Modern Contraceptive Use and Associated Factors among Women within the Extended Postpartum Period in Gomma District,Jimma Zone, Oromia, Southwest Ethiopia,2022.

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A Thesis submitted to Jimma University Faculty of Public Health, Department of Population and Family Health, In Partial Fulfillment of the Requirements for the Degree of Masters of Public Health in Reproductive Health

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ABSTRACT

Background;- The extended postpartum period is a one-year time after giving birth during which women must have safe birth intervals. Many women's are unaware that they are at risk for pregnancy during this time. As a result, many postpartum women did not begin using any form of contraception methods. As a result, there is a higher chance of an undesired pregnancy that leads mothers to pregnancy related complication. It is vital to have clear understanding of postpartum family planning services utilization and associated factors to achieve the desired health outcome for mother, neonate and children of the country.

Objective; The aim of the study was to assess modern contraceptive use and associated factors among women's within the extended postpartum period in Gomma, district, Jimma zone, Oromia, Ethiopia,2022.

Method: Institutional based Quantitative cross sectional study design was conducted among 347 women within the extended postpartum period from May10 – June 20/2022. The study subject was selected by using systematic random sampling technique. Data was collected by using a structured and pretested interviewer administered questionnaire and the data was entered to Epi-data version 4.6 and exported to SPSS version 25.0. Both bivariate and multivariate logistic regression model were performed to identify factors associated with outcome variable. Significance of association was decided by using the 95% Confidence level of AOR at p-value of <0.05.

Result: Out of 347 sampled postpartum women, 337 of them responded with the response rate of 97.1%. The magnitude of postpartum contraceptive utilization was 30% (95% CI: 25.5-34.7). birth interval of ≤ 2 yrs (AOR =0.47, 95% CI: 0.19,0.90) was statistically negatively associated with modern PPFP use and Resumption of menses (AOR=4.34, 95% CI: 2.99-8.95), discussion with husband (AOR = 3.75, 95% CI: 1.76-7.97), ANC follow up (AOR=2.42,CI: 1.76-7.97), PNC follow up (AOR= 3.39, 95% CI: 1.73-6.68) and counseling during their child immunization (AOR=6.95, 95% CI:3.42-14.09) was statistically positively associated with postpartum modern contraceptive utilization among women within the extended postpartum period.

Conclusion: The magnitude of postpartum modern contraceptive use during the extended postpartum period was low 30% (95% CI: 25.5- 34.7). Birth interval of ≤ 2 yrs, Resumption of menses, discussion with husband, ANC follow up, PNC follow up and counseling during their child immunization was statistically associated with postpartum contraceptive utilization among women within the extended postpartum period. Policy makers, program managers and health care providers need to focus on counseling and integration of postpartum family planning service and maternal and child health care service multiple contacts with health care professionals.

Key words: -Postpartum, Modern Contraceptive Use, Immunization Clinic, Gomma.

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Abbreviations and Acronyms

ANC: - Antenatal Care

DHS: - Demographic and Health Survey

EPI: - Expanded Programme on Immunization

FP: - Family Planning

HP: - Health Post

HC: - Health Center

LMIC: - Low- and Middle-Income Countries

PFP: - Postpartum Family Planning

PNC: - Postnatal Care

RH: - Reproductive Health

SSA: - Sub-Saharan Africa

WHO: - World Health Organization

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Family planning (FP) is a plan intended to determine the number and spacing of one's children through birth control methods. It has a number of benefits for women, children, and families, and it is viewed as a human right. Despite their need, millions of women worldwide do not have access to safe and effective FP methods. The modern contraceptive method is defined as a product or medical procedure that includes Sterilization (for both sexes), Intrauterine devices, Sub-dermal implants, Oral-contraceptives pills, Condoms (for both sexes) Injectables, Emergency contraceptive pills, Patches, Diaphragms, and cervical caps, Spermicidal agents (gels, foams, creams, suppositories) Vaginal rings and Sponge. Non-Modern Method includes Fertility awareness approaches, Withdrawal, Lactational amenorrhea, and Abstinence (1).

According to the Global Burden of Disease study, there are 265 million unintended pregnancies, 110 million unnecessary abortions, 590,000 preventable maternal deaths, and 8 million preventable infant deaths worldwide, with developing countries accounting for 99% of maternal deaths. Women account for 69% of the unmet need for modern contraception in three regions (Sub-Saharan Africa (SSA), South Central Asia, and South East Asia), with 49 million unintended pregnancies leading to 21 and 15 million induced abortions and the loss of healthy years of women's lives, respectively(2).

In nations with high birth rates, promoting family planning has the potential to reduce poverty and hunger, as well as prevent 32% of all maternal fatalities and nearly 10% of all childhood deaths. It would also make a significant contribution to women's empowerment, universal primary education, and long-term environmental sustainability. In low- and middle-income countries (mostly in Africa), Contraception use is still low and fertility, population growth, and unmet family planning needs are high(3).

The extended postpartum period is a one-year time after giving birth during which women must ensure safe birth intervals in order to avoid unwanted pregnancy and lower the risk of maternal

and child mortality. Many women, however, are unaware that they are at risk for pregnancy during this time. For one year after childbirth, postpartum family planning (PFP) is a method of preventing unplanned pregnancies and closely spaced pregnancies. To prevent the dangers of maternal, prenatal, and infant health problems, the World Health Organization (WHO) recommends that a woman wait at least two years (2ysr) after giving birth before having another child(4).

The postpartum period is crucial for two reasons: postpartum women have a significant need for contraception, and they have multiple contacts with the health institution for maternal and child health care service. 95% of women who are 0–12 month's postpartum desire to avoid having a baby in the next 24 months, however 70% do not use contraception. To increase the birth interval, postpartum mothers' use of family planning should be continually strengthened. Having at least a two-year gap between pregnancies helps to prevent unwanted pregnancy, abortion, maternal mortality, low birth weight, and infant and child mortality(5).

Routine vaccination services are one of the most widely used and equitable health services: the Expanded Programme on Immunization (EPI) delivers routine immunization to children in their first year of life. In 2020, global coverage for the third dose of diphtheria, tetanus, and pertussis (DTP3) vaccine was anticipated to be 83%(6). Because the time limits for EPI and postpartum family planning services overlap, combining the two services allows women to benefit from their existing relationships with the health system. This type of service integration has been identified as a "promising" high-impact method for expanding family planning access(7).

According to available evidence in Ethiopia, women have multiple contacts with healthcare providers in health facilities during the postpartum period when seeking child immunization services and this creates an excellent opportunity for FP information and counseling(8). So the overall purpose of this study is to determine the prevalence of modern contraceptive use and associated factors among women within the extended postpartum period attending child immunization clinic.

1.2. Statement of the problem

Studies show that 95% of women who are 0 to 12 months postpartum want to avoid pregnancy in the next 24 months, but 70% of them are not using contraception due to different reasons, and pregnancies that are closely spaced within the first year after delivery are the most dangerous for mother, baby and neonate. Very short birth-to-pregnancy intervals are associated with the highest risk of child mortality. Under-five mortality drops by 13% if all couples waited 24 months to conceive again and the drop would be 25% if couples waited 36 months (5).

To reduce the risk of adverse maternal, prenatal, and infant outcomes, the World Health Organization (WHO) recommended that the interval between live birth, and an attempt to the next pregnancy should be a minimum of two years(5). Postpartum family planning has a dual advantage to reduce maternal/infant mortality and reduce population growth in low-resource countries (9).

According to a study conducted in Tanzania, 47% of all pregnancies take place during a sub-optimal/short inter pregnancy interval of at least 24 months. This short inter pregnancy interval has been linked to an increased risk of induced abortions, miscarriage, premature rupture of membranes, preterm births, utero-placental bleeding, small for gestational age, negative neurodevelopment outcomes, neonatal and child mortalities, stillbirths, and maternal depletion syndrome(10).

Study conducted in rural Ghana postpartum contraceptive use was fewer than 30% had ever used modern contraceptive methods.(11) Similarly another study done in Nigeria on use of maternal health care as predictor of postpartum contraception only 8.45% had used modern contraceptive during postpartum period(12).

According to an institutional based cross sectional study design done in Addis Ababa, Ethiopia 71.8% of postpartum mother used modern contraceptive during extended postpartum period(13). Another study conducted in northwest of Ethiopia, Gonder town stated that postpartum contraceptive use among women within the extended period was 48.4% (14).

According to Ethiopian demographic health survey (EDHS) in 2016, 4% and 9% of pregnancies occur within less than six months and less than twelve months respectively after prior delivery, and unmet need FP methods are high, 22% at the national level, at regional level highest in

Oromia and lowest in Addis Ababa 29% and 11% The pregnancy related mortality ratio was 412 maternal deaths per 100,000 live births (15). 2019 mini EDHS report that the infant mortality rate was 43 deaths per 1,000 live births, the neonatal mortality rate was 30 deaths per 1,000 live births and under-5 mortality rate was 55 deaths per 1,000 live births(16). Another Ethiopian study conducted that 86% of women in their first year postpartum have unmet family planning needs and that over half (47%) of all pregnancies in Ethiopia occur during a short birth interval of fewer than 24 months following the previous delivery (17).

The studies reviewed show that socio-demographic factors such as women's age, education, and employment status, fear of side effects, urbanization, and economic development, and another study describes that the number of children alive are significantly related to the utilization of PPFP. Antenatal care (ANC), delivery care, and postnatal care (PNC) also significant in postpartum family planning use (4,11,13).

The majority of maternal and child death in Ethiopia was due to repeated pregnancy and its related complications. One of the goals of ministry of health in Ethiopia concern was improving maternal and child health. Postpartum contraceptive utilization has an advantage to reduce maternal, neonatal and child mortality. Currently, overall modern contraceptive uses that is the key indicator of maternal and child health remain low in the country at 41.1% (15).

In summary the majority of maternal and child death in Ethiopia was due to repeated pregnancy and its related complications. Closely spaced pregnancy within the first year after delivery is the most dangerous for mother, baby, and neonate to reduce this risk; it was recommended that the interval between live birth, and an attempt to the next pregnancy should be a minimum of two years. Most of previous study which was conducted in Ethiopia was focused on immediate postpartum period; community based and at the urban area of the country but the prevalence of postpartum contraceptive use during extended postpartum period that have multiple contacts with a health care professional in rural health facility for child immunization service was not well assessed. So this study fills this gap. Overall the purpose of this study is to determine the prevalence of modern postpartum contraceptive use and associated factors among women within the extended postpartum period attending child immunization clinic in the public health facility of Gomma, district, Jimma Zone, Oromia, Ethiopia, 2022.

1.3. Significant of the study

Very short birth to pregnancy interval has risk for pregnancy related Complications such as spontaneous abortion; postpartum hemorrhage and anemia are more prevalent when a mother falls pregnant soon after giving birth. Second, the baby may be born with preterm birth, low birth weight, and tiny for gestational age. Third, a kid who has already been born may get insufficient care and support, resulting in disease and nutritional risks this may leads to increase risk of child mortality. Generally maternal health remains a major global and national concern. This study will provide contribution on reduction of maternal and neonatal morbidity and mortality by providing recent information to concerned body.

One of the targets of the ministry of health of Ethiopia, concerning (HSTP II) is improving maternal, neonatal and child health. Postpartum contraceptive utilization has an advantage to reduce maternal, neonatal and child mortality, so conducting study on modern postpartum contraceptive use has the potential to contribute in achieving the already set the target of the country.

Postpartum women have a high need for contraceptive use and had multiple contacts with the health care professional during maternal and child health care service so this study provide basic information for programmer to strengthen intervention activities to fulfill women's contraceptive need.

The result of this study will be important input to the site and serve as base line for other future studies.

Overall the purpose of this study is to determine the prevalence of modern contraceptive use and associated factors among women within the extended postpartum period attending child immunization clinic in the public health facility of Gomma, district.

CHAPTER TWO

2. LITRERATURE REVIEW

2.1. Modern contraceptive use in extended postpartum period

In 2019, 1.1 billion reproductive-age women worldwide require family planning, with 842 million using modern contraceptives and 80 million using traditional methods, while 190 million women desire to avoid conception but do not use any contraceptive methods. Women who have just given birth are among those who have the most unmet family planning needs. As a result, postpartum family planning centered on preventing unwanted and closely spaced pregnancies in the first year after childbirth(18). Global and national policies have re-emphasized PPFP as a critical intervention for ensuring healthy outcomes for women and newborns(19).

Giving women access to family planning within the first year after giving birth allows them to avoid unplanned pregnancies and encourage good birth spacing. Preterm birth, low birth weight, fetal, neonatal, and infant death, childhood malnutrition and stunting, and negative maternal health outcomes have all been linked to pregnancies spaced less than 18–24 months apart. More than 90% of women in their first year after giving birth express a desire to wait at least two years before having another child, if not longer, and there is a significant unmet need for family planning during this time(7).

According to a study on postpartum contraceptive use among women in low- and middle-income countries (LMIC) 91% of postpartum women in low- and LMIC report a desire to prevent pregnancy for at least a year following a birth, the risk of unintended pregnancy is high in the postpartum period (20).

According to a study conducted in Tanzania, 47% of all pregnancies take place during a sub-optimal/short inter pregnancy interval of at least 24 months. This short inter pregnancy interval has been linked to an increased risk of induced abortions, miscarriage, premature rupture of membranes, preterm births, utero-placental bleeding, small for gestational age, negative neurodevelopment outcomes, neonatal and child mortalities, stillbirths, and maternal depletion syndrome(10).

In Ethiopia, postpartum family planning use remained low; in 2016, it was estimated that 21% of postpartum women used family planning at 6 months after delivery and 26% at a year. This number varied significantly depending on where the woman gave birth: 39% of women who gave birth in a health facility used contraception by 6 months after giving birth, compared to 13% of women who gave birth at home. According to the DHS, just 33% of Ethiopian women delivered at a health institution, and an even smaller number of postpartum women (19.1%) reported receiving postnatal care(21).Federal ministry of health set an objective to increase family planning adoption from 42% to 50% by 2017(22).

According to another survey conducted in Ethiopia, the prevalence of contraception among married women ranged from 5% in the Somalia region to 53% in both the Amhara and Addis Ababa regions. In the country, 40% of women use contemporary contraception, and 86% of women in the extended postpartum period have unmet needs(15).

Another study found that the prevalence of family planning use among mothers in Ethiopia during the postpartum period was 48.11% (95% CI: 36.96, 59.27), with the highest utilization in Addis Ababa (65.4%), followed by 60.9% in SNNPR, 48.4% in Tigray, 39.4% in Amhara region, and the lowest utilization in other regions such as Oromia (28.8%)(23).

As a study done in North West Ethiopia, 10% of postpartum women within 12 months were using a contraceptive method mostly for spacing children for which, injectable was the most popular method(24).Another study conducted in Kiramu District, Western Ethiopia indicated that only 28.8% women used different types of contraceptives during the postpartum period but study done in kiramu district was descriptive type of study (only describe the magnitude of contraceptive use), factors associated with the use of PPFP was not assessed. But this study conducted on modern contraceptive use and associated factors with use of PPFP were assessed. (25).

2.2. Determinants of postpartum modern contraceptive use

2.2.1. Socio- demographic factors

The majority of studies reviewed found that socio demographic factors such as women's age, education, and employment status, religion and culture, urbanization, economic development, social and cultural changes

According to a study conducted in Cameron, the potential demand for family planning services during postpartum period in urban and rural Cameroon differs significantly (56.1% urban against 38.7% rural)(26)

Findings from the 2011 national Demographic and Health Survey (DHS) in Cameroon state that only 16% of women of childbearing age were using a modern contraceptive method. There was a significant difference between the urban and rural zones (6% rural against 21% urban) and a one-year increment in the age of a woman is significantly associated with reduction to use PPFP and also one child increment on the number of existing children has association with increment of use of PPFP by 9%. PPFP use increase as the educational status of women increases and that women who are single and their husband is not living together are less likely to use PPFP and use of post-partum contraceptive by the women is associated with the approval and support of her husband(11,27).

A study in Butajjira health and demographic surveillance site showed that women who have discussion about family planning and have support of husband are more likely to use family planning than those who do not. And reported that age of women and residence has significant association for the use of PPFP method; Women living in urban residence more likely to use PPFP but those living in rural are less likely to use PPFP. (27)

Study done in southern Ethiopia, Butajera showed that Women with good knowledge and awareness of postpartum family planning methods are more likely to use them than women with low understanding, and the majority of women heard about at least one strategy during the postpartum period, but their knowledge is insufficient. The PPFP knowledge status particularly in urban community has not been studied, where fertility rate is generally high(27). Facility based cross sectional Study done in northwest Ethiopia, Gondar town has indicated that the lowest contraceptive utilization was observed mainly due to low level of knowledge and access

to timely utilization of modern contraceptives in the postpartum period is dependent on good knowledge of women regarding family planning (28)

2.2.2. Contact with health care provider during maternal and child health care service

The majority of studies reviewed contact with health care provider like Antenatal care (ANC), delivery care, postnatal care (PNC) and EPI also provide a great opportunity for women to receive postpartum family planning counseling and use of PPFP(23).

According to a facility-based cross-sectional study conducted in Ghana, women who deliver with the assistance of a skilled birth attendant are two times more likely to use postpartum family planning than women who deliver without the assistance of a skilled birth attendant (home delivery). This suggests that delivery with the assistance of a skilled birth attendant provides a great opportunity for women to receive family planning counseling(11).

A Nigerian demographic health survey found that women who have had multiple ANC visits are more likely to utilize PPFP than those who have only had one. As the frequency of antenatal care visits rises, so does the percentage of women who use modern contraceptive techniques. Only 4% of women who do not have ANC are likely to take contraception. Only 7% of those with one to three antenatal care visits use PPFP, compared to 14% of those with four or more antenatal care appointments(12).

A study conducted in Ethiopia's Gonder town, 89% of mothers obtain ANC services, while 26% receive postnatal care. More over half of them obtained family planning advice as a result of this. Those who received postnatal care made up 26% of the overall population and had a roughly two-fold higher risk of utilizing family planning than those who did not(14).

Infant immunization takes place at six week, ten week, fourteen week and nine month after birth according to WHO recommendation. This creates a multiple and timely opportunity to reach postpartum women with family planning and information so as to improve their knowledge regarding return to fertility, the benefit of giving interval between pregnancies and option of contraceptive available for postpartum women, as well as having the access at a time in one place(27)

2.2.3. Reproductive history and client related factors

Analysis of data from seventeen countries showed that Madagascar and Bangladesh women whose menses resume are ten times more likely to start PPFP than those women whose menses did not resume. This analysis also showed that in Ethiopia those women whose menses return are two times more likely to start family planning than those their menses is not returned. It also showed that women are waiting until return to sexual activity to start family planning during postpartum period and in Uganda this study showed that a one-year increment in the age of a woman is significantly associated with reduction to use PPFP. Resumption of sex exposes postpartum mothers to risk of unintended pregnancy even before return of menstruation after deliver(19,29)

Previous studies done in Ethiopia indicate that resumption of menses, limited knowledge of available choices, confusion when fertility comes back and unpredictability of the timing of the onset of intercourse, male involvement and not discussing family planning methods with partners, were the factors associated with postpartum family planning was identified by previous study (4).

A study in Butajjira health and demographic surveillance site showed that women who have discussion about family planning and have support of husband are more likely to use family planning than those who do not also one child increment on the number of existing children has association with increment of use of PPFP by 9%. (27)

One of the goals of the ministry of health of Ethiopia, concerning is improving maternal, neonatal and child health. So Postpartum family planning utilization has an advantage to reduce maternal, neonatal and child mortality and it enhance maternal, neonatal and child wellbeing.

In summary the majority of maternal and child death in Ethiopia was due to repeated pregnancy and its related complications. Closely spaced pregnancy within the first year after delivery is the most dangerous for mother, baby, and neonate to reduce this risk; it was recommended that the interval between live birth, and an attempt to the next pregnancy should be a minimum of two years. Most of previous study which was conducted in Ethiopia was focused on immediate postpartum period; community based and at the urban area of the country but the prevalence of postpartum contraceptive use during extended postpartum period that have multiple contacts

with a health care professional in rural health facility for child immunization service was not well assessed. So this study fills this gap. Overall the purpose of this study is to determine the prevalence of modern postpartum contraceptive use and associated factors among women within the extended postpartum period attending child immunization clinic in the public health facility of Gomma, district, Jimma Zone, Oromia, Ethiopia, 2022.

The result of this study could help the policymakers, programmers, planners, and different stakeholders to improve and design appropriate family planning strategies and program to minimize closer birth intervals and to maximize postpartum contraceptive users for maternal and child wellbeing and improve postpartum family planning services utilization of the country to achieve the desired health outcome of both Mother, neonate, infant and children. Global and national policies and program will have to refocus attention on PPFP as an important intervention to ensure healthy outcomes for women, neonate, infants and children's. So this study aimed to assess postpartum contraceptive use and its associated factors among women within the extended postpartum period attending child immunization clinic in the governmental health facility of Gomma, district.

2.3. Conceptual Framework

To guide the study I was try to conceptualize the framework by using the two groups of variables dependent and independent variables. The dependent variable (extended postpartum modern contraceptive use) which is influenced by the independent variables that consists of: first, socio-demographic characteristics of the respondents, secondly Factors related to reproductive history, thirdly maternal and child health care service and individual/client related factors are included after reviewing related literatures(30).

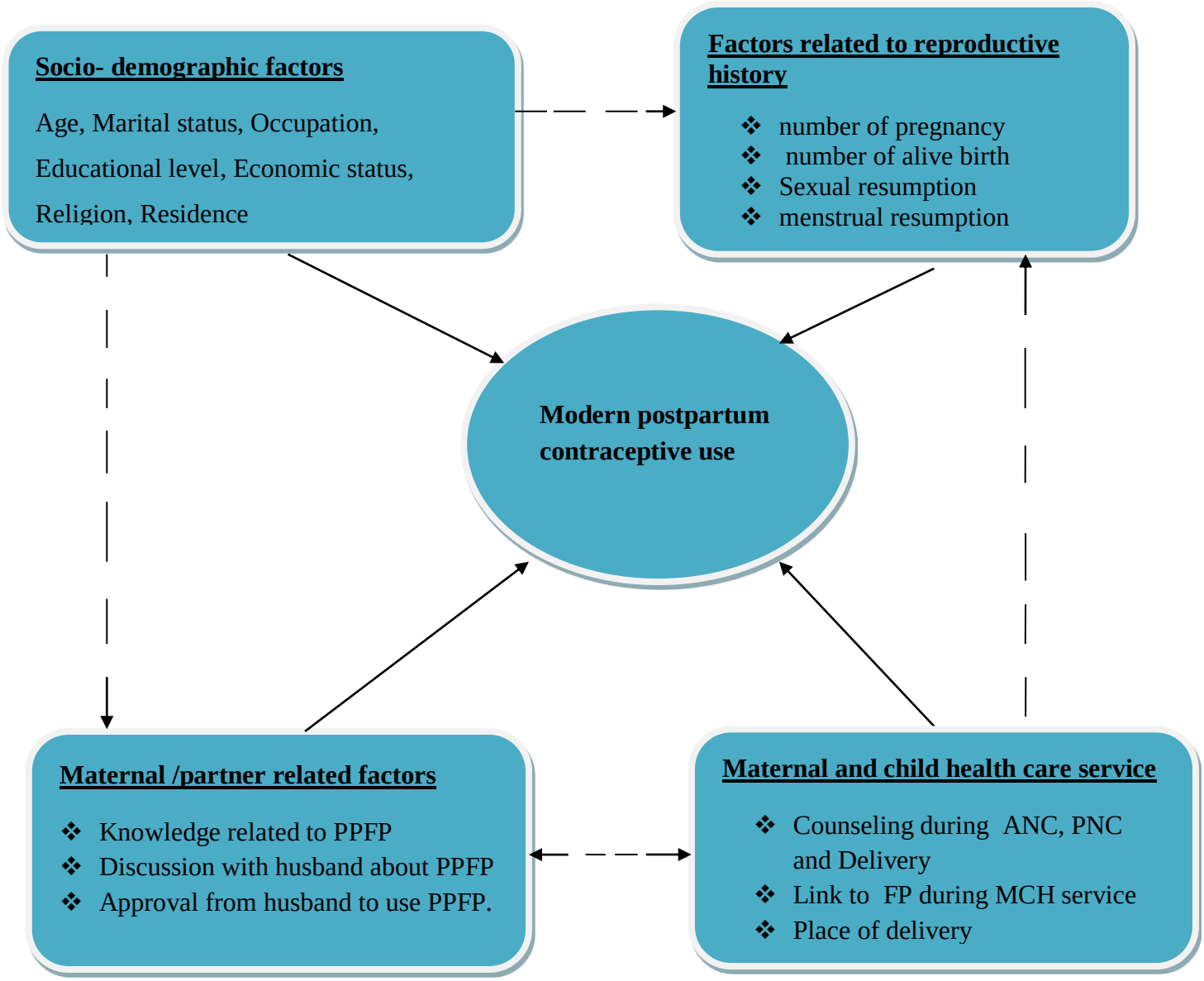

Figure 1.Conceptual framework of contraceptive use and associated factors among women within the extended postpartum period in Gomma district, Jimma zone, Oromia, Ethiopia, 2022.

CHAPTER THREE

3. OBJECTIVES

3.1. General objective

- To asses modern contraceptive use and associated factors among women within the extended postpartum period attending immunization clinic in Gomma district, Jimma zone, Oromia, Ethiopia, 2022 G.C.

3.2. Specific objectives

- To assess utilization of modern contraceptive methods among women within the extended postpartum period attending immunization clinic in Gomma district, Jimma zone, Oromia, Ethiopia, 2022 G.C.

- To identify factors associated with utilization of modern contraceptive methods among women within the extended postpartum period attending immunization clinic in Gomma district, Jimma zone, Oromia, Ethiopia, 2022 G.C.

CHAPTER FOUR

4. METHODS

4.1. Study area and period

The study was conducted in public health facility of gomma district in Jimma Zone, Oromia regional state, Ethiopia from May 10 – June 20/2022. Gomma district is one of the 21 districts in Jimma zone known in predominantly growing coffee and a total of 41 kebeles (5 urban and 36 rural kebeles) found in gomma district. It is located 390 km away to south west of Addis Ababa and about 50km west of jimma zone capital city hence the total area of the wereda is 96,361.72 ha (96.4km square) with average maximum and minimum temperature of 29.9 and 13.4c˚. Gomma wereda is bordered by six other districts in the zone (Gera in west, Gumay in North West, Limmu in north east, Mana in south east and Seka-Chekorsa in south) and Based on the information from Gomma wereda the population projection of 2014 was 320,173 (male 163,288 and female 156,885) from 66,703 of total house hold in the wereda and 70,854 women's of reproductive age group and 10,310 postpartum women's fully vaccinate their children (2013 report). The wereda has 11 health center and 41health post, 18 private clinics and 6 drug store found in the wereda. All health centers provide OPD, EOPD, IPD and pharmacy services, laboratory service, delivery service, and MCH (ANC, FP, EPI, CAC,) and referral services.

4.2. Study design

Institutional based quantitative cross sectional study design was carried out.

4.3. Population

4.3.1. Source population:

All Postpartum women who attend immunization clinic in public health facility of gomma district, Jimma zone, Oromia, Ethiopia, 2022 were considered as a source of the population.

4.3.2. Study population:

All Postpartum women who attend selected public health facilities of Gomma wereda for child immunization services during study period were considered as a study population.

4.3.3. Study subject:

Those postpartum women who attend the immunization clinic during the study period and selected with the sampling procedure in which information is collected from were study units.

4.4. Inclusion and Exclusion criteria

4.4.1. Inclusion criteria

All women in the postpartum period attending immunization clinic during the study period was included in the study.

4.4.2. Exclusion criteria

Postpartum mother whom was unable to respond to the question was excluded.

4.5. Sample size determination:

The sample size was calculated for both specific objective of the study by using Epi Info Version 7.2.5.0 STAT CALC. postpartum modern contraceptive use were calculated by population survey/single population proportion formula were used by considering the assumption; 95% confidence level, 5% marginal error and 10% non-response rate,(table 1.a) and double population proportion formula were used for menstrual resumption, FP counseling during PNC**,** getting linkage to FP during child immunization which was a statistically significant association with postpartum contraceptive use by considering the assumption that the sample from previous studies were independently and randomly selected and using AOR, 95% confidence interval, 80% power, 1:1 ratio of unexposed to expose and percent outcome in the unexposed group for each selected factor: sample size was determined by Fleiss formula as shown in the table below (table 1.b), finally single population proportion formula of postpartum modern contraceptive use yields the largest sample size, so it was the final sample size for the study.

The final sample size of the study was determined by using a single population proportion formula by considering the following assumptions and

- ✓ The prevalence of postpartum contraceptive use among mothers in the postpartum period in kiramu district, west welega, Oromia region was 28.8%(23).

- ✓ 95% confidence level, 5% marginal error and 10% non-response rate. Based on these, the results of 347 participants were taken as a final sample size.
- ✓ $n = \frac{(Z\ \alpha/2)^2\ p\ (1-p)}{d^2} = \frac{(1.96)^2\ X\ (0.288X0.712)}{0.05^2} = \frac{3.84\ X\ 0.205}{0.0025} = \frac{0.787}{0.0025} = 315$

  Where n = estimated sample size

Z α/2 = Critical value at 95% confidence level of certainty (1.96)

d=margin of error between the sample & the Population=5%, (0.05)

p= 0.288 and q = 1-p = 0.712

Considering 10% contingency for non -response rate the final sample size was;

315+ (315 * 0.1) = 315 + 31.5 = **347** participants.

Table 1:- Table of sample size calculation using single and double population proportion formula

Table 1 a. Table of sample size calculation using single population proportion formula

Objectives	Expected proportion (p)	Non response rate	Estimated sample size(N)	Reference
Objective 1: PPFP Use	Taking p = 28.8% proportion PPFP use	10%	347	(23)

Table 1 b. Table of sample size calculation by using two-population proportion formula

Objective 2: Variable	Zα/2 of 1-β	Zα/2of 95% CI	Ratio of unexposed / exposed	OR	Non response rate	Proportion in un exposed	N	Reference
menstrual resumption	80%	1.96	1	3.71	10%	21.11	110	(27)
FP counseling during PNC	80%	1.96	1	2.84	10%	22.11	169	(27)
Getting linkage to FP during child immunization	80%	1.96	1	4.31	10%	25.13	84	(27)

4.6. Sampling Procedures

Gomma district has 11fully functional health centers and 41 health post and total of 52 health facilities that provide health care service to the community. From 52 Health facilities found in the wereda ten health facilities are selected based on their patient flow. The total sample size (n=347) was proportionally allocated to selected heath facilities of gomma districts (Omogurude HC 85, Limushayi HC 58, Choche HC 46,Beshasha HC 42, Gembe HC 41and Dalecho HP 18, Yachi HP 16, Kedamesa HP 15.Sedecha HP 13, Dinseru HP13).Then, the study participants was selected by using a systematic sampling technique to interview the respondents from postpartum women who attended the immunization clinics for child immunization;finally, the data was collected until the required sample size was obtained.The average number of children who received Vaccination last year April in selected health facility of Gomma wereda was 1179).

Proportional size allocation formula for selected health facilities was=ni X nf /N

The sampling interval was calculated (K = 3). I.e. K = N/nf = 1179/347 = 3.4.The first participant were selected randomly by lottery method from1 to 3. Then, every 3rdeligible woman coming to the immunization clinic was enrolled until calculated sample size was achieved.

Where

ni:-Number postpartum women of selected public health facility of gomma wereda.

nf - final sample size of the study

N- Total number of postpartum women attending health facilities during the data collection period.

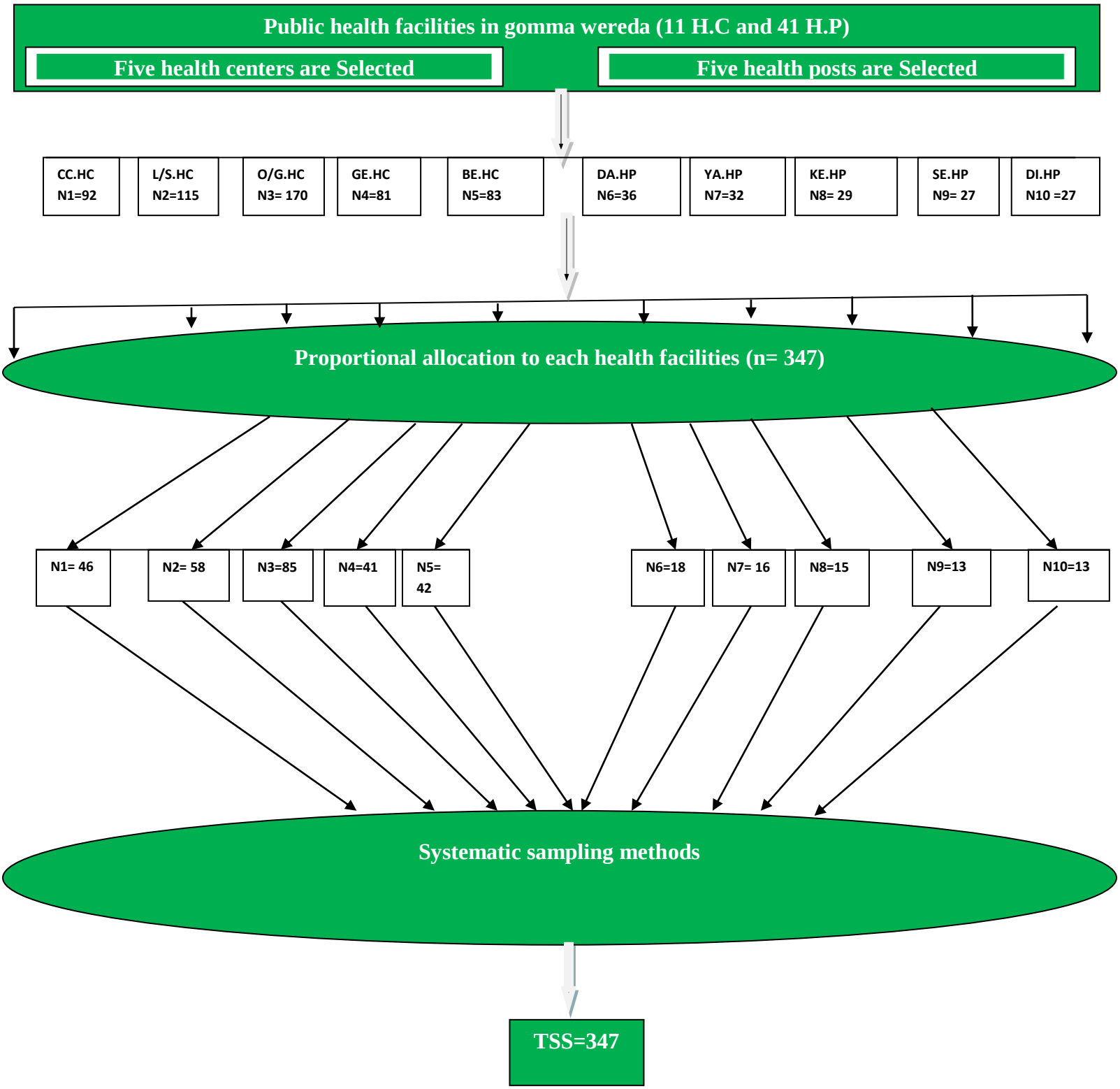

Figure2 .Schematic presentation of sampling procedures for contraceptive use and associated factors of women within the extended postpartum period in Gomma district, Jimma zone, Oromia, Ethiopia, 2022.

4.7. Data collection procedure

4.7.1. Data collection tools

Structured and pre tested face-to-face interviewer-administered questionnaire with both open ended and closed ended questions was used as a tool for data collection. The questionnaire was developed in English and then translated into local language (afan Oromo) and then retranslated back into English language to maintain or keep consistency. The questionnaire was adapted based on instruments that were applied in different studies related to postpartum family planning use and associated factors(13,15,27). The questionnaire was entail all the variables that directly meet the objective of the study and it contains socio-demographic characters, factors related to reproductive history, maternal and child health care service and maternal/partner related characteristics questions and two weeks before the start of actual data collection Pre-test was done on 5% of the sample at Agaro general hospital.

4.7.2. Data collectors and supervisors

Five clinical nurse (data collectors) and two Health Officers (supervisors) was involved on data collection that are fluent in speaking the local language and two days training was provided to data collector and supervisor for a day before the start of the survey on the content of the questionnaire, issues of confidentiality, ethical conduct of research and data-collection procedure/techniques. All data collectors and supervisors were recruited based on their previous experience of data collection.

4.7.3. Data collection techniques

The supervisors and principal investigator supervise assigned data collectors throughout the study period to ensure quality of data collection. After identifying the study subjects by interval sampling methods, informed consent was obtained to confirm participants' willingness and Data was collected by using structured interviewer administered and pretested questionnaires. Confidentiality was ensured to all of the study subjects. Data was checked for completeness and consistency by the supervisors and principal investigator, finally collected data was handled and stored in clear procedure by selected supervisors.

4.8. Study variables:

4.8.1. Dependent variable:

- Postpartum modern contraceptive use.

4.8.2. Independent variables

- **Socio- demographic factors:**-Age**,** Marital status**,** Occupation, Educational level**,** Economic status**,** Religion and residence
- **Factors related to reproductive history**
  - ❖ Number of pregnancy
  - ❖ Number of alive birth
  - ❖ Sexual resumption
  - ❖ menstrual resumption
- **maternal and child health care service**
  - ❖ Counseling about modern contraceptive use during maternal and child health care service
  - ❖ Place of delivery
  - ❖ Link to FP service during maternal and child health care service
- **Individual/Client related factors**

❖ Knowledge related to modern contraceptive methods

❖ Discussion with husband on modern contraceptive methods

❖ Approval from husband to use modern contraceptive methods.

4.9. Operational definitions

Extended postpartum period -the time from birth up to the first year after birth (0-12mth)(5,8)

Modern contraceptive method is a medical product or procedure that interferes with reproduction (includes Sterilization (male and female), IUCD, implants, Oral-contraceptives, Condoms, Injectables, Emergency contraceptive pills, Patches, Diaphragms and cervical caps, Spermicidal agents (gels, foams, creams, suppositories) Vaginal rings and Sponge(4).

Extended Postpartum modern Contraceptive Utilization: -When a postpartum woman's use of any modern contraception methods during the 12 months following childbirth(0-12month).(4)

Information on family planning – women who have heard information about at least one method of family planning were considered to have an information(27).

Menstrual resumption- women who had returns to see menstruation after childbirth.(27)

Sexual activity resumption - women who had returns to sexual activities after childbirth.(27)

Discussion with husband on modern contraceptive use- Ever discussed on modern contraceptive use topics with husband.

Getting linkage during immunization- is the process of referring women to use family planning when she came to health institute for child immunization services.(27)

4.10. Data quality control

4.10.1. Before data collection

In order to assure the quality of data the following measures was considered. Questionnaire was maintained by using questionnaire that was designed after carefully evaluating other literatures. To minimize information bias female data collectors was recruited based on their previous experience of data collection and fluent in speaking the local language. Two days training was given to data collectors and supervisors on the objectives of the study, content of tools, data collection process and relevance of the study a week before actual data collection of the main research. Pre-test was done on 5% of the sample on Agaro General Hospital.

4.10.2. During data collection

The principal investigator and supervisor were actively participated in supervision of the data collection, and the completeness of the questionnaire was cross checked daily for inconsistencies Throughout the course of the data collection data collectors was supervised and regular meetings was held between the data collectors, supervisor and the principal investigator in case if a problem rose it was discussed during data collection and decisions was reached.

4.10.3. After data collection

At the end of the day collected data was handled and stored in clear procedure by selected responsible supervisors. EPI DATA version 4.6 was used to minimize data entry errors and data was exported to SPSS version 25.0 to analyses the data.

4.11. Data processing and analysis

The collected data was checked for completeness, inconsistencies, and then data was coded, then it was entered to Epi-data version 4.6 and finally exported to SPSS version 25.0 to analyse the data. Descriptive statistics text (narrations), tables and graphs was used to present the information. Bivariate and multivariate logistic regression models were used to identify associated factors. The Bivariate analysis was employed to identify candidate variables for multivariable analysis at p-value < 0.25 finally the Variables having p-value <0.25 in the bivariate analyses was entered into multivariate logistic regression model to control confounding and multivariate analysis was applied using multivariate logistic regression and those variables with *p*-value < 0.05 and an AOR with 95% CI at multivariate analysis was considered as statically significant and the Variables were considered and reported as associated factor with the outcome variables. An adjusted odds ratio (AOR) with 95% confidence interval (CI) was used to quantify the magnitude of the associations between the independent variables and the outcome variable. Multicollinearity test was checked by using the variance inflation factor (VIF) and it was <1.3. The overall goodness-of-fit of the model was assessed by using Hosmer-Lemeshow Test and p-value was =0.44 and conclude that model was good enough for the Model fitness.

4.12. Ethical Consideration

Ethical clearance and approval was obtained from Ethical Review Committee of Jimma University, institute of Health Sciences. Following the approval, Letters of cooperation was written to authorized bodies of study sites from Jimma University institute of health sciences. Permission to undertake the study was secured from all relevant authority of the wereda health office, health center and health post. The study participants was informed about the purpose of the study, and their rights to ask any question and right to withdraw at any time, potential risks and benefits of the study. In addition, informed, voluntary, verbal consent was obtained from all respondents before the data collection. Confidentiality of the information was assured since their names and any individual identification was not being written in every part of the questionnaires.

4.13. Dissemination of the Results

Finally the finding of the study is presented and submitted to Jimma University, department of population and family health as partial fulfillment of master's degree in reproductive health.

The Summary of the finding will be communicated and shared to Oromia Health Bureau and Jimma zone health departments. The findings will also be presented indifferent seminars, meetings and workshops as well as further effort will be made to publish the findings on national and international peer reviewed journal. Hard copies and electronic versions will be made available in the library of Jimma University for graduate students as well as for other researchers and readers.

CHAPTER FIVE

5. RESULT

5.1. Socio-demographic characteristics of the study participants

In this study out of 347 sampled postpartum women, 337 of them responded with the response rate of 97.1%. Of these, more than half, 191 (56.7%), were categorized under the age of 20-30 years. The mean age of the study participants was 26.81 years (SD=±5.5) and median age of the respondents were 27 respectively.

Concerning their residency, Two hundred twenty one (65.6%) of the respondents were from rural area and the rest 116 (34.4%) were from urban area of gomma district. A majority of the participants 310(92%) were married and 229 (68%) of participant occupation were housewives. the majority of them were Muslim by religion 209(62%) and 227(67.4%) of respondent were from Oromo ethnic group.

Regarding their educational status, 56 (16.6%) of them had no formal education (illiterate) while 281 (83.4%) educated formally and one hundred thirty (46%) had attended primary (elementary) level of education and only 7.5% of participant had attend higher education. The most frequently reported occupation of postpartum women was housewives 229 (68%) and only 16.6 of them were governmental employee. (Table-2)

Table- 2: Socio-demographic characteristics of study participant who was residence in gomma district, Jimma zone, Oromia, southwest Ethiopia, 2022.

Variables	Category	Frequency (n=337)
Age of Respondents	15-19	29(8.6%)
	20-24	95(28.2%)
	25-29	96(28.5)
	30-34	83(24.6%)
	≥35	34(10.1%)
Marital status	Married	310(92%)
	Single	3(0.9%)
	Widowed	7(2.1%)
	Separated	3(0.9%)
	Divorced	14(4.2%)
Religion	Orthodox	89(26.4%)
	Protestant	39(11.6%)
	Muslim	209(62%)
Ethnic group	Amhara	52(15%)
	Oromo	227(67.4%)
	Gurage	26(7.7%)
	Other	32(9.5%)
Educational status	No formal education	56 (16.6%)
	Primary.(1-8)	130(38.6%)
	Secondary, (9-12)	109 (32.3%)
	Technical and above	42 (12.4%)
main occupation	House wife	229(68%)
	employee (Govn't/ private)	61(18.1%)
	Merchant	10(3%)
	Student	15(4.5%)
	Other	22(6.5%)

5.2. Reproductive history and preference

Out of the 337 respondents 255(75.7%) mothers who have more than one child, and 139 (41.2%) of mother had time gap between the recent and prior birth was less than 24 months, eighty six (25.5%) of the respondent reported prior pregnancy was unwanted/unplanned and (86%) of those with unwanted/unplanned birth did not use any contraceptive methods and Twelve (14.1%) of those whose current birth was unwanted were using family planning methods.

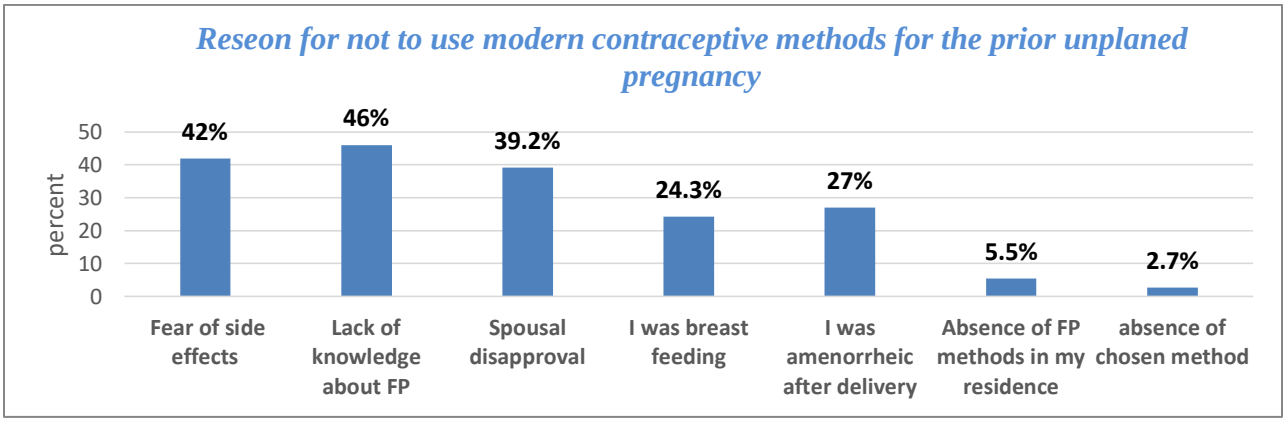

Figure 3: Reason for non use of modern contraceptive methods for the prior unplanned pregnancy in gomma, district, jimma zone, Oromia, southwest Ethiopia, 2022.

With regard to reproductive intention of the study subjects, Majority of the respondents 205(60.8%) said they want to space their next birth for at least 24 month, 70(20.8%) said they do not want more children, 35(10.4%) want to have another child soon or before 2 years and 27(8%) of respondent was undecided whether to have or no to have another children in the future. (Table- 3)

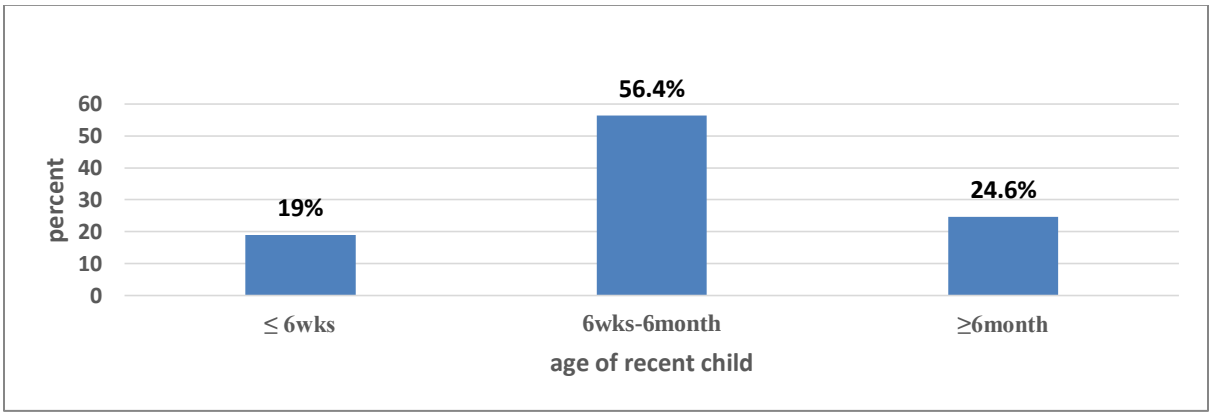

Figure4: Age of recent child of postpartum mother in gomma, Jimma zone, southwest Ethiopia, 2022

Table- 3: Reproductive history and preferences of extended postpartum women residence in gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables	Category	Frequency(n=337)
Number of Parity	1-2	145(43%)
	3-4	124(36.8%)
	≥5	68(20.2%)
History of abortion	Yes	39(11.6%)
	No	298(88.4%)
History of stillbirth	Yes	35(10.4%)
	No	302(89.6%)
Planned/wanted delivery for prior delivery	Yes	251(74.5%)
	No	86(25.5%)
Future Fertility desire	Want to have another child soon	35(10.4%)
	Want other child after 2 years	205(60.8%)
	Want no more children	70(20.8%)
	Undecided	27(8%)

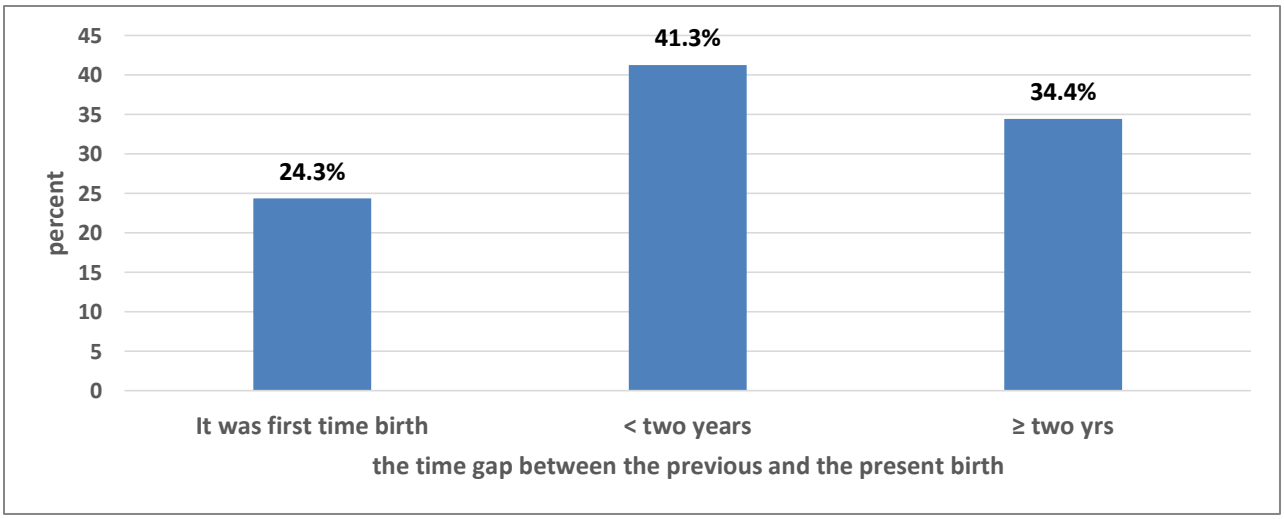

Figure5: Time gap between the previous and present child birth in gomma district, Jimma zone, southwest Ethiopia, 2022.

5.3. Information about menses and sexual resumption after birth

One hundred twenty six (37.4 %) of the study subjects had already menses resumed, the mean duration of respondent to resume their menses after the recent birth were 18 weeks. And majority of respondents two hundred twenty eight (67.7%) were already started sexual intercourse after birth, the mean duration of the respondent to start sexual intercourse after birth were 10 weeks.(Table-4)

Table-4 Information about menstrual and sexual resumption of extended postpartum women residence in gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables	Category	Frequency (n=337)
Menstrual resumption	Yes	126(37.4%)
	No	211(62.6%)
Period of menses resumed in reference to date of child birth in weeks	≤ 6wks	4(3.2%)
	6wks-6month	113(89.7%0
	≥6month	9(7.1%)
Sexual resumption	Yes	228(67.7%)
	No	109(32.3%)
Time of first sexual intercourse after recent child in weeks	≤6wks	53(23.2%)
	6wks-6month	175(76.8%)

5.4. Knowledge and discussion about family planning

Among all, women having information modern contraceptive method were 302(89.6%). From those 95.4% had information about Injectables, 62.3% had information about pills, 54% Norplant and 26.5% IUCD. (See fig.6)

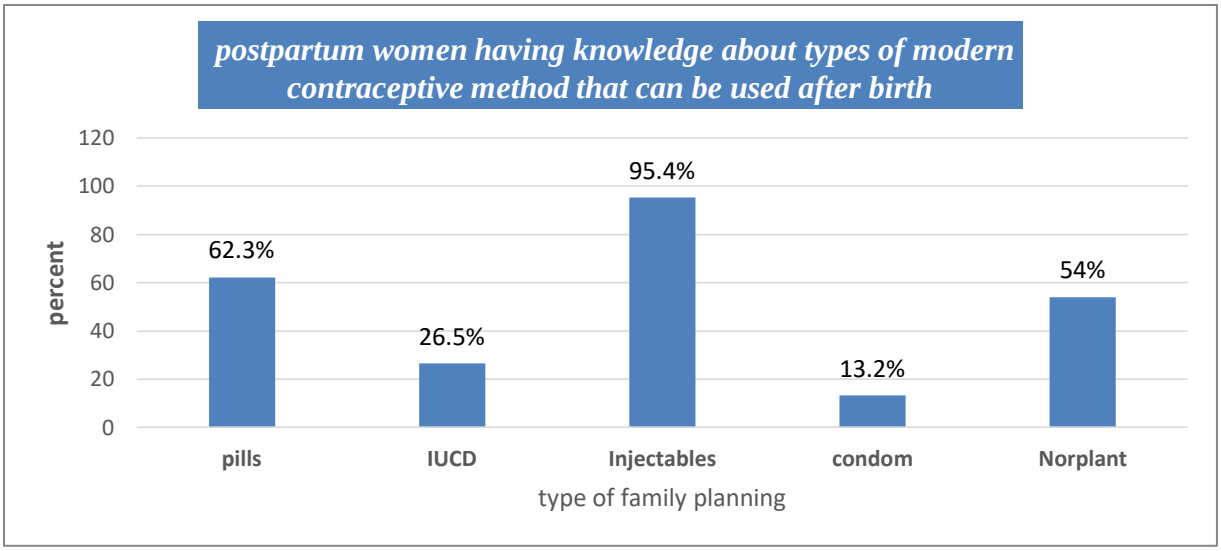

Figure6: Postpartum women having knowledge about types of modern contraceptive methods that can be used after birth in gomma district, Jimma zone, southwest Ethiopia, 2022.

Among the participant 202(59.9%) of women ever had discussed with their husband and 127(63%) of husband of postpartum women approve use of contraceptive method for their wife. Majority of postpartum women 245(72.7%) approve/decide to use family planning methods and only 37(11%) disapprove using family planning but 55(16.3%) not decide to use or not use. (Table 5)

Table-5 Information, discussion and approval of modern postpartum contraceptive use with husband and postpartum women at gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables	Category	Frequency (n=337)
knowledge about at least one type of modern contraception methods	Yes	302(89.6%)
	No	35(10.4%)
Discussion with husband about use of modern contraceptives after delivery	Yes, once or twice	178(52.8%)
	Yes, more often	24(7.1%)
	No, never discussed	126(37.4%)
	Not applicable	9(2.7%)
husband idea about use of modern contraceptives after birth	He approves of use	127(62.9%)
	He disapproves use	67(33.2%)
	He has no idea	8(4%)

5.5. Practice of modern contraceptive methods during the extended postpartum period

Among all postpartum mother 101(30%) participant was found to be contraceptive users but the rest 236/337(70%) was not used modern contraceptive family planning methods. (Figure 7)

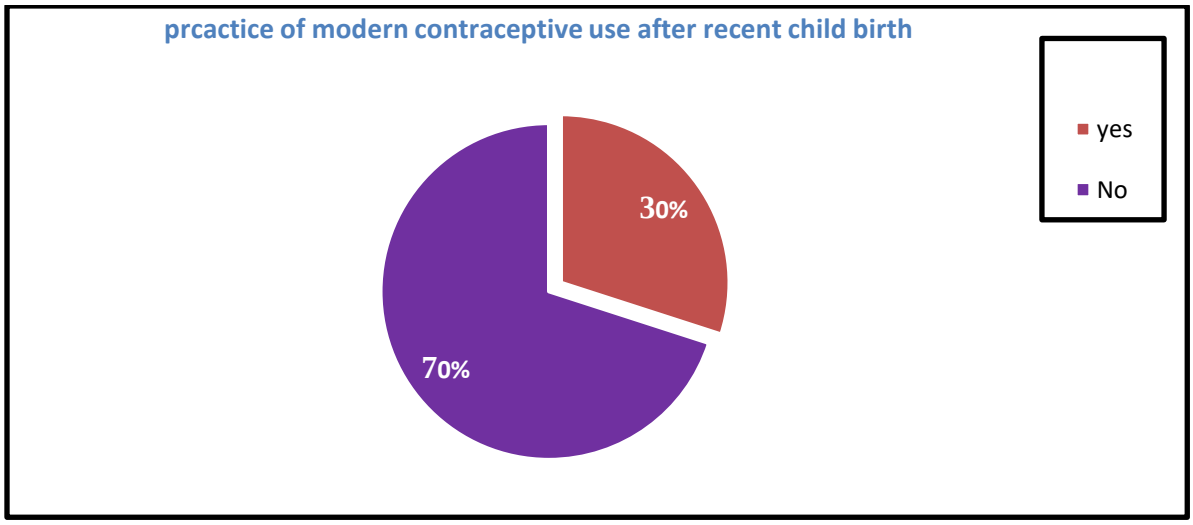

Figure 7: practice of modern contraceptive methods among women within the extended postpartum period in gomma district, Jimma zone, southwest Ethiopia, 2022.

The majority of current contraceptive users were using Injectables 51(50.5%) followed by Norplant 25(24.8%). (Figure 6)

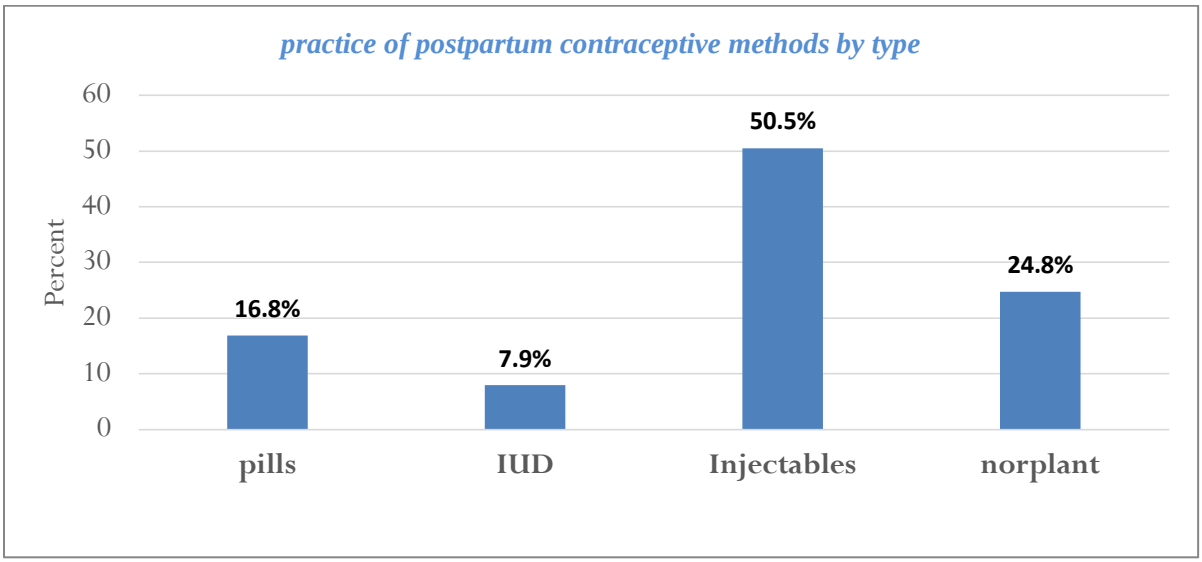

Figure.8: Practice of postpartum modern contraceptive methods by type at gomma district, Jimma zone, southwest Ethiopia, 20222

Table6: practice of postpartum modern contraceptive methods during the extended postpartum period at gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables	Category	Frequency
Place to get family planning methods (N=101)	government health facility	89(88.1%)
	private health facility	12(11.9%)
Time of start using the method	≤6wks	41(40.6%)
	6wks-6month	57(56.4%)
	≥6month	3(3%)
start of family planning in relation to menses	Before menses resumes	62(61.4%)
	In the same week when menses resumes	20(19.8%)
	After menses resumes	18(17.8%)
	don't remember	1(1%)
Plan to use contraceptives for the future (N=236)	Yes	184(78%)
	No	52(22%)

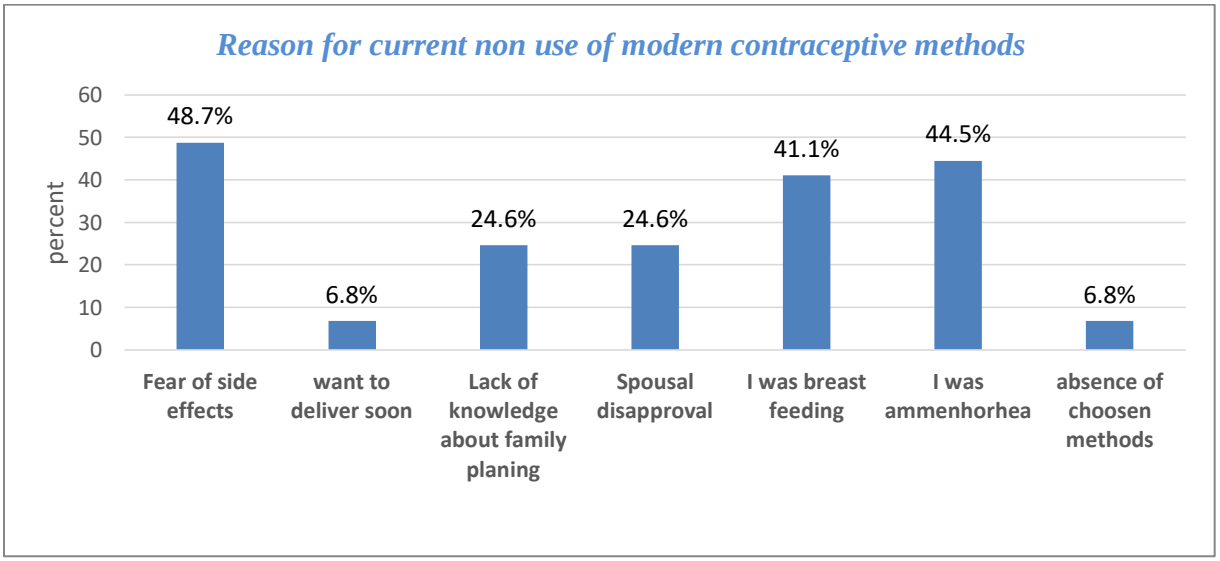

Figure 9: Reasons for current non use of contraceptive method among postpartum women at gomma district, Jimma zone, southwest Ethiopia, 2022.

5.6. Contact with health care provider during maternal and child health care services

During their last pregnancy a total of 209 (62%) of respondents received ANC service, among those who attended ANC 111(53.1%) of them were not counseled on modern contraceptive methods. Regarding the place of delivery for the recent birth of the respondents 105 (31.2%) mother gave birth in governmental hospital, 178(52.8%) at health center, 52(15.4%) at home and only 2(0.6%) at private clinic/hospital. Nurses/midwife/HO were the most frequent type of birth attendant who assisted/attended the delivery 256(78.6%) and followed by doctors and untrained traditional birth attendant 47(13.9%) and 22(6.5%) respectively.

Among all women only 87(25.8%) had PNC while 250(74.2%) had no PNC, from those respondents who had PNC 56 (64.4%) of them get counseling for modern contraceptive methods. And the rest of them had no counseling about modern contraceptive methods during PNC follow up.

From the total of 337 participants 157(46.6%) respondents had receive counseling about modern contraceptive methods during the immunization service.

Table 7:-Maternal and child health care services use at gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables	Category	Frequency (n=337)
ANC follow up	Yes	209(62%)
	No	128(38%)
Family planning counseling during ANC follow up	yes	98(46.9%)
	No	111(53%)
place of delivery	Government Hospital	105(31.2)
	Gov't Health center	178(52.8%)
	Privet clinic/Privet Hospital	2(0.6%)
	At Home	52(15.4%)
Birth attendants	Doctors	22(6.5%)
	Nurse/midwife/HO	265(78.6%)
	HEW	3(1%)
	Untrained TBA	47(13.9%)
postnatal care visit	Yes	87(25.8)
	No	250(74.2%)
Family planning counseling during PNC follow up	Yes	56(64.4%)
	No	31(35.6%)
Family planning counseling during immunization	Yes	157(46.6%)
	No	180(53.4%)
Getting linkage to postpartum family planning service (N=337)	Yes	90(26.7%)
	No	247(73.3%)

Factors associated with postpartum modern contraceptive Utilization

Bivariate analysis

Cross tabulation and logistic regression analysis was carried out to determine the association between the independent and dependent variables.

In the bivariate analysis, factors that had p value < 0.25, which were identified as candidates for the multivariable analysis were; Educational status, birth interval ≤ 2 yrs, Type of pregnancy (planned/unplanned), Menses resumption, sexual intercourse resumption, Knowledge about family planning, women's discussion with husband, ANC visit, counseling during ANC visit, PNC follow up, counseling during PNC visit, Counseling During immunization period (Table 8)

Table 8;-bivariate analysis of factors associated with extended postpartum modern contraceptive utilization among women within the extended postpartum period at gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables		Postpartum modern contraceptive utilization		Crude OR (95%CI)	P-value
		Yes(n=101) N (%)	No (n=236) N (%)		
Educational status	Literate	92(32.7%)	189(67.3%)	2.54(1.19-5.41)	**0.015**
	Illiterate	9(16.1%)	47(83.9%)	1	
Birth interval b/n the previous and the present birth	It is 1st time birth	23(28%)	59(72%)	0.687(0.372-1.268)	**0.076**
	≤2 yrs	36(25.9%)	103(74.1%)	0.616(0.36-1.05)	
	>2 yrs	42(36.2%)	74(63.8%)	1	
Type of pregnancy (planned/unplanned)	Planned	82(32.7%)	169(67.3%)	1.7(0.96-3.04)	**0.067**
	Unplanned	19(22.1%)	67(77.9%)	1	
Menses resumption	Yes	66(52.4%)	60(47.6%)	5.53(3.34-9.15)	**<0.001**
	No	35(16.6%)	176(83.4%)	1	
Sexual resumption	Yes	84(38.2%)	141(61.8%)	4.18(2.4-7.79)	**<0.001**
	No	14(12.8%)	95(87.2%)	1	
Discussion with husband	Yes	86(42%)	116(57.4%)	5.93(3.24-10.86)	**<0.001**
	No	15(11.1%)	120(88.9%)	1	

Knowledge about family planning	Yes	100(33.1%)	202(66.9%)	16.83(2.27-124.74)	**0.006**
	No	1(2.9%)	34(97.1%)	1	
ANC visit	Yes	84(40.2%)	125(59.8%)	4.38(2.46-7.84))	**<0.001**
	No	17(13.3%)	111(86.7%)	1	
Counseling during ANC Visit	Yes	56(57.1%)	42(42.9%)	3.95(2.20-7.10)	**<0.001**
	No	28(25.2%)	83(74.8%)	1	
PNC follow up	Yes	54(62.1%)	33(37.9%)	7.07(4.13-12.09)	**<0.001**
	No	47(18.8%)	203(81.2%)	1	
Counseling During immunization period	Yes	84(53.5%)	73(46.5%)	11.03(6.12-19.9)	**<0.001**
	No	17(9.4%)	163(90.6)	1	

Multivariable analysis

From bivariate analysis, all variables that had p value < 0.25 were taken into final model multivariate (multiple variables) logistic regressions. The model was good enough for the Model fitness and checked by Hosmer and Lemeshow test and the p-value was 0.44, no Multicollinarity was picked up, that was checked by VIF and all variables was < 4. And based on the final result of multivariate logistic regression analysis showed that- birth interval of ≤2yrs for recent birth, Menses resumption, ANC follow up, PNC follow up, discussion with husband and counseling about family planning during immunization were all statistically significant association with PPFP utilization at p value less than 0.05.

In multivariate logistic regression of this study show that women who have had birth ≤ 2years between present and prior birth were 0.47 (AOR =0.47, 95% CI: 0.19-0.90) times less likely utilize modern postpartum family planning method than those postpartum mother who have had two years birth interval.

Women with menstrual resumption after birth were 4.34 times AOR=4.34, 95% CI: 2.99.8.95) more likely to use modern family planning methods in the extended postpartum period than those who were no resumption of menses.

Women who had discussion with their husband were 3.75 times (AOR = 3.75, 95% CI: 1.76-7.97) more likely to use family planning during the extended postpartum period as compared to the postpartum mother who had no discussion about use of family planning with their husband.

Postpartum women who had antenatal care follow up were 2.4 times (AOR=2.42 CI: 1.15-5.09) more likely to use postpartum modern contraceptive methods than those who do not had any history of antenatal care follow up and postpartum mother who had postnatal care follow up were 3.4 (AOR=3.39 CI; 1.73-6.68) times more likely to use postpartum contraceptives than those who had no PNC follow up during the postpartum period. Women who had counseling about family planning during their child immunization were 7 times (AOR=6.95, 95% CI: 3.42-14.09) more likely to use postpartum contraceptives than those who had no counseling during child immunization service.

Table 9:-multivariate analysis of factors associated with extended postpartum contraceptive utilization among women within the extended postpartum period at gomma district, Jimma zone, southwest Ethiopia, 2022.

Variables		Postpartum contraceptive utilization		Crude OR (95%CI)	Adjusted OR (95%CI)	P-value
		Yes(n=101) N (%)	No (n=236) N (%)			
	my 1st birth	23(28%)	59(72%)	0.687(0.37-1.27)	0.55(0.24-1.26)	0.154
Birth interval	≤ 2 yrs	36(25.9%)	103(74.1%)	0.616(0.36-1.05)	0.47(0.19-0.90)	**0.025**
	>2 yrs	42(36.2%)	74(63.8%)	1	1	0.068
Menses resumption	Yes	66(52.4%)	60(47.6%)	5.53(3.34-9.15)	4.34(2.99-8.95) **	**<0.001**
	No	35(16.6%)	176(83.4%)	1	1	
discussed with husband	Yes	86(42.6%)	116(57.4%)	5.93(3.24-10.86)	3.75(1.76-7.97) *	**0.002**
	No	15(11.1%)	120(88.9%)	1	1	
ANC follow up	Yes	84(40.2%)	125(59.8%)	4.38(2.46-7.84)	2.42(1.15-5.09) *	**0.019**
	No	17(13.3%)	111(86.7%)	1	1	
PNC follow up	Yes	54(62.1%)	33(37.9%)	7.07(4.13-12.09)	3.39(1.73-6.68) **	**<0.001**
	No	47(18.8%)	203(81.2%)	1	1	
Counseling During immunization	Yes	84(53.5%)	73(46.5%)	11.03(6.12-19.9)	6.95(3.42-14.09)**	**<0.001**
	No	17(9.4%)	163(90.6)	1	1	

NB: * **p-value <0.05** shows variable who have statistically significant association

****p<0.001** statistically highly significant association

(COR) Crude odds ratio, **(AOR)** Adjusted odds ratio.

CHAPTER SIX:

6. DISCUSSION

This study investigates the utilization of modern contraceptive methods among women within the extended postpartum period. In this study, two hundred thirty six (70%) of women in the extended postpartum period were not currently use any modern contraceptive at the time of interview, the reason is because of postpartum women may not realize that they are at risk of pregnancy due to Feeling of not susceptible to pregnancy due to breastfeeding/amenhorea and other reasons are due to spousal disapproval, due to lack of knowledge about modern postpartum contraceptive, due to fear of side effect and due to low counseling of postpartum contraceptive from health care providers at health facility during ANC, PNC and child health care service like immunization service. this result indicate that there is high risk of women's to have unplanned pregnancy and closely spaced pregnancy that increase the risk of pregnancy related complication. The utilization of modern contraceptive methods within the extended postpartum period was only 30% the most commonly used modern contraceptive methods during this period was Injectables and Norplant 50.5%, 24.8%. The main source of contraceptive was from governmental health facilities 89 (88.1%) and only 12 (11.9%) got from private health facilities. In this study - birth interval of ≤2yrs for recent birth, Menses resumption, ANC follow up, PNC follow up, discussion with husband and counseling about family planning during immunization were all statistically significant association with PPFP utilization at p value less than 0.05 and 95% CI.

This finding of postpartum contraceptive use is too low when compared with study done in Kenya 86.3%, Rwanda 57.5%, Ethiopia Addis Ababa 71%, gonder 48.8% (9,13,30,31). The reason for this variation might be due to socio-economic, demographic difference and type of study design. On the other hand, the finding of this study is higher than the finding of a community based study conducted in Cameron 16.6% (26) this discrepancy might be due to study design and period. This finding is consistent with the findings of studies conducted in west welega zone, kiramu district which showed that about 28.8% (25) postpartum women use contraceptive during postpartum period the similarity could be due to their similarity of study setting (both study done at rural or district level)

In this study, postpartum mother who have had birth interval of ≤ 2years was 53% (AOR= 0.47, 95% CI: 0.19-0.90)less likely to use modern contraceptive methods than those who have had birth interval of greater than two years this is explained by the fact postpartum women learned and benefited from previous experience of modern contraceptive utilization. women with menstrual resumption after birth were 4.3 times more likely to use modern family planning methods in the extended postpartum period than those who were no resumption of menses (AOR=4.32, 95% CI: 2.99-8.95). This is explained by the fact women considers to be susceptible to pregnancy if their menstruation has resumed after giving birth so they are more likely to use family planning, this finding were supported by study done in Ethiopia, butajera (27)**.**

Postpartum mother who had discussion with their husband were 3.75 times (AOR = 3.75, 95% CI: 1.76-7.97) more likely to use family planning during the EPPP as compared to the postpartum mother who had no discussion about use of family planning with their husband. This might be due to women who discuss modern family planning with their partners, who are more likely to get acceptance and support from husband. This study is supported by study done in north west of Ethiopia(4)

Postpartum women who had antenatal care follow up were 2.4 times (AOR=2.42 CI: 1.15-5.09) more likely to use postpartum modern contraceptive methods than those who do not had any history of antenatal care follow up and Postpartum women who had postnatal care follow up were 3.4 (AOR=3.39 CI; 1.73-6.68) more likely to use postpartum contraceptives than those who had no PNC follow up during the EPPP. Women who had counseling about family planning during their child immunization were 7 times (AOR=6.95, 95% CI: 3.42-14.09) more likely to use postpartum contraceptives than those who had no counseling during child immunization service this might be due to that repeated or multiple contact with health care professionals in health facility may increase the opportunity for contraceptive counseling and access in the postpartum period .(24)

Evidences show that postpartum contraceptive can prevent more than 30 % of maternal deaths and 10 % of child mortality if couples space their pregnancies more than 2 years apart and Postpartum family planning is one of the main intervention activities in preventing maternal and neonatal morbidity and mortalities(3). In this study postpartum contraceptive use is low as compared to other country so this low utilization of postpartum contraceptive may increase the

chance of maternal and neonatal morbidity and mortalities due to recurrent and unplanned pregnancies.

Strength of the study

- Maternal, neonatal and child health is a major global and national concern and extended Postpartum period was critical period for postpartum mother so this study address the most concern area.
- Female Data collectors (health professionals) were trained and supervised by supervisor and principal investigator
- The result was important input to the site and serve as base line for other future studies.

Limitation of the study

- The study has some sensitive issue like sexual activity resumption, there might some sort of bias and that leads to under reporting.
- There could be recall bias on variables, like time of start of menses and sexual activities

CHAPTER SEVEN

7. CONCLUSION AND RECOMMENDATION

7.1. Conclusion

The magnitude of postpartum modern contraceptive use during the extended postpartum period was low 30% (95% CI: 25.5- 34.7). Injectables (50.5%) and Norplant 24.8% were most commonly used methods during postpartum period. and Postpartum modern contraceptive utilization was low as compared with other country, so this low utilization of postpartum family planning may increase the chance of maternal, neonatal and child morbidity and mortalities due to recurrent unplanned and unwanted pregnancies. This is a call to policy makers to allocate more resources or to redesign interventions towards scaling up the use of modern contraception during the extended postpartum period. The time gap between previous and present birth, Menses resumption, ANC follow up, PNC follow up, discussion with husband and counseling about family planning during immunization was statistically associated with postpartum modern contraceptive utilization amsong women within the extended postpartum period.

7.2. Recommendation

Policy/ program level:

Policy makers, programmers and different stakeholders allocate more resources or to redesign and strengthen sound intervention activities towards scaling up the use of modern postpartum contraception during the extended postpartum period.

Policy makers and program managers need to focus on strengthening family planning counseling and integration of postpartum family planning service and maternal and child health care service due to their multiple contacts with health care professionals to fulfill women's contraceptive need.

Health facility label

Health professional should counsel women about postpartum modern contraceptive methods during maternal and child health care service.

Integration of family planning services with MCH should continue highly strengthened is recommended to increase contraceptive use in the post partum period.

The health care providers should put emphasis and strengthen linkage of women to family planning service while post partum women came to health institute for maternal and child health care service.

Community level

Encouraging couple's communication (discussion) about postpartum modern contraceptive utilization to increase the chance of women to get acceptance and support from husband

Promoting IEC/BCC about the benefit of PPFP use and availability of service

Researchers

Researchers are recommended to conduct further study with strong study design about postpartum modern contraceptive use on the different part of the country.

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Annex I: -Respondents information sheet and consent form

Title: - modern contraceptive use and associated factors among women within the extended postpartum period in gomma district, jimma zone, oromia, Ethiopia, 2022.

Dear respondents!

Good morning/Afternoon! My name is _____. I am here today to collect data on postpartum modern contraceptive use and associated factors among women of reproductive age group within the extended postpartum period in gomma district, jimma zone, oromia, Ethiopia, 2022.

The study is being conducted by Mohammednur sherefa who is MPH/RH student in Jimma University, Collage of health Science, department of population and family health, postgraduate program and this Research is Part of a study and it has got ethical approval from the ethical review board (IRB) of jimma university. This study is being conducted among women's within the extended postpartum period and you are selected and included in the study as a part of the sample population to fill interviewer-administered questionnaire

You will participate if you give me verbal consent after you have understood the following information:

Objective of the study: To asses' modern contraceptive use and associated factors among women within the extended postpartum period in gomma district, Jimma zone, Oromia, Ethiopia, 2022.

Risks and benefits: The result of the study will help concerned bodies to design plan and intervention related to factors which affect postpartum contraceptive utilization. In this way you may get benefit from the intervention. There is no payment and risk or discomfort as a result of participating in this study except that you lost your time during the interview. If you stop/not willing to participate, no influence on your care that you are getting from this health institution.

Confidentiality: All information given by you will be kept strictly confidential. Any of your personal information will not register. The information obtained in this study will be used only for research purposes.

Autonomy: Your participation is voluntary basis and you are not obligated to answer any question that you do not willing to respond, If you feel any discomfort with the question, it is

your right not to respond and you have the right to withdraw from the study at any time you need.

The honest information you give us is highly valuable to the study and this interview will take about 30 minutes. Are you willing to participate in this study?

1. Yes…… Continue to the next page

2. No ……

Annex II: Questionnaire

General information: - region: oromia, zone: jimma, wereda: gomma, kebele: _____, code no.:_____,

Section1. Socio demographic characteristics

S. no.	Question	Answers	Remark
	Name of health facility	…….	
101	How old were you at your last birthday?	[__] years (Age in completed years)	
102	Area of residence	1. Urban 2. Rural	
103	What is your marital status	1. Married 2. Single 3. Widowed 4. Separated 5. Divorced	
104	What is your religion?	1. Orthodox Christian 2. Protestant 3. Muslim 4. Catholic 88. Others (specify)------	
105	To which Ethnic group do you belong?	1. Amhara 2. Tigre 3. Oromo 4. Gurage 88. Other specify.....	
106	Have you ever attended school?	1. Yes 2. No	If no Q 107
107	If yes, What is the highest level of school you attended?	1 Primary.(1-8)2 Secondary, (9-12) 3. Technical/vocational. (10+3) 4. Higher	
108	If no, can you read and write?	1. Yes, I can read and write 2. No, I cannot read and write 3. I can write with somedifficulty 4. I can read with some difficulty	
109	What is your main occupation?	1. House wife	

		2. Government employee 3. Private/NGO employee 4. Private organization owner 5. Merchant 6. Student 7. Daily laborer 8. House maid 9. no job 88.Others, specify----------	
110	What is your household monthly income?	---------- (Enter the number)	

Section2. Reproductive history and preferences			
201	Gravidity (till now, for how many times have you been pregnant)? (including pregnancies of abortions or still births)	---------- (enter the number)	
202	Have you had abortion?	1. Yes2. No	If no Q=204
203	How many times did you have abortions?	---------- (enter the number)	
204	Did you have still birth? (still birth- a dead fetus after 28 weeks of gestation or death of a child in the first week after delivery)	1. Yes2. No	
205	How many times did you have still births?	---------- (enter the number)	
206	Parity (How many alive children have you delivered, including the present child?)	---------- (Enter the number)	
207	How many living children do youhave by now? (How	---------- (Enter the number)	

	many of them are alive by now?)		
208	How old is your recent child?	----------(enter in complete weeks)	
209	What is the time gap between the previous and the present birth?	1. It is my first birth (Not applicable) 2. Less than two years 3. ----------years(write complete years if >=2 years)	
210	Is the present birth wanted/planned?	1. Yes 2. No	If yes, skip to 213
211	If no to Q 210, did you use a family planning method?	1. Yes2. No	If yes , skip to 213
212	If no to Q no 211, why didn't you use contraceptives? (Don't read, tick the mentioned ones only)	1. Fear of side effects 2. Lack of knowledge about FP 3. Spousal disapproval 4. I was breast feeding Mather. 5. I was amenorrheic after delivery and felt I can't be pregnant 6. Absence of FP methods in my residence 7. Lack of money for FP service 8. absence of chosen method 88.Others, specify----------	
213	Now, I want to ask you about the future. What is your future reproductive preference?	1. Want to have another child soon (before two years) 2. Want other child but after 2 years. 3. Want no more children 4. I cannot be pregnant 5. Undecided	

Section3. Information about menses and sexual activity after birth

301	Is your menses resumed after your recent childbirth?	1. Yes 2. No	If no, skip to Q 303
302	If yes to question no 401, when after birth?	----------weeks	
303	Have you started sexual intercourse after birth?	1. Yes 2. No	If no, skip to Q 401
304	If yes to 403, when did you start sexual intercourse after birth?	----------weeks	

Section4. Knowledge, discussion and approval of family planning in the postpartum period

401	Do you know at least one method of modern contraception that can be used after giving birth?	1. Yes 2. No	
402	If yes to 401, what method?	1. Pill 2. IUD 3. Injectables 4. Condom 5. Norplant 6. Diaphragm 7. Spermicidal 8. Sterilization 88. Others (specify)---------	
403	Have you ever discussed about use of contraceptives after delivery with your husband?	1. Yes, once or twice 2. Yes, more often 3. No, never discussed ----	If no skip To Q 405

		4. Not applicable ----------	
404	What is his idea about use of contraceptives after birth?	1. He approves of use 2. He disapproves use 3. He has no idea 99. I don't know his idea	
405	Do you approve of use of contraceptives after delivery?	1. Yes, I approve of use immediately after birth 2. No, I disapprove using immediately after delivery 3. I don't know /no idea	

Section 5: About practice of modern contraceptives in the extended postpartum period

501	After your recent birth, are you currently using a modern family planning method?	1. Yes 2. No	If no, kip to 507
502	If yes to 501, what method are you using?	1. Pill 2. IUD 3. Injectables 4. Condom 5. Norplant 6. Diaphragm 7. Spermicidal 8. Sterilization 88. Others(specify)----------	
503	From where did you get the FP method?	1. Government health facility 2. Private health facility 3. NGO facility 4. Pharmacies/drug venders	

		88. Others(specify)----------	
504	When did you start using the method?	----------weeks after birth	
505	When did you start in relation to menses?	1. Before my menses resumes 2. In the same week when my menses resumes 3. After my menses resumes 99. I don't remember	
506	If you are not currently using a FP method, why don't you use?	1. Fear of side effects 2. Want to deliver soon 3. Fear of change in breast milk by FP methods 4. No knowledge about FP 5. Spousal disapproval 6. Feeling of not susceptible to pregnancy due to breastfeeding 7. Feeling of not at risk of pregnancy due to ammenorrhea 8. Absence of FP methods in my residence 9. Lack of money for FP service 10. absence of chosen method 88.Others, specify----------	
507	Do you intend to use a FP method in the future?	1. Yes 2. No	
508	When do you intend to use a FP method?	(write what the respondent said)	

Section6. - know I would like to ask you some Information about your contact with a health professional during maternal and child care visits.

601	Did you have antenatal care for your recent pregnancy?	1. Yes 2. No	If no skip toQ.603
602	Did you got counseling about family planning during pregnancy?	1. Yes 2. No	
603	Where was the place of delivery?	1. Government Hospital 2. Government Health center 3. Health Post 4. Privet clinic 5. Privet Hospital 6. NGO health institute 7. At Home 8. Others (specify) ----------	
604	Who assisted with the delivery?	1. Doctor 2. Nurse/midwife 3. HEW 4. Untrained traditional birth attendant (Relatives/friends) 5. Other specify_____	
605	Did you receive counseling about family planning before delivery?	1. Yes 2. No	
606	Did u have postnatal care visit?	1. Yes 2. No	If no skip to Q. 608
607	Did you receive counseling about FP during PNC	1. Number of times [_____] 2. No I don't have any	
608	Have you ever gone to health facility to get immunization service for your child?	1. Yes 2. No	

609	Did you receive counseling about family planning during immunization?	1. Yes 2. No	
610	Did you accept to use FP after counseling during immunization	1. Yes 2. No	
611	Have you getting linkage to FP during child immunization	1. Yes 2. No	

Thank you very much!!!

Name of data collector_____ Signature_____Date_____

Hand over sheets for Results of questionnaire

1. Completed

2. Respondent not available

3. Refused

4. Partially completed

Identification No.

Data collector name _____ signature_____ Date_____

Investigators name_____ signature _____Date_____

Kuttaa 1.Gaaffilee bu'ura dhunfaa fi hirmaattota waliin wal qabatu.

Gaafi armaan gaditti argamanif debii gara mirgaa jirutti lakkofsatti maruun/bakka duwaa guutuun debii agarsiisaa.

lakk	**Gaaffi**	**Deebi**	**Yaada**
	Maqaa dhaabatichaa	**…….**	
101	Yerro daa'ima issa dhumaa/kan dhihoo dessanu Ummrin keessan meqqa turee?	Waggaa [__ __] (umrii nlakkofsa gutuun hagutamu)	
102	Bakki jireenyaa kessan essa?	1. Magaalaa 2. Baadiyya	
103	Haalli gaa'ila kessani maal fakkaata?	1. kan heerumtee 2. Kan hin heerumne 3. Abbaan manaa kan jalaa du'ee 4. Kan hiikke 5. Kan adda bahaan	
104	Ammantaan keessan/hordooftan maalidha?	1. Orthodox Christian 2. Protestantii 3. Muslima 4. Catholiki 88. Kan biraa (ibsii)------	
105	Sabnii kee maali dha?	1. Amaara 2. Tigre 3. Oromo 4. Gurage 88. Kan biraa (ibsii.....)	
106	Mana baruumsaa galtee baratte beektaa?	1. Eyyan 2. Lakki	Lakki

			yoo ta'ee garra lakk 108
107	Gaafi 106 deebin eyyee yoo ta'ee haanga meqaa barattee?	1. kutaa 1-8 2. Kutaa 9-12 3. Teknikii. (10+3) 4. Barnoota olaanaa (diplomaa fi issaaollaanaa)	
108	Gaafi 106 deebin lakki yoo ta'e dubissu fi/barrressu dandeesuu?	1.eyyan ,barressuus dubiisus nan danda'a 2. lakki,dubiissus barressus hin danda'u 3. Nan barreesa, hin dubbissu 4. Nan duubissa, hin barresssu	
109	Hojiinkee maali dha kan amma hoojachaa jirtuu?	1. haadha mannaa 2. Hoojataa mootumaa 3. Hojjataa Kan dhunfaa/NGO 4. Hooji dhuunfaa kiyyaa 5. Abba qabenyaa 6. barataa 7. Hoojata humnaa 8. Hoji hin qabuu 88.kan biraa, (ibsii)----------	
110	Galliin ji'aan argatuu hammamidha?	----------(lakkofsaan ibsii)	

Kutaa 2. Reproductive history and preferences			
201	Haanga ammatti meqqa ulfooftee (kan garaa keessa jiru fi kan dhalatte du'ee walliin.)	---------- (lakkofsaan ibsii)	
202	Ulfii garraa keessaa torbee 28 ossu hinguuttin sijalaa bayye ba'ee jiraa?	1. eyyeen 2. Lakki	Lakki = 204
203	Yerro meeqa ulfi sijalaa ba'ee?	----------(lakkofsaan ibsii)	
204	Daa'imni garraa keessatti torbee 28 booda ykn dhalatee torbee tokko keessati sijalaa kan du'ee jiraa	1. eyyen 2. Lakki	
205	Yerroo meeqa sijalaa du'ee?	---------- (lakkofsaan ibssi)	
206	Daa'ima meeqa dessee (daa'ima meeqa lubbun deesse jirtaa daa'ima dhummaara deessee dabalatee?)	---------- (lakkofsaan ibssi)	
207	Daa'ima meqqa qabda amma lubbun kan jirran?	----------(lakkofsaan ibssi)	
208	Daa'imni inni dhumarra desse umriin issa meqqa dha?	----------(lakkofsaan ibssi)	
209	Garaagaruumaan umrii da'ima dhumarra desse fi kan issa dura desse meqqa dha?	1. It is my first birth (Not applicable) 2. umrii lamma gaddi 3. Waggaa ----------(lakkofsaan ibssi)	
210	Daa'imni dhumarra deessee kan karrorfamme fi fedhin keetin kan dhalatte dha?	1. Eyyen ---------- 2. Lakki	Eyyeen yoo ta'ee gara lakk,213

211	Lakki yoo ta’ee gaaffi lakk. 210,karroora maatti fayyadamtee turtee?	1. Eyyeen ---------- 2. Lakki……..	Eyyeen yoo ta’ee garra lakk.,213
212	Debbiin lakkofsa 211 lakki yoo ta’ee , maalif karrorra maatti fayyadamu dhiftee? (debbi tokkofi issa oll debissun ni danda’ama)	1. soodhaa dhukkubbii qorichaa wallin walqabatee dhufuuf. 2. Haanqina hubannoo karrora maatti irratti waanan qabuuf 3. Abbaan mannaa/maattiin waan hin eyyamneef 4. Daa’ima waannan hoosisuuf 5. Laggu/aydii kiyya da’umsa booda waanan hin argineef kanaafu hin ulfaa’u jedhee waanan yaaduf 6. Naannon jiruutii karroori maatti waan hinarganeef 7. Qarshi waanan dhabeef 8. Karoori maatii ani barbaaddu wan hinjireefi 88. Kan birraa ibsii----------	
213	Kana booda/ gara fulduraati fedhiin kee maal fakkaata (yaada da’umsaa wajjin qabdu)	1. yeroo dhiwotti da’ima argachuun barbaada (waggaa lama kana keessa) 2. Daa’ima kan birraa argachun barbaada (waggaa 2 booda) 3. kana booda da’imma da’uu hinbarabaadu 4. Kana booda ulfaa’u hin barbaadu 5. Hin murteesinee	

Kutaa 3.. Information about menses and sexual activity after birth

301	Da'umsa issa dhummaa booda laggukee arguu jalqabdetaa?	1. eyyen 2. lakki----------	Lakki yoo ta'ee gara gaafi lakk.303
302	Da'umsa boodalaguun kee haangam turee dhufee?	----------weeks	
303	Da'umsa booda walqunamttii jalqabdeettaa?	1. eyyeen 2. lakki ----------	Lakki yoo ta'ee gara gaafi, 401
304	Da'umsa booda haangam turtee jalqaabdee?	----------weeks	

Kutaa 4. Knowledge, discussion and approval of family planning in the postpartum period

401	Gossa karroora maatti da'umsaa booda kan fayyadu kessaa tokko fi issa oll bektuu?	1. eyyeen 2. Lakki	
402	Eyyeen yoo ta'e gaaffi 401, gossa kam beektuu?	1. kan liqiimsamu 2. Kan gadameessa keessa ka'amuu 3. Marfee ji'a sadii 4. kondoomi 5. Irre haarkaa googaa jala kan awaalamu 6. Diaphragm 7. Spermicidal 8. Sterilization 88. kanbirraa(ibsii)---------	
403	Da'umsa booda abbaa manaa waliin mariin karroora maati fayadamu waliin qabatuu taasifameeraa?	1. eyyeen yerroo tokko/lamma 2. Eyyeen yerroo baayye 3. lakkii----	Gara gaaffi 405

		4. Lakki hindanda'amu ----	
404	Yaadnii abbaa manaa keetti itti fayyadma karroora matti da'umsa booda qabuu maal fakkaataa?	1. eyyame jirra 2. Hin eyyamnee 3. Yaada hinqabuu/Yaada issaa hin barree	
405	Da'umsa booda karrorra maati fayyadamuuf murteesitee jirtaa?	1. eyyeen , yerro gabaabaa kessatti da'umsa booda fayyadamu nanbarbaada 2. Lakki, akkuman da'een fayyadam hin barbaadu 3. Hinbeeku/yaada hinqabuu	

Kutaa 5: About practice of modern contraceptives in the extended postpartum period

501	Da'umsaa issa yerro dhihoo booda /yeroo amma kana karoorra fayadamtee beektaa?	1. eyyeen 2. lakki ----------	Lakki yoo ta'ee gara lakk.507
502	Eyyeen yoo ta'ee gaaffi 501 karroorra maati goossa kam?	1. kan liqiimsamu 2. Kan gadameessa keessa ka'amuu 3. Marfee ji'a sadii 4. kondoomi 5. Ire haarkaa googaa jala kan awaalamu 6. Diaphragm 7. Spermicidal 8. Sterilization	

		88. kanbirraa(ibsii)---------	
503	Karoora maatti essaa fayadamta?	1. mana yaalaa mottummaa 2. Mana yaalaa kan dhunfaa 3. Mana yaalaa NGO 4. Mana qoorichaa dhunfaa 88. Kan biraa (ibsii)…….	
504	Karoorra maatii fayyadamuu yoom jalqabdee?	Torbee ----------(da'umsa booda)	
505	Karoora maatii yoom jalqabdee laguu wallin walqabtee ?	1. Lagu arguuko booda 2. Lagu walliin torbee tokko keessatti 3. Lagu arguko bodda 99. Hinyaadadhu	
506	Yerroo ammaa kana karoora matti fayyadammaa yoo hinjiree maaliif fayyadamu dhabdee?	1.sodhaarakkoo/dhukkubi itti fayyadama karoorra mattii wallin dhufuuf 2. Yerroo gabaabaa keessatti da'uu waanan barbaaduf 3.karoora maatti yoon fayyadame harma hosisu irrattti rakko waan qabuuf. 4. Hubanoo karoora maati dhabuu 5. Abbaan manaa/Maattin eyyamu dhabuu 6. Shakkii ulfaawu waanan hinqabneef harma hossisu	

		wallin walqabatee 7. Shakkii ulfaawu waanan hinqabneef lagu waanan hin argineef 8. Naannoon jiruuti /dhaabata keesatti karroori matti waannan hinarganeef 9.haanqina qarshi waanan qabufuf 10. Karooran fayyadamu waan dhabeef 88.kanbiraa(ibsii)--	
507	Gara fulduuraati fayyadamu barbaadaa?	1. eyyeen 2. lakki----------	
508	Yoom itti fayyadamuu barbaada?	(ibssii……)	

Section 6.- know I would like to ask you some Information about your contact with a health professional during maternal and child care visits.

601	Hordoofi ulfaa da'uumsa duraa gootteeta ulfakee issa dhummaa irratti?	1. eyyeen 2. Lakki	Lakki yoo ta'ee gara gaaffi 603
602	Waayyee karoora maatii marrinin/ibsii sif godhamee jiraa yeroo hordoofi da'umsa duraa irratti?	1. eyyeen 2. Lakki	
603	Da'umsaa kee issa dhummaa/issa yeroo dhihoo essatti deesse ?	1. hospitaala motummaatti 2. Bufata fayyaa motummaatii 3. Kellaa fayyaa 4. Clinica dhunfaa 5. Hospitaala dhunfaa 6. Dhaabata NGO	

		7. manatti 8. Kan biro (ibsii)----------	
604	Oggessi si deesisse/gargaaree oggumaan issaa maali ?	1. dooktoora 2. Nursii/midwiferi 3. HEF 4. Deesistuu addaa kan lenjii hinqabnee (Relatives/friends) 5. Kan biro(ibsii)_____	
605	Gorsi karoora maatti siif kenamee jira da'umsaa dura?	1. eyyeen 2. Lakki	
606	Hordoofii da'umsa boodaa gootee jirtaa?	1. eyyeen 2. No	Debbiin lakki yoo ta'ee gara lakk. 608
607	Gorsii karoora maatti siif kenamee jira yeroo hordofii da'umsa bodaa iratti	1. Eyyeen 2. lakkii	
608	Talaali da'ima ketiif talaachiftee jirtaa ?	1. eyyeen 2. Lakki	
609	Gorsii karoora maatii sif kenamee jirraa?	1. eyyeen 2. Lakki	
610	Gorsa siif kenamee booda karoora maatii fayyadamuuf murteefatee jirtaa	1. eyyeen 2. Lakki	Eyyeen yoo ta'ee gara lakk. 611
611	Kutaa karoorra maati walliin siquunamsiisani jiiruu	1. Yes 2. No	

GalattoomaaGuyyaa

ASSURANCE OF PRINCIPAL INVESTIGATOR

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

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Date._____ Signature _____

APPROVAL OF THE ADVISORS

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

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