

Trends and Determinants of Unmet Need for Family Planning and Programme Options, Ethiopia



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Further Analysis of the 2000, 2005, and 2011 Demographic and Health Surveys

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This report presents trends and determinants of unmet need for family planning and programme options, based on data from the 2000, 2005, and 2011 Ethiopia Demographic and Health Surveys (EDHS). USAID and UNICEF coordinated the further analysis, and ICF International provided technical assistance. Irish Aid, USAID, and MoFED provided the funding, the latter through the evaluation and research capacity building programme supported by UNICEF. The opinions and arguments herein are those of the authors and do not necessarily reflect the views of the Government of Ethiopia, USAID, UNICEF, or Irish Aid. The Ethiopia Demographic and Health Surveys are part of a worldwide programme that collects data on maternal and child health, nutrition, HIV/AIDS, fertility, family planning, and women's empowerment.

Additional information about the MEASURE DHS project can be obtained from:

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Additional information about the 2000, 2005, and 2011 EDHS can be obtained from:

Central Statistical Agency, P.O. Box 1143, Addis Ababa, Ethiopia
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ABSTRACT

Background: Contraceptive use prevents unintended pregnancies, abortion and deaths related to pregnancy and childbirth. The concept of unmet need is the gap between women's reproductive intentions and their contraceptive behavior. The main objective of this report is to show the level of unmet need for family planning over the period from 2000 to 2011. A recently developed algorithm for measuring unmet need has been used to get a consistent measure over the years.

Method: Data was used from the Ethiopian Demographic and Health Surveys (EDHS) conducted in 2000, 2005, and 2011. Data concerning a total of 29,142 currently married women, aged 15-49, was considered in the analysis. The data from all EDHS was collated so as to follow the trends throughout the period considered for the survey. Descriptive analysis was used to examine the trends and multinomial logistic regression was used to identify factors associated with unmet need for both spacing and limiting. The results are reported in terms of relative risk ratio (RRR) and 95% confidence intervals (CI). The statistical significance was assessed if the p-value was less than 0.05.

Results: The analysis shows that unmet need for family planning has decreased over time as contraceptive use has risen. From 2000 to 2011, the unmet need for family planning declined by 10.3 absolute percentage points, from 36.6 percent in 2000 to 26.3 percent in 2011. The results show that there was 38 percent decline in unmet need for limiting and a 21 percent decline in unmet need for spacing. The prevalence of contraceptive use increased substantially from 8 percent in 2000 to nearly 30 percent in 2011. Demand satisfied increased around three-fold from 18 percent from 2000 to 52 percent in 2011. The multivariate analysis indicates that women in rural areas show high levels of unmet need compared with women in urban areas. Among currently married women, DHS survey year, number of living children, women's current age, age at first marriage, education level, religious affiliation, media exposure to family planning messages, wealth index and residence were significantly predictors of unmet need both to limit and space birth. Partner's education and the fact of whether a family planning worker had visited in the last 12 months were predictors of unmet need for spacing only. A visit to a health facility in the last 12 months preceding the survey and current working status were not independent predictors of unmet need in the case of both limiting and spacing.

Conclusion: The unmet need for family planning has decreased significantly in Ethiopia over the last decade. Socio-demographic factors such as education level, partner education, religion, household wealth, DHS survey year, number of living children in residence and media exposure were independent predictors of unmet need for family planning.

Programme Options: Family planning programmes should be designed so as to address family planning scenarios in a way that is region specific. Socio-cultural barriers such as early marriage should be avoided through systematically designed behavior change, education and communication messages. The involvement of males and religious and cultural leaders in shaping reproductive preferences and in family planning discussions should be promoted. Facility readiness and service quality should be ensured through improving supply, partnership and service delivery strategies in the family planning arena.

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1. INTRODUCTION

1.1. Background

The concept of unmet need defines the gap between women's reproductive intentions and their contraceptive behavior. Couples who use contraception have the ability to control the number and spacing of their children. Contraceptive use prevents unintended pregnancies, abortions and deaths related to pregnancy and childbirth. In fact, a 2006 United Nations report estimated that 80 million unintended pregnancies occur annually worldwide, resulting in 42 million induced abortions and 34 million unintended births (Guttmacher Institute, 1999). Unintended pregnancies have serious consequences for the health and well-being of women and families, particularly in developing countries where maternal mortality is high and abortions are often unsafe. According to World Health Organization (WHO) more than 358,000 women die of pregnancy-related causes every year (WHO, 2010).

Women who carry unintended pregnancies to term may be less likely to seek antenatal care and delivery assistance (Marston and Cleland, 2003) resulting in additional maternal deaths, and contributing to the more than one million preventable stillbirths (Speidel et al, 2008) and 3.6 million neonatal deaths that occur annually and that may have been prevented with proper care (Bhutta et al, 2011). Meanwhile, a study from Alan Guttmacher Institute (1999) reported that children born as a result of unintended pregnancies are less likely to be breastfed and more likely to be stunted than wanted children. They are also at higher risk of child mortality. In addition, averting unintended pregnancies has substantial impact on population growth and socio-economic development. Success in avoiding unwanted or mistimed pregnancies often depends on having access to contraceptive information, methods, and services. In Ethiopia, about 29 percent of women of reproductive age (age 15-49) feel that their pregnancies are mistimed or unwanted (Central Statistical Agency [Ethiopia] and ICF International, 2012).

The Government of Ethiopia is committed to achieving the Millennium Development Goals (MDGs), especially Goal #5, improving maternal health. Accordingly, the Federal Ministry of Health (FMOH) has applied multi-pronged approaches to reduce maternal and newborn morbidity and mortality including the reduction of unmet need for family planning. Satisfying the demand for family planning is likely to lead to the achievement of one of the national population policy objectives, i.e., the reduction of the total fertility rate (TFR) to 4.0 children per woman by 2015.

The Health Sector Development Plan of Ethiopia (HSDP IV) which is directly aligned with the health-related Millennium Development Goals, aims to reduce unmet need for family planning to 10 percent and increase contraceptive prevalence rate to 66 percent by 2015 (FMOH, 2012). One of the strategies being used to achieve this is the use of health extension workers. These health extension workers act as the primary vehicle for prevention, health promotion, behavioral change communication and basic curative care services targeting households, and particularly women, at the community level. The government has substantially increased investment in order to expand the health infrastructure, especially focusing on building new district hospitals and health centres. It has also undertaken the massive training of health professionals in order to meet the minimum requirements for health professionals at all levels. Moreover efforts have been made to improve the logistics and supply chain management system, and to strengthen collaboration with private providers and NGO's in order to provide better access to family planning across the country. This investment has significantly increased access to health services (FMOH, 2012).

In Ethiopia very little is known about the correlates of unmet need for family planning. In addition there have been no studies conducted based on the revised definition of unmet need in order to get a consistent measurement across time and in comparison with other countries. (Bradley et al, 2012). The definition of unmet need was revised by Bradley et al., (2012) to consistently compare estimates across countries and to reliably measure trends over time. The revised definition of unmet need for family planning produces slightly higher levels of unmet need compared with the original definition.

The focus of this study is to investigate trends and determinants of unmet need for family planning to space and/or limit childbirth among women age 15-49, who are currently in union in Ethiopia using the revised definition of unmet need for family planning. The findings from this study are expected to give evidence on programme options for policy makers.

1.2. The Family Planning Situation in Ethiopia

In the Health Sector Development Program IV (HSDP IV) the health service has been restructured into a three tier system. The 1st level is the Primary Health Care Unit (PHCU) which is composed of a health centre (HC) five satellite health posts (HPs) and a primary hospital. Each health centre, with its satellite health posts, provides services to a population of 25,000 people. The 2nd level is a general hospital that serves 1 to 1.5 million people and the 3rd level is tertiary hospital serving a population of 3.5 to 5 million. There has been a sharp increase in the expansion of the health service with primary health service coverage reaching 82.7 percent (15, 095 health posts and 2, 804 health centres) in 2011/12, with notable variations among regions. More than 94 percent of health service facilities provide family planning services as indicated in family planning situation analysis (FMOH, 2011).

To improve community awareness, knowledge and utilization of health services in general (and family planning services in particular), the Health Development Army is being created. The Health Development Army (HDA) is a key strategy of the government's health strategy and is intended to scale up best practices by organizing and mobilizing families. The HDA will be a network created between five households and one model family to influence one another in practicing a healthy lifestyle. This network of families will be provided with technical support and training by Health Extension Workers (HEW) to implement the Health Extension Packages (HEP). The HDA will help to expand the health extension programme so that its effects are felt deeper within communities and within families. The HDA will be engaged in promotion and prevention activities at household and community level, including the regular coordination of structured community dialogue sessions, with the guidance of the HEWs.

Contraceptive acceptance rate has stagnated at around 60 percent since 2009 with huge variability across regions. In 2012, the lowest rate (6.9%) was reported in Somali region and the highest (84.7%) in the Amhara region. The low rates observed in pastoralist areas are related to negative influences primarily caused by cultural and religious beliefs and practices, and a low level of community awareness about family planning services. A qualitative study in three zones of the Afar region revealed calendar and abstinence methods are the commonly accepted community practices in the tradition of the Afar region. There is also a mix of feelings and opinions about the religious teaching concerning contraception. Men believed that the population in Afar was low compared to other regions and that this was a reason to have more children (Tigist et.al. 2012).

The involvement of development partners, NGOs and the private sector was given considerable attention in the national reproductive health strategy and road map to increase maternal and neonatal health. Accordingly UNFPA, USAID, Marie Stopes International, the Family Guidance Association, and DKT are all involved in the programme. The partners are working in a network, in taskforces, and in technical working groups to improve the harmonization and alignment of all the efforts. A family planning annual review has been carried out. In 2012, the National Symposium on Family Planning took place with the

aim of sharing information, experiences and knowledge (FMOH, 2012). A study that examined the experience of private sector health facilities found that engaging the private sector in family planning, helps to build trust and confidence in strengthening Public–Private Partnership (PPP). The study also noted that lack of PPP guidelines, occasional contraceptive supply interruption, service provider’s bias towards Long Acting Family Planning Methods (LAFP) and a high turnover of trained staff negatively affected family planning service quality (Meheret, et al., 2012).

1.3. Literature Review

Satisfying women’s unmet need for family planning reduces the total fertility rate (TFR) by a considerable amount (Black, et al., 2010). An analysis of the 2005 Ethiopia Demographic Health Survey (EDHS) data for Southern Nations and Nationalities Peoples Region (SNNPR) revealed that women with higher number of living children (5 or more) were significantly more likely to have an unmet need for limiting births than women with less than five living children. Moreover, women residing in rural areas were significantly more likely to report unmet need for family planning compared to women in urban areas (Assefa and Fikrewold, 2011).

A number of studies show that education of women is significantly associated with unmet need. For instance, in Kenya women with primary incomplete education were twice as likely to experience an unmet need for family planning compared to those with primary complete or higher education (Wafula and Ikamari, 2007). Similarly, further analysis of the results of the EDHS 2000 revealed that educated women are significantly less likely to have an unmet need. As compared to women with no education, women who had primary education were about two-thirds were less likely to have an unmet need for spacing, while women with at least a secondary level schooling were one third less likely to have an unmet need for limiting (Antenane, 2002).

A study conducted by Hogan, et al (1999) showed that women who were 18 years or older at marriage were more likely to discuss family size with their husbands and were also more likely to find out about a method of contraceptive than their younger counterparts. Other studies from Ethiopia showed that women aged 20-49 were significantly less likely to have an unmet need for spacing compared to women age 15-19. On the other hand, young women (15-19) were less likely to have an unmet need for limiting than older women aged 25 and above (Antenane, 2002)

In-depth analysis of the 2011 Ethiopia Demographic and Health Surveys on contraceptive use showed that Orthodox Christians and Protestants were found to have a higher likelihood of contraceptive use, as compared to Muslims. Moreover, the trend in contraceptive use was increasing less rapidly among Muslims as compared to followers of the two religions indicated above (UNFPA, 2012)

Use of family planning is also influenced by socio-economic factors like the income of the household. A study conducted by Westoff (2012) found that use of family planning is higher for the highest wealth quintile as compared to the lowest wealth quintile. Another study conducted by Harvinder (2000) revealed the presence of a direct relationship between income and use of family planning.

Casterline and Sinding (2000) reported that lack of knowledge and barriers to information constituted more important obstacles to the fulfillment of unmet needs than did access in developing countries. In addition, awareness of contraceptive methods, knowledge of where to obtain supplies, cost and proper use of the methods were important factors in reducing unmet need. A study by Antenane (2002) showed that seven out ten women who did not have knowledge of family planning had an unmet need.

A study based on 2000 EDHS showed that women who had been exposed to the media were less likely to have an unmet need for spacing compared to women with no exposure. The same analysis also showed

that women who discussed family planning with a fieldworker were significantly less likely to have an unmet need, and especially an unmet need for limiting. Similarly, women who visited a health facility and who discussed family planning with a health worker at that facility were significantly less likely to have an unmet need, both for spacing and limiting than women who did not visit a health facility in the 12 months prior to the survey (Antenane, 2002).

2. DATA AND METHODS

2.1. Data

For this analysis, data was used from the Ethiopian Demographic and Health Surveys (EDHS), conducted in 2000, 2005, and 2011¹. The DHS is designed to provide nationally representative information on health and demographic indicators. This analysis was based on data on currently married women, aged 15-49, that was collected during the three surveys. Accordingly, data for 9,380 women is included for the year 2000, data for 8,644 women is included for the year 2005 and data for 10,204 women is included for the year 2011. Data from the three surveys was collated and adjusted according to the year. Details of the study design for these surveys can be obtained from CSA (Central Statistical Agency [Ethiopia] and ICF International, 2012).

2.2. Study Variables

The dependent variable in this analysis is unmet need for family planning, which is further classified as unmet need for spacing and limiting. Unmet need is coded to: Unmet need for spacing, unmet need for limiting and total unmet need, based on the type of analysis conducted.

Predictors pertaining to demographic, socio-economic and proxy behavioral factors are identified and categorized as: Survey year (0=2000, 1=2005, and 2=2011); women's age (15-24, 25-34 and 35 and above); age at first marriage (less than 15, 15-17, 18-24 and 25 and above); number of living children, (0, 1-2, 3-4 and 6 and above); women's education and the education of the partner (no education, primary education and secondary and above education); and exposure to family planning messages via the media (exposed versus not exposed). In addition, the predictors of religion; (Ethiopian Orthodox Christians, Catholic + Protestant, Muslims and traditional and others) region and regional setting were used. The nine regions and 2 administrative cities of the country were categorized into three administrative settings in line with the FMOH organizational structure. The regional setting variables were categorized as Agrarian (Tigray, Oromiya, Amhara and SNNPR), Emerging/Pastoralist (Afar, Somali, Gambela and Benishangul-Gumuz) and Urban (Addis Ababa, Harari and Dire Dawa).

In our analysis, our choice of proxies of wealth or indicators of well-being was restricted to only those which were available in all the three rounds of data. The statistical method of principal components was used to construct a wealth index. The indicators that were used to construct the index were the following: whether household owns a radio, whether the household owns a television, if household has electricity, type of flooring of the house, toilet facility, and drinking water facility, number of members per room in the household, ownership of pack animals, cattle, sheep and goats.

¹ The geographic sample for Affar and Somali was greatly expanded and covered other zones in 2011 compared to 2005 and 2000 thus the data may not give a real picture of the trend in these two regions”.

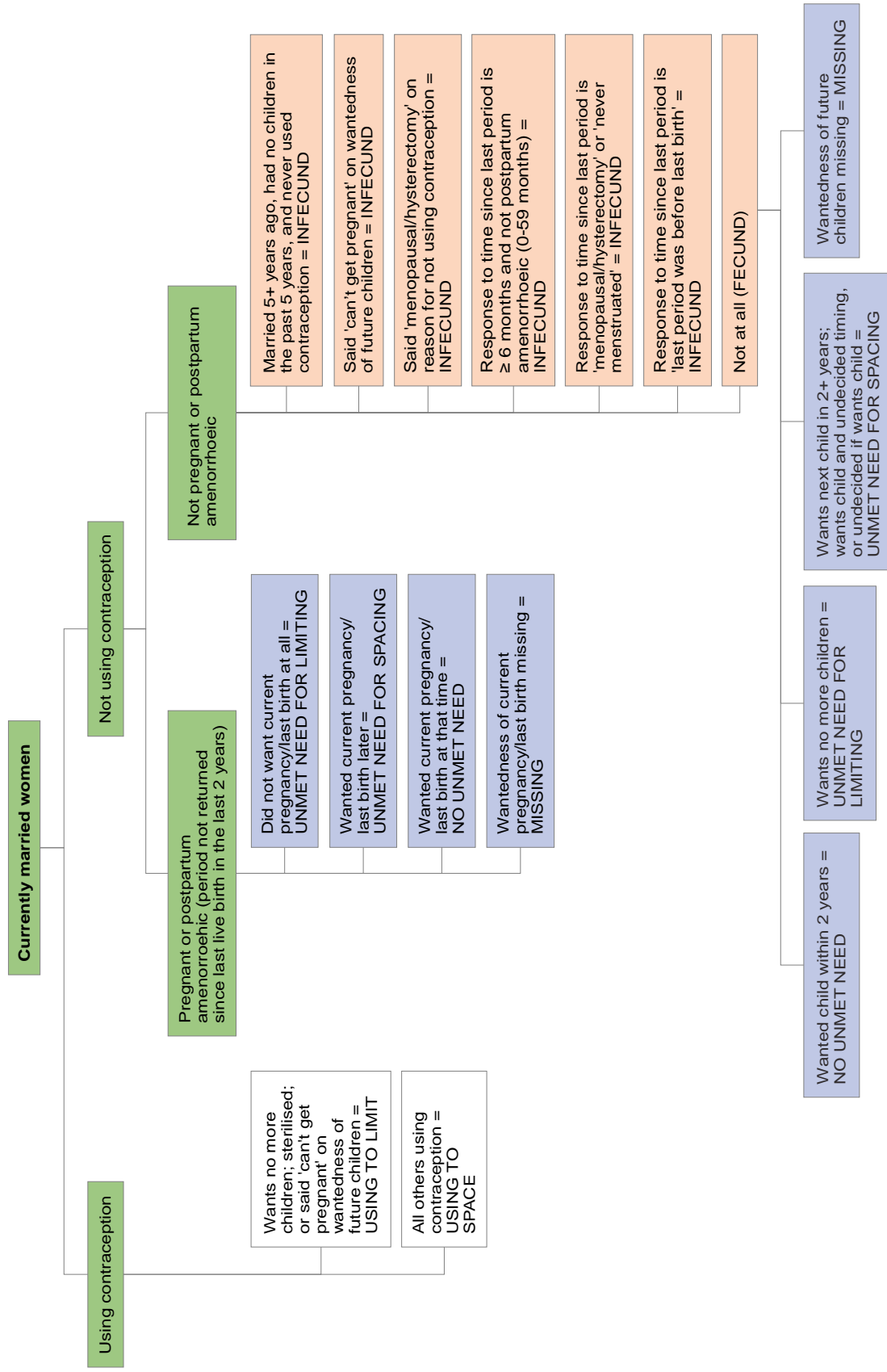
The unmet need for contraception measures the proportion of currently married women who do not want any more children but are not using any form of family planning, or want to postpone their next birth for two years but are not using any form of family planning.

The 2012 revised definition for unmet need for family planning as shown in the framework below consistently measures data across time and country. The revision removed calendar data, women missing key data and data based on “happy” and “problem” survey questions from the calculation, simplified classification of unmet need for spacing versus unmet need for limiting, shortened the duration for which women are considered to be postpartum amenorrheic, standardized the calculation of infecundity and explicitly handles inconsistencies.

Women with unmet need for spacing are those who are not currently using a method of contraception, not currently pregnant or amenorrheic, are able to bear a child (fecund) and want to delay the next birth for two or more years. Women with an unmet need for spacing can also be those who are not currently using a method, are pregnant, or amenorrheic, or had a current pregnancy/last birth that was mistimed and want to delay the next birth.

Women with unmet need for limiting are those who are not currently using a method of contraception, not currently pregnant or amenorrheic, able to bear a child (fecund) but want to stop childbearing, or women who are not using a method of contraception but are pregnant or amenorrheic, and have an unwanted pregnancy and want no more children. Total unmet need refers to the sum of unmet need for spacing and unmet need for limiting. Total demand for family planning is the sum of total unmet need and total current contraceptive use (‘met need’). Percentage of total demand satisfied is calculated by dividing the total current use by the total demand. According to HSDP IV, Ethiopia is expected to achieve a contraceptive prevalence rate of 66 percent and unmet need of 10 percent by year 2015, which, added together, yields an expected total demand for family planning of 76 percent.

Figure 1: Revised definition of unmet need for currently married women (Bradley, S.E.K., Croft, T., Fishel, J. and Westoff, C.F. 2012)



2.3. Data analysis

A descriptive analysis was used to examine the trends in unmet need for family planning among currently married women using data from the three consecutive EDHSs. A summary of the basic characteristics of currently married women in the study is also presented. Multinomial logistic regression is used to identify factors associated with unmet need for spacing and unmet need for limiting (the reference category is currently married women with no unmet need). The results from multinomial logistic regression are expressed in terms of relative risk ratio (RRR) and 95% confidence intervals (CI). Similarly, binary logistic regression is used to identify predictors of total unmet need. Statistical significance was assessed where the p-value was less than 0.05.

3. RESULTS

3.1. Background Characteristics

The background characteristics of the respondents are presented in Table 1. A total of 9,380 women, 8,644 women and 10,204 women in union were interviewed in the years 2000, 2005 and 2011 respectively.

From 2000 to 2011, the proportion of women with primary education increased nearly three-fold from 11.9 percent to 27.8 percent, in the same period there was a slight increase in the proportion of women with secondary or higher education. Partner education showed a similar pattern. The proportion of women with a primary educated partner increased from 23.1 percent in 2000 to 39.5 percent in 2011. In 2011 the proportion of women whose partner had no education was 48.9%, while the proportion with primary level education was 39.5 percent and the proportion with secondary or higher education was 10.9 percent.

In the 2011 EDHS, the majority of respondents (91.2%) were from agrarian regional settings (Oromiya, Tigray, Amhara and SNNPR) while only 4 percent were from urban settings (Harar, Addis Ababa and Dire Dawa) and 4.9 percent were from emerging/pastoralist settings (Somali, Afar, Benishangul-Gumuz and Gambela).

There was a decrease in the proportion of women that had got married at a young age. The proportion of women married within the age range of 15-17 decreased by 5.3 percent (from 42.1% in 2000 to 36.8% in 2011), and there was an increase in the proportion of women first married within the age range of 18 to 24 (from 25.7% in 2000 to 31.1% in 2011). The proportion of women first married under the age of 15 and above the age of 24 did not show any change over the decade.

Women were asked whether they were visited by a family planning worker, or whether they visited a health facility and had been told about a family planning method during their visit to that health facility in the last 12 months. In 2011, only 1 in 5 women were visited by a family planning worker, 2 in 5 visited a health facility and out of those who visited a health facility nearly one-quarter were told about family planning methods. There was a substantial increase in women who had been visited by a family planning worker from 2.0 percent in 2000 to 19.3 percent in 2011 whereas there was no clear pattern in the proportion of currently married women who visited a health facility and were told about family planning during their visit.

The proportion of women who had been exposed to media doubled in 2011 as compared to 2000. In the year 2000 only 15.2 percent women read a newspaper, listened to the radio, or watched television at least once per week compared with 34.0 percent in 2011.

Table 1: Background characteristics of currently married women, Ethiopia 2000 - 2011

Background characteristics		2000	2005	2011
Number of women (unweighted)		9,380	8,644	10,204
Regional setting	Urban setting	3.0%	3.1%	4.0%
	Agrarian	93.1%	90.3%	91.2%
	Emerging/Pastoralist	3.9%	6.6%	4.9%
Residence	Urban	12.2%	10.6%	17.9%
	Rural	87.8%	89.4%	82.1%
Religion	Ethiopian Orthodox	49.6%	45.6%	43.6%
	Catholic	0.8%	1.1%	1.1%
	Protestant	16.0%	18.8%	22.5%
	Muslim	29.8%	32.0%	31.0%
	Traditional + Other	3.7%	2.5%	1.7%
Education level	No education	83.0%	78.2%	65.5%
	Primary	11.9%	15.5%	27.8%
	Secondary and higher	5.2%	6.3%	6.7%
Age (5-year groups)	15-19	8.8%	7.8%	7.4%
	20-24	18.5%	17.4%	17.1%
	25-29	20.9%	22.8%	24.4%
	30-34	16.1%	17.1%	16.7%
	35-39	14.7%	14.8%	15.5%
	40-44	11.2%	10.6%	10.0%
	45-49	9.8%	9.5%	8.8%
Number of Living Children	0	11.2%	8.8%	9.9%
	1-2	32.3%	29.0%	31.0%
	2-4	26.8%	29.0%	27.3%
	4+	29.7%	33.2%	31.8%
Wealth index	Poor	44.1%	44.9%	45.2%
	Middle	21.0%	20.8%	21.4%
	Rich	34.9%	34.3%	33.4%
Partner education	No Education	65.5%	59.5%	48.9%
	Primary	23.1%	27.9%	39.5%
	Secondary and higher	11.0%	12.4%	10.9%
	Do not Know	0.4%	0.2%	0.7%
Age at first marriage	<15	30.6%	35.4%	29.0%
	15-17	42.1%	35.1%	36.8%
	18-24	25.7%	26.8%	31.1%
	24+	1.5%	2.7%	3.1%
Visited by family planning worker (at least once in the last 12 month)	Yes	2.0%	8.2%	19.3%
Visit to Health Facility (at least once in last 12 month)	Yes	43.0%	29.0%	39.0%
Told about family planning in health facility	Yes	27.2%	31.4%	27.8%
Exposure to Media (Radio, TV, newspaper) at least once a week	Yes	15.2%	25.9%	34.0%

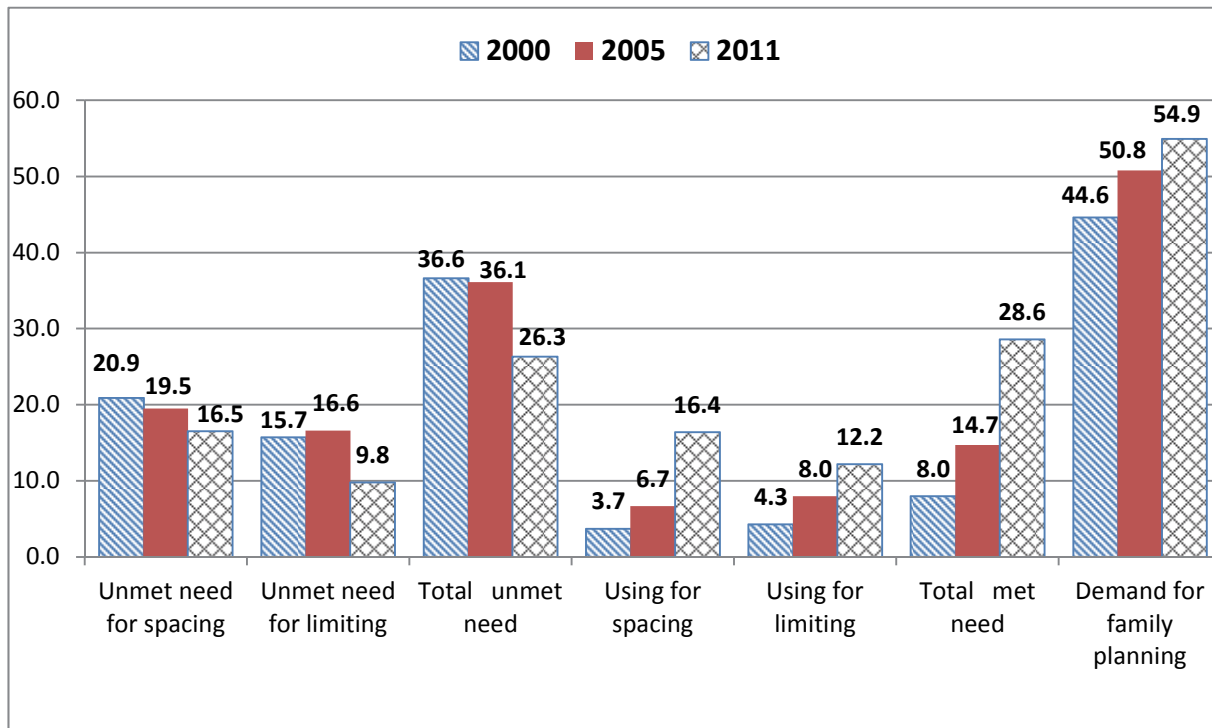
3.2. Trends in the Unmet Need for Family Planning

This section presents the level of change in unmet need, met need and demand satisfied in the three consecutive EDHS. The trend in level of unmet need in either direction does not necessarily reflect the performance of family planning programmes in changing the level of contraceptive use. Therefore, the interpretation of the results should be seen cautiously. Figure 2 presents both met need and unmet need over time.

Unmet need for family planning declined by 10.3 absolute percentage points from 36.6% in 2000 to 26.3 percent in 2011. Almost all of the decline took place in the second half of the decade. Detailed examination of the trend shows that there was 38 percent decline in unmet need for limiting while there was only a 21 percent decline of unmet need for spacing. Unmet need for limiting rose by 6 percent from 2000 to 2005 and fell by 41 percent from 2005 to 2011.

The prevalence of contraceptive use increased substantially from 8 percent in 2000 to nearly 30 percent in 2011. Met need for family planning also increased by around four-fold for birth spacing and by around two-fold for birth limiting. Met need and unmet need for family planning together give demand for family planning. It shows the proportion of married women that demand contraception either to space or limit birth. Demand for family planning increased from 44.6 percent to 54.9 percent from 2000 to 2011.

Figure 2: Trends in unmet need for spacing and limiting, total unmet need, met need for spacing and limiting, and demand for family planning in the three consecutive DHS, Ethiopia 2000-2011



Satisfied demand increased around three-fold from 18 percent in 2000 to 52 percent in 2011. The increase was faster from 2005 to 2011 than from 2000 to 2005. The speed of decline in unmet need followed a similar pattern.

The findings showed three patterns of change in unmet need for family planning. Addis Ababa, Amhara and Gambela exhibited a sharp decline (of more than 40%), SNNPR, Benishangul-Gumuz, Tigray, Harari, Oromiya and Dire Dawa showed steady decline (less than a quarter), and SNNPR showed a moderate decline from 22.5 percent in 2000 to 14.0 percent in 2011. In contrast to the above regions Afar and Somali showed a more than 40 percent increase in unmet need from 2000 to 2011.

The survey results indicate Amhara, SNNPR, Oromiya, and Benishangul-Gumuz, Gambela have shown a sharp increment in met need for family planning from 2000 to 2011. However there was a steady increase of met need among currently married women in Addis Ababa, Afar and Dire Dawa. For instance met need for Amhara increased more than four-fold (7.5% in 2000 to 34.0% in 2011) while met need for Dire Dawa increased only by 20 percent (from 28.4% to 34.1%) in the same years. There was an approximate two-fold increase in met need for the Tigray and Somali regions.

To understand the different trends of change in met need and unmet need for family planning among the regions, total demand is calculated (met need + unmet need). In 2011, Addis Ababa (73.2%), Harari (59.5%), Amhara (57.6%) and Oromiya (56.9%) exhibited higher demands for family planning, whereas, Tigray (45.6%), Somali (28.9%) and Afar (26.4%) showed a lower demands.

Therefore, comparatively each region falls with into one of four stages as defined by Robey et al. (1996). Afar and Somali fall into the stage where there is low met need and low unmet need because most couples do not want, or are unaware that they can, limit or space births. Addis Ababa falls into the stage where use of family planning is high and unmet need becomes very low. SNNPR, Benishangul-Gumuz and Oromiya are in the stage where unmet need is rising because the change in attitudes is faster than the change in use of contraception. Amhara, Dire Dawa, Harari and Gambela fall into the stage where contraceptive use is rising rapidly, while unmet need declines. Tigray with a moderate increase in met need (by about two-fold), slow decrease in unmet need (only 18%) and relatively lower demand for contraception (45.6%) fails to fall neatly into any of these stages.

In general, for Ethiopia, from 2000 to 2011 unmet need declined by 10.3% (from 36.6% to 26.3%), met need increased by more than three-fold (from 8.1% to 28.6%) and demand increased by 10% (45% to 55%). In general, there has been a fast increase in contraceptive use and a steady decline in unmet need.

Figure 3: Unmet need and future demand (FD) for family planning regional comparison in the DHS 2000 (Y1), 2005 (Y2) and 2011 (Y3), Ethiopia 2000-2011

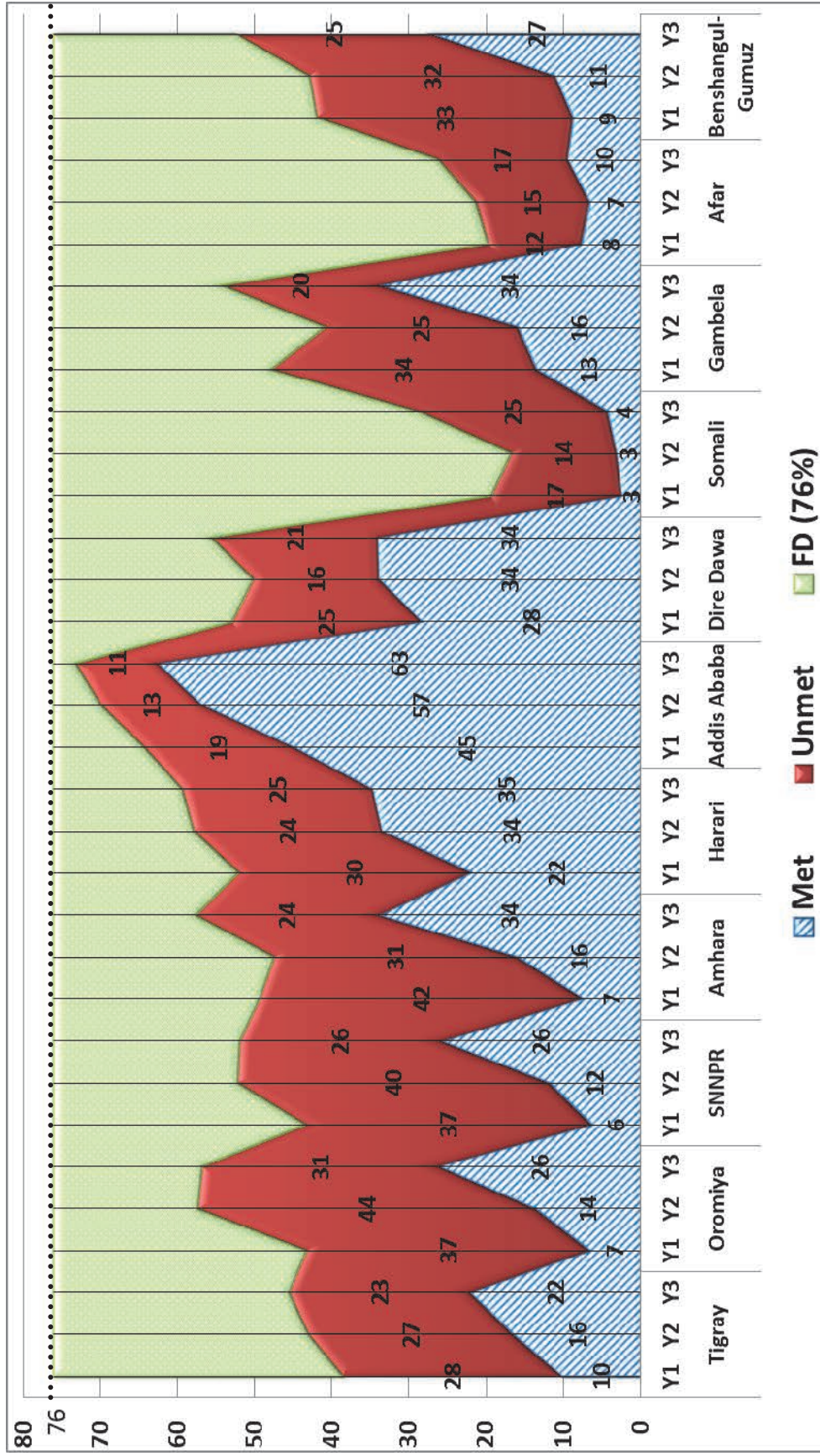


Table 2 presents trends in the unmet need for family planning by socio-economic and demographic factors. The trends show that there was a marked difference in unmet need between the regional settings (Agrarian, Urban and Emerging/Pastoralist). In 2000, nearly 2 in 5 (37.8%) of currently married women in agrarian setting had an unmet need for family planning. By 2011, this had declined to 27.1 percent. Among women living in urban settings only 1 in 5 (20.7%) had an unmet need in 2000 and this had declined to 13 percent by 2011. Similarly, about one-quarter (27.1%) of women in the emerging/pastoralist regional setting had unmet needs in the year 2000 and this declined to 22.8 percent by 2011. Compared to the other regional settings, the unmet need for spacing was higher among women in agrarian setting: 22 percent in 2000 and 17 percent in 2011.

Unmet need among women with secondary and higher education showed a declining trend across the three EDHS surveys. There was a marked decline in unmet need for spacing and limiting among currently married women with secondary and higher education over the decade. There was no difference in the level of unmet need among those with primary education and no formal education.

Level of unmet need in urban areas is different from that of rural areas. In general, women in rural areas have a greater unmet need than women in urban areas. In 2000, contraceptive use for spacing was very low in rural areas (1.8%) but by 2011 this had shown a remarkable increase to 13.1 percent.

The unmet need for limiting increased according to the number of living children in the family. According to the year 2000 figures, women who had more than four children had higher unmet need (29%) compared to those who had 1-2 living children (7.4%). Overall unmet need for spacing was higher for women who had 1-4 living children. The results in Table 2 show the presence of a marked difference in unmet need between women from rich (top 40%) and poor (bottom 40%) households. In all survey years, unmet need among women from poor households was more than twice of that of women from rich households. For instance, in 2011, the unmet need among women from poor households was 28 percent, as compared to 11% for women from rich households.

In all three surveys, unmet need was higher among women who had had no exposure to family planning via the media. In 2000, 37 percent (21% for spacing and 16% for limiting) of women with no exposure to media, had an unmet need. This declined over the years to 28.6 percent in 2011 (18.4% for spacing and 10.2% for limiting). For currently married women with exposure to family planning media unmet need declined from 31.9 percent in 2000 to 21.9 percent in 2011.

Among women who had visited a health facility or had been visited by a family planning worker and who had been told about family planning, there was a decline in unmet need across the three surveys.

Table 2: Percentage of currently married women (age 15-49) who have an unmet need for family planning by background characteristics

Background Characteristics		2000				2005				2011			
		Unmet need for spacing	Unmet need for limiting	Using for spacing	Using for limiting	Unmet need for spacing	Unmet need for limiting	Using for spacing	Using for limiting	Unmet need for spacing	Unmet need for limiting	Using for spacing	Using for limiting
Partner education	Do not Know	28.0	7.2	0.0	6.3	42.8	1.9	0.2	2.1	15.4	7.5	16.6	14.7
	Primary	28.5	13.5	3.8	4.1	24.0	17.6	8.3	8.4	18.7	9.6	17.8	13.2
	Secondary + higher	22.2	10.1	17.2	13.5	16.1	12.7	19.8	18.7	10.4	5.3	36.0	16.7
	No Education	18.0	17.4	1.5	2.9	18.0	16.9	3.3	5.5	16.2	11.1	11.0	10.5
Education	Secondary	18.4	10.5	25.7	19.1	11.4	8.2	32.4	20.2	7.4	2.7	46.1	16.1
	Primary	26.9	14.4	9.0	7.4	23.2	15.6	11.0	12.4	18.7	8.6	22.3	13.4
	No Education	20.3	16.2	1.6	3.0	19.5	17.5	3.8	6.1	16.5	11.1	10.8	11.4
Religion	Traditional + other	22.3	10.6	1.2	3.0	19.7	18.1	1.0	5.6	20.2	12.8	6.5	4.7
	Catholic	28.3	8.1	4.0	2.8	31.7	23.1	5.4	9.5	18.8	13.7	5.0	20.9
	Protestant	24.5	12.6	3.3	2.9	24.3	17.3	4.7	8.4	15.6	10.6	16.7	13.2
	Muslim	19.9	12.2	2.9	3.5	20.3	16.5	5.2	4.0	22.3	8.3	11.9	7.8
	Orthodox	20.2	19.2	4.6	5.5	16.7	16.1	9.0	10.7	12.7	10.3	20.1	15.0
Regional setting	Emerging	12.5	8.7	3.6	3.4	10.4	7.0	2.5	3.3	17.2	5.6	8.8	4.7
	Urban	8.7	12.0	19.8	21.5	7.3	7.1	28.3	23.8	6.8	5.8	36.8	21.3
	Agrarian	21.7	16.1	3.2	3.8	20.6	17.6	6.3	7.8	16.9	10.2	15.9	12.3
Living Children	0	16.8	3.9	4.3	0.1	16.5	5.2	7.5	1.3	16.0	1.2	23.0	0.5
	1-2	27.8	7.4	5.3	2.1	23.6	8.4	12.4	4.3	18.4	2.7	27.3	8.0
	3-4	22.3	15.8	4.3	4.9	22.6	15.2	6.1	8.8	19.5	7.9	15.1	14.7
	4+	13.8	28.9	1.2	8.0	14.1	28.0	2.1	12.3	12.4	21.2	4.8	18.0
Wealth index category	Poor	21.6	15.9	2.7	3.5	20.4	17.2	5.1	6.9	17.9	10.5	13.5	11.2
	Medium	8.7	10.3	22.1	20.1	9.4	7.4	27.3	21.7	5.6	8.1	34.3	22.1
	Rich	8.0	10.3	25.3	22.8	6.5	7.9	29.7	24.3	7.0	4.2	38.9	19.6
Media exposure	No	21.3	16.1	2.4	2.8	20.1	17.4	4.0	5.7	18.4	10.2	12.3	10.4
	Yes	18.9	13.0	11.4	12.8	17.8	14.4	14.7	14.5	12.9	9.0	24.3	15.8
Age at first marriage	<15	18.8	18.6	2.2	4.8	18.0	17.8	5.3	8.7	13.8	12.2	12.6	15.6
	15-17	20.5	15.3	3.4	4.4	19.4	17.0	6.2	8.5	19.0	10.6	15.0	10.5
	18-24	24.6	13.2	5.5	3.7	22.1	14.5	9.0	6.4	16.7	7.1	21.1	11.1
	24+	15.7	8.0	12.9	6.3	14.9	16.7	9.5	7.6	11.5	5.8	21.4	12.6
Type of place of residence	Urban	12.5	12.6	17.4	18.2	8.1	11.7	23.4	23.3	7.8	7.7	31.3	21.2
	Rural	22.1	16.1	1.8	2.4	20.9	17.2	4.8	6.2	18.4	10.3	13.1	10.3
Visited by FP worker in the last 12m	No	21.0	15.6	3.5	4.2	19.5	16.6	6.6	7.6	16.8	9.9	15.3	11.9
	Yes	20.5	19.1	11.7	9.3	20.4	16.2	8.1	12.8	15.3	9.4	21.2	13.8
Visited health facility in the last 12m	No	19.6	15.4	2.1	2.4	19.4	17.2	4.4	5.4	17.1	10.5	13.3	9.7
	Yes	22.7	16.0	5.9	6.9	19.9	15.2	12.6	14.4	15.6	8.8	21.3	16.2
At health facility, told of FP	No	23.4	15.5	4.1	4.5	21.4	15.7	10.8	12.1	16.3	9.2	20.4	15.8
	Yes	21.0	17.4	10.9	13.5	16.5	14.3	16.4	19.5	13.5	7.9	23.6	17.5
Respondent currently working	No	20.8	14.1	3.8	3.5	19.8	16.5	5.7	6.9	17.7	10.6	13.9	10.6
	Yes	21.1	16.8	3.7	5.0	18.7	16.9	10.0	11.2	14.5	8.5	20.9	15.3

3.3. Reasons for Not Using Contraception and Future Intentions

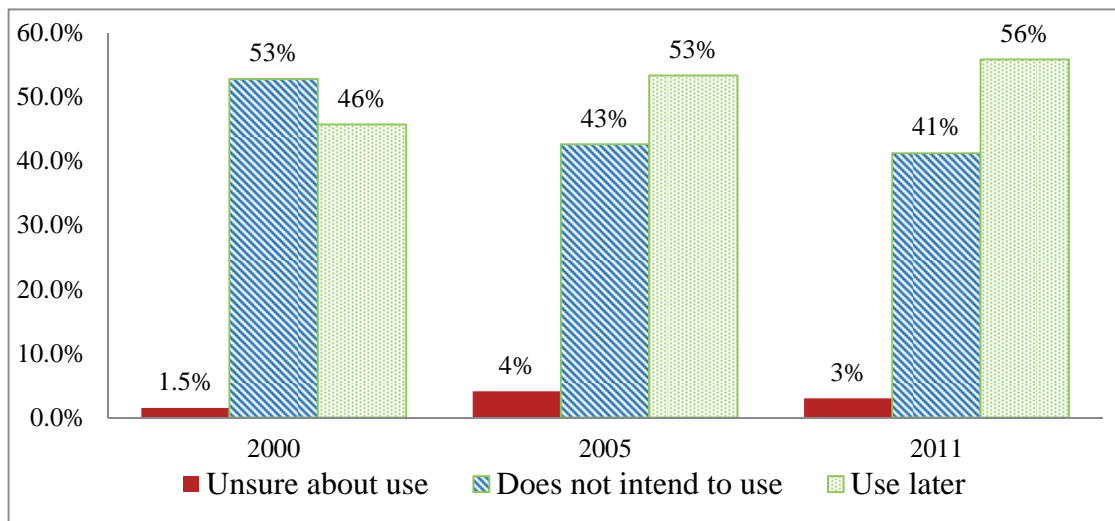
Information on the respondents' reasons for not using contraception and their future intentions regarding contraception use will help policy makers to formulate appropriate strategies for family planning programmes. Table 3 presents reasons given by women who were married but were not using any contraceptive method. The analysis is based on multi-response questions in which women are asked their reasons for not currently using any family planning method, i.e., a woman can give more than one reason for not using any contraceptive method. The trend shows opposition of women and their partners to contraceptive use declined over the decade. On the contrary, the reason of religious prohibition increased from 4.3 percent in 2000 to 7.1 percent in 2011. In general, in all three surveys, cost and access were not mentioned as reasons for not using contraceptives among married women. For instance, in 2011, only 0.2 percent gave cost as a reason for not using contraceptives while 2.1 percent gave access as the reason. Lack of knowledge on the family planning methods is mentioned as one of the reasons for not using contraceptive. The number of women who cited this as a reason declined substantially from 12.1 percent in 2000 to 3.6 percent in 2011.

Table 3: Percentage of currently married women (age 15-49) by reason for not using contraception, Ethiopia 2000-2011

Reason for not using contraceptive	2000			2005			2011		
	N	Percent	Percent of cases	N	Percent	Percent of cases	N	Percent	Percent of cases
Fertility related reason									
Not having sex	159	2.4	3.3	179	3.1	3.8	190	3.6	4.5
Infrequent sex	100	1.5	2.1	132	2.3	2.8	148	2.8	3.5
Menopausal/hysterectomy	174	2.6	3.6	221	3.8	4.6	94	1.8	2.2
Subfecund/Infecund	183	2.7	3.8	133	2.3	2.8	120	2.3	2.9
Postpartum amenorrhea	1155	17.3	23.9	786	13.4	16.5	1062	24.3	25.4
Breastfeeding	1040	15.6	21.5	330	5.6	6.9	553	10.6	13.2
Opposition to use									
Respondent opposed	256	3.8	5.3	118	2.0	2.5	106	2.0	2.5
Husband/partner opposed	324	4.9	6.7	267	4.6	5.6	221	4.2	5.3
Others opposed	35	0.5	0.7	42	0.7	0.9	34	0.6	0.8
Religious prohibition	206	3.1	4.3	305	5.2	6.4	308	5.9	7.3
Method related problem									
Fear of side effects/health concerns	767	11.5	14.8	898	15.3	18.8	774	14.8	18.5
Lack of access/too far	126	1.9	2.6	101	1.7	2.1	89	1.7	2.1
Costs too much	67	1.0	1.4	59	1.0	1.2	10	0.2	0.2
Inconvenient to use	30	0.4	0.6	33	0.6	0.7	136	2.6	3.3
Interferes with body's processes	45	0.7	0.9	38	0.6	0.8	170	3.3	4.1
No method/preferred method not available	–	–	–	83	1.4	1.7	15	0.3	0.3
Fatalistic	659	9.9	13.6	388	6.6	8.1	508	9.7	12.1
Knows no method	586	8.8	12.1	560	9.5	11.7	153	2.9	3.6
Knows no source	663	9.9	13.7	467	8	9.8	158	3.0	3.8
Other	86	1.3	1.8	593	10.1	12.4	336	6.4	8.0
Don't know	19	0.3	0.4	135	2.3	2.8	50	0.9	1.2
Total	6679	100%	138.3%	5869	100%	123.0%	5235	100%	125%
<i>Weighted percentage</i>									

Figure 4 presents the percentage of women (15-49) who were not using contraception and their future intentions regarding use. In 2000 more than half (53%) of married women replied that they did not have any intention to use contraceptives in the future, this declined to 43 percent and 41 percent in the 2005 and 2011, respectively. The percentage of women who do intend to use contraceptives in the future increased from 46 percent to 56 percent in 2000 and 2011, respectively. Very small numbers of women were not sure about their future use of contraception; however the trend showed a one-fold increase over the decade, from 1.5 percent in 2000 to 3.0 percent in 2011.

Figure 4: Trend in percentage of currently married women (15-49) who are not using contraception and their future intentions regarding use, Ethiopia 2000-2011



3.4. Multivariate Analysis

Table 4 presents results from the multinomial logistic regression of unmet need for limiting vs. no unmet need for limiting, and unmet need for spacing vs. no unmet need for spacing for currently married women. The data from the three consecutive EDHS was collated. Adjusted relative risk ratios (RRRs) and 95 percent confidence intervals were included. The model used the following predictors: Residence, women's education level, partner's education, religion, regional setting, media exposure to family planning messages, visit by family planning worker, visit to a health facility, household wealth, current age, age at first marriage, number of living children, and DHS survey year.

Results from the multinomial logistic regression show that the significant predictors of unmet need for spacing and limiting were: DHS survey year, number of living children, women's current age, age at first marriage, education level, religion affiliation, media exposure to family planning messages, wealth index and residence. Partner's education and a visit having being made by a family planning worker in the last 12 months were predictors of unmet need for spacing only. A women's current working status, and the fact of whether she had visited a health facility in the last 12 months, were not independently predictors of unmet need in the case of either limiting or spacing.

Similarly, the binary logistic regression analysis shows education level, partner's education, religion, household wealth, DHS survey year, number of living children, residence, and media exposure were significant predictors for total unmet need while visits by a family planning worker, visits to health

facilities, and current work status were not significant predictors for total unmet need. In the binary logistic model, the fact of having visited a health facility in the last 12 months was a significant predictor for total unmet need in contrast to results from the multinomial logistic regression. Similarly data on partner education status produced an opposite finding as independent predictor for total unmet need as compared with unmet need for limiting.

The unmet need for spacing and limiting was significantly higher in DHS survey years of 2000 and 2005 as compared with DHS survey year 2011 for women currently in union. Women aged from 15-24 and from 25-34 had a significantly higher likelihood of having an unmet need for spacing (RRR = 6.75, 95% CI = (5.95, 7.65)) and (RRR = 3.56, 95% CI = (3.22, 3.92)) respectively compared with women who were 35 years and above. Similarly, there was a significant association between the age of the woman and the unmet need to limit birth.

The findings as shown in Table 4 indicate age at first marriage is significantly and inversely associated with unmet need both to limit and space births; that is women who married at younger age were significantly less likely to show unmet need for spacing and limiting. With regard to the number of living children women who had no children were less likely to report an unmet need to space births as compared to women who had more than four living children. Similarly, women with 1-2 living children were about 49 percent less likely to report unmet need for spacing.

Women who were followers of the Muslim religion had significantly less unmet need to limit births (RRR= 0.68, 95%CI = (0.62, 0.74)) as compared to women who were Ethiopian Orthodox. On the other hand, those of the Protestant or Catholic religion had a greater unmet need for spacing as compared with women who were Ethiopian Orthodox.

Women from poor households showed significant association for unmet need to space births as compared to women from rich households (RRR = 1.11, 95% CI = (1.00, 1.26)). In addition, women from middle income households showed a significantly lower unmet need for limiting than women from rich households (RRR= 0.86, 95%CI = (0.76, 0.97)).

Women who were exposed to media family planning messages had a significantly lower unmet need for spacing (RRR= 0.91, 95%CI= (0.80, 0.97) and a significantly lower unmet need for limiting (RRR =0.86, 95%CI = (0.77, 0.94)).

Compared to women with secondary or higher education, those with primary education showed an increased unmet need for both spacing and limiting. Moreover, women with a primary educated partner were more likely to report an unmet need to space a birth (RRR = 1.19, 95% CI = (1.05, 1.34)). The findings in Table 4 also show that there is no significant difference for unmet need to limit and space births for women who have no formal education.

Woman living in rural areas have significantly higher unmet needs for spacing (RRR= 2.16, 95% CI = (1.90, 2.46)) as compared to women living in urban areas. Similarly, women living in rural areas showed a significantly higher likelihood of an unmet need to limit their births than their urban counterparts (RRR= 1.54, 95%CI = (1.34, 1.78)).

Table 4: Relative risk ratios (RRR) from multinomial logistic regressions predicting unmet need for spacing and limiting, Ethiopia 2000-2011

Socio-demographic and proxy variables	SPACING vs. No unmet need			LIMITING vs. No unmet need		
	RRR	95% Confidence Interval		RRR	95% Confidence Interval	
Year of survey (Ref = 2011 DHS)						
2000	1.37**	1.26	1.49	2.09**	1.89	2.32
2005	1.18**	1.09	1.28	1.79**	1.62	1.97
Number of living children (Ref = 5 or more children)						
None	.26**	0.22	0.3	.06**	0.04	0.07
1-2	.51**	0.45	0.57	.17**	0.15	0.2
3-4	.80**	0.72	0.88	.44**	0.4	0.48
Women's current age group (Ref = 35-49 years)						
15-24	6.75**	5.95	7.65	1.77**	1.52	2.06
25-34	3.56**	3.22	3.92	1.26**	1.15	1.38
Age at first marriage (25 years and above)						
< 15 years	.48**	0.38	0.59	.73*	0.57	0.94
15-17	.54**	0.43	0.66	.70**	0.55	0.91
18-24	.70**	0.57	0.87	.74*	0.57	0.95
Women's education level (Ref = Secondary and higher)						
No Education	1.25*	1.05	1.49	1.04	0.85	1.28
Primary	1.36**	1.15	1.61	1.31**	1.07	1.6
Women's Work Status (Ref = Working)						
Yes	0.98	0.91	1.05	0.94	0.87	1.02
Religion category (Ref = Ethiopian Orthodox)						
Other Christians (Catholic + Protestant)	1.17**	1.07	1.29	1	0.9	1.11
Muslim	1.01	0.94	1.09	.68**	0.62	0.74
Traditional + Other	1.18	0.97	1.44	0.88	0.7	1.11
Media exposure to family planning messages (Ref = No)						
Yes	.89**	0.81	0.97	.85**	0.77	0.94
Partner education status (Ref = Secondary and higher)						
No Education	0.91	0.8	1.03	0.96	0.82	1.11
Primary	1.19**	1.05	1.34	1.13	0.98	1.31
Visited by family planning worker in the last 12 months preceding the survey (Ref = No)						
Yes	1.12*	1	1.26	1.01	0.88	1.16
Visited a health facility in the last 12 months preceding the survey (Ref = No)						
Yes	1.06	0.99	1.13	1.05	0.97	1.14
Wealth index category (Ref = Rich -- top 40%)						
Poor (bottom 40%)	1.11*	1	1.22	0.94	0.84	1.04
Middle	1	0.9	1.12	.86*	0.76	0.97
Residence (Ref = Urban)						
Rural	2.16**	1.9	2.46	1.54**	1.34	1.78

Significance level: * $p < .05$; ** $p < .001$

5. DISCUSSION

This study examined the trends and determinants of unmet need for family planning using data from the three Ethiopia Demographic and Health Surveys. Over the decade, unmet need for family planning declined by 28 percentage points from 36.6 percent in 2000 to 26.3 percent in 2011. Out of this, unmet need for spacing decreased in the last decade from 20.9 percent in 2000 to 16.5 percent in 2011 and unmet need for limiting declined from 38 percent in 2000 to 16.6 percent in 2011. The sharp increase in the prevalence of contraceptive use from less than one in ten women (8%) to more than a quarter (28.6%) from 2000 to 2011 may explain the decline in unmet need for family planning.

The findings from this analysis show that most of the regions in the country have registered a decrease in the unmet need for family planning (spacing and limiting) over the last decade; however, the decrease was not equal across all the regions. SNNPR showed the highest decrease followed by Oromiya region. In contrast, there was marked increase in unmet need for family planning in Somali region, which also has a lower satisfied demand for family planning. The high disparity among regions might show the unequal distribution of health service delivery, with a higher concentration of health service delivery in urban areas.

There was a complex relationship between unmet need, met need and demand for family planning. The study found that nationally unmet need declined moderately (28%) while there was sharp increase in met need (more than threefold), resulting in a moderate increase in demand for family planning (23%). This scenario is in line with Robey, et.al (1994), which states that, in the “Change-in-behavior stage” contraceptive use rises rapidly, while unmet need declines.

When looking at regions separately each region falls into one of the four stages of fertility, that is: 1) The high fertility stage where there is neither a lot of contraceptive use nor much unmet need because most couples do not want to, or are unaware that they can, limit or space births; 2) the change-in-attitude stage where as more couples want to control their fertility, unmet need rises because attitudes change faster than the use of contraceptives; 3) the change-in-behavior stage where contraceptive use rises rapidly, while unmet need declines; and 4) the lower-fertility stage where use of family planning is high and unmet need becomes very low (Robey et al., 1996). In Afar and Somali there is low met need and low unmet need because most couples do not want to, or are unaware that they can, limit or space births. In Addis Ababa use of family planning is high and unmet need is very low. SNNPR, Benishangul-Gumuz and Oromiya are at a stage where unmet need arises because the change in attitudes is faster than the change in use of contraceptives. In Amhara, Dire Dawa, Harari, Gambela and Tigray contraceptive use has risen rapidly, while unmet need has declined. These differences may be due to variations of the health service delivery capacity from the supply side and to socio-demographic characteristics from demand side; i.e. ethnic and cultural beliefs, norms and traditions. This might require further investigation in the future.

Decrease in unmet need for family planning was higher among women in rural areas than women in urban areas. After controlling for various predictors, we found that rural women had twice as large an unmet need for spacing and 1.5 times as large unmet need for limiting than urban women. The higher unmet need among women in rural areas could be explained by the fact that women in rural areas are more likely to be far from health facilities, less educated, and less aware of family planning than women in urban areas. Other studies also reported similar findings that concurred with our result (Antenane 2002; Laya, 2012).

We found that unmet need for family planning is significantly higher among women of younger age groups (15-24 and 25-34) as compared with women aged 35-49. For example, women aged 15-24 are twice as likely to have an unmet need for family planning as women aged 35-49. This might be due to the accelerated expansion of education and school based family planning programmes in recent years that have raised the awareness of family planning in the youth thereby increasing the unmet need for contraception. Other studies also reported that women of younger age groups are more likely to have an unmet need for family planning (Antenane, 2002; Laya, 2012)

Early marriage is inversely associated with the unmet need to limit and space births. These findings are consistent with findings in other studies (Antenane, 2002; Black, et al, 2010; Khan, et al, 2008; UNFPA, 2012).

Women with living children are significantly more likely to have unmet need for both limiting and spacing births than women with no living children. This finding is in line with study results by Assefa and Fikrewold (2011) for the SNNPR.

We found that women with no formal education or primary education have a higher likelihood to have an unmet need for spacing as compared to women with secondary or higher education. In addition, women who have primary educated partners were more likely to have an unmet need to space births as compared to women with partners who have secondary and higher education. The possible explanation for this could be that women that are empowered through education have better access to health facilities and information about modern contraceptive methods than uneducated women. Studies results from Kenya and Uganda have shown that unmet need was lower for women with secondary or higher education (Wafula and Ikamari, 2007; Khan, et al., 2008). Other study results from different countries including Ethiopia show that literacy was the most important factor in increasing contraceptive knowledge and the desire to limit or space births (Hogan, et al., 1999; Assefa and Fikrewold, 2011).

Religion was also a significant predictor of unmet need for family planning. Our results show that Muslim women have significantly smaller unmet need for limiting as compared to Ethiopian Orthodox women. There was, however, no significant association between Ethiopian Orthodox women, Muslim women and the unmet need to space births. However, being either a Protestant or Catholic significantly increased unmet need for spacing. Using data from the Butajira District in South Central Ethiopia, Wubegzier and Alemayehu (2012) reported that religion was one of the determinants of unmet need for family planning. In addition, a qualitative study in the Afar region of Ethiopia reported that women and men in the rural areas have some concerns about religious sayings and the implications that these sayings have about family planning use (Tigist, et al., 2012)

We found that women who have media exposure are significantly less likely to have an unmet need for spacing and limiting. A study by Laya (2012) reported that unmet need for family planning is positively associated with exposure to family planning messages.

A visit to a health facility in the last 12 months is not significantly associated with unmet need for spacing and limiting in currently married women. On the other hand only a quarter of those who visited a health facility were told about family planning. This may indicate a lack of integration of family planning with maternal or other health services.

Despite a well-established family planning programme, a significant proportion of currently married women in the country still have an unmet need for both spacing and limiting births. There are several barriers that may hinder use of contraceptives by women. The study showed that 18.5 percent of the currently married women in country were not using contraceptives because of a fear of side effects and

health concerns. In addition, 5.3 percent and 7.3 percent were not using any contraceptives because of their husband's opposition and religious prohibition, respectively.

6. PROGRAMME OPTIONS

In Ethiopia, primary health service coverage had reached nearly 83 percent (15,095 health posts and 2,804 health centers) by 2011/12 with notable variations among regions. More than 94 percent of these facilities provide family planning services (FMOH, 2011). The change in the contraceptive prevalence rate during this decade (from 2000 to 2011) has marked a dramatic transformation in the family planning landscape. Unmet need is still high although it has declined in the last decade as contraceptive use has risen. In 2011, nearly half of the women had a demand for family planning with substantial variations among regions. The findings of this study have a number of important implications for policy, programming and research. Towards this end:

1. Family planning programmes should target each region according to their level of unmet need, contraceptive use and demand for family planning.
2. Integration of family planning with maternal health and other programmes (Postnatal care, abortion care etc.) should be strengthened.
3. The family planning commodity security should be extended in response to a changing unsatisfied demand and the increasing pattern of intention to use.
4. Well crafted behavioral change communication particularly at community level and training of health professionals to provide quality services is needed to counteract the fear of side effects and opposition to contraceptive use.
5. A shift in service delivery strategy is needed in response to the increase in family planning uptake with home to home visits. (The health extension programme should be used to target distinct segments of the population, particularly youth. Social marketing should be utilised).
6. The family planning programme should address predictive social factors such as education, religion and urban/ rural residence.
7. Operational research and routine monitoring of family planning service provision should be strengthened to understand the complex nature of unmet need and met need both quantitatively and qualitatively. This understanding should be used to devise realistic plans, allocate resources, identify effective and efficient delivery strategies and estimate the impact of those strategies.
8. Socio-cultural barriers such as early marriage should be reduced through systematically designed behavior change, education and communication messages.
9. The involvement of men, and religious and cultural leaders in shaping reproductive preferences and family planning discussions should be promoted.

APPENDIX

Table A1. Odds Ratios (OR) from Binary Logistic Regressions Predicting for Total Unmet Need for Family Planning, Ethiopia 2000-2011

Socio-demographic variables	AOR	95% Confidence Interval	
Year of survey (Ref = 2011 DHS)			
2000	1.59**	1.48	1.71
2005	1.42**	1.32	1.52
Number of living children (Ref = 5 or more children)			
None	0.19**	0.17	0.22
1-2	0.36**	0.33	0.39
3-4	0.61**	0.56	0.66
Women's current age group (Ref = 35-49 years)			
15-24	2.99**	2.70	3.31
25-34	1.75**	1.63	1.88
Age at first marriage (25 years and above)			
< 15 years	1.01**	0.95	1.08
15-17	1.16**	1.08	1.25
18-24	1.36**	1.14	1.63
Women's education level (Ref = Secondary and higher)			
No Education	1.47**	1.27	1.71
Primary	1.66**	1.44	1.91
Women's Work Status (Ref = Working)			
Yes	1.05	0.98	1.11
Religion category (Ref = Ethiopian Orthodox)			
Other Christians (Catholic + Protestant)	1.02	0.86	1.21
Muslim	1.118*	1.034	1.209
Traditional + Other	0.83**	0.77	0.88
Media exposure to family planning messages (Ref = No)			
Yes	0.82**	0.76	0.88
Partner education status (Ref = Secondary and higher)			
No Education	1.02	0.92	1.14
Primary	1.218**	1.10	1.35
Visited by family planning worker in the last 12 months preceding the survey (Ref = No)			
Yes	1.06	0.97	1.17
Visited a health facility in the last 12 months preceding the survey (Ref = No)			
Yes	1.00	0.94	1.06
Wealth index category (Ref = Rich -- top 40%)			
Poor (bottom 40%)	1.18**	1.09	1.27
Middle	1.1	1.01	1.19
Residence (Ref = Urban)			
Rural	1.95**	1.4	2.23
<i>Significance level: * p < .05; ** p < .001</i>			

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This report presents trends and determinants of unmet need for family planning and programme options, based on data from the 2000, 2005, and 2011 Ethiopia Demographic and Health Surveys (EDHS). USAID, Irish Aid, ICF International, and MoFED provided support for undertaking the study, the latter through the evaluation and research capacity building programme supported by UNICEF. The Ethiopia Demographic and Health Surveys are part of a worldwide programme that collects data on maternal and child health, nutrition, HIV/AIDS, fertility, family planning, and women's empowerment.