as to prevent unnecessary maternal deaths as a result of these complications.

- Community based study on this issue is also recommended to obtain more representative result for the purpose of making policy and doing intervention towards the reduction of incident of induced abortion.

- Finally, in order to achieve one of the MDG's, reducing maternal mortality by three quarters, all stockholders must make systematic and organized effort and to address the multidimensional problems of abortion.

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ANNEX

1.Test and Regression Results

1.1 Normality Test For Residuals

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
devP	442	0.9531	0.1039	2.66	0.2651

1.2 Multi-Collinearity Test Between Variables

Variable	VIF	1/VIF
dummyeduca~4	3.29	0.303752
dummyeduca~3	2.82	0.354089
dummyeduca~2	2.26	0.441829
dummycontr~2	2.13	0.470498
income	2.05	0.487645
dummyrelig~1	1.85	0.540814
dummymarit~2	1.83	0.546636
dummycontr~3	1.80	0.554136
dummyemplo~1	1.80	0.556912
age	1.77	0.565981
dummyreli~y2	1.65	0.606257
dummymarit~3	1.25	0.798173
dummyrelig~3	1.21	0.828211
dummyreli~n2	1.20	0.831747
price	1.16	0.863325
dummycontr~1	1.16	0.865759
Mean VIF	1.83	

1.3 a. Marginal effect from probit regression for women aged 15-49 years old

```
Iteration 0:   log pseudolikelihood = -305.91841
Iteration 1:   log pseudolikelihood = -172.22419
Iteration 2:   log pseudolikelihood = -150.02458
Iteration 3:   log pseudolikelihood =  -146.8987
Iteration 4:   log pseudolikelihood = -146.80036
Iteration 5:   log pseudolikelihood = -146.80024

Probit regression, reporting marginal effects          Number of obs =     442
                                                       Wald chi2(16) =  135.30
                                                       Prob > chi2   =  0.0000
Log pseudolikelihood = -146.80024                      Pseudo R2     =  0.5201
```

recode~n	dF/dx	Robust Std. Err.	z	P>|z|	x-bar	[95% C.I.]	
age	.0089996	.0064322	1.40	0.163	26.5181	-.003607	.021606
dummym~2*	.5293147	.0559071	6.23	0.000	.332579	.419739	.638891
dummym~3*	.157001	.0850604	1.68	0.092	.11086	-.009714	.323716
dummye~2*	.1736499	.1056749	1.51	0.131	.176471	-.033469	.380769
dummye~3*	.1684177	.1017814	1.57	0.115	.278281	-.03107	.367906
dummye~4*	-.0690846	.1140194	-0.61	0.544	.420814	-.292559	.154389
du~gion2*	-.0734762	.0839297	-0.88	0.379	.251131	-.237975	.091023
dummyr~3*	.0463267	.0815531	0.56	0.573	.21267	-.113514	.206168
dummyr~1*	-.4750319	.0893474	-4.64	0.000	.291855	-.65015	-.299914
du~sity2*	-.0902701	.0801376	-1.12	0.262	.445701	-.247337	.066797
dummye~1*	.0445849	.0924796	0.48	0.628	.635747	-.136672	.225842
dummyc~1*	-.3527083	.0616264	-2.97	0.003	.966063	-.473494	-.231923
dummyc~2*	-.5896634	.0754724	-6.21	0.000	.361991	-.737587	-.44174
dummyc~3*	-.5698161	.0835364	-5.49	0.000	.395928	-.733544	-.406088
price	.0042844	.0006087	6.87	0.000	93.5611	.003091	.005477
income	-.0000562	.000047	-1.20	0.231	792.362	-.000148	.000036
obs. P	.5226244						
pred. P	.6063941	(at x-bar)					

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| correspond to the test of the underlying coefficient being 0

Classification Table

Probit model for recodeabortion

Classified	True D	True ~D	Total
+	200	28	228
-	31	183	214
Total	231	211	442

Classified + if predicted Pr(D) >= .5
True D defined as recodeabortion != 0

Sensitivity	Pr(+| D)	86.58%
Specificity	Pr(-|~D)	86.73%
Positive predictive value	Pr(D| +)	87.72%
Negative predictive value	Pr(~D| -)	85.51%
False + rate for true ~D	Pr(+|~D)	13.27%
False - rate for true D	Pr(-| D)	13.42%
False + rate for classified +	Pr(~D| +)	12.28%
False - rate for classified -	Pr(D| -)	14.49%
Correctly classified		86.65%

Goodness-of-fit Test

Probit model for recodeabortion, goodness-of-fit test

number of observations =	442
number of covariate patterns =	350
Pearson chi2(333) =	427.70
Prob > chi2 =	0.0003

1.3 b. Marginal effect from probit regression for women aged 15-25 years old

```
Iteration 0:   log pseudolikelihood = -138.36987
Iteration 1:   log pseudolikelihood = -68.185729
Iteration 2:   log pseudolikelihood =  -56.85427
Iteration 3:   log pseudolikelihood = -53.753415
Iteration 4:   log pseudolikelihood = -53.308038
Iteration 5:   log pseudolikelihood =  -53.29235
Iteration 6:   log pseudolikelihood = -53.292298
Iteration 7:   log pseudolikelihood = -53.292298

Probit regression, reporting marginal effects                 Number of obs =     222
                                                              Wald chi2(16) =   76.44
                                                              Prob > chi2   =  0.0000
Log pseudolikelihood = -53.292298                             Pseudo R2     =  0.6149
```

recode~n	dF/dx	Robust Std. Err.	z	P>|z|	x-bar	[95% C.I.]	
age	.0146838	.0128802	1.20	0.229	21.2072	-.010561	.039929
dummym~2*	.5061698	.0832561	5.26	0.000	.603604	.342991	.669349
dummym~3*	.1347371	.0396603	2.78	0.005	.054054	.057004	.21247
dummye~2*	-.0857619	.1418045	-0.67	0.502	.207207	-.363694	.19217
dummye~3*	-.0982685	.1190879	-0.91	0.365	.337838	-.331677	.13514
dummye~4*	-.4021105	.1632022	-2.76	0.006	.355856	-.721981	-.08224
du~gion2*	-.0324011	.0835755	-0.39	0.696	.292793	-.196206	.131404
dummyr~3*	.0610855	.0677602	0.80	0.426	.175676	-.071722	.193893
dummyr~1*	-.5047337	.1873503	-2.80	0.005	.189189	-.871934	-.137534
du~sity2*	-.0304747	.073512	-0.41	0.681	.481982	-.174556	.113606
dummye~1*	-.0373489	.0855875	-0.43	0.664	.581081	-.205097	.1304
dummyc~1*	-.1273483	.0351361	-2.31	0.021	.95045	-.196214	-.058483
dummyc~2*	-.5458625	.1343577	-4.16	0.000	.211712	-.809199	-.282526
dummyc~3*	-.2015283	.0791859	-2.37	0.018	.477477	-.35673	-.046327
price	.0025356	.0004959	4.86	0.000	107.568	.001564	.003508
income	.0000579	.0000477	1.22	0.221	555.896	-.000036	.000151
obs. P	.6846847						
pred. P	.8823235	(at x-bar)					

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| correspond to the test of the underlying coefficient being 0

Classification Table

Probit model for recodeabortion

Classified	True D	True ~D	Total
+	141	13	154
-	11	57	68
Total	152	70	222

Classified + if predicted Pr(D) >= .5
True D defined as recodeabortion != 0

Sensitivity	Pr(+| D)	92.76%
Specificity	Pr(-|~D)	81.43%
Positive predictive value	Pr(D| +)	91.56%
Negative predictive value	Pr(~D| -)	83.82%
False + rate for true ~D	Pr(+|~D)	18.57%
False - rate for true D	Pr(-| D)	7.24%
False + rate for classified +	Pr(~D| +)	8.44%
False - rate for classified -	Pr(D| -)	16.18%
Correctly classified		89.19%

Goodness- of-fit test

Probit model for recodeabortion, goodness-of-fit test

number of observations =	222
number of covariate patterns =	172
Pearson chi2(155) =	203.04
Prob > chi2 =	0.0058

1.3 c. Marginal effect from probit regression for women aged 26-49 years old

```
Iteration 0:   log pseudolikelihood = -143.63654
Iteration 1:   log pseudolikelihood =  -85.41295
Iteration 2:   log pseudolikelihood = -78.646609
Iteration 3:   log pseudolikelihood = -77.838618
Iteration 4:   log pseudolikelihood = -77.813421
Iteration 5:   log pseudolikelihood = -77.813388

Probit regression, reporting marginal effects     Number of obs =     220
                                                  Wald chi2(16) =   79.57
                                                  Prob > chi2   =  0.0000
Log pseudolikelihood = -77.813388                 Pseudo R2     =  0.4583
```

recode~n	dF/dx	Robust Std. Err.	z	P>|z|	x-bar	[95% C.I.]	
age	.0020092	.0106777	0.19	0.850	31.8773	-.018919	.022937
dummym~2*	.2155102	.2942052	0.76	0.450	.059091	-.361121	.792142
dummym~3*	.0939256	.134126	0.72	0.470	.168182	-.168957	.356808
dummye~2*	.3329411	.1671028	1.97	0.049	.145455	.005426	.660457
dummye~3*	.2249916	.1587782	1.44	0.149	.218182	-.086208	.536191
dummye~4*	.036884	.1520736	0.24	0.809	.486364	-.261175	.334943
du~gion2*	-.219692	.0917945	-2.06	0.040	.209091	-.399606	-.039778
dummyr~3*	-.0685788	.1010431	-0.67	0.506	.25	-.26662	.129462
dummyr~1*	-.3571053	.0987339	-3.15	0.002	.395455	-.55062	-.16359
du~sity2*	-.0292932	.1035748	-0.28	0.778	.409091	-.232296	.17371
dummye~1*	-.0041328	.1179427	-0.04	0.972	.690909	-.235296	.227031
dummyc~1*	-.4512977	.2265248	-1.65	0.098	.981818	-.895278	-.007317
dummyc~2*	-.7048108	.0784586	-6.73	0.000	.513636	-.858587	-.551035
dummyc~3*	-.6022455	.0746575	-5.73	0.000	.313636	-.748572	-.455919
price	.0047783	.0010814	4.44	0.000	79.4273	.002659	.006898
income	-.0000622	.0000582	-1.06	0.287	1030.98	-.000176	.000052
obs. P	.3590909						
pred. P	.3196088	(at x-bar)					

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| correspond to the test of the underlying coefficient being 0

Classification Table

Probit model for recodeabortion

Classified	True D	True ~D	Total
+	58	10	68
-	21	131	152
Total	79	141	220

Classified + if predicted Pr(D) >= .5
True D defined as recodeabortion != 0

Sensitivity	Pr(+| D)	73.42%
Specificity	Pr(-|~D)	92.91%
Positive predictive value	Pr(D| +)	85.29%
Negative predictive value	Pr(~D| -)	86.18%
False + rate for true ~D	Pr(+|~D)	7.09%
False - rate for true D	Pr(-| D)	26.58%
False + rate for classified +	Pr(~D| +)	14.71%
False - rate for classified -	Pr(D| -)	13.82%
Correctly classified		85.91%

Goodness-of-fit test

Probit model for recodeabortion, goodness-of-fit test

number of observations =	220
number of covariate patterns =	178
Pearson chi2(161) =	184.40
Prob > chi2 =	0.0999

2. Questionnaire

2.1Quantitative Questionnaire

Addis Ababa University
School of Graduate Studies
Center for Population Studies
Women's Decision to Abort in Addis Ababa

Introduction and consent

My name is _____. I am a data collector to one of Msc student at Addis Ababa University, Center for Population Studies who is conducting a study about Women's decision to abort in Addis Ababa. I would very much appreciate your participation in this study. I would like to ask you about pregnancy, abortion and related reproductive health issues. This information will help the governmental and non-governmental organizations to plan for the provision of comprehensive pregnancy, safe abortion and related services in order to decrease maternal mortality. The questionnaire usually takes between 15-20 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons. Participation in this interview is entirely on voluntary basis and you can choose not to answer any individual questions or all of the questions. However we hope that you will participate fully in this study since your views are important. Do you have any question about the survey? May I begin the interview now?

Yes ____ No ___

Signature of the interviewer, which certifies that, informed verbal consent is given.

Sign _____

1	Research Objectives	-To identify the determinants of women's decision to abort; -To examine the effects of knowledge, attitude and practice of women towards abortion; -To suggest some possible inferences and possible recommendation that will assist in reducing the high deaths associated with abortion.
2	Research Questions	-Why does a woman decide to abort? -What are the socio-economic factors that lead a woman to undergo abortion? -Does inconsistent use of contraceptive affects abortion? -What does the abortion practice of women looks like? -Do women decide to abort based on prior knowledge of the outcomes of abortion?
3	Personnel	-Interviewer _____ -Interviewer Code [/] -Field Supervisor _____ -Supervisor Code [/] -Data Entry Clerk _____ -Data entry Code [/]
4	Questionnaire Number (ID)	_____
5	Result Code	1. completed 2. No respondent 3. Partially completed 4. Other, specify _____

Part I General Information			
S. No	**Questions**	**Coding Categories**	**Skip to**
101	In what month and year were you born?	1.Month _____ 2.Don't know month 3.Year _____ 4.Don't know year	
102	How old were you at your last birthday? Compare and correct 101 and/or 102 if inconsistent.	Age in completed years ___ ___	
103	What is your marital status?	1.Currently Married 2. Never married → 105 3. Widowed 4. Divorced 5.Separated 6.Cohabiting (living with a man) → 105	
104	How old were you when you first got married?	Age at first marriage _____	
105	Can you read and write?	1. Yes 2. No → 108	
106	Have you attend formal school?	1. Yes 2. No → 108	
107	What is the highest grade you have completed?	1. Primary 2. Secondary 3. Tech./Voc. Certificate 4. University/College Diploma/Degree or higher	
108	What is your religion?	1. Orthodox 2. Catholic 3. Protestant 4. Moslem 5. Others	
109			
110	How religious are you?	1.Very religious 2.Fairely religious 3.Not religious	
111			
112	Are you engaged in work that generates income to you/your household?	1. Yes 2. No → 116	
113	For whom are you working?	1. Working for family member 2. Employed in Government 3. Employed in private sector 4. Employed in NGO 5. Self-Employed 6. Other, specify_____	
114	How much do you get per month?	_____	
115	Do you usually work at home or away from home?	1. Home 2. Away	
116	Where did you born?	1.Addis Ababa 2.Out of Addis Ababa	
117	For how many years did you live here?	1.Since birth 2._____ years	
118	With whom are you living	1.Husband 2.Parent	

	now?	3.Alone 4.partner 5.employer 6.Husband's brother 7.My children 8. My friends 9. Relatives	
119	What is your ethnicity?	_____	
Part II		**Knowledge about abortion**	
S. No	**Questions**	**Coding Categories**	**Skip to**
201	Have you ever heard about termination of pregnancy (abortion)?	1. Yes 2. No	
202	Have you ever heard about safe termination of unwanted pregnancy (abortion)?	1. Yes 2. No	
203	Have you ever heard about unsafe termination of unwanted pregnancy (abortion)?	1. Yes 2. No	
204	Do you know places where unwanted pregnancy is terminated?	1. Yes 2. No →	206
205	Where can a woman go to terminate unwanted pregnancy? (Circle all mentioned answers)	1. Govt. hospital 2. Govt. health center/ clinic 3. NGO hospital 4. NGO health center/clinic 5. Private hospital 6. Private health center/clinic	
206	Do you know persons who give abortion service in your nearby community?	1.Yes 2. No →	208
207	Who are all the different people who can help a woman in her or nearby community to terminate an unwanted pregnancy? (Circle all mentioned answers)	1. TBA/Trained TBA 2. Physician 3. Health Officers 4. Nurses 5. A health worker (in his/her house premise) 6. Traditional healer 7. Health workers working in private health facilities 8. Don't know/remember 9. Other, specify	
208	What problems can happen in a woman after terminating pregnancy? (Circle all mentioned answers)	1. Vaginal bleeding 2. Other vaginal discharge 3. Abdominal pain 4. Fever 5. Death 6.Sterility 7.Vaginal Infection	
209	How likely is a woman who went to **a health center or a hospital** to terminate an unwanted pregnancy will experience a series health problem afterwards?	1. Always experience the problem 2. Sometimes experience the problem 3. Do not experience the problem 4. Don't know	
210	How likely is a woman who went **somewhere other than to a health center or**	1. Always experience the problem 2. Sometimes experience the problem	

	a hospital to terminate an unwanted pregnancy will experience a series health problem afterwards?	3. Do not experience the problem 4. Don't know	
211	Do you think that the nearest hospital/health center has sufficient equipment and supplies to help women safely terminate an unwanted pregnancy?	1. Yes 2. No 3. Not sure 4. Do not know	
212	Do you think that the staffs at the nearest health center treat women who came to terminate an unwanted pregnancy there with respect?	1. Yes 2. No 3. Not sure 4. Do not know	
213	Is it legal for a woman to terminate an unwanted pregnancy according to the abortion law of Ethiopia?	1. Yes for all reasons 2. Yes with some specific reasons 3. No for all reasons 4. Not sure	
214	From where did you get the information?	1. Media (Radio, Television, News paper) 2. Friends 3. Family 4. Health Centers 5. School 6. Religious place 7. At work place 8. Other, Specify _____	
	Part III Attitude Related Questions		
S. No	**Questions**	**Coding Categories**	**Skip to**
301	If a woman faces unwanted pregnancy, can she seek abortion services?	1. Yes 2. No → 303	
302	If yes why? (Circle all mentioned answers)	1. A woman who does not want to give birth for whatever reason should get abortion services 2. Abortion is a human right issue 3. Abortion is a safe medical procedure 4. In case of incent or rape, abortion is a best alternative 5. A woman who gave birth while not in marriage is not acceptable by the society. 6. If her partner denied her and do not accept her pregnancy.	
303	If no why? (Circle all mentioned answers)	1. Life begins from conception 2. Abortion would take human life 3. Abortion should not be considered as contraception 4. unwanted pregnancy can be solved by adoption 5. A child can up bring by his/her opportunity 6. A woman who undergo abortion will face negative outcome 7. others, specify_____	
304	Do you agree if abortion is	1. Strongly agree 2. Agree	

	legal and liberal?	3. Fair 4. Do not agree 5. Do not know	
305	What do you think about the outcomes of making abortion legal?	1. it aggravates abortion 2. it minimizes unsafe abortion 3. it neither aggravates nor minimizes unsafe abortion	
306	If you had a friend or family member experiencing an unwanted pregnancy would you advice her to a health facility for a doctor or nurse to help terminate the pregnancy?	1. Yes 2. No 3. Not sure	
307	If you have faced unwanted pregnancy due to rape, incent, What would be your decision?	1. I will give birth in my house 2. I will abort 3. I will give birth by going away from my living places 4. Suicide 5. Other specify_____	
	Part IV Practice Related Questions		
S. No	**Questions**	**Coding Categories**	**Skip to**
401	Do you know a family member/friend/neighbor who had terminated pregnancy during the last year(12 months)?	1. Yes 2. No →	403
402	If so, how many were they?	_____	
403	Have you ever heard about or knew a woman who died immediately or within a few weeks after terminating an unwanted pregnancy?	1. Yes 2. No →	405
404	If so, how many were they?	_____	
405	Have you heard about or knew a woman who died immediately or within a few weeks after terminating an unwanted pregnancy in the last 12 months?	1. Yes 2. No →	407
406	If so, how many were they?	_____	
407	Have you ever been pregnant?	1. Yes 2. No	
408	How many times have you been pregnant?	_____	
409	How many pregnancies ended in live births?	_____	
410	What was your age when you have given birth for the first time?	_____	
411	How many children have you ever born alive?	Total_____ Boys _____ Girls _____	
412	Check number mentioned from 408 to 411, if number mentioned in 409 is less	1. Abortion	

	than number mentioned in 408, ask what happen to the remaining pregnancy.	2. Still birth 3. Currently Pregnant ——→	501
413	If it was abortion, what was the nature of the termination? Miscarriage/ spontaneous or induced abortion?	1. Spontaneous 2. Induced	
414	How many pregnancies ended in abortion?	1. Spontaneous _____ 2. Induced _____	
415	When did this last abortion happen?	1. During last year 2. Before a two years 3. Before the last five years 4 .Now/within the last seven days 5.Before three years 6.Before four years	
416	What was your age when you terminate your pregnancy for the last time (recent)?	_____	
417	What was your marital status when you terminate pregnancy?	1.Currently Married 2. Never married 3. Widowed 4. Divorced 5.Separated 6.Cohabiting (living with a man)	
418	If you decided to terminate your unwanted pregnancy, what was your reason to do so?	1. Desire for small family size 2. education (being in school) 3. employment 4. poverty (economic problem) 5. having enough children 6. a relationship with friend 7. being unmarried 8. rape 9. incent 10. Due to ill health(Medical problem) 11.Spontaneous abortion (by its own)	
419	If you terminated your pregnancy where did you go to get the services?	1.Govt. hospital / health center/ clinic. 2.Private / NGO hospital/Clinic ——→ 3.Private (Some body's) home ——→ 4. In my house ——→ 5. Others, specify _____ ——→	 421 → 422 → 422 → 422 →
420	If you choose to terminate your pregnancy in government hospital / health center/ clinic, why?	1.To get quality service 2.Since physicians respect their client 3.Because they keep my secrete 4.Because they ask reasonable price 5.Because is near my house 6.Because I want to go far from my nearby community 7. Others, specify _____	
421	If you choose to terminate your pregnancy in Private / NGO hospital/Clinic, why?	1.To get quality service 2.Since physicians respect their client 3.Because they keep my secrete 4.Because they ask reasonable price 5. Because it is close to my residence. 6.Because I want to go far from my nearby community	

		7. Others, specify _____	
422	Did you face any health related problem after you went through the abortion process?	1. Yes 2. No →	425
423	If you have faced negative outcomes after the abortion you went through, can you mention some? Multiple responses are possible, circle all mentioned.	1. Vaginal bleeding 2. Other vaginal discharge 3. abdominal pain 4. fever 5. Vaginal infection 6. In ability of wall of uterus to carry the child.	
424	What did you do when you faced negative outcomes after the abortion?	1. I went to health center/hospital 2.I went to traditional health service providers 3. I abandoned it 4.Others, specify _____	
425	If you terminated your pregnancy, did your husband/ fiancée know your termination of pregnancy?	1. Yes 2. No →	427
426	If yes ,what was his feedback?	1. Supported/encouraged 2. Neglected /rejected 3. Neutral	
427	If you terminated your pregnancy, what feedbacks did you get from your friends?	1. Supported/encouraged 2. Neglected /rejected 3. Neutral 4. I didn't tell them.	
428	If you terminated your pregnancy, what feedbacks did you get from your family?	1. Supported/encouraged 2. Neglected /rejected 3. Neutral 4. I didn't tell them.	

Part IV Contraceptive Knowledge and Use

S. No	Questions	Coding Categories	Skip to
501	Have you ever heard of modern contraception?	1. Yes 2. No →	504
502	What type of methods do you know? Possible to circle more than one method.	1. Pill 2. IUDs 3. Injectables 4. Abstinence 5.Condom 6. Female sterilization 7. Male sterilization 8. Implants/Norplant 9. Calendar Method 10. Others, Specify_____	
503	Do you know of a place where you can obtain a method of family Planning?	1. Yes 2. No	
504	Would you tell me to which group you belong?	1. current user 2. ever user 3. non user 4. other, specify _____	
505	If you are currently using a contraceptive method, for what purpose?	1. birth spacing 2. limiting birth 3. don't know 4. other, specify _____	
		1. Pill	

506	Which method are you using? Circle all mentioned. If more than one method mentioned, follow skip instruction for highest method on list.	2. IUDs 3. Injectables 4. Abstinence 5.Condom 6. Female sterilization 7. Male sterilization 8. Implants/Norplant 9. Calendar Method 10. Others, Specify_____	
507	How long did you use the method then?	_____	
508	Where did you obtain the method when you started using it?	1. Govt. Hospital 2. Govt. Health Center/Station/Clinic 3. NGO Hospital 4. NGO Health Center/Station/Clinic 5. Private Hospital 6. Private Health Center/Station/Clinic 7. Pharmacy 8. Shop 9. Since it is natural I use it. 10. School	
509	Why did you stop using the contraceptive? (for ever users)	1. Fear of side effects 2. fear of infertility 3. desire to have more children 4. religious prohibition 5. medical problem 6. preferred method not available 7. rumors 8. unacceptable in my culture 9. important others influence 10. my husband is dead 11.forget the time 12. I do not make sexual intercourse with any body	
510	Why are you not using contraceptive? (for non users)	1. want children 2. I don't know what contraceptives are 3. religious prohibition 4. rumors they are not good 5. unavailable in the nearby 6. I do not make sexual intercourse with any body 7. My husband is not voluntary to use	
	Part V	**Women's Decision to Abort**	
S. No	**Questions**	**Coding Categories**	**Skip to**
601	How many weeks pregnant are you? Record number of completed weeks.	Months _____ Weeks _____	
602	To whom are you conceiving this pregnancy?	1.Husband 2.Boyfriend 3. Rape 4.I do not know 5. my neighbor 6.my husband's brother	
603	Is your pregnancy wanted?	1. Yes, it is wanted pregnancy. 2. No, it is unwanted pregnancy.	
604	Why do you come to this health service provider?	1.for abortion service 2.for ANC (maternal health care service)	611 →

605	Are you psychologically and physically prepared to abort?	1. Yes 2. No	
606	Did you seek advice from anybody before you decide to abort?	1. Yes 2. No → 608	
607	If yes, to whom did you tell?	1. family 2. husband / boyfriend 3. friends 4. nobody 5. employer	
608	Are you convinced with the termination of pregnancy?	1. Yes → 610 2. No	
609	If no, who pressurizes you to do so?	1. family 2. husband / boyfriend 3. friends 4. nobody 5. economic problem	
610	Why did you decide to abort?	1. Desire for small family size 2. education 3. employment 4. poverty(economic problem) 5. having enough children 6. broken relationship with a friend 7. being unmarried 8. rape 9. incent 10. medical problem 11.Family pressure	
611	Why did you decide to bear the baby?	1. I need the baby. 2. I am economically well off to rear and bear the child 3. I am married 4. Since, once happened I do not have any alternative. 5. Since my family accept the condition	
612	Why did you choose this health facility provider for this service?	1. To get quality service 2. Since physicians respect their client. 3. Because they keep my secrete. 4. Because they ask reasonable price. 5. Because it is close to my residence. 6. Because I want to go far from my nearby community. 7. Because it requires small cost 8.People told me to go there 9.Because I am referred by other health institutions	
613	How much did you pay for the abortion service?	_____	
614	If you come for MHC, how much did you pay for maternal health care service?	_____	
615	Do you think that prices paid for the service determine the decision to abort?	1. Yes 2. No	

2.2 In-depth interview questions for health workers in the selected health facilities

1. General

-What is your profession?

-Respondent category: Mark [ ]

- Nurse [ ]
- Other, specify _____ [ ]

-Specialization _____.

-Sex of respondent: Male [ ] Female [ ]

-How long have you been working in this profession? [ ]

-How long have you been working in this facility provision center? [ ] Months (convert it to months)

-How long have you been working on abortion and related issues in this facility provision center?

-What is your responsibility in this organization? What jobs do you do here?

-How many years did you work in your profession?

-How many years did you work on RH and related maternal health: How many on abortion?

2. Background about women

-What was the background of women who are coming to get abortion services? / How would you compare their abortion service utilization?

- Their educational background: illiterate, primary, secondary, tertiary
- Their socio-economic class: higher class, middle class and lower class
- Age between younger and older females
- Which age group is the most affected age group? And why?
- Does educational level affect use of the service?
- Does employment status affect use of the service?
- Does marital status affect use of the service (divide women into unmarried, divorced, widowed, married, etc)?
- Does economic status (income) affect use of the service?
- Does distance to health facility affect use of the service?
- Does the fee paid for abortion (cost to be paid for the service) affect use of the service?

-In terms of parity and gravidity which group of the population is mostly practicing induced abortion/

3. Knowledge Related

- How do you get women's knowledge on abortion, what is their understanding about it?

-women's knowledge on

- the difference between safe and unsafe abortion
- their consequences each have?
- –the place where safe abortion service is available?

- Which type of health professional do you think that women will talk /ask advice whenever they want abortion service?
- How do you see the women's Knowledge with regard to abortion law of Ethiopia?

4. Attitude Related Questions

- What do you think about women's attitude towards:
  - abortion?
  - government and non-government service in relation to abortion services?
  - your organization efficiency (i.e. supplies and workers hospitality)?
- Do you think women have a positive attitude towards this facility? Probe for medical supplies, workers hospitality etc.
- Are you supportive of the abortion law? Why?

5. Practice Related Questions

- What abortion services are provided in this facility?
- Is there any requirement a woman has to fulfill to get abortion services in this facility?
- Which abortion service is utilized by most women who come for the service in this facility?
- In your opinion with which health provider do women prefer to discuss or first ask advice when they want abortion service?
- What is average waiting time to get a complete abortion care service?
- What is the average service fee to get a complete abortion care service? If it is free, are there associated costs such as consumables or drugs?
- What are the short and long term consequences (side- effects) that women may face after abortion (physical as well as psychological)? What do you think of the women respond to such consequences? Short term (bleeding (which might bring death), infection – within 3 days, tearing up of uterus – in the case of D & C service).

- What type of service do the majority of women need (to complete incomplete abortion or new abortion)? Does marital status affect the type of service needed by women? Does it differ by age?
- Do you think women have a positive, or a negative, or neutral attitude towards your organization efficiency (i.e. supplies and workers hospitality?
- Are there women who have come more than once for abortion related services? If so what is their characteristics?

6. Knowledge and use of family planning

- What do you think about women's attitude towards family planning?
- Which type of contraceptive is preferred most of the time by the women? Why?
- How did you see FP use history of women clients? What proportion are users; what proportion faces contraceptive failure? Why did they fail?
- What do you think are the causes of many unwanted pregnancies?
- Why many people do not use contraceptive in order to prevent unwanted pregnancy that may lead to induced abortion?

7. Decision Related Questions

- At which length of pregnancy time do most women want to abort?
- To whom do women tell, when they decide to abort? Who support them more? Friends, family, spouse/partner?
- What do you think the reason that many peoples faced unwanted pregnancy that may lead to induced abortion?
- What are some of the most common reasons women gave whenever they decide to terminate their pregnancy? Does this differ by marital status, age, employment status, education, price of abortion to get the service, income level, religion and religiosity of the women, health status?

8. Challenges on Abortion Service Provision

- What are the main challenges you and your colleagues face more generally in your work? (Probe on: workload, stress, incentive staff turnover, etc.)
- Do these challenges improved from time to time as you worked in this facility? If so how?
- Is there any special support made available to the staff engaged in Abortion at this facility?
- In your opinion, what should be done in order to improve abortion and PAC services in your organization?
- What measures do you suggest to reduce the rate of induced abortion in Addis Ababa?

THANK YOU

Declaration

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

Student:

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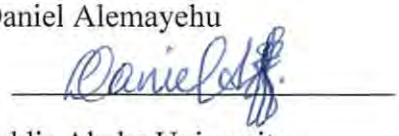
Signature: 

Place: Addis Ababa University

Date of Submission: 29/06/12

This thesis has been submitted for examination with my approval as a supervisor.

Advisor:

Name: Dr. Assefa Hailemariam

Signature: _____

Date: _____