LEVELS AND DETERMINANTS OF FERTILITY AMONG REFUGEES IN ETHIOPIA

By

GASHAWBEZA HAILE (BSc)

ADVISOR

WUBEGZIER MEKONNEN (PhD)

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By

Gashawbeza Haile, BSc

School of Public Health, College of Health Science

Addis Ababa University

Dr Wakgari Deressa _____ _____

Chairman, School of Public Health Committee Signature

Dr Wubegzier Mekonnen _____ _____

Advisor Signature

Dr Abiyou Kiflie _____ _____

Examiner Signature

Dr Fekere Enquselassie _____ _____

Examiner Signature

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Table of Content

Abstract

Background: Refugees are believed to be highly vulnerable, marginalized and underserved population groups and at high risks of different physical, psychosocial, sexual and mental health threats. The short and/or long term partner separation and other fertility inhibiting factors due to conflict and forced migration result in changing refugee fertility behavior. The refugees maternal and child health conditions are more affected by the forced migration and uncontrolled births. In the current study refugee population little is known about their fertility determinants.

Objective: This study was an attempt to examine refugees' current and desired fertility levels and to assess the relative contribution of intermediate (proximate) fertility determinant variables and distal fertility determinant among refugee inhabiting in Ethiopia.

Method: Refugee community based cross-sectional study design was employed. Using the standard and structured questionnaires 2041 sampled women refugee in the childbearing age and dwell in camps and urban settings interviewed mainly on their socio-demographic and reproductive characteristics. Bongaart's model was used to measure the relative contribution of the proximate determinants of fertility and negative binomial regression model was employed to identify distal fertility determinants. Data were entered in Epi info 7 and exported to SPSS version 20.0 and Stata 11 software for cleaning and analysis.

Results: The observed total fertility rate and the total marital fertility rate were found to be 4.6 and 5.9 children per woman respectively. There was a big disparity of total fertility rate among urban vs. camp refugees with 3.0 and 5.8 children per woman respectively. The mean children ever born were 3.40 children per woman. The mean desired fertility rate was estimated at 8.72 children per woman and the mean children ever born to women in the age group 45-49 were 7.90 children per woman. However, 83% of the respondents attributed that only God/Allah will decide on the number of children refugees can have. On the other hand, non-marriage and postpartum amenorrhea contributed the highest (35% and 34%) fertility inhibition effect of its possible biological maximum respectively. Meanwhile, the inhibitory effect of contraception from its natural level was only 16% among refugees. Similarly, from the selected socio-demographic and reproductive variables, religion (fertility level among women refugee in the Muslim religious congregation were, 1.42: 95% CI (1.19, 1.70) times higher compared to Christianity followers). age at migration (fertility was 1.22: 95% CI (1.05,1.43), 1.66: 95% CI: (1.37,2.01) and 1.92: 95% CI (1.51,2.44) times higher among women refugee moved out from their usual place of abode 11-20, 21-30 and 31or more years ago respectively compared to those who migrated within the past 10 years). Similarly, age, monthly income, polygamous marital forms, history of abortion, age at first birth, partner's attitude on contraceptive use and marital duration were the significant predictors of refugee fertility.

Conclusion: The refugees' current and desired fertility is among the highest, with significantly high disparities between current and desired fertility level. Women's religious belief has a greater effect on the desired fertility level. Non-marriage, postpartum amenorrhea and contraception significantly reduced fertility from its natural level. Refugee women's age, monthly income, marital forms, history of abortion, age at first birth, age at migration, religion, partner's attitude on contraceptive use and marital duration are the significant predictors of fertility. Hence, strengthening refugee women and girls' schooling help to empower women refugee and able claim and exercise their reproductive rights as appropriate. Religious leaders and male partners' involvement in the woman's fertility decision is highly recommended. The refugees' current and desired high fertility level entail the need for refugees based and friendly reproductive health program design with due emphasis on the identified predictor variables along with encouraging refugees' best practices of non-marriage, postpartum amenorrhea and contraceptives uses.

Key words: Refugee women, desired and current fertility level, Proximate and distal determinants of fertility, Children ever born, socialization, disruptive, adaptation

Acronyms

AAU	Addis Ababa University
ASFR	Age Specific Fertility Rate
ASMFR	Age Specific Marital Fertility Rate
CBR	Crude Birth rate
CEB	Child Ever Born
CPR	Contraceptive Prevalence Rate
CSA	Central Statistical Authority
EDHS	Ethiopia Demographic and Heath Survey
FP	Family Planning
IDPs	Internally displaced persons
PPI	Postpartum infecundability
SPSS	Statistical Package for Social Science
SSA	Sub-Saharan Africa
TFR	Total Fertility Rate
TMFR	Total Marital Fertility Rate
UNFPA	United Nations Population Fund
UNHCR	United Nation High Commissioner for Refugees

Lists Of Figures

Lists of Tables

1. Introduction

1.1 Background

According to the 1951 Geneva Refugee Convention, "a refugee is defined as someone who, owing to a well-founded fear of being persecuted for different causes related to race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his/her nationality or habitual residence, and is unable to or, owing to such fear, is unwilling to avail him/herself of the protection of that country"[1]. Refugees also defined as people who have crossed an international boundary and internally displaced persons (those people enforced to depart their residence but remain within their own countries).

Globally, people of concern to UNHCR were estimated at 42.5 million. Of these, refugees accounted 15.2 million, internally displaced persons(IDPs) 26.4 million, and other individuals whose asylum applications had not succeeded constituted for 895,000[2]. As of August, 2012 Ethiopia was host to 372,096 refugees. Of these, Somali refugees account for the largest proportion 209,214(61.16%), followed by Sudanese 67,140 (19.63%) and Eritrean refugees 61,703 (18.04%)[3] Among the many push-pull factors, high poverty, conflict and social unrest make mass influx of people out of their residence and home country to save their lives and look for refugee status and stability to neighboring countries. By then, women and children were facing the worst suffering during border crossing and their camp life [2, 3].

The worldwide female and male refugees were proportionally almost equal with some regional disparities. In some refugees' settings, women and children account up to 90 percent, possibly due to their partners and /or fathers have become fighters, died, or taken to prisons[4]. Refugees are believed to be highly vulnerable to different physical, psychosocial and mental health risks due to the consequences forced migration (conflicts, war, famine, disease outbreaks…etc). As a result, refugees entitled for special protection and care as per the international law of United Nation high Commissioner for Refugees (UNHCR, 1951) and UNHCR is mandated to take care of refugees' health and well-being worldwide[1].

The majority of displaced people arise from countries of low life expectancies and high rate maternal and child mortality. They have also low educational level and skills, resulted in limited job opportunity and deprived livelihood status.

In such circumstances, refugee and IDPs life situations severely deteriorated. Moreover, refugees and IDPs challenged with countless life events; loss of support from family and friends, disturbance in the social bonding including societal values, norms and roles. Refugees also forced to change their reproductive behavior, including current and desired fertility levels. However, refugees whom get out of the emergency crisis, rehabilitated and start to adapt camps life with basic necessities support like food, water and shelter including basic health care, education and vocational skill trainings opportunities[4].

In some refugee settings women and children accounted 80% of the total refugee population, and they are at most risk population since they were displaced, impoverished and natural vulnerability and susceptibility to different health problems [5]. Unlike other population groups, refugee women face high maternal morbidity and mortality which results from sexual and gender-based violence, unmet need for contraception (unwanted pregnancy - unsafe abortion) and sexually transmitted infections including HIV[6]. As consequences of the refugees' life events, their health status, including fertility behavior highly challenged. According to studies and theories, refugee fertility affected by different forced migration related factors and fertility tends to decrease immediately aftermath of the forced migration and crisis period (disruptive effect of migration). Mostly short and/or long term partner separation and stress that reduces coital frequency and other fertility inhibiting factors from the conflict result in continued refugees' fertility depression. As well refugees' fertility intention is also affected by the disruption in residential, income source loss and lifestyle changes and socio-cultural adaptation of the country of destination[7]. On the other hand, refugees fertility tends to follow their country of origin tradition (socialization concept), and also affected by the country of destination fertility tradition (adaptation theory) and other refugees selectivity factors like level of education. Refugees could have a significant role not only in the demographic change of a destination country but also it impacted the socioeconomic like GDP growth, wage, employment and labor market opportunities of the destination country's host community[8].

1.2 Statement of the problem

Total fertility is the average number of children a woman would bear if she never dies in her reproductive years and fertility rates remained unchanged during for a specified period of time. According to the 2010 revised world population prospect, the global total fertility rate was estimated at 2.52 children per woman in 2005-2010. From the 121 least developed countries in the world, 26 of them have total fertility levels of 5 and above children per woman. Of these, 25 countries are least developed. The total fertility rate in Africa was 4.6 children per woman, with regional and countries' level variations. The TFR in East Africa was 5.1 children per woman while Ethiopia and Somali total fertility rate were 4.8 and 6.2 children per woman respectively. Access to family planning is indicated as a key to achieve fertility reduction especially in developing countries. In 2009, modern contraceptive methods use in least developed countries was as low as 25 percent among married or in union reproductive age women; besides 24 percent of those women had a family planning unmet need[9].

Study findings revealed that in Sub-Saharan Africa, women of age 35 and over reported that 12% to 28% children were more than their ideal. And, men's ideal family size strongly found to influence women's ideals. Women empowerment in terms household decision-making and gender role attitudes was found to have less influence in predicting ideal fertility intention when compared with the husband's desires. If women able to prevent unintended fertility and have only the number of children they plan, the possibility significant reduction from the high total fertility rate is indicated[10]. In other study findings conducted in sub-Sahara African countries, following the start of fertility transition, the total fertility rate found to have only a minor association with educational status. Accordingly, this study changes in education status explain only a 13% fertility decline in between 1975 and 2005[11]. Conversely, according to the 2011demographic and health survey (DHS) Ethiopian total fertility rate (TFR) reported 4.8 children per women. In this survey rural women's TFR was found to be twice higher than urban dwellers'. In Ethiopia, childbearing starts at an early age, more than one-third (34 percent) of women in the age 20-49 gave birth by age 18, and more than half (54 percent) of them by age 20. Adolescent women, (12 percent) in the age between15-19 years were either mothers or pregnant with their first child. Regarding child spacing, 56 percent of births occur within three years of a preceding birth while 20 percent occur within 24 months[12].

From the same survey report, the total wanted fertility rate was 3 children per woman and by 1.8 children less than the actual TFR (4.8 children per woman). It explained as unsuccessfulness of Ethiopian women in achieving their fertility desire. Urban women were in a better position to achieve their ideal desired fertility (0.8 children difference, between wanting vs. actual fertility) than rural women with a difference of 2.1 children. Among the Ethiopian regional states, the difference in wanted fertility and actual fertility was highest in Somali (2.9) while it was lowest in Addis Ababa (0.2). The total wanted fertility was found to be inversely related to education and wealth. Similarly TFR was declining as education and wealth increase. Besides, as women's education and wealth increase, the difference between wanting and actual fertility rate get narrowed[12].

From other study findings conducted in Uyo, Nigeria, the number of children desired to have by the majority (53.3 percent) of respondent women was four children. The number of children desired was also strongly associated with the wives and husband's level of education and the number of surviving children. However, no reported association between the number of desired children and contraception awareness and the husband's number of wives[13]. On the other hand, study finding revealed that, high fertility level documented among Indochinese refugees since their arrival to the country of destination (United States). Their fertility levels were more than five children per ever-married woman, and it was similar to the experience of ideal family size in their country of origin. Fertility levels were higher among rural than urban residence refugees. The author justified that the high fertility of refugees was due to couple's migration from high fertility setting and their delayed adaptation to the low fertility environment of their country of destination. It is also supplemented with sons' gender preference. Furthermore, vis-à-vis the better contraception awareness of majority women refugee, access was limited due to barriers related with their socio-cultural and economic basis. Due to the limited refugees interest on family planning use, high pressure continued on child and maternal resources from refugees' increased fertility behavior[14].

A lot of women refugees or IDPs challenged with unwanted, unintended, and too close birth intervals, as a result of lack of access to contraceptive services, pressure from husbands and other family members to "re-establish or compensate" the lost children, high rape and prostitution practices[4]. According to the United Nations Population Fund (UNFPA), following unsafe abortion complications only result in up to 50 percent of refugee maternal deaths[15].

Little is known about the immediate consequences of displacement, whether it affects fertility preferences or not. However, refugees' appear to restore their fertility desires relatively quiet soon to their refugees' pre-displacement fertility state. In addition, refugee women who want to stop their fertility, have no access to safe abortion care and prone to find and use an unsafe abortion practitioner and expose themselves to unhealthful acts and related reproductive consequences[4].

Most studies conducted in conflicts affected (displaced population and refugees) level fertility and desire also showed that fertility level and desire decreased for a short time (usually five years) in the post conflict period and later fertility boost observed. Refugees/displaced/people socio-demographic background, economy, partner separation and adaptation to the new environment, culture and lifestyle, demographic imbalance male to female ratio, loss of children during the conflict, awareness and availability of contraceptive methods are some of the major factors affecting (positively or negatively) refugees level of fertility rate and desire [7, 16-18]. Refugees and displaced people facing countless challenges, such as disturbance of their preexisting social support system from family, friends and society and high stress to change their desired fertility levels and public or societal roles[4]. High fertility has significant impact mainly on welfare of women, children, and the communities at large and its impact got worse in refugee population where their access to reproductive health care services is limited. Besides, high fertility impact result in under development of socioeconomic from national to local levels, shortage in food supplies and depletion of resources, and challenge on sustainability of environmental issues[15].

However, no studies found on the selected study subject among refugees residing in Ethiopia, and this study aimed to assess refugees fertility level and determinant factors. The findings of this study believed to give baseline firsthand information on the refugees' fertility level and determinant (proximate and distal) factors. Based on the study findings, feasible recommendations forwarded to stakeholders and implementing partners working on refugee reproductive health programs for their further programmatic and policy consideration.

1.3 Rationale of the study

Yet studies on refugees' fertility desire and determinant factors are limited and also in the earlier time major focus have been given to other humanitarian relief program interventions. As a result, refugee reproductive health care was a neglected humanitarian activity, in spite of the recent initiatives that many humanitarian organizations started to work on it [4]. It is also known that refugees are marginalized and underserved group of the population. Studies on refugees reproductive health needs including current and desired fertility level were limited compared with the host community.

According to my review, this study is the first of its kind in the current women refugee residing in Ethiopia and it is considered to provide baseline information about the women refugee fertility levels and determinant factors. The study provided basic information on refugee current and desired fertility levels.

The study findings /information/ on socio-demographic and other intermediate fertility determinants of refugees benefit to design, refugee oriented and feasible reproductive health programs and able to bring significant impact in adjusting refugee fertility and improve their reproductive health outcomes.

2. Review of Literatures

2.1 Magnitude of Refugees and their fertility level and intention

All refugees, returnees, stateless and internally displaced persons (IDPs) are considered to be persons of concern to UNHCR. Globally, these people were estimated to 42.5 million. Of these, refugees constitute 15.2 million, IDPs 26.4 million, and individuals whose asylum applications had not succeeded 895,000. By the end of 2011, of the year total persons of concern only 35.4 million persons (of these, 10.4million refugees) were under the responsibility of UNHCR. Developing countries have been hosting for about 8.4 million refugees of the global total. Of whom, Sub-Saharan Africa was host to 2.7 million (one quarter of all refugees only), mainly originated from Somalia (760,800), Sudan (462,100), and the Democratic Republic of the Congo (457,900). From the available data (covering 24.4 million under UNHCR's responsibilities), about 49% of the people were female. In sub-Saharan Africa, 51 percent of refugees were female[2].

Despite the fact that, there are different contributing reasons for people to migrate; these can broadly classify as push and pull factors. Push factors are reasons that enforce people to leave their country of origin**,** while pull factors motivate or attract people to flee to a certain country. For both push and pull factors, economic, social and physical factors are the main root causes for migration. Economic factors like lack of employment, food and shelter shortage and poor living conditions, social factors includes poor health care, lack of educational opportunity and race and religious affiliation related conflicts, Political unrest, war and terrorism. And physical factors like natural disasters are the most common factors for people migrating. In contrast, to avert these economic, social and physical problems and wish to live a better or standard way of life people enforced and/or motivated to migrate [19].

A study conducted on the short and long-term fertility effects of mass violent conflict in Rwanda revealed that mass violent conflict was directly determining fertility. A child loss in the genocide had the biggest positive fertility effect and it is explained by the author as evidence for a replacement effect of fertility. Fertility differential in the shorter term, five years period and gender-specific effects observed in both child and sibling deaths, evidence revealed for the substitute of died male babies, but no evidence for lost female children. Widows challenged with considerable under fertility in the pre and post the conflict period.

The author interpreted these as the “continued role of social norms in the area. In addition, fertility is robustly associated with marital status and marriage markets. Unequal sex ratios as a demographic conflict substitute appear to lead to lower fertility, showed to the continued role of marriage markets and marital status for determining fertility[16]. In another study findings, refugee women were found to have higher fertility rate, but with lower chance of their child survival. New born female children badly suffered as compared with their counterpart newborn boys, this is in agreement with the sex differential in child survival in most cases of population dynamics in bad conditioned living situation[17].

From the findings in Somali and Congolese refugees, the contraceptive prevalence rate (CPR) of 6.9 percent and 16.1 percent in surveying the refugee population respectively. Regarding the modern family planning methods 6.8percent users in Somali refugees, while there were 14.6 percent users in Congolese refugees. In both studies the pills and injectables were commonly used contraceptives. Unmet need for FP is 9.9% of Somali refugees while 7.8percent of Congolese. Apart from fertility related factors, religious ban and husbands’ disagreement was very significant in surveying Somali refugees. In both studies, religious barriers were present within the Muslim, Catholic and Pentecostal populations. Respondents also want to have a large number of children to replace those lost by the war and conflict, and families consider children as an asset[20, 21].

In a study finding in Nigeria, where most of the respondents (more than 80 percent) were found within 15 to 30 years of age while they had their first birth and less than 10 percent of the respondents were 31 years and above when they had their first birth. Besides, 10.3 percent of the respondents were less than fifteen years of age when they had their first birth. In this study most of the women (98.4 percent) were married, only 13.4 percent of the respondents were current FP users and 13.3 percent of them had their first sexual intercourse before the age of 15. Given some of the women got married as teenagers, 65 percent of women were the only wife of their husband. Fertility was 1.02 times higher among women of the rural residents than women of urban dwellers. Regarding education and fertility desires, women who had secondary education, primary education or no formal education respectively had 1.19, 1.47 and 1.48 times more children than those who had attained their tertiary level education [22].

Low income (poor) women had 1.04 times more children than the rich women, while women from poor households had 6 respectively higher fertility compared to those from rich households.

Women who had their first birth between the age of 15-30 years (18percent) and those who had their first birth after the age of 30 years (61percent) had lower fertility rate when compared to those women who got their first child before the age 15 years. Likewise, women who had their first sexual intercourse between the ages of 15-30 years had 11 percent lower fertility in comparison with those who had the experience before they were less than 15 years old. At the same time those who had their first sexual intercourse after the age of 30 years had 1.09 times higher fertility compared to those who had the experience before the age of 15 years. Women living with their husbands had 1.07 times more children as compared with those women who weren't living with their husbands. In contrary to expectations, women who do not use any method of contraceptive had 9percent lower fertility than family planning user women[22].

2.2 Fertility Ddeterminants

The three focus areas to study fertility includes; the micro level determinants of fertility with an individual, couple and household level effect. The macro level fertility determinants usually occur in the socio-cultural context and affecting fertility through micro level determinants. The link between the two (micro and macro fertility determinants) is intermediate (proximate fertility determinants), which able to detect fertility changes at each individual indices of proximate determinants of fertility ranging from 0 to 1. An indices with a measurement value of '0' representing the greatest possible inhibition effect on fertility while the value of '1'demonstrating no fertility inhibitory effect[23].

The measure of the current fertility level is one of the most important subjects in reproductive behaviors due to its direct role to programmatic design and population policy consideration matters. The age specific fertility rate (ASFR) is one of the fertility measures, gives information on fertility related to age patterns. And the total fertility rate (TFR) measures the number of live births a woman would have, given the current ASFR remains the same through her childbearing years. The general fertility rate (GFR) is another measure of fertility that shows information on the number of live births/1,000 women of childbearing age

(15-49years), while the Crude birth rate (CBR) is measuring the number of live births per 1,000 persons in the total population[12].

From a study finding conducted in southern Ethiopia, a TFR of 5.3 children per woman and a marital fertility of 7.8 children per married woman were reported. The highest fertility differentials (6.6 children per woman) were documented in rural low land areas while the lowest (3.3) was observed in town inhabitants'. And also the highest point of fertility age group was reported at 25-29 years. According to this study, the major direct fertility determinants were non-marriage, contraception, and postpartum amenorrhea. The fertility reduction contribution from abortion was insignificant due to the study population socio-cultural inhibition factors to against induced abortion. As result, the respective indices contribution to natural fertility inhibition from its biological maximum, non-marriage (34 percent), which measures the effect of late marriage and marital instability, contraception (23 percent), postpartum infecundability (Ci) about 32 percent and abortion (4 percent only)[24].

In a similar study, proportions of females in the reproductive age 15-49 years were found to be 23% of the total study population in the study areas. The study also showed that the mean age at first marriage in the study rural areas (two Gondar zones) and big urban area were 13 years and 16.5 years respectively. The TFR of the rural areas and the zonal towns (Gondar and Debre Tabour) were calculated as 6.3 and 2.9 children per women respectively. The mean number of children ever born to older women reaching the end of their reproductive period (45 to 49 years) was computed as 6.5, which is an indicator of average completed fertility[24, 25].

In addition, contraception reduced natural fertility by about 43 percent in urban residents. Contraception natural fertility inhibition was about 57 percent while non-marriage reduced fertility by about 59 percent from its biological maximum in women who attained secondary and above education level. The fertility inhibition effect of PPI reduced from 35-14 percent as educational attainment increased from illiterate to secondary plus level. Moreover, PPI had a higher fertility reduction effect (35%) among women of food in secure households as compared with those women with adequate food (25%) households[24]. On the other hand, the index of marriage (Cm) equals 0.83, it means that non- marriage and reduced fertility by 17percent. In contrast, contraceptive use has an index of 0.75 indicating a 25 percent fertility inhibition more than delayed marriage and non-marriage.

The contraceptive prevalence rate was about 22 percent among all women study participants while it was 27.3percent among married women. The PPI (Ci =0.54) fertility inhibiting effect was an important proximate determinant in rural areas, while contraceptive use was significant in urban center areas. In conclusion, among the three main proximate determinants in reducing fertility in the two zones, PPI (Ci=0. 55) takes the lead and accompany by contraceptive use (Cc=0.75) and delayed marriage (Cm=0.83)[25].

Regarding religion, the contraception natural fertility reduction was 31 percent among Christians of other congregations, while non-marriage reduced by 43 among Orthodox Christians followers, and also it had documented a 39 percent fertility inhibition effect among Guraghes excluding the Meskan clan. Non marriage also reduced natural fertility by 74 percent among school girls. Abortion reduced natural fertility by about 6 percent among women in the Orthodox Christianity congregation. PPI has no major differences in fertility reduction effects across the different religious denominations, rather than a bit higher effect documented among Muslims followers. Except the area majority Meskan clan, Contraception had significant fertility inhibition from its biological maximum in migrant ethnic groups and Guraghes with percentage reduction of 33 and 32, respectively. At the same time, contraception natural fertility inhibition among students and women who married husbands of secondary plus educational level was about 42 percent and 47 percent respectively. Besides, abortion highest fertility reduction effect (24 percent) was observed among school attending students[24].

From a study conducted among Idjwi Island, Democratic Republic of Congo, the TFR was found to be 8.3 children per women. The fertility was found to be most influenced by proportion of sexually active women who were unable to become pregnant (Cx=0.67), duration of breast feeding (Ci=0.81) and proportion of women who were sexually active (Cm=0.87). Induced abortion(Ca=1) and contraception prevalence(Cc=0.99) played little role in determining fertility[26].

2.3 Socio-Demographic factors

Somalia is known by its estimated highest fertility rate of 6.2 children per woman, very high child and maternal mortality rates, 180/1000 live births and 1200/100,000 live births respectively, it is the second worst after Afghanistan in the world[27].

In addition, the people of Somalia are known by its organized structures into different clans like Dardo, Dir, Hawiye and Isaac are the main once. These clan structures are important social units and have a significant role in Somalis socio-cultural and political movements[28].

From EDHS 2011 report, significant fertility differential was reported among regions' background characteristics the TFR of 1.5 per women in Addis Ababa (seem under replacement level of fertility) to 7.1 children per woman in Ethiopian Somali region and it was the first from other regions' TFR in the country. In five regional states of Ethiopia, total fertility rates were higher than the national average (4.8 children per woman); that is in Somali (7.1), Oromiya(5.6), Benishangul-Gumuz(5.2), Affar(5.0), and South Nations and Nationalities People (4.9); while it was lower in the other six regions(Tigray, Harare, Dire Dawa, Amhara and Gambela). On the other hand, the TFR was inversely associated with women's educational achievement, which was 5.8, 4.6, 1.9 and 1.3 children per women, with no education, primary, secondary and more than secondary educations respectively. As well, women in the lowest class of their wealth status found to have twice more higher TFR (6.0) than women in the highest rank[12].

In a study finding, age at first marriage, males tend to marry at old age (23 years) as compared with female at 21years and both partners age showed significant effect on desired family size. On the other hand, more husbands (78 percent) intend to have more than 2 children compared with wives (68 percent) of similar fertility intention. However, twice more husbands (14 percent) intend to have more than 6 children. Equally, both husbands and wives (30 percent) preferred to have 3 children. Similarly, a very strong association was documented between age, age at first marriage, educational attainment, occupation and place of residence and religion (catholic affiliation) with desired family size. As well as age, education, occupation and place of residence, religion and partners communication were statistically associated with contraceptive use, but no association with age at first marriage[29].

In a study conducted in Ethiopia, woman's place of residence (urban), better educational and being employed, found to have lower lifetime fertility while those living in Somali, Oromia and SNNP regions and those encounter child death intend to have more children. Women from Protestant and Muslim religious affiliation were found to have relatively higher lifetime fertility unlike Orthodox Christianity religion followers[18].

On the other hand, age, number of surviving children, place of residence, educational attainment of the respondent, household wealth status and women's decision-making autonomy were found to be the determinants and major factors limiting fertility intention. Women from better off families and in their late fertility period have higher intention to limit their fertility.

Opposing relationship was observed among the number of surviving children and limiting fertility intention. Urban resident women were 78 percent more likely to limit their fertility as compared with women of rural inhabitants'. According to the author, this is explained by increased cost of livelihood in the urban settings as it wasn't equally seen in the rural areas. Contraceptive users also limit their fertility by one and half times more than non-users. In this study the intentions to limit more children seem to depend on the level of contraceptives unmet need. Women who reported high family planning unmet need were observed with high desire to limit their fertility[18].

2.4 Migration and Fertility Theoretical Perspectives

The four hypotheses regarding migration and fertility comprise socialization, adaptation, selectivity and disruptive positions. In socialization hypothesis fertility plans started during childhood insight from the family environment. In this theoretical perspective rural fertility is mostly believed to be higher than urban fertility. The socialization premise predicts that no significant change documented in the fertility of rural-urban migrants compared to the host irrespective of the time stayed in the original urban dwellers. Besides, the socialization model gives due attention to culture, norms and values of the origin remain to prevail in the post migrating low fertility situation.

According to the adaptation hypothesis refugees fertility changes based on progressive perceptions and adoptions of urban fertility norms. This hypothesis doesn't show the specific adaptation duration of rural-urban migrants. According to the adaptation theory, fertility differentials are partially assumed to be due to difference in relative wages of men and women and families price- income mismatch. As a result the refuges fertility tends to converge to that of the urban natives fertility pattern. The adaptation theory also indicates that after holding constant for age and other demographic and socioeconomic co-variets, short time stayed refugees can have higher fertility than the urban natives and long term stayed refugees. In addition, it indicates that long term post migration refugees' fertility was the same as the urban natives [8, 30, and 31].

On the other hand, the selection hypothesis suggests that the low fertility among rural -urban migrants compared with the rural natives stayers could be primarily attributed to the selection of the migration process, as migrants are self-selected to their life cycle and socioeconomic characteristics such as age, education, income, occupation, marital status, and aspirations and other. The selectivity model also assumes that unobserved preference of refugees is evidenced by their move towards the settings where the local relative prices and paid work opportunities favor their fertility behavior and livelihood.

The selectivity hypothesis also indicate that there is a tendency that those who prefer small family want to move to urban settings while those who prefer large families move to rural settings. In general, the selectivity theory implies that rural-urban migrant refugees tend to have lower fertility than rural stayed, irrespective of length of stay in the urban setting. Similarly, urban-rural migrants tend to have increased fertility than urban natives and also rural-rural migrants tend to have higher fertility than rural natives [8, 30, and 31].

Similarly, the emphasis on disruption hypothesis was, migration by itself could impact migrants' fertility preference. This hypothesis proposed that migration may disturb fertility through separation of husband or partner; the migration process may also be stressful and result in interfering with the migrant's physiological child bearing ability. The disruptive hypothesis also considers that the decrement in fertility attributable to disruption is expected to be for a brief period of time and expected to be resumed to normal and progressively augmented fertility pattern is likely to occur.

According to this hypothesis recent rural-urban migrants and/ or new migrants will have lower fertility than natives at place of destination for a short period preceding migration tends to have lower fertility than long term stayed rural-urban migrants. In summary, the socialization, adaptation, and selectivity hypothesis exhibited the pre-migration and post-migration fertility condition at the origin and destination as key characteristics of migrants while the disruptive model considers the impacts of migration per se to decrease fertility. Meanwhile, the impact of hypothesis discussed above may function altogether at any setting. According to the scholars the big challenge is to disentangle and quantify their relative impacts on fertility at a certain setting [8, 30, and 31].

2.5 Conceptual framework

The idea of this study was developed on the basis of numerous studies literature review, which showed an association among various factors in relation to refugees' fertility. The framework illustrated below demonstrates the relationship and/or influence of independent variables on current and future fertility desire. The study focus of analysis builds on the effect (decrease or increase level of fertility) of indirect and direct independent variables against the outcome (dependent) variables of interest.

The framework main components include:

- Distal (socio-demographic variables) include age, education, religion, place of residence and income, husband/partner education and family size.
- The Bongaarts Proximate fertility determinants model indices include (TFR = Cm × Ci × Ca × Cf × Cc × TF) [32].
- Current and future level of fertility preferences/intentions (outcome variable)

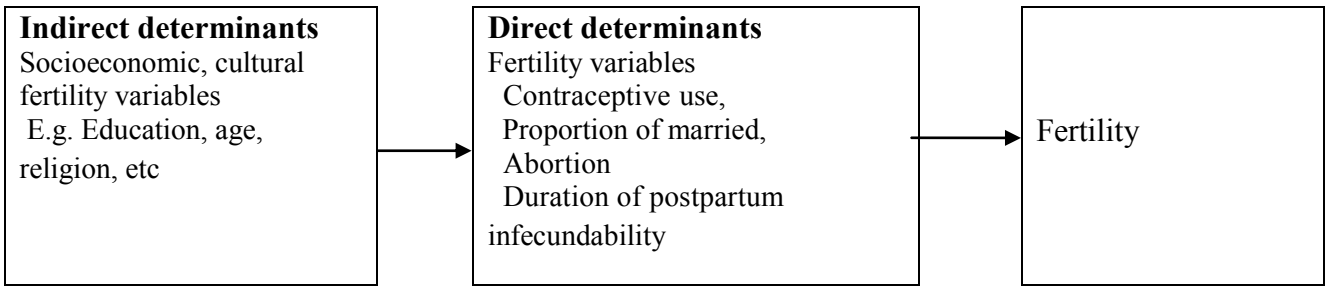


Figure 1: The Bongaarts Fertility Determinants Framework

As shown in the framework (Fig 1) the interplay of socio-demographic and economic variables along with proximate fertility determinants (positively or negatively) affect the fertility of women in the reproductive age groups.

2.6 Research questions

This study aimed to answer:

I. Which socio-demographic factors were affecting the level of fertility of refugee women's of the reproductive age?
II. Which proximate determinant variable index has a paramount effect on refugees' current level of fertility?
III. What was the current and desired level of fertility among refugee women's of reproductive age?

3. Objective of the study

3.1 General

The overall objective of this study was to measure current and desired fertility levels and to explore the effect of proximate and distal fertility determinants among refugees' in Ethiopia.

3.2 Specific Objectives

- To measure the current fertility level among refugees
- To measure the refugees desired fertility levels
- To investigate the relative contribution of intermediate (proximate) fertility determinant variables among refugees
- To identify socio-demographic (distal) factors affecting refugees' current fertility

4. Methodology

4.1 Study Design and period

A cross-sectional study design was employed to measure the current and desired fertility levels and to identify determinant factors of current fertility among refugee women of reproductive age residing in camps and urban setting from January, 2013 to January, 2014.

4.2 Study Area

The Somali regional state is one of the eleven regions in Ethiopia with an estimated total population of 5 million projected based on the 2007 population and housing census projection [33]. Jigjiga is the capital city of Ethiopia Somali regional state which is located 634km East of Addis Ababa. The region is bordered with Oromia, Afar, and Dire Dawa to the West, Djibouti to the North, and Somali to the North, East and South and Kenya to the South West. The Somali regional state has been hosting a huge number of refugees displaced from Somali following the civil war and political unrest of the country[12].

According to UNHCR, monthly refugees' updates report, Ethiopia hosts a total of 372,096 refugees as of August, 2012. Of these, Somali refugees account the largest proportion 209,214 (61.16%). Somali refugees are hosted in 11 camps of the country including Addis Ababa (urban refugees) and most of the camps are found in Ethiopia Somali regional state. Most of the urban refugees are camp referrals mainly due to their family members medical ground and in some cases for refugee protection reasons. Unlike the regional level refugees' camps, urban refugees are living in self-rented houses mainly in Addis Ababa, and few refugees in Adama and Dire Dawa with the monthly in cash remittance collected from refugees and returnees affairs department of Ethiopian orthodox church- development and interchurch aid commission (EOC-DICAC/RRAD). Almost all urban refugees were living in Addis Ababa, except very few refugees residing in Adama, Bishoftu and Dire Dawa [2].

Addis Ababa is the capital city of Ethiopia and Head quarter seat of Africa Union**.** The city is hosting the head quarter of the United Nation Economic Commission for Africa (UNECA) and other international and regional organizations. Currently, Addis Ababa has an estimated population of 3.2 million as projected from the 2007 population and housing census[33]**.** The city is bordered by Oromia regional state in all directions.

The city has ten sub cities, and 116 district administrative structures. Besides, in the city about 22 government and private owned hospitals have been providing health services to resident community and referral cases from country sides. The city administration is working to achieve basic health service access with one health center per district and advanced health care for cases in need. Many NGOs and private higher and medium clinics are also providing basic and specialty level health services to the population including urban refugees. Urban refugees have been getting comprehensive medical and reproductive health services including family planning methods from different public and private health facilities in Addis Ababa[34].

At Camps level basic health services including reproductive health provided to refugees by the government of Ethiopia, administration of refugees and returnees affairs (ARRA) health centers located at each camp. ARRA has been working and ensuring refugees' with provision of the standard and basic health care services including reproductive health, other social services and protection to urban in Addis Ababa and all camps refugee elsewhere in the country in close partnership with UNHCR-Ethiopia and other implementing partners (IPs)[3].

4.3 Source Population

The source population of the study were all urban and camp refugee women of reproductive age groups (15-49 years) residing in Ethiopia.

4.4 Study Population

The study populations were women in reproductive age groups 15-49years who have inhabited at least for six months in the selected refugee settings (Awbare, Sheder and Kebribeyh and urban refugees). All women in the reproductive age group (15-49years) who enrolled as refugees were eligible for the study.

Inclusion criteria

- Women of reproductive age group between 15-49 years
- Refugees residing for more than 6 months at camps and Addis Ababa as an urban refugee [12, 24 and25].

Exclusion criteria

Refugees who were critically ill and have hearing or mental health problem during data collection excluded from data collection interview.

4.5 Sample Size Determination

The sample size was determined using measure DHS guideline reasonable precision requirement at the domain level standard recommendation. According to the guideline, a minimum sample size of 800 completed interviews with women should be required for some of the women-based indicators for high fertility countries (e.g. Total fertility rate, contraceptive prevalence rate, childhood mortality rates) and also this minimum domain sample size should reach 1000 or more completed interviews for low fertility countries [35]. Hence, based on this standard guideline, in this study representative sample size of 2041 women refugees in the childbearing age group covered, assuming that women refugees' have low fertility according to disruptive migration hypothesis. The aggregated sample size for camp and urban women refugees were n=1119 and n=922, respectively.

4.6 Sampling Procedure

As shown in the figure below, multistage cluster sampling, stratified by place of residence (Camps and urban) was utilized for the selection of 2041 study subjects. A total of four refugees hosting camps (three of the 10 refugee camps and one urban refugee, Addis Ababa city administration) were purposefully included in the study. The selection of refugee camps was on the basis of refugees population origin (most refugees residing in Ethiopia originated from the Somali), three out of 10 refugee camps found in Ethiopian Somali regional state and one urban refugee purposefully selected to increase the representativeness of study subjects[3].

After purposeful selection of Awbare, Sheder, Kebribeyh refugee camps from the Somali regional state and Addis Ababa for urban refugee, further sampling was utilized to select the eligible study units. Based on the refugee population and the number of households at each selected refugee camp, the four camps further divided into 14 clusters (nine cluster zones from the three refugee camps and five clusters districts from Addis Ababa).

The refugee camps zones, blocks and households' arrangement and urban refugees' reference list information obtained from the respective refugee camp administration (ARRA) and urban refugees from EOC-DICAC/RRAD databases respectively. Camps and clusters were the primary and secondary sampling units, respectively. Likewise, urban districts and households with eligible women were the primary and secondary sampling units, respectively. The number of households in each clusters were about between 120 and 170, as adapted (cross-referenced) from previously conducted study[25].

From the refugees reference list or database (sampling frame), the first eligible women in the reproductive age were selected by simple random sampling (lottery) method, and then the required sample size proportional to the refugee camps was selected by a systematic random sampling method. In the absences household selected for the study with two visits, the nearby household with eligible study subject was included in the study. If more than one eligible woman found per household, two of them were selected by lottery method.

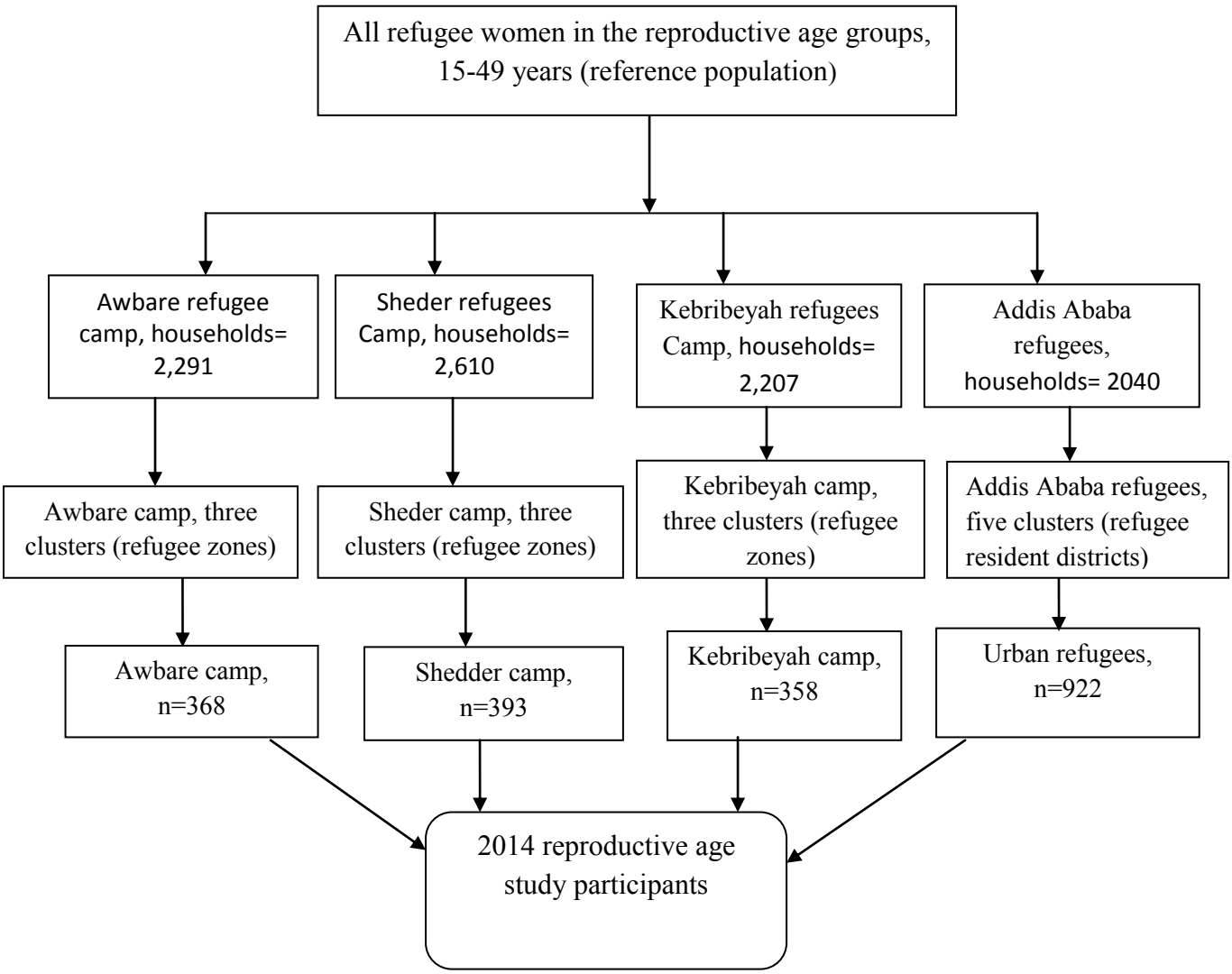


Figure 2: Schematic presentation of sampling procedure

4.7 Data collection

A representative data collection was carried out between mid of June to August, 2013; using standard structured questionnaires adapted from measure DHS Woman's questionnaire[12, 35]. The questionnaire was first prepared in English and translated into the Somali and Amharic languages and back translated to English to check for consistency.

A total of 28 female data collectors was recruited and hired from the local respective refugee community high schools that completed secondary school and they were on summer break, fluent in the respective refugee languages (Somali, English and Amharic) and with prior experience in refugee community based data gathering. Four data collectors' team supervisors with at least a first degree in social/health science fields were recruited and hired at each randomly selected refugee setting.

Data collectors and team supervisors were trained in one day by the principal investigator on the study instrument, consent procedure, interviewing techniques, data collection procedures and supportive supervision techniques.

Eighteen data collectors were assigned for the three camp refugees (six of each) and ten data collectors were assigned for urban refugees. And about one week (5-7 days) data collection time used at each camp and urban refugees.

Data collection process

Data collected using house to house visit at all camps and urban refugee included in the study. After identifying the individual study subjects (household), data collectors interviewed the eligible subjects. The team supervisors and the principal investigator supervised, assist interviewers, collect filled questionnaires in daily basis, and checked for inconsistencies and omissions. At the time of each day questionnaire distribution, feedback given on the previous day data collection problems and additional formats given to interviewers to re-interview as per the feedbacks provided. The principal investigator was responsible for the coordination and supervision of the overall data collection process.

4.8 Measurements and Variables

Outcome variable:

- Levels of fertility (children ever born)
- Fertility intention (Desired number of children)

Predictors (independent variables) divided into two types:

I. The proximate determinant of fertility: non-marriage, post-partum amenorrhea, contraception, induced abortion and sterility.

II. Socio-demographic (distal) predictor variables selected on the basis of literature review. And variables tested in the bi-variate analysis using 95% CI children ever born means analysis and found to be statistically significant considered in the distal fertility determinant further predictor analysis. Accordingly, variables included in the distal fertility determinants were; respondents age, current place of residence (Camp vs. Urban), educational status, age at marriage, age at birth, age at migration, monthly per capita income, marital duration, religion, marital forms (polygamy vs. monogamy), history of abortion, history of child death, child sex preferences, contraceptive methods awareness, ever use, and partner's attitude on FP use.

4.9 Data Quality management

i. Twenty eight high schools and preparatory class graduated and fluent in the respective refugees' languages female data collectors with prior experience in data collection were recruited from the local refugee community. Of these, 18 for camp refugees and ten data collectors for urban refugees were assigned.

ii. Four first degree holders in social/health science were recruited, trained and assigned as data collectors' team supervisors.

iii. Data collectors and supervisors trained in one day by the principal investigator on the study instrument, supportive supervision, consent procedure, interviewing techniques and data collection procedures.

iv. Standard data collection tools adopted and used

v. Prior to the actual data collection 5% of questionnaire were pre tested on similar population not included in the study units.

vi. Pre testing of questionnaires carried out on refugees who were not included in the study clusters and study units to check data collectors understanding and study subjects' level of acceptance of some sensitive questions (age at first sexual intercourse, abortion and contraception methods use). As result in two of the camps, some discomfort and unwillingness to respond on the sensitive questions were

identified by data collectors. Thus, data collectors' guided to use, the local and simple phrasing language for some of these socio-culturally sensitive questions.

vii. Data Checked for consistency and completeness of the study instruments at the time of data collection and data entry by supervisors (checked 10% randomly selected households/ day) principal investigator respectively.

viii. The entire data cleaning and entry was carried out by the principal investigator and two assistant data clerks.

4.10 Data cleaning and Analysis

The collected data were cleaned for inconsistencies and missing values, using Epi info 7. And the entered data transferred to the statistical package for social sciences (SPSS) version 20.0 and to Stata 11for Uni-variate and bivariate data analysis. Descriptive analysis was done using simple frequencies, percentage distribution and relationship of proximate and independent variables against the outcome variables of interest.

- Modeling Fertility Analysis

In this study, total fertility rate (TFR), means CEB and mean desired fertility were used to measure achieved and desired fertility levels.

Bongaarts model application

The revised Bongaarts' proximate fertility determinants model was employed to compute the fertility reduction effect from its possible biological maximum. The proximate fertility determinants model includes five indices (marriage, postpartum infecundability, Sterility, induced abortion and contraception) to compute the proximate fertility inhibition effect of its possible biological maximum.

According to the revised and widely used Bongaarts proximate determinants of fertility model, total fertility rate (TFR) is estimated from, TFR= Cm * Ci * Ca * Cs * Cc * TF[32], where,

TFR= total fertility rate

TF= total fecundity rate

Cm= index of marriage

Ci =index of postpartum infecundability

Cs = index of sterility (proportion of women who are infecund)

Ca =index of abortion

Cc =index of contraception

The proximate determinants of fertility index value ranges between 0 and 1. If the fertility proximate determinant index value nearer to 0, it would have a higher inhibition effect on fertility. On the contrary, fertility proximate determinant index value closer to 1, it would have an insignificant inhibition effect on fertility[32].

a) Index of marriage (Cm) is intended to express the reduction in fertility caused by women not being sexually active throughout their entire reproductive period. The index is often approximated by the proportion of women aged 15-49 who are married.

   $Cm = \{\Sigma\, m(a) \times g(a)\} / \Sigma g(a)$, where

   m(a) = age-specific proportions of currently married (or in sexual union) women

   g(a) = age-specific marital fertility rates (ASMFR).

   The index is approximated by the proportion of married women aged 15-49years. The index of marriage (sexual union) explains that the proportion of TFR is less than the total marital fertility rate (TMFR) as the result of non-marriage in the TFR. Hence, if the index of Cm=0 implies that no one is married and if Cm=1 all women are married during their entire reproductive period. The index of marriage is intended to express the reduction of fertility caused by women's not being sexually active throughout their entire reproductive period (15-49 years). Total natural fertility rate is the total number of births a woman would have if she lived from age 15 to 49 years, experienced age-specific fertility rates (ASFRs) of the period of interest, remained married or in sexual union during the entire reproductive period, and with no use of any contraceptive methods and /or induced abortion. TMF= TNFRxCc, where TMF is the total marital fertility rate and TNFR if total natural fertility rate. TMFR equals to TNFR in the absence of contraceptive methods use and induced abortion.

b) Index of postpartum infecundability (Ci) is assumed to assess the effects on fertility due to the extended periods of postpartum infecundability, or often called postpartum insusceptibility, as result of postpartum amenorrhea and postpartum abstinence[32]. The

index is calculated as: 20 / (18.5 + i), where i is the median duration (in months) of postpartum amenorrhea. This equation implies that 20 months is the birth interval in the absence of lactation infecundability, allowing 7.5 months waiting time for conception and 2 months for spontaneous fetal loss and 9 months for term pregnancy and 1.5 months to infecundability without breastfeeding. Ci =1 in the absence of lactation and postpartum abstinence and Ci=0 the duration of infecundability is infinite. According to the Bongaarts recommendation 'i' it could be estimated from the median duration of breastfeeding.

c) Index of sterility(Cs) = proportion of women who are infecund

According to Bongaarts revised model, the fifth proximate determinants(Cs) of fertility computed to estimate the fertility reduction effect of primary and secondary sterility, with the given equation as a function of primary sterility: Cp=(7.63-0.11*s)/7.3, where s is the percentage of women aged 45-49 who have had no live births. This equation is equal to 1.0 when three percent of women are childless at age 45-49. Any value above this level is assumed to be the effect of pathological sterility.

d) Index of induced abortion (Ca) = TFR / (TFR + 0.4 * (1 + u * e) * TAR), where the TAR= Total abortion rate. The total number of abortions over the reproductive period per woman among only married women, where the u=observed Contraceptive prevalence rate among married, TFR = observed total fertility rate and TAR computed from the estimation of the age-specific induced abortion rates. The term 0.4 is an estimate of the births averted by a single induced abortion in the absence of contraception.

e) Index of contraception (Cc) is intended to compute the fertility inhibition effect of contraception. The index is calculated as Cc = 1–1.08×u ×e where,

u = proportion of sexually active fecund women using contraception, and
e = average use effectiveness of contraception). The factor 1.08 is a correction factor for couples who don't use contraceptive methods due to their known infecundability nature.

- Negative Binomial Regression Model Analysis

Children ever born were the dependent count variable and as it only takes non-negative count values. The appropriate statistical model for the analysis of the association between distal socio-demographic variables and fertility level was done using the Poisson regression. However, with the assumption that the dependent variable CEB was over dispersed and did not have excess zero counts, a negative binomial regression model was selected over the standard Poisson regression model to compute the significant predictor variable which affects the outcome variables of interest, children ever born[36].

Hence, negative binomial regression model as an extension of the Poisson regression model recommended to fit over dispersed count data which have no excess zeros to analyze the mean conditional fertility of women refugees[36]. The equation is given by the following formula:

$\mu_i = Exp\ (a + X_{1ib1} + X_{2ib2+\ ....+}\ X_{kibk+}\varepsilon_i)$, where,

μ_i is the expected number of children from the i^{th} women.

$X_{1i,}\ X_{2i.....}X_{ki}$ are the characteristics of woman affecting the dependent variable

$a + _{b1} + _{b2}.....\ bk$ are the Poisson regression coefficients.

$\boldsymbol{\varepsilon_i}$ is an error term in negative binomial regression model addressing the dispersion parameter of the dependent variable.

The degree of association between the dependent variable and determinant factors was measured by crude and adjusted incidence rate ratio (IRR) with 95% confidence interval, at 5 percent significance level.

5. Ethical Considerations

Ethical clearance was obtained from the Research Ethics Committee of the School of Public Health, Addis Ababa University and a letter of support (refugee camps entry permission) obtained from ARRA headquarter, regional and respective camp coordination offices. All the study participants were informed about the purpose of the study and their verbal and written consent obtained before the interviews. All interviews were conducted by maintaining the privacy of the study participants. The purpose of the study, the method of questioning and confidentiality letter described to the study participant through information and consent forms prepared separately prior to the initiation of the interview. As a result study participants were informed about having full right to participate or not to participate in the study as well as to withdraw any time during the interview process. Study participants were also informed about whatever information they provide kept confidential. The interview was so anonymous; no study participant was identified by name. Study participants also given information about the opportunity to ask any questions and the expected duration of participant's stay in the interview. Besides, questionnaire developed in simple, clearly worded, specific and easily understandable way and easily responded by the study participants.

6. Communication of findings

The results of this study will be disseminated and/or communicated to refugee affairs main stakeholders; UNHCR, ARRA and concerned other implementing partners working in refugees' reproductive health care programs through reports and publication in peer reviewed local and international journals.

7. Operational Definitions

Induced Abortion: refers to the deliberate termination of a pregnancy before the fetus is capable of sustaining an independent extra-uterine life.

Age Specific Fertility Rate: Mean number of children born among 1000 women of reproductive age in that specific age category within the past year period.

Asylum seeker: someone who leaves their own country for their safety, often for political reasons or because of war, and who travels to another country, hoping that the government will protect them and allow them to live there.

Children Ever Born (CEB): Refers to the number of children ever born alive to a woman by the time of the survey.

Completed Cumulative Fertility: Mean child ever born among the women in the age group 45-49 years.

Contraceptive knowledge: Knowledge of at least one of the family planning methods.

Contraceptive Prevalence Rate: Proportion of women who are using any method of family planning at the time of the study, to avoid or delay pregnancy.

Current contraceptive practice (use): Use of any method of family planning (modern or traditional) by the respondent or her partner at the time of the survey, to avoid or delay pregnancy.

Current fertility: History of live birth in the preceding 12 months of the survey.

Ever contraceptive use: History of using any method of family planning (modern or traditional) by the respondent or her partner, at or before the time of the survey, to avoid or delay pregnancy.

Exclusive breastfeeding: The duration at which a newborn baby is exclusively provided by breast milk.

General Fertility Rate: The average number of children born among 1000 women of reproductive age (15-49 years) in the reference period.

Gravidity is defined as the number of times that a woman has been pregnant

High Fertile Woman: Woman with 5 or more children ever born.

Internally Displaced Persons: are those people enforced to depart their residence, but remain within their own countries

Low Fertile Woman: Woman with less than 3 children ever born.

Parity: is defined as the number of times that she has given birth to a fetus with a gestational age of 28 weeks or more, regardless of whether the child was born alive or was stillborn.

Postpartum infecundability: Temporary insusceptibility to the risk of pregnancy after giving birth either due to postpartum amenorrhea or postpartum abstinence.

Refugees: someone who, owing to a well-founded fear of being persecuted for different causes related to race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his/her nationality or habitual residence, and is unable to or, owing to such fear, is unwilling to avail him/herself of the protection of that country,

Stillbirth: Intrauterine death of a fetus after 7 months of gestation age or giving birth of a dead fetus.

Total Abortion Rate: The number of induced abortions that a woman expected to have at the end of her reproductive age given that the rate remains similar.

Total Fertility Rate: The number of children that a woman expected to have at the end of her reproductive age given that the current age specific fertility rate remains the same and no women dies between the ages of 15-49 years.

Total Marital Fertility Rate: The number of children that a married woman expected to have at the end of her reproductive age given that the current age specific marital fertility rate remains the same and no women dies between the age of 15-49 year.

Monthly Income: The respondent's monthly income was calculated from their individual monthly per capita remittance and external relatives support, paid job and private owned income generating activities. The refugees' in-kind supply and support changed to estimate current price.

8. Results

8.1 Socio-Demographic Characteristics

A total of 2041 refugee women in the reproductive age group with different socio-demographic characteristics and current place of residence were interviewed. As depicted in the table1, from the total study participants' 1119 (54.8 %) and 922 (45.2 %) refugee women were interviewed from rural camps and urban refugees' respectively. Most of the refugee respondents 1820 (89.2 %) were from Somalia nationality, while 221 (10.8%) of them were from Eritrean, Congolese and Burundian nationalities (table 1). The respondent women's mean age was found to be 28.9 (±SD 8.8) years with nearly similar pattern among urban and camp refugee respondents. The study participants in the age group between 15-34 years accounted about 1465 (71.8 %). Similarly, urban refugees in the same age group accounted 699 (75.8%), while Camp refugees in the same age groups (15-34 years) were 766 (68.5%).

On the other hand, 1108 (54.3%) of the entire women study respondents and 444 (31.1%) of their partners' have no formal education and unable to read and write. The camp and urban aggregated proportion of women respondents with no education were 479 (52%) and 629 (56.2%) respectively. Meanwhile, camp and urban refugee partners with no education were 345 (44.6%) and 99 (17.4%) respectively. Only 288 (14.1%) the women respondents and 321 (23.9 %) of partners achieved secondary plus level of education (table 1).

Of the total women interviewed, the married/living together/ respondents accounted 1343 (65.8%), while never married respondents were 402 (19.7%) and respondents either divorced, widowed or no longer living together with their partners constituted 296 (14.5%) (table 1).

The majority 1845 (90.4 %) of the study subjects were Muslim religion congregations' while the other counterparts were Christianity followers. Likewise, women respondents partners' religions affiliations have nearly similar proportion1218 (90.7%) of them were Muslim religion followers, while the remaining equivalents were from Christianity congregations.

Of the total respondents, 1213 (59.4%) of the study subjects' duration of stay since migration in Ethiopia was 1 to 5 years, while 473(23.2 %) of them stayed for 6 to 10 years and the remaining 355(17.4%) stayed relatively long time 11 to 22 years. Proportions of Camp refugees stayed 11 to 22 years were 263 (23.5%), while the urbanities' stayed in the same period were only 92(10.0%) (table 1).

The respondent women refugee current occupation, students accounted 1427 (69.9%), housewives 295 (14.5%), Privately owned business and/or paid workers 141 (6.9%) and jobless were 178 (8.9%).

According to women respondents, the partner's occupation explained as, privately owned business and/ or paid workers accounted 737 (54.9%), while 477 (35.5 %) of them were jobless. The proportions of jobless partners dramatically increased to 369 (64.7%) among urbanities compared to Camp level jobless partners only 108 (14.0%). On the other hand, the proportion of Camp refugee partners engaged in privately owned business and/or paid work were 582 (75.3%), while urban refugee partners engagement was only 155 (27.2%) (table 1).

From the total currently married respondents, 290(21.6%) of them engaged in polygamous marital union. Similarly, among currently married camp and urban women refugees' 182(23.5%) and 108(18.9 %) of them were in polygamous marital union respectively.

About 1454(71.2%) of the study participants' monthly per capita income ranges from ET Birr 350 to 750.00 and nearly similar proportion of monthly per capita income observed among urban and camp refugee respondents (table 1).

In this study, seven clan groups were interviewed among Somali women refugees' respondents. Of these, 656 (36.0%) and 490 (26%) were from Darod and Hawiye clan groups respectively. And also 271 (13.3%) of them were from Dir clans and while the remaining 403(19.8%) were from Isaac, Gabooye, Bintu and Shental clans (fig 3).

Table 1: The description of study participants' by Socio-demographic and environmental characteristics, Urban and Camps refugees, Ethiopia, December, 2013

Characteristics	Urban Refugees		Camp Refugees		Total	
	Frequency (N=922)	%	Frequency (N=1119)	%	Frequency (N=2041)	%
Age Groups (Years)						
15-19	155	16.8	161	14.4	316	15.5
20-24	225	24.4	237	21.2	462	22.6
25-29	179	19.4	176	15.7	355	17.4
30-34	140	15.2	192	17.2	332	16.3
35-39	117	12.7	154	13.8	271	13.3
40-44	55	6.0	114	10.2	169	8.3
45-49	51	5.5	85	7.6	136	6.7
Mean Age	28.2 (±SD 8.5)		29.6 (±SD 8. 9)		28.9 (±SD 8.8)	
Educational Status						
No education	479	52.0	629	56.2	1108	54.3
Primary	314	34.1	331	29.6	645	31.6
Secondary plus	129	14.0	159	14.2	288	14.1
Marital Status						
Never married	190	20.6	212	18.9	402	19.7
Married /living together	570	61.8	773	69.1	1343	65.8
Separated/Divorced/Widowed	162	17.6	134	12.0	296	14.5
Country of Origin (Nationality)						
Somali	701	76.0	1119	100.0	1820	89.2
Others (Eritrea, Congo, Burundi)	221	24.0	00.0	00.0	221	10.8
Respondents Religion						
Muslim	730	79.2	1115	99.6	1845	90.4
Christian	192	20.8	4	0.4	196	9.6
Years Since Migration (YSM)						
1-5	575	62.4	638	57.0	1213	59.4
6-10	255	27.7	218	19.5	473	23.2
11-22	92	10.0	263	23.5	355	17.4
Women Occupation						
Student	614	66.6	813	72.7	1427	69.9
Housewife	131	14.2	164	14.7	295	14.5
Private Business & Employed	15	1.6	126	11.3	141	6.9
Job less	162	17.6	16	1.4	178	8.7
Monthly income(ET Birr)		27.9%	29.5%			
350-750	665	72.1	789	70.5	1454	71.2
>750	257	27.9	330	29.5	587	28.8

Characteristics	Urban Refugees		Camp Refugees		Total	
	Frequency (N=570)	%	Frequency (N=773)	%	Frequency (N=1343)	%
Marital Forms						
Monogamous	462	81.1	591	76.5	1053	78.4
Polygamous	108	18.9	182	23.5	290	21.6
Partner education						
No education	99	17.4	345	44.6	444	31.1
Primary	206	36.1	149	19.3	355	26.4
Secondary plus	102	17.9	219	28.3	321	23.9
Don't know	163	28.6	60	7.8	223	16.6
Partner Religion						
Muslim	465	81.6	753	97.4	1218	90.7
Christianity	105	18.4	20	2.6	125	9.3
Partner Occupation						
Student	46	8.1	83	10.7	129	9.6
Private Business And Employed	155	27.2	582	75.3	737	54.9
Jobless	369	64.7	108	14.0	477	35.5

8.2. Reproductive Health Characteristics

8.2.1. Descriptive Analysis of Current Fertility Level

All the study participants were interviewed about the number of children ever born; the mean children ever born were found to be 3.40 child births per woman (table 3). As shown in the figure 2, the observed total fertility rate (TFR) was 4.6 children per woman. Likewise, the respondents' total marital fertility rate was 5.9 children per woman and it was higher by 1.3 children per woman as compared with the TFR. The respondents mean completed cumulative (achieved) fertility was 7.9 children per woman. The urban and camp refugee aggregated TFR was 3.0 and 5.8 children per woman respectively. The peak fertility age group among the entire respondents was 25-29 years, followed by 30-34 and 20-24 year age groups. The urban and camp respondents' peak fertility age groups also nearly follow the same pattern of the entire respondents (figure 4).

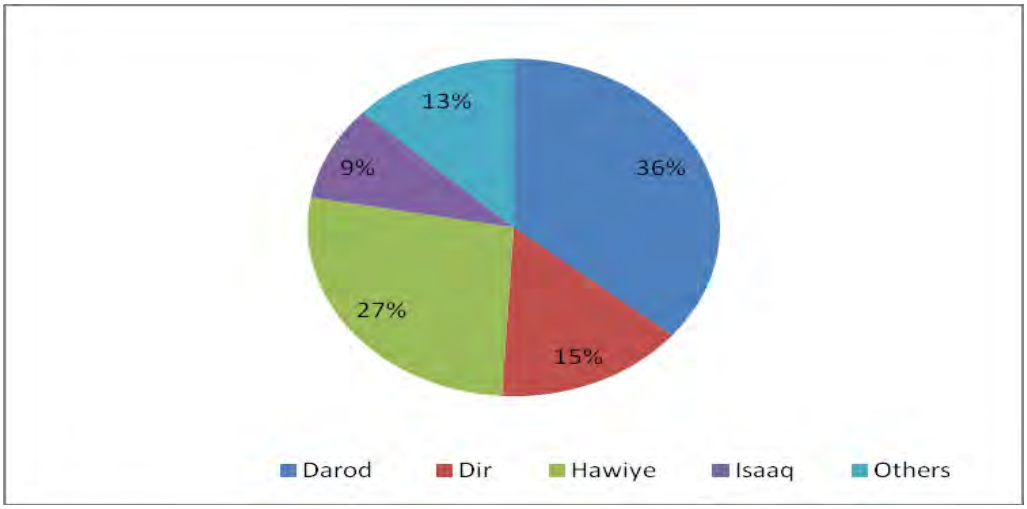


Figure 3: Proportion of Somali women refugees' respondents' by their clan/ethnic groups

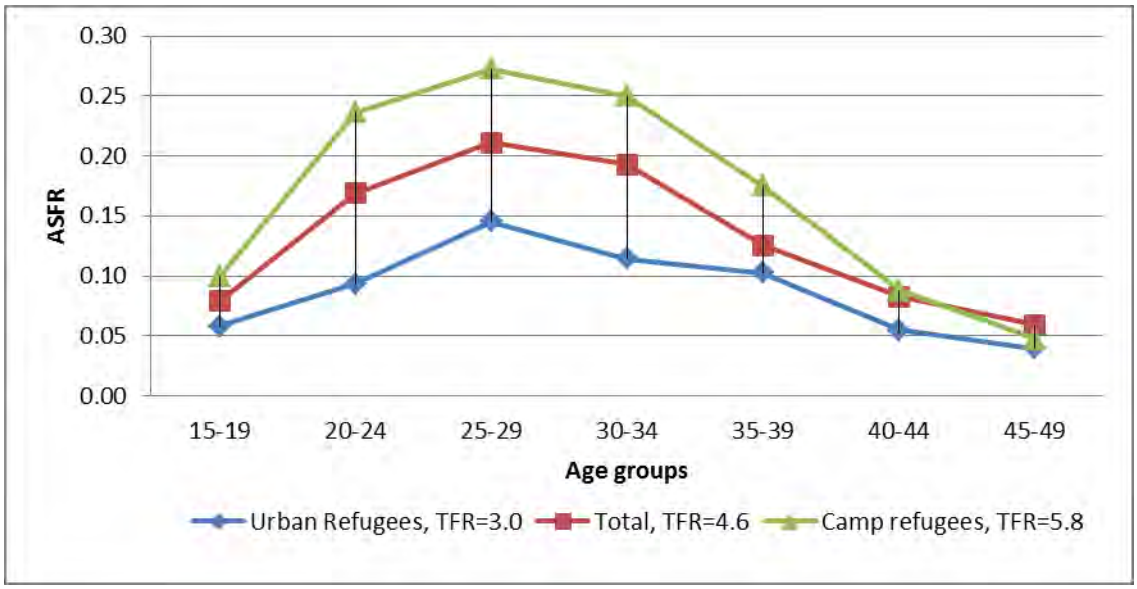


Figure 4: Age specific fertility rates over respondents' current place of residence, December, 2013

As depicted in the table 2, the respondents' mean and median ages at menarche were 14.2 and 15 years respectively. Likewise, their mean and median ages at first sexual intercourse were almost the same at 18.0 years. However, urban refugees' mean age at first sexual intercourse was 17.8 years and slightly earlier than camp refugees mean age of 18.3 years. The mean and median age at first marriage was the same for both urban and camp refugees at 18.4 and 18.0 years respectively. Similarly, the entire respondents' mean and median ages at first birth were 19.6 and 19 years respectively. Both urban and camp refugees nearly have the same age pattern at first birth.

Table 2: Respondents' Mean and Median age at menarche, First intercourse, marriage and birth by their current place of residences December, 2013

Refugee settings	Age at menarche			Age at first sexual intercourse			Age at marriage			Age at first birth		
Refugee camp	Mean	Median	Freq	Mean	Median	Freq	Mean	Median	Freq	Mean	Median	Freq
Urban	14.3	14.0	763	17.8	18.0	633	18.4	18.0	670	19.8	19.0	579
Rural camps	14.1	15.0	1045	18.3	18.0	822	18.4	18.0	888	19.6	19.0	737
Total	14.2	15.0	1808	18.1	18.0	1455	18.4	18.0	1558	19.6	19.0	1316

According to figure 6, the study participants' the mean postpartum menstrual cycle was around 5th months. Similarly, their coital practice started around nearly the same time of menses after child birth. However, the mean exclusive breastfeeding (EBF) time took a bit longer time about 7 months, while the mean total breastfeeding (TBF) was 16.5 months. The median postpartum menses, coital initiation, EBF and TBF durations were 2, 6 and 12 months respectively.

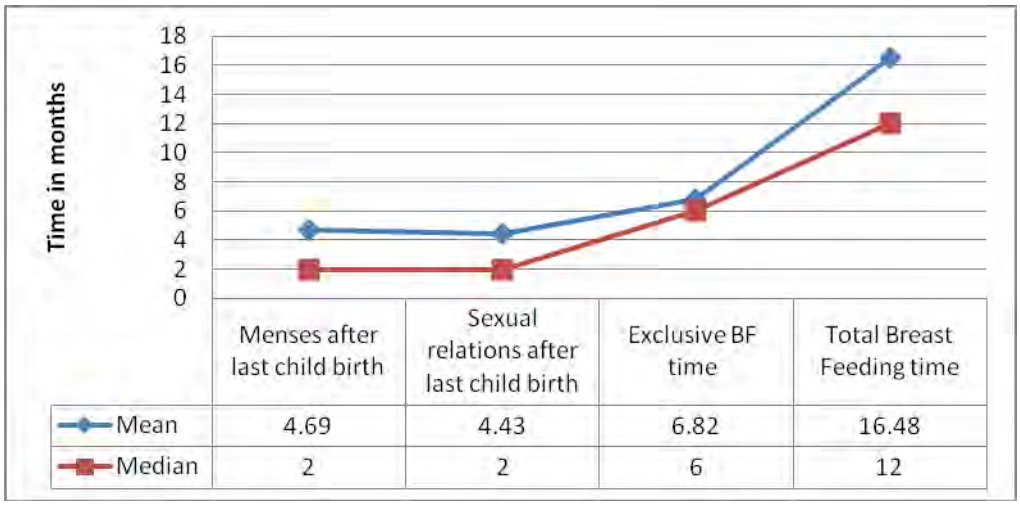


Figure 5: Respondent women's Mean and Median Duration of Postpartum Menses, Sexual Relation and Exclusive and total breastfeeding duration in Months, December, 2013

As shown in the table 3, from the entire study respondents' 71.2 % of them have a history of at least one live birth, while the remaining 28.8 % of their counterparts has no history of childbirth. Among the entire study participants, 33.2 % of them have more than four children ever born (CEB). And it was nearly twice the respondents' with 3-4 CEB (16.9 %). Urban and camp refugees follow nearly similar childbirth preparation.

8.2.2. Contraceptive Methods

Of the total study participants, 40.3% (37.1% urban, 42.9% Camp refugees) of them were aware at least one type of contraceptive methods, while 20.7% (20.1% urban, 21.2% camps) of them have been ever users. Similarly, 17.6% (17.5% urban, 17.7% Camp) of the total respondents were current FP method users. There was no major difference among urban and camp refugees' on contraception methods, awareness, ever and current users (Table3).

Likewise, as shown in figure 6, from the total currently married respondents, 39.2% (38.8% urban, 39.6% camp refugees) were aware at least one type of contraceptive methods, while 20.8% (20.9% urban, 21.2% camp) of them were ever contraceptive users. Meanwhile, 17 % (17.9% urban, 16.3% camp) of them were current contraceptive users.

According to the currently married respondents, 26.4 % (16% urban, 34% camp) of their partners were supporters or have a positive attitude to FP methods use. But, more than 50% of the entire respondents' partners' weren't supporting FP methods use and /or have a negative attitude on contraceptive method use. The remaining 21.9% (31.6% urban, 14.7%camp) of respondents' didn't know their partners attitude towards FP use (table 3).

The history of abortion among respondents in the previous one year of this study, data collection was about 17.8%, with similar proportions of camp and urban refugee respondents'. By this, the prorated total induced abortion rate (TAR) was 1.9 percent.

On the other hand, about 12.3% (8.7% urban, 15.3% camp) of child death history observed among those refugee women respondents who have at least one childbirth (table 3).

Table 3: The distribution of child's birth, abortion, and contraception by respondents' selected characteristics, urban and Camp refugee, Dec. 2013

Characteristics	Urban Refugees		Camp Refugees		Total	
	Frequency (N=922)	% 45.2	Frequency (N=1119)	% 54.8	Frequency N=2041	%
Child Birth						
Yes	651	70.6	802	71.7	1453	71.2
No	271	29.4	317	28.3	588	28.8
Child Ever Born						
None(zero)	271	29.4	317	28.3	588	28.8
1-2	206	22.3	226	20.2	432	21.2
3-4	174	18.9	170	15.2	344	16.9
More than 4	271	29.4	406	36.3	677	33.2
Abortion history						
Yes	164	17.8	199	17.8	363	17.8
No	758	82.2	920	82.2	1678	82.2
History of Child Death						
Yes	80	8.7	171	15.3	251	12.3
No	842	91.3	948	84.7	1790	87.7
Contraceptives Knowledge	N=922		N=1119			
Yes	342	37.1	480	42.9	822	40.3
No	580	62.9	639	57.1	1219	59.7
Contraceptives Ever use						
Yes	185	20.1	237	21.2	422	17.6
No	737	79.9	882	78.8	1619	82.4
Current Contraceptive use						
Yes	161	17.5	198	17.7	249	17.6
No	761	82.5	921	82.3	1792	82.4
Partners' Attitude towards Contraception use	N=570		N=773		N=1343	
Positive	91	16	263	34	354	26.4
Negative	299	52.5	396	51.2	695	51.7
Don't know	180	31.6	114	14.7	294	21.9
Desire For More Children Current/Ever Married	N=647		N=808		N=1455	
Yes	372	57.5	450	55.7	822	56.5
No	168	26	146	18.1	314	21.6
God/Allah allows	107	16.5	212	22	319	21.9
Desire to have Birth in the Next Two Years	N=922		N=1119		N=2041	
Yes	556	60.3	766	68.5	1322	64.8
No	366	39.7	353	31.5	719	35.2

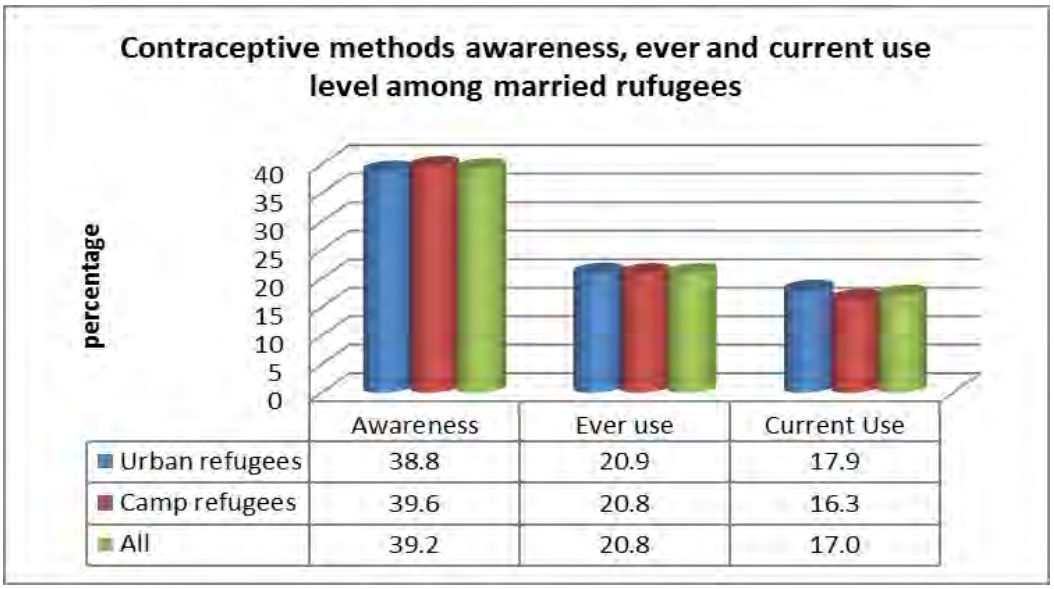


Figure 6: Proportion of Currently married Respondents Refugees' FP Method Awareness, Ever and Current Users Aggregated by Current Place of Residence

As evidenced from figure 7, about 39.4% of currently married refugee women have no power in the household to decide on their fertility preference and/or contraceptive methods use, rather it was only decided by their husbands/partners. However, more than 50% of them have the chance to decide jointly with their partner/husband on their fertility preference and/or contraceptives methods use. Meanwhile, about 10 percent of the refugee women has the power to decide on their fertility preference with no prior permission of their husbands or partners.

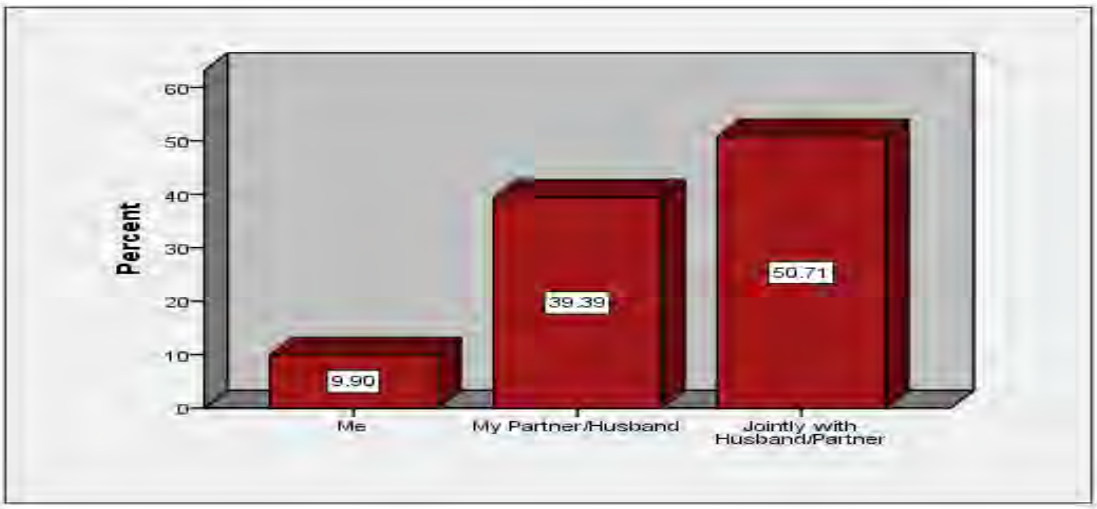


Figure 7: Current Married women Refugee Participation in Fertility preference and/or Contraceptives Use Decision-Making

8.2.3. Mean Children Ever Born

As depicted in table4, the mean CEB was statistically significantly different across categories of some women refugee socio-demographics variables. The mean children ever born (CEB) from the entire study respondents was 3.40: 95% CI (3.25,3.54) and statistically different from the mean CEB over marital status, age at marriage, age groups, marital forms (polygamous vs. monogamous), history of abortion, history of child death, marital duration, partners attitude towards contraceptive use and current paid work (occupation). The mean CEB was statistically significantly different among women refugees' current place of residence with 3.13: 95% CI (2.92, 3.34) urban refugees, and 3.61: 95% CI (3.41,3.82) among camp women refugee. On the other hand, the mean CEB from polygamous marital form was 5.54: 95% CI (5.13, 5.93) and statistically significantly higher compared with monogamous marital unions with mean CEB 3.87: 95% CI (3.68, 4.07). The different clan groups among Somali women refugee nearly have a similar mean number of children ever born with the Isaaq clan groups mean CEB 3.90: 95% CI(3.00, 3.97) the highest and other clans mean CEB 3.45: 95% CI(2.98, 3.93) the lowest.

As the study participants' level of education increased from no education to primary and secondary plus level, the mean CEB significantly decreased from 4.10: 95% CI (3.89,4.30) to 3.00: 95% CI (2.74, 3.27) and 1.60:95% CI (1.29,1.93) level respectively. A difference of about 1.1 mean CEB observed between study participants with no education and primary level of education. Meanwhile, 2.4 and 1.4 mean CEB difference observed between those with no education and secondary plus and among primary and secondary plus respondents' education level (table 4).

Similarly, the mean CEB showed a tendency of decreased pattern with respondents' age at first marriage. The mean CEB was 4.87: 95%CI (4.49, 5.25), 4.53: 95% CI (4.29, 4.77), 3.85: 95 %CI(3.55-4.16,) and 2.64:95 % CI (2.24, 3.09) among those who married before the age of 15 years, 15-19, 20-24 and ≥25 years respectively. A difference of about 1to 2 mean CEB observed between teenage and respondents' late marriage of their 20s and above years. Likewise, the mean CEB significantly decreased with respondents' increased age at first birth from 5.05: 95 % CI (4.82, 5.29) respondents in their 15-19 years to mean CEB of 4.48: 95% CI (4.25, 4.71) respondents' with their 20s and above years at first birth (table4).

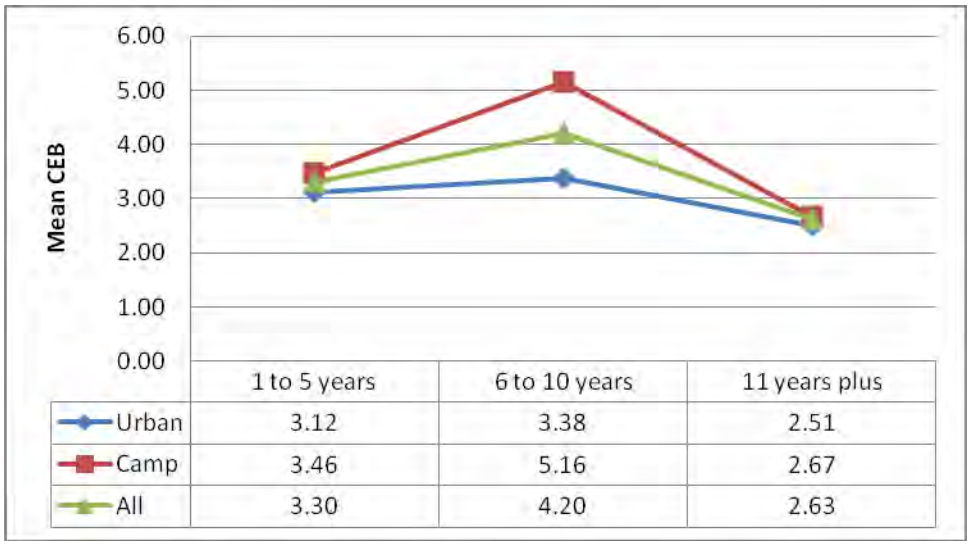
The mean CEB was also significantly higher among Somali refugee respondents' with 3.61:95% CI (3.45, 3.78) than other refugee nationality with mean CEB of 1.6 : 95% CI (1.38, 1.90). Similarly, the mean number of CEB observed among urban refugees was lower than their counterpart camp refugee with 3.13:95% CI (2.92, 3.34) and 3.61:95%CI (3.41, 3.82) respectively. The mean CEB observed over respondents' religious affiliation was nearly similar to their country of origin. As a result refugees' originated from Somali with Muslim religion affiliation have mean CEB of 3.6: 95% CI (3.45, 3.76). While respondents' originated from other countries (Eritrean, Congo and Burundi) have mean CEB of 1.63:95% CI (1.38, 1.90).

The mean CEB was high with 4.29: 95% CI: (3.68-4.39) among private business owners and/or paid workers, while it was 4.05: 95% CI (3.88, 4.22), Jobless 2.16:95% CI (1.69, 2.64) and housewives 0.56:95% CI (0.40-0.75). Likewise, the mean CEB also showed an increased tendency from 3.32: 95% CI (3.14, 3.49) to 3.59: 95% CI (3.34,3.85) as the respondents' monthly per capita increased from ET Birr 350.00 to 750.00 or (18.5-40.00USD) to ET Birr 750.00 plus or (>40.00USD) with current currency exchange rate respectively. The respondent's monthly income was calculated from the individual monthly remittance in the form of in kind supply (camp refugees), cash assistance (urban refugees), paid work and external relatives support, paid job and private owned income generating activities. The in kind supply changed into cash price as per the local market level at the time of data collection.

The mean CEB over respondents' duration of stay as a refugee in Ethiopia showed an increased pattern at the average years of stay (6-10 years) with mean CEB 4.21:95% CI (3.89, 4.53). And the mean CEB was significantly lower in the two periods of stay with 3.30: 95% CI (3.11, 3.50) among those stayed 1-5 years, and mean CEB 2.63:95%CI (2.33,2.93) among 11-22 years stayed refugee respondents (table 4 and figure 8). On the other hand, the mean CEB showed decreased tendency among respondents who have FP methods, awareness, ever and current user (table 4). The mean CEB have shown significantly increased pattern as the respondents age group increased from 15-19 to 45-49 years. The mean CEB among respondents with completed (achieved fertility) age group was the highest with 7.85: 95% CI (7.25, 8.45) (table 4).

Besides, the mean CEB has also shown a significant increased pattern as the study participants age at migration increased from 0-10 years category for 11-20, 21-30 and 31

years plus. As a result the mean CEB was about five times more among those 31plus age categories compared to women refugees in the age category of 0-10 and 11-20 years at the time of migration (table 4).



	1 to 5 years	6 to 10 years	11 years plus
Urban	3.12	3.38	2.51
Camp	3.46	5.16	2.67
All	3.30	4.20	2.63

Figure 8: Respondents' mean CEB by refugee length of stay and current place of residence in Ethiopia, December, 2013

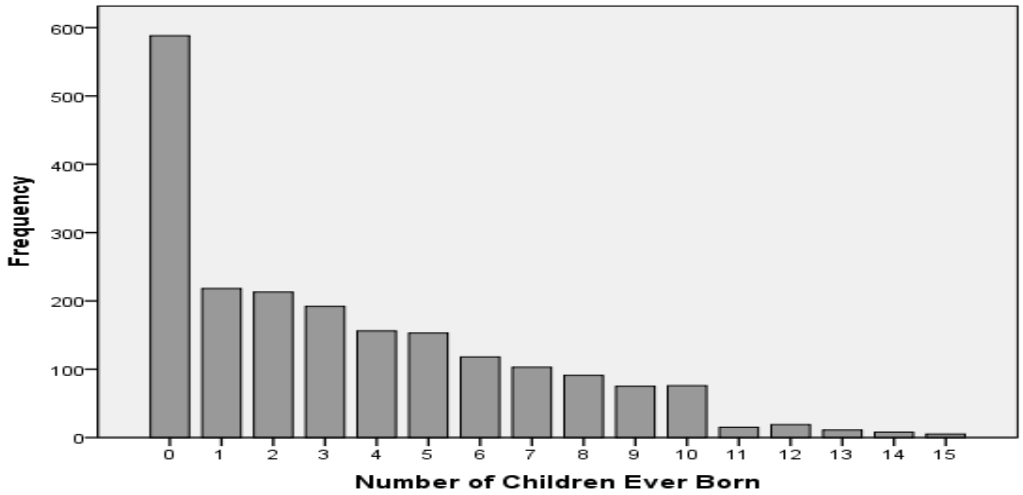


Figure 9: the distribution of children ever born to women refugees of the reproductive age groups

Table 4: The mean children ever born against selected variables of women in the reproductive age group, Urban and Camp refugee camps, December 2013.

Variables	Mean CEB	95% CI
Age Groups		
15-19	0.39	0.31,0.48
20-24	1.41	1.25, 1.57
25-29	2.83	2.57,3.09
30-34	4.35	4.06, 4.64
35-39	5.65	5.29, 6.02
40-44	6.53	5.98, 7.07
45-49	7.85	7.25, 8.45
Clan groups (Somali refugee)		
Darod	3.60	3.34, 3.86
Dir	3.73	3.31,4.16
Hawye	3.51	3.21, 3.81
Isaaq	3.90	3.36,4.44
Others*	3.45	2.98, 3.93
Women Educational Status		
No education	4.09	3.89,4.30
Primary	3.00	2.74,3.27
Secondary plus	1.60	1.29,1.93
Marital Status		
Never Married	0.05	0.01,0.09
Ever married (S/D/W)	4.13	3.74, 4.51
Currently Married	4.23	4.05, 4.41
Age At Migration		
0-10 years	1.50	1.27,1.74
11-20 years	1.41	1.25,1.57
21-30 years	3.83	3.61,4.061
31 years plus	6.67	6.36, 6.99
Age at First Marriage		
Less than 15years	4.87	4.49,5.25
15-19	4.53	4.29,4.77
20-24	3.85	3.55,4.16
≥25 years	2.64	2.24,3.09
Age at First Birth		
15-19 years	5.05	4.82-5.29
20 years plus	4.48	4.25-4.71
Marital Forms		
Monogamous	3.87	3.68-4.07
Polygamous	5.54	5.13-5.93
Current Place of Residence		
Urban	3.13	2.92-3.34
Camp	3.61	3.41-3.82

Variables	Mean CEB	95% CI
Country of Origin		
Somali	3.61	3.45-3.78
Others (Eritrea, Congo, Burundi)	1.63	1.38-1.90
Women, Religion		
Muslim	3.61	3.45-3.76
Christian	1.39	1.16-1.64
Years Since Migration (YSM)		
1-5	3.31	3.11-3.50
6-10	4.21	3.87-4.52
11-22	3.54	2.33-2.94
Women Occupation		
Student	4.05	3.88-4.22
Housewife	0.56	0.40-0.75
Private Business and Employed	4.29	3.68-4.93
Job less	2.16	1.69-2.64
Monthly Income (ET Birr)		
350-750.00	3.32	3.14-3.49
>750.00	3.59	3.34-3.85
Contraceptive knowledge		
Yes	3.10	2.88, 3.32
No	3.59	3.39,3.78
Contraceptives Ever user		
Yes	3.28	2.97,3.59
No	3.43	3.26, 3.59
Current Contraceptive use		
Yes	3.14	2.79, 3.48
No	3.45	3.29,3.61
Partners' Attitude towards Contraception use		
Positive	4.35	3.99,4.70
Negative	4.17	3.94,4.41
Don't know	4.23	3.82,4.63
Marital Duration		
1-10 years	2.51	2.37,2.66
11-20 years	5.43	5.19,5.68
21 years plus	7.81	7.41,8.21
History of Child Death		
No	3.02	2.87,3.17
Yes	6.02	5.59,6.46
History of Abortion		
Yes	5.46	5.10,5.82
No	2.94	2.79,3.09
All	3.40	3.25,3.54

*Other clan groups = Gabooye, Bintu and Shantal

8.2.4. Descriptive Analysis of Desired Fertility

As shown in table 5, about 56.5% of ever married refugees who have at least one live birth, desired to have more child births. About 57.5% of urban and 55.7% camp women refugee desired to have childbirth some time in their reproductive period. Likewise, about 22% respondents' desired child birth basis of their religious affiliation and responded as "God/Allah allows or gives".

On the other hand, about 64.8% of the entire study participants' desired to have childbirth within the next two years. Similarly, about 60.3 and 68.5%s of urban and camp refugees desired to have childbirth within the next two years following this survey.

As depicted in the figure10, the question on the desired number of children during their reproductive life posed to the entire respondents (who have live birth and those who didn't), the majority 1693 (83 %) of them respond as "God/Allah gives". On the other hand, the remaining 384 (17 %) of the study participants', expressed their desired number of children in quantitative figures. And two equal proportions (6percent) of respondent women refugee each desired to have 6 to 10 and 11 plus children in their reproductive life, while 1 to 5 children desired by 5 percent of the women refugee.

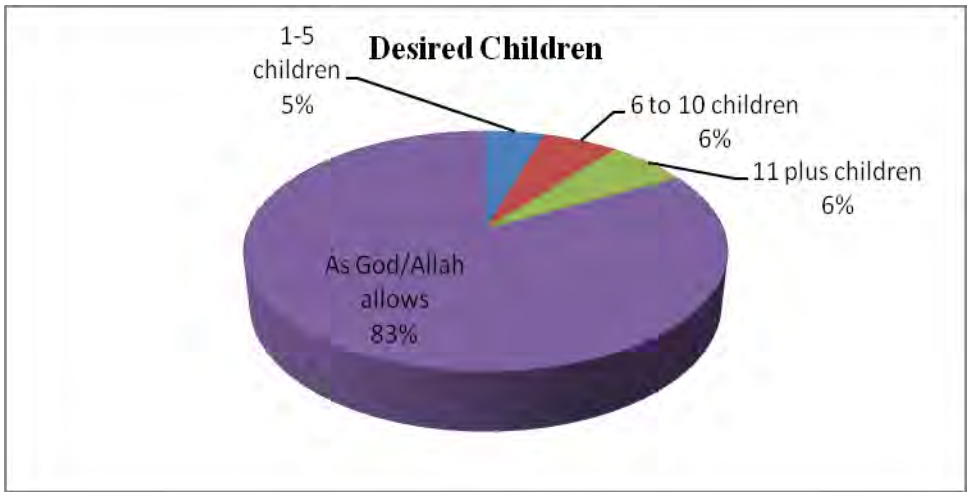


Figure 10: Percentage of respondents' by desired number of Children, December 2013

As shown in the table 5, among the 348 (17%) of the total respondents who express their desired fertility in quantifying figures, the mean desired children was 8.72: 95% CI (8.22, 9.22). The mean desired children of these clan groups were; Darod (9.73), Dir (9.62), Hawiye (9.76), Isaaq (9.57) and others includes Gabooye, Bantu and Shental 10.39: 95% CI (8.86, 11.91).

From these different clan groups of Somali refugee, the mean desired children confidence interval was overlapped and it showed that the desired number of children was nearly similar (table 5).

As the mean CEB mention above, the mean desired children also showed a decreased pattern from 9.7 to 8.9 and then in 6.6 as the refugee woman's level of education increased from no formal education to primary and secondary plus level respectively. The mean desired children significantly reduced by 3.1 children from no formal education to secondary plus respondents and by 2.3 children difference from primary to secondary plus education. There was a difference of about 0.8 mean desired children among respondents' with no formal education and primary education level. The mean desired children among respondents with secondary plus level of education was significantly lower 6.65: 95% CI (5.60, 7.65). Meanwhile, the mean desired of children among respondents with no formal education and primary level education was overlapped 9.67:95% CI (9.02, 10.32) and 8.86: 95% CI (7.88, 9.85) respectively. And this finding revealed that there was no significant difference of desired children among respondents' with primary and no education' level.

There was no significant difference of mean desired children among respondents' marital status; never married (8.86), currently married (8.77) and either separated, divorce or widowers (8.46). However, the mean desired children were higher by about 2.9 children among Camp inhabiting refugee than their counterpart urbanities.

As evidenced in table 4, Somali refugee respondents' mean desired children were twice more 9.80:95% CI (9.27,10.34), than other refugee nationality respondents' 4.96: 95%CI(4.3,5.6), respectively. Similarly, a statistically significantly different mean desired children observed among respondents with the Muslim religious congregation 9.76: 95% CI (9.22,10.29) than Christianity, religion followers 4.67: 95% CI (4.07,5.27) (table 5).

The mean desired children among the refugees' stay since migration in Ethiopia showed relatively increased (mean desired children=9.10) pattern among those stayed more than six years compared to those refugees stayed 1-5 years (mean desired children=8. 47). Likewise, the mean desired children were relatively high among students (9.37), followed by private business owners and paid workers (9.14) and housewives (8.23). Conversely, the mean desired children were significantly lower to 4.92: 95% CI (4.06, 5.77) among jobless refugee women.

Similarly, the mean desired children showed an increased pattern from 8.44: 95 % CI (7.87, 9.02) to 9.51: 95%CI(8.53, 10.48) as the respondent monthly per capita income increased (table 5). The same direct association pattern observed under the mean children ever born and monthly per capita income.

Table 5: The mean desired children in selected Respondents' socio-demographic variables, Urban and Camp refugee, December 2013

Variables	**Mean Desired Children**	**95% Conf. Interval**
Clans Among Somali women Refugees		
Darod	9.73	8.89,10.57
Dir	9.62	8.14,11.10
Hawiye	9.76	8.69,10.83
Isaaq	9.57	7.90,11.24
Others	10.39	8.86,11.91
Women Educational Status		
No education	9.67	9.02,10.32
Primary	8.86	7.88,9.85
Secondary plus	6.65	5.60,7.65*
Marital Status		
Never Married	8.86	7.12,10.61
Married	8.77	8.19,9.35
S/D/W/	8.46	7.33,9.58
Current Place of Residence		
Urban	7.13	6.40,7.86*
Camps	10.06	9.44,10.67*
Country of Origin		
Somali	9.80	9.27,10.34*
Others(Eritrea, Congo, Burundi)	4.96	4.28,5.63*
Women, Religion		
Muslim	9.76	9.22,10.29*
Christian	4.67	4.07,5.27*
Years Since Migration(YSM)		
1-5	8.47	7.80,9.14
6-10	9.10	8.17,10.03
11-22	9.04	7.80,10.28
Women Occupation		
Student	9.37	8.79,9.95
Housewife	8.23	6.29,10.18
Private Business and Employed	9.14	7.76,10.53
Job less	4.92	4.06,5.77*
Monthly Income (ET Birr)		
350-750	8.44	7.87,9.02
>750	9.51	8.53,10.48
All	8.72	8.22,9.22

*the mean desired children statistically significantly different within the categorical variables at α =5percent

8.2.5 The Bongaarts Model Application: Analysis of Proximate Determinants of Fertility

As evidenced in table 6, proximate determinants indices were computed. According to the Bongaarts model, the proximate determinants of fertility in this study the main proximate determinants of fertility indices (non-marriage, contraception, abortion and postpartum infecundability) revealed the following findings.

Index of marriage (Cm)

The index of non-marriage was 0.65 which indicated that non-marriage due to late or instable marriage reduced fertility from its biologically maximum level by about 35%. Further analysis of the index of non-marriage was done according to the refugees 'place of residence, urban and Camp refugees. The Cm was found to be 0.45 and 0.55 among urbanities and Camp refugees respectively. As a result, non- marriage deducted natural fertility by 10% and 45% percent among urbanities than their Camp counterparts respectively.

Index of contraception (Cc)

The index of contraception was also found to be 0.84 among all refugees showing its fertility inhibition effect being 16 percent. The index of contraception was the same 0.84 in both urbanities and Camp refugee settings implying 16 % inhibition effect of the biological maximum in both refugee residences.

Index of postpartum infecundity (Ci)

In this specific study, the median duration of breastfeeding was, i =12months. Thus, index of postpartum infecundability (Ci) was computed from the median duration of postpartum lactation as proposed by the Bongaarts model and the Ci found to be 0.66. Hence, the index of postpartum infecundability reduces fertility by 34 percent from its biological maximum. By employing the same formula, the index of postpartum infecundability was found to be 0.66 and 0.52 among urbanities and Camp refugees correspondingly. As a result, index of postpartum infecundability reduces fertility by 34% and 48%s among urbanities and Camp refugee respondents' respectively.

Index of Abortion (Ca)

Accordingly, index of abortion calculated and found to be 0.99 and contributed for about one percent reduction in fertility of its potential occurrence. Similarly, index of abortion was computed with participants' current place of residence and the same index of abortion observed between urbanities and camp refugees as the entire study participants. Consequently, the induced abortion, fertility inhibition effect of its biological maximum among the study participants was insignificant.

The maximum fertility inhibition effect among all refugees was observed from delayed and instable marriages (35%), followed by postpartum lactational infecundity (34%) and contraception (16%). However, the fertility inhibition effect of induced abortion was insignificant in both urban and camp refugees' settings. The relative fertility inhibition effect of urban and camp refugees, the highest (55%) of the fertility inhibition effect of its biological maximum was observed from delaying marriage and /or marriage instability among urbanities. Meanwhile, the 48 % fertility inhibition effect of its biological maximum observed from postpartum infecundability among camp refugees. Likewise, in camp refugees about 45% fertility inhibition effect observed from either delayed marriage or marriage instability. Similarly, among urban refugees about 34% fertility reduction recognized due to postpartum infecundability. As depicted in table 6, the observed and predicated TFR of among the entire refugees study participants' were 4.6 and 5.4 children per woman. Similarly, the urban vs. camp study participants' aggregated observed total fertility rates were 3.0 and 5.8 children per woman while the predicated TFRs were 3.8 and 3.6 children per women respectively.

Table 6: The proximate determinants of fertility analysis of with respondents place of residence (urban and Camp refugee), December, 2013

Respondents refugee settings	Index of marriage (Cm)	Index of contraception (Cc)	Index of postpartum infecundability (Ci)	Index of abortion (Ca)	Actual TFR	Predicted TFR
Urban refugee	0.45	0.84	0.66	0.99	3.0	3.8
Camp refugee	0.55	0.84	0.52	0.99	5.8	3.6
All women	0.65	0.84	0.66	0.99	4.6	5.4

8.2.6 Analysis of Socio-demographic variables Effect on Women Refugees Fertility

In this study, the socio-demographic and reproductive variables found to be statistically significant differences within the categorical variables in the mean CEB analysis and according to literature reviews selected variables were considered for further fertility differential analysis. As evidence in table 7, the negative binomial regression model analysis was employed to explore the effect of those selected socio-demographic and reproductive characteristics on the women's refugee fertility. From the analysis age, monthly income, marital forms, history of abortion, age at first birth, age at migration, religion, partner's attitude on contraceptive use and marital duration were found to be the significant predictor variables of woman's refugees' fertility.

The study showed that as the respondents' age increased there was statistically significant increased pattern of fertility. Fertility was 1.60: 95% CI (1.26,2.04), 2.24: 95% CI(1.75,2.87), 2.88: 95% CI(2.24,3.70), 2.91: 95% CI (2.23,3.79), 3.33: 95% CI (2.53,4.39) and 3.48: 95% CI: (2.61,4.65) times higher among refugee women aged 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49 years respectively compared to teenager women (Table 7).

Fertility of women refugees' were 8% lower [IRR=0. 92: 95% CI (0.87, 0.98)] among those whose monthly per capita income was more than 750 ETB compared to those with a monthly per capita income of 350-750 ETB. On the other hand, the fertility level among women refugee in the Muslim religious congregation were, 1.42: 95% CI (1.19, 1.70) times higher compared to their Christian counterparts. Besides, fertility was 1.14: 95% CI (1.07, 1.21) times higher among women refugee conjugal to polygamous marital forms compared to those in monogamous marital unions.

Meanwhile, women refugees who had experiences of any forms of abortion (either spontaneous or induced) had 12% higher fertility, IRR=0. 88: 95% CI (0.82, 0.94) compared to those who did not have such experience. On the other hand, refugee women who gave birth to their first child at the age of less than 18 years had 1.14: 95% CI: (1.06,1.22) times more fertility compared to those gave birth to their first child after age 18 years. . Fertility among women whose partners had negative attitude towards family planning methods was 1.09: 95% CI (1.01, 1.18) times higher compared to those women refugees whose partners had positive attitudes.

Fertility was 1.24: 95% CI (1.13, 1.35) and 1.36: 95% CI (1.20, 1.53) times higher among women refugee whose marital duration was 11-20 and 21 and more years respectively compared to those married within the past 10 years. On the other hand, fertility was 1.22: 95% CI (1.05,1.43), 1.66: 95% CI: (1.37,2.01) and 1.92: 95% CI (1.51,2.44) times higher among women refugee moved out from their usual place of abode 11-20, 21-30 and 31 or more years ago respectively compared who migrated within the past 10 years.

Table 7: The Crude and Adjusted Incidence Rate Ratio (IRR) Association of Respondents' women Fertility vs. Selected Variables, December 2013

Characteristics	Crude IRR (95 % CI)	Adjusted IRR (95 % CI)
Age groups		
15-19	1.00	1.00
20-24	1.65(1.35,2.01)*	1.60(1.26,2.04)**
25-29	2.42(1.99,2.93)*	2.24(1.75,2.87)**
30-34	3.30(2.73,3.98)*	2.88(2.24,3.70)**
35-39	4.04(3.34,4.90)*	2.91(2.23,3.79)**
40-44	4.83(3.99,5.90)*	3.33(2.53,4.39)**
45-49	5.60(4.61,6.80)*	3.48(2.61,4.65)**
Women Educational Status		
Secondary plus	1.00	1.00
Primary	1.39(1.22,1.59)*	0.99(0.86,1.14)
No education	1.50(1.33,1.71)*	1.02(0.89,1.17)
Age at First Marriage		
20years plus	1.00	1.00
Less than 19 years	1.17(1.09,1.26)*	1.12(0.98,1.27)
Monthly Income		
350-750.00	1.00	1.00
>750.00	0.90(0.84,0.97)*	0.92(0.87,0.98)**
Women, Religion		
Christian	1.00	1.00
Muslim	2.09(1.80,2.42)*	1.42(1.19,1.70)**
Marital Forms		
Monogamous	1.00	1.00
Polygamous	1.28(1.17,1.39)*	1.14(1.07, 1.21)**
Current Place of Residence		
Urban	1.00	1.00
Camp	1.14(1.06,1.22)*	1.05(0.98,1.12)
History of Child Death		
No	1.00	1.00
Yes	1.44(1.32,1.57)*	1.06(0.98,1.14)

Characteristics	Crude IRR (95 % CI)	Adjusted IRR (95 % CI)
Child Sex Preference		
Yes	1.00	1.00
No	0.91(0.85, 0.98)*	0.96(0.90,1.03)
History of Abortion		
Yes	1.00	1.00
No	0.75(0.70,0.81)*	0.88(0.82,0.94)**
Age At First Birth		
18 years plus	1.00	1.00
Less than 18 years	1.10(1.02,1.9)*	1.14(1.06,1.22)**
FP Methods Awareness		
Yes	1.00	1.00
No	1.08(1.01,1.16)*	0.98(0.91,1.06)
FP Methods Ever user		
Yes	1.00	1.00
No	1.06(0.97,1.15)	1.03(0.91,1.16)
Partner attitude on FP Use		
Positive	1.00	1.00
Negative	0.99(0.91,1.08)	1.09(1.01, 1.18)**
Don't know	1.05(0.95,1.17)	1.10(0.99, 1.22)
Marital Duration		
1-10 years	1.00	1.00
11-20 years	1.92(1.81,2.05)*	1.24(1.13, 1.35)**
21 years plus	2.70(2.52,2.90)*	1.36(1.20, 1.53)**
Age at Migration		
0-10 years	1.00	1.00
11-20 years	1.01(0.89,1.15)	1.22(1.05,1.43)**
21-30 years	1.65(1.47,1.85)*	1.66(1.37,2.01)**
31 years plus	2.56(2.28,2.87)*	1.92(1.51,2.44)**

** the adjusted incidence rate ratio of women refugee fertility over selected variables statistically significant at α =5percent

9. Discussion

9.1. Current fertility

The aim of this study was to measure the current and desired fertility levels and also to identify current fertility determinants of women refugees inhabiting at urban and camp settings in Ethiopia.

Total fertility rate (TFR) is the number of children that a woman expected to have at the end of her reproductive age given that the current age specific fertility rate remains the same and if all women lived to the end of their childbearing years.

Accordingly, the TFR among the entire respondent women refugee residing in different (urban and camps) settings was found to be 4.6 children per woman. This finding was nearly in agreement with a study conducted among Somali refugee resettled in metropolitan, 2008 revealed a total fertility rate of 4.52 children per woman [37]. Given the difference in the study period and mixed nationalities of respondents in this study (about 10 percent respondents were of other nationalities while the rest were Somali refugees), the shared source-culture and fertility behaviors of Somali refugees attributed to the study findings agreement. Besides, the destination country's socio-cultural factors and fertility opportunistic costs influence refugees' fertility level. As studies' findings evidenced, high fertility implies high population pressure and increased pressure on limited resources, including high stress on the environment [8, 18].

Similarly, in this study, the total marital fertility rate (TMFR) among currently married women refugees' was 5.8 children per woman unlike other study revealed that TMFR was 4.6 children per women among resettled Somali refugees [37]. The disagreement with these two findings might attribute to the highest proportion (65.8 %) of currently married/living together/ women refugees. This proportion was even higher as compared to the host/destination country's marital union/living together/(62.3%) proportion [12]. Similarly, the proportion of never married respondents (19.7%) was lower compared to non-refugees (27.1%) community in Ethiopian. However, marital instability (divorced, widowed or separated) proportion (14.5%) among women refugees' was slightly higher than the non-refugee (10.6%) Ethiopians[12]. Besides, the two findings, survey period difference and the mixed nationality of respondents may have contributed to the increased TFR among married refugees compared to the host community.

The fertility trend among long stayed refugee tend to decrease and it reflects the effect of migration (adaptability) to the fertility practice of the destination country and other refugees selectivity factors (age, level of education and socioeconomic factors) [7, 8]. The refugees' fertility trend, decreased during the time of emergency due to the disruptive effect of migration and psychosocial stress (decreased coital frequency due to stress and partner separation). After the coping of an emergency incident, refugees catch up fertility followed for some period and then fertility tends to decrease due to the adaptability and other fertility opportunistic cost while inhabiting in the country of destination [8, 30, and 31].

On the other hand, the aggregated observed TFR among urban and camp refugees were 3.0 and 5.8 children per woman respectively. The camp refugee TFR was almost twice of their urban counterparts. This TFR disparity might be due to the current living cost expensiveness to urban refugees. Refugees inhabiting at the urban setting have been getting limited monthly cash remittance to cover their house monthly livelihood and house rent expenses. Differently, camp refugees have been getting in kind ration and sheltering and no issue of house renting, and other expenses incurred in a big city like Addis Ababa. Moreover, marital instability (separation/divorce and widowed) and non-marriage (38.2%) rate was increased among the urban refugee, compared to their counterpart camp refugees (30.9%). And it contributed to the high urban vs. camp refugees TFR disparity. Women refugee, who didn't lose their partners in the events of war and conflict, might separate from their husbands/partners/ due to urban refugee status. Besides, the urban refugees were diversified from dissimilar nationality (Somali, Eritrean, Congolese and Burundian) with different fertility experience and traditions, unlike camp refugees (all originated from Somali) with almost a common fertility tradition and behavior (table1). Furthermore, the urban refugees' level of education and access to print and electronic mass media information has contributed to the urban and camp refugees' fertility disparities [18, 25, and 38].

On the other hand, camp refugees observed TFR was 5.8 children per woman, and lower compared to the destination country non-refugee (TFR 7.1 children per woman) Ethiopian Somalia's. This fertility disparity indicates the dominant influence of disruptive and to some extent the socialization migration hypothesis [7, 8]. Likewise, at the camps setting women refugees' better contraceptives use practice observed and it might have some contribution to lower the fertility rate of refugees than local non-refugee Somali inhabitants, with CPR of less than five percent [12].

Similarly, the urban refugee total fertility rate was found to be twice higher than the urban locals (non-refugees). This difference mainly attributed to the socialization influence of migration (refugees tend to follow their country of origin fertility tradition) vis-à-vis the fertility opportunistic cost in the urban setting[8, 39]. According to 2011 EDHS, in Addis Ababa the TFR was below the replacement level at 1.5 children per woman[12]. On the other hand, reports revealed that the estimated TFR in Somali was 6.2 children per woman, while TFR of 4.8 and 7.1 children per woman was reported in Ethiopian and Ethiopia Somali region were respectively[8, 39].

The observed TFR among refugees was still the highest, even if it was lower compared to their origin and destination countries TFR. This suggests that the refugees' country of origin, socio-cultural and religious backgrounds seem supportive of high fertility. And children considered as an asset and means of income as described in similar study findings [37, 40]. As a result, in the study participants, the socialization hypothesis seems to have higher impact on refugees fertility than the disruptive and other migration theories. This finding implies the less disruptive effect of migration on refugees marital status and fertility along with the polygamy marital union and remarriages possibility. On the other hand, as most of the refugees participated in this study originated from high fertility countries, the observed age specific fertility rate follow a typical pattern of developing countries revealed by many studies elsewhere [12, 24, 25]. And it showed that the fertility peak age group was 25-29 years, followed by 30-34 and 20-24 year age groups. This fertility pattern implies that the need for age specific reproductive health programs consideration with a focus on women refugees' in their 20 to 35 year age groups.

The entire study respondents' mean age at first sexual intercourse was 18.1 years, while the mean age at first marriages and childbirth were 18.4 and 19.6 years respectively. Likewise, urban women refugees' mean age at first sexual contact was 17.8 years and slightly earlier than camp women refugees (18.3 years). The similarity of mean age at first marriage and births among refugees (urban vs camp settings) pointed out that women refugees follow nearly similar marriage and childbirth practices. However, these findings were different from studies conducted in northern Ethiopia, EDHs 2011 report and Idjwi Island, Democratic Republic of Congo, finding revealed that earlier age (<18 years) at first sexual contact, marriage and birth were documented among study participants. According to the researchers these fertility practices have contributed to high fertility to the respective study areas [12, 25, and 26].

The polygamous marital type observed in this study was 21.6% among the women refugees' unlike polygamous marriage proportion documented elsewhere (15 % marital unions were polygamous marital types) [26]. However, nearly similar proportions (21.9 %) of polygamous marital union reported from Ethiopia Somali community[12]. Similarly, the mean CEB from women refugees with polygamous marital union were, significantly high 5.54:95% CI (5.13, 5.93) compared to monogamous marriage with the mean CEB 3.87: 95% CI (3.68, 4.07). This similarity and differences of polygamous marital within the study findings might be attributed to the locals' marriage traditions and customs. However, the polygamous marital union contribution to high fertility well documented by different study reports and need due attention during reproductive health programs designs[12,26].

Among different clan groups identified from Somali women refugees, there were no significant disparity of current fertility level and/or nearly have the same average CEB 3.61 children per woman. This similarity showed that Somali refugees shared the same socio-cultural, religious and fertility practices. Similar study findings have documented by other studies elsewhere [37,40] due to the shared socio-cultural and religious factors, Somali refugees and immigrants follow nearly similar fertility practices. This finding might be an indicative to design the same reproductive health programs to Somali refugees.

In the present study, refugees' current fertility level negatively related to refugee woman's level of education. The fertility also showed a decreased pattern as the woman refugee age at first marriage increased from teenage marriage to their 20s and above years. This finding was in agreement with study findings documented by many other studies elsewhere [12, 24, 25]. As revealed by a similar study, as the women's educational achievement increased, resulting in delayed marriage, better contraceptive awareness and use. Consequently, increased autonomy in reproductive decision making and better motivation to implement demand based fertility due to the better awareness on high opportunistic cost of uncontrolled fertility[41].

Given the profound socio-cultural discouragement by the Somali community, the contraception awareness, ever and current use practice among the camp, Somali refugees found to be encouraging with 39.2%, 20.8% and 17.0% among currently married women refugee respectively. And the mean CEB showed decreased tendency among respondents who have FP methods, awareness, ever and current users (table 4). This encouraging result of women refugees on contraception awareness level and use might be accounted to the administration to refugees and returnees' affairs (ARRA) and other implementing partners

integrated reproductive health program interventions[3]. And the finding indicates that with improved access to comprehensive and basic reproductive services might ensure the women refugees' progressive behavioral change against high fertility and result in improved maternal and child health outcomes.

On the other hand, the women refugees fertility has shown significantly increased pattern when the refugees age at migration increased from 0-10 years, 11-20 years, 21-30 years and 31 years plus. As a result the mean CEB was about five times more among those ages 31year plus compared to refugees in the age category of 0-10 and 11-20 years age at migration. Likewise, refugees with age 31 years plus at migration also showed significantly increased mean CEB compared with their counterpart in their 20s with age at migration. Those refugees migrated with their earlier age have the chance for adaptation of the fertility traditions and other socio-demographic factors of the destination country. As result able to adjust their fertility compared with those who migrated in their 20s and above years. This finding was in agreement with other studies revealed that migrants aged 20 years and above at migration, liable to conform to their country of origin fertility custom, traditions and beliefs [8, 31, 32 due to the socialization hypothesis of migration.

The other possible explanation for the increased fertility among those advanced ages at migration might be the duration of marital union which increased the chances or risk of fertility. In addition, youngster women refugee might be early adopters and practitioners of modern contraceptive methods. And also get empowered by information and able to make their own demand based reproductive/fertility decisions. As a result, further reproductive health programs need to be designed by considering client's age, level of awareness and acceptance of new information and modern technology.

Breastfeeding was another important variable considered in this study, as it was a long lived universal custom among the study population. The respondents' average exclusive breastfeeding (EBF) and total breastfeeding (TBF) period were about 7.0 and 16.5 months respectively. This finding was short of other study finding revealed in similar population[37]. As it was cited in a qualitative study, in the Holly Quran, the prophet says "mothers don't get pregnant when they breast fed for at least two years". In Somali community child spacing is only encouraged through this Quran-blessed, as breastfeeding should practiced up to two years. But always it mightn't enough to control fertility.

According to a study documented findings, many Somali women give birth annually and end up high fertility rate, which complicated the maternal and child health condition with high infant mortality, low birth weight and poor maternal health outcomes[40]. Likewise, as evidenced in figure 5, the study participants' postpartum coital and the menstrual cycle started in an average time of around 5th months and have contributed to natural fertility. From this finding, it is an indication to target religious leaders to work on their congregations' mobilization, preach and encourage refugee on longer periods of breastfeeding (other traditional contraceptive methods, awareness and practice) and able to contribute to the refugee better family health wellbeing.

In general, the observed refugees fertility differentials were not due to a single factor rather attribution of the socio-demographic and other variables combined with the impact of refugees' socialization, adaptation, selectivity and disruptive migration premise. And similar studies on forced migrants and fertility documented elsewhere [18, 25, and 38].

9.2. Desired Fertility

In this study, the significant majority (83%) of the women refugee respondents' desired fertility based on their religious beliefs and they responded as "God/Allah gives". Provided that the majority of the respondent fertility desire basis of their religious beliefs, other studies findings have reported that in a population with strong religious position the fertility was found to be high. As some religious beliefs disallow contraceptive methods use and act as pro-natalist have contributed to increased fertility level[40, 42].

The mean desired fertility among refugee respondents who express their fertility desire in terms of quantitative figures was 8.72 children per woman. This high desired fertility finding was lower than the Ethiopia Somali women(non-refugee) desired or ideal number of 9.7 children[12]. This finding wasn't compliant to the research question that the desired fertility among women refugees was expected to be very low. This might be the immense effect of socialization than other hypothesis of migration (disruptive, adaptive and selectivity). Besides, the refugees' number of surviving children during the emergency time and beyond might have some contribution to the high desired fertility as a compensatory mechanism to the lost family size. Consequently, about one child disparity observed between the respondents mean completed cumulative (45-49 years age group) fertility of 7.90 children per

woman and the mean desired fertility of 8.72 children per woman, given that only 17% of the entire respondents considered in the desired fertility.

This big gap might be accounted mainly due to the influence of forced migration disruptive effect like marital instability (loss of partners and children due to war and conflict) and other displacement calamity. Losses of assets (livelihood issues) also influence to achieve the desired level fertility. Women refugees also might have a high fertility desire as a postponement mechanism for their lost children. And to some extent contraception awareness and use could have contributed. Another important factor could be the majority (83.0%) of respondents desired fertility responded quantitatively as God/Allah allows. This response further needs to be targeted to explore the exact contribution of religion to the women refugees' current and desired fertility.

On the other hand, more than 50% of the ever and currently married women refugees who have at least one live birth, desired to have more child births. Likewise, slightly increased proportions of urban refugees (57.5%) desired for more child births than their counterpart camp women refugees (55.7%). Besides, about 64.8% of the entire women refugee respondents' desired to have childbirth in the next two years subsequent to this study data collection period. All these high fertility desires attributed to the possible explanations made above.

The women refugees' levels of education have negatively been associated with desired fertility. When the respondents' educational status increased from no education to secondary plus level, their fertility desire showed decreased pattern. This finding was in agreement with a study findings conducted in 30 Sub-Sahara African countries, educational statuses were directly related to demanding for and use of contraceptive methods. Conversely, fertility and intended family size negatively associated with achieved educational levels[41]. This indicates that the refugee women and girls school enrollment rate need to be strengthened by all stakeholders working on refugees' education like RRAD of EOC-DICAC and concerned others.

The desired fertility was significantly higher among camp refugees than urbanities. This might be due to the cost of livelihood situation or income level, number of surviving children, access to information were among others as revealed by a study finding elsewhere[18].

Study participants, with Muslim religious affiliation have shown significantly higher desired fertility compared with refugee from Christianity denominations. This study finding was in agreement with the findings of other studies that the fertility of women with Muslim religious back ground was higher than other religions denominations[43].

This finding implies that Muslim religious leaders need to be considered in the reproductive health program design and implementation as a key strategy. In the same way women refugees originated from Somali have shown significantly increased desire fertility compared to their counterpart from Eritrea, Congo and Burundi. This might be attributed to the socialization effect of migration, and also other, migration and fertility hypothesis (disruptive and less adaptive effects to the destination country fertility traditions) and surviving children.

The respondents' desired fertility has shown an increased pattern among those refugees who stayed in Ethiopia more than 6 years compared with those stayed less than 5 years. As the women refugees' exposure time increased in the destination country's culture and reproductive behavior, able to get chances to adapt the fertility practice of the host community. This finding seems a reflection of the socialization and disruptive theory of migration. The observed mean desired fertility rate of women refugees was quite high (8.7 children per woman) compared to the estimated TFR of 6.2 and 7.1children per woman in the origin and destination countries respectively. This might be due to the catch up fertility (baby boom) trend, when the surviving children decreased couples tend to go for more fertility desire as a compensatory mechanism to the lost family [12, 27, 28]. In this regard, further detailed research recommended on the specific influence of migration and fertility (socialization, adaptation, disruptive and selectivity) hypothesis to have good insight from each specific theory effect and helps to design a more focused program.

The respondents' desired fertility was increased among women refugees, students, and privately owned business or paid workers and housewives compared with women refugees' who has no paid work. On the other hand, the desired fertility has shown an increased pattern as the refugees monthly per capita income increased. This finding was different from other study findings as the wealth index increases fertility level tend to decrease[42].

In summary, in this study finding, the fertility desire was very high due to the combined effect of women refugees' socio-cultural and demographic factors, and the impact of forced migration on refugees' fertility.

9.3. Proximate determinants of fertility

Fertility differ not only by socio-economic like religion, education, income level, marital types but also by proximate determinants of fertility including the proportion of married women, contraception, postpartum infecundability(breast feeding, coital frequency) and abortion[32]. In the present study, as evidenced the two proximate determinants of fertility found to have significant contribution to refugees fertility inhibition from its potential biological maximum. i.e. index of marriage (Cm=0.65), postpartum infecundity(Ci=0.66) and followed by contraception (Cc=0.84). The induced abortion was Ca=0.99 and has insignificant fertility reduction from its biological maximum, which was only one percent.

Given, the universality tradition of marriage among the study populations, early marriage wasn't found to be a common practice among the refugee study populations. Marital instability was a common and expected phenomenon in a refugees because of forced migration and related stress [39]. As observed in this study, about 34.2% of the study participants were never married and/ or either separated, divorced or widowed. Consequently, the highest fertility inhibition effect among the entire refugee study participants' was due to non-marriage (35%). This study finding was nearly in agreement with a study finding, where wedlock was a tradition and common practice, Muslim religion dominant non-refugees population. The index of marriage found to have the upper hand fertility inhibition effect of 34% over other proximate determinants of fertility[24].

On the other hand, in this study the index of marriage fertility inhibition effect was relatively higher compared with similar studies findings conducted in the non-refugees or host community, were (Cm=0.83) and (Cm=0.87) [26]. This disagreement might attribute to the difference in the refugees and the host community socio-culture, marriage practices and fertility values and traditions apart from the migration impact on refugees fertility. Breast feeding was the common and universal practice in the study participants. The women refugees postpartum lactation practice was the second following index of marriage and contributed to fertility reduction by 34% from its possible biological maximum. This finding was nearly in agreement with study finding in the host community with postpartum infecundability of (Ci) fertility inhibition of about 32 % [24]. However less of other study finding reported 45 % PPI fertility inhibition[25].

On the other hand, in the present study fertility inhibition from PPI was quite different from a study finding conducted in the same migrant population in Idjwi Islands, DRC,2012, PPI due to duration of breast feeding accounted to 19 % of fertility reduction[26]. The disagreement of these findings suggests the difference in their breast feeding practices, religious affiliation and pre-migration socio-cultural characteristics along with access to reproductive health information and services.

Unlike urban refugees, camp refugees have better access to reproductive health services and with their own native language service providers. And the FP methods current users, (CPR) among married women refugee was 17.0 %, by far better compared with the local non-refugee community, the CPR was less than 5 percent[12]. However, the contribution in fertility reduction due to contraception was only 16 percent (Cc=0.84). And the present study finding on contraception fertility inhibition contribution was different from other studies documented elsewhere as 23% and 25% [26]. The disagreement also attributed to factors like access and enabling factors to contraception methods information and use, religious and other socio-cultural factors including respondents' educational status.

The present study also tried to get data on induced abortion (Ca), given the difficulties to measure it in such surveys; respondents' tend to under report it because of the strong socio-cultural stigma and laws banned the practice[37, 40]. On the hand, , in this study the fertility inhibition effect of abortion was about one percent and insignificant, similar with many other studies findings(abortion 4 percent only) and induced abortion(Ca=1) documented elsewhere [26]. This might be due to under reporting by respondents due to their traditional beliefs similarly as evidenced from similar study's findings[24, 40]. This finding suggests a need for further community figures and religious leaders based programmatic considerations, induced abortion to be mainstreamed as one of the contraceptive method preferences. In refugee settings unwanted and/or unplanned pregnancies and other reproductive health problems expected to be highly prevalent due to sexual violence and long term women refugees' psychosocial traumas.

Similarly, non-marriage or marital instability (Cm =55%) and breastfeeding (Ci= 48%) has the highest fertility reduction contribution among urban and camp refugees respectively. Similarly, breast feeding (Ci=34%) among urban refugees and non-marriage or marital instability (Cm=45%) in camp refugees' have the second fertility inhibition effect of its

possible biological maximum. This might attribute to the increased marital instability and current livelihood inflation (fertility opportunistic cost) in the urban settings compared with their counterpart camp refugees. The effect of camp refugees' postpartum amenorrhea, reflecting the refugee women long duration breastfeeding practice which was in agreement with the socialization hypothesis [8, 30, and 31]. Hence, from the four proximate fertility determinants, index of marriage and breast feeding accounted the highest fertility inhibition effect of its natural maximum. And these two indices further need to be strengthened and encourage refugee as best practices to limit fertility from its biological maximum.

On the other hand, the fertility inhibition from contraception was the same (Cc=16%) irrespective of women refugees' current place of residence. The proportion of current contraceptive methods users (CPR) among urban and camp refugees was nearly the same. The CPR similarity might be balanced with urban women refugees' increased marital instability and language barrier to get the required FP information and service, provided that they have better access to reproductive health facilities and providers. Similarly, camp refugees have better access to basic reproductive health care by their own native language service providers [8, 30, and 31]. Even though, the CPR in the refugee community was encouraging, particularly among camp refugee, the finding indicates that still a lot has to be done to complement the effect of existing observed refugee non-marriage and breastfeeding practices and able to achieve their reproductive health demand as appropriate.

9.4. Socio-Demographic Variables Influence on Refugees Fertility

From the selected socio-demographic and reproductive variables, age, monthly income, marital forms (polygamous vs. monogamous), history of abortion, age at first birth, age at migration, respondents' religion, partner's positive attitude on contraceptive use and marital duration were found to be the important predictor variables of refugee women's fertility.

As the respondents' age increased there was statistically significant increased pattern of fertility. Fertility was 1.60: 95% CI (1.26,2.04), 2.24: 95% CI (1.75,2.87), 2.88: 95% CI (2.24,3.70), 2.91: 95% CI (2.23,3.79), 3.33: 95% CI (2.53,4.39) and 3.48: 95% CI: (2.61,4.65) times higher among refugee women aged 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49 years respectively compared to the reference age (teenager respondents).

This finding was different from other study findings revealed that demographic factors including women age at marriage, contraceptive use and income were negatively associated with fertility [42]. The possible explanation for this age and fertility positive association might be attributed to duration of marital union and youngster refugees' awareness of contraception and opportunistic costs of high fertility. As a result this fertility patter may imply a need for separate age specific reproductive health program considerations to address the observed increased fertility tendency alongside with the respondents' increased age.

The Fertility of women refugees' were 8% lower [IRR=0. 92: 95% CI (0.87, 0.98)] among those whose monthly per capita income was more than 750 ETB compared to those with a monthly per capita income of 350-750 ETB. This study finding was in agreement with other similar study findings. According to scholars' income and fertility have either direct or indirect relationship; for a short time the relationship tends to be direct while in the long run fertility tends to decrease as income level increased. This is due to awareness, availability of contraceptive methods and cost of childhood fostering [37, 42, and 44]. Similarly, according to the theory of opportunity cost of time, income as the outcome of business activity result in decreased fertility desire [42]. However, most of the refugees get their monthly income from regular monthly remittance and some support from a relative living abroad; and this experience was against the theory of opportunity cost of time applied to those who engaged in paid work and generating their livelihood income.

On the other hand, the fertility level of women refugee from the Muslim religious congregation was 1.42: 95% CI (1.19, 1.70) times higher compared to their Christian counterparts. This finding is in agreement with a study finding revealed that the TFR among Muslim women was higher by two children compared to TFR of Christian women. The possible explanations suggested by the authors, more Muslim women engagement in marital union, and early marriage practice and low contraception awareness and use compared with their Christian women equivalents[45]. However, in the present study early marriage was not a common practice, given the high proportion of women refugee in marital union and the disparity age at marriage might attribute to the study populations different socio-cultural and fertility behaviors.

In the present study, fertility was also found to be 1.14: 95% CI (1.07, 1.21) times higher among women refugee conjugal to polygamous marital forms compared to those in monogamous marital unions.

This study finding was nearly conforming to other study finding conducted in Nigeria, 2012 reported that those women with one husband found to have close to 10% reduction in fertility than those women in polygamy marital union. A similar study revealed that women in polygamous marital union have high fertility compared with their counterpart women in monogamous marriage. It has also reported that intentionally or unintentionally women in polygamous(co-wives) computed for more child birth [22] and polygamy has implication of high coital frequency and leads to increased fertility[12].

Meanwhile, women refugees who have experienced any forms of abortion (either spontaneous or induced) had a 12% higher risk of fertility, IRR=0. 88: 95% CI (0.82, 0.94) compared to those who did not have this experience. This might be due to the women increased desire to get or compensate the lost fetal and tried to achieve the planned fertility level. On the other hand, refugee women who gave birth to their first child at the age of less than 18 years had 1.14: 95% CI: (1.06,1.22) times more fertility compared to those gave birth to their first child after age 18 years. This finding was in agreement with many other study findings revealed elsewhere, as the women engaged in sexual union(marriage) in her later age the fertility tend to decreased compared with those engaged in their teenage[25, 46]. This may due to the increased duration of sexual union (sexual contact) result in higher risk of fertility than those engaged in sexual unions in their later age. Hence, delaying marriage (sexual union) is an important determinant to reduce fertility level. Program and policy consideration of age at first marriage might have significant contribution to limit and improve fertility and related consequences of uncontrolled child births respectively.

Fertility among women whose partners had negative attitude towards family planning methods was 1.09: 95% CI (1.01, 1.18) times higher compared to those women refugee whose partners had positive attitudes. The present study finding seem in agreement with a study finding revealed among Filipino couples reported that partner communication was significantly associated with couple likelihood of contraceptive use. In the same study finding, very high odds ratio proved that contraceptive methods discussion with partner was found to be an important predicator of couple family planning use[29].

Thus, the importance of partner involvement at health facility level contraceptive couples counseling and service delivery point needs due emphasis to increase FP user and be able to accomplish their intended family size and improve family health (especially maternal and child health outcomes).

Fertility was 1.24: 95% CI (1.13, 1.35) and 1.36: 95% CI (1.20, 1.53) times higher among women refugee whose marital duration was 11-20, 21 and above years respectively, compared to those married within the past 10 years. On the other hand, fertility was 1.22: 95% CI (1.05,1.43), 1.66: 95% CI: (1.37,2.01) and 1.92: 95% CI (1.51,2.44) times higher among women refugee moved out from their usual place of abode 11-20, 21-30 and 31 or more years ago, respectively compared to those who migrated within the past 10 years. This finding seems to conform to the migration and fertility hypothesis of disruption, socialization, adaptation and selectivity. From similar studies, at early stage of migration fertility decreased due to disruption (separation and loss of a spouse or husband due to the conflicts or war) and then the period of baby boom followed as a compensatory mechanism of the lost family members and/or the influence of socialization to comply with their country of origin, socio-cultural customs, and values of fertility. Fertility again declines due to the impact of adaptation to the country of destination fertility experience and tradition and respondents selectivity theories [8, 30, and 31].

In this study, as women refugee level of education increased from no education to secondary plus level, fertility tends to decrease. Decreased fertility tendency also observed as the respondents' age at first marriage increased. In addition, refugees with a history of child death, place of residence, child sex preference, and contraceptive methods, awareness and ever use have shown increased fertility, provided that statistical associations have not demonstrated and these findings were in agreement with many other studies findings revealed elsewhere [12,26 and 46].

9. Strength and limitation of the study

Strength

- The study has a relatively large sample size with urban-camp refugees' population proportion and increase representativeness of the findings
- The study considered a wide range of fertility variables to see fertility differentials among different refugee settings
- The scope of the study was broad enough to examine the level and determinants of fertility (socioeconomic, demographic and reproductive characteristic including proximate determinants of fertility)
- Data collectors were native speakers of the refugees' language with similar experiences on data collection of other programs to the refugee setting
- Employing probability sampling, help to get an unbiased estimate of the refugees fertility level and determinants
- Employing standard data collection tools and by adopted from measure DHS
- Applied standard Sampling techniques as per the measure DHS recommendations
- Sample size taken as per the standard measure DHS recommendation for possible representative inference of study findings

Limitation

- The study has no qualitative part as it has contribution to see issues beyond the numbers and triangulation of findings
- The study was cross sectional with urban and camp refugees component mightn't demonstrate causal relationship of the identified fertility determinants.
- Some demographic variables like contraceptive awareness and use, abortion, frequency and age at sexual contact initiation might create social desirability bias
- Some demographic characteristics like age at first marriage, first birth, breast feeding duration might encounter respondent recall biases

10. Conclusion

The refugee women observed total fertility rate is among the highest. The observed total fertility rate among the entire respondents is 4.6 children per women while the total marital fertility is 5.9 children per woman. The aggregated urban and camp refugees total fertility rate is 3.00 and 5.8 children per woman respectively. Similarly, the mean children ever born are being 3.40 children per woman, while the mean completed (respondents aged 45-49 years) fertility is found to be 7.90 children per woman.

The majority, 83% of women refugees desired fertility basis of their respective religious affiliation. And the remaining 17% of respondents' desired fertility found to be 8.72 children per woman. The refugee women desired fertility 8.72 children per woman is higher than nearly by one child compared to the completed or achieved fertility among respondents aged 45-49 years(7.90 children per woman). The disparity might be attributable to women refugees' socio-cultural and demographic characteristics, other fertility determinants and the impact of forced migration per se to the current fertility level. This disparity also reflects the low awareness level of respondents on the consequences of large family size and population pressure.

On the other hand, from the proximate determinants of fertility, index of marriage, and postpartum lactational infecundity have the highest fertility inhibition effect of its biological maximum and followed by contraception. The index of marriage has slightly increased fertility reduction among urban refugees than their counterpart camp refugees. Similarly, index of postpartum lactational infecundability has marginally increased fertility reduction among camp refugees than urbanities. Similarly, index of marriage and postpartum lactational infecundity have the highest fertility reduction contribution among urban and camp refugees respectively over other proximate fertility determinants. Meanwhile, the index of contraception has the same fertility inhibition effect of its possible biological maximum among both refugee settings. Irrespective of refugee settings, abortion has no significant contribution in fertility reduction.

Furthermore, respondent increased age, being Muslim religion follower, early age at first birth, later age at migration, and polygamous marital union and increased marital duration are positively associated with the women refugees.

Meanwhile, having history of abortion, increased monthly income and partner positive attitude on contraceptive use are negatively associated with refugee fertility.

As the observed and desired refugees' fertility is high, these findings might be due to the effect of socialization, among others, which is dominantly reflected over other adaptive, disruptive and selectivity hypothesis of migration on fertility. In this study the observed late coital initiation, marriage and childbirth practice among refugees, unlike other study findings might attribute to the disruptive effect of migration as male young refugees liable to be engaged or join the military force activity.

In summary, in the present study the combined effect of socio-demographic predictor variables, proximate determinants index of marriage, postpartum lactational infecundity, contraceptive use and forced migration per se attribute to the current fertility level of women refugee. The basis for the contribution of proximate fertility determinants might be the socio-demographic characteristics specially being Muslim religious followers, original settings, fertility perceptions, values and practices.

11. Recommendations

Refugees

- This finding point out the need for refugee community based awareness intervention on the consequences of high fertility due to polygamy and other contributing factors including religious factor.

- Promotion of refugees on their observed best practices like longer breastfeeding practices and committed not to have early age or marital or sexual union, and keeping women and girls' schooling which will have significant contribution in limiting fertility.

- Those male refugee partners' positive attitudes towards their wives family planning use is among the observed best or model practices and also one of the fertility predictor. It needs to be promoted to other refugee male husbands'/partners/ to adopt and practice it

Refugees Administration

- Women refugees partner's involvement at health facility contraceptive couple counseling and service delivery helps to increase FP methods users and able to limit their fertility level and improve family health (especially maternal and child health outcomes).

- The existing contraceptive use fertility reduction contribution among refugee seems encouraging, particularly at the camp refugee level, however a lot has to be done by health care providers to reach the acceptable level of fertility reduction from its natural maximum,

- The refugee women and girls' school enrollment need to be strengthened by all IPs, working on refugees' education as it helps them to develop self-empowered and able to claim and exercise their reproductive rights as appropriate,

Health sector policy makers

- The health program and or policy makers need to look at the population pressure attributed by the immigrant fertility and subsequent effect to the host community resource utilization and able to design refugee friendly and targeted reproductive health programs as appropriate.

- The researcher also recommends to give due emphasis on significant fertility predictor variables like respondents age, monthly income, marital forms (polygamous vs. monogamous), history of abortion, age at first birth, age at migration, religion, partner's positive attitude on contraceptive and marital duration while planning refugee reproductive health programs.

Researchers

- The respondent's qualitative response to desired fertility “God/Allah gives” need further to be explored in depth and to see the contribution religion to fertility.

- Further detailed research recommended on the specific influence of forced migration on immigrant fertility (socialization, adaptation, disruptive and selectivity) hypothesis to have good insight from each specific theory effect and helps to design a more focused reproductive health program.

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Annexes :Questionnaires

I. Information Sheet

Addis Ababa University, School of Public Health

Structured questionnaire for the assessment of levels and determinants of fertility among Refugees' in Ethiopia

A. Information sheet

Good morning/good afternoon! My name is _____ . I am a graduate student of Public Health at Addis Ababa University, School of Public Health and we are now conducting a study in this refugee community (_____Camp) to assess the levels and determinants of fertility intention among Refugees in Ethiopia. We believe that this study will help in better understanding of refugees' fertility intention and related determinant factors. Finally, it will help in designing and implementing appropriate reproductive health programs to address the fertility related gaps identified in the study population.

You have selected to be one of the participants in this study and you will help us by answering the questions we ask you. We assure you that whatever answers you give us are kept strictly secret. We do not need your name and address. We also inform you that you have the full right to withdraw from the study or stop the interview at any point in time and /or skip any questions that you don't want to answer. You may find some of the questions too personal and difficult to talk about, but your experience will be very helpful for other people. The interview takes approximately 25-30 minutes. Do you have any question to ask?

Thank you very much!

Are you willing to participate in this study?

Yes □ No □

If yes, go to the next page

B. Consent form

I, the undersigned have been informed that the purpose of this particular research project is to study the levels and determinants of fertility among Refugees' in Ethiopia.

I have been informed that I am going to respond to this question by answering what I know concerning the issue. I have been informed also that the information I give will be used only for the purpose of this study; my identity, the information I give will be treated confidentially. I have also been informed that I can refuse to participate in the study or not to respond to questions I am not interested. Furthermore, I have been informed that I can stop responding to the questions at the time in the process.

Based on the above information I agree to participate in the research voluntarily with the hope of contributing (on behalf of one) to the effort of knowing the levels and determinants of fertility intention among Refugees'.

Signature _____

Date_____

Contact Address:

Advisor/: Dr. Wubegzier Mekonnen

Principal investigator and AAU, MPH student: Gashawbeza Haile, Cell phone: 0911776810

Su’aalo

Su’aalo habaysan oo looga golleeyahay daraasad lagu ogaanayo heerka iyo waxyaabaha saameynta ku leh rabitaanka taranka ee qoxootiga ku nool xeryaha bariga iyo Addis Ababa.

Subax Wanaagsan/Galab Wanaagsan

Magacaygu Waa:_____

Waad kumahadsantahay in aad rabitaankada iyo wakhtigaaga aad ii hurtay in aan kugu wareysto maanta. Anigu waxaan ka mid ahay kooxda daraasaadka ee darasaynaya/qiimeynaya heerka iyo waxyaabaha saameynta kuleh taranka ee qoxootiga.

Ujeedada booqoshadeydu waa in aan wax kaa weydiiyo su’aalo la xidhiidha daraasaadka aan kor kusoo xusnay.

Waxaa si naxariis leh lagaaga codsanayaa in aad jawaab dhab ah aad kabixiso su’aalaha hoos ku qoran. Waxaan jeclahay in aan ku xusuusiyo in jawaabtada dhabta ah ee aad bixisid ay ahmiyad iyo natijo wanaagsan uleedahay daraasadkan sidii loo fahmi lahaa xaaladda taranka iyo qodobada saameynta ku leh dadka ku nool xeryaha qaxootiga.

Gabagabadii, daraasaddan waxay inaga caawin doontaa, sidii loo jaangoyn lahaa , loona hirgalin lahaa barnaamijyo ku haboon caafimaadka taranka oo wax loogaga qabto dhibaatooyinka

la xidhiidha taranka.

Dhawrista & kalsoonaanta arimaha sirta ah

Kuma waydiin doono magacaada kagamana qoridoona daraasada meelana. Qofna uma sheegi doono jawaabaha aad bixisay. Mana aha inaad kajawaabtaan su’aalaha aydaan rabin kajawaabistooda. Sikastaba hanoqotee jawaabahaada dhabta ah aad ka bixiso daraasada, waxay wax katari doontaa in si fiican loo fahmo xaaladda taranka ee qoxootiga. waxaan aad ugu faraxsanahay kaqeyb qaadashadaada waraysigan. Waxay qaadan doontaa 20 – 25 daqiiqo in labuuxiyo foomkan.

Saxiixa jawaab bixiyaha

Raali maku tahay in aad kaqayb qaadato? Haa, Maya,

Saxiix_____ Saxiix_____

I. Questionnaires in two different languages (Somali and English)

Su'aalo Questionnaire

I. Su,aalo ku saabsan habka dhaqan-dhaqaale & taranka bulshada.				1. General and Socio-Demographic Questions			
S.N	Su'aal	Jawaab/kadoorasho	Faallo	S.N	Question	Choices/Answers	Remark
101	Lambarka oqoonsiga kaqaybgalaha			101	Participants Identification Number		
102	Xerada qoxootiga/goobta			102	Refugee Camp/Setting		
103	Da'daada (sanadada oo dhamaystiran)			103	Your age (in completed years)		
104	Xalaaddaada kawarran?	Qaxooti Magangalyo siyaasadeed waxkale,Sharax_____		104	What is your status?	1. Refugee 2. Asylum seeker 3. If other, specify_____	
105	Muddo intee le'eg ayaad halkan joogtay(bilo)?	_____bilood		105	For how long you have been here? (In completing months)	_____months	
106	Waddankeed udhalatay?	1. Somali 2. koongo 3. Eriteriyaan 4. Sudani 5. Burundi 6. dhalasho kale haday jirto____		106	What is your nationality?	1. Somali 2. Congolese 3. Eritrean 4. Sudanese 5. Burundian 6. If other, specify_____	Go to 107 if the respondent is Somali refugee
107	Qabiilkeed tahay (waxay gaar utahay qoxootiga soomaalida kaliya)	Darod Dir Hawiye Isaaq Qolo kale haday jirto_____		107	What is your ethnic group (clan), for Somali refugees only	Darod Dir Hawiye Isaaq If other, specify_____	
108	Diintaadu waa maxay?	1. Muslim 2. Orthodox		108	What is your religion?	1. Muslim 2. Orthodox	

		3. Protestant 4. Catholic 5. diinkale haday jirto_____				3. Protestant 4. Catholic 5. If other, specify____	
109	Shaqadaadu waa maxay?	1. Guri joog 2. Arday 3. Ganacsi 4. Shaqaale Dawladeed 5. Shaqaale hay'adeed 6. Wax kale :_____			What is your occupation?	1. Housewife 2. Student 3. Privately owned business 4. Government employee 5. Nongovernmental organization employee 6. If other, specify ___	
110	Heerka wax barashadaadu waa sidee?			110	What is your educational status?		
111	Kharashka bishii ku soo gala waa imisa ?	Riyaal _____		111	What is your monthly income?	Birr_____	
112	Intaad qaan gaadhay (15 sano jirkaagii kahor) xaggee ayaad dageneydeen?	1.Magaalo 2.Miyi		112	What is your usual (most common) place of residence before the age of 15?	1. Urban areas 2. Rural areas	
113	Xaaladaada Guur waa sidee ?	1. Waligay maguursan 2. Waan guursaday(wada noolahay) 3. Waan isfurnay/kalamaqanahay 4. Garoob/Carmali	Haduu guur jiro sii raac 114 iyo 115	113	What is your Marital Status?	1. Never married 2. Married (living together) 3. Divorced 4. Widowed 5. Separated	If married go to 114 and 115
114	Ninkaagu xaas kale maleeyahay?	1.Haa 2. Maya 3.Ma'ogi		114	Does your husband/partner have other wives?	1. Yes 2. No 3. I don't know	
115	Marka adiga lagugu daro imisa dumar ah ayuu ninkaagu qabaa?	1._____Tirada guud ee dumatka 2.Ma,ogi		115	Including yourself how many wives/partners he has?	1._____total number of wives/partners 2. Don't know	
116	Imisajir ayaad ahayd	_____Sano		116	How old were you	_____Years	

	markii guur kuugu horreysay?				when you first married or started living with him?		
117	Muddo intee le'eg ayaad reer aheydeen.	_____Sano		117	What is/was the duration of the marriage or consensual union?	_____Years	
118	Heerka waxbarasho ee ninkaagu waa sidee?			118	What is the educational status of your husband?		
119	Nin kaagu diintee ayuu haystaa	1. Muslim 2. Orthodox 3. Protestant 4. Catholic 5. Diinkale hadayjirto_____ 6. Magaranayo/mahubo		119	What is the religion of your husband?	1. Muslim 2. Orthodox 3. Protestant 4. Catholic 5. If other specify ____ 6. I do not know/I am not sure	
120	Odoygaagu waa qolama ?	1. Daarood 2. Dir 3. Hawiye 4. Isaaq 5. Qabiilkale haduu jiro___ 6. Magaranayo/mahubo		120	To which ethnic group/clan/ does your husband belong?	1. Darod 2. Dir 3. Hawiye 4. Isaaq 5. If other, specify___ 6. I do not know	
121	Odeygaagu muxuu kashaqeeyaa (shaqadiisu waa maxay)?	1. Arday 2. Ganacsi 3. Shaqaale dawladeed 4. shaqaale hay'ad .aan dawli ahayn 5. Shaqo kale haday jirto 6. Magaranayo /mahubo		121	What was the occupation of your husband?	1. Student 2. Privately owned business 3. Government employee 4. Nongovernmental organization employee 5. If other specify ____ 6. I do not know	
II. Su'aalo laxidhiidha taranka iyo Galmoodka.				2. Sexual and reproductive related questions			
201	Imisa jir ayaad ahayd markii kuugu horeysay ee aad caado aragtay?	1. waligay caado mahelin 2. Maxasuusan karo 3. Markii ugu horreysay ee n		201	How old were you when you first had menstrual cycles?	1. I never had menstrual cycles 2. I do not remember	

		caadada helay waxaan jirey _____ sano				3. I had my 1st menstrual cycle at age of _____years	
202	Imisajir ayaad ahayd markii ugu horreysey ee aad ninkaaga isu-galmooteen?	1.Waligey galmo maan samaynin 2. Maxassuusan karo 3. Galmadii iigu horreysay waxaan jirey ____Sano		202	How old were you when you first had sexual intercourse?	1. Never had sexual intercourse before 2. I do not remember 3. I had my 1st sexual exposure at age of __years	
203	Imisa jeer ayaad isu galmootaan bishiiba?	1. Waligey galmood ma sameynin 2. _____jeer bishiiba		203	How frequent is your sexual contact per month ?	1. Never had sexual exposure 2. _____Contacts per month	
III. Su'aalo laxidhiidha uurka				3. Pregnancy related questions			
301	Waligaa uur mayeelatay?	1. Haa 2. Maya 3. Magaranayo/mahubo		301	Have you ever been pregnant?	1. Yes 2. No 3. I do not know /Not sure	
302	Hada uur maleedahay?	1. Haa 2. Maya 3. Magaranayo/mahubo		302	Are you pregnant now?	1. Yes 2. No 3. I do not know /Not sure	
303	Waligaa ilmo madhashay/umushay?	1. Haa 2. Maya		303	Have you ever given birth?	1. Yes 2. No	
304	Markii kuuguhorreysay ee aad dhashay/umushay imisajir baad ahayd?	1.____Sano 2. Maxassuusan karo		304	How old were you when you first give birth?	1._____Years 2. I do not remember	
305	Imisa jeer ayaad dhashay/umushay?	____jeer		305	How many births did you ever give?	_____Births	
306	12kii bilood ee ugu danbeeyey ilmo noo l madhashay/umushay?	1. Haa 2. Maya		306	Did you have live birth in the last 12 months?	1. Yes 2. No	If yes, continue to 307 and 308

307	Imisa ilmood ayaad dhashay 12kii bilood ee ugu danbeeyey?	_____ilmood		307	How many? (In the past 12 months)	_____Children	
308	Imisa ilmood ayaad dhashay 36 kii bilood ee ugu danbeeyey?	_____ilmood		308	How many? (In the past 36 months)	_____Children	
309	Intaad caruur nolol ku dhashay maxay kala ahaayeen.	_____Willal _____Gabdhood		309	How is their sex composition of those alive children that you ever had? (For those who have ever given birth)	Male_____ Female_____	
310	Imisa carruur ah ayaad haysatay 25 sano jirkaagii?	_____ ilmood		310	How many children did you have at the age of 25? (If ever give birth and age greater than 25 years)	_____Children	
311	Shantii sane ee kuugu danbeysay caruur ka badan Hal ilmo ma dhashay/umushay?	1. Haa 2. Maya		311	Did you ever give birth of two or more children in separate pregnancies in the last 5 years?	1. Yes 2. No	
312	Wakhti intee le'eg ayaa u dhaxaysay labadii uur ee kuugu danbeeyey?	_____Bilood		312	What was the time gap between the last two consecutive pregnancies?	_____Months	
313	Sadexdii sano ee ugu danbeysay miyaad isticmaashay dawo/Hab kale oo uurka lagaga hortagayo, ama ilmo ma iska soo ridey	1. Haa 2. Maya 3. Maxassuusan karo		313	In between those two pregnancies in the last three years, did you use contraceptives or abortion to avoid pregnancy?	1. Yes 2. No 3. I do not remember	
IV. Heerka kala jeclaanshaha ubadka				4. Fertility preference and desire			
401	Carruur dheeri ah marabtaa (hadaad horaan caruur u dhashay)	1. Haa 2. Maya 3. Mahubo 4. wuxuu alle doono/isiiyo		401	Do you want to have any more children? (If you have ever given birth)	1. Yes 2. No 3. Not sure 4. As God allows/gives	

402	Haday jawaabtu Haa tahay, imisa cunug ayaad rabtaa	1. _____ilmood 2. wuxuu alle doono/isiiyo		402	If yes, how many?	1. _____Children 2. As God allows/gives me	
403	Ninkaagu ma wuxuu rabaa tirada caruurta ah ee adigu aad rabto ,ma kabadan mise ka yar ?	1. Intuu rabo in la'eg 2. In kabadan 3. In kayar 4. Magaranayo		403	Does your husband's/partner's want the same number of children you want or he want more or less than you want?	1. Same number of children 2. More children 3. Fewer children 4. I do not know	
404	Haday ahaan lahayd xilligii wax ilmo ah aadan dhalin oo lagu yidhaahdo imisa carruur ah ayaad rabtaa noloshaada oo dhan imisa ayaad odhan lahayd? (haddaad waligaa wax dhashay)	1. ____ilmood 2. Wuxuu alle doono/isiiyo 3. Waxkale haday jiraan _____		404	If you could go back to the time you did not have any child and could choose exactly the number of children to have in your whole life, how many would that be? (If ever given birth)	1. ____Children 2. As God allows/gives 3. If other specify ____	
405	Hadaad dooran kari laheyd imisa carruur ah ayaad dhab ahaantii noloshaada oo dhan dhalilahayd ? (hadaysan carruur nooli jirin)	1. ____ilmood 2. wuxuu alle doono/isiiyo 3. waxkale haday jiraan_____	Haduusan jirin uur hore ugudub	405	If you could choose exactly the number of children to have in your life, how many would that be? (If no living children)	1. _____Children 2. As God allows/gives 3. If other specify _____	If No, previous pregnancy skips to 701
406	Wiilasha iyo gabdhaha miyaad kala jeceshahay?	1. Haa 2. Maya 3. lama hubo		406	Do you have any sex preference?	1. Yes 2. No 3. Not sure	
407	Haday jawaabtu HAA tahay keed jeceshahay?	1. wiil 2. gabadh		407	If yes, which sex do you prefer?	1. Male 2. Female	
408	Carruur dheeri ah marabtaa (hadaad horaan caruur u dhashay)	1. Haa 2. Maya 3. Mahubo 4. wuxuu alle doono/isiiyo		408	Do you want to have any more children? (If this is your 1st pregnancy)	1. Yes 2. No 3. Not sure 4. As God allows/gives	

409	Haday jawaabtu Haa tahay, imisa cunug ayaad rabtaa	1. _____ilmood 2. wuxuu alle doono/isiiyo		409	If yes, how many?	1. _____Children 2. As God allows/gives me	
410	Ninkaagu ma wuxuu rabaa tirada caruurta ah ee adigu aad rabto ,ma kabadan mise ka yar ?	1. Intuu rabo in la'eg 2. In kabadan 3. In kayar 4. Magaranayo		410	Does your husband's/partner's want the same number of children you want or he want more or less than you want?	1. Same number of children 2. More children 3. Fewer children 4. I do not know	
V. Su'aalo laxidhiidha dhalla'aanta dhalmada kadib				5. Postpartum infecundity related questions			
501	Ilmahaagii kuugu danbeeyey ma waxaad dhashay shantii sano ee ugu danbaysay gudohooda?	1. Haa 2. Maya		501	Did you give your last child in the last five years?	1. Yes 2. No	
502	Ilmihii kuugu danbeeyey markaad dhashay kadib imisa bilood ayaadan caado helin?	1. ma xussuusto 2. ___bilood		502	For how many months after the birth of your last child did you not have a period?	1. I do not remember 2. ___Months	
503	Markaad dhashay ilmihii kuugu danbeeyey kadib Imisa maalmood ama bilood ayaadan wax galmo ah samaynin?	1. ma xussuusto 2. ___bilood		503	For how many days or months after the birth of your last child did you not have sexual relations?	1. I do not remember 2. ___Months	
504	Ilmahaagii ugu danbeeyey imisa bilood ayaad naaska oo kaliya jaqsiisay?	1. ma xussuusto 2. ___bilood		504	For how many months did you exclusively breast-feed your last child?	1. I do not remember 2. ___Months	
505	Guud ahaan imisa bilood ayaad ilmahaagii ugu danbeeyey naaska jaqsiisey?	1. ma xussuusto 2. ___bilood		505	For how many months did you totally breastfed your last child?	1. I do not remember 2. ___Months	
VI. Su'aalo laxidhiidha dhicinta,dilanka iyo dhimashada ilmaha				6. Abortion, stillbirth and child death related questions			

601	Waligaa ilmo madhicisay ama makaasoo dilmay?	1. Haa 2. Maya 3. lama hubo/magaranayo		601	Have you ever had a pregnancy that miscarried, or aborted?	1. Yes 2. No 3. Not sure/I do not know	
602	Haday jawaabtu HAA tahay imisa jeer?	_____dilan		602	If yes, how many times?	_____Abortion/s	
603	Maxaa dhicintan usabab u ahaa?	1. ilmo iskii usoo dilmay 2. dilmo ay dad keeneen		603	What was the cause of the recent abortion?	1. Spontaneous abortion 2. Induced abortion	
604	Sanadkii ugu danbeeyey majiraan dhicin ay dad kaa keeneen?	1.Haa 2.Maya 3. magaranayo/ma xassuusto		604	In the last one year did you had induced abortion?	1. Yes 2. No 3. I do not know /not remember	
605	Waligaa ilmo madhicisay?	1. Haa 2. Maya 3. magaranayo /ma xassuusto		605	Have you ever had a pregnancy ended in a stillbirth?	1. Yes 2. No 3. I do not know /not remember	
606	Haday jawaabtu HAA tahay imisa ayaa kugu dhex dhimatay?	_____dhicis		606	If yes, how many?	_____Stillbirths	
607	Waligaa ilmo ama sabi makaa dhintay	1. Haa 2. Maya		607	Have you ever experienced the death of an infant or a child?	1. Yes 2. No	
608	Haday jawaabtu HAA tahay imisa ayaa kaa dhimatay	_____dhimasho		608	If yes, how many?	_____Deaths	
VII. Su'aalo laxidhiidha kahortagga uurka				7. Contraceptive related questions			
701	Mataqaan hab lagaga hortago ama lagu dib dhigayo uurka?	1. Haa 2. Maya		701	Do you know any method of avoiding or delaying pregnancy?	1. Yes 2. No	
702	Haday jawaabtu HAA tahay habkee ayaad taqaanaa?			702	If yes, what methods?		
703	Waligaa ma isticmaashay ama ninkaagu ma	1. Haa 2. Maya		703	Have you ever (or your partner) used any method	1. Yes 2. No	

	isticmaalay hab lagaga hortagayo ama lagu dibdhigo uurka?	3. magaranayo/mahubo 4. waligay galmo masamaynin			to delay or avoid getting pregnant?	3. I do not know/not sure 4. Never had sexual exposure	
704	haday jawaabtu HAA tahay habkee ayaad isticmaashay			704	If yes, what methods?		
705	Adiga ama ninkaagu hadda midkiinna ma isticmaalaa hab lagaga hortagayo ama lagu dibdhigayo uurka?	1. Haa 2. Maya 3. magaranayo/mahubo		705	Are you (or your partner) currently using anything to delay or avoid getting pregnant?	1. Yes 2. No 3. I do not know/not sure	
706	Haday jawaabtu HAA tahay hababkee ayaad isticmaashaan?			706	If yes,what methods?		
707	imisajir ayaad ahayd markaad billowday isticmaalka habka qorshaha qoyska (sanaddada oo dhamaystiran)	_____Sano		707	How old were you when you started to use a family planning method? (in completed years)	_____Years	
708	Sidee ayuu ninkaagu u arkaa isticmaalka kalafogaynta dhalmada?	1. wuu oggol yahay 2. ma oggola 3. uma kala duwana 4. magaranayo		708	What is your husband's attitude towards contraceptive use?	1. Positive 2. Negative 3. Indifferent 4. I do not know	
709	qofkee ayaa iskaleh awoodda go'aanka ilmadhalidda iyo xakamaynta dhalmada ee qoyska?	1. Aniga 2. ninkayga 3. labadayaduba		709	In the household who has the power to decide about fertility and fertility control?	1. Me 2. My husband 3. Both	
710	Madoonaysaa inaad ilmo dhasho labada sano ee soo socota?	1. Haa 2. Maya 3. mahubo		710	Do you want to have any child in the next two years?	1. Yes 2. No 3. Not sure	

waad ku mahadsantahay kaqaybgalkaaga!!! **Thank you for your Participation!!!**

II. መጠይቅ

<u>በአዲስ አበባ ዩኒቨርሲቲ የህብረተሠብ ጤና አጠባበቅ ድህረ- ምረቃ ትምህርት ቤት</u>

በኢትዮጵያ ውስጥ በወሊድ ዕድሜ ክልል (15-49ዓመት) ያሉ ሴት ስደተኞች መካከል የሥነ-ውልደት መጠንናፍላጎት ሊወስኑ የሚችሉ ምክነያቶች ላይ የሚካሄድ የዳሠሳ ጥናት መረጃ መሰብሰቢያ ቅጽ፡-

ሀ. የመግቢያ መረጃ

እንደምን አደሩ/ዋሉ? ስሜ.....እባላለሁ። ይህን በሴት ስደተኞች መካከል የሚካሄድ የሥነ-ውልደት መጠንናፍላጎት ሊወስኑ የሚችሉ ምክነያቶች ለመለየት የሚያሥችል የዳሠሳ ጥናት መረጃ ሰብሣቢ ነኝ። በመሆኑም የሥነ-ውልደት መጠንናፍላጎት ሊወስኑ የሚችሉ ምክነያቶች ከተለዩ በኋላ መረጃን መሠረት ያደረገ ፕሮግራም መቅረጽ የተለዩ ችግሮችን ለማቃለልና መፍተሔ ማምጣት የሚየስችል ነው። ስለዚህ እርስዎ/አንቺ/ የዚህ ጥናት ተሣታፊ እንዲሆኑ/ኝ/ ተመርጠዋል/ሻል/፡፡ ስለዚህ ጥያቄዎቹን በመመለስ እነዲተባበሩን በአክብሮት እየጠየቅን፣ ተሣትፎሽም በአንቺ ሙሉ ፈቃደኝነት ላይ የተመሠረተ ነው። የእርስዎ ስምና አድራሻ በዚህ መጠይቅ ውሰጥ አይጻፍም፡፡ የሚሠጡን መልሶችም ምስጢራዊነታቸው ፍጹም የተጠበቀ ነው። ለመመለስ የሚያስቸግሩሽ ጥያቄዎች ካሉ አለመመለስ ትችያለሽ፣ነገር ግን ያንቺ ልምድናተሞክሮ፣ የምትሠጫቸው መልሶች ችግሮቹን ለመለየትና ለማወቅ በጣም ጠቃሚዎች ናቸው። ሁሉንም ጥያቄዎች ለመመለስ ከ15-20ደቂቃዎችን ብቻ የሚወስድ ነው። በተገለጹት ማብራሪያዎች ላይ ጥያቄ ካለዎት መጠየቅ የችላሉ። አመሠግናለሁ።

በዚህ መጠይቅ ለመሳተፍ ፈቃደኛ ነዎት? አዎ..... አይደለሁም.....

ፈቃደኛ ከሆኑ ወደሚቀጥለው ክፍል ይቀጥሉ፡-

ለ.የስምምነት መግለጫ

የዚህን ፕሮጀክት ጥናት አላማ በመረዳትና በመገንዘብ፤ እነዲሁም የምሰጣቸው መልሶች ለዚህ ጥናት አገልግሎት ብቻ እንደሚውሉና ምስጢራዊነታቸው ፍጹም የተጠበቀ መሆኑን ተረድቻለሁ፡፡ ተሣትፎዬም በእኔ ሙሉ ፈቃደኝነት መሆኑን ተረድቻለሁ። በዚሁ መሠረት የጥናቱን አላማ በመደገፍ እና በፈቃደኝነት በመሣተፍ በዚህ በሴት ስደተኞች መካከል የሚካሄድ የሥነ-ውልደት መጠንናፍላጎት ሊወስኑ የሚችሉ ምክነያቶች ለመለየት የሚያሥችል የዳሠሳ ጥናት የራሴን አሰተዋጽዖ ለማበረከት ተስማምቻለሁ፡፡

ፊርማ..... ቀን.....

<u>ለተጨማሪ መረጃ አድራሻ፡-</u>

- ዶ/ር ውብግዜር መኮንን በአዲስ አበባ ዩኒቨረሲቲ የጥናቱ ዋና አማካሪ. ስልክ፡ 0911668606
- አቶ ጋሻውበዛ ኃይሌ፡- በአዲስ አበባ ዩኒቨረሲቲ፣ የህብረተሰብ ጤና አጠባበቅ ትምህረት ክፍል የ2ኛ ዲግሪ ተማሪና ተመራማሪ. ስልክ፡ 0911776810

፩. አጠቃላይ ጥያቄዎች			
ተ.ቁ	ጥያቄዎች	የተሠጡ መልሶች	ምርመራ
101	የመለያ ቁጠር		
102	የስደተኞች መኖሪያ/ካምፕ ስም		
103	ዕድሜዎት ስንት ነው? በሙሉ ዓመት		
104	የስደተኝነት ሁኔታ	1. ስደተኛ 2. ስደተኝነት ጠያቂ 3. ሌላ ካለ ይገለጽ	
105	በዚህ የስደተኞች መኖሪያ/ካምፕ ምን ያህል ጊዜ ቆየሽ?		ከ6ወር በላይ ለቆዩ ብቻ የሚጠየቅ
106	ዜግነት		
107	ጎሣዎት ምንድነው? የሱማሌ ዜጋ ለሆኑ ብቻ የሚጠየቅ		
108	ሐይማኖት		
109	ሥራዎት		
110	የትምህርት ደረጃዎት		
111	የወርሃዊ ገቢ መጠን		
112	ከ15 ዓመትዎ በፊት የሚኖሩበት ቦታ	1. ከተማ 2. ገጠር	
113	የጋብቻ ሁኔታ	1. ያላገባች 2. ያገባች/አብረው ሚኖሩ/ 3. የተፋታች 4. ባል ሞተባት 5. የተለያየች	
114	ባልሽ/የትዳር አጋርዎ/ ተጨማሪ ሚስት/ቶች አሉት	1. አዎ 2. የለውም 3. አላውቅም	
115	ባልሽ/የትዳር አጋርዎ/ ከእርስዎ ጋር ስንት ሚስት/ቶች አሉት?	1. .....ሚስቶች 2. አላውቅም	
116	መጀመሪያ ትዳር ሲይዙ በስንት ዓመትዎ ነበር?		
117	በትዳር ለስንት ዓመት ቆያችሁ?		
118	የትዳር አጋርዎ/ባልሽ/ የትምህርት ደረጃ		
119	የትዳር አጋርዎ/ባልሽ/ ሀይማኖት		
120	የትዳር አጋርዎ/ባልሽ/ ጎሣ		የሱማሌ ዜጋ ለሆነ ብቻ የሚጠየቅ
121	የትዳር አጋርዎ/ባልሽ/ ሥራ ዓይነት		
፪. የስነ-ተዋልዶ ጥያቄዎች			

201	የመጀመሪያ ወር አበባ በስንት ዓመትዎ አዩ?		
202	የመጀመሪያ የወሲብ ግንኙነት በስንት ዓመትዎ ፈጸሙ?		
203	በአንድ ወር ለስንት ጊዜ ወሲብ ይፈጽማሉ?		
፫. የእርግዝናና ስነ-ውልደት ጥያቄዎች			
301	እርግዝና ኖሮዎት ያውቃል?	1.አዎ 2.አያውቅም 3.አላስታውስም	
302	አሁን እርግዝና አለዎት?	1.አዎ 2.የለኝም 3.አላውቅም	
303	ልጅ ወልደው ያውቃሉ?	1.አዎ 2.አላውቅም	
304	መጀመሪያ በስንት ዓመትዎ ወለዱ	1…….ዓመት 2.አላስታውስም	
305	እስከአሁን ስንት ልጆችን ወለዱ?	……ልጅ/ጆች	
306	ባለፈው አንድ ዓመት ውስጥ በሕይወት የተወለደ ልጅ አለዎት?	1.አዎ 2.የለኝም	
307	አዎ ካሉ፣ ባለፈው አንድ ዓመት ስንት ልጆችን ወለዱ?	……ልጅ/ጆች	
308	ባለፉት 3 ዓመታት ውስጥስ ስንት ልጆችን ወለዱ?	……ልጅ/ጆች	
309	እስከአሁን ድረስ የተወለዱ ልጆችዎ የጾታ ዓይነት?	ወንድ…… ሴት……	
310	25 ዓመት እስኪሞላዎ ስንት ልጆችን ወለዱ?	……ልጅ/ጆች	
311	ባለፉት 5 ዓመታት ውስጥ መንታናከዚያበላይ ልጆችን ወለደው ያውቃሉ?	1.አዎ 2.አለወለድኩም	
312	በመጨረሻዎቹ ሁለት ተከታታይ እርግዝናዎችዎ መካከል በምን ያህል ወራት ይራራቃሉ?	……ወራት	
313	በመጨረሻዎቹ ሁለት ተከታታይ እርግዝናዎችዎ መካከል የወለድ መከላከያ ዘዴዎችን ትጠቀሚ ነበር?		
፬. የውልደት መጠን፣ ፍላጎትና ዕቅድ ጥያቄዎች			
401	ተጨማሪ ልጅ/ጆች መውለድ ይፈልጋሉን?	1.አዎ 2.አልፈልግም 3.እርግጠኛ አይደለሁም 4. እንደ እግዘአብሔር ፈቃድ	
402	አዎ ካሉ ስንት ልጅ/ጆችን መውለድ ይፈልጋሉ?	1. ……ልጅ/ጆች 2. እንደ እግዘአብሔር ፈቃድ	
403	የትዳር አጋርዎ/ባልሽ/ ተጨማሪ ልጅ/ጆች የመውለድ ፍላጎት	1.ተመሣሳይ 2. ብዙ ልጆትን 3. አነስተኛ የልጆች ቁጥር 4.አላውቅም	
404	መጀመሪያ ልጅ መውለድ ከመጀመርዎ በፊት	1. ……ልጅ/ጆች	ልጅ ለወለዱ ብቻ

	ስንት ልጅ/ጆችን ለመውለድ አስበው ነበር?	2. እንደ እግዘአብሔር ፈቃድ 3. ሌላ ካሉ ይገለጽ.....	የሚጠየቅ
405	ልጅ መውለድ ከመጀመርዎ በፊት ስንት ልጅ/ጆችን ለመውለድ አቅደዋል?	1.....ልጅ/ጆች 2.እንደ እግዘአብሔር ፈቃድ 3.ሌላ ካሉ ይገለጽ.....	ልጅ ላልወለዱ ብቻ የሚጠየቅ
406	የተለየ የልጆች ጾታ ምርጫ አለዎት?	1.አዎ 2. የለኝም 3.እርግጠኛ አይደለሁም	
407	አዎ ካሉ የትኛውን ጾታ ይፈልጋሉ?	1. ወንድ 2. ሴት	
408	ተጨማሪ ልጅ/ጆች መውለድ ይፈልጋሉን?	1.አዎ 2.አልፈልግም 3.እርግጠኛ አይደለሁም 4. እንደ እግዘአብሔር ፈቃድ	አሁን የመጀመሪያ እርግዝና ላላቸው ብቻ የሚጠየቅ
409	አዎ ካሉ ስንት ልጅ/ጆችን መውለድ ይፈልጋሉ?	3. .....ልጅ/ጆች 4. እንደ እግዘአብሔር ፈቃድ	
410	የትዳር አጋርዎ/ባልሽ/ ተጨማሪ ልጅ/ጆች የመውለድ ፍላጎት	1.ተመሣሳይ 2. ብዙ ልጆትን 3. አነስተኛ የልጆች ቁጥር 4.አላውቅም	
፭. የድህረ ወሊድ ጥያቄዎች			
501	ባለፉት 5 ዓመታት ውስጥ የመጨረሻ ልጅዎን ወልደዋል?	1. አዎ 2. አላስታውስም	
502	የመጨረሻ ልጅዎን ከወለዱ ከስንት ጊዜ በኋላ ወሲብ ጀመሩ?	1. አላስታውስም 2. .....ወር/ራት	
503	የመጨረሻ ልጅዎን ከወለዱ በኋላ የወር አበባ ለምን ያህል ጊዜ ሣያዩ ቆዩ?	1. አላስታውስም 2. .....ወር/ራት	
504	መጨረሻ ለተወለደው/ችው ልጅዎ ጡት ብቻውን ለስንት ጊዜ አጠቡ?	1. አላስታውስም 2. .....ወር/ራት	
505	ሌሎች ተጨማሪ ምግቦችን ጋር መጨረሻ ለተወለደው/ችው ልጅዎ ጡት በአጠቃላይ ለስንት ጊዜ አጠቡ?	1. አላስታውስም 2. .....ወር/ራት	
፮. የውርጃ ና ሕጻናት ሞት ጥያቄዎች			
601	ውርጃ አጋጥሞዎት ያውቃል?	1.አዎ 2.አያውቅም 3.እርግጠኛ አይደለሁም	
602	አዎ ካሉ ለስንት ጊዜ?		
603	የውርጃው ምክነያት ምን ነበር?	1. በራሱ ጊዜ 2. በሕክምና	
604	በአለፈው አንድ ዓመት ውስጥ በሕክምና ጽንስ ቋርጠው ያውቃሉ?	1. አዎ 2. አልነበረኝም 3. አላስታውስም	
605	ያለቀኑ ሞቶ የተወለደ ልጅ አጋጥሞዎት ያውቃል?	1. አዎ 2. አልነበረኝም	

		3. አላስታውስም	
606	መልስዎ አዎ ከሆነ ለስንት ጊዜ?		
607	እድሜው አንድ ዓመት ያላለፈው ሕጻን ሞቶቦዎት ያውቃል?	1.አዎ 2.አያውቅም	
608	መልስዎ አዎ ከሆነ ለስንት ጊዜ?		
፯. የቤተሠብ ዕቅድ ጥያቄዎች			
701	የቤተሠብ ዕቅድ ዘዴዎችን ያውቃሉ?	አዎ አላውቅም	
702	አዎ ካሉ፣ የትኞቹን የቤተሠብ ዕቅድ ዘዴዎች ያውቃሉ? ይዘርዝሩልኝ		
703	የቤተሠብ ዕቅድ ዘዴዎችን ተጠቅመው ያውቃሉ?	አዎ አላውቅም አላስታውስም ግብረሥጋ ግኑኙነት አልነበረኝም	
704	አዎ ካሉ፣ የትኞቹን የቤተሠብ ዕቅድ ዘዴዎች ተጠቅመዋል? ይዘርዝሩልኝ		
705	አሁን የቤተሠብ ዕቅድ ዘዴዎችን ይጠቀማሉ?	አዎ አልጠቀምም	
706	አዎ ካሉ፣ የትኞቹን የቤተሠብ ዕቅድ ዘዴዎች እየተጠቀሙ ነው? ይዘርዝሩልኝ		
707	የቤተሠብ ዕቅድ ዘዴዎችን በስንት ዓመትዎ መጠቀም ጀመሩ?	በ.....ዓመት	
708	ባለቤትዎ/የትዳር አጋርዎ/ የቤተሠብ ዕቅድ ዘዴዎችን መጠቀም ላይ ያላቸው አመለካከት	አዎንታዊ አሉታዊ ገለልተኛ እርግጠኛ አይደለሁም	
709	በመካከላችሁ የቤተሠብ ዕቅድን/ተጨማሪ ልጆች የመውለድን ጉዳይ ማን ይወስናል?	እኔ ባለቤቴ/የትዳር አጋሬ/ ሁለታችንም	
710	በሚቀጥሉት ሁለት ዓመታት ውስጥ ልጅ የመውለድ ዕቅድ አለዎት?	አዎ የለኝም እርግጠኛ አይደለሁም	

ለተሳትፎዎ አመስግናለሁ፡፡

Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in this or another University and all sources of materials used for in this thesis have been fully acknowledged.

Name: Gashawbeza Haile

Signature: _____

Place: Addis Ababa

Date of submission: February19, 2014

This thesis work has been submitted for examination with my approval as university advisor

Advisor's name: Dr. Wubgzier Mekonnen

Signature: _____

Date: February 19, 2014