ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

SOCIO-ECONOMIC AND DEMOGRAPHIC DETERMINANTS OF POSTNATAL CARE UTILIZATION IN OROMIA REGION

BY

TSEGALEM SITOTAW AYALEW

SEPTEMBER, 2021

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This is to certify that the thesis prepared by Tsegalem Sitotaw Ayalew entitled: ***"SOCIO-ECONOMIC AND DEMOGRAPHIC DETERMINANTS OF POSTNATAL CARE UTILIZATION IN OROMIA REGION*** and submitted in partial fulfillment of the requirements for the degree of master of science in population studies (Reproductive Health) complies with the regulations of the university and meets the accepted standards with respect to the originality and quality.

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ACRONYMS

ANC Anti Natal Care

CSA Central Statistics Agency

DC Delivery Care

EDHS Ethiopian Demographic and Health Survey

FGD Focus Group Discussions

MHC Maternal Health Care

PNC Postnatal Care

TBA Traditional birth attendant

WB World Bank

WHO World Health Organization

UNICEF United Nations Children Fund

Abstract

Background: *The postnatal period which is also called postpartum is defined by the World health organization as the period beginning one hour after the delivery of the placenta and continuing until 6 weeks (42 days) after delivery.*

Objective: *The prime objective of this study is to examine the socio-economic and demographic factors that influence PNC service utilization in Oromia Region of Ethiopia.*

Methods: *cross-sectional data from Ethiopian Demographic and Health Survey 2016. A multivariate binary logit model was employed, and odds ratios were used to analyze the determinants. A qualitative in-depth interview was also implemented to triangulate with the secondary data of the 2016 EDHS and to capture and thereby to fill some of the data gaps of the EDHS. Totally 1031 women were covered by the 2016 EDHS of Ethiopia.*

Results: *The study results have shown that woman's education level, ANC visit, parity, and place of delivery have a significant positive effect on PNC checkup. The estimated odds ratio of PNC service utilization for women delivered at health facility is11.6 time more likely to use PNC service as compared to women delivered at home. Women antenatal visit with of less than four antenatal visit is 1.706 times more likely to have PNC* checkup relative to women whose no antenatal visit is [P<0.05, OR =1.706, 95% CI 0.929-3.1308]. *Women with primary education level 1.79 more likely to have PNC checkup after delivery [P<0.05, OR =1.79 at 95% CI 1.05-3.06].Women Birth order with of 2-4 is 2.14 times more likely to have PNC checkup relative to women whose Birth order one is [P<0.05, OR =2.14, 95% CI 1.18-3.87].*

Conclusion: *To improve the level of PNC checkup in the study area all concerned bodies should work towards empowering women's educational participation, promote and design appropriate designs and strategy to increase the ANC utilization rate and health facility in particular and to improve, encourage and enhance maternal health care service utilization in general.*

Key words: PNC, EDHS, Socioeconomic and Demographic Determinants of PNCs

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Generally, maternal mortality remains unacceptably high, even if it has made impressive progress in reducing maternal mortality over the past two and a half decades. Globally 289,000 women died each year as a result of pregnancy and childbirth-related complications (WHO, UNICEF, UNFPA (2014)). The average annual rate of reduction (ARR) in global MMR was declined by 2.9% every year between 2000 and 2017(WHO, UNICEF, & UNFPA (2017)). 94% of all maternal deaths occur in low and lower-middle-income countries. MMR in the world's least developed countries (LDCs) are high, estimated at 415 maternal deaths per 100 000 live births. Sub-Saharan Africa is the only region with a very high MMR for 2017, estimated at 542. Despite its very high MMR in 2017, sub-Saharan Africa as a region also achieved a substantial reduction in MMR of roughly 38% since 2000 (WHO, UNICEF, & UNFPA (2017)). Ethiopia is estimated to have (14 000) a high MMR in 2017.These pregnancy related complications have to do with inadequate uptake of antenatal, delivery and/or postnatal cares.

The World Health Organization (WHO) recently updated global guidelines on postnatal care for mothers and newborns through a technical consultation process. The new guidelines address the timing and content of postnatal care for mothers and newborns with a special focus on resource-limited settings in low- and middle-income countries. The postnatal period which is also called postpartum is defined by the WHO as the period beginning one hour after the delivery of the placenta and continuing until 6 weeks (42 days) after delivery (WHO, 2013).Now day postnatal care is a critical phase in the lives of mothers and newborn babies. Most maternal and infant deaths occur in the first month

after birth: almost half of postnatal maternal deaths occur within the first 24 hours, 1 and 66% occur during the first week.2 In 2013, 2.8 million newborns died in their first month of life—1 million of these newborns died on the first day.

Postnatal care (PNC) is one of the most important maternal reproductive health-care services, not only for prevention of health impairment but also for reduction of maternal and child mortality. It is crucial to treat any complications arising from the delivery (CSA, 2017).Maternal reproductive and child healthcare problems begin during pregnancy, continues throughout life, and extends to the health of the community (Kalayou, 2013). Providing postnatal care to recently delivered mothers is thus quite essential (UNICEF, 2009). However, in Ethiopia postnatal care service is the least utilized compared to antenatal and delivery cares, especially with respect to Oromia region(CSA,2011) The 2016 EDHS for example shows that the great majority of women (89.7 percent) with a live birth in the preceding five years did not receive a postnatal checkup (CSA, 2017).

Postnatal care services are also among the strategies designed to prevent the initiation of physical and mental impairments among women who have delivered. Besides, the infants need to be routinely observed for impairments and strictly monitored for normal growth, and should be immunized against various diseases that could stop them from growing normally. Moreover, mothers need to recognize the changes that occurred in their bodies and how to prevent and manage postnatal complications such as back pain, muscle imbalances and instability of the spine, pelvic pain, postnatal depression, and incontinence, which they often go through after delivery (Okereke et al., 2013).

1.2 Statement of the Problem

Generally, on average, 50 percent of mothers follow postnatal care services. In developed countries, the coverage is higher than 80 percent, and in developing counties like Sub-Saharan African (SSA) is below 50 percent (Afework MFet.al, 2014,Alemayeh H et.al, 2014, Mehari Ket.al, 2013, Chen L et.al, 2014 and Meng, Qingyue& Tang S, 2010).In Ethiopia, the Postnatal care service utilization (PNC) is very low (CSA, 2016). The proportion of mothers who received antenatal care from skilled providers are 62.4 percent and 50.7 percent, respectively. The percentage of mothers with a live birth in the two years preceding the survey who has received a PNC checkup in the first two days after giving birth is 9 percent at the Oromia region (CSA, 2017).

Most of the quantitative PNC studies carried out in the Oromia Region showed that the proportion of postnatal care utilization is low and investigated the factors that influence women PNC utilization. Some of the PNC studies carried out in Oromia region in different zonal or district level are those administered by (Teshome M. et al,2018) the research in titled as Postnatal Care within One Week and Associated Factors among Women Who Gave Birth in Ameya District, Oromia Regional State, Ethiopia, : Cross Sectional Study using primary data and the finding was revealed that the proportion of postnatal care utilization within one-week in the study area is 25.3%.Partner occupation[AOR=5.575, 95% CI= (1.071, 29.023)], mothers who had complication during labor and delivery[AOR=7.841, 95% CI= (2.287, 26.879)], distance from mothers to health facilities[AOR= 5.127, 95% CI= (1.149, 22.878)] and awareness on postnatal care within one week services[AOR=4.161, 95% CI= (1.300, 13.314)] were the main contributing factors of postnatal care utilization within one-week. In addition to this study

was conducted in oromia region by (Teklemariam, et al 2018) and the research titled is Utilization of Postnatal Care and its Determinants in Loma District, Southwest Ethiopia: a Community Based Cross Sectional Study. By using primary data the study results was more than a-third of mothers utilized postnatal care services. Urban as place of residence (AOR=3.7, 95% CI: 1.1, 13.2), being literate (AOR=3.3; 95% CI: 1.3, 8.5), being merchant (AOR=7.7; 95% CI: 1.4, 42.4), and delivery at health post (AOR=2.7; 95% CI: 1.0, 7.0) were found to be significantly associated with postnatal care service utilization. A study was held by (AmaneTumbure ,2018) research titled is Assessment of Postnatal Care Service Utilization and Associated Factors in Asella Town, Arsi Zone, Oromiya Regional State, Ethiopia by using primary data and A total of 209 participants included and 99.3 % responded with mean age of 26.7 + 4.4 years. Hundred fifty six (74.2%) heard about PNC while 152(72.7%) reportedly used postnatal care service. Mothers with better education, antenatal follow up and appointment for postnatal care showed better proportion of postnatal care use. We can conclude, from these past studies as show that women in the Oromia region make decisions about postnatal care and that is little awareness about PNC.

While however, several issues emerge from these past studies. First, majority of studies that analyzed PNC reported PNC utilization in Ethiopia in general and Oromia in particular to be low compared to ANC and DC. Against this, and as we have argued above, PNC utilization is as important and should be research because Second, most (if not all) the studies adopted quantitative approach alone ((Teklemariam,, et al 2018) authors (AmaneTumbure, 2018) implicitly assuming that all determinants can be precisely measured quantitatively.

The present study thus uses both quantitative and qualitative methods to analyze the prevalence and determinants of PNC service utilization among women of reproductive age in Oromia region. Apart from helping explain discrepancies in the determinants, the qualitative data is hoped to assist with understanding the reasons behind the low PNC uptake in the region.

The main research problem observed in the study area, as indicated in the 2016 EDHS of CSA, is the extremely low postnatal care service utilization in the Oromia region. That is, the great majority of women (89.7 percent) with a live birth in the preceding five years did not receive a postnatal checkup in the Oromia region (CSA, 2017).

Therefore, this study has attempted to examine empirically why PNC is low in the Oromia region and which socio-economic, demographic, and obstetric factors are influencing PNC utilization in the study area. The following are the central questions raised and addressed in this study:

- Can the Demographic socio-economic, and obstetric factors are influencing postnatal care utilization?
- What is likely to happen to low postnatal care utilization in the Oromia region? and
- What is the main determinant of postnatal care utilization in the Oromia region?

1.3. Objectives of the study

1.3.1 General objective

To assess the prevalence of and factors influencing use of PNC service in Oromia regional of Ethiopia

1.3.2 Specific objectives

The study has the following specific objectives:-

- ✓ To assess prevalence and trends of postnatal care utilization among women of reproductive ages.
- ✓ To examine the demographic, socio-economic and obstetric factors influencing mothers' postnatal care service utilization.

1.4 Research question

- ✓ How was the prevalence level of PNC over time
- ✓ What are the major socioeconomic, demographic and/or obstetric factors that significantly influence the postnatal care utilization in Oromia region?

1.5 Significance of the Study

It is believed that, the outcome of the study would very be helpful in understanding and describing the main factors that contribute to the low postnatal care services utilization in the study region. More specifically, the outcomes of this study are considered being a

more reliable and representative as EDHS data was collected by using based on well standard and sound methodologies which are of higher standard.

The result of this study may help the local government and NGOs in understanding the potential determinants of PNC checkup and thereby to plan a new strategy to come up with a solution and implementation of plans and promotions to PNC utilization. The study may also be used for regional health administrators to promote the utilization of institutional postnatal care services and moderate the factors that hinder PNC utilization in the study area.

1.6 Scope and Limitations of the study

The study population is women of reproductive age. The prime objective of this study is to assess the determinant factors of postnatal care utilization. The study used the 2016 EDHS data that was collected by CSA. Therefore, the limitation of using secondary data such as no control over data collection process, inability to refine questions, to measures, to follow procedure based on feedback or to perform pilot tests, may hold true in this study as well. Another problem of this study is data integration problem to needs additional efforts as EDHS data is huge. To overcome the limitation of qualitative data from selected zone of Oromia region was collected and used. The data source is also limited to cross-sectional study that indicates, weak causation, effects of the independent variables on dependent variables. The reason for cross-sectional studies inability to lead causation is that there is no indication in time sequence of events (WHO, 2006). This study is also limited to Oromia region of the ten regions found in Ethiopia.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction

The postnatal period, defined as the time immediately after the birth of the baby and up to six weeks (42 days) after birth which is very for critical the newborn and the mother (Vishnu et al, 2011). Postnatal care (PNC) is one of the maternal health care components that are globally accepted as a key to improved maternal health and reduced mortality. World Health Organization (WHO) recommends integrated postnatal care that includes; prevention of complication of mother and baby including vertical transmission of diseases from mother to baby, early detection and treatment of problems and complication readiness, provision of care to mother and baby by skilled attendant, assist the mother and her family to evaluate, develop personalized postnatal care plan, counseling for HIV and testing, counseling for contraception (birth spacing) and resumption of sexual activity, health promotion using health messages and counseling, referral of mother and baby for special care when necessary (WHO, 2006)

Guidelines of WHO on postnatal care suggests essential routine of PNC for all mothers and for all newborns, especially extra care for low birth weight babies and other vulnerable babies, and early identification and management of emergencies for mother and baby. Four visits postpartum care visits are recommended for the health and wellbeing of mother and newborn (WHO, 2007). According to the guidelines of WHO the four visits postpartum care visits are within six to 12 hours after birth, three to six days, six weeks, and at six months. Women experience a number of the problems during childbirth and postpartum period. These problems can be detected and treated through

proper follow-up delivery and postnatal care visits by women's in the postpartum period (Rogan and Olveña, 2004).

Postnatal care includes advice regarding nutrition, breastfeeding, receiving free medicine, tonic, other vitamins, food supplements, etc. Treatment of complications that might have occurred during delivery requires attention of trained professional (Rogan and Olveña, 2004).

Almost all women and their infants in developed countries receive postpartum and postnatal care even if the nature and frequency of this care varies considerably across the countries under discussion. But in developing countries the need for care and support after birth was very small till now (WHO, 2008). In sub-Saharan Africa an estimated 70 percent of women do not receive postpartum care (WHO, 2007)

Therefore, postnatal care is one of the recommended maternal health careinterventions to reduce the maternal and newborn deaths during postpartum period (Bhutta et al., 2005). Women delivering in a health facility should remain for observation for the first-24-hour period, and those who deliver at home need close observation as well, preferably by a Skilled Birth Attendant (SNLE, 2009).

This chapter deals with review of related literature under the following sub-headings: conceptual literature review, theoretical literature review and empirical literature review on determinants of postnatal care utilization. Relevant study documents in both developing and developed countries are reviewed giving a special emphasis on the

findings and methodological issues. Conceptual framework and synthesis of the literature were also indicated in subsequent sections of the review literature.

2.2. Conceptual Literature review

Developing countries account for 99 percent of maternal deaths annually (BMC, 2015). Increasing availability of maternal health care service in general and postnatal care in particular only wouldn't be a guarantee the effective utilization of such services. Therefore, it would be of very important to access the determining socioeconomic factors in one hand the quality of service maintaining acceptable quality standards on the other hand and the underlying. Global efforts to reduce maternal mortality have been stepped up and thereby determinants also need to be addressed by developing country governments (BMC, 2015).

Demographic, socio- economic, culture, and the accessibility of maternal health care services have influence on the use of PNC. Socio-economic and demographic factors that are found to have effect on the utilization of maternal health seeking behavior includes age at last birth, education, occupation, religion, marital status, reproductive factor ,distance to Health facility, I thought being to effect on health care utilization the determinants of utilization of maternal health care services (Nancy et al., 1999).

Maternal death can occur anytime be in the antenatal or postnatal period. But most strategies focus to reduce maternal mortality on the antenatal periods (Dinah, 2015). Maternal mortality can be reduced by utilization of improved postnatal care service (Senfuka 2012). Maternal mortality is greatest during the postnatal period which remains

the most neglected stage of maternal care especially in the less developed countries (Dinah, 2015).

2.3. Theoretical Literature review

An individual's intention to engage in a behavior at a specific time and place can be predicted by the Theory of Planned Behavior ((Birehanu, 2018).

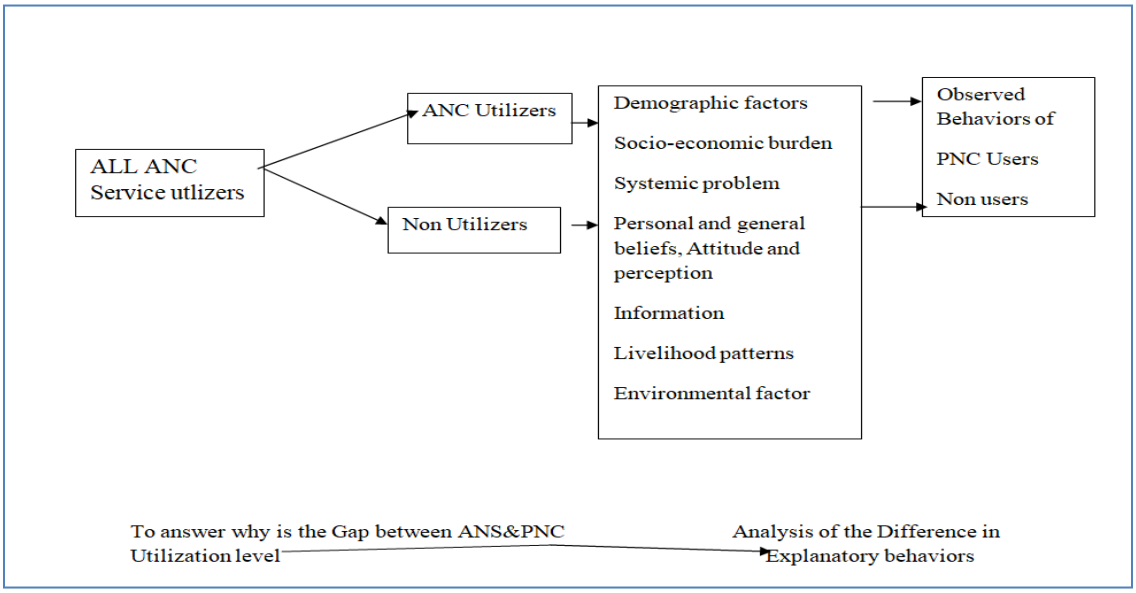
The attitudes of women towards the PNC service utilization and the general attributes that determine its utilization may be seen from the point of view of the theory of planned behavior. Theory of planned behavior which is an extension of the theory of reasoned action has demonstrated the workings of the aggregation principle by showing that general attitudes and personality traits do in fact predict behavioral aggregates much better than they predict specific behaviors which can be used for a discussion of the aggregation principle and for a review of empirical research (Ajzen, 1988).

Theory of planned behavior was meant to demonstrate that general attitudes and personality traits are implicated in human behavior, but that their influence can be discerned only by looking at broad, aggregated, valid samples of behavior. According the original theory of reasoned action which implies a central factor in the theory of planned behavior is the individual’s intention to perform a given behavior and individual’s intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. As a rule of thumb, the stronger the intention to engage in a behavior, the more likely should be its performance (Ajzen, 1988).

The attitudes towards the PNC utilization and its relation with the underlying factors might be seen as well in light with Choice Theory. Choice Theory was formulated by W. Glasser who was one of the most prominent psychiatrists in the world. Choice Theory declares that people are always motivated by what they want at that moment (Birehanu, 2018).

Choice Theory is set versus external control psychology that explains human behavior as response to an external stimulus (stimulus-reflection of). Choice Theory argues that what everything human beings do is behavior (action) that almost all behaviors are chosen and that are driven by our genes to satisfy needs (Glasser,2000).

Figure 2.1 Pictorial representation of Theory of planned behavior



Source: Lutz Sommer, Albstadt-Sigmaringen University, Germany Ajzen (2005)

Based on theory of planned behavior, it should be clear, however, that a behavioral intention can find expression in behavior only if the behavior in question is under

volitional control. That is, if a person can decide at will to perform or not perform the behavior. Although some behaviors may in fact meet this requirement quite well, the performance of most depends at least to some degree on such non-motivational factors as availability of requisite opportunities and resources (e.g., time, money, skills, cooperation of others (Ajzen, 2005). All together, these factors represent people's actual control over the behavior. To the extent that a person has the required opportunities and resources, and intends to perform the behavior, he or she should succeed in doing so. The idea that behavioral achievement depends jointly on motivation (intention) and ability (behavioral control) is by no means new. It constitutes the basis for theorizing on such diverse issues as animal learning (Hull, 1943), level of aspiration (Lewin, Dembo, Festinger, & Sears,)

2.4. Empirical Literature review

In this section previous empirical studies of postnatal care service utilization have been reviewed. That is, the use of maternal health care utilization in relation to socio-economic, demographic and Obstetric factor factors, such as Maternal age,Birth order, , Marital status women education, Women occupation Maternal health care includes the health care services as of family planning, preconception, antenatal, delivery and postnatal care services that have a significant role to reduce maternal morbidity and mortality. Preconception care includes education, health promotion, screening and other interventions among women of reproductive age to reduce risk factors that might affect future pregnancies and birth (Helene, 2014).

ICPD program of action also declares maternal health care services should include education on safe motherhood; effective and focused antenatal care; maternal nutrition

programs; adequate delivery assistance that avoids excessive recourse to caesarian sections and provides for obstetric emergency; referral services for pregnancy, childbirth and abortion complications; material health care and family planning (UNFPA, 2004).

Knowledge and acceptance of the importance of maternal health care and healthy pregnancy practices by women's are determined by previous experiences as well as formal and informal communication within the community and households. Many women who utilized maternal health services believed it was important as a means of reducing the risks of complications and ensuring the health of the unborn child. Women who often delivered healthy babies by using maternal health care service and satisfied by the quality of care and attention they received during pregnancy and delivery note (such as the importance of receiving vitamins, vaccinations, and examinations during pregnancy) the benefits of such care in regard to the healthy delivery of the new baby (Lindsey,2008)

2.4.1 Postnatal care

The postnatal period, defined as the time immediately after the birth of the baby and up to six weeks (42 days) after birth which is very for critical the newborn and the mother (Vishnu et al, 2011). Postnatal care (PNC) is one of the maternal health care components that are globally accepted as a key to improved maternal health and reduced mortality. World Health Organization (WHO) recommends integrated postnatal care that includes; prevention of complication of mother and baby including vertical transmission of diseases from mother to baby, early detection and treatment of problems and complication readiness, provision of care to mother and baby by skilled attendant, assist the mother and her family to evaluate, develop personalized postnatal care plan, counseling for HIV and testing, counseling for contraception (birth spacing) and resumption of sexual activity, health promotion using health messages and counseling, referral of mother and baby for special care when necessary (WHO, 2006).

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Almost all women and their infants in developed countries receive postpartum and postnatal care even if the nature and frequency of this care varies considerably across the countries under discussion. But in developing countries the need for care and support after birth was very small till now (WHO, 2008). In sub-Saharan Africa an estimated 70 percent of women do not receive postpartum care (WHO, 2007).

2.4.2 Postnatal care and Obstetric Factors

Under this section findings of empirical studies that relate postnatal care and Obstruct factors will be reviewed. Based on the assessed and examined literature the Obstetric factors to be considered in this study are place of residence and place of delivery of the subjects of the study.

Place of residence

Many studies have indicated that postnatal care utilization is being correlated with place of residence. The study conducted at the community level in Nepal has shown that place of residence significantly associated with the attendance to postnatal care. Mothers from urban areas (with an adjusted odd ratio of 3.953) were found more likely to attend postnatal care (Khanal et al, 2014).

According to a study carried in Nigeria women who reside in urban areas tends to utilize PNC services as compared to their rural counterparts (Iyabode, 2017). A similar study conducted in Nigeria also revealed that of urban settlers (44 percent) used PNC services as compared women (21 percent) who reside in rural areas (Dahiru and Oche 2015). Another study held in Ethiopia has come across with similar findings the aforementioned (Iyabode, 2017). Another study conducted in Ethiopia also reports that most women who reside in urban areas had positive perceptions towards PNC services utilization. In contrary a similar study which was held in Uganda has found out that place of residence didn't have a significant effect on PNC utilization (Ndugga et al, 2020).

Place of delivery

Place of delivery is one of the two obstetric variables that are included as an Obstetric factor in this study. PNC study carried out in Nepal has indicated a positive significant effect of place of delivery on PNC service utilization (Khanal et al, 2014). A similar study administered by Ndugga et al in Uganda revealed place of delivery had much higher effect on PNC utilization among women who delivered at a health facility compared with delivery at home. These finding are in agreement with the study held in Ethiopia (Tilahune, 2016).

2.4.3 Postnatal care and Demographic Factors

Based on the literature assessed and examined, in this study the basic demographic factors included are those supposed to have association with PNC service utilization these demographic factors are maternal age, marital status and Birth order.

Maternal age

The study of Nepal on PNC found a decrease in the proportion of mothers who attended postnatal care services with increasing age (Khanal et al, 2014). PNC attendance was associated with age of women which significantly (p=0.034) (Ndugga et al, 2014). A study held in Nigeria indicates that of, among women; higher proportion of women in age less than 20 years found being PNC users (Iyabode, 2017). Younger women attended postnatal care service better while none of the respondents above age 41 years attended postnatal clinic (Ndugga et al, 2014). As older and younger women have different experience and influence, their behavior on seeking postnatal care vary very much. That is, younger women are expected more likely to utilize modern health facilities than older women as they are likely to have greater exposure and knowledge (Kinuthia, 2014). According to study conducted in Ethiopia using EDHS data shown that age of mother is one of important factors to affect PNC services (Tesfahun F, etal.al,2014).(tilahun)

Marital status

Women's marital status was found to influence utilization of postnatal care services (Muturi, 204).The findings of the study carried in Uganda showed that Women's marital status s was associated with greater use of PNC (Ndugga et al, 2020). Studies conducted in Nigeria reported that unmarried women usually have fewer tendencies to utilize PNC (Iyabode, 2017). The study conducted in Kenya has also shown that unmarred women were better at attending postnatal care service as compared to married women (Nigatu, 2011).

Birth order

PNC service utilization study held in Nigeria has disclosed that mothers with high Birth order have a higher tendency not to use PNC services compared to those with lower Birth order (Iyabode, 2017). Reasons given were that it could be possible that those women with less Birth order have less physical and economic demands than those with high Birth k2order and those women with high Birth order might have had unpleasant experience from previous health services. Studies conducted in Ethiopia and Burkina Faso also showthat there is a negative association between increased Birth order and use of PNC services (Iyabode, 2017).

2.4.4 Postnatal care and Socioeconomic Factors

Under these section findings of empirical studies that relate postnatal care and Socioeconomic factors will be reviewed. Based on this Section Assessed Women education, Women Occupation Husband education, Husband Occupation Wealth index.

Women education

Education especially that of women, has been found to be a enveloping and significant factor in explaining postnatal care (Helen,2014)even if the composite relationship between education and postnatal care is vague, more education has generally associated with Higher postnatal visit within and across countries (Paudel 2013,). Nankwanga (2004) and also strengthen this idea and state that one shouldn't be amazed by the negative relationship between parents' schooling and postnatal , as education is the main determinants of earnings. But the effect of women literacy and the effects of male literacy on postnatal may be different, because male education may increase postnatal visit due to ability to afford to have at list one visit. However, the net effect of literacy on postnatal

care visit could be negative because of eerily visit and/or increase in the Knowledge of postnatal care visit.

The study conducted in(Dembecha district, North West Ethiopia that mothers who attended higher education were three times more likely to receive complete postnatal care service than illiterate women [AOR=3.2 95percent CI, 1.1, 9.2]. This finding was in agreement with results from, Nepal, Nigeria, and one more study in Ethiopia (Mohammed etl.al2018). This could be explained by the notion that education is a key factor in empowering maternal decision making towards healthcare service, increasing awareness of basic health services, and being informed about health risks, with all of these eventually leading to the improved health seeking behavior.

The Study conducted in Nepal in 2014 also PNC visit had statistically significant relationship with education level of the respondent's Husband (P< 0.001) (achhelal das.2018)

Women's occupation

A study conducted in Ethiopia where there was positive relation between women's occupation and attendance of PNC services, but there was none between the work status of the husbands and PNC utilization. It also showed that women who have secured jobs utilize PNC services more frequently compared to those who do not have one (byIyabode, 2017). Most studies have shown that there is a positive association between women and their husbands' occupation and PNC utilization and can be explained with the level of SES of households. The occupation of women and husbands has showed varied findings from different studies, however since no negative association has been

reported, it can be concluded that women who or their husbands are gainfully employed will utilize PNC services more. (Iyabode.2017)

2.5. Synthesis of the Reviewed Literature

Almost all women and their infants in developed countries receive postpartum and postnatal care even if the nature and frequency of this care varies considerably across the countries under discussion. But in developing countries the need for care and support after birth was very small till now.

The attitudes of women towards the PNC service utilization and the general attributes that determine its utilization may be seen from the point of view of the theory of planned behavior. Theory of planned behavior which is an extension of the theory of reasoned action has demonstrated the workings of the aggregation principle by showing that general attitudes and personality traits do in fact predict behavioral aggregates much better than they predict specific behaviors which can be used for a discussion of the aggregation principle and for a review of empirical research.

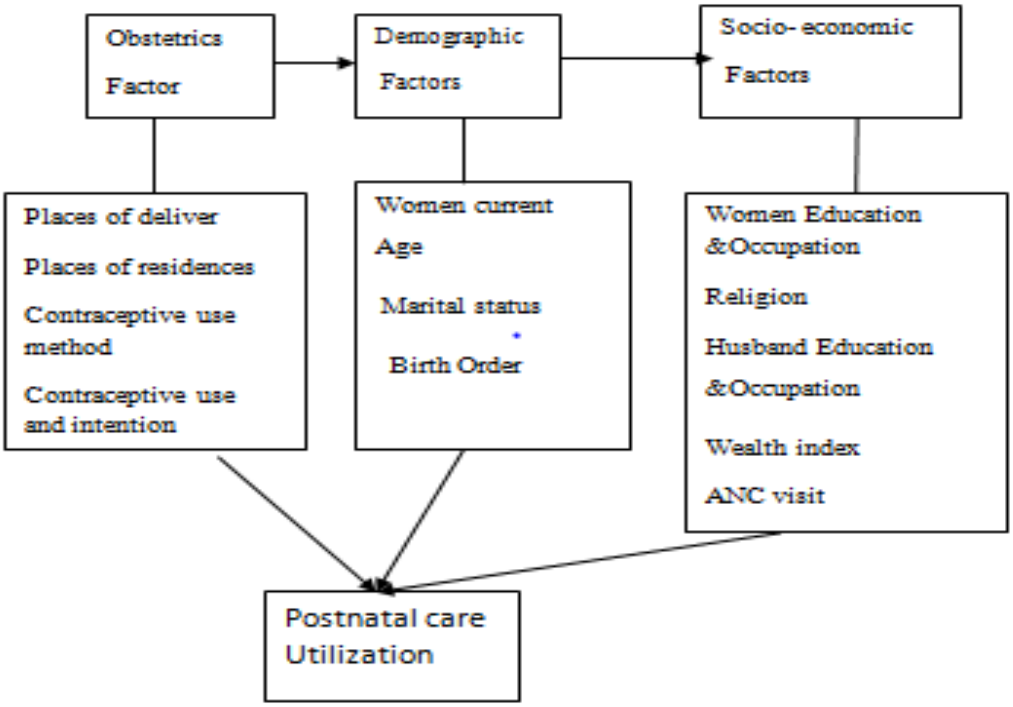
The findings of empirical studies that relate postnatal care and environmental factors, Demographic factors, Socio-Economic factors, Environment Factors will be reviewed.

Therefore, this study was attempt to examine empirically why PNC is Low in Oromia region and which Obstetric socio-economic and demographic factors influencing PNC utilization in the study area.

The conceptual framework explains the relationship between the independent variable and dependent variable. Independent variables include Obstetric factor, Demographic

factor and Socio-economic factor. The dependent variable is postnatal care services utilization. Independent variables affect dependent variable directly or through the intervening variable

Figure 2.2 Conceptual Framework of factors associated with utilization of postnatal care in Oromia Region



Source: Developed by the Author based on the literature review

CHAPTER THREE: THE RESEARCH METHODOLOGY

This chapter discus how the study was carried out, how the data collection procedure was run and the method of data analysis mainly it also deals with the description of the study area.

3.1 The Study Setting

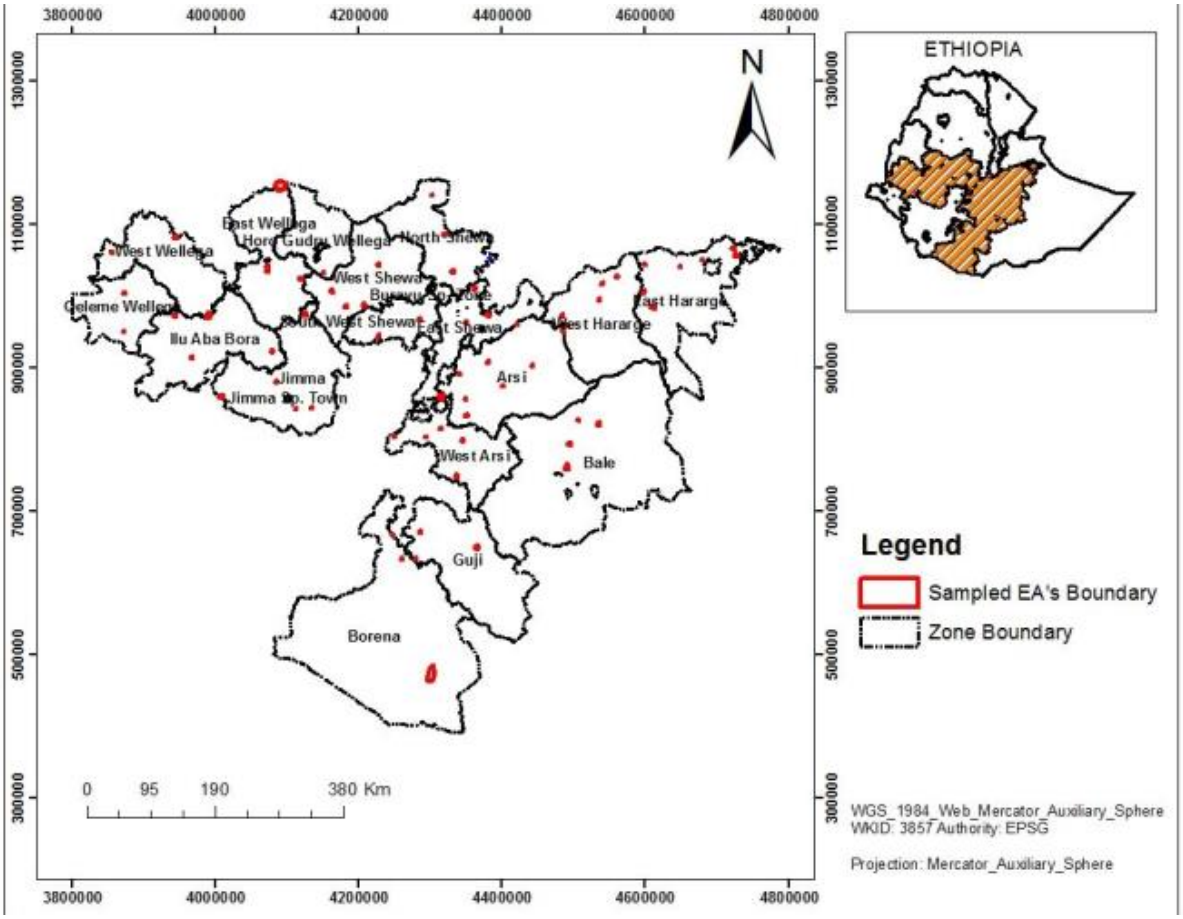
The study was carried out in Oromia Region of Ethiopia. In terms of land area coverage Oromia Regional state is the largest region in Ethiopia. It has an estimated land area of about 353,690 square kilometers (32 Percent of the total area of the country). Oromia Regional state has a location that extends from the western end of the country in western Wellega to the eastern parts of eastern Harrarge from 34°E latitude to 43°E latitude. Its north-south extent stretches from 4⅔° North to 10⅔°North latitude (FDRE, 2013). According to the most recent population projection held by CSA, the total population of the region in 2021 is projected to be 39, 075,000of which 19,582, 000 are males and 19,493,000 arefemales (CSA, 2013).

Oromia is still underperforming when it comes to maternal and child health outcomes. The 2016 EDHS finds that the proportion of women receiving postnatal care within two days of delivery is the lowest of all regions from the baseline of 8 per cent in 2008 to 32 per cent in 2016.17 country (9 per cent).

Arable land in Oromia is centrally important within Ethiopia allowing for a diverse agro-ecology that makes it ideal for all investment sectors. Oromia region, similar to other regions in the country farming and animal husbandry covers major's livelihoods engagement. Furthermore, coffee and other cash-crop, poultry, beehives and livestock's

are important agro-economic life style .Progressing urban centers and secondary and tertiary economic activities are also dependent on those sectors.

Figure 3.1: Map of Oromia Region



Source: GIS and cartographic directorate (CSA)

3.2. Research Approach

In this study, both quantitative and qualitative study approaches were used. For the quantitative approach data were obtained from the latest Ethiopia. demographic and health survey (EDHS 2016), for the qualitative approach a primary qualitative data

through in-depth interviews which were conducted with PNC providers and mothers who gave birth 12 months prior to the study/interviewing some selected areas of Oromia region.

3.3. Research Design

The EDHS 2016 data were obtained by cross sectional study design implemented by CSA in 2016 on randomly selected households who had a household member of women of reproductive age (aged 15–49 years of old)during the survey time Therefore the study used such 2016 EDHS data of Oromia region which was of a cross sectional nature.

3.4. Research Methods

3.4.1. Sampling techniques and sample size

The sampling frame used for the 2016 EDHS for the primary sampling unit was the list of enumeration areas (EAs) which was prepared for the 2007 Ethiopia Population and Housing Census (PHC). The frame for secondary or the ultimate /sampling units (households) constructed by fresh household listing which was prepared at the beginning of the survey. A two stages stratified cluster sampling technique was implemented to select the sampled households.

At the first stage, a stratified sample of EAs is selected with probability proportional to size (PPS): in each stratum, a sample of a predetermined number of EAs is selected independently with probability proportional to the EA's measure of size. In the selected EAs, a listing procedure is performed such that all dwellings/households are listed.

At the second stage, after a complete household listing was done in each of the selected EAs, households were selected by using systematic sampling method in the selected EAs. In each selected household, a household questionnaire was completed to identify women age 15-49.Then after every eligible woman was interviewed with an individual questionnaire. At country level the total number of women covered by the EDHs 2016 was 10,641.Among this size of women of the 2016 EDHS 1581 women covered in Oromia region.

3.4.2. Data collection techniques and procedures

The quantitative data used in this study, which is EDHS 2016, the data collection activity took place over 5 month period, from January 18, 2016, to June 27, 2016. Fieldwork was carried out by 33 field teams, each consisting of one team supervisor, one field editor, three female interviewers, one male interviewer, two biomarker technicians, and one driver. In addition, 28 quality controllers (14 for interviews and 14 for biomarkers) were dispatched during data collection to support, and monitor fieldwork and to control the data quality (CSA, 2017). The EDHS 2016 quantitative data was collected by field staffs by interviewing the respondents (subjectively) using electronics medium of data collection by going door to door to each of the selected households. Then the collected electronic data files were transferred to the CSA head quarter for data processing.

Qualitative information (primary data) of this study was collected from four purposely selected zones of the region by taking in to account their agro-ecological characteristics. These four zones are Jima, Aris, Borna and West Shewa zones. Finally the required qualitative data was captured from health facilities and key informants from urban and rural settings. For this effect beside the main investigator experienced enumerators who

holds BSc degree and who speak Afan-Oromo and Amharic language was hired for data collection. Before they deployed for data collection they were well trained by the principal research.

3.4.3. Variable identification, description and measurement

Postnatal care is the care given to a mother to starting from the delivery of placenta up to six weeks (42 days) after delivery. The dependent (outcome) variable of this study is postnatal care service utilization. It is a dichotomous variable and assigned code 1 as "yes" if the mother received PNC At list one visit after delivery; it has assigned code 0 as "no" otherwise (Table 3.1).

Table 3.1 Description of the Response Variable

Variables	**Definition**	**Category**
I. Dependent Variable		
Postnatal care utilization	Postnatal care refers to the care given to a mother from time of delivery to six weeks after delivery.	A dummy variable where a value of **1** is assigned (yes or has had PNC check up)if the woman has received the service following the delivery at least once(WHO, 2015). A value of **0** is assigned otherwise.

The explanatory variables which are selected by reviewing the related literature and included in this study are: place of residence and place of delivery, contraceptive method

and intention religion, women's education and occupation, and husband education and occupation, and wealth index.

These socioeconomic, demographic and obstetric of these study variables were categorized and described below (See Table 3.2).

Table 3.2 Description of the socioeconomic, demographic and obstetric explanatory variables

Explanatory variables	**Definition**	**category**
Place of residence	It refers to whether one lives in a rural or urban area (William, 2016).	Rural = Control=0 Urban = Case=1
Religion	**It** is an affiliation with a group having specific religious or spiritual tent, and identifies the respondent's religious affiliation (CSA, 2011).	Orthodox = Control=1 Protestant=case=2 Muslim=case=3 Others = Case=4
Educational level (Women's)	It is a measure of the highest level of formal school that the respondent has attended (Lunani, 2012).	No education (Illiterate) = Control=0 Primary=case=1 Secondary and above (Literate) = Case=2
Occupation (Women's)	It measures the respondent's current working status other than domestic (Lunani, 2012)	No = Control=0 Yes = Case=1
Educational level (Husband's)	It is a measure of the highest level of formal school that the respondent has attended (Lunani, 2012).	No education =control Primarily=case=1 Secondary and above=case=2 Don't know, divorced, windowed =3 (Illiterate) = Control=0
Occupation (Husband's)	It measures the respondent's current working status other than domestic (Lunani, 2012	Not working=control=0 Working = Case=1 Don't know, divorced, windowed =case=2
Women age (current)	It is the interval of time between the date of birth and the date of the interview, expressed in completed years (UN, 2005)	15-19 = control=1 20-24 = case =2 25_29 =case=3 30-34=case=4 35-39=case=5

		40-44=case=6 45-49=case=7
Marital status	It refers whether a person is legally or culturally married or not (William, 2016)	Currently in union =Control=0 Currently not in union=Case=1
Birth order	It refers to the order a child is born, for example first born, second born etc.(CSA, 2017)	1 =Control=0 2-4 =Case=1 5 and above =2
Antenatalcare utilization	It is the clinical assessment of mother and fetus during pregnancy, for the purpose of obtaining the best possible outcome for the mother and child	No antenatal visit =Control=0 Less than four antenatal visit =Case=1 At least four antenatal visit and above=case=2
Contraceptive ever use	It is the number of women of reproductive age who are using contraception per 100 women of reproductive age (PRB, 2011).	Current use of contraceptive method = Control=0 Do not use contraceptive method = Case=1
Contraceptive use and intention	It is the number of women of reproductive age who are using contraception per 100 women of reproductive age (PRB, 2011).	Non-user - intends to use later Does not intend to use
Place of delivery	It is the place where a mother delivers her child as of at clinic, hospital, home, et c (William, 2016).	Home=Control=0 Health facility=Case=1
Wealth-index	It is all income, benefits and gains in cash or in kind from any sources. Income/wealth quintiles which are a wealth index that serves as an indicator of level of wealth that is consistent with expenditure and income measures and it is constructed using household monthly income (CSA, 2012	Poorer=control=0 Middle=case=1 Rich=case=2

3.4.4 Data analysis techniques

In this study quantitative data analysis was carried out using STATA 15 which can handle large survey data sets and produce clear and accurate frequency tables, and graphs. STATA15 was used because the dataset was in STATA format to begin with.

The dependent variable (PNC utilization) was categorized into two based on whether or not a woman utilized PNC (Table 3.1). All women who reported not utilizing or having utilized the service 6 weeks after delivery are regarded as not having utilized the service. Moreover, respondents who had received at least one postnatal checkup but did not know the timing of the checkup were excluded from analysis to avoid misclassification of cases (WHO, 2015).

Descriptive statistics such as frequency distributions, mean, percentages and cross tabulations were used to describe the basic socio-economic and demographic features of the respondents; and bivariate and multivariate analysis were applied to assess the association and the effect of the selected socio-economic, demographic and obstetric variables on PNC utilization.

Bivariate analysis was used to assess the relationship (association) of the independent variables with the dependent variable by using chi-square test and calculating p-value. The chi-square test was used to identify and select independent variables which explain the dependent variables that have to be included for further analysis at the multivariate stage.

Multivariate analysis was carried out to explore the net effect of all independent variables on the dependent variable by controlling possible intervening variables.

To run multivariate analysis, the logistic regression model was employed. The logistic regression is used when the dependent variable is dichotomous and the independent variables are of any type. Since the dependent variables for this study was PNC which was dichotomous (with two outcomes) logistic regression was applied for multivariate analysis.

Qualitative data was analyzed as the qualitative information has been utilized to supplement statistical findings from the quantitative data. In this research the results of qualitative analyses were used to explain the reasons for the effects of independent variables on postnatal care utilization were recorded using tape recorder followed by transcription. Categorization of data for purposes of classifying and coding was also followed. Thematic analysis technique was employed to explain the results.

Multicollinearity: the independent variables must not be related strongly to each other but to the outcome variable. The tolerance and its inverse, VIF (Variance Inflation Factor) respectively must not be less than 0.1 and greater than 10.

Model fit: the fitness of the model is checked by Hosmer and Lemeshow Test. The model is fit only when the test is insignificant (p value > 0.05). All these assumptions were not violated for this study.

3.5. Ethical Issues

In scientific research respondents participation is not a mandatory requirement. That is the principle of informed consent should be met. Therefore before the interview, participants of the in-depth interview (key informants and health providers) were informed about the objective of the study, and were assured the confidentiality of the

information they provide. They were then asked of their consent to participate in the interview orally. Furthermore for this end the necessary supportive letter (for confirming qualitative data collection) was prepared and issued by Addis Ababa University college of Development Studies; Center for Population Studies was first submitted to the Oromia Regional State Health Office. The regional health office in turn wrote a letter of recognition of the study.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4. Results

4.1 Socioeconomic characteristics of respondents

As shown in Table 4.1 the majority (about 93.89%) of the respondents (women) in the study area live in rural areas while the rest minorities (6.11%) live in urban areas. Out of the total respondents of oromia region were 58.78% were muslim and the others Protestants ,Orthodox and the rest were 19.59%,18.04% and 3.59 of the respondents were, respectively.(Table4.1).

About 64.69 percent of the respondents were illiterate; the rest 30.07percent of the women were found attended primary the others secondary and above were (5.24%) educated (Table 4.1). Regarding respondents' working status 70.42 percent of the women were not working and 29.58 percent were engaged in productive work. When more than 86.32 percent of them comes to husbands' occupation were reported being working outside home and the remaining 6.98 percent were not engaged in any productive work. About 41.03 percent of the Husbands were illiterate; the rest 41.6 percent of the Husband were found attended primary the others secondary and above were (10.7%), and the others wealth index were (41.6%) of the respondents Poorer, while (22.8%) Women were Meddle income and the others were Riche (35.6%).

Table 4.1: Socioeconomic Characteristics of Respondents

Variable	Number	Percent
Place of residence		
Urban	63	6.11
Rural	968	93.89
Religion		
Orthodox	186	18.04
Protestant	202	19.59
Muslim	606	58.78
Others	37	3.59
Educational level (Women's)		
No education	667	64.69
Primary	310	30.07
Secondary and above	57	5.24
Women working status		
No	726	70.42
Yes	305	29.58
Educational level (Husband's)		
No education	423	41.0
Primary	429	41.6
Secondary and above	110	10.7
Husband working status		
Not working	72	6.10
Working	890	86.3
Wealth index		
Poorer	429	41.61
Middle	235	22.79
Rich	367	35.6

Source: CSA, 2017

4.2 Demographic Characteristics of the Respondents

According to this study, Respondent's health checked in PNC service at least one time within 6 weeks after delivery were (10.18%) the others were not PNC visit after delivery were (89.82%). As presented in Table 4.2, Most of the study participants were in the age group of 20-34 70.9 percent of the sample. The women age group 15-19 was (5.5%). Women of age group 35-49 consists 23.5 percent. About 93.5percent of the surveyed women in the study area were married (currently in union) while 6.5 percent were not in union. Table 4.2 also shows that the distribution of women by Birth order number. Accordingly, a woman with Birth order of 1child, 2 up to 4 children and 5 or more than 5 children constitutes 17.1, 40.5 and 42.5 percent respectively. Nearly three-fourth (71.3%) of the women in the study area didn't use any contraceptive method. The proportion of women who used any contraceptive method encompassed 28.7percent only. Avery large proportion (about 74.9%) of the women delivered outside health facility, the remaining (about 25.1%) of the respondents (women) reported having delivery at home. The women who intention to use any contraceptive method encompassed 28.7percent.Women in the study area does not intend to use any contraceptive were (36.9%) the rest of Non-user - intends to use later were (34.4%)

Table 4.2 Description of the demographic and reproductive health characteristics

Variable	Frequency	Percent
Women age (current)		
15-19	57	5.53
20-24	212	20.56
25-29	281	27.26
30-34	238	23.08
35-39	155	15.03
40-44	59	5.72
45-49	29	2.81
Marital status		
Unmarried (Currently not in union)	67	6.5
Married (Currently in union)	964	93.5
Birth order		
1	176	17.07
2-4	417	40.45
5 and above	438	42.48
Contraceptive use Method		
Don't use any method	735	71.29
Use any method	296	28.71
Contraceptive use and intention		
Use Contraceptive method	296	28.71
Non-user - intends to use later	380	36.86
Does not intend to use	355	34.43
Antenatal care service utilization		
No antenatal visit	504	48.88
Less than four antenatal visit	295	28.61
At least four antenatal visit and abov	232	22.50
Postnatal care service utilization		
No	926	89.82
Yes	105	10.18
Place of delivery		
Home	772	74.88
Health Facility	259	25.12

Source: CSA, 2017

4.2.1. Trends of postnatal care service utilization

In this part although our prime interest is limited to the 2016 DHS data, the four consecutive DHSs were used the four consecutive Ethiopian Health and Demographic Surveys (EDHS). As the figure shows, Even though all these series of EDHS have shown that the trend of PNC checkup got improved over time, the coverage/level of PNC utilization is still the lowest in Oromia region compare to the reset of the region (see Figure 4.1 below). Furthermore, thus, the trend exhibits on average, the level of non-PNC utilization is decreasing by about 2 percent per annum (Figure 4.1).

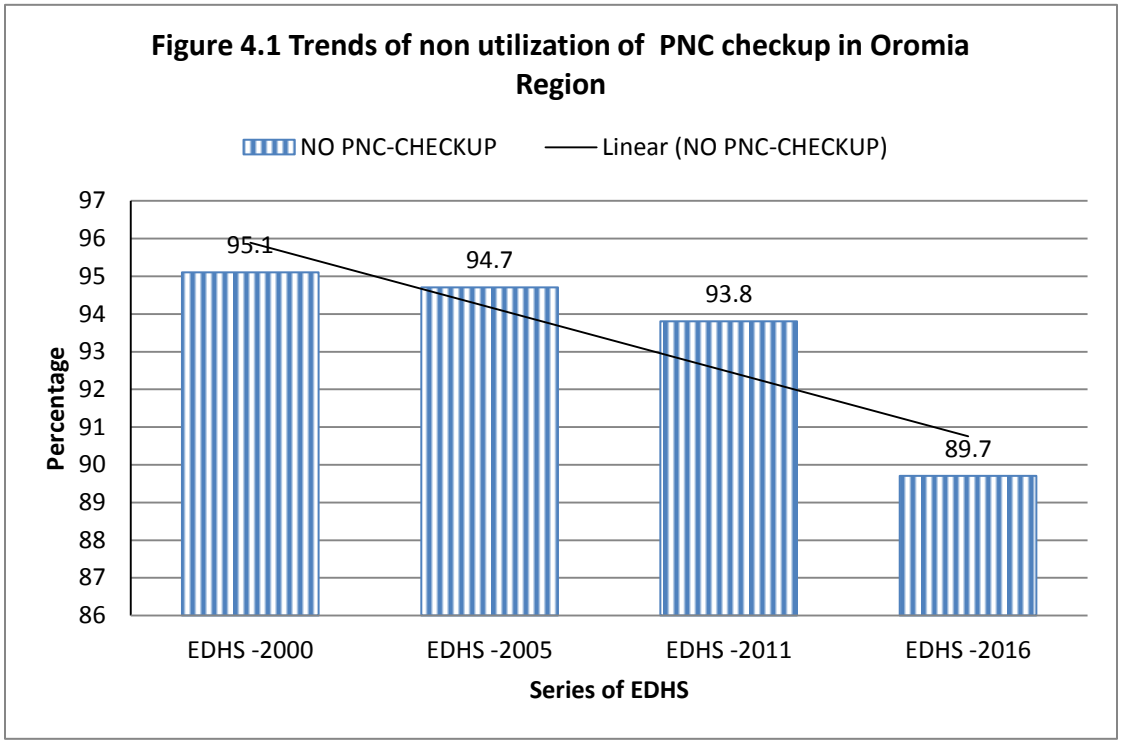


Figure 4.1 Trends of non utilization of PNC checkup in Oromia Region

Source: CSA, 2001, 2006, 2012 and 2017

4.2.2. Bivariate Analysis of Socioeconomic, Demographic, and Obstetric Determinants of PNC.

Model building strategies begin with a careful chi-square analysis of each variable. We begin our data analysis by using the chi-square test to identify factors associated with Determinants of postnatal care services Utilization and independent variables. Before analyzing the Binary logistic regression variables associated to the response variables are tested using Pearson chi square test value. The following table (Table4.3) presents the chi-square test. The study has examined the relationship between postnatal cares and demographic, socio economic and other Obstetric Factor like, residence, maternal age, birth order, place of delivery, contraceptive se method and intention ANC Visit, religion, education level, occupation, marital status and wealth index.

Table 4.3 shows the association between the outcome variable and other predictor variables independently. Place of residence ($\chi2$=39.310, P=0.000), Birth order ($\chi2$=9.527, P=0.009), place of delivery ($\chi2$=174.407, P=0.000), contraceptive ($\chi2$=14.717, P=0.001),Contraceptive use and intention ($\chi2$=19.556, P=0.000) ANC Visit ($\chi2$=39.0132, P=0.000), religion ($\chi2$=15.968, P=0.001), women education level ($\chi2$=54.871, P=0.000), women occupation ($\chi2$=9.888, P=0.001), husband education level ($\chi2$=22.763, P=0.000), husband occupation ($\chi2$=1.755, P=.416), marital status ($\chi2$=16.131, P=0.001) and wealth index ($\chi2$=37.225a, P=0.000) were predictors that have shown statistically significant association with institutional delivery care at 0.05 level of significance, which are important for PNC service utilization. But, maternal age ($\chi2$=1.755, P=0.461) and Husband occupation ($\chi2$=1.755, P=.416 were not significantly associated with PNC service utilization in the study area. Among this category of variable which have not

significant association and thereby excluded from the multivariate analysis are women's current age, and husband occupation by 0.05% level of significant.

Table 4.3 Bivariate association between postnatal care service utilization and its determinants.

Explanatory variables	Chi-square(χ2)		P-value
Place of residence	39.310	2	.000**
Religion	15.968	2	.001**
Educational level (Women's)	54.871	2	.000**
Occupation (Women's)	9.888	1	.001**
Education (Husband's)	22.763	1	.000**
Occupation (Husband's)	1.755	2	.416
maternal age (current)	5.667	2	.461
Marital status	0941	3	.001**
Birth order	9.527	3	.001*
Contraceptive use	14.717	2	.000**
Contraceptive use and intention	19.556	1	.000**
ANC Visit	39.0132	2	.000**
Place of delivery	174.407	1	.000**
Wealth index	37.225[a]	1	.000**

4.3 Multivariate Analysis of determinants of PNC utilization

Logistic regression provides a method for modeling a binary response variable (Bewick et al, 2005). It is a very helpful tool for situations in which one wants to be able to predict the presence or absence of a characteristic based on values of a set of predictor variables. It is similar to a linear regression model but is suited to models where the dependent variable is dichotomous. Logistic regression coefficients can be used to estimate odds ratios for each of the independent variables in the model (Yared, 2015)

4.3.1 Assessment of the fitted Logistic Regression Model

The goodness of fit of a model measures how well the model describes the response variable; and assessment of the goodness of fit involves investigating how close values predicted by the model are to the observed values. After estimating the coefficients, there are several steps involved in assessing the appropriateness, adequacy and usefulness of the model. First, the importance of each of the explanatory variables was assessed by carrying out statistical tests of the significance of the coefficients. Then the overall goodness of fit of the model was tested.

In this study the Hosmer–Lemeshow test was applied as a test for assessing the goodness of fit of a model and it allows to be used for any number of explanatory variables, which may be continuous or categorical.

Hosmer–Lemeshow test is similar to the $\chi 2$ goodness of fit test and has the benefit of partitioning the observations into groups of approximately equal size, and therefore there are less likely to be groups with very low observed and expected frequencies (Bewick et al, 2005).

Insignificant p-value of the Hosmer–Lemeshow goodness of fit shows the goodness of a model. In this study, the values of Hosmer and Lemeshow goodness of fit of test is 0.00(P-value < 0.05) which is significant and hence indicating the model was fitted well with the data (Table 4.3)

Table 4.4: Results of the Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	165.18	2	0.000

Table 4.5 Results of the Multivariate Analysis of Determinants of PNC Utilization Oromia region for the 2016 EDHS

Logistic regression — Number of obs = 1,031
LR chi2(8) = 165.18
Prob> chi2 = 0.0000
Log likelihood -256.7247 — Pseudo R2 = 0.6434
*** *p<.01, ** p<.05, * p<.1*

Variable	Odds Ratio	Std. Err	Z-value	p-value	95% Conf. Interval		
Birth ordered							
2-4	2.139104	.6480148	2.51	0.012	1.18133	3.873404	**
5+	2.243609	.8126555	2.23	0.026	1.103149	4.563101	**
Women education							
Primary	1.790927	.4896258	2.13	0.033	1.048011	3.060483	**
Secondary& above	2.348181	.9339569	2.15	0.032	1.076906	5.120181	**
Antenatal care visit							
<4 Antenatal visit	1.70547	.5285792	1.72	0.045	.9290297	3.130822	**
At least four antenatal visit and above	1.725966	.546956	1.72	0.045	.9274442	3.212009	**
Contraceptive method							
Use Contraceptive method	1.197568	.2913051	0.74	0.459	.7434428	1.92909	
Place delivery1							
At health facility	11.66062	3.246412	8.82	0.000	6.75679	20.12348	***
Constant	.0091573	.003909	-10.99	0.000	.0039666	.0211408	***

4.4. Determinants of Postnatal Care Utilization among Women

The final result of the multivariate of this study is presented as in Table 4.4 above. After fitting the multivariable model of main effects, then the possible interactions among predictors were checked. The result shows that the predictors ANC checkup, education level of women, Birth order and place of delivery were found having a significant influence on PNC utilization with p-values less than 0.05.

After the assessment of the overall model evaluation and goodness of fit test, statistical tests of individual predictors were conducted to identify the associated risk factors with PNC service utilization.

The dependent variable of this study is PNC checkup which dichotomous (PNC none use = code 0 and PNC use = code 1). As mentioned above a binary logistic regression model was used to assess factors which are significantly influence PNC checkup in the study area (Table 4.5).

The estimated odds ratio of PNC service utilization for women delivered at health facility is11.67 implying that women delivered at health facility 11.67more likely to use PNC service as compared to women delivered at home (Table 4.4). The 95% confidence interval indicated that the odds ratio goes to a minimum of 6.78 and a maximum of 20.124.(Table 4.5)

The antenatal visit of women has also been found to have a significance influence on PNC service utilization (Table 4.5). Women antenatal visit with of less than four antenatal visit is 1.706 times more likely to have PNC checkup relative to women whose no antenatal visit is [P<0.05, OR =1.706, 95% CI 0.929-3.1308].

The level of PNC service utilization for women having At least four antenatal visits and above is 1.7267 times more likely as compared to those women whose no antenatal visit is (reference category).

The Birth order of women has also been found to have a significance influence on PNC service utilization (Table 4.5). Women Birth order with of 2-4 is 2.14 times more likely to have PNC checkup relative to women whose Birth order one is [P<0.05, OR =2.14, 95% CI 1.18-3.87].

The level of PNC service utilization for women having Birth order five and above is 2.25 times more likely as compared to those women whose Birth order one is (reference category).

The analysis of the multivariate analysis of this study reveals that women education is a significant predictor of PNC utilization (Table 4.5). Hence, the result indicates that women with primary education level 1.79 more likely to have PNC checkup after delivery [P<0.05, OR =1.79 at 95% CI 1.05-3.06].

The level of PNC service utilization for women having secondary and above is 2.35 times more likely as compared to those women whose no education level is (reference category).

4.5 Discussion

The study attempted to assess the determinant or factors of PNC services. The results of the study revealed that 10.18% women sought at least one PNC visit the others (89.82%) respondents were not using PNC services from modern health care providers. That is, a considerable number of women didn't make the minimal number of visits recommended by the WHO and Ethiopia guide line health institution. As it was ascertained by the qualitative research approach of this study, the primary reasons given for not attending PNC services include being in a state of good healthy after delivery, no or little knowledge about PNC, quality of services, religion, cultural fear and far distance from home to health services etc.

Result of Qualitative analysis indicates main factors for filling the gap initially raised by the study, why lower prevalence of PNC in the region. On the desired PNC data an in-depth interview were carried out on some selected zones of Oromia region. The in-depth interviews were mainly focused on dealing with the PNC utilization problem and the underlining the root causes of the low level of PNC utilization.

The basic questions that have raised and discussed during the interview were; the women's knowledge about PNC, level of utilization, attitude and practice towards PNC, reason for not utilizing PNC service, the availability of the service and its quality of care were the major issues that are addressed in the interview. The qualitative study also tried to capture the PNC issues in urban and rural categories. Accordingly some problems like health facility related burdens were more pronounced by participants of remote rural than urban counter parts

Regarding the problem of quality of care, participants mentioned disrespect and lack of cooperative and appropriate treatment as a reason for not going to have the checkup.

Women education, Birth order, ANC visit and place of delivery were all significantly associated with postnatal utilization. These factors have a significance influence on postnatal utilization

In this results have revealed that there is a significant relationship (influence) between mothers' education and utilization of postpartum care services. This implies that the higher the levels of education of the mothers, the higher the chances of them utilizing the postpartum care services. Hence, educated mother will be knowledgeable enough to understand the advantages of using postpartum services to her health, a factor that will most likely initiate them to seek for such services. On the other hand, it can be argued that mothers who did not attend any formal schooling cannot know the importance of postpartum services, and this will make them see no reason as to why they should seek for such services at all. Therefore, it is logical to conclude that the higher the educational levels of mothers, the higher the chances that they will use the postpartum services. This result agrees with the study conducted in Ethiopia and different countries (Mekonnen, et al., 2002, Helen, 2014 and Asnaketch, 2019, Teshome M etal.al, 2018) and Paudel 2013).Thus, literate women seek out higher quality health services and have greater ability to use health care inputs that offer better health outcomes.

The result of this study indicates that ANC visit was a predictor of PNC checkup. That is women who had ANC visit had the more likely to have had PNC checkup. This finding concise with the findings of Helen (2014), Tilahune (2016) and Wiliam (2014) where women who have at least one ANC visit more likely to have PNC checkup.

This study also found that Birth order of women is another important variable the affects total PNC checkup. It shows that as Birth order of women increases the more likely to have PNC checkup. This result was in disagreement with similar studies carried out by Helen (2014) where Birth order didn't have a significance influence in PNC. Likewise the result of a study held by Tilahune (2016) was also in contrary with these findings.

During the in-depth interview participants stated and believed that the majority of them delivered at home safely and hence they don't need to go to health facility and also didn't have any information regarding PNC. The participant also mentioned that information given during health checkup visit mainly focuses on child health care and family planning. The key informants were also asked the choice of postnatal care place and they revealed that the best place to postnatal care in health institution even though the service is not satisfactory and doesn't have the necessary infrastructure and skilled manpower.

Delivery care is an important component of efforts to reduce the health risks of mothers and children and increase the proportion of babies delivered under the supervision of health professionals in different health institution (Khanal et al, 2014. and Tilahune, 2016).

This study also reveals that place of delivery has a significant association with and predictor of PNC. That is, the study ascertained that place of delivery is a highly significant factor influencing PNC service utilization in Oromia region. Place of delivery has found to a positive association and influence on PNC. That is, women who delivered at health facility were more likely to have a PNC checkup as compared to those delivered at home. This result fits the result of a study held by Wiliam (2014) and Tilahune(2016).

Like the quantitative analysis result, the qualitative approach of this study also ascertained that women's participation in PNC service utilization is low. The core reasons mentioned for the low PNC coverage is lack of knowledge and information (lack of access to media) about PNC, being in a state of good health after delivering at home, unavailability of infrastructure (absence of transport and distance the like) and skilled health officers. Some of the women who stated that they have info or know about PNC mentioned why they do not go out for PNC checkup is lack or unavailability of a separate room for PNC service.

CHAPER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Purpose of the study has been to investigate main determinant factors by expanding why questions related to lowers prevalence of PNC in the Oromia region; for filling the gap initially viewed by analyzing EDHS2016 data.

The results of this research indicate that socioeconomic and demographic factors play a significant role in determining the level of PNC checkup in the study area. The major socioeconomic and demographic factors that are found to determine PNC checkup significantly in the study area are women education, antenatal care use, birth order and place of delivery.

Furthermore the qualitative analysis indicate inadequate information Lower awareness and Lower quality of care play important role to delay utilization participants in most cases reported that Bing healthy no need to PNC check-up. Some of the women who stated that they have info or know about PNC mentioned why they do not go out for PNC checkup is lack or unavailability of a separate room for PNC service.

The finding of this stud is in line with most of traditional or conventional accepted determinant of PNC utilization. However most of the studs were focus on prevalence by cross sectional studies by added results mostly related to quality of PNC service in institution. Even for those women delivered at facilities and utilized the services skeptical about the benefits and professional. Thus more studies focusing on quality system of PNC services delivered needed.

5.2 Recommendations

This study found out that women's education level has been found to have a significant positive effect on PNC checkup. This indicates that improving educational opportunity for women may have a large positive impact on improving utilization of PNC services. As an alternative in short term, health promotion programs that focus on women with little or no education should be given.More specifically this indicates the need to educate women and take urges measures should be taken by the federal and regional governments (Ministry of Education, Ministry of Women and Youth Affairs, the regional concerned government offices as of the Oromia Region Administration Office, Educational Office and the likes) and all internal and external stakeholders (Non-Governmental Organizations and Development Partners) to improve women's educational status of women.

The study finding also reveals that ANC checkup is a positive significant determinant of PNC. Therefore, actions should be taken to promote and initiate ANC checkup more and more in particular and maternal care in general by the concerned federal and regional government bodies (Ministry of Health and Regional Health Offices).Specifically the ministry of health should make maternal health facilities available at near toeach localities as distance and availability of such facilities were mentioned as an obstacle for PNC service utilization during the in-depth interview. Lack of trust on the skill of the local health provider was also raised as a problem that affects PNC utilization during the interview. Therefore, mentorship and training for health professionals should be focused to improve their gabs on knowledge and skills thereby improve their care giving quality.

Place of delivery was a significant determinant of PNC utilization in the study area. The descriptive analysis of this study indicates that a higher proportion of women (about 81 percent) delivered at home. Therefore, various measures should be taken the concerned bodies (like federal and regional government bodies (Ministry of Health and Regional Health Offices) to make maternal health facilities available and accessible at near to each localities and promotions should also be there to encourage women to deliver at health facility. As an option in the short due attention should be given to make home visits to women who give birth at home or anywhere apart from a health facility within 24 hours by health providers. In short programs and strategies should be designed to provide quality home based postnatal service.

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APPENDEX

In-depth interview Guide PNC

Note: This question is asked only for women aged 15-49

My name is _____I am collecting data on Postnatal care Services Utilization in Oromia region. You are the person/s who fit/s to respond questions about postnatal care services in the region. The data will be utilized for the partial fulfillment of Masters of Science in population studies and in turn used by policy makers, planers and will be a base for other researchers. Hence, I request your willingness to be involved in providing genuine responses concerning the following questions lasting a maximum of 1 hour.

1. Do the women in your Locality have knowledge of PNC? IF don't Why? IF yes /they Know what are the level /what do they Know? List
2. What is the woman Attitude towards PNC utilization?
3. What is the practice of PNC utilization in your Locality (How often do they go for PNC?)
4. IF the practice is Low what are the basic reasons?
5. IS there any institution that provides PNC service in your area?
6. How is the Quality of care in PNC service (Are they satisfied)
7. What do you think to Improve/increase PNC service utilization
8. What do you think about the benefit of PNC to the mother and the new born?
9. What kinds of services do they receive in PNC?
10. What are the barriers to accessing PNC?

Annex VII: Result of Key-Informant Interview

Variables	Key Informant1 Jimma Zone	Key Informant2 (Borena Zone)	Key Informant3 (Arisi Zone)	Key Informant4 (Westshewa)
Knowledge of PNC	Don't know	Don't know	Don't know	Don't know
woman Attitude towards PNC utilization	No attitude	No attitude	No attitude	No attitude
what is the practice of PNC utilization	Low	Low	Low	Low
IF the practice is Low what are the basic reasons	Lack of cooperative and appropriate treatment	didn't have any information regarding PNC	service is not satisfactory	doesn't have the necessary infrastructure and skilled manpower
How is the Quality of care in PNC service	Poor	Poor	Poor	Poor
what are the barriers to accessing PNC	Lack of Knowledge about PNC	Lack of skilled health officers	cultural and religious influence	Lack of access to media and Lack privet Rome,
Accessibility-PNC	Yes	Don't know	Yes	Don't know

Type of Interview	Interview Area							
	Jimma		Arisi		Borena		Westshewa	
	rural	**urban**	**rural**	**urban**	**rural**	**Urban**	**rural**	**urban**
IDI	4	4	4	4	4	4	4	4
1,PNC providers	1	1	1	1	1	1	1	1
2,Mothers who gave birth within one year of the study	1	1	1	1	1	1	1	1
1,PNC providers	1	1	1	1	1	1	1	1
2,Mothers who gave birth within one year of the study	1	1	1	1	1	1	1	1
1,PNC providers	1	1	1	1	1	1	1	1
2,Mothers who gave birth within one year of the study	1	1	1	1	1	1	1	1
1,PNC providers	1	1	1	1	1	1	1	1
2,Mothers who gave birth within one year of the study	1	1	1	1	1	1	1	1