HOUSEHOLD FOOD INSECURITY AND FERTILITY DESIRE OF WOMEN IN SODO ZURIA WOREDA, WOLAITA ZONE, SOUTH ETHIOPIA

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A RESEARCH THESIS TO BE SUBMITTED TO JIMMA UNIVERSITY COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE, DEPARTMENT OF POPULATION AND FAMILY HEALTH, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTERS OF PUBLIC HEALTH IN REPRODUCTIVE HEALTH.

June 2014
Jimma, Ethiopia

HOUSEHOLD FOOD INSECURITY AND FERTILITY DESIRE OF WOMEN IN SODO ZURIA WOREDA, WOLAITA ZONE, SOUTH ETHIOPIA: COMMUNITY BASED CROSS-SECTIONAL STUDY

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June 2014

ABSTRACT

Background: The question of whether food insecurity leads to low fertility desire or whether high fertility desire is the result of poverty driving food insecurity is unanswered from the existing body of literature. The objective of this study was to assess the household food insecurity and fertility desire of women's in Sodo zuria Woreda.

Methods: This study was conducted from March 15-30, 2014 in Sodo Zuria Woreda, which is located in SNNPR, at the center of Wolaita Zone. Community based Cross sectional study was used. Trained 10 data collectors had collected data from 651 married women in reproductive age group. An interviewer-administered structured questionnaire used to collect data on background information, food security status and factors associated with fertility desire. Women who reported that they sterilized and declared infecund excluded from the study. The data template format was prepared in Epi Data version 3.1 and the data entered using double data entry clerks. The data was analyzed using SPSS version 20.

Results: The study showed that from 651 currently married women in reproductive age group, the majority 381(58.5%) had desire for additional children and 270 (41.5%) had no desire or had desire to limit child bearing. This study showed that the odds of women in food insecure households had 2 times higher desire for additional children for adjusted and 95% CI[1.314, 2.49] compared to those women in food secure households. Factors contributing to higher desire for additional children for currently married women in Sodo Zuria Woreda were husband occupation, age of women, household food security, media exposure, number of children living, sex composition of living children, sex preference and husband desire for additional children.

Conclusions and recommendations: The desire for additional children was high for women in Sodo Zuria woreda, particularly among women in food insecure households, women with husband who desire for additional children and those who have small family size. The strong change of couples' fertility behavior via encouragement of partner involvement on family planning service, inter-spousal communication and developing decision-making ability of women for fertility behavior is fundamental if the desire for additional children of women in Sodo Zuria Woreda has to decrease.

Key words: fertility desire, food insecurity, currently married women

ACKNOWLEDGEMENTS

First, I am grateful to the Almighty God because of full mercy and grace I could complete my thesis. I would like to express my deep gratitude to my research advisor, Professor Tefera Belachew for his continuous advice and professional guidance for realization of this thesis. My heartfelt appreciation and great thanks goes to my co-advisor, Mr. Desalegn Tamiru for critically reviewing the thesis and for his continuous professional guidance on matters pertinent to this thesis. My grateful thank go to Jimma University for their financial support to conduct this study. I would like to express my great deep gratitude to data collectors and study participants for their cooperation and willingness. I would like to express my heartfull acknowledgement to Dr. Matusala Mulachewu and Yeshihareg Dinku for their support. Finally, I would like to express my deep appreciation for Wolaita zone health department and Sodo zuria Woreda for their support by provision of health related information.

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ACRONYMS AND ABBREVIATIONS

AOR: Adjusted odds ratio

BDHS: Bangladesh demographic and health survey

CEB: Children ever borne

CI: Confidence interval

CSA: Central statics Authority

DHS: Demographic and health survey

DSA: Demographic Surveillance Area

DSS: Demographic surveillance system

EDHS: Ethiopian demographic and health survey

FANTA: Food and Nutrition Technical Assistance

FGD: Focus group discussion

HBNEDN: Schooling attained by paternal

HCHILD: Households at their self-replacement fertility level of two children

HFIAS: household food insecurity access scale

IFS: Ideal family size

MC: Modern Contraceptive

OR: Odds ratio

SD: Standard deviation

SNNPR: Southern Nations, Nationalities and People region

SPSS: Statistical Package for Social Sciences

VCM: Vicious circle model

WFS: World Fertility Survey

1. INTRODUCTION

1.1. Background

Fertility is one of the elements in population dynamics that has significant contribution towards changing population size and structure over time. Fertility desire, as intention to have additional children have great effect on the future fertility and plan for provision of family planning services [1]. Various studies on the relationship between stated fertility desire and fertility had carried out in both developed and developing countries. Most of these studies found that prior attitudes had a statistically significant independent effect on fertility, over and above other determinants of fertility [2,3,4,5]. In addition, conventional demographic transition theory predicts that a decline in actual fertility should lag behind decline in desire for more children [6].

The link between fertility behavior and economic conditions has intrigued economists since the beginning of systematic economic analysis. Perhaps the most influential theory of the interaction of the economy and the population is that forwarded by the Reverend T.R. Malthus. Malthus argued that the growth rate of the population was dependent on the food supply, and this relationship was kept in equilibrium via the preventative check, which acted through fertility, and the positive check, which acted through mortality [7].

The link between food insecurity and fertility desire can be complex. One popular theory to explain the existence of sustained high fertility in the face of declining environmental resources is the vicious circle model (VCM). This model hypothesized that several positive feedback loops contribute to a “downward spiral” of resource depletion, growing poverty, and high fertility. The VCM would suggest that households without access to other forms of capital seek to build their human capital (and social capital through the marriage and migration of children) in order to better exploit natural capital [8].

For Bongaarts, as a society develops, desired family size declines, resulting in a corresponding rise in the proportion of women who want to stop childbearing [9]. Conversely, poor economic conditions have strong impacts on fertility behavior. Salaff observed that couples tend to reduce their family size because of economic pressures [10].

In world of today, the global population is still far from stabilizing and food insecurity is a widespread phenomenon. The world’s population stood at slightly over 7 billion people with 5.6 billion (82% of the world total) living in the less developed regions. By 2050, the UN estimates,

this number will have increased by nearly 40% to 9.2 billion. However, the rate of growth between different regions of the world will vary greatly. In the UN projection, one of the three main factors that account for future population growth is high desired family size of developing countries where many couples want more children than the number that will allow population growth to stabilize, accounting for about 20% of population growth [11]. In addition, Dasgupta argues "it is parental demand for children rather than an unmet need for contraceptives that in large measure explains reproductive behavior in developing countries [12].

In contrast, Food insecurity is becoming the most critical issue in the developing world and issue of the development agenda. World-wide, around 852 million people are chronically hungry due to extreme poverty, while up to two billion people lack food security intermittently due to varying degrees of poverty and the majority of the food insecure are in developing countries [13].

Fertility rate is the highest in sub-Saharan Africa than any parts of the world. The average total fertility rate for sub-Saharan Africa as a whole is more than five children per women, which is almost twice the world average of 2.5 [14]. More recently, Bloom and Canning concluded that the high fertility rates in sub-Saharan Africa are a result of people wanting a large number of children, rather than high levels of unmet need [15]. According to Bongaarts, the desired family size is more than four children in sub-Saharan African countries, where child mortality is high and poverty is rampant. This trend appears to continue in the future [16]. In sub-Saharan Africa where fertility rate is the highest than any parts of the world, 40% of the population estimated to be food insecure.

According to the World Bank report, it is estimated over 100 million people in Africa are food insecure. More than half of the food insecure are clustered in seven sub-Saharan Africa countries: Chad, Zaire, Uganda, Mozambique, Zambia, Somalia, and Ethiopia [13].

Ethiopia is one of the developing countries with high fertility and rapid population growth rate. Ethiopia is second largest African country at around 80 to 82 million populations in the year 2010. Every year, more than four million people, particularly in the rural areas have problems of getting enough food for themselves [17,18].

According to report of 2011 Ethiopian Demographic and Health Survey, total fertility rate at national level was 4.8 children per woman. The desire to stop childbearing increased from 32 percent in 2000 to 42 percent in 2005 and then declined to 37 percent in 2011 indicating that much efforts should be made to attain the targets set in the national population policy of Ethiopia by

2015 [19]. Some of the major reasons behind such high fertility rate are early age at first marriage, desire for more children and low contraceptive use [20,21,22].

Southern Nations, Nationalities and Peoples Region (SNNPR) where the study area is located, is one of the regions with the highest population growth and fertility rates of 2.9 percent per annum and 4.9 children per woman which is above the national average, respectively. The share of SNNPR's population in the country's total and its population density had increased between the inter-censual periods of 1994 and 2007. Mean number of children ever born to women age 40-49 in the region is 7.3 and Mean ideal number of children for all women age 15-49 is 4.4 [23,19].

This region is also one of the food insecure areas in Ethiopia. Currently, 1.5 million people in 64 Woredas of the region are vulnerable to chronic and transitory food insecurity [24]. Similar to other food insecure areas of the region, Wolaita zone where Sodo zuria Woreda is located is one of the food insecure areas due to high fertility and population pressure [25].

1.2 Statement of the problem

High population growth evidenced mainly because of high fertility. Fertility has also the potential of affecting the wellbeing of mothers and their offspring. High fertility and shorter birth intervals affect the survival chance of children, and the health status of mothers. Their effects even go to the extent of affecting the socio-economic development of a given country if proper care and action are not taken [26].

Fertility decline when women and partners desire to limit or desire to space child bearing. It is prior intention, which has independent effect on fertility, over and above other determinants of fertility. Conventional demographic transition theory predicts that a decline in actual fertility should lag behind decline in desire for more children or in ideal family size.

Though the majority of the population is food insecure in sub Saharan Africa, characterized by high fertility rate than any part of the world, researchers concluded that the high fertility rates in sub-Saharan Africa are a result of people wanting a large number of children, rather than high levels of unmet need [13,14,15]. However, the link between food insecurity and fertility desire is not clear in sub Saharan Africa.

Ethiopia had documented history of high population growth during the past three decades going from 39.9 to 73.9 million people during the first census in 1984 to latest census in 2007. Recent data revealed that Ethiopia is the second largest country in Africa with a population of around 80

to 82 million in the year 2010 [23,17]. Ethiopian women suffered from various problems including access to food and encounter to drought. A combination of factors has resulted in serious and growing food insecurity problem in Ethiopia, affecting as much as 45% of the population. One of the factors for household food insecurity is large family size. Despite this situation, Ethiopian families often prefer large number of children [19,18,27,28].

However, food insecurity is becoming the most crucial issue in Ethiopia, little known between the association of food insecurity and fertility desire.

Sodo Zuria Woreda had a total population of 197395 of whom, 99685 are men and 97710 female. The economy of the people entirely based on agriculture. General health service coverage in the Woreda in 2000 according to zonal health department's report was 69% [23,29].

Despite burden of limited food access in the study area, largest proportion of the population characterized by large family behavior. Studies showed the majority of married women had desire for additional children. About 38.5% have surpassed small family size and 31.6% who have already given to 3-4 children, will also surpass small family size in short period of time unless they use modern contraceptive for limiting birth. Food insecure households in the area possess more than halve dozens of family size and large number of dependents. Frequent food shortages, land degradation and population pressure lead residents to migrate and face high mortality of children under the age of five years. The study area is also located in one of the densely populated and resource constrained parts of the country [29,25].

Though little known between the link between food insecurity and fertility desire, previous research had shown that fertility desire of married women influenced by various demographic, socioeconomic, reproductive and program factors. Using DHS data, Westoff and Bankole demonstrated that fertility desire of women vary with the age of women, number of living children, residence, education and exposure to mass media [2]. Fertility desire shaped by couples' experiences with child mortality and their expectation about child survival conditions as well as their preferences for a single sex, usually son [30,31,32]. Other studies had identified knowledge, approval and use of family planning as important factors influencing fertility desire [30,33].

The Ethiopian government has been making several efforts to reduce fertility levels since 1993, the first time an explicit national population policy aimed at reducing total fertility rate from the then 7.7 children per woman to 4.0 by 2015 launched. Increasing age at first marriage to at least 18 years, enhancing women's status through providing them with better employment and educational

opportunities, expanding family planning services and information, communication and education on ways and means of limiting family size are some of the strategies designed to implement the population program [34].

Therefore, the main purpose of this study was to assess predictors of fertility desire in Sodo Zuria Woreda, characterized by high food insecure households, population pressure and small farm holding. This also gives an additional impetus to assess the effects of food insecurity on fertility control practices in the study area.

2. LITERATURE REVIEW

2.1 Factors influencing fertility desire

Two groups of factors expected to influence fertility. The first group consists of socio-economic and demographic factors, characterized as indirect determinants. The second direct factor is known to be the intermediate determinants through which the indirect determinants must eat to affect fertility [35].

Fertility desire (desire for additional children) influenced by various inter-related factors and Different studies examined five factors and how socio-economic and demographic change may interact with them to affect women's desire for additional children: 1) socio-economic and demographic 2) food insecurity 3) reproductive history 4) maternal condition and 5) husbands condition.

2.1.1 Socio-economic and demographic factors influencing fertility desire

Uddin *et al* (2011) using 2007 data of Bangladesh Demographic and Health Survey (BDHS on 10,966 ever married women) showed that desired number of children increases with decrease in the level of education and desire of children increases with the increase in age of respondents. A negative relation was observed between wealth index and the fertility level and desired family size. Muslim respondents had more mean number of CEB and desired family size than non-Muslims. Place of residence has limited influence on the desire for additional children [36].

Sarah R. and Agadjanian V (2006 and 2009) conducted study for identifying Moderating factors in a fertility transition in rural areas of southern Mozambique. The study revealed Women living in wealthier households are more likely to implement a desire to stop childbearing than poorer women [37].

Ethiopian society of population studies in 2008 had done in-depth analysis of findings from EDHS 2005 on the levels, trends and determinants of lifetime and desired fertility in Ethiopia. This in-depth analysis revealed socio-economic factors that influence women's fertility desire. In Ethiopia, women in their late reproductive age have two and half times higher intention to limit their fertility compared to those in their early child bearing ages. Women belonging to better off households also desire to limit their fertility compared to those living in the lowest stratum. Compared to their rural counterparts, urban women are 78 percent more likely to limit their fertility. No intention to limit

additional birth is also documented among women having secondary and higher level education and those who got married late basically due to their prior arrangements to have fewer births [1].

According to an analysis done by Dibaba (2008) on the 2005 Ethiopian Demographic and Health Survey data source with a weighted sub-sample of 3300 married women, higher proportion of women who want more children in Oromia region are younger, illiterate and live in rural areas. The regression result revealed that predictors of the desire to limit childbearing from socio-economic factors are age, education and wealth index [38].

Mekonnen and Worku (2009) demonstrated using Butajira demographic surveillance system (DSS) data that women in who had never been into any formal education had 1.24 times more children compared to those who completed secondary and above level of education. Women resided in lowland rural Butajira had 1.3 times more children compared to those lived in the urban area. Fertility among women whose households' main source of income was trade or service had 14 percent lower fertility compared to their counterparts whose household livelihood was farming after other factors were put into the model. On the other hand, women belonged to families whose household income was from the civil service had lower fertility compared to those earning their household income from farming although the statistical significance vanished when we control for other important variables [39].

2.1.2 Household food insecurity and fertility desire

Analyses of the changing effects of socioeconomic characteristics on fertility desire have focused on income and wage. The question of whether food insecurity leads to low fertility desire or whether high fertility desire is the result of poverty driving food insecurity is unanswered from the existing body of literature.

According to the report of Odusola based on Nigeria's fertility transition using household survey data from Nigeria, involving 2425 respondents, married men between the ages of 15 - 69 years and women of reproductive age 15 - 49 years sampled. One of the variants of fertility preferences used is the number of children respondents desired after their experiences with economic hardship-declining standard of living. The major findings in analysis of Factors Influencing Family Formation were, based on all socio-economic and cultural factors considered, poverty-induced fertility was much lower than the one desired at marriage. Although family size preference declined across all educational strata, an inverse relationship between fertility preference and level of education is evident. At the point of marriage, between 19.6 and 59.5 percent of the respondents

desired lower children (i.e., between 0 and 4 children) as opposed to between 48 and 80.4 percent during the period of entrenched poverty. Based on their experience with economic hardship, the proportion of those that desired lower fertility ranged from 17.8 to 32.8 percent across the educational strata and the percentage of those previously desiring 5 children and above declined proportionately. The desire for family size formation also varies according to religious groups. The desire for large family size declined significantly when poverty became endemic. The decline rates vary from 0.9 to 5.8 children. More than any other religious groups, however, the Protestants have the largest proportion of respondents needing lower family size after their experiences with economic hardship. The mean number of children at marriage is higher among 15-24 (9.8) and 15-45 years and above (11.6), and lower among 25-34 (8.6) and 34-44 years (7.6). These desires waned during the period of economic crisis to between 5.1 and 6.4 children. The survey reveals that a larger portion of those with early marriages, whose fertility preferences were out of tune with reality at the point of marriage, now long for lower family size. Due to poverty associated with harsh economic conditions, and irrespective of the type of marriage, about 25 percent of the respondents changed from higher fertility preferences to lower ones. Polygamous marriages, however, still have predilection for relatively large family size with 49.3 percent of them now desiring 5 children and above. Evidence from marriage duration further showed that between 11.5 and 36.8 percent of respondents changed their preferences from large to small family size. Because of exposure to poverty, as mentioned in the focus group discussions (FGDs), less than 30 percent of respondents with less than twenty years of marriage experience now crave for large family size. In contrast with the expectation, about 42 percent of those with marriage duration of 25 years and above still prefer large family size. Respondents that claimed the absence of male dominance in their families tend to have urged for small family size as opposed to those affirming its presence. Even with their experiences with worsening economic conditions, 39.4 percent of them desire fertility rate of 5 and above as opposed to those confirming (29.4%) and non-existence (18.8%) [40].

2.1.3 Maternal factors influencing fertility desire

Maternal factors expected to influence women's fertility desire. Research conducted by DURR-E-NAYAB on fertility preference and behavior in the two villages of Pakistan revealed that the majority of the women idealized a family with four children followed by those preferring three. The findings of this study showed that sex preference exerts a strong influence on fertility desire. The proportion of women who wanted to stop child bearing increased once their sex preference achieved. The existence of inter-spousal communication has a definite declining effect on fertility

preferences. The mean number of additional children wanted by those who communicate is less (0.44) than those who do not talk with their husbands (0.94), leading to lower desired family size [41].

Uddin *et al* (2011) had revealed that in Bangladesh the desired family size (2.28) is lower than the actual family size (2.77). Among the respondents, 64.2% do not want additional children. The significant positive correlation observed between the variables desired number of children and child mortality. Significant positive correlation is also observed between fertility and desired number of children even if child mortality is controlled. Greater spousal disparity in IFS is associated with greater excess fertility for women [36].

Elyse A. Jennings and University of Michigan (2012) using data from the Chitwan Valley Family Study (CVFS), conducted in rural Nepal for identifying the influence of Neighbors' family size preference on women's progression to higher parity births. The finding of this study indicated women with three children have fewer additional births compared to women with only two children. Additionally, women who have more sons and who were older at the time of their first birth have fewer higher parity births. Also consistent with expectations, women who experienced the death of a child had higher parity births than women without this experience. Nonfamily experiences do not consistently influence parity progression as expected. Women who ever worked for wages, and women with more media exposure have fewer high parity births compared their counterparts, as would expected [42].

Lasee A and McCormick J (1991) conducted cross-sectional survey in Shirin Jinnah Colony, alow income urban squatter settlement in Karachi, Pakistan. The finding revealed that those who desired no more children were more likely to use contraception. The odds of current use was 1 .6 times higher if they desired no more children than. if they desired more children[43]

In-depth analysis of findings of EDHS 2005 on the levels, trends and determinants of life time and desired fertility in Ethiopia revealed that, current contraceptive users are found to limit their fertility by one and half times higher than those who are not using. Women having high decision-making autonomy found to be 41 percent more likely to limit additional child (ren) when compared to those who have low decision-making autonomy. Women who reported high unmet need for family planning were also observed having high intention to limit fertility [1].

Mohammed A (2010) identified determinants of modern contraceptive utilization among married women of reproductive age group in North Shoa Zone, Amhara Region, Ethiopia. The study

revealed women who desire another children after two years were 5.71 times more likely to use modern contraceptive than those who desire another child within two years (AOR 5.71, 95% C.I = 3.48-9.37) . Those women who do not desire more children at all were 9.27 times more likely to use modern contraceptive methods than those who desire another child within two years (AOR 9.27, 95% C.I. = 5.43-15.84) [44]

Tilahun T (2010) conducted study on Spousal discordance on fertility preference and its effect on contraceptive practice among married couples in Jimma zone, Ethiopia. The study revealed Women who desire for additional children were less likely to use contraceptive [45]

The study by Jara *et al* (2012) at Gilgel Gibe Field Research Center of Jimma University, which is located in Jimma Zone of the Oromia Region, revealed that History of under five deaths, desired number of children, ever heard of contraceptive had a sizeable association with outcome variable. Women who experienced under five deaths were 1.91 times more likely to have a high fertility status as compared to mothers who did not experienced under five deaths. The number of children desired before marriage indicated a significant association with fertility status of women [46].

Dibaba (2008) had also revealed that 13% of women wanted a child within two years, 34% of women wanted a child after two years (those wanting to space childbirth) and about 47% of currently married women wanted no more child. There were statistically significant differences between women who intend to limit childbearing and women who want more children in terms of experiences of child death, exposure to media, and knowledge and use of family planning [38].

2.1.4 Reproductive factors influencing fertility desire

Noriko T and Chayovan N (2000) conducted study to identify the Economic Crisis and Desires for Children and Marriage in Thailand. The study revealed older women were less likely to have additional children and negative relation of Number of living children with fertility desire [47]

Hank K and Peter Kohle H (2002) conducted study to observe gender preference for children in Germany. The study revealed that the sex of the first child has a statistically significant effect on parents'propensity to have a second child. If the first born a son, respondents in our sample are less likely to have another child than in case of a daughter as the first child. This suggests a boy preference at parity one [48]

Yoo S, Agadjanian V and Hayford S (2014) identify Son Preference in the Context of Very Low Fertility and trends in fertility intentions in South Korea. The study revealed having a daughter was

associated with 1.23times higher fertility intention than having a son in 2009. Around 40% of women in the most recent survey reported that it was necessary or desirable to have at least one son, and intentions to have another child continued to vary depending on the sex composition of earlier children, favorable towards sons [49]

Takirur et al (2010) using Data from five baseline surveys of the Family Health and Wealth Study (FHWS), conducted study in 2009/2010 to identify Determinants of Couples' Fertility Desires and Concordance in Reported Contraceptive Use. The study was an open cohort sample where each site selected between approximately 500 to 1000 families in six peri-urban areas in five subSaharan African countries: Ethiopia, Ghana, Malawi, Nigeria (2 sites) and Uganda. The study revealed that female and male partner desires for more children are associated with the socio-demographic characteristics of age, parity, and education but not wealth status. The relationship between age and parity and fertility desires were in the expected direction. Couples' desire for more children and discordance in fertility desires decreased significantly with wife's age. At older ages, it is less likely that both or either partner want to have more children. As expected, the likelihood that both or either partner wants more children decreases at higher parity. Muslim couples' fertility desires were higher than non-Muslim couples but couples in which only the wife is Muslim had lower fertility desires [50]

The study conducted in the south of Karonga District, Northern Malawi by Baschieri etal on Couple's agreement and disagreement on fertility intention by using data collected between October 2008 and May 2009 from a module on fertility intention linked to an on-going demographic surveillance site. The percentage of women married in a polygamous marriage who want no more children is higher than the percentage for women married in a monogamous marriage (55 per cent compared to 41 per cent, respectively) [51].

DURR-E-NAYAB on fertility preference and behavior in the two villages of Pakistan revealed that of those respondents who did not have a daughter, 10.2 percent did not desire to have one either, but for boys this proportion declines to a small 1.2 per cent. The number of living children has a negative relationship with the desire for more children. Though the relationship is not very strong it shows that controlling the living number of children a woman has, her desire for additional children is stronger if she has more daughters, while more living sons encourage her to stop child bearing. The number of boys and girls a woman had explains 39 per cent of the variance in her desire for having additional children, with the number of living boys being the more important

explanatory variable. There is a consistent downward trend in the fertility preferences and behavior as the age at marriage increases [41].

Mcallister etal, conducted research in Bolivia between 2002 and 2008 to examine fertility preferences and behavior of 305 Tsimane women aged 15–45 years, and 216 of their husbands. The major findings of the research regarding the determinants women's ideal family size were Age and age2 account for 11.2% of the variation in women's IFS. Controlling for age and age2, parity and proximity to town are highly significant predictors of women's IFS. The relationships between additional variables and women's IFS controlling for age, age2, parity, parity-by-age and proximity to town were, surviving sib ship are significant predictors of women's IFS. Of the remaining reproductive history variables only number of marriages was a significant predictor of women's IFS. The analysis indicates that the respondents want another child, in most cases, if they have minimum number of living son. As expected, both the desired family size and the average number of children ever born decreases with age at marriage. Young mothers are more prone to have more children. Consequently, parity-for-age is larger in women with earlier ages at menarche [52].

Nasra M, Makhdoom A and Radovanovic Z (1998) conducted the study on 615 currently married non pregnant women aged 15-49 to identify pattern of desired fertility and contraceptive use in Kuwaiti. The study revealed 41% of women have no desire for additional children in Kuwaiti. Women with higher number of living children were more likely to stop child bearing and the number of living children were the single most important factor in determining wealthier Kuwaiti women desire to stop child bearing. Women married at age >18 were less likely to stop child bearing [53].

Rai et al (2013) observed Effect of gender preference on fertility by cross-sectional study among women of Tharu community from rural area of eastern region of Nepal. This study showed high sex ratio at last birth and shorter birth spacing following female children. Teen-age marriage seemed predominant feature of this group. Plan for next birth strongly affected by sex composition; women having only female children in family were more likely to plan for another birth compared to others. This high sex ratio at last birth for those who decided to stop child bearing or used permanent contraceptives suggests the childbirth-stopping behaviour was driven by son preference and can be inferred that the son preference behaviour exists in Tharu community. Birth spacing following male child (3.01 vs. 2.71) is longer than that following female child. Current sex composition of having only male children or only female children increased

desire of having more children but when adjusted with no. of children and other variables, presence of only female children (AOR = 10.153, 95% CI = 2.357-43.732) in family significantly increased the desire for other children[54]

Jara *et al* (2012) at Gilgel Gibe Field Research Center of Jimma University showed that, women who get married at early(less than 18 years) were 2.66 times more likely to have a high fertility status as compared to mothers who get married at 18 years and above. Women had history of still birth experience were 3.80 times more likely to have a high fertility status as compared to those who hadn't such experience [46].

Mekonnen and Worku (2009) in Butajira had also revealed that, the mean age of first marriage of study participants estimated to be 16.9 years with more than 80% of them married when they were aged between 15-19 years. The mean children ever born to women in the reproductive age group found to be 4.5 children whereas the average number of children born to those in the age group (45-49 years) was 7.6 children. Fertility was 1.38 times higher among women married in their teens compared to those married after they celebrated their 20^{th} birthday [39].

Aynekulu, Weyzer and Buruh (2013) conducted Cros-sectional Crossectional for Measuring Fertility Intention, Family Planning Utilization and Associated Factors among Married Couples in Mekelle City, Tigray, Ethiopia. The finding of this study revealed about 57.9% of the respondents wants to have additional children and the rest do not. Analysis of the independent variables in relation to fertility desire showed that age of the couples and duration of marriage were found to have significant impact on fertility desire. Couples with the age 16-24 were 7.4times more likely to have more child than those whose age was more than 35(OR=7.4 CI: 3.1-17.3). More over couples who stay less than ten years in the marriage were 1.96 times more likely to want more child than those couples who stay more than ten years in the marriage(OR=1.96 CI:1.1-3.5) [55]

2.1.5 Husband factors influencing fertility desire

Thomson E using the U.S. National Survey of Families and Households (Sweet, Bumpass, and Call 1988) demonstrated couple childbearing desires, intentions, and births and revealed that husbands' desires and intentions influence couples' births, with approximately equal force to that of wives' desires and intentions. A husband's desire for a child explained significant incremental variance in his wife's intention to have a child and in the couple's births [56]

Kabagenyi A Nankinga O and Rutaremwa G (2012) using recent data from Demographic and health survey on a sample of 8674 women in 10 sub-regions of Uganda, demonstrated Perceived Partners' Desire for More Children and Modern Contraceptive Use among Married Women in Uganda. The study revealed women who were using modern contraceptives were two time (2.10687) more likely to report that their husbands wanted more children compared to those who were not using contraceptives more than those who did not know their husbands desire for more children. In relation to contraceptive use intention, women who perceived their husbands wanting more children were 1.6867 times more likely not intend to use contraceptives compared to those who said they needed them later more than those in whose who did not know their husbands required number of children [57]

Dube Jara1, Tariku Dejene, Mohammed Taha2 (2012) revealed that educational status of the husbands was significantly associated with fertility [46].

Bedassa Tadesse and Sisay Asefa (1998) had revealed that the desired number of children among women significantly declines as the education level of their husband's increase [58].

2.2 Summary of literature review

Research has shown that the fertility desire of women influenced by various demographic, socioeconomic, reproductive maternal and husband factors. From the socio-economic and demographic factors, research revealed that the women fertility desire influenced by age, religion, educational status of the woman and husband, wealth index, residence and occupation. Odusola had examined the role of poverty in fertility transition and revealed that poverty-induced fertility is much lower than the one desired at marriage. Others examined that, the proportion of women who wanted to stop child bearing increased once their sex preference achieved. The existence of inter-spousal communication has a definite declining effect on fertility preferences. Women having high decision-making autonomy found to be 41 percent more likely to limit additional child (ren) when compared to those who have low decision-making autonomy. There were statistically significant differences between women who intend to limit childbearing and women who want more children in terms of experiences of child death, exposure to media, and knowledge and use of family planning. Baschieri etal examined that, the percentage of women married in a polygamous marriage who want no more children is higher than the percentage for women married in a monogamous marriage. Others also revealed that, the women's fertility desire affected by number of living children, children ever born, wasted pregnancy and sex composition. Desired number of children among women significantly declines as the education level of their husband's increase.

Even though research has shown the fertility desire of the women from different aspects, the link of fertility desire and food insecurity and determinants of fertility desire by food security status not known. The question of whether food insecurity leads to low fertility desire or whether high fertility desire was the result of poverty driving food insecurity is unanswered from the existing body of literature.

2.3 Conceptual framework

The conceptual framework of the study on household food insecurity and fertility desire is shown in Figure1. The women fertility desire influenced by socio-economic and demographic and interrelated factors. Here, examined five factors and how socio-economic and demographic change may interact with them to affect women's desire for additional children. Greater schooling and employment opportunities for women may increase women's independence and reproductive autonomy, while providing alternate ''lifestyle options'' beyond mothering. These changes may encourage women to have smaller IFS, desire to limit additional children and enable them to break from cultural norms. A woman's reproductive history influences her current fertility desire. Women who start reproducing earlier will have longer reproductive life spans, higher fertility, may state larger IFS and will have desire for additional children. A woman's parity affects her fertility desire through post-rationalization bias: women may state desire for additional children. Offspring sex ratio and the sex preference of the women may affect the energetic cost of reproduction and maternal workload through access to all parents. The number of prior marriages may have mixed effects on fertility desire: (1) women who change partners may have greater reproductive autonomy and thus state to limit additional children; (2) women with higher desire for additional children may be more likely to remarry so that they can achieve their fertility desire; or (3) divorced women may state higher desire for additional children as leverage to attract a new husband on the mating market.. Women in better condition may consequently be more willing to support smaller families, proxy by lower IFS, knowledge, access and use of contraceptives, exposure to family planning massages and reduced child mortality. Husbands' larger IFS may lead to higher fertility than what their wives desire. This conceptual framework is adapted from published literature.

Figure 1: ***Conceptual framework of food insecurity and factors associated with fertility desire, 2014***

3. SIGNIFICANCE OF THE STUDY

Although food insecurity is becoming the most crucial issue in Ethiopia, little was known between association of food insecurity and fertility desire. There is no published research, which assessed extent of the association between food insecurity and fertility desire and predictors of fertility desire not known in Sodo zuria Woreda.

Fertility desire, as intention to have additional child (ren) have a great effect on the future fertility and plan for provision of family planning services. Fertility desire data are usually used for estimating levels of unmet need for contraception in high fertility settings, estimating the size of markets for contraceptive products, informing strategies for behavior change interventions, explaining aggregate fertility patterns, and, more generally, for understanding childbearing norms in societies. As the desire for additional children is an indicator of large family, the intention to limit births often considered as a precondition for fertility decline. The extent to which a given society desires to limit fertility has significant implications for family planning programs. It is often taken as another indicator of the demand for family planning services [1,19,16].

The analysis of fertility intentions is of fundamental importance for family planning program purposes and for population policy because it determines the demand for contraception and the potential impact on the rate of reproduction. Identifying women who intend to limit child bearing enables policy makers and program implementers to avoid unintended pregnancies and thus limit fertility [19].

Therefore, study aimed to give evidence for program planning and policy development. The data will also help for prioritization and program planning at the local setting, more specifically for Sodo zuria Woreda.

4. OBJECTIVES

4.1. General objective

- To assess household food insecurity and fertility desire of women in Sodo Zuria Woreda from February 15 to 30, 2014.

4.2. Specific objectives

1. To assess households food security status in Sodo Zuria Woreda
2. To assess prevalence of fertility desire among married women in reproductive age group in Sodo zuria Woreda
3. To assess association between household food insecurity and fertility desire of married women in reproductive age group in Sodo zuria Woreda.
4. To identify predictors of fertility desire of married women in reproductive age group in Sodo zuria Woreda

4.3. Research questions

- Does fertility desire of married women of reproductive age group in Sodo zuria Woreda vary with food security status?

5. METHODS

5.1 Study area and period

The study conducted in Sodo Zuria Woreda, which found in SNNPR at the center of Wolaita Zone. Wolaita Zone is located between the Sidamo and Gamo-Goffaa high lands in the South central part of the country. Sodo zuria Woreda is one of 12 Woredas in Wolaita zone and located about 400 kilo meters southwest of Addis Ababa.

Recent data from Woreda health office plan for 2006 E.C had shown that the total population of the Woreda is 197395 with 97710 are female and 99685 are male. The Woreda has 34 kebeles, 7 health centers, 1 clinic and 4 health posts and 45395 had utilized family planning service, 7895 pregnant women had at least one ANC visit and 40283 had graduated on health package by health extension workers. According to Woreda health office plan, the general health service utilization of the Woreda was 69% and planned increasing to 80% in 2006 E.C.

Data from CSA report shown as it is one of high density Woredas of over 500 people per square kilometers in SNNPR. The majority of the population are protestant with 66.67%, 26.83% are Ethiopian orthodox Christianity, 5.28% are catholic and 1.22% belong to others. The dominant ethnic group about 93% is Wolaita, followed by Amara (2.6%) and Guraghe group (1.7%) and others altogether account 2.7%.The economy of the people of Sodo Zuria Woreda is entirely based on agriculture. It is one of the ‘’Enset’ culture parts of the country; and Enset; (False Banana) is grown as a staple food [23].

Regarding marriage and cultural value of children in the whole Wolaita and in Sodo Zuria Woreda, women in earlier time win high social prestige (celebration day) known as “Gimmuwaa” at her tenth live birth if all her nine passed birth are living. This social practice in earlier time in Wolaita society indicate that larger number of children to a family are the means to maintain strong social economic and political positions in the community. At present, the cumulative effect of this social and economic value of children in Sodo Zuria in particular resulted in high land shortage for families to provide for their children, which was traditionally a prerequisite for marriage. Data from currently married women in 2002 had revealed that age at first marriage for women ranges from 15.5-18.9 years, the majority (52%) give to their first birth between age 12-18 years, 30% of women had experienced under five death and 39% have 5 and above living children and 97.5% of women have desire to have children [29]. The study was conducted from March 15 to 30, 2014.

5.2 Study design

Community based cross sectional study design used to assess household food insecurity and fertility desire of women's in Sodo zuria Woreda.

5.3 Population

5.3.1 Source Population

All women of reproductive age group in Soddo Zuria Woreda

5.3.2 Study Population

Selected currently married women in reproductive age group (15-49 years)

5.3.3 Sampling and Study unit

The sampling unit of the study, household and the study unit, married women.

5.4 Inclusion and Exclusion criteria

5.4.1 Inclusion Criteria

All married women in reproductive age group who lived for six or more months in Sodo zuria Woreda before the study began were included in the study.

5.4.2 Exclusion Criteria

Women who reported that they are sterilized and declared in fecund were excluded from the study for the mere fact that their inclusion could affect the plan for provision of fertility regulation strategies, which was similar with EDHS [1].

5.5 Sample size and Sampling technique /Sampling Procedures

5.5.1 Sample size determination

The sample size was determined using Epi info version 7.1 for estimation of sample size using two-population formula for cross sectional study.

Assumptions

P_1 = 50% (the proportion of currently married food insecure women in reproductive age group which want to have additional children).

α = Critical value at 95% confidence level of certainty (1.96),

Power, 80%, ratio, 1 and OR of 2.

n=296

Since it was two stage systematic sampling, having consideration of design effect of two and non-response rate of 10%, the final sample size of the study was 651 (i.e. currently married women of reproductive age group in Sodo zuria Woreda were interviewed).

5.5.2 Sampling Technique

A two stage systematic random sampling used. The two stages employed were selection of the kebeles and households in each Kebele to be included in the sample. In the first stage, 10 out of 34 Kebeles in Soddo Zuria Woreda randomly selected by using a lottery method. In the second stage, from the list of total number of households in each of the selected 10 kebeles, the probability proportional to the size method employed for determining the number of households included in the study from each kebeles. Finally, the households selected by systematic sampling technique and the study subjects in the selected household contacted for the actual study. The initial household was randomly selected by lottery method using number between 1 and the sampling interval of k. Subsequent households were selected with every k^{th} interval. In case of more than one woman in a given households a lottery method was employed to identify the women to be interviewed.

Figure 2 *Schematic presentation of the sampling procedure, Sodo zuria Woreda, 2014*

5.6 Data collection procedures (instrument, personnel, data quality control)

5.6.1 Data collection Instrument

Structured individual level questionnaires used to collect data and the questionnaires were interviewer-administered. The questionnaire for fertility desire was adapted from Ethiopia Demographic Health Survey (EDHS 2011) and World Fertility Survey (WFS 2009), English version. The questionnaire was further developed by using peer reviewed published literatures to include factors associated with fertility desire. The questionnaire for Household food insecurity was adapted from household food insecurity access scale (HFIAS) used in developing countries and & validated in developing in Ghana [59].

The English version questionnaire translated into (Amharic) and then Wolaitegna language by other experts who speak both languages and English. The Amharic and Wolaita language version again translated back in to English, and comparisons made on the consistency of the two versions. The questionnaire was pre-tested on 60 married women in reproductive age group (10% of the final sample size) before it is administered to the study participants. Pre- test conducted on one of the rural kebeles of Damote Gale Woreda, where the cultural and socioeconomic characteristics are similar to the target population. The chance for information contamination and inclusion of the pre-tested participants at the final study was minimal since they are located far apart.

Different domains were included in the questionnaire including the respondent's background, reproductive health histories, household food security status, maternal and husband information.

5.6.2 Data Collection Personnel

The data collectors recruited from the Soddo Zuria Woreda. The data collectors were those who were nurse graduates. There were 10 data collectors (i.e. 1 data collectors for each selected 10 kebeles). The data collectors informed about the strict supervision and the crosschecking procedure that would take place during data collection. The supervisors and principal investigator had supervised the overall activities. To avoid social desirability bias any of the data collectors not assigned to collect data in their actual residence kebele.

In addition, 3 supervisors, who qualified as healthcare professionals were inspected the data collection process. They also trained for one day before the fieldwork. Eventually, the questionnaire administered in interview to the study participants in local languages.

5.7 Variables and Operational definitions

5.7.1 Variables

5.7.1.1 Dependent Variable: Fertility desire (desire for additional children).

5.7.1.2 Independent Variables:

1. Socio-economic and demographic factors: Age, Occupation, Educational status, Residence, Religion, income, Ethnicity, Wealth index

2. Reproductive history: Age at first marriage, Age at first birth, Number of living children, History of abortion, stillbirth, Offspring sex ratio, Number of marriage, birth interval, Duration of marriage, Children ever born, sex of first child, age at last birth, type of marriage

3. Maternal factors/condition: Knowledge about contraceptive, Access to F/P services, Contraceptive use. Exposure to mass-media, Inter-spousal communication, Child death, Under-five death, IFS, Sex preference

4. Household food insecurity

5. Husband factors: education, occupation, fertility desire, age

5.7.2 Operational Definitions

1. Fertility desire: Respondents' intention (desire) for additional children [1].

2. Desire for additional children: refers to the proportion of women of reproductive age who want to have a child or another child. This category consists of those women who want a child within two years, after two years and those who want a child but not sure of the timing. Pregnant mother asked as, after the child you are expecting now, would you like to have another child, or would you prefer not to have any more children. [1].

3. Desire to limit childbearing: Those women who responded that they do not want any more children [1].

4. Ideal family size: How many children they would like to have if they could choose the number of children to have over their entire lifetime for respondents who have no children and the number of children they would choose if they could start their childbearing again for those who have living children [1].

5. Knowledge about contraceptive: percent of currently married women age 15-49 who have heard of at least one modern method of family planning [61].

6. Inter-spousal communication: Joint decision on using of contraception, or communication of respondent with husband on family planning [46].

7. Access to family planning: The closest facility with family planning is less than 40 kilometers away [48].

8. Food secure households: A food secure household experiences none of the food insecurity (access) conditions or just experience worry, but rarely [59].

5.8 Data analysis procedures

After data collection, questionnaire checked for completeness and consistency. The data template format prepared and double entered in to Epi Data version 3.1 by data entry clerks. Then data exported and analyzed using SPSS version 20.

The dependent variable, i.e., the desire for additional children coined from the information on the proportion of women of reproductive age who wants another child. The respondents asked whether a woman wanted to have another child soon, after two years, or want no more children. On the basis of responses to this question, a dummy variable was be created: those who 'desire to have more children' and those who 'want to limit their fertility' [1].

To assess food access insecurity, which was the main independent variable, the study included the nine-question of HFIAS adapted in 2006 by the Food and Nutrition Technical Assistance (FANTA) project for use in low resource settings [59]. The respondent first asked an occurrence question – that is, whether the condition in the question happened at all in the past four weeks (yes or no). When respondent answers "yes" to an occurrence question, a frequency-of-occurrence question was asked to determine whether the condition happened rarely (once or twice), sometimes (three to ten times) or often (more than ten times) in the past four weeks. Responses on the nine items were summed to create the food access insecurity score, with a minimum score of 0 indicating the most food access secured households, and a maximum score of 27 indicating the most food access insecure households.

Descriptive analysis was employed to describe the percentages and number distributions of the respondents for socio-demographic, reproductive and maternal characteristics by food security

status. Bivariate analysis applied to assess the associations between independent variables with the outcome variable. Crude and adjusted odds ratios together with the corresponding 95% confidence intervals computed. A P-value ≤ 0.05 considered statistically significant in this study.

Finally, Efforts made to assess whether the necessary assumptions for the application of multivariable logistic regression fulfilled. Independent variables with p value of < 0.25 were candidates for binary logistic regressions. Among the selected candidates, independent variables with a P-value < 0.05 entered in the final model. Having a dependent variable classified into dummy, a binary logistic regression model fitted to identify predictors of fertility desire among respondents.

5.9 Data quality management

The quality of data assured by properly designing the instrument for its simplicity and pretest made and followed by modification of the questionnaire. A pretest conducted with 10% of the total sample size in a rural village adjacent to the Sodo Zuria Woreda called Dalbo. Each data collectors were administered six questionnaires and sixty questionnaires administered. The questionnaire was further modified based on the pretest result, repetitive ideas and ambiguous questions were corrected and the modified questionnaires used for the final data collection. The data collectors and the supervisors had taken training for two days on ways of data collection, interview techniques, to minimize hypothetical bias. Proper categorization and coding of questionnaires critically applied before the data collection. Moreover, supervisors and the principal investigator were checking the collected data carefully on daily basis for their completeness, accuracy, and clarity. Incomplete questionnaires filled by making re-visit. The English version of the questionnaire translated into the local language of the respondents (i.e. Wolaitegna language) and used for the data collection.

5.10 Ethical consideration

Ethical approval obtained from Ethical Review Committee of Jimma University, College of Public Health and Medical Sciences; and a letter of support also written to Wolaita zone and Sodo zuria Woreda to conduct the pre-test and the actual study. The study participant informed about the purpose of the study and the importance of their participation in the study. In addition, respondents informed that they have a right to withdraw from the study when does not feel comfort to continue before the data collection. Respondent's participation was purely voluntary. Confidentiality maintained by omitting personal identifications, such as names of the study participants.

Accordingly, procedure had no harm to the study participants. Informed oral consent obtained from each study participant after giving adequate information about the purpose of the study.

5.11 Dissemination plan

The finding submitted to the Department of population and family health and publicly defended; and the result of the study submitted to the department and advisors. After the approval of the advisors, examining board, and the department, also submits the study result and findings to relevant bodies such as Soddo zuria Woreda, Wolaita zone Health department, SNNPRS Health Bureau, and Federal Ministry of Health. Finally, attempts made to present the results on scientific conferences and to publish the results of the study on local or international journals.

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6. RESULTS

6.1. Socio-demographic and economic characteristics

A total 651 currently married women in reproductive age group (15-49) participated in this study giving a response rate of 100%. From 651 households, 595(91.4%) households headed by male. Six hundred one(92.3%) respondents lived in rural areas for most of their time.

Among 651 households, this study indicated that 394(60.5%) were food insecure and the remaining 39.5% were food secure households. The majority of respondents in food secure and insecure households were Wolaita by ethnicity and housewives by occupation. The majority 168(65.4%) of respondents in food secure households were protestant by religion followed by orthodox Christianity (27.2%). Two hundred twenty nine (58.1%) respondents in food insecure households were protestant by religion followed by orthodox Christianity (30.5%).

The mean(SD) age for currently married women in food secure households was 32.5 (6.9) with a minimum age and maximum ages being 15 and 49 years respectively. While for women in food insecure household, the mean(SD) age was 30.1 (6.7), minimum age and maximum ages being 15 and 48 years respectively. The majority of women in both food secure and insecure households were in age category of below 30 years. The mean(SD) income with in the past six month for respondents in food secure households who gave numeric answer was 852(583) with a minimum of 150 ETB and maximum of 3000 ETB. For 304 respondents in food insecure households, the mean (SD) income was 697(412) with a minimum of 100 ETB and maximum of 2500 ETB. Among 394 married women in food insecure households, the majority 207(52.2%) had no education while 47.8%) were primary and above for education status.

The mean(SD) age for respondents husband in food secure and insecure household was 36.6(6.4) and 33.4(7.6) years respectively. Regarding occupational and educational status of respondents husband in food secure and insecure households, the majority of respondent husband in food secure and food insecure households were farmer by occupation and primary and above by education. Summary of socio-demographic and economic characteristics indicated in table below.

Table 1: Socio-demographic and economic characteristics by household food security, Sodo Zuria Woreda, 2014

	Household food security	
Variables	**Food secure (n=257)**	**Food insecure (n=394)**
Ethnicity		
Wolaita	245(95.4)	358(90.9)
Gamo	6(2.3)	22(5.6)
Other	6(2.3)	14(3.5)
Religion		
Protestant	168(65.4)	229(58.1)
Orthodox	70(27.2)	120(30.5)
Catholic	16(6.2)	36(9.1)
Other	3(1.2)	9(2.3)
Women education		
No education	132(51.4)	207(52.5)
Primary and above	125(48.6)	187(47.5)
Women age		
<30	95(37)	204(51.8)
30-34	51(19.8)	68(17.3)
35-39	68(26.5)	81(20.6)
40-49	43(16.7)	41(10.4)
Wealth index		
Lowest	122(47.5)	176(44.7)
Second	81(31.5)	141(35.8)
Middle	34(13.2)	53(13.5)
Fourth	8(3.1)	13(3.3)
Highest	12(4.7)	11(2.8)
Women occupation		
Housewife	159(61.9)	227(57.6)
Farmer	65(25.3)	96(24.4)
Merchant	10(3.9)	35(8.9)
Government employee	4(1.6)	12(3)
Other	19(7.4)	24(6.1)
Husband education		
No education	95(37)	160(40.6)
Primary and above	162(63)	234(59.4)
Husband occupation		
Farmer	216(84)	314(79.7)
Merchant	21(8.2)	41(10.4)
Government employee	9(3.5)	15(3.8)
Other	11(4.3)	24(6.1)

6.2. Prevalence of fertility desire

This study showed that from 651 currently married women in reproductive age group, the majority 381(58.5%) had desire for additional children and 270 (41.5%) had no desire or had desire to limit child bearing. Respondents were also asked for how long they would like to wait before the birth of another child and the majority (75.85%) had desire to have additional children within two years followed those who had desire additional children soon.

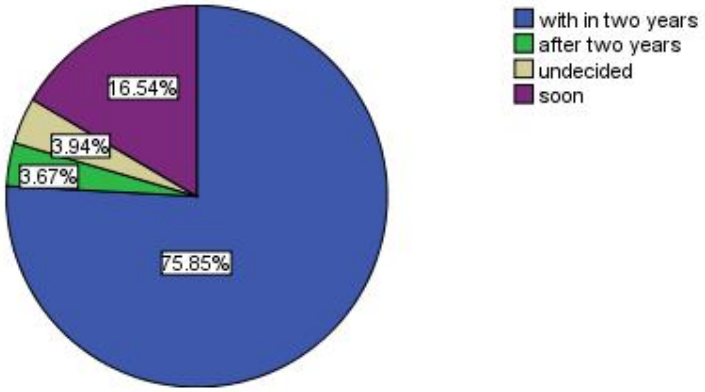

Figure 3: Fertility desire of married women, Sodo Zuria Woreda, 2014

This study indicated that 253(64.2%) of women in food insecure households had desire for additional children while 128(49.8) of women in food insecure households had desire for additional children.

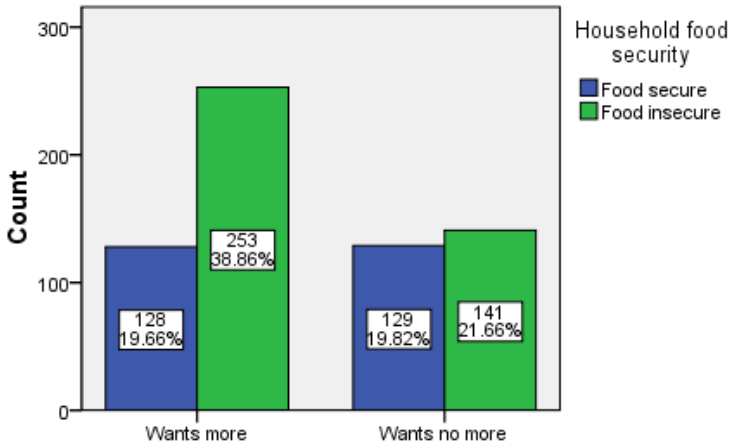

Figure 4: fertility desire of married women by household food security, sodo zuria woreda, 2014

6.3. Reproductive and maternal characteristics

The mean(SD) number of children living for all currently married women was 3.1(1.848) number of living children with a maximum of 9 number of living children. The mean number of children living for women in food insecure and secure households was 3.54 and 2.82 number of living children respectively. The majority of respondents 350(53.8%) have 1-3 number of living children followed by those who suppressed small number of children 252(38.7%). Among 350 currently married women with 1-3 number of living children, the majority 285(81.4%) had desire for additional children and only 65(18.6%) had no desire for additional children. Out of 350 respondents with 1-3 number of living children, the majority 234(66.9%) were in food insecure households while 116(33.1%) were in food secure households. The mean(SD) number of children ever born for all respondents was 3.37(2.14), with a maximum of 12 number of children ever born. While the mean(SD) number of children ever born for respondents in age category of 45-49 years was 5.81(2.2). The mean number of children ever born for respondents in food secure households was 3.80, with a maximum of 12 while the mean number of children for food insecure was 3.10 with a maximum of 10 numbers of children ever born.

Regarding sex of the living children in the households, 110(16.9%) have male only while 167(25.7%) have higher proportion of living son. Fifty two (8.0%) have living children of daughter only while 132(20.3%) have equal sex composition of living children. Almost all respondents had desire for additional children when the sex composition of living children was only son or only daughter. This study indicated that among 110 respondents with son only, 101(91.82%) had desire for additional children while only 9(8.18%) had no desire for additional children. When respondents have equal sex of living children, the percentage between who had desire and no desire for additional children was almost the same.

This study showed that the mean(SD) age of respondents at first marriage was 20.19(3.11) with minimum age of 14 years and the maximum ages of 34 years. The median age at first marriage for women in age category of 25-49 years was 20.51 year. Table 3 shows the percentage of women married at the time of the survey who had married by specific exact ages, according to current age.

The mean(SD) age at first marriage of currently married food secure women was 21(3.305) years with a minimum and maximum of 15 and 34 years respectively. The mean(SD) age at first marriage for women in food insecure households was 20(2.889) years with a minimum and maximum age at first marriage were 14 and 32 years respectively. The overall mean(SD) age at first birth for all respondents was 22(3.11) with a maximum and a minimum age at first birth of 35 and 16 years respectively. In this study, the mean age at first birth for food secure was 23 with a

minimum age of 16 years and a maximum age of 35 years while for food insecure respondents, the mean age at first birth was 21 years.

For the question, "does your husband have desire for additional children", 269(41.3%) answered 'yes' while 55.8% answered 'no'. Among 269(42.6%) respondents for which their husband had desire for additional children, the majorities 241(89.6%) had also desire for additional children while only 28(10.4%) had no desire for additional children and the majorities 38.3% among those with their husband had no desire for additional children, had also no fertility desire.

This study showed that 49.5% of married women in sodo zuria woreda consider four and above children to be ideal. The mean ideal number of children was 4.1 for currently married women.

It was observed that 90(13.8) of respondents had history on the experience of wasted pregnancy i.e. history of abortion and/or stillbirth with 59(9%) experienced abortion and 31(4.8%) had history of stillbirth. Ninety-four (14.4%) of respondents had history of child death after live birth regardless of the age at death and among this 29(4.3%) of women had history of death after celebration of fifth birthday.

Table 2: Showing reproductive characteristics of married women in sodo zuria woreda by food security, 2014

	Household food security	
Variables	**Food secure (n= 257)**	**Food insecure (n= 394)**
Children living		
None	13(3.1)	36(9.1)
1-3	116(45.1)	234(59.4)
≥4	128(49.8)	124(31.5)
Age at first marriage		
18 years and above	232(90.3)	313(79.4)
<18 years	25(9.7)	81(20.6)
Age at first birth		
19 years and above	210(81.7)	259(65.7)
<19 years	47(18.3)	135(34.3)
Child death		
Yes	34(13.2)	60(15.2)
No	223(86.8)	334(84.8)
Wasted pregnancy		
Yes	28(10.9)	62(15.7)
No	229(89.1)	332(84.3)

Regarding maternal characteristics of respondents, the majority of married women in food secure and insecure households (87.5 and 90.7 respectively) had knowledge on modern contraceptives and exposure to family planning massage through at least one mass media. While 143(55.6), 264 (67) of respondents in food secure and food insecure households respectively were not using modern contraceptives during the study. Among 583(90%) of respondents with knowledge on modern contraceptive, the majority 367(63%) were not using during the survey while (37%) were using modern contraceptives. Among who heard at least one modern contraceptive methods, 337(58%) had inter-spousal communication and 245(42%) had no inter-spousal communication or discussion of women about family planning with their husband. Table 3 shows the percentage maternal characteristics of currently married by household food security.

Table 3 Showing maternal characteristics of married women in Sodo Zuria Woreda by household food security, 2014

		Household food security	
Variables		**Food secure (n=257)**	**Food insecure(n=394)**
Contraceptive knowledge			
	Yes	225(87.5)	358(90.7)
	No	32(12.5)	36(9.3)
Inter-spousal communication			
	Yes	167(65)	200(50.8)
	No	90(35)	194(49.2)
Contraceptive use			
	Yes	114 (44.4)	130(33)
	No	143(55.6)	264 (67)
Media exposure			
	Yes	166(64.6)	276(70.1)
	No	91 (35.4)	118(29.9)

6.4. Factors associated with fertility desire

Bivariate analyses revealed that sixteen out of the twenty-nine variables showed a significant association with fertility desire at a 5% level of significance. The summary of bivariate analysis indicated below (see Table 4)

Table 4: ***Results of bivariate analysis for Factors associated with fertility desire of currently married women, sodo zuria woreda, 2014***

Variables	Fertility desire		COR(95% CI)	P-value
	Wants more	Wants no more		
Women age				<.001
<30	245(64.3)	54(20)	13.6(7.66-24.20)	<.001
30-34	58(15.2)	61(22.6)	2.8(1.55-5.25)	.001
35-39	57(15)	92(34.1)	1.7(1.03-3.36)	.041
40-49	21(5.5)	63(23.3)	1.00	
Husband education				
Primary and above	244(64)	152(56.3)	1.4(1.01-1.90)	0.047
No education	137(36)	118(43.7)	1.00	
Women education				
Primary and above	213(55.9)	99(36.7)	2.2(1.59-3.01)	<.001
No education	168(44.1)	171(63.3)	1.00	
Wealth index				.007
Lowest	270(70.9)	172(63.7)	4(1.65-9.86)	.002
Middle	104(27.3)	80(29.6)	3.3(1.33-8.39)	.010
Highest	7(1.8)	18(6.7)	1.00	
Household food security				
Food insecure	253(66.4)	141(52.2)	2.5(1.81-3.45)	<.001
Food secure	128(33.6)	129(47.8)	1.00	
Duration of marriage				
<10 years	276(73)	69(25.6)	7.9(5.52-11.24)	<.001
10 or more years	102(27)	201(74.4)	1.00	
Birth interval				
2 or more years	177(46.5)	153(56.7)	.66(.48-.91)	.010
<2 years	204(53.5)	117(43.3)	1.00	

Table 4 continued

Variables		Fertility desire: Wants more	Fertility desire: Wants no more	COR(95% CI)	P-value
Children living					<.001
	None	42(11)	7.0(2.6)	12(7.36-16.72)	.000
	1-3	285(74.8)	65(24.1)	9.1(6.73-14.07)	<.001
	4 and more	54(14.2)	198(73.3)	1.00	
Living son					
	3 and more	32(8.4)	109(40.4)	.13(.09-.21)	<.001
	<3	349(91.6)	161(59.6)	1.00	
Living daughter					
	3 and more	24(6.3)	85(31.5)	.15(.09-.24)	<.001
	<3	357(93.7)	185(68.5)	1.00	
Sex ratio					<.001
	Equal	69(18.1)	63(23.3)	1.4(.89-2.31)	.137
	Other	193(50.7)	18(6.7)	14.1(7.82-25.29)	<.001
	More son	58(15.2)	109(40.4)	.69(.44-1.11)	.698
	More daughter	61(16)	80(29.6)	1.00	
Sex preference					<.001
	No	129(33.9)	100(37)	.15(.06-.36)	<.001
	Male	200(52.5)	164(60.7)	.14(.06.33)	<.001
	Female	52(13.6)	6(2.2)	1.00	
Inter-spousal communication					
	Yes	233(61.2)	134(49.6)	.62(.46-.86)	.004
	No	148(38.8)	136(50.4)	1.00	
Media exposure					
	No	146(38.3)	63(23.3)	2.1(1.44-2.89)	<.001
	Yes	235(61.7)	207(76.7)	1.00	
Contraceptive use					
	No	271(71.1)	136(50.4)	2.4(1.75-3.36)	<.001
	Yes	110(28.9)	134(49.6)	1.00	
Husband desire					
	Yes	260(68.2)	28(10.4)	11.6(8.88-19.03)	<.001
	No	121(31.8)	242(89.6)	1.00	

6.5. Predictor's of fertility desire

For further analysis, all independent covariates which fulfilled the minimum requirement for multivariable logistic regression (had significant association at a p <0.25) were entered. Six independent variables not fulfilled the minimum requirement excluded from further analysis of multivariable logistic regression. Independent variables excluded from further analysis were women occupation, age at first marriage, age at first birth, marriage type, child death and knowledge on modern contraceptives. Three independent variable (ethnicity, residence and access to family planning service) removed for the fact that majority of respondents were wolaita in ethnicity, no urban kebeles for the study area and almost all had access to family planning service. The backward stepwise regression that controls the problem of multicollinearity employed.

Multiple logistic regression analysis revealed eight independent predictors of fertility desire for additional children in the final model.

6.5.1. Fertility desire and household food insecurity

This study revealed that household food security had statistically significant effect on desire for additional children. The odds of desire for additional children of women in food insecure households were 2 times higher for AOR and 95% CI [1.21, 3.37] compared to those women in food secure households, controlling for other covariates in the model.

6.5.2. Other Predictors in the model

Among socio-demographic and economic factors included in the study, there was statistically significant association of fertility desire for additional children of women with age and occupation of husband. Desire for additional children of women had significant difference with husband occupation of merchants and husbands in other category of occupation compared to women with farmer husbands. Women with merchant husbands had higher desire for additional children at adjusted OR of 2.7 and 95% CI [1.16, 6.28], while women with husbands in other category of occupation had higher desire for additional children at adjusted OR of 4.1 and 95% CI [2.10, 8.60] compared to those women whose husbands were farmer.

As expected, desire for additional children had statistically significant difference for current age of women in the study area. Younger women with age below 30 years had higher desire for additional children with adjusted OR of 2.6 and 95% CI [1.06-6.38] compared to older women in age category of 40-49 years.

Fertility desire of married women expected for influence by her reproductive factors. Among reproductive factors, sex composition of living children, number of living children and sex preference of respondent had statistically significant association with desire for additional children. The odds of desire for additional children for women were higher when the number of children living is small.

Table 5: Multivariable logistic regression-showing factors associated with women desire for additional children, sodo zuria woreda, 2014

Variables	Fertility desire		AOR, 95% CI	P-value
	Wants more	Wants no more		
Husband occupation				.004
Other	26(6.8)	9(3.3)	4.1(1.10, 8.60)	.036
Merchant	43(11.3)	19(7)	2.7(1.16, 6.28)	.021
Gov't employee	13(3.4)	11(4.1)	.27(.07, 1.003)	.051
Farmer	299(78.5)	231(85.6)	1.00	
Women age				.001
<30	245(64.3)	54(20)	2.6(1.06, 6.38)	.038
30-34	58(15.2)	61(22.6)	.64(.25, 1.60)	.336
35-39	57(15)	92(34.1)	.89(.37, 2.19)	.810
40-49	21(5.5)	63(23.3)	1.00	
Sex preference				.001
No	129(33.9)	100(37)	.11(.04, .40)	<.001
Male	200(52.5)	164(60.7)	.12(.04, .36)	<.001
Female	52(13.6)	6(2.2)	1.00	
Sex ratio				<.001
Equal	69(18.1)	63(23.3)	.73(.35, 1.53)	.409
Other	193(50.7)	18(6.7)	6.7(2.68, 10.89)	<.001
More son	58(15.2)	109(40.4)	.74(.38, 1.46)	.393
More daughter	61(16)	80(29.6)	1.00	
Children living				<.001
None	42(11)	7(2.6)	.54(.12, 2.48)	.432
1-3	285(74.8)	65(24.1)	4.2(2.32, 7.61)	<.001
4 and more	54(14.2)	198(73.3)	1.00	
Media exposure				
No	146(38.3)	63(23.3)	2.1(1.19, 3.78)	.010
Yes	235(61.7)	207(76.7)	1.00	
Household food security				
Food insecure	253(66.4)	141(52.2)	2.0(1.21, 3.37)	<.001
Food Secure	128(33.6)	129(47.8)		
Husband desire				
Yes	260(68.2)	28(10.4)	7.2(1.57, 15.59)	.007
No	121(31.8)	242(89.6)	1.00	

Women with 3 or below number of living children had 4.2 times higher at adjusted and 95% CI[2.32, 7.61] desire for additional compared to women who suppressed small number of children (4 and above).

Sex of living children had statistically significant effect on fertility desire for women in Sodo Zuria Woreda. Women had higher desire for additional children when sex of living children either son only or daughter only. The odds of desire for additional children of women with sex of living children son only or daughter only were 6.7 times higher at adjusted OR and 95% CI [2.68, 10.89] compared to those women with higher sex composition of living daughter.

Preference of son or daughter has significant effect on women plan for birth of next child until the preferred sex achieved. Women with no sex preference or preference of male had 89%, 88% lower desire for additional children for adjusted [AOR=.11, .12 and 95% CI: (.04, .40), (.04, .36) respectively] compared to those women with sex preference of female.

Among maternal factors include in the study, there was a difference on fertility desire of women in Sodo Zuria Woreda with exposure to family planning massage (mass media). Women with exposure to none had higher desire for additional children with adjusted OR of 2.1 and 95% CI [1.19, 3.78] compared to those women exposure to at least one.

Women's had higher desire for additional children when their husbands had desire too. Women for whom, husband had desire for additional children had also higher desire with adjusted OR of 7.2 and 95% CI [1.57, 15.59] compared their counter parts.

Efforts were made to assess whether the necessary assumptions for the application of multiple logistic regression were fulfilled, which is derived from the likelihood of observing the actual data under the assumption of that the model has been fitted is accurate.

The most contributing independent predictors of desire for additional children included in the model for currently married women in Sodo Zuria Woreda were husband occupation, age of women, household food security, media exposure, number of children living, sex composition of living children, sex preference and husband desire for additional children.

7. DISCUSSION

For a country with national population policy aimed at reducing total fertility rate, like Ethiopia, it is fundamental to investigate potential factors influencing fertility control practice. This study assessed the prevalence and differentials on fertility desire for additional children of women in Sodo ZuriaWoreda by incorporating socio-demographic and economic, household food security reproductive, maternal and husband factors. The prevalence of desire for additional children of currently married women in Sodo Zuria Woreda was 58.5% while 49.8% of women in food secure and 64.2% of women in food insecure household had desire for additional children. Women in food insecure households had higher desire for additional children compared to those women in food secure households. The most contributing independent predictors of desire for additional children for currently married women in the study area were husband occupation, current age of women, household food security, number of children living, sex composition of living children, sex preference, media exposure and husband desire for additional children.

The desire for additional children was high implicating a great potential negative effect on fertility control practice of women in sodo zuria woreda.

The finding of this study was in line with the study in Kuwaiti, which revealed that majority of respondents had desire for additional children [53]. Recent report on the national average of fertility desire for additional children revealed similar finding with this study where more than half of respondents had desire for additional children [19]. The study in Mekele, north Ethiopia and Oromia region revealed that more than half of respondents had desire for additional children, which was similar with the finding of this study [38, 55]. Similar finding might be the credence of the wider community to large family size norm as children assist households in subsistence farming.

Ethiopian government has been making several efforts to reduce total fertility rate at the national level. Fertility declines when couples desire to limit additional children. Different theorists had revealed that the decline in fertility should lag behind the decline in fertility desire [6, 34]. However, largest proportion of women desire for additional children that challenges fertility control practices of women in the study area.

The prevalence of fertility desire for additional children was higher among married women in food insecure households. In addition, this study linked household food insecurity with fertility desire and revealed strong finding indicating food insecure households (households with limited access to

food) had great negative effect on fertility control practices of women in the study area. In this study, Women in food insecure households had higher desire for additional children compared to their counterparts in food secure households indicating that family planning programs should give attention for women in food insecure households in the study area.

The question of whether food insecurity leads to low fertility desire or whether high fertility desire is the result of poverty driving food insecurity is unanswered from the existing body of literature. However, the vicious circle model would suggest that households without access to other forms of capital seek to build their human capital (and social capital through the marriage and migration of children) in order for better exploit natural capital, which was supporting the finding of this study. Though other studies not linked food insecurity and fertility desire, revealed changing effects of wealth and wage on fertility desire.

The study conducted in Bangladesh revealed a negative relation between wealth index and fertility desire [36]. Finding of other study in Mozambique revealed that women living in wealthier households were more likely to implement a desire to stop childbearing than poorer women [37]. Other study in rural part of south Ethiopia, Butajira revealed supporting finding of this study where women who were members of a food-insecure household had higher fertility as compared to their counterparts in food secure households [39].

Married women with merchant husbands and husbands in other occupation category (private, daily laboror) had higher desire for additional children compared to those women with farmer husbands. Implicating potential effect on fertility control practices of married women in the study area. Other study conducted in south Ethiopia, Butajira, showed that fertility among women whose households' main source of income, was trade or service had lower fertility compared to their counterparts whose household livelihood was farming. This different finding may be because of socio-demographic status of respondents [39].

As expected, younger married women had higher desire for additional children implicating negative relation between age of respondents with desire for additional children.

The study in Thailand revealed older women had lower desire for additional children when compared to younger [48]. Other study conducted in five peri-urban community of sub Saharan Africa indicated at older ages, it is less likely that both or either partner want to have more children [50]. In-depth analysis of EDHS data indicated, in Ethiopia, women in their late reproductive age have two and half times higher intention to limit their fertility compared to those in their early child bearing ages [1]. Other study in Oromia region revealed similar finding that higher

proportion of women who want more children were younger [38]. This similar finding might be for achievement of the large family size credence by wider community in the study area.

The number of living children was among factors expected to have great effect on fertility behavior of currently married women of reproductive age group. For women in Sodo Zuria Woreda, desire for additional children was higher for those with three or below number of living children compared to those women with four and above number of living children. This finding implies credence of large family size by wider community and a great potential negative influence of small number of living children on women plan for fertility controlling practices in the study area.

Other study conducted in two villages of Pakistan showed a negative relationship between the number of living children and desire for more children, which was similar finding with this study [41]. Other study in Nepal also revealed that women with three children had fewer additional births than women who had only two children [42]. Other study in Kuwaiti also indicated similar finding of Women with higher number of living children were more likely to stop child bearing. The finding was similar with other study conducted in Ethiopia [53].

Plan for next birth strongly affected by sex composition of living children. Sex composition of living children had statistically significant effect on fertility desire for additional children. Women had higher desire for additional children when sex composition of living children was only son or only daughter.

Other study conducted in Nepal shown Current sex composition of having only male children or only female children increased desire of having more children [54]. This finding was similar with this study. Other study showed that women desire for additional children is stronger if she had more daughters, which was similar with this study [42].

Preference of son or daughter has significant effect on women plan for birth of next child until the preferred sex achieved. In sodo zuria woreda, women that had sex preference of male and those women with no sex preference were less likely to have had lower desire for additional children compared to those women with sex preference of female. This finding indicating that sex preference had great potential negative effect on fertility control practices of women in the study area. The finding was similar with other studies conducted in Nepal and South Korea that showed sex preference had significant independent effect on fertility desire of respondents [49, 54].

One of the strategies designed to reduce fertility rate for population program by the Ethiopian government was using information, communication and education on ways and means of limiting family size [34]. This study also indicated that women who had no exposure for all types of mass media had higher desire for additional children compared to those women with exposure to at least on media. It implies a positive effect of exposure to family planning massage on fertility control practice of women in the study area.

Other study in Nepal revealed that women with more media exposure had fewer high parity births for their counterparts, which was similar with the finding of this study [42]. The study in Oromia region also revealed similar finding for the presence of statistically significant differences where those who had no exposure to all media had higher desire for additional children [38]. This similar finding might be limited access of married women in Sodo Zuria Woreda.

Fertility behavior of currently married rural women in countries where men's dominate on decisions of household issues was highly influenced by factors related to her husband/partner. This study revealed women had higher desire for additional children when their husband had desire too implying partner's negative effect on practice of fertility control programs in the study area.

This study was in line with other study in USA where a husband's desire for a child explained significant incremental variance in his wife's intention to have a child [56]. Other study in Uganda also showed similar finding in which women who perceived their husbands wanting more children were more likely for having desire for additional children compared to those did not know their husbands required number of children [57].

The similar finding might be male dominance on fertility and household decisions in sodo zuria woreda.

8. STRENGTHS AND LIMITATIONS

8.1. Strengths

- Effort to link food insecurity with fertility desire in a setting where both common
- Quality of data ensured by different mechanisms
- 100% of response rate
- Validated tools used

8.2. Limitations

One of the limitations of this study was the interpretation of responses to the question on fertility preference of the women is subject to some degree hypothetical bias because respondents' reported preferences are hypothetical and thus subject to change and rationalization

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. Conclusions

- Largest proportions of households in Sodo Zuria woreda were food insecure.
- This study indicated that there was a high desire for additional children among women in Sodo Zuria woreda.
- Fertility desire for additional children had statistically significant difference among currently married women in food insecure and secure households in Sodo Zuria woreda. Currently married women in food insecure households had higher desire for additional children compared to those women in food secure households.
- Factors contributing to higher desire for additional children for currently married women in sodo zuria woreda were husband occupation, age of women, household food security, media exposure, number of children living, sex composition of living children, sex preference and husband desire for additional children.

9.2. Recommendations

9.2.1. For Sodo Zuria Woreda and Woreda health office

- The strong change of couples' fertility behavior via encouragement of partner involvement on family planning service, inter-spousal communication and developing decision-making ability of women for fertility behavior is fundamental if the desire for additional children of women in Sodo Zuria Woreda has to decrease.
- Provision of family planning program to women who have achieved their fertility goals would be important for reducing unwanted fertility.
- Consideration of household's food security status on provision of family planning program is better to achieve planning on fertility behavior of currently married women in Sodo Zuria Woreda.
- Moreover expanding information, education and communication about small family norms and the benefits of family planning to achieve the goals of wanted fertility needed for women in Sodo Zuria Woreda.

9.2.2. For researchers

- Further longitudinal study on from desires to behavior: Moderating factors in a fertility transition

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Faculty of Public Health in effect at the time of grant is forwarded as the result of this application.

Name of the student: _____

Date._____ Signature _____

APPROVAL OF THE FIRST ADVISOR

Name of the first advisor:_____

Date._____ Signature _____

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ANNEXES

INFORMED CONSENT FORM

Research team:

Before starting any questioning, please remember the following

Introduce your self

Give clarification at all time

Seek for their willingness to be enrolled in this study.

If they are willing to be part of the study, request them to sign on the form and write the date.

Take time to explain the following for respondents

Participant information sheet

Good Morning/Good Afternoon. My name is _____and I am working in the graduate school of Jimma University. Today I come to visit your house related to the work the school launched in Soddo zuria Woreda on the cases of food insecurity and fertility desire of married women in the community. I am very much appreciating your participation in this study.

Title of the study: Food insecurity and factors associated with fertility desire of married women

Purpose of the study

This research is part of MPH Work; in the mean time, it will identify the determinants Food insecurity and factors associated with fertility desire of married women in Soddo zuria Woreda. After the results of the study, the researchers will inform the health policy makers on whether there is association between food insecurity and fertility desire or not and the determinants of fertility desire. The study will provide statistics on fertility desire and the determinants of fertility desire that are reliable and useful in guiding priority interventions in the locality as well as in the nation.

Procedures

Today I will be asking you some information on determinants of fertility desire and food insecurity in the community. Again I am very much appreciating your participation in this effort. Only the

interviewer and researcher will have access to the questionnaires and the information that you provide. The interview will take about 30 to 45 minute. The interviewer will take notes. The notes taken during the interview will not have any information that names you.

Risks of Participation

There is no anticipated risk involved with this interview. Some questions may make you feel uneasy. You may not be familiar with some of the questions or issues. You can ask for elaborations on questions you think you do not properly understand. You do not have to answer any question(s), if you do not want to.

Benefits and compensation of Participation

Your participation in this study and answers you give will be beneficial to the community as a whole, especially women in the reproductive age group. The information collected will help the government to identify the relevant variables of interest for interventions and to improve the health status of women and children. It should improve access to health services accordingly. You will not receive monetary compensation for this interview.

Privacy

What I talk about will keep private. Your name will not attach to any written notes from this interview. All written materials will lock in a cabinet. Only researchers will see this information during the study. Your name or other facts that might point to you will not appear when I present this study or publish its results. During the interview notes will taken to be sure that, the information is correct. There will be no way to identify you from the notes of the interview.

Voluntary Participation, Refusal and Withdrawal

This interview is voluntary. You can discuss as much as you like or as little as you like. You do not have to answer any questions that you do not feel comfortable. You can stop the interview at any time without giving any reason. The decision not to participate or to withdraw will not affect any aspects of your community life and your relationship with the university or any stakeholders associated with this study. If there is unclear, or you need further information about the investigator will be happy to provide.

For further information concerning the research work contact one of the following addresses:

Abraham Abate (PI): e-mail: abrishrh@gmail.com or call phone: +251-913-420126

If you are willing to be part of the discussion, we will be continuing. Otherwise we can stop.

Declaration of voluntary consent form

Respondent agreement: are you willing to be part of the study?

1. Yes (proceed) 2. No (stop)

I have understood the explanation given to me. I have agreed that I shall enrolle in the study. Make sign: ---------- Date ----------

QUESTIONNAIRE

Questionnaire prepared for married women aged 15-49

Title: Food insecurity and factors associated with fertility desire in Soddo zuria Woreda.

The study is conducted to identify determinants of fertility desire by food security status in Soddo zuria Woreda. All information in the interview was confidential. Thank you for your responses to the questions.

Interviewer Contact Result	
Name of interviewer:_____ Interviewer signature_____	Kebele name: _____ Keble code: _____ Gote :_____
Name of supervisors: _____ Supervisors signature_____	Date of interview (ETC):Day/Month/Year___/__/___ Record the time at start of interview -----
Sex of head of the household; 1.Male ☐ 2.Female ☐	

Part I: Socio-demographic and economic information

No.	Questions and filters	Coding categories	Skip
101	How old are you? (completed years)	Years ☐☐☐	
102	For most of the time until now, did you live in a city, in a town, or in the countryside?	1. City/town ☐ 2. Countryside ☐	
103	What is head of the house hold religion?	1. Protestant ☐ 2. Orthodox ☐ 3. Catholic ☐ 4. Muslim ☐ 99.Other specify……	

104	What is your religion?	1. Protestant ☐ 2. Orthodox ☐ 3. Catholic ☐ 4. Muslim ☐ 99.Other specify……	
105	What is your ethnicity?	1. Wolaita ☐ 2. Amhara ☐ 3. Guraghe ☐ 4. Oromo ☐ 99. Other (specify)……	
106	What is the highest grade you completed?	1. Cannot read and Write ☐ 2. Read and write/adult Literacy ☐ 3. Primary ☐ 4. Secondary ☐ 5. Above secondary ☐	
107	What is the highest grade your husband completed?	1. Cannot read and Write ☐ 2. Read and write/adult Literacy ☐ 3. Primary ☐ 4. Secondary ☐ 5. Above secondary ☐	

108	What is your occupational status?	1. House wife ☐ 2. Employ Farmer ☐ 3. Merchant ☐ 4. Private employee ☐ 5. Daily laborer ☐ 99.Others specify……	
109	What is your husband occupational status?	1. Employ Farmer ☐ 2. Merchant ☐ 3. Private employee ☐ 4. Daily laborer ☐ 99. Others specify……	
110	What is your marital status now?	1. Widowed ☐ 2. Married ☐ 3. Divorced ☐ 4. Single ☐	
Income and Wealth index questions			
111	Approximately, how much of these products did your household produced and sold during the last 1 year?	1. Coffee (in Birr) ☐☐☐☐☐ 2. Teff sold in Birr ☐☐☐☐☐ 3. Maize (in Birr) ☐☐☐☐☐ 4. Cassava(in quintals) ☐☐☐☐ 5. Others(specify) _____	

112	How many of these animals do this household own?	1. Milk cows, oxen or bulls? ☐☐ 2. Goats? ☐☐ 3. Sheep? ☐☐ 4. Chickens? ☐☐ 5. Beehives ☐☐ 6. Other(specify) _____	
113	Does your household have?		
	a) Functioning radio/tape	1. Yes ☐ 0. No ☐	
	2. Horse/mule /Donkey	1. Yes ☐ 0. No ☐	
	3. Cotton/sponge/spring mattress?	1. Yes ☐ 0. No ☐	
	4. Bed	1. Yes ☐ 0. No ☐	
114	What kind of latrine does your family have?	1. None ☐ 2. VIP ☐ 3. Traditional latrine ☐ 4. Other (specify)_____	
115	What is the type of roof of the house?	1. Corrugated sheet ☐ 2. Thatch roof ☐ 3. Other (specify)_____	
116	How many rooms are used by this household for sleeping only?	Number of rooms☐	
117	Do you have kitchen	1. Yes ☐ 0. No ☐	

118	Do you have separate rooms for cattle?	1. Yes ☐ 0. No ☐	
119	What is the wall of your residence house made of?	1. Wooden structure ☐ 2. Mud ☐ 99. Other(specify)_____	
120	What is the total farm size holding of the household in Hectares?	Size in hectares ☐☐☐	
121	How much was your family estimated income during the last 6 months?	Amount in Birr ☐☐☐☐	

PART II: Household Food security information

Now I am going to ask you questions about your household's food supply over the past four weeks. Food supply includes staples, sauces, and any other foods in your diet and the diets of all members of your household

201	In the past four weeks, did you worry that your household would not have enough food?	☐ 1=Yes ☐ 0=No	
202	If yes, how often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (3 to 10 times in the past four weeks) 3 = Often (more than 10 times in the past four weeks)	
203	In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	☐ 1=Yes ☐ 0=No	
204	If yes, how often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (3 to 10 times in the past four weeks) 3 = Often (more than 10 times in the past four weeks)	

205	In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?	☐ 1=Yes ☐ 0=No	
206	If yes, how often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (3 to 10 times in the past four weeks) 3 = Often (more than 10 times in the past four weeks)	
207	In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	☐ 1=Yes ☐ 0=No	
208	If yes, how often did this happen?	1 = Rarely (once or twice in the past four weeks) 2 = Sometimes (3 to 10 times in the past four weeks) 3 = Often (more than 10 times in the past four weeks)	
209	In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	☐ 1=Yes ☐ 0=No	
210	If yes, how often did this happen?	1 = Rarely (once or twice in ast four weeks) 2 = Sometimes (3 to 10 times past four weeks) 3 = Often (more than 10 times past four weeks)	
211	In the past four weeks, did you or any hold member have to eat fewer meals ay because there was not enough food?	☐ 1=Yes ☐ 0=No	

212	If yes, how often did this happen?	1 = Rarely (once or twice in ast four weeks) 2 = Sometimes (3 to 10 times past four weeks) 3 = Often (more than 10 times past four weeks)	
213	In the past four weeks, was there ever od to eat of any kind in your household se of lack of resources to get food?	☐ 1=Yes ☐ 0=No	
214	If yes, how often did this happen?	1 = Rarely (once or twice in ast four weeks) 2 = Sometimes (3 to 10 times past four weeks) 3 = Often (more than 10 times past four weeks)	
215	In the past four weeks, did you or any hold member go to sleep at night y because there was not enough food?	☐ 1=Yes ☐ 0=No	
216	If yes, how often did this happen?	1 = Rarely (once or twice in ast four weeks) 2 = Sometimes (3 to 10 times past four weeks) 3 = Often (more than 10 times past four weeks)	
217	In the past four weeks, did you or any hold member go a whole day and night ut eating anything because there was ough food?	☐ 1=Yes ☐ 0=No	

218	If yes, how often did this happen?	1 = Rarely (once or twice in ast four weeks) 2 = Sometimes (3 to 10 times past four weeks) 3 = Often (more than 10 times past four weeks)	
Part III: Reproductive health information			
301	Have you ever been married or lived together with a man as if married?	1. Yes, formerly married ☐ 2. Yes, lived with a man ☐ 3. No ☐	
302	Does your husband/partner have other wives or does he live with other women as if married?	1. Yes ☐ 0. No ☐ 88. don't know ☐	
303	Including yourself, in total, how many wives or partners does your husband live with now as if married?	Total number of wives and live-in partners ☐☐ 88. don't know	
304	Are you the first, second … wife?	Rank ☐	
305	Have you been married or lived with a man only once more than once?	1. Only once ☐ 2. More than once ☐	
306	In what age were you married first?	Years ☐☐	
307	Are you living with your first husband currently?	1. Yes ☐ 2. No ☐	
308	How long have you been married?	Years ☐☐	

309	What was the duration of your previous marriages?	Years ☐☐	
310	Let me ask you about all the children you have given birth to throughout your life. Have you ever given birth?	1. Yes ☐ 0. No ☐	
311	How old were you when you first gave birth?	Years ☐☐	
312	How old were you when you gave last birth?	Years ☐☐	
313	How many male and female children did you deliver alive?	Male ☐☐ Female ☐☐	
314	What is the sex of your first child?	1. Male ☐ 2. Female ☐	
315	Which type of sex would you want for your first child?	1. Male ☐ 2. Female ☐	
316	Have you ever given birth to a child who was born alive but later, died?	1. Yes ☐ 0. No ☐	
317	If yes, How many?	In number ☐☐	
318	How old was your child, when he/she died? Probe: if less than 1 month; record days if 'less than 1 year; record months	Days ☐☐ Months ☐☐ Years ☐☐	
319	Have you ever had a pregnancy that miscarried, or was aborted?	1. Yes ☐ 0. No ☐	

320	Do you know the fertile period between your menstrual cycles?	1. Yes ☐ 0. No ☐	
PART IV: Maternal information			
401	Are you pregnant now?	1. Yes ☐ 0. No ☐ 88. unsure ☐	
402	Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	1. Have another child ☐ 2. No more/none ☐ 88. Undecided/don't ☐	
403	After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	1. Months ☐☐ 2. Years ☐☐ 3. Soon now ☐ 4. Says she can't get pregnant ☐ 5. After marriage ☐ 99. Other specify---- 88. Don't know ☐	
404	Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	1. Have (A/another) child ☐ 2. No more/none ☐ 3. Says she can't get pregnant ☐ 88. Undecided/don't know ☐	

405	How long would you like to wait from now before the birth of (a/another) child	1. Months ☐☐ 2. Years ☐☐ 3. Soon now ☐ 4. Says she can't get pregnant ☐ 5. After marriage ☐ 99. Other specify---------- 88. Don't know ☐	
406	Why do you want to have more children?	1. Children's are wealth ☐ 2. They can support in old age ☐ 3. Children's may/may not grow ☐ 4. Children's are honor ☐ 5. To maintain posterity ☐ 99. other specify-------	
407	If you were able to go back to the time when you didn't have any children and decide the number of children you wanted to have then How many children would you prefer?	Child number ☐☐ Male ☐ Female ☐ As God given ☐ 88. Don't know ☐	
408	Does your husband want to more children?	1. Yes ☐ 0. No ☐	
409	Do you know of a place where you can obtain a method of family planning?	1. Yes ☐ 0. No ☐	

410	What is the nearest conventional health institution with F/P service to your home	1. Health center ☐ 2. Clinic (Private) ☐ 3. Hospital (Gov.) ☐	
411	How long does it take to reach the nearby health facility with F/P service from your home?	Time in minutes ☐☐ Distance in km ☐☐	
412	In the last few months have you:		
	a) Heard about family planning on the radio?	1. Yes ☐ 0. No ☐	
	b) Seen anything about family planning on the television?	1. Yes ☐ 0. No ☐	
	c) Read about family planning in a newspaper or magazine?	1. Yes ☐ 0. No ☐	
	d) Read about family planning in a pamphlet/Posters/Leaflets	1. Yes ☐ 0. No ☐	
	e) Heard about family planning at community event/conversation?	1. Yes ☐ 0. No ☐	
413	Have you ever used contraceptive methods?	1.Yes ☐ 0. No ☐	
414	Do you think you will use a	1. Yes ☐	

	contraceptive method to delay or avoid pregnancy at any time in the future?	2. No ☐ 88. Don't know ☐	
415	Would you say that using contraception is mainly your decision, mainly your husband's/partner's decision, or did you both decide together?	1. Mainly respondents ☐ 2. Mainly husbands/partner ☐ 3. Joint decision ☐ 99. other specify----------	
416	For how long have you used the current a contraceptive you are using?	Months☐☐ Year ☐☐ 88. Don't know ☐	
417	Does your husband/partner want the same number of children that you want, or does he want more or fewer than you want?	1. Same number ☐ 2. More children ☐ 3. Fewer children ☐ 88. Don't know ☐	

THANK YOU:

መጠይቅ

ምግብ ዋስትና እና የስነ-ተዋልዶ ጤና ዉጤቶችን የምዳስስ የተዘጋጀ መጠይቅ

ይህ መጠይቅ የተዘጋጀዉ በመረጃ ስብሰባ ወቅት ላገቡ 15-49 ዕድሜ ክልል ዉስጥ ለሚገኙ እናቶች ነዉ::

የግለሰብ ስምምነት ፎርም

ጤና ይስጥልኝ ውድ እህቴ! እኔ ስሜ----------ይባላል:: የምግብ ዋስትና እና የስነ-ተዋልዶ ጤና ዉጤቶችን በሚዳስስ ጥናት ላይ መረጃ ሰብሳቢ ነኝ:: እርስዎ በዚህ ጥናት እንዲሳተፉ ተመርጠዋል::የጥናቱ ዋና ዓላማ የስነ-ተዋልዶ ጤና ዉጤቶች ላይ ተጽዕኖ የሚያሳድሩቱን እና የምግብ ዋስትና እና የስነ-ተዋልዶ ጤና ዉጤቶችን ጥምረት በበቂ ሁኔታ ለመለየት ነው:: የምንነጋገርባቸው ጉዳዮች (የሚሰጡኝ መረጃ) ሙሉ በሙሉ በሚስጥር የተጠበቁ ይሆናሉ:: በዚህ ጥናት ወረቀት ላይ ስመዎትም ሆነ አድራሻዎን ሊገልጹ የሚችሉ ሁሉ አይመዘገብም::

ስለስነ-ተዋልዶ ጤናዎና የህይዎት ገጠመኝዎ በተመለከተ የምንጠይቅዎትን ጥየቄዎችና እርስዎ የሚነግሩኝ ማንኛውም መረጃ ለአከባቢያቹም ሆነ በሌላ አከባቢ ለሚገኙ ሌሎች ሴቶች ጤና ለመረዳትና ለማሻሻል ጠቃሚ ነው:: የጥናቱንም ዉጤት ለአከባቢያቹ እና በሌላ አከባቢ ለሚገኙ ሌሎች ጤና ተቋማት የበላይ አካላት የምናሳዉቅ ይሆናል:: በጥናቱ ላይ መሳተፎ ምንም አይነት ጉዳት የለዉም::

በዚህ ጥናት የስነ-ተዋልዶ ጤናዎት ላይ ተጽዕኖ የሚያሳድሩቱን እና አንዳድ የሕይዎት ገጠመኝዎን በተመለከተ ጥያቄዎችን አቀርብልዎታለሁ:: አንዳድ ጥያዌቆችን መመለስ ባይፈልጉ ልንተዋቸው እንችላለን:: እነዚህ ጥያቄዎች ትክክል ነው ወይም ትክክል አይደለም የሚል ምልስ የላቸውም :: ከማቀርብልዎት ጥያቄዎች መካከል አንዳንዶቹ ከእንድ በላይ መልስ ሊኖራቸው ይችላል:: ቃለ-መጠይቁ በአማካኝ 30 ደቂቃ ይፈጃል:: በዚህ ጥናት ለመሳተፍ ይስማማሉ?

1. አዎ ተስማምቻለሁ 2. አልተስማማሁም
   ስለሰጡኝ ጊዜ አመሰግናለሁ

አዎ ከሆነ ወደ ቃለ መጠይቁ ይለፉ

መግቢያ	
የጠያቂዉ ስም _____ የጠያቂዉ ፊርማ_____	ቃለመጠይቁን ያካሄዱበት ቀበሌዉ ስም _____ መለያ ቁጥር ____ ጎጥ_____
የተቆጣጣሪዉ ስም: _____ ተቆጣጣሪዉ ፊርማ_____	መጠይቁ የተሞላበት ቀን __/__/__ (E.C):ቀን/ወር/አመት መጠይቁ የተጀመረበት ሰዓት ----------
የቤትዎ አስተዳዳሪ ማነዉ ? 1. ወንድ 2. ሴት	

ክፍል አንድ: አጠቃላይ መረጃ

ተ.ቁ	**ጥያቄዎች**		**ጥያቄዎች**
101	ዕድሜዎት ስንት ነው? ዕድሜ በቁጥር----------	102	እስከ አሁን ባሳለፍሽዉ ህይዎትሽ ለብዙ ግዜ የኖርሽዉ የት ነዉ? 1. ከተማ 2. ገጠር

103	ሀይማኖትዎ ምንድን ነው? 1.ፕሮቴስታንት 2. ኦርቶዶክስ 3. ካቶሊክ 4. ሙስሊም	104	የቤትዎ አስተዳዳሪ ሀይማኖት ምንድን ነው? 1.ፕሮቴስታንት 2. ኦርቶዶክስ 3. ካቶሊክ 4. ሙስሊም

	99. ሌላ (ቢገልጹልን)----------		99. ሌላ (ቢገልጹልን)----------
105	የዕርሶ ብሔር ምንድነዉ? 1. ወላይታ 2. ጋሞ 3. አማራ 4. ጉራጌ 99. ሌላ (ቢገልጹል)----------	106	የትምህርት ደረጃዎት ምን ያህል ነዉ? 1. አልተማርኩም 2. የመጀመሪያ ደረጃ(1ኛ-8ኛ ክፍል) 3. ሁለተኛ ደረጃ (9ኛ-12ኛ ክፍል) 4. ከ2ኛ ደረጃ በላይ 5. ኮሌጅና ከዚያ በላይ 99. ሌላ (ቢገልጹል)----------
107	የባለቤትዎ የትምህርት ደረጃ ምን ያህል ነዉ? 1. አልተማረም 2. የመጀመሪያ ደረጃ(1ኛ-8ኛ ክፍል) 3. ሁለተኛ ደረጃ 4. ከ2ኛ ደረጃ በላይ 5. ኮሌጅና ከዚያ በላይ 99. ሌላ (ቢገልጹል)----------	108	ሥራዎ ምንድነዉ? 1. የቤት እመቤት 2. አርሶ አደር 3. ነጋዴ 4. የመንግስት መስሪያቤት ሰራትኛ 5. የግል መስሪያቤት ሰራትኛ 6. የቀን ሰራትኛ 99.ሌላ (ቢገልጹሉን)----------
109	የባለቤትዎ ሥራ ምንድን ነው? 1. አርሶ አደር 2. ነጋዴ 3. የመንግስት መስሪያቤት ሰራትኛ 4. የግል መስሪያ ቤት ሰራተኛ 5. የቀን ሰራተኛ 99. ሌላ (ቢገልጹሉን)----------		
አሁን ደግሞ የቤተሰብ ሀብት የምመለከተዉን ጥያቄ ልጠይቆት			
110	ባለፈዉ አንድ አመት ከተዘረዘሩት ምርቶች ዉስጥ ምን ያህል አምርታችሁ ሸጣችኻል? 6. ቡና (በብር) ---------- 7. ጤፍ (በብር) 8. በቆሎ (በብር) ----------	111	ከሚከተሉት እንሰሳቶች የትኞቹ አላችሁ? 1. የወተት ላም፣በሬ ብዛት?____ 2. ፍየል ብዛት? ____ 3. በግ ብዛት? ____ 4. ዶሮ ብዛት?____

	9. ስከዋር ድንች(በብር)---------- 10. ጥራጥሬ እህሎች(በብር)---------- 99. ሌላ ካለ_____		5. የንብ ቀፎ ብዛት ____ 99. ሌላ ካለ ቢነግሩኝ _____
112	በቤታችሁ ዉስጥ የሚከተሉት አላችሁ?		
	a) የሚሰራ ሬድዎ/ቴፕ 1. አለ 2. የለም		b) ፈረስ/በቅሎ/አህያ 1. አለ 2. የለም
	c) የጥጥ/የስቦንጅ/ስፕሪንግፍራሽ 1. አለ 2. የለም		d) አልጋ 1. አለ 2. የለም
113	ምን አይነት መፀዳጃ ቤት ነዉ ያላችሁ? (ይመልከቱ) 5. ቤት ያለዉ መፀዳጃ ቤት 6. ቤት የሌለዉ መፀዳጃ ቤት 7. ለማዳበሪያነት የሚጠቀም 8. የለም 99. ሌላ ካለ ይጥቀሱ----------	114	የቤታችሁ ጣርያ ምንድን ነዉ? (ይመልከቱ) 4. ቆርቆሮ 5. ሳር ቤት 99. ሌላ ካለ ይጥቀሱ _____
115	ለመኝታ አገልግሎት ብቻ የምትጠቀሙት ስንት ክፍል አላችሁ? የክፍሎቹ ብዛት በቁጥር_____	116	ምግብ ማብሰያ (ኩሽና) ቤት አላችሁ? 1. አዎ 2. የለንም
117	ለጥ.ቁ 116 መልስዎ አዎ ከሆነ ምግብ ማብሰያ (ኩሽና) ቤቱ ከማደሪያ የተለየ ነዉ 1. አዎ 2. አይደለም	118	ለቤቹ ለመጠጥነት የምሆን ዉሃ ከየት ነዉ የምትጠቀሙት 1. ከምንጭ 2. ግቢ ካለዉ ቧንቧ 3. ከወንዝ 4. ከቦኖ 99. ሌላ ካለ ይጥቀሱ_____
119	ለከብቶች የተለየ ክፍል አላቸዉ? 1. አዎ 2. የለንም	120	የቤታችሁ ግርግዳ ምንድን ነዉ የለበሰዉ? 1. እንጨት ብቻ 2. ጭቃ 3. ድንጋይ 99. ሌላ ካለይጥቀሱ ___
121	ስንት ሄክታር መሬት አላችሁ? በሄክታር__	122	ላላፉት ስድስት ወራት ወርሃዊ ገቢያችሁ ስንት ይሆናል? በብር___

ክፍል ሁለት፤ የቤትዎን ምግብ ዋስትና የሚመለከቱ ጥያቄዎች			
201	ባለፈው ወር (አራት ሳምንት) በቂ ምግብ ቤት ውስጥ አይኖርም ብለሽ ተጨንቀሽ ነበር?	1. አዎ 2. አልሰጋሁም	

202	አዎ ከሆነ መልስሽ በወር ውስጥ ምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከአስር ጊዜ በላይ)	
203	በምግብ ወይም በገንዘብ እጥረት ምክንያት አንቺ ወይም በቤተሰብ ውስጥ የመረጣቹትን ምግብ መመገብ ያልቻላቹበት ጊዜ ነበር?	1. አዎ 2. አልሰጋሁም	
204	አዎ ከሆነ መልሱ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከአስር ጊዝ በላይ)	
205	ባለፈው ወር (አራት ሳምንት) ውስጥ የመግዛት አቅም ስላልነበራቸሁ በቤተሰብ ውስጥ የተወሰነ የምግብ አይነት በልታቹ ነበር?	1. አዎ 2. የለም	
206	አዎ ከሆነ መልስሽ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	
207	ባለፈው ወር (አራት ሳምንታት ውስጥ) ምግብ ስላነሰ ወይም ገንዘብ ስለሌለ የማትፈልጉትን ምግብ ተመግባቹ ነበር?	1. አዎ 2. አልነበረም	
208	አዎ ከሆነ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜበላይ)	
209	ባለፈው ወር (አራት ሳምንት) ቤት ውስጥ በቂ ምግብ ስለሌለ ከሌላው ጊዜ ያነሰ ምግብ የተመገበ ሰው አለ?	1. አዎ 2. የለም	
210	አዎ ከሆነ መልስሽ ምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	
211	ባለፈው ወር ውስጥ በቂ ምግብ ስለሌለ በቀን ውስጥ በጣም ትንሽ ምግብ የተመገባቹበት ቀን አለ?	1. አዎ 2. የለም	
212	ካለ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ)	

		3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	
213	ባለፈው ወር ውስጥ ምንም አይነት ምግብ ቤት ውስጥ ሳይኖር ቀርቶ ያውቃል (ገንዘብ ስለሌለ)?	1. አዎ 2. አያውቅም	
214	አዎ ከሆነ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	
215	ባለፈው ወር ውስጥ ምግብ ስለሌለ ከቤተሰብ ሣይበላ ያደረ አለ?	1. አዎ 2. የለም	
216	አዎ ከሆነ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	
217	በቤተሰብ ውስጥ በምግብ እጥረት ምክንያት ባለፈው ወር ውስጥ ቀንና ማታ ምንም ምግብ ሳይበላ ያሳለፈ ሰው አለ ?	1. አዎ 2. የለም	
218	አዎ ከሆነ ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቴ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ)	

ክፍል ሶስት፡ የስነ-ተዋልዶ ጤናን በተመለከተ

301	ባለቤትዎ ሌላ የትዳር ጓደኛ/ሚስት አለዉ? 1. አዎ 2. የለውም 88 አላዉቅም		
302	ዕርስኦን ጨምሮ ባለቤትኦ ስንት ሚስት አለዉ? 1. አጠቃላይ የሚስቶች ብዛት በቁጥር---------- 88. አላዉቅም	303	ዕርስኦ ስንተኛ ሚስት ነሽ? በደረጃ---------
304	ስንቴ ነዉ ያገቡት? (አንዴ ብቻ ነዉ ወይስ ከአንድ ጊዜ በላይ አግብተዉ ያቃሉ) 1. አንድ ግዜ ብቻ 2. ከአንድ ግዜ ላይ	305	መጀመሪያ ስታገቢ እድሜሽ ስንት ነበረ? ዕድሜ በቁጥር.....
306	ለመጀመሪያ ጊዜ ካገባሽዉ ሰዉ ጋራ ነዉ አሁን የምትኖሪዉ? 1. አዎ 2. አይደለም	307	ለ ጥ. ቁ. 306 መልሰዎ አዎን ከሆነ፤ ከባለቤትዎ ጋር ከተጋባቹ ጀምሮ እስከ አሁን ድረስ በትዳር የቆያቹትጊዜ ምን ያህል ነዉ? በቁጥር---------
308	ካለፉ ባለቤትሽ ጋር ለምን ያህል ግዜ አብረሽ ኖረሻል (ከአንድ ግዜ በላይ አግብታ ለምታዉቅ) አመት በቁጥር.....	309	ከዚህ በፊት አርግዘዉ ያዉቃሉ? መልሱ አላዉቅም ከሆነ ወደ ጥያቄ ቁጥር 319 ይሂዱ 1. አዎ 2. አላዉቅም

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312	ያልተፈለገ እርግዝና እስካሁን ኣጋጥሞሽ ያዉቃል? መልሱ አይደለም ከሆነ ወደ ጥያቄ ቁጥር 315 ይለፉ 1. አዎ 2. አያዉቅም	313	ለጥያቄ ቁጥር 312 መልሱ አዎ ከሆነ ስንት ግዜ ያልተፈለገ እርግዝና ኣጋጠሞሻል? ብዛት----------
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316	የወለድሻቸዉን የመጨርሻዎቹን ሁለት ልጆች በስንት አመት ልዩነት ነዉ የወለድሻቸዉ?(አንድ ልጅ ብቻ ካላት ወደ ጥ. .ተ.ቁ 317) አንድ ልጅ ከሆነ ያላት ወደ ጥያቄ 317 ይሂዱ በወር-------	317	በመጨረሻዉ እርግዝናሽ በጤና ተቋም የእርግዝና ክትትል አድርገሽ ነበር?(አረግዛ የማታዉቅ ከሆነ ወደ ጥ.ተ.ቁ 319) 1. አዎ 2. አላዉቅም
318	ለ ጥያቄ ቁጥር 317 መልሱ አዎ ከሆነ ስንት ግዜ ጤና ተቃም ለእርግዝና ክትትል ሄድሽ? 1. አንድ ግዜ 2. ሁለት ግዜ 3. ሶስት ግዜ 4. አራት ግዜ 5. ከአራት ግዜ በላይ		
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323	ሲወለዱ ሞተዉ የተወለዱ ነበሩ? 1. አዎ 2. አይደለም	324	መልሱ አዎ ከሆነ ስንት ልጆች ሞተዉ ተወለዱ? በቁጥር.....
325	ዉርጃ ኣጋጥሞሽ ያዉቃል? 1. አዎ 2. አይደለም	326	መልሱ አዎ ከሆነ ምን ያህል ዉርጃ ኣጋጠመሽ በቁጥር.....
327	የመጀመሪያ ልጅሽ ፆታዉ ምንድ ነዉ? 1. ወንድ 2. ሴት	328	የመጀመሪያ ልጅሽ ፆታ ምን እንዲሆን ነበር የምትፈልጊዉ? 1. ወንድ 2. ሴት
329	በሕይወት ከተወለዱ በኃላ የሞተብሽ ልጅ አለ?	330	መልሱ አዎ ከሆነ ስንት ልጆች ሞቱብሽ?

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333	በአለፈዉ አምስት አመት ዉስጥ በሂወት ያለ ልጅ ወልደዋልል? 1. አዎ 2. አልወለድኩም	334	አሁን ነፍሰ-ጡር ነሽ? 1. አዎ 2. አይደለሁም 88. እርግጠኛ አይደለሁም
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337	ለጥ.ቁ 332 መልስዎ ሌላ ልጅ እፈልጋለሁ ከሆነ ሌላ ልጅ ለመዉለድ ምን ያህል ጊዜ ነዉ መቆየት የምትፈልጊዉ? 1. ወር በቁጥር-------- 2. አመት በቁጥር-------- 3. አሁኑኑ 4. ማርገዝ አልችልም	338	ለጥ.ቁ 331 መልስዎ አዎ ከሆነ አሁን እየጠበቅሽ ያለሽዉን ልጅ ከወለድሽ በኻላ ሌላ ልጅ እንዲኖርሽ ነዉ ወይስ ተጨማሪ ልጅ እንዳይኖርሽ ነዉ የምትፈልጊዉ? 1. ሌላ ልጅ እፈልጋለሁ 2. አልፈልግም 3. ማርገዝ አልችልም 88. አልወሰንኩም/አላዉቅም
339	ለጥ.ቁ 332 መልስዎ ሌላ ልጅ እፈልጋለሁ ከሆነ ምን ያህል ተጨማሪ ልጅ ለመዉለድ ነዉ የምትፈልጊዉ? ብዛት በቁጥር--------- ወንድ ..... ሴት.....	340	አሁን እየጠበቅሽ ያለሽዉን ልጅ ከወለድሽ በኻላ ቀጣዩን ልጅ ለመዉለድ ምን ያህል ጊዜ ነዉ መቆየት የምትፈልጊዉ? 5. ወር በቁጥር-------- 6. አመትበቁጥር-------- 7. አሁኑኑ 8. ማርገዝ አልችልም

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401	ስለ ዘመናዊ እርግዝና መከላከያ ታቂዊለሽ? መልሱ አለዉቅም ከሆነ ወደ ጥያቄ ተ.ቁ 501 ይሂዱ 1. አዎ 2. አላዉቅም	402	ለጥያቄ ተ.ቁ 401 መልሱ አዎ ከሆነ የትኞችን ዘመናዊ የእርግዝና መከላከያ ያዉቃሉ? መልሱን ይክበቡት 1. ፒልስ 2. በመርፌ የሚሰጥ 3. ማህጸን ዉስጥ የምቀመጥ (IUDS/ ሉፕ) 4. በክንድ የምቀበር 5. ኮንዶም 99. ሌላ የምያዉቁት ካለ ይጥቀሱ.....
403	ለጥያቄ ተ.ቁ 401 መልሱ አዎ ከሆነ አሁን እርግዝና መከላከያ ይጠቀማሉ? 1. እጠቀማለሁ 2. አልጠቀምም	404	ለጥያቄ ተ.ቁ 403 መልሱ አዎ (እጠቀማለሁ) ከሆነ የትኛዉን የእርግዝና መከላከያ ይጠቀማሉ? 1. ፒልስ 2. በመርፌ የሚሰጥ 3. ማህጸን ዉስጥ የምቀመጥ (IUDS/ ሉፕ) 4. በክንድ የምቀበር

			5. ኮንዶም 99. ሌላ የምያዉቁት ካለ ይጥቀሱ.....
405	ለተ.ቁ 403 መልሱ አልጠቀምም ከሆነ ምክነያቱ ምንነበረ? 1. የተፈጥሮ የመከላከያ ዘዴ ስለምጠቀም 2. ተጨማሪ ልጆች ስለምፈልግ 3. የጎንዮሽ ጉዳቱን ስለምፍራ 4. በሀይማኖት ስለማይፈቀድ 5. ባለቤቴ ስለሚቃወመኝ 99. ሌላ ካለ ቢነግሩኝ ____	406	ላለፉት ጠቂት ወራት የሚከተሉትን ሀ)በሬድዎ ስለ እርግዝና መከላከያ ሰምትሽ ታዉቂያለሽ? 1. አዎ 2. አለወሰማሁም ለ) በቴሌቪዝን ስለእርግዝና መከላከያ አይተዉ ያቃሉ? 1. አዎ 2. አለወሰማሁም ሐ) በጋዜጣ ላይ ስለ እርግዝና መከላከያ አንብበዉ ያቃሉ? 1. አዎ 2. አለወሰማሁም መ) ስለ እርግዝና መከላከያ በበበራሪ ወረቀር ላይ /ፖስተር ለይ አምብበዋል? 1. አዎ 2. አለወሰማሁም ሠ) በህብረተሰቡ ዉስጥ ስለእርግዝና መከላከያ ሲወያዩ ሰምተዉ ያቃሉ? 1.አዎ 2. አለወሰማሁም
407	ዘመናዊ እርግዝና መከላከያ ለምን ያስፈልጋል? 1. እርግዝናን ለመከላከል 2. አራርቆ ለመዉለድ 3. ከወሊድጋር ተያይዘዉ የሚመጡ ችግሮችን ለማስወገድ 4. ቤተሰብን ለመመጠን 5. ጤናን ለመጠበቅ 99. ሌላ ካለ ቢነግሩኝ ____	408	ዘመናዊ እርግዝና መከላከያ ለመዉሰድ ቢፈልጉ ከየት ነዉ የሚያገኙት? 1. ሆስፒታል 2. ጤና ጣቢያ 3. የግል ክሊኒክ 4. የግል መደሃኒት ቤት/ክሊንክ 99. ሌላ ካለ ___
409	ለሚቀጥሉት 12 ወራት ዘመናዊ የእርግዝና መከላከያ ለመጠቀም ሀሳብ አለሽ? (ለማይጠቀሙ እናቶች ብቻ) 1. አዎ 2. የለኝም	410	ለተ.ቁ 409 መልሱ የለኝም ከሆነ ለምን አሳብ የለሽም a) ተፈጥሮአዊ እርግዝና መከላከያ/መታቀብ 1. አዎ 2. አይደልም b) የምፈልገዉን ዖታ ስላለ 1. አዎ 2. አይደልም c) እዉቀት ስለሌለኝ 1. አዎ 2. አይደልም d) ባለቤቴ ስለማይፈልግ 1. አዎ 2. አይደልም e)ተጨማሪ ልጅ እንዲኖርን ስለምንፈልግ 1. አዎ 2. አይደልም f) በሃየማኖት ስለሚከለከል

			1. አዎ 2. አይደልም g) ሌላ ካለ ____
411	በሂወትዎ ዉስጥ ዘመናዊ የእርግዝና መከላከያ ተጠቅመዉ ያዉቃሉ? መልሱ አየደልም ከሆነ ወደ ጥያቄ ቁጥር 415 ይህዱ 1. አዎ 2. አይደልም	412	ለጥያቄ ተ.ቁ 411 መልሱ አዎ ከሆነ ላለፉት ሶስት አመት እርግዝና መከላከያ ቢያንስ ለሶስት ወር አቋርጠዉ ያዉቃሉ? 1. አዎ 2. አይደልም
413	ለጥያቄ ተ.ቁ 412 መልሱ አይደለም ከሆነ ለምን ያህል ጊዜ ሳያቋርጡ ተጠቅመዉ ያዉቃሉ? በወር-----		
ክፍል አምስት፡ ዉሳኔ ማድረግን (DECISION MAKING) በተመለከተ			
501	የቤተሰብዎ የገቢ ምንጭ ማን ነዉ? 1. ሁለቱም 2. ባል 3. ሚስት 99. ሌላ ካለ	502	ከቤተሰቡ ገቢ ወጪዉን የሚወስነዉ ማን ነዉ? 1. ሁለቱም 2. ወንድ 3. ሴት 99. ሌላ ካለ--------
503	የቤተሰቡን ብዛት ማን ነዉ የሚወስነዉ? 1. ሁለቱም 2. ባል 3. ሚስት 4. ሌላ ካለ.....	504	ከባለቤትዎ ጋር ላለፉት 6 ወር ስለቤተሰብ ምጣኔ ተወያይታችሁ ታዉቃላችሁ? 1. አዎ 2. አይደለም
505	የትኛዉንም የስነ-ተዋልዶ ጤና፤ የቤተሰብ ምጣኔን ጨምሮ የመጠቀም መብት አለዎት? መልሱ አዎ ከሆነ ወደ ተ. ቁ 601 ይለፉ 1. አዎ 2. አይደለም	506	ለጥያቄ ተ.ቁ.505 መልሱ አየደለም ከሆነ ማን ነዉ የሚወስነዉ? 1. ሁለቱም 2. ባል 3. ሚስት 4. ሌላ ካለ .....
507	የቤተሰብ ምጣኔ ባለቤትዎ ሳያዉቅ ብጠቀሙ ምን ይፈጠራል ብለዉ ያስባሉ? 1. ወዲየዉኑ መፋታት 2. ይመተኛል 3. ወደኔ መምጣቱን ያቆማል 99. ሌላ ካለ----------		

አመሰግናለሁ