

**DIFFERENTIALS IN MODERN CONTRACEPTIVE METHOD USE BY
FOOD SECURITY STATUS AMONG MARRIED WOMEN OF
REPRODUCTIVE AGE GROUP IN SODDO ZURIA WOREDA, SNNP,
SOUTHERN ETHIOPIA**

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A Thesis to be submitted to the college of public health and medical sciences department of population and family health, Jimma University, in partial fulfillment of the requirements for the **degree of Masters in Public Health** in Reproductive Health (MPH/RH).

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Jimma University

JIMMA UNIVERSITY
COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES
DEPARTMENT OF POPULATION AND FAMILY HEALTH

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ABSTRACT

Background: Family planning services are educational, comprehensive medical or social activities which enable individuals to determine freely the number and spacing and timing of their children. Reproductive health services can improve women's and children's nutrition, and better nutrition can improve reproductive health. In Ethiopia the connections between population and food security are extraordinarily complex and there were limited studies regarding the relation between food insecurity and modern contraceptive use. The objective of this study was to assess association between food insecurity and modern contraceptive use and other factors affecting its utilization.

Methods: Community based cross sectional study with internal comparison was conducted using a multistage sampling technique from March 15 to 30, 2014 on currently married women of reproductive group residing in Soddo Zuria Woreda. Descriptive summary using frequencies, proportions, graphs and crosstabs were used for descriptive analysis. Bivariate and multivariate logistic regression analyses were also conducted to see the association between food security status and MCM use.

Results: The study was included 651 currently married women of reproductive age group the prevalence of food insecurity in the area was 394(61.50%). Contraceptive prevalence in the study area is 38.60% (52.00% among food secured and 29.70% among food insecured households). About 90.80% of the respondents had knowledge about modern contraceptive. Women from food secure HHs were about 1.7 times more likely to use modern family planning [AOR: 1.73, (95% CI:1.05, 2.85)] and women who had discussion with their partner were about 3 times more likely to use modern contraceptive [AOR: 2.94, (1.84, 4.70)]. Women who had antenatal care follow up were about 5 times more likely to use modern contraceptive [AOR: 4.81, (95%CI: 3.03, 7.63)]. Mothers that were exposed to mass media were also about 5 times more likely to use modern contraceptive compared to those who had not [AOR: 5.43, (95%CI: 1.80, 16.41)].

Conclusion and recommendation: Modern contraceptive method utilization is higher in the area than the national and regional level. Food security status, antenatal care, institutional delivery, discussion with partner and exposure to media shows significant association with modern contraceptive use. Hence while planning and implementing of family planning program food security status should get due consideration and emphasis should also be given to antenatal care and institutional delivery.

Key words: modern family planning, currently married women, food insecurity.

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ACCRONYM

ANC – Ante-natal Care

E.C- Ethiopian Calendar

FAO- Food and Agricultural Organization

FP- Family Planning

HIV/AIDS- Human Immunodeficiency Virus/ Acquired immunodeficiency Syndrome

IUDs- Intrauterine devices

NGO- Non-Governmental Organization

MFP – Modern Family Planning

MCM- Modern Contraceptive method

PNC- Post-Natal Care

SNNPR- Southern Nations Nationalities and Peoples Representative

UN- United Nations

WHO- World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

Family planning services are defined as educational, comprehensive medical or social activities which enable individuals, including minors to determine freely the number and spacing and timing of their children, and to select the means by which this may be achieved(1). Such means include use of contraceptives and the treatment of involuntary infertility. Modern contraceptive methods include all hormonal methods (i.e. the pill, injectables and implants), IUDs, male and female sterilization, condoms and modern vaginal methods (e.g., the diaphragm and spermicides)(2).

As the twenty-first century began, world population was estimated to be almost 6.1 billion people. According to the UN projections; the world's population will reach 11 billion by 2020. This continued growth of world's population has become an urgent global problem. Most of these growths are occurring in developing countries where fertility rates are very high (3).

Despite impressive reductions in child mortality and improvements in life expectancy, women's reproductive health in developing countries particularly Sub-Saharan Africa lags behind and birth rates remain high. Women in the region have on average 5.1 children(4). Each year there are an estimated 80 million unintended pregnancies, and 42 million of these pregnancies end in abortion. The primary reason for abortion is to end an unplanned pregnancy. To reduce the number of unintended pregnancies and thus the number of abortions, women must have access to contraceptive information and services. Studies around the world have found that, where women received high-quality contraceptive services, the number of abortions decreased (5).

Family planning is a viable solution to control such fast growing populations and its consequences. In addition to spacing and limiting the number of children it improves maternal and child health, empowers women and enhances economic development (6). Family planning is also one of a human right. Article 16 of the Teheran Proclamation issued by the United Nations Conference on Human Rights in 1968 states that "Parents have a basic human right to determine freely and responsibly the number and spacing of their children"(7).

In spite of massive spending and extensive family-planning promotion over three decades, many poor people in the Third World remain reluctant to use modern contraception in the early twenty-

first century. Attitudes and the need for children among the poor are often quite different from that of family-planning enthusiasts, who are mostly middle class individuals. Even when poor people use modern contraceptives, their continuation rates are often low due to lack of access to health care and side-effects of contraceptives. Poverty and adverse social conditions including lack of information and access to other methods of birth control, threats of discontinued social benefits, and economic constraints also set the conditions for abuses in family-planning programs. Targets and economic incentives/disincentives have defined the operation of many Third World family-planning programs from their inception (8).

Food security and insecurity are terms used to describe whether or not households have access to sufficient quality and quantity of food. The FAO defines food security as: “When all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life(9).

A total of 925 million people are still estimated to be undernourished in 2010, representing almost 16 percent of the population of developing countries. The fact that nearly a billion people remain hungry even after the recent food and financial crises have largely passed indicates a deeper structural problem that gravely threatens the ability to achieve internationally agreed goals on hunger reduction. Nearly 240 million people in sub-Saharan Africa, or one person in every four, lack adequate food for a healthy and active life, and record food prices and drought are pushing more people into poverty and hunger (10).

Ethiopia has been deemed a population-climate “hotspot” place where rapid growth and a changing climate pose grave threats to food security and human well-being. One in ten Ethiopians is chronically food insecure, and nearly one in five go hungry in drought years. With almost half its people under the age of 15 and an average fertility rate of nearly five (4.8) children per woman, Ethiopia’s population is the fifth fastest growing in the world(11).

A closer look at Ethiopia shows that neither the Malthusians nor the Boserupians quite get it right concerning the relation between population and food supply. The connections between population and food security are extraordinarily complex. The country is characterized by highly troubling Global Hunger Index (29.8 i.e. 80th out of 84 countries)(12), poor family planning utilization(only 29% of married women)(13) the rapid population growth that does not match

with available resource(14). Numbers matter, but so do other dynamics, such as migration and age structure. And context is paramount: the right policies are essential to encouraging and reaping the benefits from positive demographic trends, but those policies must be tailored to local circumstances(11).

1.2. Statement of the Problem

Many linkages between FP and food security are mediated by the effect of population growth on food security. Robust family planning programs contribute to reducing population growth over time. Growing populations affect the food production system, depleting food supply and availability, particularly in conjunction with limited land resources, climate change, and shrinking plot sizes. Population growth can influence food demand and prices, limiting food access. Fertility rates can change the age structure in a given population, which affects its caloric needs, food utilization, and consumption(15).

Women's health is crucial to food security and nutrition, and agriculture and food security programmes should be uniquely positioned to respond to women's productive and reproductive needs. Reproductive health services can improve women's and children's nutrition, and better nutrition can improve reproductive health.

In Ethiopia national health policy gives a high priority to the democratization and decentralization of the health service systems and one of targets of the Ministry of Health, with respect to improving maternal and child health, is to increase the contraceptive prevalence rate (CPR) to 66 percent by 2015. In order to achieve this target, the Ministry has given priority to the provision of safe motherhood services such as family planning in the community(16).

However, in Ethiopia only three in every ten currently married women (29 percent) are using a method of contraception, mostly modern methods (27 percent) and twenty-five percent of currently married women have an unmet need for family planning services; 16 percent have a need for spacing, and 9 percent have a need for limiting. The 12-month contraceptive discontinuation rate for all methods is 37 percent. The highest discontinuation rate is for the pill (70 percent), followed by the male condom (62 percent)(13). From the study done in Butajira District, South Central Ethiopia Mekonnen & Worku found the major factors for such

discrepancy were ecology(residence), educational status(of both mother and her partner), **food shortage**, livelihood, experience of child death and others (17) and nearly similar factors were identified in study conducted in other different parts of the country.

The 2011 Horn of Africa drought left 4.5 million Ethiopians in need of emergency food assistance. Pastoralist areas in southern and southeastern Ethiopia were the worst affected. In addition, cereal markets experienced a supply shock and food prices rose above 2008 levels, resulting in high food insecurity among poor people. Still, even the Humanitarian Requirements Document issued by the government in early 2012 estimates that 3.2 million people will require relief food assistance from January to June 2012(18).

According to the 2005 DPPC half year report on SNNPR food security situation, the Southern Nations, Nationalities and People's Regional State (SNNPRS) is one of the food insecure regions in Ethiopia. Currently, 1.5 million people in 64 *woredas* of the Region are vulnerable to chronic and transitory food insecurity. Many households are only able to produce sufficient food to meet their food requirements for less than six months of the year.

Similar to other food insecure areas of the country, Wolaita Zone in which Soddo Zuria *woreda* is located, is well known for its high fertility, population pressure and food insecurity. A rise in the rural population, particularly in the last 30 years, has resulted in an increased number of land claimants, some of which have used forests, steep mountain land or grazing land to establish their homesteads. Many others among the rural youth are landless(19).

Although an overwhelming amount of research has been given to food security issues and to reproductive health, not as much attention has been paid to the relationship between the two. Indeed, there has been some attempt to illuminate how women's reproductive health status influences household food security but not enough has been done in the reverse direction, or to explicate the relationship between the various aspects of food security and childbearing and family planning utilization. Similarly, there were no research on the relationship between household food insecurity and family planning utilization particularly in our setup. It is that the study is needed to comprehend the relationships between food security and reproductive health needs to be more complete.

CHAPTER TWO

1. LITERATURE REVIEW

1.1. Family planning status and population dynamics

According to the 2007 World Bank report, contraception is a best buy for development. By helping individuals to choose when to have children, family planning saves lives, it prevents unintended pregnancies, averts maternal and child deaths and prevents abortions(20).

Given the massive increase in population in the south hemisphere countries since World War II, much of global family-planning efforts have been directed toward those poor countries of the so-called Third World. The followers of Malthus, the Neo-Malthusians, have extended their thinking, blaming global poverty, political insecurity, and environmental degradation on the "population explosion" and calling for population control as the primary solution to these problems. Their efforts have helped turn family planning into a vast establishment of governmental and nongovernmental organizations with financial, technological, and ideological power emanating from the capitals in the north toward the remote corners of the south. Within countries in the south, the hierarchical family-planning model spreads from professional elites in the cities to the poorest men and women in the villages(8).

Africa's population is expected to increase from 1.01 billion in 2009 to 2 billion in 2050 if current demographic conditions remain constant. Much of this growth will be concentrated in sub-Saharan Africa (SSA), where annual population growth rates are expected to range from between 1.6% to slightly more than 2.4% between 2010 and 2050(21).

The sustained and rapid population growth occurring in the Horn of Africa raises serious concerns over food supply. According to the Principal Policy Analyst at the Kenya Institute for Public Policy Research and Analysis, John Omiti, "population growth is higher than our ability to produce food. We need to address the demographic challenge to balance supply and demand(22).

1.2. Food security and its magnitude

Food Security, at the individual, household, national, regional, and global levels is achieved when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for a healthy and active life(23).

The essential elements in this definition are the availability (adequate supply of food); access through home production, purchase in the market or food transfer; stability, when availability and access are guaranteed at all times; and utilization which refers to the appropriate biophysical conditions (good health) required to adequately utilize food to meet specific dietary needs and security, as the balance between vulnerability, risk and insurance; and time(24).

Despite the general worldwide reduction in food insecurity(25) Africa's food security and nutrition situation is growing worse. African countries has been experiencing several episodes of acute food insecurity causing an immense loss of life and livelihoods over the past decade and collectively made the least progress towards achieving the Millennium Development Goal of reducing hunger by half by 2015(26). Currently close to one third of its population lives in chronic hunger(27). In particular, the Sahel and Horn of Africa regions in West and East Africa are experiencing the worst food crises in recent years - 23 million people in 11 countries in the regions are affected by acute food insecurity and are facing malnutrition(28). Factors that have contributed to this situation include exceptionally high population growth rates, political conflicts, climate changes and the endemic poverty in some regions.

1.3. The link between food security and family planning and other factors affecting family planning

Few people whether or not they are nutrition professionals would dispute the fact that malnutrition constrains people's ability to fulfill their potential. Hungry and undernourished people have less energy to undertake work, are less able to attend school, and once in school are less able to concentrate and learn.

Population growth directly challenges food security, particularly in sub-Saharan Africa and food security and agricultural programmes can be an effective means to deliver reproductive health services, and integrate family planning with sustainable agriculture(29).

Addressing this connection between food security and reproductive health is critical to ensuring population growth that does not overwhelm the world's resources. PATH's Integrated Population and Coastal Resource Management project exemplifies a cost-effective intervention that did just that. The project, which integrated sustainable fishing practices with improved access to family planning, enabled coastal communities with a history of rapid population growth, extensive malnutrition, and overwhelmed municipal fisheries to take control of their reproductive health and natural resources for the sustainability of community life(30).

As the world's population continues to grow, we must increasingly develop policies and programs that integrate the mutually reinforcing goals of reproductive health, population, and food security. Doing so will enable women to make informed choices about their health and the health of their families, while simultaneously ensuring the viability of the world's resources for generations to come(30).

Nearly everywhere, wealthier women are more likely to use modern contraceptives than poorer women. The disparities in use between rich and poor are most pronounced in countries with low contraceptive use overall, such as in Uganda. In countries such as Honduras, contraceptive use overall may rise, but the poor still lag behind.

The gap usually starts to close only when contraceptive use becomes widely accepted and available, such as in Colombia. Nonetheless, in Bangladesh, where contraceptive use is not universal, strong program efforts have reduced the rich-poor gap by making family planning services accessible to all, including those in poor, rural communities(31).

The study conducted to examine the contraceptive behavior of currently married women in Philippines identified that, among the enabling factors, employment status of women and household wealth status have a positive relation with contraceptive use, especially for modern methods. Women not gainfully employed outside the home are less likely to use contraceptives, particularly modern methods. This correlation implies that policies that encourage women to participate in gainful economic activities will help increase the use of contraception. The relation

between the wealth index (this study's proxy variable for income) and contraceptive use also demonstrates that women with a higher income are more likely to use contraception compared with the poor women. Contrary to expectations, spousal communication about family planning and geographic accessibility to service facilities appear to be less critical in determining contraceptive use(32).

The influence of food insecurity on the utilization of family planning services is not well-founded, with little studies demonstrating the effect of standard of living on family planning outcome. Study conducted in India, Bihar state on Trends and Determinants of Unmet Need for Family Planning in Bihar (India) showed that unmet need for family planning is affected by standard of living(categorize as low, middle high) . It found that women of low living status have higher unmet need for family planning followed by women of middle living status(33).

Another study done in Pakistan on Barriers to Family Planning Service Use among the Urban Poor in Pakistan also identified that asset index indirectly affects family planning utilization. the asset index had a significant negative effect on the reporting of psychosocial barriers. Women from households with medium and high asset scores were less likely to report psychosocial barriers than women from households with low asset scores(34). The study only focused on urban slum dwellers and not considered food security as the factor affecting FP use because the effect of wealth index may be indirectly due to its effect on food insecurity.

A policy brief that analyze the determinants of contraceptive use in Palestine through the analysis of data from the Palestinian family health survey was done in the occupied Palestinian territory. The brief outlines the important role of education, religion, socioeconomic status, employment, parity, and couples' attitudes towards family planning and childbearing in determining contraceptive use. From socioeconomic status women in the poorest quintile were the least likely to use contraception(35).

A comparative study of factors affecting food security and nutritional status of under five years-old children in rural and urban community of Garissa District, Kenya was conducted. It identified marital status of the mother, per capita expenditure and family size as factors associated with food insecurity. It is concluded that household food security is worsened by small household size, level of education of the mother and lower per capita expenditure(36). The study attempted only to see the effect of household size on food insecurity but not the reverse.

Empirical Analysis of Determinants of Demand for Family Planning Services in Kenya's City Slums was done to identify factors affecting family planning. The explanatory variables that were considered included age of the respondent, marital status, number of living children, average monthly income, educational level of the woman and partner, partners approval. From the variables income status was identified as one of the statistically significant variables, which had a marginal effect of 0.002, implying that an increase in average income of a woman by Kshs. 1,000 increased the likelihood of using family planning services by 2 percent(37).

Utilization of family planning services were studied by comparing urban and rural localities of the state in Khartoum State, Sudanese that differed in socioeconomic status and living conditions. Socioeconomic status appeared to play a significant role: women with a higher socioeconomic status were more likely than their counterparts to use modern methods of family planning. Area of residence and age did not appear to be associated with use of modern methods of family planning(38).

In Ethiopia like any other countries there were limited studies done on the effect of food insecurity and reproductive health in general and family planning in particular. There were some studies conducted on determinants of family planning outcome and identified some socioeconomic variables like educational status, family income, and house hold food shortage and house hold livelihood(39).

Study conducted on Determinants of low family planning use and high unmet need in Butajira District, South Central Ethiopia identified variables like ecology/residence, household food shortage, and educational status and house hold livelihood as determinants of family planning utilization. The study found that married women who were members of food self deficient households was about 1.58 times more likely to use family planning compared to their counterparts in food self sufficient households though the association turned statistically not significant when other variables are included(17). The study used household food self sufficiency as a variable of the study but household food security status is different from household food self sufficiency.

Comparative study on utilization of modern child spacing methods and factors affecting its use conducted in Gambella Town found that age, intended number of children, length of

postpartum sexual abstinence and length of breast-feeding and occupation were associated with current use of modern contraceptive method. Proxy indicators of modern contraceptive utilization like previous attendance of ANC, PNC, and delivery at health institution and attendance of immunization services were found to have statistically significant association to the current use of modern contraception(40).

Regarding the particular study area the study conducted by Simeon Emame on factors affecting an adoption of family planning services: the case of Soddo Zuria Woreda found that residence, educational level and NGO intervention were significantly associated with current use of family planning. The literates were found more than 2.5 times more likely to use modern contraceptive than their counterparts. Respondents in NGO intervened rural and urban areas were more than 1/3times more likely to use MC than those in non-NGO intervened rural and urban areas in the study population(41).

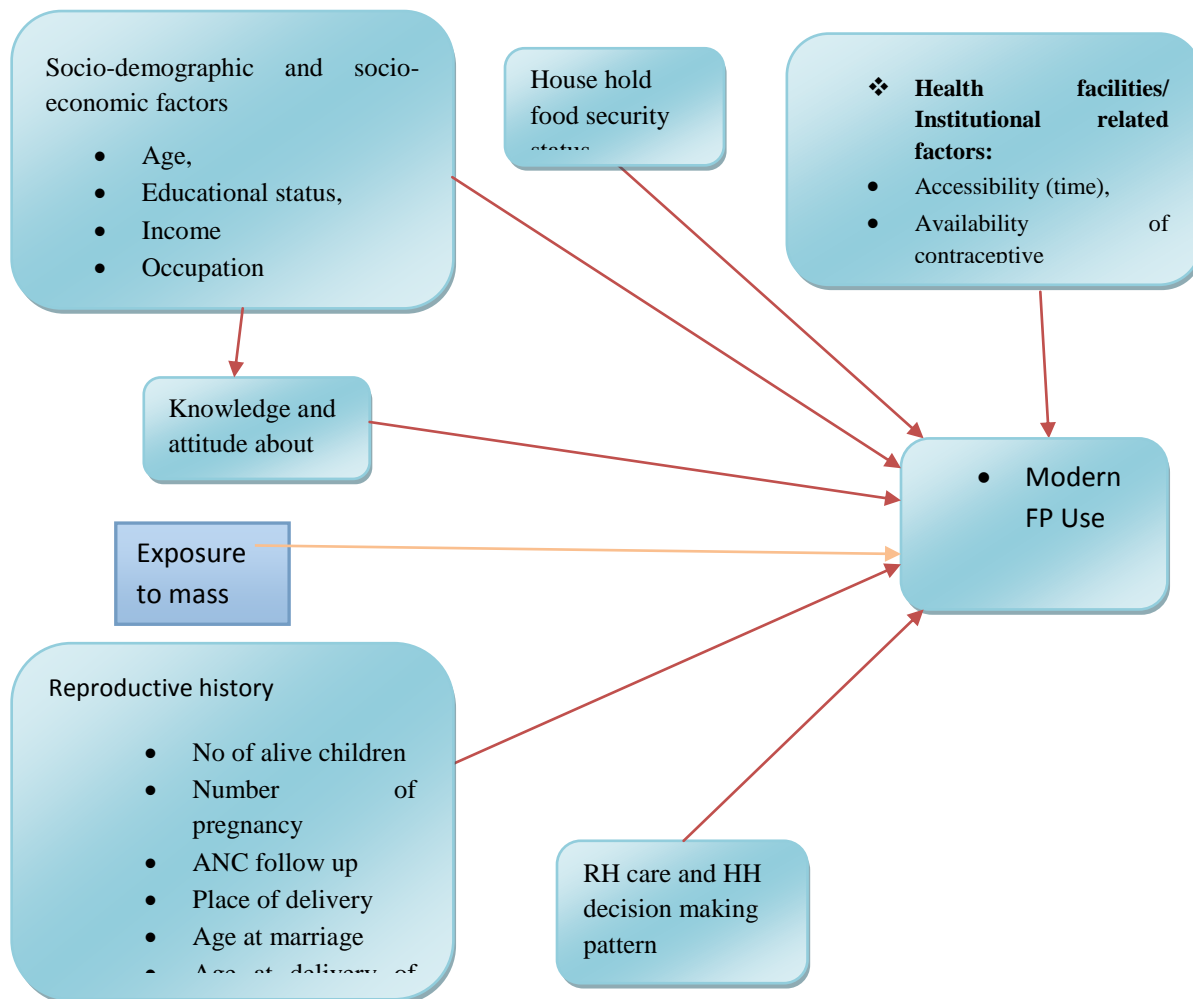


Figure 1 Conceptual Framework for a Research on Household Food Security status and family planning outcome.

Source: Adapted from Research Agenda on the relationships between women’s reproductive health and household food security in Africa 2000.

2. SIGNIFICANCE OF THE STUDY

As the world’s population continues to grow and the reproductive health of women lags behind specially in third world we must increasingly develop policies and programs that integrate the mutually reinforcing goals of reproductive health, population, and food security. Doing so will enable women to make informed choices about their health and the health of their families, while

simultaneously ensuring the viability of the world's resources for generations to come. But in the world there are limited studies done on the link between food insecurity and family planning use, particularly on the effect of food insecurity on family planning use and further exploration of this issue is a very valuable to promote family planning utilization.

Fertility decline, by increasing the use of contraceptives in all levels and groups of people given the prevailing low level of contraceptive use in Ethiopia, further analysis of modern FP and a critical assessment of the underlying factors are relevant. Further understanding of the underlying causes of low FP utilization is important for designing effective programs to reduce the prevailing high level of unmet need. A major concern is which factors are contributing to the observed low FP utilization in Ethiopia and which strategies can best bring about changes to the current situation.

This study attempts to explore the effect of food insecurity on family planning use and contribute to filling the literature gap on this area and provide information for policy makers to take into consideration food security issues while designing family planning policies and strategies. It may be used as based line study for further studying of the effect of food insecurity on family planning use.

CHAPTER THREE

3. OBJECTIVES OF THE STUDY

3.1. General objective

- To assess the prevalence of modern contraceptive and its association with food insecurity and other factors affecting its utilization among currently married women of reproductive age group (15-49 years) in Soddo Zuria Woreda.

3.1. Specific objectives

- To determine prevalence of modern contraceptive use among married women of reproductive age group.
- To compare current utilization of modern contraceptive method among women from food secure and food insecure HHs in Soddo Zuria woreda.
- To identify factors associated with modern family planning practices among the study population.

CHAPTER FOUR

4. METHODS AND MATERIALS

4.1. Study area and period

Soddo Zuria Woreda is one of the Woredas in Wolaita Zone located at about 380 km south of Addis Ababa in Southern Nations, Nationalities and Peoples' Region (SNNPR). It is bounded in the East and North East by Damot Woyede and Damot Galle Woreda, in the South by Humbo and Offa Woreda, in the West, Northwest and Southwest by Kindo Koisha, Boloso Sorie and Offa Woreda respectively. Geographically, the Woreda is located approximately between 6° 50'N-7°53'N and 37°36'E-37° 53'E. Most of the land area of the woreda is found in the altitude range 1400 meter above sea level to 2950 meters above sea level at Damota Mountain.

The climatic condition of the woreda is similar to most of southern parts of the country. Most part of the Woreda experience Woinedega (warm to cool) type of climate. The maximum (summer) rain fall comes between June-August and the minimum (spring) rainfall comes between March to May. Maximum rainfall ranges between 1200mm to 1300mm per annum. Maximum Temperature also ranges between 20°C-25°C with average minimum 10°C-15°C (42).

Based on the 2007 Census conducted by the CSA, this woreda has a total population of 162,691, of whom 80,002 are men and 82,689 women; none of its population is urban dwellers. The majority of the inhabitants were Protestants (66.67%) followed by 26.83% Ethiopian Orthodox Christianity, and 5.28% were Catholic. According to CSA the dominant ethnic group in Soddo Zuria Woreda about 93%, is Wolaita, followed by Amhara (2.6%) and Guraghe ethnic group (1.7%) and others altogether account 2.7% (43). General health service coverage in the Woreda in 2000 E.C, according to zonal health department's report is 27.2% (41). The study was conducted from March 15 to 30, 2014.

4.2. Study design

Community based Cross sectional study with internal comparison was conducted.

4.3. Population

4.3.1. Source population:

All currently married women of reproductive age group in Soddo Zuria Woreda

4.3.2. Study population:

The study population includes currently married women within the reproductive age group (15 to 49 years) residing in the selected kebeles.

4.3.4. Inclusion and exclusion criteria

4.3.4.1. Inclusion criteria:

All currently married women of reproductive age group in Soddo Zuria woreda and residing in the area for at least 6 month

4.3.4.2. Exclusion criteria:

Women who reported that they are sterilized and declared infecund and currently pregnant women were excluded from the study for the mere fact that their inclusion could affect the plan for provision of family planning use and bias the current use of MCM.

4.4. Sample size and Sampling technique /Sampling procedures

4.4.1. Sample size determination

The sample size was determined using sample size determination for estimation of two population proportion using Epiinfo software using the following assumptions

P = Estimate of proportion married women in reproductive age group from food secured households which are using contraceptive currently. Because there is no literature on the estimate of P conventionally 50% is taken to increase sample size.

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

OR= 2 i.e. From literature review women from food insufficient household were less likely to use family planning and it was assumed that women from food secured household were considered to be two times more likely to use family planning to get larger sample size.

Power = 80%

$r = 1$ i.e. the ratio of food secure to food insecure (assumption)

Using the above assumptions the calculated sample size is for both group become 296 and considering design effect the sample size become 592. Then adding 10% non response rate and the total sample size become 651.

4.4.2. Sampling technique and sampling procedure

There are 34 kebeles in Soddo Zuria woreda. The study comprised of 15 randomly selected Kebeles from 34 kebeles. The probability proportional to the size allocation method was employed for determining the number of households to be included from each of the kebeles. The selection of each sampling unit (household) was conducted by applying systematic sampling method based on the list available in the database of kebele administrative.

The initial household was randomly selected by lottery method using number between 1 and the sampling interval for each kebeles. In case of more than one woman in a given house hold a lottery method was employed to identify the women to be interviewed.

4.7. Study Variable:

4.7.1. Dependent variables:

Current use of modern family planning method

4.7.2. Independent variables:

- ❖ Socio-demographic and socio-economic characteristics (age, educational status, wealth index, occupation, religion, ethnicity, HH food security status)
- ❖ HH Decision making pattern
- ❖ Reproductive History: No. of alive children, number of pregnancy, Number of birth, age at delivery of the first child, age at marriage
- ❖ Knowledge and attitude toward modern contraceptive methods
- ❖ Exposure to media
- ❖ Discussion with partner
- ❖ Proxy indicators of modern contraceptive utilization like previous attendance of ANC and place of delivery of the last child.
- ❖ Health facilities/Institutional related factors: accessibility/distance, availability of contraceptive commodities at the health institution.
- ❖ Fear of side effects of the contraceptive

4.6. Data collection procedures (Instrument, personnel, data quality control)

4.6.1. Data collection instrument and personnel

The questionnaire is adapted from Ethiopia Demographic Health Survey (EDHS, 2011) English version. The questionnaire was further developed by using peer reviewed published literatures to include determinants of family planning utilization. Different domains were included in the questionnaire including the respondent's background, reproductive health, food security status and contraceptive information. The questionnaire was further modified after a pretest is conducted.

The data collectors were recruited from the Soddo Zuria woreda and 15 data collectors who were clinical nurses were selected from the woreda and priority was given to those with previous

experience of data collection. Five supervisors who were BSc nurses recruited from the health centers in the woreda based on their experience on research.

4.6.2. Assessment of Household Food Security:

Food access was measured using household food insecurity access scale (HFIAS). The HFIAS was developed for use in developing country settings, and it is a tool that asks respondents about three domains of food insecurity: (1) experiencing anxiety and uncertainty about the household food supply; (2) altering quality of the diet; (3) reducing quantity of food consumed(44). The tool consists of nine questions that ask about changes households made in their diet or food consumption patterns due to limited resources to acquire food in the preceding 30 days.

Based on the responses given to the nine questions and frequency of occurrence over the past 30 days, households are assigned a score that ranges from 0 to 27. A higher HFIAS score is indicative of poorer access to food and greater House hold food insecurity. For this analysis, households were classified into two groups based on overall distribution of the HFIAS in the sample. The lower the score, the most food secured a household was. Based on the answer to nine occurrence questions and 27 frequency questions women who responded no to all occurrence questions and those who responded ‘yes’ to the first occurrence question i.e. “In the past four weeks, did you worry that your household would not have enough food?” and responded only ‘rarely’ to frequency questions were classified as food secured.

4.6.5. Data quality management

To assure the quality of data, different mechanisms were used. The final version of the questionnaire was translated into the local language of the respondents (Wolaitegna language) and back translated and used for the data collection. Pre-testing of the questionnaire with 5% of the sample size was done on adjacent woreda i.e. Damot Gale woreda Delbo kebele before the actual data collection took place. Correction on the instrument was done accordingly after pretest.

A total of two days of orientation on how to administer the data collection process was given for all data collectors during the process of data collection. Five field supervisors were assigned and the principal investigator performs the immediate supervision on a daily basis. The supervisors were checked each and every completed questionnaire and they visited a randomly selected 5%

of households each day and were also ensure the reliability of the collected data. Incomplete questionnaires were filled by making re-visits while on fieldwork. The overall activities were monitored by the principal investigator.

4.6.6. Data Processing and analysis

The data template format was prepared in Epidata version 3.1 and the data was. The completeness of the data was checked. Errors related to inconsistency were verified using data cleansing method. The data then exported to SPSS version 20(Illinois Chicago), categorized and sorted to facilitate its analysis. Descriptive statistics were computed for household food insecurity, socio-demographic characteristics and family planning use. Food-insecure and food-secure households were compared with the logistic regression and chi-square test for proportions through different characteristics of respondents. Logistic regression, specifically Bivariate was used to identify factors that were associated with family planning utilization to select variables for multiple regression. Variables with p-value of < 0.25 on binary logistic regression were taken into multivariable logistic regression models to assess the association between independent variables and the outcome variable (family planning use).

The unadjusted (crude) and adjusted odds ratios together with their corresponding 95% confidence intervals were computed. A P-value ≤ 0.05 was considered statistically significant in this study. Efforts were made to assess whether the necessary assumptions for the application of multiple logistic regression are fulfilled. In this regard, the Hosmer and Lemeshow's goodness-of-fit test was done to check the fitness of the model. Interaction between different predictor variables were checked. Covariate is an effect modifier only when the interaction term added to the model is statistically significant.

4.7. Operational definitions

Current Family Planning utilization- refers to the use of modern methods of fertility control except permanent ones that will help individuals (men and women) or couples to have the number of children they want when they want them in order to assure the well-being of the children and the parents at the time of the survey.

Knowledge of modern contraception- Awareness for at least one modern contraceptive method i.e. if three of the knowledge assessing questions is answered correctly (whether the mother has heard of any MCM, knows the importance of MCM and knows where to get it).

Favorable attitude: respondents that have attitude score greater than the average score for six attitude assessing scores using Likert scale.

Unwanted Pregnancy- Pregnancy that comes beyond the intention or need of the women for different reasons.

Child Spacing- refers to the minimum interval between two successive pregnancies, which is about three years.

Modern methods- refers to methods of child spacing or birth control other than natural methods (abstinence, basal body temperature, cervical mucosa, and symptom-thermal and withdrawal methods).

Birth control- is the use of contraceptive method not to have any more children after having what the couples need.

Non users- refer to women who were found not using modern contraceptive method at the time of the survey.

Food security: Women who responded no to all occurrence questions and those who responded 'yes' to the first occurrence question i.e. "In the past four weeks, did you worry that your household would not have enough food?" and responded only 'rarely' to frequency question.

Discontinuation: Interruption of MCM for at least three months after initiation.

4.8. Ethical consideration:

Ethical clearance was obtained from the Ethical Review Committee of Jimma University College of Public Health and Medical Science and letter of permission was obtained from Wolaita Zone health Office and Soddo Zuria Woreda health office. Informed consent was also be obtained from each study subject prior to interview and the purpose of the study explained to the respondents. Confidentiality of the information obtained assured and privacy of the respondents maintained by coding the response with numbers..

4.9. Dissemination plan

The findings will be presented to the Jimma University scientific community and will be submitted to the College of Public health and Medical sciences department of population and family health. The findings will also be communicated to the local health planners and other relevant stakeholders in Wolaita zone and Soddo Town Health Office to enable them take recommendations in to consideration during their planning process. Presentation and publication to scientific forum and journals will be considered.

CHAPTER 5

5. RESULTS

5.1. Socio demographic characteristics

Data was collected from 651 respondents making the response rate to be 100%. The overall mean age of the respondents is 31.07 with SD of ± 6.86 (32.54 with SD of ± 6.81 for food secure and 30.11 food insecure). Among the study subjects majority of them were protestant in religion 397(61.0%) followed by Orthodox Christian 190 (29.2%) where as about 603(92.6%) were Wolaita in ethnicity followed by Gamo 28(4.3%).

Regarding educational status a little more than half of the respondents have no education 339(52.1%) and it is 127(49.4%) among food secure where as 212 (53.8%) among food insecure HHs. About 112(43.6%) of women from food secure and 158(40.1%) of women from food insecure HHs attained primary education. Concerning the educational status and occupation of their husband 255(39.2%) of the husbands have no any education and about 530(81.4%) of their husbands were farmer.

In both groups more than half of the study subjects 158(61.9%) (Food secure) and 228(57.9%) (Food insecure) were housewife by occupation. Farmer women accounts for 68(26.5%) and 93(23.6%) of study subjects of food secure and food insecure, respectively while merchants, government employees and others constitute less than 10% of the proportion of occupational categories in both groups.

Regarding Household food security status the prevalence of food insecurity is 60.5% according to HFIAS measurement. The wealth index of the respondents HHs was assessed by asking information on livelihoods and farm products and analyzed by principal component analysis. The result of the analysis shows that about 19.9% of the HHs were in the lowest quartile, 20.2% HHs in middle quartile and 19.9 % in the highest quartile. (**Table 1**)

Table 1 Socio-demographic characteristics of respondents by Food Security Status category, Soddo Zuria Woreda, SNNP, March .2014.

Characteristics	Food secure	Food insecure	X²	
Age group	n =257(%)	n = 394(%)		
≤20	12(4.7)	29(7.4)	39.64	0.000
21 - 25	14(5.4)	81(20.6)		
26 - 30	81(31.5)	129(32.7)		
31 - 35	61(23.7)	70(17.8)		
35 - 4o	63(24.5)	55(14.0)		
≥40	26(10.1)	30(7.6)		
Religion	N =257(%)	N =394(%)		
Protestant	168(65.4)	229(58.1)	8.27	0.04
Orthodox	74(28.8)	116(29.4)		
Catholic	12 (4.7)	40(10.2)		
Others ¹	3(1.2)	9(2.3)		
Ethnicity	N =257(%)	N =394(%)		
Wolaita	245(95.3)	358(90.9)	4.90	0.086
Gamo	6(2.3)	22(5.6)		
Amhara	3(1.2)	5(1.3)		
Other specify ²	3(1.2)	9(2.3)		
Educational status	N =257(%)	N =394(%)		
no education	127(49.4)	212 (53.8)	0.28	0.87
Primary	112(43.6)	158(40.1)		
Secondary and above	18(7.1)	24(6.1)		
Occupational status	N =257(%)	N =394(%)		
House wife	158(61.9)	228(57.9)	6.99	0.14
Farmer	68(26.5)	93(23.6)		
Merchant	10(3.9)	35(8.9)		
Govern. Employee	10(3.9)	16 (4.0)		
Other specify ³	11(4.1)	22 (5.6)		
Wealth index	214(%)	340(%)		
Lowest	45 (21.0)	65(19.1)	6.61	0.16
Second	47(22.0)	64(18.8)		
Middle	42(19.6)	70(20.6)		
Fourth	32 (15.0)	79(23.2)		
Highest	48(22.4)	62(18.2)		

¹- Muslim and others ²- Gurage, Oromo, Siltie and others ³-daily laborers and others

5.2 Reproductive characteristics of the respondents

The overall mean age at marriage of the respondents is 20.19 with SD of ± 3.11 i.e. 20.88 for food secured and 19.73 for food insecure HHs and the mean age at first delivery is 21.73 with SD of ± 3.11 (22.46 for food secured and 21.23 for food insecure HHs).

The median number of pregnancy is about 3.4 with SD of ± 1.91 and 4 with SD of ± 2.12 pregnancies per women for food secured and food insecure HHs, respectively. About 39(15.6%) of food secure mothers and 70(18.70%) of food insecure mothers reported that they have at least one experience of unintended pregnancy. Regarding ANC follow up 181(72.4%) of food secure and 212(56.7%) of food insecure have at least one ANC visit. Overall 458(73.9%) of mothers reported that they delivered their last child at home 164(65.9%) for food secure and 294(79.2%) for food insecure. The history of experience of child death was also asked and the respondents reported that 31(12.4%) of food secure and 63(16.8%) of food insecure have at least one experience of child death. The average number of currently alive children is 3.26 with SD of ± 1.755 ; (3.7 \pm 1.80 for food secure and 2.99 \pm 1.70 for food insecure HHs) children per women. **(Table 2).**

Table 2 Reproductive characteristics of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

Characteristics	Food secured	Food insecure	X²	P-Value
Age at marriage	256(%)	389(%)		
15 and below	7(2.7)	23(5.8)	21.61	0.000
16 to 18	54(21.1)	117(30.1)		
19 to 21	97(37.7)	155(39.8)		
22 to 24	69(26.8)	72(18.5)		
25 and above	29(11.3)	22(5.7)		
Mean	20.88±3.33	19.73±2.87		
Age at delivery	244(%)	360(%)		
17 and below	7(2.9)	25(6.9)	30.07	0.000
18 to 20	68(27.9)	128(35.6)		
21 to 23	81(33.2)	145(40.3)		
24 to 26	66(27.0)	48(13.3)		
27 and above	22(9.0)	14(3.9)		
Mean	22.46±3.27	21.23±2.9		
Number of birth	250(%)	372(%)		
3 and below	119(47.6)	228(61.3)	11.56	0.003
4 to five	84(33.6)	96(25.8)		
Six and above	47(18.8)	48(12.9)		
Average	3.8±2.028	3.19±1.869		
No. of child. alive	249(%)	371(%)		
Three and below	120(48.2)	248(66.8)	13.41	0.001
Four to five	94(37.8)	90(24.3)		
Six and above	35(14.1)	33(8.9)		
Average	3.67±1.797	2.99±1.676		
Unintended Px	250(%)	374(%)		
Yes	39(15.6)	70(18.7)	1.956	0.162
No	211(84.4)	304(81.8)		
ANC follow up	250(%)	374(%)		
Yes	181(72.4)	212(56.7)	12.43	0.000
No	69(27.6)	162(43.3)		
Place of delivery	250(%)	370(%)		
Home	164(65.6)	294(79.5)	14.85	0.000
Institutional	86(34.4)	76(20.5)		
Child death	250(%)	376(%)		
Yes	31(12.4)	63(16.8)	2.23	0.14
No	219(87.6)	313(83.2)		

5.3 Contraceptive characteristics

Overall prevalence of current contraceptive utilization in the study area was found to be 244(38.6%) and it is 131(52.0%) and 113(29.7%) among food secure and food insecure group respectively and about 591(90.8%) of the respondents have knowledge about the modern family planning method 249(96.9% for food secured HHs and 342(86.8%) for food insecure. The most commonly known type is injectables 141(61.6%) and 181(50.4%) for food secured and food insecure women respectively and the least commonly known is IUCDs. The most commonly used MCM among both groups is also injectables 68(51.9%) for food secured and 49(44.1%) for food insecure. The most common reason for not using modern family planning is a need for more children 112(28.45%) followed by religious prohibition 80(20.25%). The major source of MCM for the women in the study area is health post 277(43.9%) followed by health centre 241(38.2%).

Exposure to mass media was asked for measuring access to information about MCM. About 239(95.6%) of women from food secure HHs and 316(82.5%) of women from food insecure HHs has history of exposure to at least one media within the last six month. The attitude of women was also assessed using certain attitude assessment tools and it showed that about 604(95.4%) of the respondents have favorable attitude according to the scale and it is 242(96.8%) among food secured and 362(94.5%) among women from food insecure HH). **(Table 3).**

Table 3 MCM related information of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

Characteristics	Food secure	Food insecure	X²	P-Value
Media Exposure	250(%)	383(%)		
Yes	239(95.6)	316(82.5)	24.00	0.00
No	11(4.4)	67(17.5)		
Attitude to MCM	250(%)	383(%)		
Favorable	242(96.8)	362(94.5)	1.80	0.18
Unfavorable	8(3.2)	21(5.5)		
FP use	252(%)	380(%)		
Yes	131(52.0)	113(29.7)	31.64	0.00
No	121(48.0)	267(70.3)		
Type of MCM used	131(%)	113(%)		
Pills	13(9.9)	19(16.81)	4.82	0.31
Injectables	64(48.85)	48(42.48)		
IUCDS	14(10.7)	15(13.27)		
Implants	30(22.9)	20(17.7)		
Others ²	10(7.65)	11(9.73)		
Source of MCM	249(%)	382(%)		
Hospital	17(6.8)	68(17.8)	26.15	0.00
Health center	87(34.9)	154(40.3)		
Health post	136(54.6)	141(36.9)		
Others ¹	9(3.6)	19(5.0)		
Ever use	121(%)	266(%)		
Yes	94(77.7)	193(72.6)	3.66	0.056
No	27(22.3)	73(27.4)		
Discontinuation	94(%)	193(%)		
Yes	34(36.2)	105(54.4)	8.39	0.00
No	60(63.8)	88(45.6)		
Knowledge MCM	257(%)	394(%)		
Yes	249(96.9)	342(86.8)	18.90	0.00
No	8(3.1)	52(13.2)		
Future use	114(%)	136(%)		
Yes	63(55.3)	80(33.9)	31.05	0.00
No	51(44.7)	156(66.1)		

¹ condom, male sterilization, female sterilization ² private clinic and pharmacy

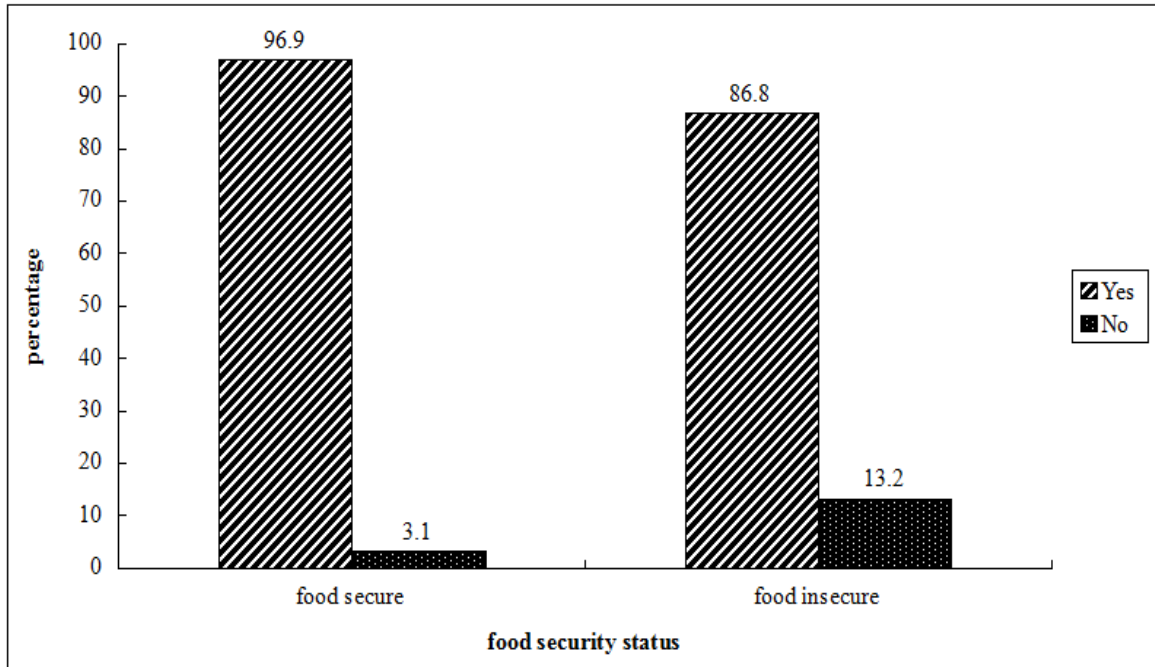


Figure 2 knowledge of MCM among women of food secured and food insecured HH in Soddo Zuria Woreda, SNNP, 2014

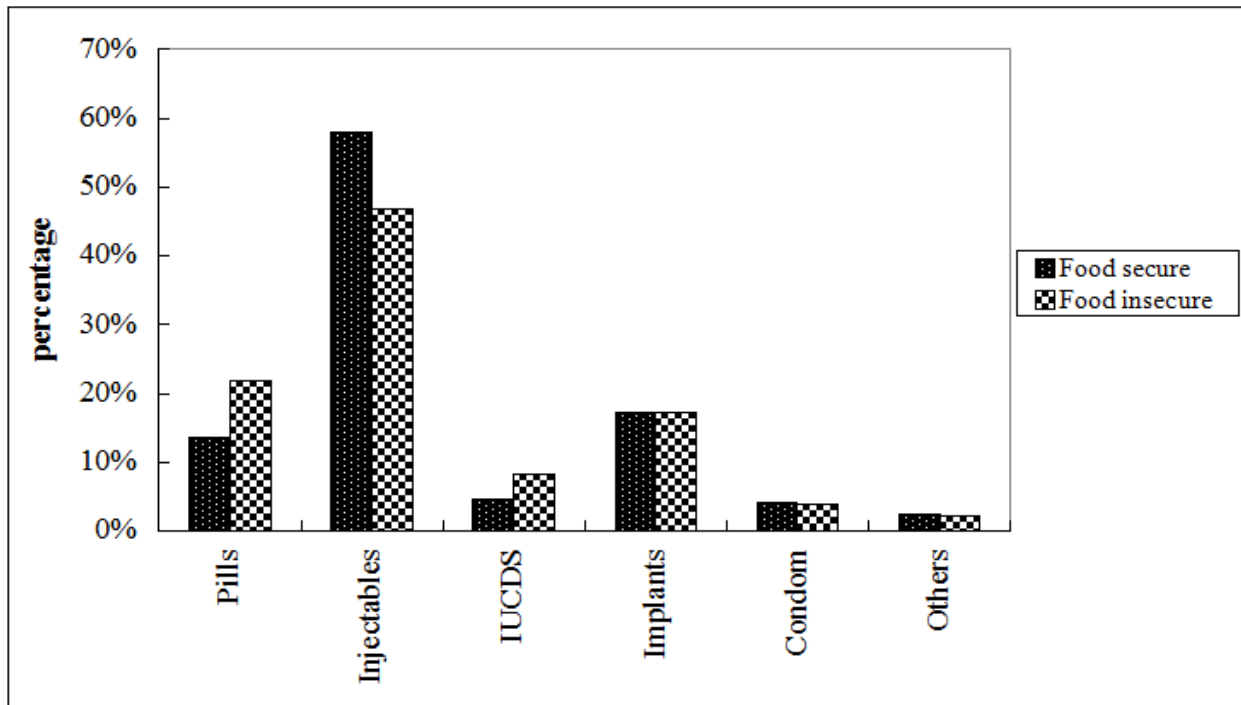


Figure 3: Type of MCM known among women of food secured and food insecured HH in Soddo Zuria Woreda, SNNP, 2014

Future utilization and ever utilization of MCM of non users were also assessed. From the study about 63(55.3%) of food secure and 80(33.9%), of women from food insecure HHs have intention to use MCM in the future and about 94(77.7%) of women from food secure and 193(72.6%) from food insecure reported that they have used MCM at some time in their life. The women were also asked about their discontinuation of MCM they initiated at some time in their life. They reported that about 34(36.2%) of food secured and 105(53.9%) of food insecure have discontinued the use of MCM in their life after they initiated. The most common reasons for discontinuation after initiation of MCM are the need to have desired sex 28.4% among food secure and 46.2% among women from food secure followed by use of natural method 25% among food secure and 38.2% among food insecure and desire to have additional child 28.0% for food secure and 25.4% for food insecure.

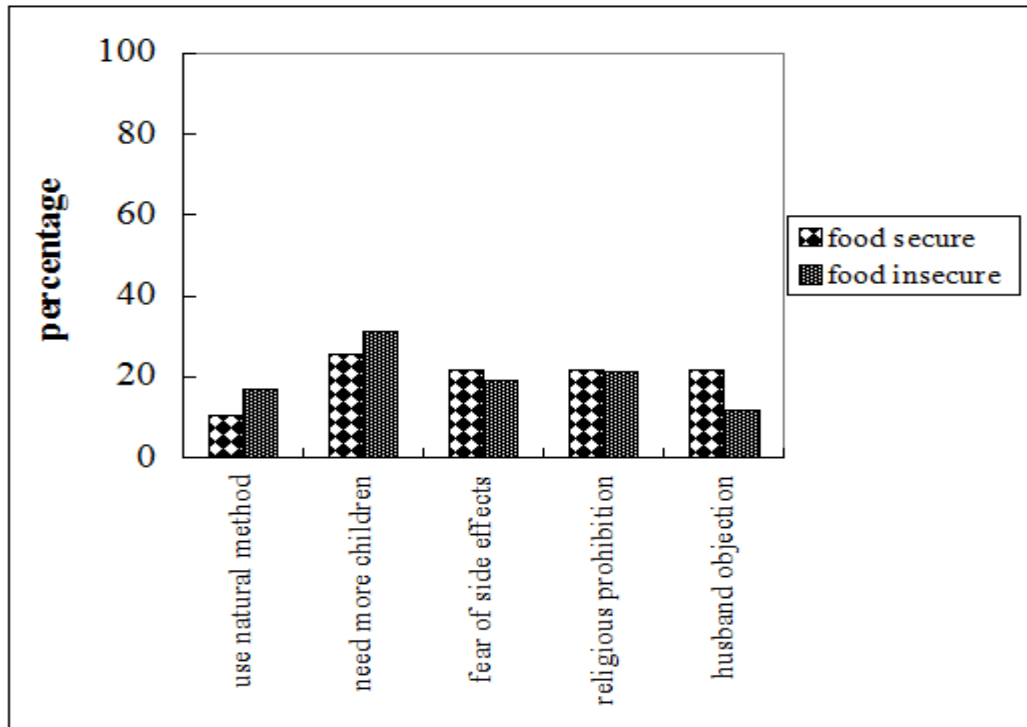


Figure 4 Reason for not using MCM among women of food secured and food insecure HH in Soddo Zuria Woreda, SNNP, 2014

5.4 Decision making pattern among women

In formations related to source, expenditure and reproductive health related decision making of the respondent women shows that the source of income for the family is both husband and wife for 69.9% of food secured HHs and 57.3% of food insecure HHs and the difference is statistically significant with P-value of 0.00; followed by husband only 28.9% among food secured and 40.6% among food insecure. The decision on family expenditure is made by both husband and wife among 74.6% of food secured and 61.2% of food insecure HHs. The decision on family size is made by both among 89.8% of food secured HHs and 91.3% of food insecure HHs. Around 65.2% of women in food secured HHs and 51.7% of food insecure HHs reported as they have discussion about MCM with their partner within the last 6 months.

Regarding health service related issues; information about nearest health institution, time needed to reach the health institution and problems faced during visit to institutions for MCM were assessed. The nearest health institution for most of the respondents is health post for both group and the average time to reach the nearby health institution is 23.93 ± 12.89 minute for food secure group and 26.08 ± 13.27 minute for food insecure group. This shows that all of the respondents were accessible to nearby health facilities that give MCM service according to WHO accessibility criteria.

The most common problem that clients face while they visited the health institution absence of the required method (62.2% among food secured and 41.6% among food insecure) followed by they told that they are not on menses and should come another time 11(24.4%) among food secured and 43(38.1%) among food insecure and there were many clients and appointed for another time.

Table 4 Decision making pattern of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

Variables	Food secured	Food insecure	X2	P-Value
Source of income	n= 256(%)	n= 389		
Both	180(70.3)	222(56.6)	11.053	0.011
Husband	72(28.1%)	158(40.1)		
Wives	4(1.6)	8(2.1)		
Decision on income	n= 256(%)	n= 389(%)		
Both	191(74.6)	238(61.2)	13.283	0.004
Husband	63(24.6)	145(37.3)		
Wife	2(0.8)	6(1.7)		
Decision fam. size	n= 256(%)	n= 386(%)		
Both	230(89.8)	355(91.3)	2.844	
Husband	26(10.2)	31(8.0)		
Wife	0(0)	3(0.7)		
Discussion MCM	n= 256(%)	n=387(%)		
Yes	167(65.2)	200(51.7)	11.555	0.001
No	89(34.8)	187(48.3)		
Right to use RH	N= 256(%)	N=391(%)		
Yes	116(45.1)	173(44.2)	0.071	0.790
No	140(54.7)	218(55.8)		
Mean time to HF	23.93±12.89'	26.08±13.27'		

5.5 Factors associated with Modern Contraceptive Method Utilization (Binary logistic regression)

Association between Socio-demographic and MCM use

Table 5. Bivariate model of Socio-demographic characteristics and Modern Contraceptive Method utilization of respondents by category, Soddo Zuria Woreda, SNNP, March .2014

Characteristics	Current users	Non-users	COR(95%CI)
Age group	244(%)	388(%)	
15 to 20	4(1.6)	37(9.5)	1.00
21 to 25	26(10.7)	69(17.8)	8.09(2.47, 26.50)
26 to 30	74(30.3)	134(34.5)	2.32(1.109, 4.86)
31 to 35	63(25.8)	62(16.0)	1.58(0.83, 3.04)
36 to 40	56(23)	62(16.0)	0.86(0.435, 1.70)
41 and above	21(8.6)	24(6.2)	0.97(0.487, 1.93)
Religion	244(%)	388(%)	
Protestant	110(45.1)	144 (37.1)	1.00
Orthodox	121(49.6)	208(53.6)	0.21(0.15,0.31)
Catholic	12(4.9)	36(9.3)	1.34(0.68, 2.656)
Other	1(0.4)	144 (37.1)	4.43(0.56, 34.74)
Ethnicity	244(%)	388(%)	
Wolaita	227(93.0)	357(92.0)	1.00
Gamo	15(6.1)	13(3.4)	0.55(0.26, 1.18)
Other	2(0.8)	18(4.6)	5.72(1.31, 24.90)
Educational status	244(%)	388(%)	
no education	128(52.5)	197(50.8)	1.00
Primary	104(42.6)	161(41.5)	1.01(0.72, 1.40)
Secondary and above	12(4.9)	30(7.7)	1.62(0.80, 3.29)
Occupational status	244(%)	388(%)	
house wife	138(56.6)	238(61.3)	1.00
Farmer	68(27.9)	85(21.9)	0.73(0.49, 1.06)
Merchant	18(7.4)	26(6.7)	0.84(0.44, 1.58)
Employed	11(4.5)	15(3.9)	0.79(0.35, 1.77)
Others	9(3.7)	24(6.2)	1.55(0.70, 3.42)
FSS	244%	388(%)	
Food secured	131(53.7)	121(31.2)	2.56 (1.84, 3.56)
Food insecure	113(46.3)	267(68.8)	1.00
Wealth Index	210(%)	332(%)	
Lowest	38(15.6)	68(20.5)	1.07(0.61, 1.88)
Second	37(17.6)	71(21.7)	1.09(0.62, 1.91)
Middle	37(17.6)	72(21.7)	0.71(0.41, 1.22)
Fourth	49(23.3)	62(18.7)	0.67(0.39, 1.16)
Highest	49(23.3)	59(17.8)	1.00

Association between reproductive health characteristics of women and MCM utilization

On Bivariate analysis the current utilization of MCM is also affected by age at marriage of the respondents, total number of child delivered alive, number of currently alive children, ANC follow up and place of delivery. Women who have delivered three to five children are about 1.6 times more likely to use modern family planning method when compared to those women who delivered less than three children [OR:1.659 (CI:1.031, 2.671)].

The association of ANC follow up and place of delivery with current utilization of MCM was also assessed and the result of Bivariate analysis shows that women who have at least one ANC visit are about 4 times more likely to use MCM compared to those who have no ANC follow up [OR: 4.479 [CI: 3.038, 6.602]]. The likelihood of using MCM is decrease by 91.5% for women who have delivered their last child at home [OR: 0.085, CI: 0.055, 0.133].

Table 6 Bivariate model of Reproductive characteristics and MCM utilization of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

Characteristics	Current users	Non-users	COR(95%CI)
Age at marriage	244(%)	386%	
15 and below	6(2.5)	24(6.2)	1.00
16 to 18	61(25)	106(27.5)	0.434(0.168,1.122)
19 to 21	109(44.7)	136(35.2)	0.312(0.123, 0.79)
22 to 24	47(19.3)	92(23.8)	0.489(0.187, 1.28)
25 and above	21(8.6)	28(7.3)	0.333(0.116, 0.961)
Age at delivery	238(%)	352(%)	
17 and below	13(5.5)	19(5.4)	1.00
18 to 20	71(29.8)	117(33.2)	1.128(0.525, 2.422)
21 to 23	101(42.4)	124(35.2)	.840(0.396, 1.783)
24 to 26	41(17.2)	70(19.9)	1.168(0.523, 2.610)
27 and above	12(5.0)	22(6.2)	1.254(0.463, 3.397)
Number of birth	241(%)	365(%)	
3 and below	114(47.3)	227(62.2)	1.00
3 to five	87(36.1)	90(24.7)	1.659(1.031, 2.671)
above five	40(16.6)	48(13.2)	0.862(0.516, 1.44)
No. of child. Alive	241(%)	363(%)	
less than three	122(50.6)	238(65.6)	1.00
three to five	88(36.5)	93(25.6)	0.542(0.375, 0.780)
above five	31(12.9)	32(8.8)	0.529(0.308, 0.908)
ANC follow up	242(%)	366(%)	
Yes	176(73.0)	221(60.5)	4.479(3.038, 6.602)
No	65(27.0)	144(39.5)	1.00
Place of delivery	241(%)	363(%)	
Home	115(47.7)	332(91.5)	0.085(0.055, 0.133)
Institutional	126(52.3)	31(8.5)	1.00
Child death	241(%)	369(%)	
Yes	29(12.0)	59(16.0)	0.719(0.446, 1.159)
No	212(88.0)	310(84.0)	

With regard to knowledge, attitude and exposure to mass media; MCM utilization also varies based on them. Women who have knowledge about MCM are about 2 times more likely to use MCM than women who have no knowledge about MCM, COR [CI] =1.986 [1.037, 3.801]. Women who have favorable attitude toward MCM are about 9 times more likely to use modern family planning method compared to their counterparts OR [CI] = 8.9[2.097, 37.777]. Concerning exposure to mass media women who are exposed to at least one media are about 4 times more likely to use MCM, OR [CI] = 3.959[2.040, 7.684].

Table 7 Knowledge, attitude and exposure to media and MCM utilization of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

Characteristics	Current users	Non-users	COR [95% CI]
Knowledge of MCM	244(%)	388(%)	
Yes	231(94.7)	349(89.9)	2.103(1.015, 4.360)
No	13(5.3)	39(10.1)	1.00
Expos. to mass media	240(%)	388(%)	
Yes	229(95.4)	326(84.0)	3.959(2.040, 7.684)
No	11(4.6)	62 (16.0)	1.00
Attitude of MCM	240(%)	268(%)	
Favorable	238(99.2)	361(93.0)	8.9(2.097, 37.777)
Unfavorable	2(0.8)	27(7.0)	1.00

Association between decision making pattern and modern contraceptive use

Information related with source of income, decision on income exposure and decision on family size and MCM use shows that women whom source of income is husband is about 2 times more likely to use MCM compared to women whom the source of income is both husband and wife [OR:1.812 (CI: 1.278, 2.57)]. Women whom the decision maker on family expenditure is husband is about 1.5 times more likely to use MCM than women whom the source of income is both husband and wife [COR:1.496 (CI: 1.05, 2.132)]. Those women who have discussion about MCM with their husband in the last six month were about 3.5 times more likely to use modern family planning [COR: 3.59, (95%CI: 2.528, 5.100)].

Table 8. Decision making pattern and MCM utilization of respondents by category, Soddo Zuria Woreda, SNNP, March .2014.

VARIABLES	Current users	Non-users	COR [95%CI]
Source of income	239(%)	386(%)	
Both	170(70.0)	226(58.5)	1.00
Husband	66(27.2)	159(41.2)	1.812(1.278, 2.57)
Wives	7(2.9)	1(0.3)	0.125(0.015,1.051)
Discussion MCM	243(%)	388(%)	
Yes	181(74.2)	174(44.8)	3.59(2.528, 5.100)
No	62(25.4)	214(55.2)	1.00

5.6 Factors associated with MCM utilization (Multivariable analyses)

From multiple variable analyses the independent predictors of MCM utilization in this study were household food insecurity, place of delivery of the last child, religion of the respondent, media exposure, attitude toward MCM, ANC follow up and discussion with husband about MCM of the respondents. Food security status of the HHs is one of the determinants of MCM utilization in this study. Women from food secured HHs are about 1.7 times more likely to use MCM compared to women from food insecure HHs. Mothers who have at least one ANC follow up are about five times more likely to use MCM when compared to women who have no any ANC visit [AOR: 4.807 (CI: 3.028, 7.631)]. Concerning place of delivery the probability of using MCM decrease by 93.1% for those women who delivered their last child at home compared to institutional delivery, [AOR: 0.069 (CI: 0.036, 0.129)]. Exposure to mass media has also significant effect on MCM utilization. Women who exposed to at least one media in the last six months were about 5 times more likely to use MCM than those who have no any history of exposure [OR: 5.433 (CI: 1.798, 16.412)] . Attitude toward MCM is another independent predictor of MCM utilization in this study. Those women that have favorable attitude toward MCM are about 17 times more likely to use MCM than those mothers that have unfavorable attitude OR: 17.164 (CI: 2.041, 144.34)].

Table 9* Bivariate and multivariable logistic regression model predicting the likelihood of modern contraceptive use among women in reproductive age group, Soddo Zuria Woreda, SNNP, March, 2014.

VARIABLES	Current users	Non-users	Crude OR [CI]	Adjusted OR[CI]
FSS	244(%)	388(%)		
Food secured	131(53.7)	121(31.2)	2.558 (1.838, 3.561)	1.734(1.053, 2.855)
Food insecure	113(46.3)	267(68.8)	1.00	1.00
Discussion on MCM	243(%)	388(%)		
Yes	181(74.5)	174(44.8)	3.59(2.528, 5.100)	2.942(1.843, 4.698)
No	62(25.5)	214(55.2)	1.00	1.00
Religion	244%	388%		
Protestant	110(45.1)	273(70.4)	1.00	1.00
Orthodox	121(49.6)	64(16.5)	.213(0.146,0.31)	0.198 (0.113, 0.347)
Catholic	12(4.9%)	40(10.3)	1.343(0.679, 2.656)	1.385(0.449, 4.270)
Other	1(0.4)	11(2.8)	4.432(0.565, 34.74)	8.763(0.658, 116.776)
ANC follow up	241%	365%		
Yes	176(73.0)	221(60.5)	4.479(3.038, 6.602)	4.807(3.028, 7.631)
No	65(27.0)	144(39.5)	1.00	1.00
Expo.mass media	240(%)	388(%)		
Yes	229(95.4)	326(84.0)	3.959(2.040, 7.684)	5.433 (1.798, 16.412)
No	11(4.6)	62 (16.0)	1.00	1.00
Attitude MCM	240(%)	388(%)		
Favorable	238(99.2)	361(93.0)	8.9(2.097, 37.777)	17.164(2.041, 144.34)
Unfavorable	2(0.8)	27(7.0)	1.00	1.00
Place of delivery	241(%)	363(%)		
Home	115(47.7)	332(91.5)	0.085(0.055, 0.133)	0.069 (0.036, 0.129)
Institutional	126(52.3)	31(8.5)	1.00	1.00

*Controlled for age, educational status, occupation, age at marriage, age at delivery, number of currently alive children, knowledge, and source of income.

CHAPTER SIX

DISCUSSION

The prevalence of MCM use in the study area is relatively higher than the national and regional contraceptive prevalence level. It is also relatively higher than the prevalence in rural area of Butajira from previous study done on Determinants of low family planning use and high unmet need(17). Similarly other maternal health services like ANC and Institutional delivery are also higher than the national level. The increase in contraception in recent years could be attributed to the expanding health service coverage in recent years(16). The result of this study showed that women from food insecure HHs were found to be about 1.7 times more likely to use modern contraception than women from food insecure HHs. Even if there were no studies that show the relation between food insecurity and modern contraceptive use previous studies show that poorer women were less likely to use MCM and women with higher income are more likely to use contraception compared to the poor women (32). But study done in Butajira district, South Central Ethiopia, found that married women who were members of food self deficient households were about 1.58 times more likely to use family planning compared to their counterparts in food self sufficient households though the association turned statistically not significant when other variables are included(17). In study done on utilization of family planning services by married Sudanese women of reproductive age; women with a higher socioeconomic status were found to be more likely to use modern methods of family planning than their counterparts (38).

Spousal discussion about family planning and contraceptive practice has been found to be crucial for the wider acceptance of contraceptive practice and lessening partners' fertility intention in developing countries(45,46). In this study women who have discussion with their husband were about 3 times more likely to use MCM. Study done on awareness and determinants of family planning practice in Jimma, Ethiopia indicated that the percentage of women who used modern contraceptives was higher among those who had discussed family planning with their husbands than among those who had not (47); in agreement with the study done in Butajira that showed a positive association between couple's discussion on family planning and contraception (17). The Demographic and Health Survey data from many African countries (Botswana, Kenya, Senegal, Burundi and Togo) also indicated that women who discussed family planning with their spouses were more likely to use contraceptives(45,48).

Proxy indicators of modern contraceptive utilization like previous attendance of ANC, PNC, and delivery at health institution and attendance of immunization services were found to have statistically significant association to the current use of modern contraception. In this study ANC follow up and institutional delivery were found to be statistically significant. Regarding ANC follow up and MCM use the women who have at least one ANC follow up are about 17 times more likely to use MCM compared to those who have no any ANC follow and for women who have delivered her last child at home the likelihood of using family modern planning decrease by 91.3%. This is also consistent with study done in Gambella town in which women having ANC follow up were about 5 times more likely to use contraceptive method(40). Women who were delivered at home were also less likely to use modern contraceptive compare to those that delivered at health institution. This may be because of that when women who deliver at health institution exposed to information about family planning.

Information about public exposure to messages through a particular medium allows policy makers to ensure the use of the most effective means of communication for various target groups in the population and it is one of the enabling factors for proper utilization of MCM (13). In this study exposure to media is also significantly affects MCM utilization. Women that have exposure to media were about 5.4 times more likely to use MCM. In study done in Wolaita Soddo Town south west Ethiopia women who have radio and television were about 2.8 times more likely to use contraceptive method as compared to those who have no radio or television(49). The study on family planning knowledge and current use of contraception among the Mru indigenous women in Bangladesh also shows that women who have exposure to mass media were 6 times more likely to use contraceptive methods(50).

Attitude toward modern contraceptive methods is also another independent predictor of MCM use in this study. The study revealed that women who have favorable attitude toward modern contraceptive were about 17 times more likely to use the contraceptive compare to those who have unfavorable attitude. The study done in Jordan shows that women who approved the use of contraceptive methods to space births were 3.8 times more likely to be users compared to those who disapproved the use(51).

STRENGTHS AND LIMITATIONS OF THE STUDY

Strength of the study

The study was comparative in nature and efforts were made to show the difference in different characteristics of the respondents in the two groups. By controlling for confounders as much as possible the difference in MCM utilization among the two groups and the difference in factors associated with MCM use between the two groups was assessed. On the other hand the large sample size calculated based on two population proportion and appropriate procedures of sampling were done to improve the validity of study. Attempt was made to include many of the factors that are suspected to influence modern contraceptive utilization.

Limitation of the study

Although the study is comparative in nature the comparison group were formed after data collection due to difficulty of doing census before data collection to classify the population into the comparison group and properly allocate the sample size for each group.

The survey was done only in rural areas since there is no urban area in the woreda.

Male partner were not included in the study.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1. Conclusion

- MCM prevalence is relatively higher than the national and regional level and similarly ANC follow up and institutional delivery are also higher in the study area compared to national and regional level
- Over all the study showed that MCM utilization significantly varies between the two groups and women in food insecure HHs was less likely to use MCM.
- Unwanted pregnancies were higher among food insecure women than among food secured; this revealed that there is a higher un-met need food insecure woman.
- ANC follow up and place of delivery which are keys to the maternal health have also significant effect on MCM and they have double advantage on maternal health.
- Factors that were commonly showing significant effect on MCM in previous studies like knowledge of MCM, occupational status, person deciding on family size doesn't show significance in this study.
- Discontinuation rate is also higher in food insecure HHs and the intention to use MCM in the future is also higher for food secured women.

7.2. Recommendation

- The study showed that HHs food security status significantly affects MCM. Hence any program whether governmental or non-governmental that wants to improve MCM use should consider food security status of the area while planning for family planning service and should cooperatively work with agricultural offices.
- Woreda health office should give emphasis to proxy indicators of MCM use like ANC and place of delivery. ANC follow up and institutional deliveries show significant improvement in MCM use. Therefore improving the rate of ANC follow up and institutional delivery highly improve utilization of MCM.
- Awareness creation on the importance of discussing on reproductive health issue for both mothers and their husband and encouraging women to discuss about MCM by health professional in the area should also be considered

- Further research with more appropriate methodology and through assessment of food security on annual base for further assessment of the effect of food insecurity on MCM use is required.

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ANNEXES

QUESTIONNAIRE

STRUCTURED QUESTIONNAIRE ABOUT FAMILY PLANNING

CONSENT FORM

My name is _____. I am working as a field data with Mr. Mohammed Feyisso who is doing a research as partial fulfillment for the requirement of Masters in Public Health at Jimma University, college of public health and medical science. I would like to ask you a few questions about modern family planning methods and factors affecting its utilization and food security in your household. This will help us to identify some of the barriers to use family planning and food security status based on your answer to our question. I would be thankful if you spend some time answering questions related to modern child spacing methods. No identification related to you will be stated on the questionnaire. Confidentiality of your responses will be kept. May I get your permission to continue my interview?

Yes 1

No 2→Stop

If yes name of data collectors_____

Signature_____

PART-ONE SOCIO-DEMOGRAPHIC CHARACTERISTICS		
S.No	Questions	Response
101	How old are you?	
102	What is your Religion? . .	1. Orthodox 2. Protestant 3. Catholic 4. Muslims 99. Others, specify
103	Ethnicity	1. Wolaita 2. Gammo

		<ul style="list-style-type: none"> 3. Amhara 4. Gurage 99. Others specify
104	Educational Status of the respondent.	<ul style="list-style-type: none"> 1. No education 2. Primary <input type="checkbox"/> 3. Secondary <input type="checkbox"/> 4. Above secondary <input type="checkbox"/>
105	Educational status of the husband	<ul style="list-style-type: none"> 1. No education 2. Primary <input type="checkbox"/> 3. Secondary <input type="checkbox"/> 4. Above secondary <input type="checkbox"/>
106	Occupation of the respondent.	<ul style="list-style-type: none"> 1. Housewife 2. Farmer 3. Merchant 4. Government employee 5. Daily laborer 6. Others, Specify
107	Occupational status of the husband	<ul style="list-style-type: none"> 7. Housewife 8. Farmer 9. Merchant 10. Government employee 11. Daily laborer 1. Others, Specify
PART TWO: INCOME AND WEALTH INDEX QUESTIONS		
201	Approximately, how much of these products did your household produced and sold during the last 1 year?	<ul style="list-style-type: none"> 1. Coffee (in Birr) 2. Teff sold in Birr 3. Maize (in Birr) 4. Cassava(in quintals)

		5.Others(specify)_____
202	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)_____
203.	Does your household have?	
	a) Functioning radio/tape	1. Yes 0. No
	b) Horse/mule /Donkey	1. Yes 0. No
	c) Cotton/sponge/spring mattress?	1. Yes 0. No
	d) Bed	1. Yes 0. No
204	What kind of latrine does your family have?	1. latrine with super structure 2. latrine without superstructure 3. used as compost 4. Other (specify)_____
205	What is the type of roof of the house?	1. Corrugated sheet 2. Thatch roof 3. Other (specify)_____
206	How many rooms are used by this household for sleeping only?	Number of rooms
207	Do you have kitchen	1. Yes 0. No

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

PART THREE: FOOD INSECURITY RELATED QUESTIONS

	Question	Response	
301	In the past four weeks, did you <u>worry</u> that your household would not have enough food?	1=Yes 0=No	
302	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)	
303	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?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
304	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)	

305	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?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
306	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)	
307	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?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
308	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)	
309	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?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
310	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)	

311	In the past four weeks, did you or any household member have to eat fewer meals in a day because there was not enough food?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
312	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)	
313	In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
314	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)	
315	In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?	<input type="checkbox"/> 1=Yes <input type="checkbox"/> 0=No	
316	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)	

317	In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?	1=Yes 0=No	
318	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)	

PART FOUR: REPRODUCTIVE HISTORY

401	Including yourself, in total, how many wives or partners does your husband live with now as if married?	Total number of wives 88. don't know
402	Are you the first, second ... wife?	Rank
403	In what age were you married first?	Years
404	Did you have any experiences of Pregnancy? If no skip to ques. 416.	1. Yes 2. No
405	If the answer to Q no 404 is yes, how many Pregnancies have you experienced?	
406	How many of the pregnancies were born alive? If she is pregnant for the first time skip to 416.	
407	How many of the live birth/births is/are alive now?	
408	Did you have deliveries in the last five years preceding the survey? If no skip to ques. 213.	1. Yes 2. No
409	If the answer to q. no 408 is yes, how many of the delivery/deliveries was/were born alive?	
410	Where did you delivered your last child	1. home 2. health centre

		3.hospital 4. private clinic 5. others.....
411	At how many years interval your have delivered your last two children? If women have only one child skips to ques. 412.	<input type="text"/>
412	Have you experienced unintended pregnancy till today? If no skip to ques. 415.	1. Yes 2. No
413	If the answer to Q. no. 412 is yes, how many of your pregnancies were unintended?	<input type="text"/>
414	If the answer to Q no 412 is yes, how many of the unintended pregnancies ended up in induced abortion?	<input type="text"/>
415	How many children do you want to have in your life?	<input type="text"/>
416	Have you attended ANC during your last pregnancy?	1. Yes 2. No
417	If yes to Q. 416, How many times you visited health institution for ANC follow up?	1. One times 2. Two times 3. Three times 4. Four times 5. More than four times
PART-FIVE – KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT MODERN CONTRACEPTION		
501	Do you know any of the modern contraception's? If no skip to ques. 601	1. Yes 2. No
502	If yes to ques. No 501, which of the modern contraception do you know?(Circle all that apply)	1. Pills 2. Injectables 3. IUDS 4. Implants

		<ol style="list-style-type: none"> 5. condom 6. Others, specify ____
503	If the answer to Ques. No 501 is yes, are you using it Currently?	<ol style="list-style-type: none"> 1. Yes 2. No
504	If the answer to Ques. No 503 is yes, which method are you using?	<ol style="list-style-type: none"> 1. Pills 2. Injectables 3. IUDS 4. Implants 5. condom 6. Others, specify
505	If the answer to Ques. no 503 is no, what was the reason?	<ol style="list-style-type: none"> 1. Use of natural method 2. Need more child 3. Fear of side effects 4. Religious prohibition 5. Husband objection 6. Others, specify _____
506	What is the importance of modern contraception?	<ol style="list-style-type: none"> 1. Prevent pregnancy 2. Space children 3. Avoid complication 4. Limit family size 5. Help to maintain health 6. Others, specify _____
507	If you want to use modern contraception (pills, inject able, IUD, Implant or Barrier Method), from where do you get?	<ol style="list-style-type: none"> 1. Hospital (Government) 2. Health center (Govern) 3. Private clinic 4. Private pharmacy 5. Others, specify, _____
508	Do you intended to use modern contraception in the next 12 months? For non-users only	<ol style="list-style-type: none"> 1. Yes 2. No
509	If the answer to ques. 508 is no, why not?	

	Use of natural method (abstinence)	1. Yes 2. No
	Desired sex of child	1. Yes 2. No
	Lack of information (knowledge)	1. Yes 2. No
	Male dominance (disapproval)	1. Yes 2. No
	Desire to have child	1. Yes 2. No
	Religious prohibition	1. Yes 2. No
	Don't have partner/no sexual intercourse	1. Yes 2. No
	Lack of method mix	1. Yes 2. No
	Others, specify	
510	Have you used any of the modern contraception in your life? If no skip all (For all respondents)	1. Yes 2. No
511	If yes to ques. 510 have you discontinued using for a minimum of three consecutive months during the last three years? If yes skip to ques. 513.	1. Yes 2. No
512	If the answer to ques. 511 is no, for how long have you used without interrupting?	
513	If yes to ques. 511, was/were the reasons that made you to discontinue contraceptive method? / For those who discontinued using/ Desired sex of child Lack of method mix Criteria requested One cycle rule followed Failure of method Lac of money Lack of respect of service provider Parent disapproval Desire to have child	1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No

	Husband objection Fear waiting time Others, specify _____	1. Yes 2. No 1. Yes 2. No
514	FP helps couple to become responsible parents.	1. Strongly disagree 2. disagree 3. Neutral 4. Agree 5. Strongly agree
515	Child spacing protects the health of mothers and children.	1.Strongly disagree 2.disagree 3.Neutral 4.Agree 5.Strongly agree
516	A couple that practices family planning has a happy family.	1.Strongly disagree 2.disagree 3.Neutral 4.Agree 5.Strongly agree
517	Practicing family planning will create a better society.	1.Strongly disagree 2.disagree 3.Neutral 4.Agree 5.Strongly agree
518	The practice of family planning will bring a couple closer together.	1.Strongly disagree 2.disagree 3.Neutral 4.Agree 5.Strongly agree
519	Family planning will help improve one's standard of living.	1.Strongly disagree 2.disagree 3.Neutral

		4. Agree 5. Strongly agree
520	Family planning practice improves trust between husband and wife	1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree
521	In the last few months have you:	
	a) Heard about family planning on the radio?	1. Yes 2. No
	b) Seen anything about family planning on the television?	3. Yes 4. No
	c) Read about family planning in a newspaper or magazine?	5. Yes 6. No
	d) Read about family planning in a pamphlet/Posters/Leaflets	7. Yes 8. No
	e) Heard about family planning at community event/conversation?	9. Yes 10. No
PART-SIX, DECISION MAKING		
601	Who is/are the source of income for the family?	1. Both 2. Husband 3. Wives 5. Others, specify
602	Who can make decision on family income expenditure?	1. Both 2. Male 3. Female
603	Who can make decision on family size?	1. Both

		2. Husband 3. Wife 4. Others, specify
604	Did you have discussion with your husband in the last six months about family planning?	1. Yes 2. No
605	Do you have the right to use any of the reproductive health service including the use of family planning? If yes skip to ques. 701	1. Yes 2. No
606	If the answer to Q no 605 is no, who can make the decision?	1. Both 2. Husband 3. Wife 4. Others, Specify
607	What would happen if you have used contraception without the knowledge of your husband?	1. Divorce me immediately 2. Bits me 3. Stops coming to me 4. Others, specify
HEALTH SERVICE RELATED FACTORS		
701	How long did it take for you to go to the nearby health facility to get FP service (on foot)?	1. _____ Minuets/Hrs 2. _____ Km(s)
702	Is there any problem that you face when you want to get service? If no skip to ques.503.	1. Yes 2.No
703	If yes to ques. 701, what are these Problems? Said you are not on menses Today is not a service day Asked to pay for the service Many clients were there then appointed	1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No 1. Yes 2. No

	To come with husband	1. Yes 2. No
	Not meant for un married women	1. Yes 2. No
	Restricted parity against my need	1. Yes 2. No
	Restricted age against my need	1. Yes 2. No
	Required method is not available	1. Yes 2. No
	No trained professional on methods	1. Yes 2. No
	Required instrument is not available	1. Yes 2. No
	Others, specify _____	
704	Have you ever visited family planning clinic in the absence of your menses?	1. Yes 2. No
705	If yes to ques. 503, which methods of family Planning you were given?	
	Barrier method	1. Yes 2. No
	Barrier method & a cycle of oral pill	1. Yes 2. No
	Counseling only	1. Yes 2. No
	Counseling & barrier method	1. Yes 2. No
	Investigated sign & symptoms of	
	Pregnancy & given contraception	1. Yes 2. No
	Done pregnancy test & give contraception	1. Yes 2. No
	Others, specify ____	

ANNEXES II: WOLAITENGA VERSION OF QUESTIONNAIRE

OYISHSHANCHA GAYETUWAA MALATA			
oyishshaanicha sunta: _____ malatuwaa _____		Qabaliya sunta: _____ qabaliya dumma payduwaa: _____ munta suntta : _____	
Osuwa kaliyaga sunta: _____ malatuwaa _____		Oysha oyichido gala (ETC):galassa/aginna/layita ___/___/___ Oyishaa domido sa77atayi -----	
Kettaa aysiyage onne; 1.Attuma 2.Machaa			
Meziyaa I: Geluwaanne dussa xeliya oyishaata			
No.	Oyishaa	payduwaa marra	Kantta
101	Ne layitaay apune	Layitaa	
102	Nee dussay darotto awaanne	1. kattama 2. gattarre	
103	Nee ketta aysiyagaa amanoyi ayibee	1. Protestantee 2. Ortoodoxee 3. Katholikee 4. Muslimee 99.harayi diko odda.....	
104	Nee amanoyi ayibee	1. Protestantee 2. Orthodoxee	

		3. Catholikee 4. Muslimee 99. harayi diko odda	
105	Qomoyi negee aybee ?	1. Wolaita 2. Amhara 3. Guraghe 4. Oromo 99. harayi diko odda	
106	Appunta gakkanawu Tamaraddi ?	1. xaffiyogaka nababuwakka dandayike 2. xaffiyogaka nababuwakka dandayayisi 3. koyiroo darajaa 4. na77anto darajaa 5. na77anto darajappe bolaa	
107	Nee azinayi Appunta gakkanawu Tamaradde ?	1.xaffiyoganne nababuwa dandayenaa 2. xaffiyogaka nababuwakka dandayayessi 3. koyiroo darajaa 4. na77anto darajaa 5. na77anto darajappe bolaa	
108	Nee ossoyi aybe?	1. soo giddo osso 2. goshshaa 3. zali77iya 4. kawuuwa ossanchaa	

		5. kuwuwaaga gidenaa ossancha 6. kanne ossanchaa 99.harayi dikoo odda.....	
109	Nee azinna ossoyi aybe?	1. soo giddo osso 2. goshshaa 3. zali77iya 4. kawuuwa ossanchaa 5. kuwuwaaga gidenaa ossancha 6. kanne ossanchaa 99.harayi dikoo odda.....	
Oydantto II: Meziya Income and Wealth index questions			
201	kantida issi layitaa gidoni, kaliyagetuppe inte ketayi woqqa demidde woqaqa bayizide gada qoffayi	1. Tikiya (in Birr) 2. gashiya (Birr) 3. badalla (in Birr) 4. boyiyaa(kuintaliyan) 5. harayi (diko odda) _____	
202	Kaliyagetuppe inteketan appun mehe de77i?	1. mizzaa? 2. deshsha ? 3. dorissa? 4. kutuwaa? 5. matta ketayi 6. harayi (diko odda) _____	
203	Intee kettaan kaliyaa getti de77iyonna?		
	a) Ottiya radio/tape	1. Yes 0. No	

	2. Hare/ paraayi/ baquloyi	1. Yes 0. No	
	3. putuwaa/spongiya/springee zuni77o?	1. Yes 0. No	
	4. Algayi	1. Yes 0. No	
204	Intee ketta sheshsha keetayi aymala qommo?	1. bawaa 2. VIP 3. Traditional latrine 4. Harayi diko _____	
205	Intee ketta bola kamoyi aybe ?	1. Corrugated sheet 2. Thatch roof 3. Other (specify)_____	
206	Intee kettani apuun zini77iyo kifileti de77iyonnaa?		
207	Qumma katiyo keitayi (kushinayi) de77i	1. De77esi 0. Bawaa	
208	Intee kettani mehiyassi duaa ketayi de77i?	1. De77esi 0. Bawaa	
209	Intee de77iyo ketaa godayi ayba mayidde?	1. Mittaa 2. Uriqqaa 99. Harayi diko odda_____	
210	Intee goshsha gadee woqu hekitare?	Ahuwa hekitariyan	
211	Ali77ida 6 aginanni woqqu gabiyaa (misha) inte ketayi demidee?	Gabiyaa Birran	

Bagga III: ketta qumma meziya xeliyaa oyishshata

301	Ali77ida oyidu saminitani, nee soo asawaa qummayi gidenna gadaa qopada (metotada) eraayi ?	1=erayissi 0=erikke	
302	Erayissigikko, apputo?	1 = gutta (once or twice in the past four weeks)	

		2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
303	Ali77ida oyidu saminitani , neeni woyiko nesso assappe kattayi xayido gishshawu <u>dossenna</u> qumma middage de77i ?	1=de77es 0=bawaa	
304	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
305	Ali77ida oyidu saminitani , neeni woyiko nesso assappe kattayi xayido gishshawu <u>gutaa qommo</u> qumma middage de77i ?	1=de77es 0=bawaa	
306	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
307	Ali77ida oyidu saminitani , neeni woyiko nesso assappe kattayi xayido gishshawu manna <u>koshshenaa qumma qommuwaa</u>	1=de77esi 0=bawaa	

	middage de77i ?		
308	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
309	Ali77ida oyidu saminitani , neeni woyiko nesso assappe qummayi guxiddo gishshawu kehin gutta qumma middage de77i ?	1=de77esi 0=bawaa	
310	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
311	Ali77ida oyidu saminitani , neeni woyiko nesso assappe qummayi guxiddo gishshawu kehin gutta qumma middo galassayi de77i ?	<input type="checkbox"/> 1=de77esi <input type="checkbox"/> 0=bawaa	
312	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks)	

		weeks) 3 = daratto (more than 10 times in the past four weeks)	
313	Ali77ida oyidu samintanni, neeni woyiko nesso asappe katiyobbayi Xayiddo gishawu ayibba qommo qummaka manna xayido galassayi de77i ?	1=de77esi 0=bawaa	
314	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
315	Ali77ida oyidu samintanni, neeni woyiko neeso asaappe qummayi Xayiddo gishawu <u>namissishini menani xisikido</u> galassayi de77i?	1=de77esi 0=bawaa	
316	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	

317	Ali77ida oyidu samintanni, neeni woyiko neeso asaappe qummayi Xayiddo gishawu mumme galassanne qamma mena wode de77i?	1=de77esi 0=bawaa	
318	De77essigikko apputo?	1 = gutta (once or twice in the past four weeks) 2 = darena (3 to 10 times in the past four weeks) 3 = daratto (more than 10 times in the past four weeks)	
OYDANTTO BAGA:YELIYOOGA TARIKKIYA			
401	Neenara issippe nee azinayewu appuni machoyi woyiko (machotonni de77iyaraa) de77i ?	Machaa qodayi 88. Erikke	
402	Neeni apunito macho, koyiro, na77anito..?	Rank	
403	Nee koyoro azinna geliyodde layitayi appunne ?	Layitta	
404	shaaradaa erayi? If no skip to ques. 318.	1. Erayissi 2. Erikke	
405	Erayissigiko hanogakkanawu apputo sharadi?		
406	Erayissigiko appuni paxxa natta yeladi?		
407	Ha77i tanni nenni yelido ubaa nattuba oyichanna . na77a yeladda erayi?	1. erayissi <input type="checkbox"/> 0. erikke <input type="checkbox"/>	

408	Kayorro na77a yeliyode nee layittayi appunne?	layitta <input type="checkbox"/> <input type="checkbox"/>	
409	Wursettaa na77a yeliyode nee layittayi appunne?	layitta <input type="checkbox"/> <input type="checkbox"/>	
410	Nee matan yelido na''a awaan yeladdi	1. sooni 2. tena tabiyaani 3.hospitaliyaani 4. gille kilinikiyaan 5. harayi diko.....	
411	Wursetta na''u naata apun layitta hassada yeladdi? Issi na''ayi xalayi de''iko oyisha. 412 Baa		
412	Hanogakkanawu shara koyennani sharido wode de''i? issin na''ay dikka oysha 412 ko kanta.	1. de77esi 2. bawaa	
413	Ne zaaroy oysha 412 yo ee gidikko, appunay qoppenan merettide?	Qodda	
414	Ne zaaroy oysha 412 yo Ee gidikko appun shaara keessisadii?		
415	Nee de''uwaa abanni appuni naati de''iyako dorayi?	<input type="checkbox"/>	
416	Nee wursetta sharani sharaa kaluwaa kaladdi?	1. kalassi 2. kalabeyikke	
417	Kalassi giko apputo tenna drijitiya kaluwassi baddi?	1. Issito 2. Na77uto 3. Hezutto 4. Oyidutto 5. > oyidda	
ICHASHANTO BAGGA: ERA QOFANNE MEEZIYA WODIYA SHARA TOQQIYOOGIYA			
501	Wodiya shara teqqiyo mishsha eray?	1. Ee	

	Erenaba gidikko oysha 601 ko kannta	2. Akkay
502	Ne zaaraoy Ee gidikko oysha 501 yo. Ne eriyo wodiya shara teqqiyoge awugee?	<ul style="list-style-type: none"> 7. Pills 8. marfiya 9. IUDS 10. Implants 11. konddomiya 12. harata huphiyan
503	Ne zaaroy oysha payduwa 501 yo Ee gidikko ne go''taydda de'ay?	<ul style="list-style-type: none"> 1. Ee 2. A kkay
504	Ne zaaroy oysha payduwa 501 yo Ee godikko. Ne go''tayda de''iyo hillay awugee?	<ul style="list-style-type: none"> 7. Pills 8. Injectables 9. IUDsidiya 10. Implants 11. konddomiya 12. harata huphiyan
505	Ne zaaroy oysha payduwayo 503 Akkay godikko gasoy aybe ?	<ul style="list-style-type: none"> 1. meretta hillago''etta 2. Cora naataa koshsha 3. Yashsha 4. Ammanuwa teqqetta 5. Azina qofaa 6. Harata huphiyan
506	Wodiya shara teqqiyoga go''ettiyoga maadoy aybe?	<ul style="list-style-type: none"> 1. Shara teqqes 2. Naati corena mala 3. Metuwa taysses 4. Sop asa payduwa guuttes 5. Payatetta nages 6. Harata huphiyan
507	Wodiya shara teqqiya mishsha awan demmay?	<ul style="list-style-type: none"> 1. Hosppitaliya 2. Hakime keetta 3. Gille hakime keetta 4. Gille xale keetta

		5. Harata huphiyan
508	Kallidi de''iya 12 aginan wodiya shara teqqiyoo go''ettana koyay? Go'etti yagettu kanche	1. Ee 2. Akkay
509	Ne zaaroy oysha payduwa 508 yo akkay, ayssi gidenne? Nageettiyooga Naata koyshshawu mattumma gaytotetta Era paca Attuma asaa gitatetta Naata yeluwa koshsha Ammanuwa teqqeta Mattuma gaytotetta Gayttiyooge baynnaaga Harata huphiya	1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay
510	Wodiya shara teqqiyoo mishsha go''ettadii?	1. Yes 2. No
511	Ne zaaroy oysha payduwa 510, wursetta hezzu layta gidдон hezzu agina gidiyaaga go''ettanan aggadii? Zaaroy eegidikko, oysha paduwa 513 ko kannta.	1. Ee 2. Akkay
512	Ne zaaroy oysha paduwa 511 yo akkay gidikko, appun wode gakkanashin go''tadii?	
513	Zaaroy oysha payduwa 511 Ee gidikko, ne agganadan ottida bati aybate? Naata koshawu mattuma gaytotetta Gaaytiyooge baynnaaga Koshshiya bata Issi cycle higge kalliyoga Go''etta erennaga	1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay

	Maddiyaage bonchennaga So asa sheniya ixxiyoga Naata yeluwa koshsha Azina qofa Naagiyo wodiya yayyiyooga Harata huphiyan	1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay 1. Ee 2. Akkay
514	FP giyooge azininne machchiya payya gidana mala maddes	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
515	Naata takki yeliyooga ayenne naatu payyatetta naages	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
516	Halchuwara de''ya so asay utayssa ketta medhes.	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
517	So asay halchuwan simerettiyooge la''o heera asaa	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
518	Halchidi yeliyooge azinanne machiyo siqiisses	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays

		5. Muleera mayettayis
519	Halchidi yeliyooge keetta dussa lames	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
520	Halchidi yeliyooge azinanne mache giddon de''ya ammanuwa gujjes	1. Mayetikke muleera 2. Mayettikke 3. Giddon 4. Mayettays 5. Muleera mayettayis
521	Adidha aginatun neni	
	a) Halchidi yeliyooga radoniyan siyadi?	11. Ee 12. Akkay
	b) Televizhinian be''adi?	1. Ee 2. Akkay
	c) Woraqatan nababa eray?	1. Ee 2. Akkay
	d) Mitta bolan oyqettaga nababa eray?	1. Ee 2. Akkay
	e) Hasayshin siya eray?	1. Ee 2. Akkay

USUPUNTO BAGA: KUYIYO OGIYA

601	Keettayo miisha demmiyay oone?	1. Naa''ay 2. Azina 3. Machchiyo 4. Harata huphiyan
602	Keesiyiyoogan mishsha giyooga ooni hassayi?	1. Naa''ay 2. Azina 3. Machchiyo
603	So ketta qoodan ooni haasayi?	1. Naa''ay

		<ol style="list-style-type: none"> 2. Azina 3. Machchiyo 4. Harata huphiyan
604	Adhida usuppun aginatun ne azinaara halchidi yeliyooga haasaydeti?	<ol style="list-style-type: none"> 1. Ee 2. Akkay
605	Neyyo maatay de''ii yeluwa xelliyagan imettiya maaduwa ekkadayo halchidi yeliyoogakka gujjin? Eegidikko ,oysha payduwa 701 ko kantta.	<ol style="list-style-type: none"> 1. Ee 2. Akkay
606	Ne zaaroy oysha paduwayo 605 yo akkay gidikko, ooni xaaxi waaxin hasayi?	<ol style="list-style-type: none"> 1. Na''ay 2. Azinay 3. Machchiya 4. Harata huphiyan
607	Ne azinay erenan shara leeqiyoo ga go''ettiyoogan	<p>Shahettiyooga</p> <p>Shochiyoo ga</p> <p>Takko yoppa</p> <p>Harata huphiyan</p>
PAYYATETA MADUWARA GEYTTIYA METOTA		
701	Nessi matan de''iya hakime ketta biidi FP giyooga xaykko oysha payduwa 503 ko kantta	<ol style="list-style-type: none"> 1. _____ daqiqa(satiya) 2. _____ Km(s)(adusatetta)
702	Ne maduwa ekkana koyidashan xubbidabay de''ii?xaykko oysha payduwa 503 ko kantta	<ol style="list-style-type: none"> 1. Ee 2. Akkay

703	<p>Ne zaaroy ee gidikko metoti aybee?</p> <p>Neni metuwan de''akka</p> <p>Hachchi meduwa immiyo gane gidenna</p> <p>Mishsha ganxxite giidi oychchiyoogoo</p> <p>Cora maduwa koyiya asay de''es</p> <p>Azina gelibanna macca asawu hanenna</p> <p>Nekoshadan bokkona</p> <p>Layttan teqqosona</p> <p>Koshshiya oge bawa</p> <p>Hillara de''iya asay bawa</p> <p>Buquray bawa</p> <p>Harata huphiy</p>	<p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p>
704	<p>Helchuwan yeliyo hakime ketta baada eray?</p>	<p>1. Ee</p> <p>2. Akkay</p>
705	<p>Baada erikko oysha payduwa 703 yo Ee gidikko, ne go''ettiyo halchidiyeliyo hillay awuge?</p> <p>Zeeriyo oge</p> <p>Zeeriyo ogiyaanne donara ekkiyo xaliya</p> <p>Zoriyoga kanche</p> <p>Zoriyoganne zeeriyooga</p> <p>Shara malatata</p> <p>Shara paciya ekkiyooga</p> <p>Harata huphiyan</p>	<p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p> <p>1. Ee 2. Akkay</p>