LEVEL OF POSTNATAL CARE SERVICE UTILIZATION AND ASSOCIATED FACTORS AMONG MOTHERS WHO GAVE BIRTH IN THE LAST ONE YEAR IN DAMBOYA DISTRICT, KEMBATA TEMBARO ZONE, SOUTHERN ETHIOPIA

MPH THESIS

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August 2020 **Haramaya University, Harar**

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Level of Postnatal Care Service Utilization and Associated Factors among Mothers Who Gave Birth In The Last One Year In Damboya District, Kembata Tembaro Zone, Southern Ethiopia

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I hereby certify that i have read and evaluated this thesis entitled level of postnatal care service utilization and associated factors among mothers who gave birth in the last one year in damboya district, kembata tembaro zone, southern Ethiopia prepared under my guidance by Adane Eyob I recommend that it to be submitted as fulfilling the thesis requirement.

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Final approval and acceptance of the thesis is contingent upon submission of its final copy to the Council of Graduate Studies (CGS) through the candidate's school graduate committee (SGC).

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ABBREVIATIONS

ANC:	Antenatal Care
AOR:	Adjusted Odds Ratio
CI:	Confidence Interval
CSA:	Central Statics Agency
EDHS:	Ethiopian Demographic Health Survey
FMOH:	Federal Minister of Health
ETB:	Ethiopia Birr
HEP:	Health Extension Program
HSDPs:	Health Sector Development Plans
HSTP:	Health Sector Transformation Plan
MDGs:	Millennium Development Goals
MCH:	Maternal and Child Health
MMR:	Maternal Mortality ratio
NGO:	Non-governmental Organization
PNC:	Postnatal Care
OR:	Odds Ratio
SPSS:	Statistical Package for Social Science
SRS:	Simple Random Sampling
SSA:	Sub- Saharan Africa
SNNPR:	South Nation Nationality and Peoples Region
WHO:	World health Organization
UNICEF:	United Nations International Children's Emergency Fund

ABSTRACT

Background: *-Postnatal care is a care provided to women and their babies within 42 days after delivery. This period is dangerous for both the mother and the child because most maternal and neonatal deaths occur within the period. Despite the importance of postnatal care, postnatal period is generally the most neglected in developing countries and most mothers and newborn babies do not receive postnatal care services from a skilled health care provider during the critical first few days after delivery. In Ethiopia, where the largest proportions of births take place at home, postnatal given by health professionals is extremely low and uncommon.*

Objective: - *To assess the level of postnatal care service utilization and associated factors among mothers who give birth in the last one year in Damboya district, Kambata tembaro Zone, South Region, Ethiopia, 2019/ 2020.*

Methods: - *A Quantitative community based cross-sectional study was undertaken to investigate the level of postnatal care service utilization and associated factors in the study area. Stratified sampling technique was used to classify urban and rural kebeles in the district to get the calculated sample size. Then, data were entered into EpiData Version 3.1, then, for analysis exported to SPSS version 20. All variables with p-value less than 0.25 during bivariable analyses were entered to multivariable logistic regression model to control all possible con founders and to identify factors associated with postnatal care utilization. Level of statistical significance was declared at p-value less than or equal to 0.05.*

Result: *The over all magnitude of postnatal care service utilization in damboya district kembata tembaro was 51.9 % (47.8-56.1). Mothers having formal education 95 % CI: AOR =4.0 (1.71- 7.12)], gave birth at health facility [(95% CI: AOR=3.8(2.03-7.17)] ,primparous mothers [95% CI: AOR= 3.5(1.71–7.17)] , havingknowledge on post partum complication[95% CI AOR=2.7(1.53– 4.95] , counseling on danger signs by the health care provider [95% CI AOR= 3.4(2.00– 5.7)]were positively associted with PNC utilization.*

Conclusion: *Educational status of mother, place of delivery, parity, previous experience of PNC utilization, information/counseling on PNC utilization and danger signs by the health care provider had showed statistical significant association with current PNC service Utilization.*

Key words: *postnatal care utilization, Mothers,Damboya, Ethiopia.*

1. INTRODUCTION

1.1. Background

Postnatal care is a care provided to women and their babies within 42 days after delivery (WHO, 2013). This period is dangerous for both the mother and the child because most maternal and neonatal deaths occur within the period. About 45% of postnatal maternal deaths occur within the first 24 hours and 66% occur during the first week(WHO, 2015, FMOH, 2015b).

World Health Organization recommends mothers and newborns should receive PNC in health facilities for at least 24 h after birth, if birth is in a health facility. While, if birth is at home, the first postnatal contact should be as early as possible within 24 h of birth. At least three days (72), between days 7–14 after birth, and six weeks after birth .However, In Africa, most of mothers and newborns did not visit the health institution following birth, indicating that postnatal care programs are among the weakest of all reproductive and child health program (WHO, 2013)

Globally every year 6.6 million children under five years of age die (44% as newborns) and 289 000 maternal deaths occur, all from mainly preventable cause .Majority of maternal and neonatal deaths occur during 48 hours following childbirth. These first two days following birth are critical time to prevent complications arising from the childbirth. Around 65% of maternal deaths and 75%of newborn deaths occur in the first seven days after the birth, and around half of these deaths occur in the first 24 hours (Tesfahun et al., 2014).

The principal objectives of PNC services are to support the mother and her family in the transition to a new family constellation, prevent, early diagnose and treat complications of the mother and infant; refer the mother and infant for specialist care when necessary,counsel on baby care, support breastfeeding, counsel on maternal nutrition, and supplementation if necessary, counsel and provide contraception service and immunize the infant (WHO, 2013).

1.2. Statement of Problem

Globally, there were an expected 303,000 maternal deaths from complications related to pregnancy and childbirth in 2015 which is a decline of 43% from 1990. Majority of the maternal deaths occur in developing regions, which accounts nearly 99% of the global maternal deaths in 2015, with Sub- Saharan Africa alone accounting for roughly 66% followed by southern Asia 22% (Alkema et al., 2015) .

Every year in Africa, at least 125,000 women and 870,000 newborns die in the first week after birth, yet this is when the coverage and programs are at their lowest along the continuum of care. The first day is the time of highest risk for both mother and baby. Regardless of place of birth, mothers and newborns spend most of the postnatal period (the first six weeks after birth) at home (Warren et al.). The post-natal period is also very important for the newborn; of the approximately 130 million infants born annually, four million infants die in the neonatal period, representing almost 40% of deaths of children under 5 years of age and developing countries account for 98% of these death (WHO, 2013).
Despite the importance of postnatal care, postnatal period is generally the most neglected in developing countries and most mothers and new born babies do not receive postnatal care services from a skilled health care provider during the critical first few days after delivery. In Ethiopia, where the largest proportions of births take place at home, postnatal care by health professionals is extremely low and uncommon (WHO, 2013) . According to EDHS 2016, only 17% of women receive at least one postnatal care service from a health institution in the first 48 h after birth. In addition, it pointed out that there was regional variation in PNC utilization. Four instance in the Southern Nations, Nationality and Peoples Region (SNNPR), reported that the percentage of women had a postnatal checkup in the first two days after they gave birth was only 16.9% whereas in Addis Ababa was 55.4% (CSA and ICF, 2016). Similarly, other studies conducted in different parts of Ethiopia revealed that PNC utilization by reproductive age women is low. Study conducted in Dembecha district ; west gojam zone of amhara region is 34.8% (Hordofa et al., 2015). Meanwhile, in the Health Sector Transformation Plan (HSTP) 2015/16 Ethiopian

government set target of 95% postnatal coverage by the year 2020. Yet, the level of postnatal care coverage was low in Ethiopia .This shows that the country is not on track to achieve the national coverage of 95% for postnatal care by 2020 (FMOH, 2015a).

Evidence showed that PNC services utilization is influenced by factors such as; maternal age, educational level of the women, occupational status of women and husbands, place of delivery, mode of delivery, the number of pregnancies and awareness about PNC services (Workineh and Hailu, 2014, Paudel et al., 2014, Khanal et al., 2014). However, factors influencing PNC services utilization vary from place to place in relation to culture and socioeconomic status of given society and there is un balanced utilization of post natal care services across all Ethiopian regions . In addition, there is limited information on postnatal care service utilization among mothers in light of WHO recommend subsequent visits in study area.Therefore, this study aimed to assess postnatal care service utilization and associated factors among women who gave birth in the last 12 months prior to the study in the specific study area.

1.3. Significance of the Study

The findings of this study elucidated the determinant factors of postnatal care service utilization in the community to Damboya, Kambata tembaro zone Health Department, Southern Nations Nationalities and Peoples Region (SNNPR) Health Bureau, Federal Ministry of Health (FMOH) and different organizations working in the area of Maternal and Child Health. Hence, along with other research findings, it would contribute in designing effective plans to alleviate determinant factors of postnatal care utilization. It could also enable different stakeholders to realize the factors, which deter the utilization of postnatal care among childbearing women in the population and give necessary support in the improvement of maternal health through proper utilization of postnatal care services. Besides, the findings of the research would help political leaders, policy makers and higher experts in making right decisions for promotion of postnatal care utilization. Finally; it provides baseline evidence for researchers & pave the way for further studies on postnatal care service utilization.

1.4. Objectives

1.4.1. General objective

To assess the level of postnatal care service utilization and associated factors among mothers who gave birth in the last one year in Damboya District, Kambata tembaro Zone, Southern Ethiopia, 2019/2020.

1.4.2. Specific objectives

To determine level of postnatal care service utilization among mothers who gave birth in the last one year.

To identify the factors associated with postnatal care service utilization among mothers who gave birth in the last one year.

2. LITERATURE REVIEW

2.1. Postnatal service utilization

Globally trend of postnatal service utilization was lower as compared to other maternal health services which accounts for less than half of women receive a postnatal care visit within 2 days of childbirth (WHO, 2013). This was greatly worse in the less developed country; PNC service w as utilized by only one third of those mothers whose childbirth took place at health facility. Nevertheless, it also further diminished for those mothers with home delivery for example in most of sub-Saharan African countries less than one third of them had PNC within 41 days after delivery (Wang et al., 2011).

Different small size specific area recent studies show quite different PNC service utilization patterns. Study in Dembecha area in amhara region revealed that more than one third of the mothers had received postnatal care (Hordofa et al., 2015)and another study in Addis Ababa area showed that two third of the mothers had service utilization for postnatal care (Senait et al., 2016). Study which was conducted in Jabitena district of Amhara region and in Abi-AdiTigray revealed small prevalence of PNC service utilization 20% and 12% (Workineh and Hailu, 2014, Alemayeh et al., 2014) respectively. Similarly this service utilization in SNNPR look like very low with currently only 16.9% of postpartum mothers received PNC service but came to this after having little improvement from around 10% in 2000(CSA and ICF, 2016). According to study which was conducted in SNNPR in Sidama zone around 37% of postpartum mothers were received PNC service (Regassa, 2011) which was almost closer result from Asella town which was 35% PNC service utilization (Aman et al., 2018) . Nevertheless, study from Hadiya zone Lemo woreda reached PNC service utilization rate above 50% which was conducted in 2015 (Belachew et al., 2016).

2.2. Factors Associated with Utilization of Postnatal Care Services

2.2.1. Socio demographic factors

This category of factors includes age of the mother, marital status, family size of the respondents and residence were among the factors that influence postnatal care utilization.

Maternal Age: Maternal age during the childbirth is a potential factor that can change the postnatal care utilization. Since the tendency of any service, utilization across the age is not expected to be similar for different reason. Study conducted in India ,women who were first pregnant in their normal age (20–34 years) were 1.554 times (95% CI:1.020-2.369) more like(P= 0.03) to use the PNC service than the women who were got their first pregnancy in teenage or 35 years and more (Paudel et al., 2014) . In the study done in malawi women, the odds of utilizing PNC services was increased by 27% in the 20 to 24 age group; 35% in the 25 to 29 age group; 75% in the 30 to 35 age group and by 86% among women aged 36 years and above, relative to women aged less than 20 years (Khaki and Sithole, 2019) .

Marital status: Marital status is another socio demographic factor that was found to influence postnatal care utilization according to different literature. Those mothers who are in marriage will be expected more likely to utilize postnatal care as they are more recognized by the community to give childbirth and able to gate support from family or husband as compared single and divorced. Cross-sectional study in debrebirhan suggest that single mother was 0.06 times less likely to use PNC service than a married one [adjusted odds ratio (AOR) = 0.06, 95% CI (0.01, 0.45)] (Banchalem et al., 2018). Contrary to this, study from Gondar Ethiopia revealed that association between marital status and PNC service utilization lacks statistical significance as multivariate analysis show (Tesfahun et al., 2014)

Family size: Family size can determine the culture of postnatal service utilization as the size of the family increase it is less likely to have PNC due to resource depletion with the household. The study in India revealed that the women who were from joint family were 1.54 times (95% CI: 1.247–2.710) more likely (P= 0.03) to use the service than the women from

nuclear family. Similarly mothers who were from large family were 2.017 times (95% CI: 1.089–3.739) more likely (P = 0.02) to use the services than mother who were from small family (Paudel et al., 2014). However, this is not supported by the study conducted in Dembecha District, Northwest Ethiopia as it lacks statistical significance in multivariate analysis (Hordofa et al., 2015).

Residence: Residence can greatly affects PNC service utilization because health facilities are not evenly distributed a across the world as it varies from developed to developing world and even there is a great variation from urban to rural. A study which was conducted in Gondar zuria district, in Ethiopia support these with statistical significance as those from urban residence had 2.7 times more likely to utilize PNC as compared to rural (AOR= 2.68, 95 CI (1.45–4.98)(Tesfahun et al., 2014) . Also another community based cross sectional study conducted in Loma district of south west Ethiopia , those women who resided in urban setup were nearly four times (AOR=3.7; 95% CI: 1.1, 13.2) more likely to attend postnatal care services compared to those women's who resided in rural community (Yarinbab and Tona, 2018). However, similar study from Ethiopia (Dembecha District) did not show statistical significance in postnatal service utilization across urban rural residence (Hordofa et al., 2015).

2.2.2. Socioeconomic factors

Socioeconomic factors are another group of factors that play in postnatal service utilization. These factors include educational status, occupation and economic status (income).

Educational status: In any service utilization including postnatal care, those who are educated are better than those who are not educated. This was evidenced by a study from Nepal which was based on demographic and health survey revealing that those educated mothers were 2.3 times higher probability of postnatal service utilization than mothers without education OR = 2.257, 95% CI (1.193-4.267(Khanal et al., 2014) . In contrast, study in Nigeria came up with mothers with educational background had less likely to lack postnatal service than those mothers without education (AOR=0.46, 95% CI (0.35-0.59)) (Somefun and Ibisomi, 2016). Similar finding were revealed by cross sectional studies conducted in Ethiopia; those mothers with formal education were two times more likely to

have postnatal service than motherswithout formal education (OR = 2.122 95% CI (1.372, 3.281)). According to study from dembecha (Hordofa et al., 2015): another study in Jabitena revealed higher probability of PNC service utilization by those mothers with secondary school (AOR=l 2.69, 95% CI(1.45,5.97)) and higher institution(AOR=4.16, 95% CI(2.48,8.71)) than illiterate mothers (Workineh and Hailu, 2014). Cross sectional studies in lemo woreda hadiya zone revealed that fathers' education also had positive effect on postnatal care, whereby mothers' who had partners with higher education were more likely to attend postnatal care (AOR 1.736; 95% CI (1.099-2.742) (Belachew et al., 2016). Another Cross sectional study done in Malawi revealed that woman whose partner had obtained at least primary education was 16% [AOR: 1.16; 95% CI: 0.87, 1.53] and secondary school qualification or tertiary education was 13% [A OR: 1.13; 9% CI: 0.82, 1.55] more likely to utilize PNC services than a woman whose husband had no education (Khaki and Sithole, 2019) .

Occupation: Occupation is considered as one of the socioeconomic factors that determines postnatal service utilization. There is a great discrepancy between those mothers employed and not employed in receiving postnatal care. Since employed mothers have advanced economic and decision making potential than unemployed mothers, they are better in PNC service utilization. There is evidence from study in Uganda as occupation of the mother had significant influence in PNC service utilization(ANNET, 2004) and those mothers with formal unemployed mothers (AOR=3.88, 95% CI (1.08–13.93), p-value= 0.038) (Izudi and Amongin, 2015); but lacks statistical significance in Indian and Ethiopia studies (Khanal et al., 2014, Belachew et al., 2016). Community based study conducted in loma district in south west Ethiopia suggest that mothers who were housewives were less likely to attend postnatal care services as compared to those who were merchants because those who stay in home less information than merchants (Yarinbab and Tona, 2018) . But, it is interesting to note that the study in India showed that the women whose husband perform the farming or labor work were 1.84 times (95% CI: 1.247–2.710, P= 0.002) more likely to use the service than those who were government or private officials or business person (Paudel et al., 2014). According to study from Asella town Ethiopia those with self (AOR=6.433, 95 CI [1.72-24.03]) and

private (AOR=2.202, 95% CI [1.34-3.60]) employed husband had increased probability of having PNC service as compared to those with unemployed husband (Aman et al., 2018).

Economic status/ Income: Economic status is a socioeconomic factor which directly determined by the income of individuals. In most case any health services utilization including PNC are dependent economic or income status of clients. This is due to service utilization needs transportation and service fee, which are directly dependent on economic or income of the individuals. In Nepal those mothers with middle (AOR=1.452, 95% CI (1.094-1.928)) and rich/upper (AOR=1.794, 95% CI (1.103-2.917)) wealth class were high likelihood of PNC service utilization compared to poor class (Khanal et al., 2014)and Indian study (6.70, OR=2.08, 95% CI (1.18–3.65) & p-value=0.01) (Paudel et al., 2014) . Again in Indonesia financial issue was among the major determinants for PNC service utilization according to one qualitative study which was carried out there (Titaley et al., 2010). Those mothers with average family income ranging between500 to 1100 Birr were less likely to receive postnatal care as compared to those with above 1100 Birr,according to study from Hosanna area of Hadiya ,Ethiopia; which intern lacks statistical significance in other studies in Lemo woreda of Hadiya zone (Belachew et al., 2016) and Gondar (Abuhay, 2008). Contradicting result came from another study conducted in Asella town of Oromia region as family income may not increase service utilization after certain point as evidenced by those with income in rage of 1501-2500ETB were almost two times higher probability of receiving PNC service compared to monthly income above 2500 ETB (AOR=1.853, 95% CI [1.04-3.29]) (Aman et al., 2018).

2.2.3. Obstetrics and *related* factors

Obstetrics factors includes Age at first pregnancy, parity, birth space, nature of the pregnancy weather planned or not and previous obstetrics complications. These factors have crucial role in PNC service utilization, which can be directly or indirectly.

Age at first pregnancy: community based cross sectional study in wolaita zone SNNPR and Sheba shembo woreda in jimma zone, Ethiopia showed that young mothers more likely utilize postnatal care service than older one. This can be justified younger mothers are more likely to have greater exposure and more accesso education (Wolde et al., 2017, Fantaye et

al., 2018). Contrary to this cross sectional study conducted in Nepal and Ethiopia (Dembecha and Gondar zuria District) revealed that, maternal age did not have significant association with postnatal care utilization (Tesfahun et al., 2014, Khanal et al., 2014, Hordofa et al., 2015) .

Parity: Parity do have a significant role in determining PNC service utilization. This was evidenced by community based study from northern shoa, Ethiopia ,mothers having one child (primiparous) were 4.5 more likely to have full postnatal care [AOR= 2.5 95% CI 1.4 – 14.2] than multiparous women (Akibu et al., 2018). However, institutional based study in Addis Ababa revealed that multipara mothers with history of PNC for previous birth were 2.8 times more likely to receive postnatal care as compared to primipara mothers. Again those multipara without PNC history previously had less likely received PNC compared to primipara (AOR=2.8, 95% CI (1.36-5.8) & AOR=0.43, 95% CI (0.200.92) (Senait et al., 2016, Belachew et al., 2016) respectively. Another finding from across sectional study in Amhara region Jabitena district said that those mothers with four and above children had higher rate of postnatal service utilization compared to mothers with single child (AOR=3.68, 95% CI (0.04,0.8)) (Workineh and Hailu, 2014). Contradicting to these studies conducted in India (Paudel et al., 2014) Nigeria (Somefun and Ibisomi, 2016), Gondar (Abuhay, 2008),Dembecha (Hordofa et al., 2015),Asella (Aman et al., 2018), Lemo (Belachew et al., 2016), Hossana (Dutamo et al., 2015) came up with lack of statistical significance of parity.

Pregnancy plan: The nature of pregnancy is another obstetrics related factors, which is to mean weather the pregnancy is planned or unplanned, supported or unsupported, wanted or unwanted. These pregnancy-associated conditions are directly influence maternal service utilization behavior. It is obvious that those with wanted, planned and supported pregnancy are better chance to have PNC service. This was evidenced by the study done in debre tabour amhara region; the odds of having postnatal care visit for those women whose pregnancy were planned and supported were 3.9 times more likely to have PNC visit than those women whose pregnancy were unplanned and unsupported (AOR= 3.96,95%CI:1.72–9.01)(Wudineh et al., 2018) . However, study in Addis Ababa and Hossana revealed that there were no statistical significance relations between the nature of pregnancy and PNC service utilization(Senait et al., 2016, Dutamo et al., 2015) .

Obstetric complication: Previous obstetrics complication is among the major obstetrics factors that a re expected to matter the maternal health service utilization. This is because there is a difference in perception of pregnancy and childbirth related complications among those who suffered during their previous childbirth and those who had no such experience. This makes those with previous obstetric complication are more likely to utilize PNC service compared to those not suffered such complication. Study in India came up with result of that those mother suffering from neonatal death previously were found to 7.5 times better PNC service utilization compared to whose neonate were survived (5.345, OR=7.51, 95% CI (1.01–55.78), p-value= 0.021) (Paudel et al., 2014). Also community based study conducted on postnatal care utilization and associated factor in debremarkos , north west Ethiopia revealed that those mothers who faced birth related complication while giving birth were 2.58 times more likely to get postnatal care services utilization than mothers who did not face complication while giving birth (AOR: 2.58, 95% CI: 1.56, 4.28) (Miteku et al., 2016). But, study done in debre tabour town of Ethiopia revealed that mothers who gave birth alive neonate were 5.7 times more likely to get postnatal care services than mothers who gave still birth (AOR =5.7 95% CI: 1.53–21.21). Those mothers who faced birth related complication while giving birth were 2.58 times more likely to get postnatal care services utilization than mothers who did not face complication while giving birth (AOR: 2.58, 95% CI: 1.56, 4.28) (Wudineh et al., 2018) .

Mode of deliver: Utilization of postnatal care services was siginficantly influenced by mode of delivery. Cross sectional study done in debre markos ,Ethiopia came up with mothers who delivered by cesarean section were 4.8 times more likely to get postnatal care services than mothers who delivered by spontaneous vaginal delivery (AOR: 4.82, 95% CI: 1.86, 12.54 (Miteku et al., 2016). However, in study done in Jabitena district of Amhara region, those who suffered from instrumental delivery were less likely receive PNC compared to mothers without such exposure previously (Workineh and Hailu, 2014). And another study in Gondar Ethiopia those mother with vaginal delivery three times higher PNC service utilizers compared to mothers with caesarean section which was evidenced by (AOR=3.10, 95% CI(1.36,6.86) (Abuhay, 2008).

Experience of ANC: Among the obstetrics and health related factors likes other maternal health services (ANC and delivery) have major influence on PNC service utilization. One thing that mothers who accessed these services will have also the access to PNC and better awareness regarding PNC; as a result, they will tend use PNC service. On the other hand which is directly dependent on the quality of those maternal service received. These fact was evidenced by a study from Nepal in that both ANC and delivery service utilization greatly improved PNC service utilization (AOR=3.624, 95% CI (2.343-5.604 (Khanal et al., 2014). In the same way in Ethiopia ANC service utilization was associated with four times higher rate of PNC service utilization than mothers absent from ANC according to evidence from Dembecha district of north west Ethiopia (AOR=4.141, 95% CI (2.451, 6.995)) (Hordofa et al., 2015).

Previous experience of PNC: The other major factors predicting postnatal care service utilization were previous history of postnatal care utilization. Community based study on post natal care utilization in Addis Ababa came up with those women who had gave birth before and had PNC were three times more likely to have PNC currently than those women who gave birth only once [AOR=2.8, 95% CI (1.36-5.8)] (Senait et al., 2016). Similar study done in Aseko district of Arsi zone showed that mothers with experience of early postnatal care utilization for previous child were 4.2 times more likely to utilize early postnatal care than mothers who had no experience. This strong positive association can be attributed to the fact that women who had PNC in health institution have greater opportunity to get health education; related to PNC services at the time of visit and thus get access to learn about the types, benefits and availabilities of PNC services during their stay in the health institutions (Teklehaymanot et al., 2017).

Place of deliver: The other major factor predicting postnatal care service utilization was place of delivery. Mothers who delivered their last baby in health institution does not have equal chance of utilizing PNC services when compared with those who delivered at home. Study done at Gondar zuria woreda and jabitina district of amhara region, having institutional delivery had also increased PNC service utilization eight times (AOR: 3.6, 95%CI: [1.79, 2.32]) and 4 times compared to home delivery (Workineh and Hailu, 2014, Tesfahun et al., 2014) respectively. Also, in community based cross sectional

study done in debremarkos ,mothers who gave birth to their latest child at health institution were 1.68 times (AOR:1.68,95%CI:1.01,2.79) more likely to get postnatal care service utilization when compared with those mothers who gave birth to their latest child at home (Miteku et al., 2016).

Decision making power: Postnatal care service utilization also influenced with decision-making power of mothers. Community based cross sectional study in Aseko district Arsi zone and Jabitina district of amhara region showed that mothers who have been able to decide on health care service by themselves were 4.1 times more likely to attend early postnatal care as compared with mothers whose health care service was decided by other people. Other community based cross sectional study done knowledge , perception and utilization of post natal utilization in Gondar zuria in amhara region showed that mothers who can make a decision on maternal health services were more likely to use the service than those who cannot make a decision (AOR 1. 86; 95 % CI 1.31–2.65) (Tesfahun et al., 2014). Interestingly, women whose health care decision depended on them only were less likely to utilize PNC services compared to women whose health decision depended on their husband, partner or other relations. Similar study done in Malawi showed that odds of using PNC services were increased by 8% [AOR: 1.08; 95% CI: 0.87, 1.35] among women whose health care decision depended on them and their partners. also increased by 6% [AOR: 1.06; 95% CI: 0.84, 1.34] among women whose health care decision depended on their partners or other people onlycompared to women whose health care decision depended exclusively on themselves (Khaki and Sithole, 2019) .

Knowledge of mothers on danger sign of postpartum: The probability of postnatal care service utilization was highly associated with level of knowledge of postpartum obstetric danger signs. Cross sectional study in Jabitina in Amhara suggest that mothers who had knowledge of at least one postpartum obstetric danger sign were about 4 times (AOR: 3.7, 95%CI: [1.09, 12.7]) more likely to utilize postnatal care service than those who failed to mention any of the obstetric danger signs(Workineh and Hailu, 2014). And other community based cross sectional study in done debremarkos showed that mothers who were aware of maternal complications that can occur during postnatal period

were 2.7 times more likely to use postnatal care services than mothers who were not aware(AOR:2.72,95%CI:1.71,4.34) (Miteku et al., 2016).

2.2.4. Health service related factor

Distance from health facility: Distance from the health facility was also associated with lower utilization of postnatal care. Women who lived in distance of 1 to 2 hours to access the health facility had 69.4% less likely to utilize postnatal care as compared to those who lived in an area with a walking distance less than one hour to the health facility (AOR=.0.306, 95% CI: 0.147, 0.637 (Abosse et al., 2015) . Study from dembecha showed that, distance of residence from the health facility shown great influence on PNC service utilization as those residence within 10km had almost four times higher chance service utilization as compared to those living far more than 10km (AOR= 3.972, 95 CI (2.627,6.008) (Hordofa et al., 2015).

Information provided about PNC by health professional: Community based cross sectional study on early postnatal care utilization and associated factor in Aseko district,Arsi zone, showed that mothers who got information about early postnatal care services from health profession were 5 times more likely to utilize early postnatal care than mothers who didn't get information (Teklehaymanot et al.,2017). Similarly,study done in jabitina, northern Ethiopia found that those women who had got information about postnatal care services utilizes PNC and were more likely to attend a postnatal care service compared to those women who had got no information (Workineh and Hailu, 2014). In the study conducted in debre birhan ,Women who had awareness/knowledge of the postnatal services did utilize the PNC service two times higher than those women who were not adequately informed about the PNC service (Banchalem et al., 2018) . Other community based cross sectional study done in Malawi and Abi-Adi town of tigiria Ethiopia, mothers who delivered at health institution didnot received counseling to come back for postnatal care follow up were 88% less likely utilizes postnatal care as compare to those who provides counseling to come back for postnatal care (Khaki and Sithole, 2019, Alemayeh et al., 2014) . According to the study conducted in addis abeba, those women who were counseled and given appointment for postnatal care utilization had over thirty two times [(AOR=32.6, 95% CI (14.7-72.3)] more likely to utilize postnatal care than those women who didn't informed by the health care

providers before discharge. The odds of having postnatal care visit for those women who were counseled about any of danger signs by the health care providers before discharge were two times more likely to have PNC visit than their counterparts [AOR (1.95, 95% CI (1.053.64) (Senait et al., 2016).

2.3. Conceptual Frame Work

The study mainly focused on the three factors, which hinder or improve the utilization of postnatal care, these are the distal factors, intermediate and the proximal factors, the content in each category

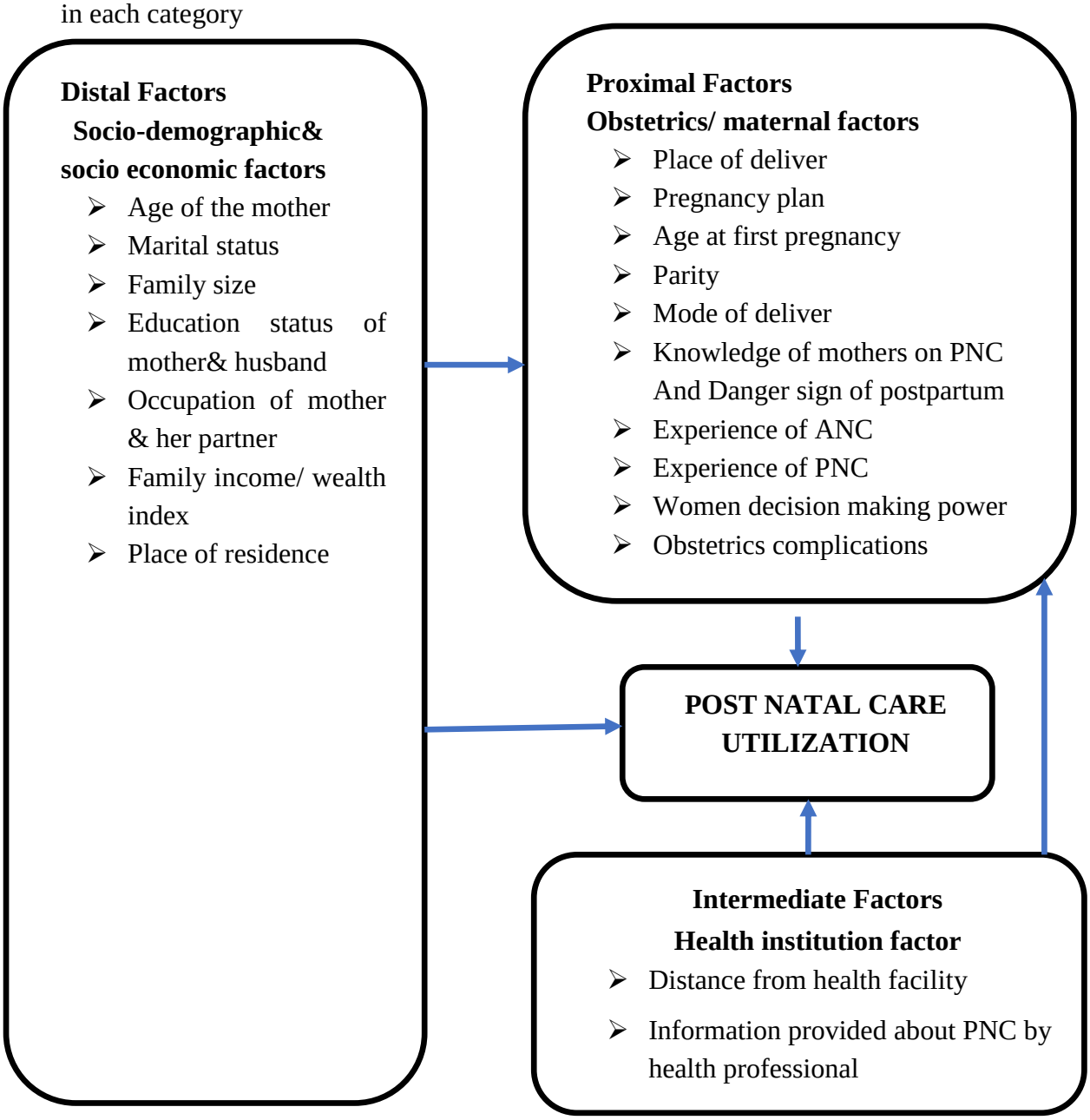


Figure 1: Conceptual framework developed from review of different literatures

3. METHODS AND MATERIALS

3.1. Study Area and Period.

The study were conducted in damboya District, which is found in SNNPR and located 12 km far from Durame town (Capital of Kambata Tembaro Zone), 131 km far from Hawassa capital of SNNPR and 362 km far from Addis Ababa capital of Ethiopia. The District is administratively structured in to 20 kebele (17 Rural and 3 Urban) .There are four health centers, 20 health posts providing postnatal care services in the district. The total population were 113,901 (projected from 2007 Census) in the year 2019 of which, 55812 (49%) were males and 58089 (51%) were females. Out of 58089 females the estimated number of women of childbearing age (15-49) year were 3837. Out of reproductive age women, 3408 gave birth in the last one year. This study was conducted from March 01-20/03/2020.

3.2. Study Design.

Quantitative community based cross sectional study design was used.

3.3. Source Population

All mothers in childbearing age who gave birth in the last one year in Damboya district preceding the survey.

3.4. Study Population.

All mothers, in childbearing age who gave birth in the last one year from the selected kebele of Damboya district, irrespective of place and outcome of delivery preceding the survey.

3.5. Eligibility Criteria

3.5.1. Inclusion criteria

Mothers who gave birth in the last one-year and living in Damboya District for at least six month prior to the study and those who were Volunteer to participate in the study were included in the study.

3.5.2. Exclusion criteria

Mothers who were unable to participate in this study due to illness and other causes were excluded.

3.6. Sample Size Determination

To determine the sample size for this study, outcome variables and various factors significantly associated with the outcome variables were considered. Accordingly, for the first and second objective, the sample size was calculated and the larger sample size was used for this study.

3.6.1. Sample Size Determination for First -Specific Objective

Sample size was determined using single population proportion formula by having the following assumption:

P= Assuming the prevalence of post-natal care utilization 51.4% (Belachew et al., 2016)

95% confidence level 5% precision and 10% non-response

Where

n =the desirable sample size

Z ($a/_2$) =the critical value at 95% level of significance (1.96)

P= Proportion of mothers with PNC utilization

d= Precision of measurement (acceptable marginal error)

p= 0.514, d=0.05 n=384. However, the sources of the study subject were below 10,000; sample sizewas calculated by using correction formula.

Therefore,

By the above assumptions, the sample size (n) was 380 and considering design effect to be 1.5 and 10% for non-response rate, the final sample size(n) for first specific objective was 380×1.5+(10%×570)= 627

3.6.2. Sample size determination for second specific objective

Sample size calculated by double population to identify factors associated with PNC use via Stat Calc application of Epi. Info version7with input of 95% confidence interval, 80% power and exposed to unexposed ratio 1:1. Adjusted odds ratio and expected prevalence of exposure among non-users were taken from studies previously conducted in the country(Fantaye et al., 2018), (Miteku et al., 2016) and (Tesfahun et al., 2014) . Some of the exposure variables used to compute sample size were Obstetrics complications during g pregnancy (= 402) Place of

delivery (=159) and ANC Visit (57). However, sample size calculated using single population formula is sufficient source to identify associated factors with PNC services utilization.

Table 1: Sample size determination for level and factors associated factors among mothers who gave birth in the last one year in damboya District, Kembata Tembaro, Southern Ethiopia, 2019/2020.

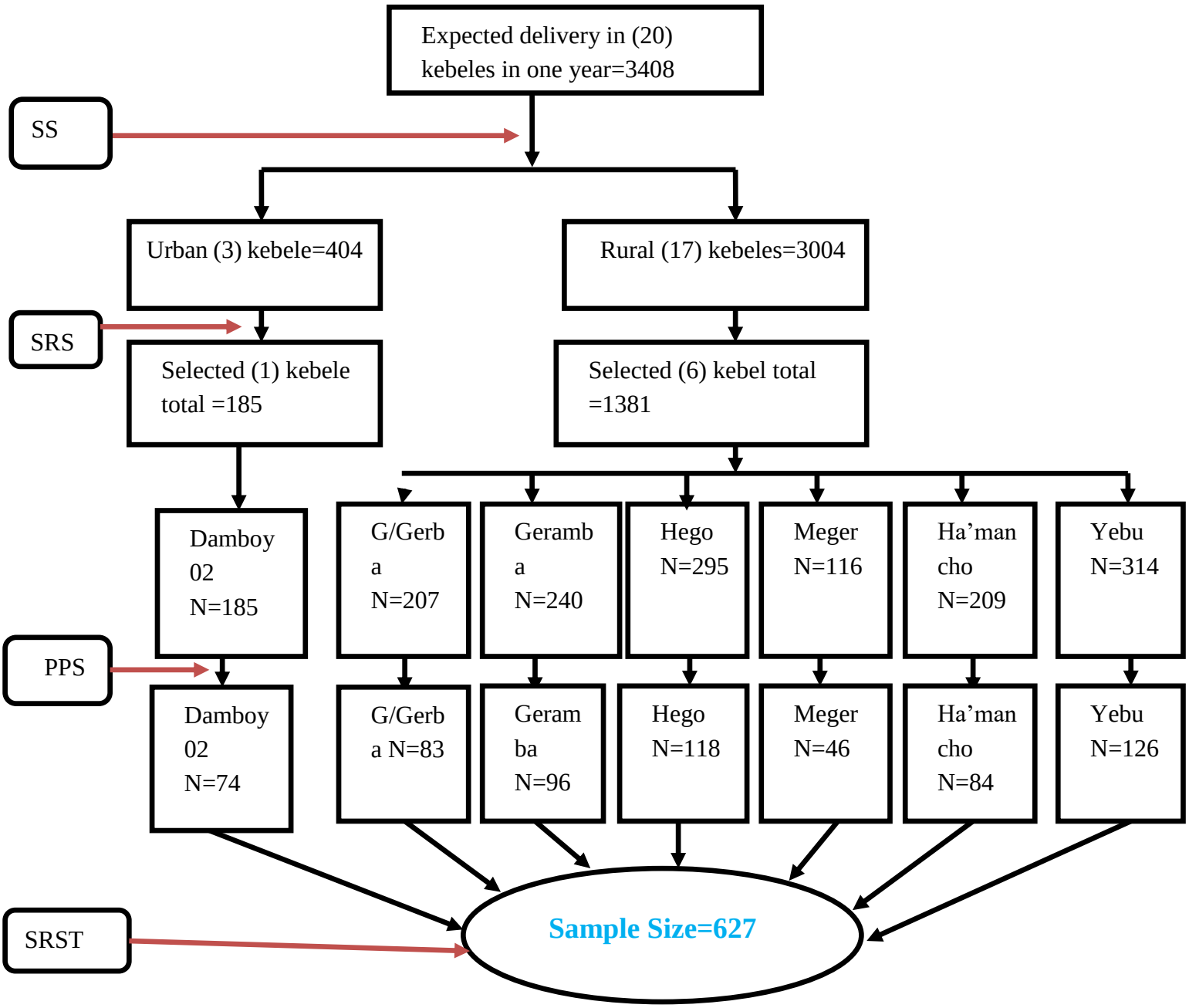
Factors	%of Outcome in un exposed	%of Outcome in exposed	Adjusted Odds ratio	Sample size of unexposed	Sample size ofexposed	Final sample size	Reference
Obstetrics complications during pregnancy	57	74	9.94	134	134	268	(Fantaye et al., 2018)
Placeof deliver	18	45	1.68	53	53	106	(Miteku et al., 2016)
ANC Visit	95	50	15.4	19	19	38	(Tesfahun et al., 2014)

3.7. Sampling Procedure and Sampling Technique

Stratified sampling techniques used to select the study units. First, all the Kebeles in the district, were stratified in to urban and rural. The woreda has 20 kebeles (17 rural and 3 urban). Then, 1 out of 3 urban and 6 out of 17 rural kebeles, were selected by simple random sampling method from each stratum. Next, to this, the sample sizewas assigned proportionally for each stratum based on their population size. Since every family folder have monthly updated house holds information including vital events, their unique households identity number and family folder registration obtained in health post from health extension worker were used for identification of eligible households in selected Kebeles. The eligble woman who gave birth in selected kebele were; Damboya 02=185, Geyota Gerba =207,Yebu=314,hama'ancho=209 Hego=295,Megere=116, Geramba=240.

The sampling frame was formed based on their households' identity number for each Kebele. Finally, a woman who gave birth within one-year period in the households were selected by using a systematic random sampling technique to access 627 women's from eligible households to obtain information for the study. If there was more than one mother within the same household, lottery methods were used to select the mother to be included.

The sample size was proportionallyallocated for each sampled kebeles as follows:



SS: Stratified Sample, PPS: Population proportion to size, SRS: Simple random sampling techniques, SRST: Systematic Random sample techniques,

Figure 2: Schematic presentation of sampling procedure for the study on level of postnatal care service utilization and associated factors among mothers who gave birth in the last one year in damboya district, kembata tembaro zone, southern Ethiopia.

3.8. Data Collection

3.8.1. Data collection instrument

Data were collected by using a semi-structured questionnaire; with both open and closed ended questions that were adapted from different literatures (Senait et al., 2016, NJOKA, 2015, Girma, 2017, Abuhay, 2008, Abebo and Tesfaye, 2018). The questionnaire comprises socioeconomic and demographic, obstetrictics and health facility related factors. The questionnaires were prepared in English then translated into Amharic and Kambatissa /local language/ by language expert and back translated to English by another local language expert to ensure consistency.

3.8.2. Data collectors

Seven diploma nurses and two health officers who are fluent in the local language recruited as data collectors and supervisors as respectively.

3.8.3. Data collection procedure

The final selected mothers in each kebelewere given for data collectors and supervisors assigned for Kebeles. On the first visit, data collectors interviewed study participants if they are available, otherwise, they arranged the time convenient to get and interviewed them. All the women that have their last child born within duration of last one year, were interviewed in their home. During data collection repeated visit were needed to get the respondents those who were not available at first visit.

3.9. Variables

3.9.1. Dependent variable

Postnatal care service utilization

3.9.2. Independent variable

Socioeconomic-demographic factors: - age of the mother, marital status, family size, educational status and economic status (income) etc.

Obstetrics factors: Knowledge of mothers on PNC, Danger sign of postpartum, Experience of ANC& PNC, Women decision making power, Place of deliver, Pregnancy plan, Parity, Mode of deliver and Obstetrics complication etc.

Health service related factor: Distance from health facility and Information provided about PNC by health professional.

3.10. Operational Definitions

Postnatal period: The first six weeks starting immediately after the time of delivery .

Postnatal care: refers to the assistance or care given to mother and baby by health professional or HEW during the postnatal follow up period such as counsel on baby care, support breastfeeding, maternal nutrition, provide contraception service, and immunize the infant.

Utilization of postnatal care: Women who have obtained postnatal care any time during the first six weeks of their last child birth; by skilled health care providers through home visits or by going to nearby health facility were considered to have utilized PNC.

Household income: was the total amount of money earned per month. In rural community, it was measured by calculating the money the household earned through selling cash crops and other source of income in year divided by 12 months.

Antenatal care: is the care given to pregnant women to have safe pregnancy and healthy baby.

Postpartum danger sign awareness/knoweledge: If mother mentions at least one postpartum complication of mother and newborn occur after birth such as vaginal bleeding, fever, Breast disease, offensive Vaginal discharge,etc.… coded 1 (Yes) and if not coded 2 (No) (Workineh and Hailu, 2014, Teklehaymanot et al., 2017, Abebo and Tesfaye, 2018).

Maternal Mortality: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to

or aggravated by the pregnancy or its management but not from accidental or incidental causes.

3.11. Data Quality Control.

To assure the quality of data, structured and pre-tested interviewer administrative questionnaire wereused. The pretest of questionnaires were employed before prior to actual data collection period among 5% (31) of the study sample at randomly selected Kebele at Bonga were conducted. This helps data collectors to made necessary correction before data collection. Seven diploma nurses used to collect data. Two-degree Health officers were assigned to supervise the data collection process. Both the data collectors and supervisors took 2-day intensive training before the actual work about the aim of the study, procedures, data collection techniques, the art of interviewing, ways of collecting the data, and clarificationweregiven. The principal investigator and supervisors did the intensive supervision, and then they checked the data for completeness, accuracy, and consistency throughout the data collection period. Principal investigator did the overall supervision. Finally, double data entries were made by two data clerks and consistency of the entered data were crosschecked by comparing the two separately entered data.

3.12. Data Processing and Analysis

All filled questioners were checked for completeness and consistency, and double data entry was made using the Epidata 3.1 software. Then, the data were exported to the SPSS statistical package version 20 for further analysis. Descriptive summary (Frequency distribution, proportion) were used to summarize the variable. Continuous variables like age and income were first transformed into categorical variables before they were analyzed. First, frequency of all the variables in the questionnaire was determined. Secondly, cross tabulation were done between important variables and their significance was seen Bivariate & multivariable logistic regression was done to assess the association of factors with postnatal care; Variables with a p-value of less than 0.25 in the bivariate analysis were entered into the final model. By calculating odds ratios, their 95% confidence limits and P-value less than or equal to 0.05 were taken as statistically significant. Important variableswere entered and analyzed using multivariable logistic regressions in order to control for confounding

variables. All the assumptions of Regression analysis (model adequacy and multi-co linearity of independent Variables), were checked to be satisfied using appropriate methods.The absence of multi-co-linearity checked by using VIF/tolerance. The model adequacy were checked by using Hosmer and Lemeshow goodness of fit test had P value >0.05. Finally, the results of the study will be presented using graphs and tables.

3.13. Ethical Consideration

Ethical clearance was obtained from Institutional Health research ethical review committee (IHRERC) of Haramaya University College of Health and medical sciences. The permission and agreement consent were obtained from Damboya District health office prior to the study. Then the letter of cooperation was written to each health post from damboya district health office. Informed, Voluntary, Written and signed consent from respondents were also obtained after detail explanations on the main purpose of this survey were given to them. Those who signed written consent only participated in the study and the confidentiality of the respondents were maintained throughout the research process by not recording the name of the participant. For those respondents less than 18 years old the consent were obtained from their parents/Guardians. Cultural norms were respected.

3.14. Dissemination of the Result Findings

First, the study will be presented to the community of Haramaya University on open defense of Public health researches and defense. Then the finding of the study will be submitted to Haramaya University, Damboya health department and NGOs working on maternal and Neonatal health. Finally, it willbe published in local and international journal.

4. RESULT

4.1. Socio-economic and demographic characteristics of respondents

In this study, 619 motherswere interviewed from 627 with a response rate of 98.7%. More than half, 349(56.4%) of the participant were found between the age of 20 to34 years. Regarding to religion, the majority of respondents 475 (76.7%) were Protestant regilion followers. Majority 573 (92.6%) of respondents were married. Kembata was the predominant ethnic group. Around one third, 89 (14.4%) of the respondents were not formal educated followed by primary school education 316(51.1%) and husband who attended college and above were 99 (16.0%). More than three fourth, 482 (77.9%) of the mother were housewifes and 45 (7.30%) were employed. The two third, 416(67.2%) were farmer. Households which had a monthly income of < 500 Ethiopia Birr (ETB) were 228(36.2%) followed by 156 (25.2%) with monthly income of 500-1500 ETB (table 2).

Table 2: Socio-economic and demographic characteristics of the study participants in damboya district, kembata tembaro zone ,southern Ethiopia, 2020(n=619)

Variable Name and Category		Frequency	Percent (%)
Age of mother	<20 years	251	40.5
	20-34 years	349	56.4
	>=35 years	19	3.1
Ethnicity	Kembata	569	91.9
	Tembaro	35	5.7
	Hadiya	13	2.1
	Halaba	2	0.3
Religion	Protestant	475	76.7
	Orthodox	80	12.9
	Muslim	63	10.2
	Others	1	0.2
Marital status	Married	573	92.6
	Single	5	0.8
	Divorced	23	3.7
	Widowed	18	2.9
Residence	Urban	71	11.5
	Rural	548	88.5
Family size	2-4	363	58.6
	>=5	256	41.4
Maternal educational status	No formal education	89	14.4
	Primary school	316	51.1
	Secondary school	148	23.9
	College and Above	66	10.7
Husband educational status	No formal education	58	9.4
	Primary school	295	47.7
	Secondary school	167	27.0
	College and Above	99	16
Maternal occupation status	House wife	482	77.9
	Farmer	4	0.6
	Merchant	70	11.3
	Daily lab our	14	2.3
	Employed	45	7.3
	Others	4	0.6

Husband occupational status	Farmer	416	67.2
	Merchant	84	13.6
	Daily lab our	15	2.4
	Employed	97	15.7
	Others	7	1.1
	2-4	363	58.6
	>=5	256	41.4
Average monthly income (Birr)	< 500 birr	228	36.8
	500-1500	156	25.2
	1501-2500 birr	142	22.9
	>2500 birr	93	15

4.2. Past Obstetric History

The majority 446 (72.1%) were above 18 years of age when they were first pregnant. Among the total respondents, 518 (83.7%) mothers were categorized as Para two or more (multipara). 522(84.3%) of the current pregnancy were planned/ supported. Majority 484(78.2%) of the mothers had antenatal care follow-up during the last pregnancy, while 528(85.3%) of mothers gave their last birth at health institution. Most of respondents 484(78.2%) had delivered through spontaneous vaginal delivery.Majority 535 (86.4%) of respondents aware of at least one danger signs of postpartum. Regarding obstetric complication during the last pregnancy, 110(17.8%) of the mothers experienced at least one complication. The most common obstetric complications faced by mothers after delivery were High grade fever 37(33.6%) followed by Heavy vaginal bleeding 32(29.1%) (Table3).

Table 3: Obstetric characteristics of respondents who gave birth in the last one year in damboya district, kembata tembaro zone, Ethiopia.(n=619)

variables/Characteristics		Frequency	Percent (%)
Age at first pregnancy/delivery	<18 years	173	27.9
	>=18 years	446	72.1
Number of pregnancy	1	101	16.3
	2-4	428	69.1
	>=5	90	14.5
Number of birth	1	101	16.3
	2-4	428	68.9
	>=5	90	14.5
Number of live birth	1	101	16.3
	2-4	406	65.6
	>5	82	13.2
Had stillbirth/neonatal death	Yes	30	4.8
	No	589	95.2
Previous PNC	Yes	202	40.6
	No	295	59.4
Nature of last pregnancy	Planned/supports	522	84.3
	Unplanned/not supported	97	15.7
ANC in recent pregnancy	Yes	484	78.2
	No	135	21.8
Place of ANC visit	Health post	220	35.5
	Health center	417	67.4
	Hospital	144	23.3
Number of ANC visits	One	5	0.8
	Two	73	11.8
	Three	103	16.6
	>= four times	303	48.3
Place of current delivery	Health institution	528	85.3
	Home	91	14.7
Mode of deliver	Spontaneous vaginal delivery	484	78.2
	By episotomy	120	19.4
	Cesarean section	15	2.4
Aware of at least one	Yes	535	86.4

Danger signs during delivery or after delivery	No	84	13.6
Problems faced during /after delivery	Yes	110	17.8
	No	509	82.2
	Breast problem	31	28.2
	High grade fever	37	33.6
	Vaginal bleeding	32	29.1
	Offesive vaginal D	25	22.7
	Sever headache	24	21.8
	Others	4	4.1
Who making decision to use PNC service	Self	371	59.9
	Husband	60	9.7
	Both(jointly)	188	30.4

4.3. Health institutional related factors

From the total respondents, 493 (79.6%) of them had got information/ advice from health profession for PNC check-up and possible postpartum maternal and new-born complications. The majority of respondents 455(73.5%) reach the health facility at walking distance of less than 1 hours.

Table 4: Health institutional related factors of respondents who gave birth in the last one year in damboya district, kembata tembaro zone, ethiopia.(n=619)

Variables		Frequency	Percent (%)
Information/ advice from health profession for PNC	Yes	493	79.6
check up and possible postpartum complication	No	126	20.4
Distance/time took to arrive to the nearest health facility	<1hr	467	75.4
from house on foot(by hr)	1-2 hr	152	24.6

4.4. Utilization of Postnatal Care Service

Of the total respondents, 321 (51.9%) utilized postnatal care service after delivery within six weeks of their last birth. Among PNC users, majority of 266(82.9%) utilized PNC with in the first 24 hours after child birth in which majority of maternal and new born deaths have taken place. More than one-third 91 (28.3%) of mothers attended one time.Most of the mothers 264(82.2%) received physical examination for child and mother followed by child immunization 240(74.8%) services during their postnatal care visit.

About 298 (48.1%) of the study participants did not attended PNC care service with the mainly due to being healthy after delvery 155 (52%) and lack of knowledge about the advantage of postnatal care 114(38.3%) (Figures 3, 4, 5 and 6).

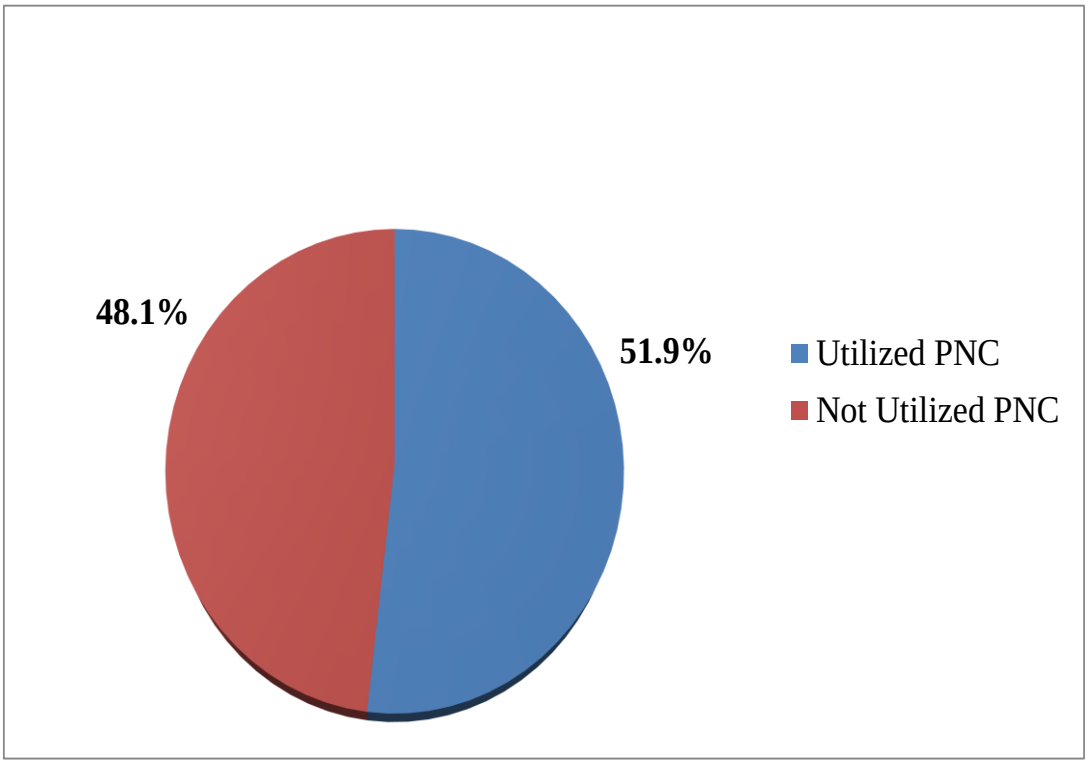


Figure 3: level of Postnatal care service utilization among mothers, who gave birth in the last one year in Damboya district, Kembata tembaro Zone, Southern, Ethiopia (March2020)(n=619).

Table 5: The time mothers attended PNC service after they have given birth in Damboya district, kembata tembaro zone ,southern Ethiopia March 2020(n=321)

Variables		Category	Frequency	Percentage
Time of visit	24hr	Yes	266	82.9
		No	39	17.1
	2-3 days	Yes	209	65.1
		No	112	34.9
	Between7-14 days	Yes	143	44.5
		No	178	55.5
	With in 6 weeks	Yes	155	48.3
		No	166	51.7

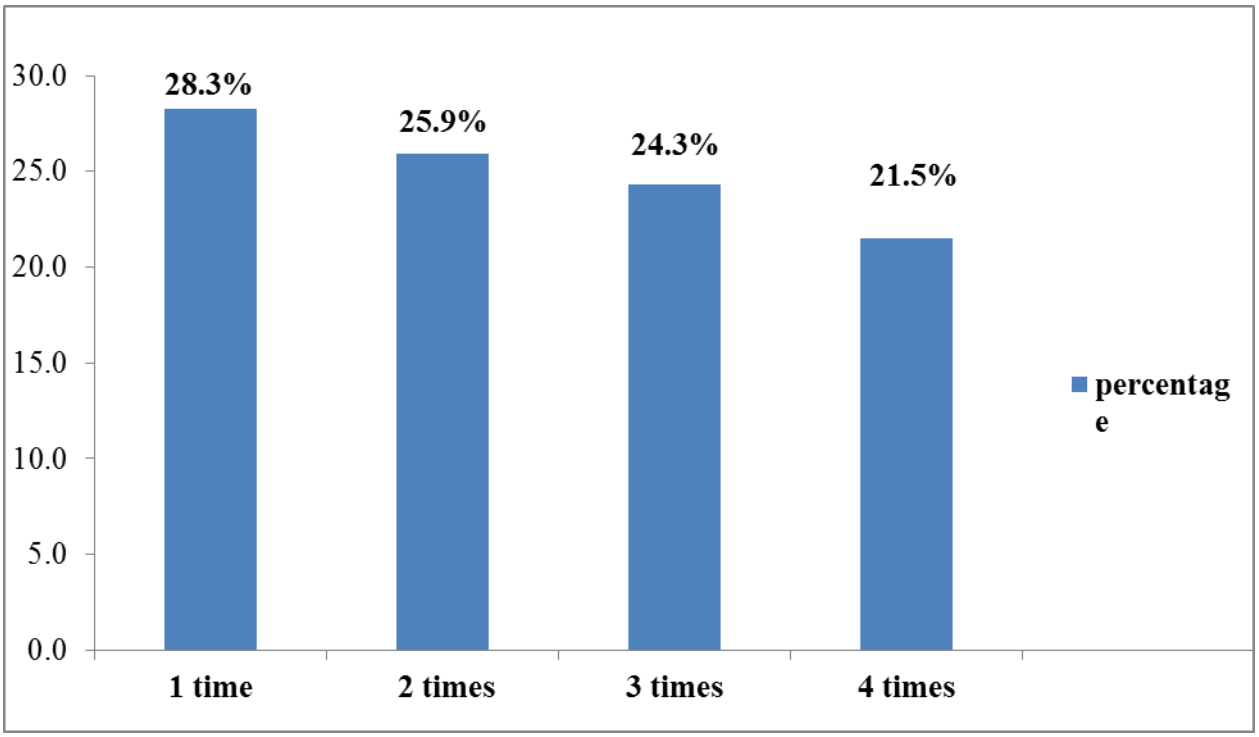


Figure 4: Number of PNC visit follow up for the respondents in Damboya district, Kembata Tembaro Zone, Southern Ethiopia (March 2020) (n=321)

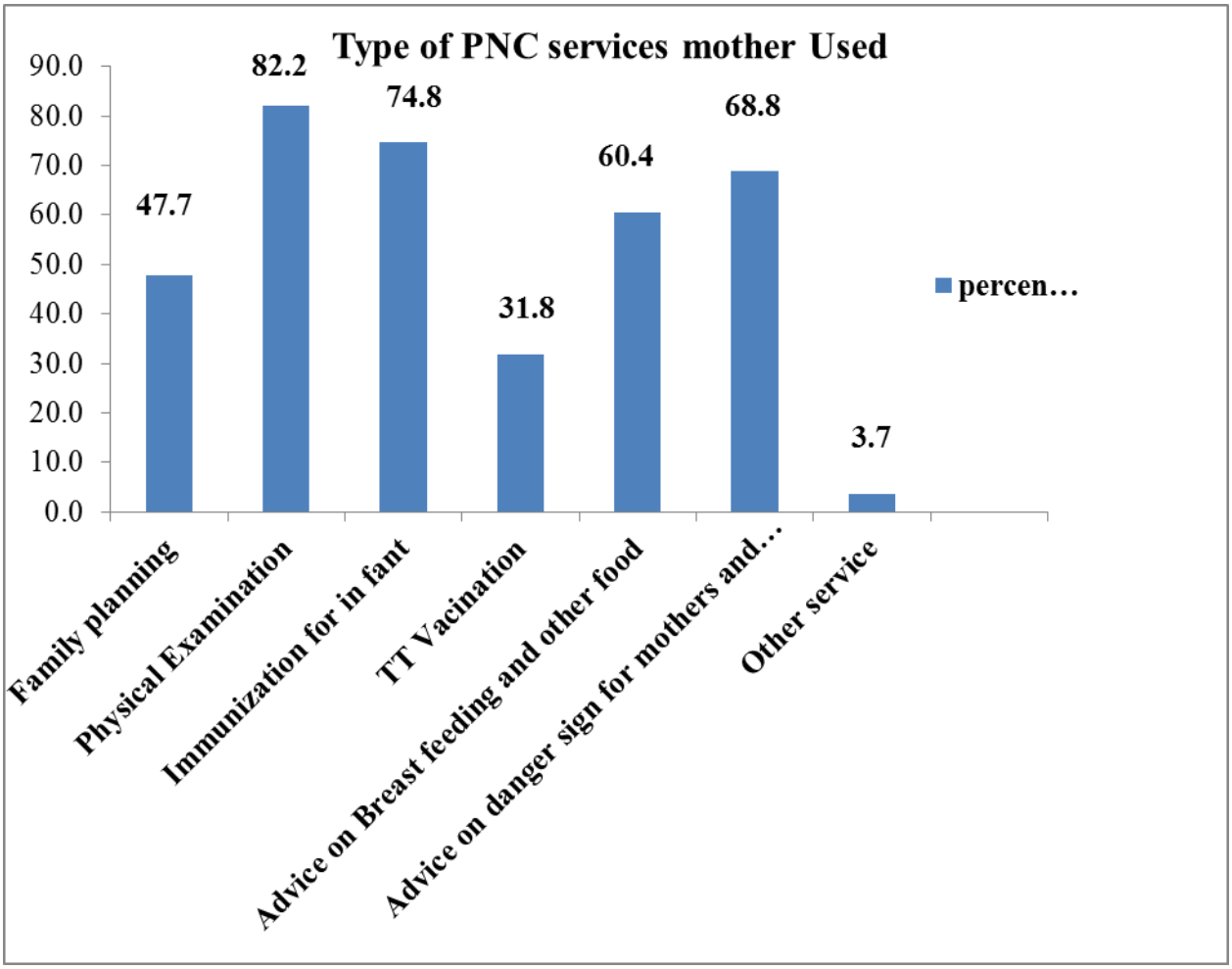


Figure 5: The main services provided to mothers after they have given birth(post natal period) in the last one year in damboya district, kembata tembaro zone, southern EthiopiaMarch 2020(n=321).

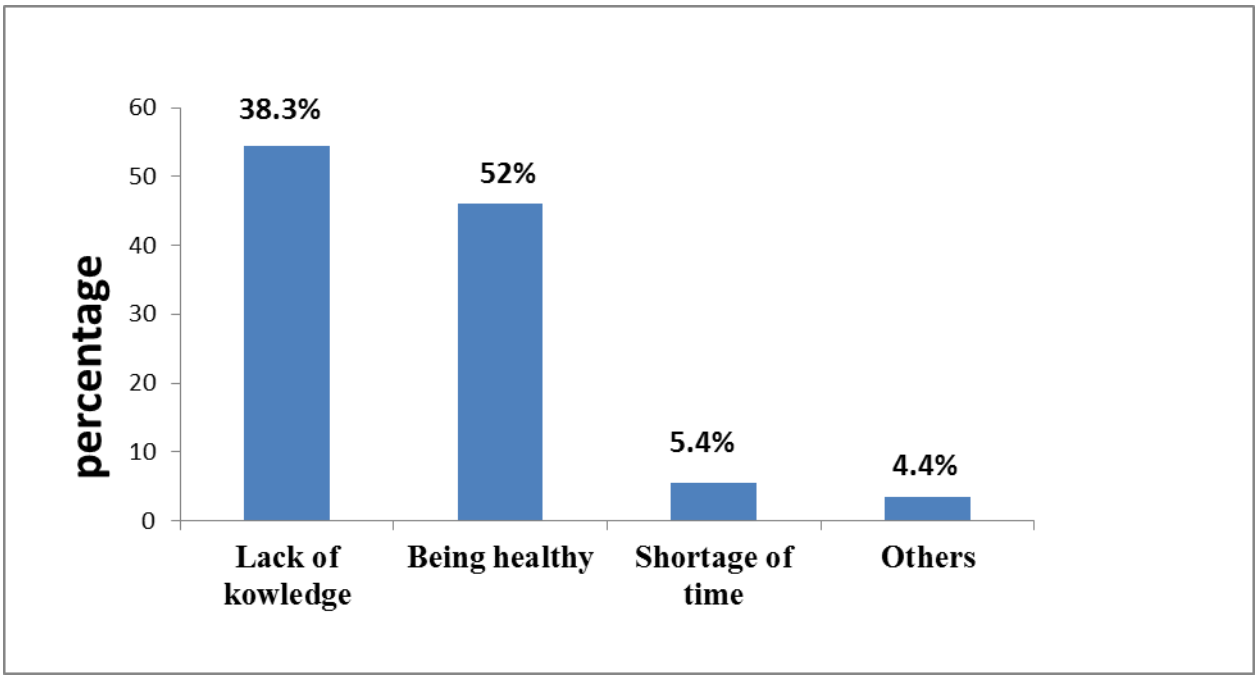


Figure 6: Reasons for not attending postnatal care services given by the study participants at Damboya district, Kambata Tembaro zone, Southern Ethiopa, (March2020)(n=298).

4.5. Factors associated with postnatal care service utilization

To determine the association between postnatal care utilization and explanatory variables, bivariable and multi variable analyses was performed using logistic regression. During bivariate logistic regression analysis, those variables who had shown with P-values of less than 0.25 were entered to multivariable logistic regression. Ten independent variables : educational status of mother, occupation of husband, ANC visit during the last pregnancy, nature of the last pregnancy, place of delivery, age at first pregnancy, parity, knowledge of mother about postpartum danger sign, previous history of PNC, whether or not advised about danger signs by the health care provider and distance to reach health facility had statistical association p-values of 0.25. But, Current age of mother ,marital status of mother, family size,residence,educational status of husband,occupation of mother ,monthly income the family, age of mother during the first pregnancy, obstetrics complication , mode of deliver and decision making power of mother were not associated with PNC service utilization with p- value of 0.25(Table 6). After entered these variables in to the logistic regression the following five variables; educational status of mother, place of delivery, parity, previous history of PNC, counseling on danger signs by the health care provider had showed statistical significant association with PNC utilization.

The odds of using PNC services were nearly 4 times higher [95 % CI: AOR =4.0 (2.06, 7.69)] among mothers had formal education mothers who had no formal education. Women who gave birth at health institution were 3.8 [(95% CI: AOR=3.80(2.03, 7.17)] more likely to attend postnatal care services as compared to women who delivered at home. Primparous mothers were 3.5 times more likely to use postnatal care [95% CI: AOR= 3.5(1.71, 7.17)] than multiparous women. Mothers who had knowledge on postpartum danger sign utilized PNC service 2.7 times [AOR= 2.7, 95% CI 1.53-7.17] more likely than mothers with had no knowledge. Mothers who have information/advice on postnatal care services and counseled about possible complication during postpartum period were nearly 3.4 times [AOR= 3.4, 95% CI (2.00– 5.7)] more likely to utilize the service than theirecounterparts

Table 6: Factors associated with the level of post natal care service utilization among mothers who gave birth in the last one year in Damboya district ,Kembata tembaro zone,Southern Ethiopia, on Bivariable analysis 2020 (n=619).

Variables		PNC utilization		COR(95% C.I)	P-Value
		Yes	No		
		N (%)	N (%)		
Age of respondents(in years)	<20 years	141(56.2)	110(43.8)	1.76(0.68,4.53)	0.096
	20-34	172(49.3)	177(50.7)	1.32(0.95,1.83)	0.24
	>=35	8(42.1)	11(57.9)	1	
Marital Status	Married	300 (52.4)	273(47.6)	4.4(0.48,39.5)	0.98
	Divorced	12(52.2)	11(47.8)	1.00(0.43,2.3)	0.51
	Widowed	8(44.4)	10(55.6)	1.37(0.53,3.53)	0.18
	Single	1(20)	4(80)	1	
Family Size	2-4	192(52.9)	171(47.1)	1.10(0.83,1.53)	0.54
	>=5	129(50.4)	127(49.6)	1	
Residence	Urban	39(54.9)	32(45.1)	1.15(0.70,1.89)	0.58
	Rural	282(51.5)	266(48.5)	1	
Educational status of the mother	Educated	305(57.5)	225(42.5)	6.18(3.50,10.91)*	0.00
	Not educated	16(18)	73(82)	1	
Education of Husband	Educated	297(52.9)	264(47.1)	1.59(0.92,2.75)	0.096
	Not educated	24(41.4)	34(58.6)	1	
Occupation of Mother	Employed	28(60.9)	18(39.1)	1.49(0.80,2.75)	0.26
	Not employed	293(51.1)	280(48.9)	1	
Occupation of Husband	Employed	60(61.2)	38(38.8))	1.57(1.02,2.45)*	0.044
	Not employed	261(50.1))	260(49.9)	1	
Monthly income	<500	116(50.9)	112(49.1)	1	
	500-1500	67(42.9)	89(57.1)	0.76(0.45,1.90)	0.51
	1501-2500	87(61.9)	55(38.7)	1.61(0.96,2.70)	0.05
	>2500	51(54.8)	42(45.2)	1.17(0.72,1.90)	0.12
Age at first pregnancy	< 18 years	98(56.6)	75(43.4)	1.30(0.91,1.86)	0.13
	>=18 years	223(50)	223(50)	1	
Parity	Primipara	70(69.3)	31(30.7)	2.40(1.52,3.80)*	0.00
	Multipara	251(48.5)	267(51.5)	1	
Nature of last pregnancy	Planned	280(53.6)	242(46.4)	1.58(1.02,2.50)*	0.041
	Unplanned	41(42.3)	56(57.7)	1	
Obstetric Complication	Yes	45(46.4)	52(53.6)	1.04(0.69,1.57)	0.84
	No	276(52.9)	246(47.1)	1	
Mode of deliver	Spontaneous	244(50.4)	240(49.6)	1	
	Episotomy	66(55)	54(45)	0.83(0,55,1.24)	0.092
	Cesarean	11(73.3)	4(26.7)	0.37(0.11,1.17)	0.37

	section				
ANC visit of the last pregnancy	Yes	262(54.1)	222(45.9)	1.52(1.03,2.23)*	0.033
	No	59(43.7)	76(56.3)	1	
Place of deliver	Home	25(27.5)	66(72.5)	3,36(2.06,5.50)*	
	Health institution	296(56.1)	232(43.9)	1	0.005
Knowledge of mother on PNC and at least one danger signs of postpartum	Yes	286(53.5)	249(46.5)	1.60(1.09,2.56)*	0.046
	No	35(41.7)	49(58.1)	1	
Previous experience of PNC utilization	Yes	123(60.9)	79(39.1)	1.48(1.03,2.13)*	0.033
	No	151(51.2)	144(48.8)	1	
Decision making power of mother	Self only	193(52)	178(48)	1.01(0.74,1.4)	0.92
	With others	128(51.6)	120(48.4)	1	
Distance /Time taken to reach Health facility	<1 hr	253(54.2)	214(45.8)	1.46(1.01,2.11)*	0.044
	1-2hr	68(44.7)	84(55.3)	1	
Getting information/advice about PNC from health profession	Yes	283(57.4)	210(42.6)	3.12(2.05,4.75)*	0.000
	No	38(30.2)	88(69.8)	1	

*=Significant COR with P-Value<0.25, **COR**= Crude odds ratio, **C.I**= Confidence interval
1= reference value

Table 7: Factors associated with the level of post natal care service utilization among mothers who gave birth in the last one year in Damboya district ,Kembata tembaro zone,Southern Ethiopia, on Multivariable analysis 2020 (n=619).

Variables		PNC utilization		COR(95% C.I)	AOR(95%C.I)
		Yes	No		
		N (%)	N (%)		
Educational status of the mother	Educated	305(57.5)	225(42.5)	6.18(3.50,10.91)*	4.00(2.06,7.69)**
	Not educated	16(18)	73(82)	1	1
Occupation of Husband	Employed	60(61.2)	38(38.8))	1.57(1.02,2.45)*	1.25(0.72,2.16)
	Not employed	261(50.1))	260(49.9)	1	1
Parity	Primipara	70(69.3)	31(30.7)	2.40(1.52,3.80)*	3.50 (1.71,7.12)**
	Multipara	251(48.5)	267(51.5)	1	1
Nature of last pregnancy	Planned	280(53.6)	242(46.4)	1.58(1.02,2.50)*	0.93(0.52,1.67)
	Unplanned	41(42.3)	56(57.7)	1	1
ANC visit of the last pregnancy	Yes	262(54.1)	222(45.9)	1.52(1.03,2.23)*	0.72(0.41,1.25)
	No	59(43.7)	76(56.3)	1	1
Place of deliver	Home	25(27.5)	66(72.5)	3,36(2.06,5.50)*	3.80 (2.02,7.17)**
	Health institution	296(56.1)	232(43.9)	1	1
Knowledge of mother on PNC and at least one danger signs of postpartum	Yes	286(53.5)	249(46.5)	1.60(1.09,2.56)*	2.70 (1.53,4.95)**
	No	35(41.7)	49(58.1)	1	1
Previous experience of PNC utilization	Yes	123(60.9)	79(39.1)	1.48(1.03,2.13)*	1.21(0.80,1.83)
	No	151(51.2)	144(48.8)	1	1
Distance /Time taken to reach Health facility	<1 hr	253(54.2)	214(45.8)	1.46(1.01,2.11)*	1.33(2.00,5.70)
	1-2hr	68(44.7)	84(55.3)	1	1
Getting information/advice about PNC from health profession	Yes	283(57.4)	210(42.6)	3.12(2.05,4.75)*	3.40(2.00,5.70)**
	No	38(30.2)	88(69.8)	1	1

*=Significant COR with P-Value<0.25, **= Significant AOR with P-Value <0.05. **1**= reference, **AOR=**Adjusted odds ratio**, C.I**= Confidence interval

5. DISCUSSION

The study revealed that the level PNC service utilization of 51.9 % with C.I (47.8-56.1). This result is inline with the result obtained from study conducted in Halaba kulito town (47.9%) (Abebo and Tesfaye, 2018) and lemo woreda (Belachew et al., 2016) (51.4%) of Hadiya Zone. This is due to socio-cultural similarities of the study areas.

This result is higher than studies done in different areas (Arsi zone, Oromiya region (23.4%) (Aman et al., 2018), Debra markos Town, Amhara region (33.5%) (Miteku et al., 2016), Wolayitta, SNNPR (34.31%) (Wolde et al., 2017) and Nepal (43.2%) (Khanal et al., 2014). This may be the time difference that there could be improvement in accessing and utilizing health care service through time. Other factors could be attributed to place, and social context variation between this study and previous studies.This result is lower than the studies finding from Shebe Sombo Woreda, Jimma Zone (58.5%) (Fantaye et al., 2018), Debrebirhan town, northern shewa (84%) (Banchalem et al., 2018) , Assellatown ,Arsi zone,Oromiya region (72.7%) (Aman et al., 2018), Addis Abeba (65.6%)(Senait et al., 2016) .The discrepancies might be due to cultural differences, time differences of study population , socioeconomic status, geographical factors, heterogeneity of study population. The other suggestion might be due to Sample size determination differences.

The level of mother education showed strong statistical association with postnatal care service utilization.The odds of using PNC services were 4 times higher [95 % CI: AOR 4.0(2.06- 7.69)] among mothers who had formal education than mothers who had no formal education. Similar findings were reported by other studies, Farta district, South Gonder Zone, Amhara Region (Girma, 2017), Loma District, Southwest Ethiopia (Yarinbab and Tona, 2018) analysis of Nepal Demographic and Health Survey 20 (Khanal et al., 2014), Dembecha District, Northwest Ethiopia (Hordofa et al., 2015). This may be explained by the notion that education is a key predictor in empowering maternal decision making towards health care 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.

Place of delivery was one of the strongest predictors of postnatal care service utilization. Those mothers who gave birth to their latest child at health institution were 3.8 [AOR=3.8,

95% CI: (2.03, 7.17)] more likely to attend postnatal care services as compared with those mothers who gave birth to their latest child at home. This finding is in line with study done in India and Nepal (Paudel et al., 2014, Khanal et al., 2014) respectively. The result is also inline with the finding from study done in Jabitena district, Debre Birhan Town, Debre Markos Town of Amhara region, Ethiopia (Workineh and Hailu, 2014, Miteku et al., 2016, Banchalem et al., 2018) respectively. Also, inline with Asella Town of Arsi Zone, Oromiya Regional State, Ethiopia (Aman et al., 2018) and Lemo Woreda of Hadiya zone and Halaba Kulito Town, Southern Ethiopia) (Belachew et al., 2016, Abebo and Tesfaye, 2018) respectively . This indicates that giving birth at health institution has significantly associated with postnatalcareservice utilization.

The possible explanation for this positive association is due to women who gave their last birth in health institution have an opportunity for health education related to PNC services during at the time of delivery and thus get access to learning about the types, benefits, and availabilities of PNC services during their stay in the health institutions . This exposure increases health care seeking behavior to prevent maternal and neonatal complications compared to those mothers who gave birth at home.

The result shows that Parity has a significant role in determining PNC service utilization. Primparauos mothers were 3.5 times more likely to use postnatal care [AOR= 3.5, 95% CI (1.71– 7.12)] than multiparous women. This is in line with the finding from study done in Northern Shoa, Ethiopia revealed (primiparous) were 4.5 more likely to have full postnatal care [AOR= 2.5 95% CI (1.4 – 14.2)] than multiparous women (Akibu et al., 2018) . In contrast, multiparous women had better utilization of than counter part.This is because those mothers having their first child are suspicious on the health of their own and child, as a result they are expected to receive postnatal care than the others with higher parity .

The other factors predicting postnatal care service utilization were having knowledge on danger sign on mother during postnatal period. Those women who had knowledge on postpartumcomplication and danger sign utilized PNC service 2.7 times [AOR= 2.7, 95% CI 1.53-7.17] more likely than mothers with had no knowledge on at least one danger sign. This finding is consistence with the finding from other studies done in Jabitena district, and Debremarkos of Amhara region, Ethiopia (Workineh and Hailu, 2014 ,Miteku et al., 2016)).

This can be because knowledge of obstetric danger signs is an important factor in motivating women to attend health care service with the intention of prevention, early detection and getting managed their obstetric complications.

Mothers who have information/advice on postnatal care services and counseled about possible complication during postpartum period were nearly 3.4 times [AOR= 3.4, 95% CI (2.00– 5.7)] more likely to utilize the service than theirecounterparts. This finding is also in line with findings of study done in Addis Ababa (Senait et al., 2016), shebashembo,jimma (Fantaye et al., 2018) , Assela town ,Arsi zone, oromiya region (Aman et al., 2018), abdi-town, tigray (Alemayeh et al., 2014) of Ethiopia. This finding may suggest that PNC service utilization is determined by the knowledge of women on postnatal care benefits.

Strength and Limitations

- **Strength**

✓ Using community based study design will help to address those mothers who could not be captured in the health facility for such study.

- **Limitation**

✓ Not supported with qualitative study

✓ The study design was a crosssectional that measures the exposure and outcome at the same time rather than a longitudinal design, so it is difficult to determine causal relationships between the proposed predictors and the outcomes of interest.

✓ In addition, in this study, data were collected retrospectively, this might introduce recall bias.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

In this study, the level of postnatal care service utilization was low. Educational status of mother, place of delivery, parity, knowledge of mother about postpartum danger sign information/counseling on PNC utilization and danger signs by the health care provider had showed statistical significant association with current PNC service Utilization.

6.2. Recommendations

Based on the findings of this study, the following recommendations were made:-

- **To health care providers:** Health care provider should encourage the mothers to to gave birth in heath institution and educates mothers to stay at least for 24 hrs following delivery, counsel about the danger signs of postnatal period and give appointment for PNC.
- **To health facilities:** Should assure comprehensive and quality of postnatal care services. They also should give continuous training for health care providers on PNC appointment and counseling about danger sign during postnatal period.
- **To Health offices:** Health offices should prepare guidelines on danger sign during Post-natal care visit.

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8. APPENDICES

Appendix I: Participant information sheet and informed voluntary consent form

My name is----------. I am working as a data collector for the study being conducted in this community ADANE EYOB, who is studying for his Master's degree at Haramaya University, the College of Health Sciences. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The study title is:

Level of Postnatal Care Service Utilization and Associated Factors among mothers who gave birth in the last one year Damboya District, Kembata Tembaro Zone, Southern Ethiopia

Purpose of the study:

The Aim of this study can be of a paramount importance for the Hospitals, Health centers, Zonal, and Woreda Health office to plan intervention programs to improve programs to increase postnatal care utilization. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's of Public Health in Reproductive health for the principal investigator.

Procedure and duration:

I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. There are 35 questions to answer where I will fill the questionnaire by interviewing you. The interview will take about 35 minutes, so I kindly request you to spare me this time for the interview.

Risks and benefits:

The risk of being participating in this study is very minimal, but only taking few minutes from your time. There will not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners. And health education related to the study, will be given for study participants.

Confidentiality:

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study community and will not reflect anything particular of individual persons or housing. The

questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Rights:

Participation for this study is voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits, which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

Contact address:

If there are any questions or enquires, any time about the study or the procedures, please contact in this address.

Institutional Research Ethics review Committee: Office phone 0254662011 or

P.O.Box 235, Harar.Ethiopia

Email. neggabaraki@yahoo.com

Principal investigator: Adane Eyob, email: Adaneeyob7@gmail.com or

Mobile phone: 091914658

Declaration of informed voluntary consent:

I have read/ was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

Name and Signature of participant: ----------

Name and Signature of data collector ----------

Appendix II: Participant information sheet and informed voluntary consent form for those age <18 years old.

My name is----------. I am working as a data collector for the study being conducted in this community ADANE EYOB, who is studying for his Master's degree at Haramaya University, the College of Health Sciences. I kindly request you to lend me your attention to explain you about the study and being selected as the study participant.

The study title is:

Level of Postnatal Care Service Utilization and Associated Factors among mothers who gave birth in the last one year Damboya District, Kembata Tembaro Zone, Southern Ethiopia

Purpose of the study:

The Aim of this study can be of a paramount importance for the Hospitals, Health centers, Zonal, and Woreda Health office to plan intervention programs to improve programs to increase postnatal care utilization. Moreover, the aim of this study is to write a thesis as a partial requirement for the fulfillment of a Master's of Public Health in Reproductive health for the principal investigator.

Procedure and duration:

I will be interviewing your daughter using a questionnaire to provide me with pertinent data that is helpful for the study. There are 35 questions to answer where I will fill the questionnaire by interviewing your daughter. The interview will take about 35 minutes, so I kindly request you to spare me this time for the interview.

Risks and benefits:

The risk of being participating for your daughter in this study is very minimal, but only taking few minutes from her time. There will not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners. And health education related to the study, will be given for study participants.

Confidentiality:

The information you will provide us will be confidential. There will be no information that will identify your daughter or your self in particular. The findings of the study will be general

for the study community and will not reflect anything particular of individual persons or housing. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Rights:

Participation for this study is full voluntary. You have the right to declare to allow your daughter to be involved or not in this study. If you decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits, which you otherwise are entitled. Your daughter does not have to answer any question that she do not want to answer.

Contact address:

If there are any questions or enquires any time about the study or the procedures, please contact in this address.

Institutional Research Ethics review Committee: Office phone 0254662011 or

P.O.Box

235, Harar.Ethiopia

Email. neggabaraki@yahoo.com

Principal investigator: Adane Eyob, email: Adaneeyob7@gmail.com or

Mobile phone: 091914658

Declaration of informed voluntary consent:

I have read/ was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw my daughter from the study at any time or not to answer any question that she does not want. Therefore, I declare my voluntary consent behalf of my daughter to participate(involved) in this study with my signature as indicated below.

Name and Signature of participant: ----------

Name and Signature of data collector ----------

Appendix III: Questionnaire

A questionnaire to Assess the level of postnatal care service utilization and associated factors among mothers who gave birth in the last one year in Damboya District community, Kambata tembaro Zone, South Region, Ethiopia.

Instructions: Circle/write the code corresponding to the answer for each question

Date of the questionnaire filled (dd/mm/yyyy): ____/__/___

Name of the Kebele_____

Interviewer name_____ signature_____

Super visor's name_____ signature_____

I. SOCIO DEMOGRAPHIC FACTORS			
S.N	Question	Answer	Skip code
101.	How old are you?(completed years)	…….	
102.	What is your current marital status?	1. Married 2. Divorced 3. Widowed 4. Separated 5. Single	
103.	To which ethnic group do you belong?	1. Kambata 2. Tembaro 3. Hadiya 4. Halaba 5. Other	
104.	What is your religion?	1. Protestant Christian 2. Orthodox Christian 3. Muslim 4. Others	

105.	Where do you live?	1. Urban 2. Rural	
106.	What is the highest educational level You attained?	1. No formal education 2. Primary school 3. Secondary school 4. Higher education level	
107.	What is the highest educational level Your Husband attained?	1. No formal education 2. Primary school 3. Secondary school 4. Higher education level	
108.	What is your present occupation?	1. Housewife 2. Farmer 3. Merchant 4. Daily lab our 5. Employed 6. Others	
109.	What is your Husband present Occupation ?	1. Farmer 2. Merchant 3. Daily lab our 4. Employed 5. Others	
110.	What is the number of people who live Usually in this household?	……..	
111.	What is the average family income per Month?	.....	

	II.OBSTETRICS / MATERNAL FACTORS		
201.	Age at first delivery	…….	
202.	How many times have you ever been pregnant/ gravidity?	1. 1 2. 2–4 3. ≥ 5	
203.	How many children have you had that were born to you?	1. 1 2. 2–4 3. ≥ 5	
204.	How many neonates born alive	1. 1 2. 2-4 3. ≥5	
205.	Have you ever had stillbirth or neonatal death?	1. Yes 2. No	
206.	How was the nature of last pregnancy?	1. Planned/supported 2. Unplanned/unsupported	
207.	Did you have ANC in health institution during the last pregnancy?	1. Yes 2. No	If "No "skip to Q 210
208.	If yes where did you attend ANC	1. Health post 2. Health center 3. Hospital	
209.	How many times did you attend Antenatal care?	1. One time 2. Two times 3. Three times 4. Four times and above	
210.	Where did you deliver your last baby?	1. Home 2. Health facility	
211.	By what method did you deliver? (Mark one)	1. Spontaneous vaginal delivery 2. Instrumental delivery 3. Cesarean section	

212.	Do you know dangerous sign that occur during delivery and after deliver?	1. Yes 3. No	If "No skip to Q214
213.	If yes, can you mention some of them? (More than one answer is possible)	1. Yes 2. No 1. Breast problem----------1 2 2. High grade fever----------1 2 3. Vaginal bleeding----------1 2 4. Offensive Vaginal discharge-1 2 5. Severe head ache----------1 2 6. Others specify----------1 2	
214.	Was there a problem during or after delivery of last child?	1. Yes 2. No	If " No' skip to Q 216
215.	If yes, what were the problems?	1. Breast problem 2. High grade fever 3. Vaginal bleeding 4. Offensive Vaginal discharge- 5. Severe head ache 6. Others specify	
216.	Did you have postnatal care in the previous delivery, if you gave birth	1. Yes 2. No	
217.	Did you have postnatal care after health institution or home delivery in current deliver?	1. Yes 2. No	If" No" skip to Q 221
218.	IF Yes, when did you get to postnatal care service?	1. Within 24hrs (one day) 2. Within 2 -3 days of delivery 3. Within 7-14 days of deliver 4. Within 6 weeks of delivery	
219.	How many times did you visit/ used PNC services?	1. One time 2. Two times 3. Three times 4. Four and Above	
220.	What services were you offered during your last postnatal visit?	1. Family planning 2. Physical examination for baby and your self 3. immunization for infants	

		4. TTvacination for your self 5. Advice on Breast feeding and other food 6. Advice on danger signs 7. Others (specify) …….	
221.	What were the reasons for not attending the subsequent postnatal care	1. Lack of awareness/knowledge 2. Being healthy 3. Shortage of money 4. Others----------	
222.	Who made decision when you want to go heath facility to get postnatal care from health personnel?	1. Wife 2. Husband 3. Both	
	III. HEALTH INSTITUTIONAL RELATED FACROR		
301.	Did you told about postnatal care services and possible postpartum complication signs /symptoms by the Health personnel?	1.yes 2 No	
302.	How long does it take to travel from your home to the nearest health institution?	1. < 1hr 2. 1-2hr 1. > 2hr	

THANK YOU!

Appendix IV: (Amharic Version)

ሐራማያ ዩኒቨረሲቲ የህክምና እና የጤና ሳይንስ ኮሌጅ ዲህረ ምርቃ ትምህርት ክፍል ተሳታፊዎች መረጃ መስጨና ፌቃዳኝነት ቅጽ

ስሜ.....ይባላል፡፡ በአቶ አዳነ ኢዮብ በሀሮማያ ዩኒቨርሲቲ በድህረምረቃ ክፍል ለድህረ ምረቃ ማሚያ ለሚሰረዉ ጥናታዊ ጽሁፍ ሰብሳብነኝ፡፡ስነጥናታዊ ጽሁፉ ማብራራት ስለምፈልግ ትንሽ ጊዜ ሰጥተዉኝ በጥሞና እንዲሰሙኝ በትህትና እጠቃለሁኝ፡፡

የጥናታዊ ጽሁፍ ርዕስ፡- በዳምቦያ ወረዳ ዉስጥ ባለፈዉ አንድ ዓመት የወለዱ እናቶች የድህረወልድ ክትትል ሁኔታ እና የማይጠቀሙበትን ምክናቶችን ማጥናት፡፡

የጥናታዊጽሁፍዓለማ፡- ይህ ጽሁፍ ከወልድ ቦኋላ ባንድ ዓመት ጊዜ ዉስጥ በሚደረገዉ የጤና ክትትል በተመለከተ አጠቃላይ ገጽተዉ ምን እንደምመስል እና የጤና ክትትሉን የማይጠቀሙበትን ምክንያቶችን ለመረዳት የሚደረግ ጥናት ሲሆን እነዚህን ችግሮች ለይቶ በማዉጣት ዳምቦያ ወረደ ጤና ቢሮ እና አጋሮቹ እናቶች ከወልድ በኋለ የጤና ክትትል ዙሪያ ለህብረተሰብ የግንዛቤ ማስጨበጫ እና መፍትሄ እና ድጋፍ ለማድረግ ይጠቅማል፡፡

አካሄዱና የጊዜ ቆይታ፡- እኔ ለጥናቱ አስፈላጊ የሆኑ 35 የሚሆኑ ጥያቄዎችን እጠይቀዋታለሁ፡፡ጥያቄዎቹን ለመመለስ እስከ 35 ደቂቃ ይፈጃል፡ስለዚህ ጥያቄዎቹን ለመመለስ እንድትተባበሩኝ በአክብሮት እጠይቃዎታለዉ፡፡

በጥናቱ በመሳተፍ የሚመጠዉ ጥቅም እና ጉዳት፡- በጥናቱ በመሳተፊዎ ትንሽ ጊዜ ለጥያቄ ከማጥፋትዎ ዉጪ ሌላ ምንም ጉዳት የለዉም፡፡በጥናቱ በመሳተፊዎ በቀጥታየሚገኝ ጥቅም የለም፡፡ነግር ግን እርስዎ የምሰጡት መረጃ የጥናቱ ዉጤት ሲጠቃለል አገልግሎቱ ለሁሉም ሴቶች ነዉ፤ለወደፊት ከወሊድ በኋላ የጤና ክትትል ዙሪያ ለመህብረተሰቡ የግንዛቤ ማስጨበጫ አስፈላጊዉን መፍቴህና ድጋፍ ለማድረግ ይጠቅማል፡፡

ምስጥር መጠበቅ፡- ለጥያቄዎቹ የሚሰጡት መልስ በምስጥር እና በትንቃቄ ይያዛል፡፡በመጠይቁ ላይ ስም አይጸፍም፤እርስዎ የሰጡት መረጃ ለማንም ተላልፎ አይሰጥም፤እርሶን የሚያጋልጥ ነገር አይደረግም፡፡

መብት፡- በጥናቱ ስትሳተፉ በሙሉ ፍቃደኝነት ነዉ፡፡

በጥናቱ መሳተፍ ከጀመሩ በኋላ በማንኛዉም ሳዓት ካልፈለጉ ማቆራጥ ይችላሉ፤በዚህም ምንም ዓነት ጉዳት አይደርስብዎትም፡፡

አደራሻ፡-ጥናቱን በሚመለከት ማንኛዉም ጥያቄም ሆነ አስታያየት ካለዎት በሚከተሉት አድራሻዎች መጠቀም ይቻላሉ፡፡

የጥናቱ ባለቤት አዳነ ኢዮብ ስልክ ቁጥር 09-19-15-46-58/09-73-19-95-80/

ሐራመያ ዩኒቨርሲቲ ህክምና እና የጤናሳይንስ ኮሌጅ፡ስልክ ቁጥር 025-4662011

የፈቃደኝነትማረጋገጫ፡- እኔ ይህንን የጥናታዊ ጽሁፍ አላማዉን፤አካሄዱን፤ምስጥር ጠባቅነቱን፤ጥቅምና ጉዳቱን እንዲሁም ከጥናቱ በማንኛዉም ሳዓት ማቋርጥ እንደምችል ተነቦልኝ በአግባቡ ተረድቸለሁኝ፡፡ስለዚህ በጥናቱ ለመሳተፍ መሉ ፈቃደኝነቴን በፍርማዬ አረጋግጣለሁ፡፡

ፊርማ.....

የመረጃ ሰብሳቢ ስም .....ፊርማ .....

ሚጃ የ ተሳበሰበ ቀን.....

መለያ ቁጥር.....

Appendix V: (Amharic version)

ሐራማያ ዩኒቨረሲቲ የህክምና እና የጤና ሳይንስ ኮሌጅ ዲህረ ምርቃ ትምህርት ክፍል ተሳታፊዎች መረጃ መስጫና ፊቃዳኝነት ቅጽ ከ 18 አመት በታች ለሆኑ እናቶች

ስሜ.....ይባላል፡፡ በአቶ አዳነ ኢዮብ በሀሮማያ ዩኒቨርሲቲ በድህረምረቃ ክፍል ለድህረ ምረቃ ማሟያ ለሚሰረዉ ጥናታዊ ጽሁፍ ሰብሳብነኝ፡፡ስነጥናታዊ ጽሁፉ ማብራራት ስለምፈልግ ትንሽ ጊዜ ሰጥተዉኝ በጥሞና እንዲሰሙኝ በትህትና እጠቃለሁኝ፡፡

የጥናታዊ ጽሁፍ ርዕስ፡- በዳምቦያ ወረዳ ዉስጥ ባለፈዉ አንድ ዓመት የወለዱ እናቶች የድህረወልድ ክትትል ሁኔታ እና የማይጠቀሙበትን ምክናቶችን ማጥናት፡፡

የጥናታዊጽሁፍዓለማ፡- ይህ ጽሁፍ ከወልድ ቦኋላ ባንድ ዓመት ጊዜ ዉስጥ በሚደረገዉ የጤና ክትትል በተመለከተ አጠቃላይ ገጽተዉ ምን እንደምመስል እና የጤና ክትትሉን የማይጠቀሙበትን ምክንያቶችን ለመረዳት የሚደረግ ጥናት ሲሆን እነዚህን ችግሮች ለይቶ በማዉጣት ዳምቦያ ወረደ ጤና ቢሮ እና አጋሮቹ እናቶች ከወልድ በኋለ የጤና ክትትል ዙሪያ ለህብረተሰብ የግንዛቤ ማስጨበጫ እና መፍትሄ እና ድጋፍ ለማድረግ ይጠቅማል፡፡

አካሄዱና የጊዜ ቆይታ፡- እኔ ለጥናቱ አስፈላጊ የሆኑ 35 የሚሆኑ ጥያቄዎችን ልጆትን እጠይቃለሁ፡፡ጥያቄዎቹን ለመመለስ እስከ 35 ደቂቃ ይፈጃል፡፡ ስለዚህ ጥያቄዎቹን ለመመለስ እንድትተባበሩኝ በአክብሮት እጠይቃዎታለዉ፡፡

በጥናቱ በመሳተፍ የሚመጠዉ ጥቅም እና ጉዳት፡- በጥናቱ በመሳተፊዎ ትንሽ ጊዜ ለጥያቄ ከማጥፋትዎ ዉጪ ሌላ ምንም ጉዳት የለዉም፡፡በጥናቱ በመሳተፊዎ በቀጥታየሚገኝ ጥቅም የለም፡፡ነግር ግን እርስዎ ሆና ልጆችዉ የምትሰጡት መረጃ የጥናቱ ዉጤት ሲጠቃለል አገልግሎቱ ለሁሉም ሴቶች ነዉ፤ለወደፊት ከወሊድ በኋላ የጤና ክትትል ዙሪያ ለመህብረተሰቡ የግንዛቤ ማስጨበጫ አስፈላጊዉን መፍቱህና ድጋፍ ለማድረግ ይጠቅማል፡፡

ምስጥር መጠበቅ፡- ለጥያቄዎቹ የሚሰጡት መልስ በምስጥር እና በትንቃቄ ይያዛል፡፡በመጠይቁ ላይ ስም አይጸፍም፤ልጆችዉ የሚሰጥ መረጃ ለማንም ተላልፎ አይሰጥም፤እርሶንና ልጆን የሚያጋልጥ ነገር አይደረግም፡፡

መብት፡- በጥናቱ ስትሳተፉ በሙሉ ፍቃደኝነት ነዉ፡፡

በጥናቱ መሳተፍ ከጀመሩ በኋላ በማንኛዉም ሳዓት ልጆት ካልፈለገች ማቆራጥ ትችላለች፤በዚህም ምንም ዓነት ጉዳት አይደርስበትም፡፡

አደራሻ፡-ጥናቱን በሚመለከት ማንኛዉም ጥያቄም ሆነ አስታያየት ካለዎት በሚከተሉት አድራሻዎች መጠቀም ይቻላሉ፡፡

የጥናቱ ባለቤት አዳነ ኢዮብ ስልክ ቁጥር 09-19-15-46-58/09-73-19-95-80/

ሐራመያ ዩኒቨርሲቲ ህክምና እና የጤናሳይንስ ኮሌጅ፡ስልክ ቁጥር 025-4662011

የፈቃደኝነትማረጋገጫ፡- **እኔ ይህንን የጥናታዊ ጽሁፍ አላማዉን፤አካሄዱን፤ምስጥር ጠባቅነቱን፤ጥቅምና ጉዳቱን እንዲሁም ከጥናቱ በማንኛዉም ሳዓት ልጀማቋርጥ እንደምትችል ተነቦልኝ በአግባቡ ተረድቸለሁኝ፡፡ስለዚህ በጥናቱ ለመሳተፍ መሉ ፈቃደኝነቴን በፍርማዬ አረጋግጣለሁ፡፡**

ፊርማ.....

የመረጃ ሰብሳቢ ስም .....**ፊርማ** .....

ክፍል አንድ፡- ማህበራዊና ህብረተሰብ አቀፍመረጃ			
ተ.ቁ	ጥያቄ	መልሱን ይምረጡ	ይለፉ
101.	ዕድሜዎት ስንት ነዉ?	.....	
102.	የጋቢቻ ሁኔታዎ ?	1. ያገበች 2. የተፋተች 3. ባሏ የሞተባት 4. ተለያይታ የሚትኖር 5. ያላገበች	
103.	ብሄርዎት ምንድነዉ?	1. ከምባታ 2. ጠምባሮ 3. ሃዲያ 4. ሃላባ 5. ሌሎች	
104.	ሀይማኖቶዎ ምንድ ነዉ?	1. ፕሮቴስታንት 2. ኦርቶዶክስ 3. እስላም 4. ሌሎች(ይጥቀሱ)	
105.	የትነዉ የሚኖሩት	1. ከተማ 2. ገጠር	
106.	የትምህርት ደረጃዎ	1. ያልተማረች 2. አንደኛ ደረጃ(1-8) 3. ሁለተኛ ደርጃ(9-12) 4. ከፍተኛ የትምህትደረጃ	

107.	የትደር አጋሪዎ የትምህርት ደረጃ	1. ያልተማራ 2. አንደኛ ደረጃ(1-8) 3. ሁለተኛ ደርጃ(9-12) 4. ከፍተኛ የትምህርትደረጃ	
108.	የስራ ሁኔታ	1. የቤት እመቤት 2. አርሶ አደር 3. ነጋዴ 4. የቀን ሰራተኛ 5. ተቀጣሪየመንግስት/የመንግስት ያልሆና 6. ሌሎች	
109.	የባለቤቶዎ ሥራ ሁኔታ	1. አርሶ አደር 2. ነጋዴ 3. የቀን ሰራተኛ 4. ተቀጣሪየመንግስት/የመንግስት 5. ሌሎች	
110.	የቤተሰብ አባለት ብዛት	.....	
111.	ወራዊ የቤተሰብ ገቢ በዓማካይ	.....	

ክፍል ሁለት፡- የቅድመ ወሊድ፤ወሊድ እናድህረ ወሊድ አገልግሎትን በተመለከተ			
201.	የመጀመሪያዎትን ልጅ ስወልዱ እድሜዎ ስንት ነብር?	.....	
202.	እስከሁን ደርስ ስንት ጊዜ አርግዟል?	1. 1 2. 2 እሰከ 4 3. ≥5	
203.	ምን ያህል ልጅ ወልዷል?	1. 1 2. 2 እሰከ 4 3. ≥5	
204.	የመጨረሻ እርግዝና እንደት ነብር?	1. የታቀዳ/የታደገፈ 2. ያልታቀዳ/ያልታደጋፈ	
205.	ስንት ልጆች በህይወት አሉ?	.....	
206.	ሞቶ የተወለደ ወይም በ ተወላደ አንድ ወር ዉስጥ የሞተብሽ ህፀን አለ ወይ	1. አዎ 2. የለም	
207.	ለመጨረሻ እርግዝናዎ የቅድመወሊድ ክትትል አድርጎልን?	1. ኣዎ 2. አላደረኩም	ካለደረጉወደ 210 ይለፉ
208.	መልሶዎ አዎ ከሆነ የት ክትትል አደረጉ	1. ጤና ኬላ 2. ጤና ጣቢያ 3. ሆስፒታል	
209.	ስንት ጊዜ ክትትል አድርገሽ ነበር	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራት እና ከዚያ በላይ	
210.	የመጨረሻ ልጆዎን የት ወለዱ	1. ቤት 2. በጤና ተቋም	
211.	የመጨረሻ ልጆዎትን እንዴት ወይም በምን ሁኔታ ወለዱ	1. በተፈጥሮኣዊ 2. በመሳሪያ በመታገዝ 3. በኦፐራሲዮን	

212.	ከእርግዝና ጋር የተያዙ አደገኛ ምልክቶች ያወቃሉ?	1. ኣዎ 2. አላወቅም	ኣላወቅምካሉወደ ጥያቄ 214
213.	ኣዎ ካሉ በጥቂቱ ልጠቅሱ ችላሉ	1.አዎ 2. አላወቅም 1. የጡቲ ህመም.....1 2 2. ከበድ ትኩሰት.....1 2 3. ከመህጸን ደም መፍሳስ.....1 2 4. ሽተያለዉ ፈሳሽ ከመህፀን መዉጣት..... 1 2 5. ከበድ ራስ ምተት..... 1 2 6. ሌሎች 1 2	
214.	የ መጨረሻ ልጅ የወለዱ ጊዜ ከእርግዝና ጋር የተያዛ ችግር ገጥሞዎት ነበር	1. ኣዎ 2. አላጋጠመኝም	ኣለወ ኩምካ ጥያቄ 216
215.	ጥያቄ214 ኣዎ ካሉ ምን ነበር ችግሩ	1. የጡቲ ህመም 2. ከበድ ትኩሰት 3. ከመህጸን ደም መፍሳስ 4. ሽተያለዉ ፈሳሽ ከመህፀን መዉጣት 5. ከበድ ራስ ምተት 6. ሌሎች	
216.	ከዚህ ወሊድ በፍት ልጅ ወልደሽ የሚታወቂ ከሆና በዛን ጊዜ ድህረ ወሊድ ክትትል ነበረሽ	1. ኣዎ 2. አልነበረኝም	
217.	የመጨረሻ ልጆን ሲወልዱ ድህረ ወሊድ ክትትል አድርጓል	1. ኣዎ 2. አላደረኩም	ካላደረጉወደ ጥያቄ 221
218.	መልሶዎኣዎ ከሆነድህረ ወሊድክትትሉን የጀመሩትከወለዱ ስንት ጊዜ በኋላነዉ	1. በ 24 ሳዓትዉስጥ 2. በ 2-3 ቀንዉስጥ 3. በ 7-14 ቀንዉስጥ 4. በ 6 ሳምንትዉስጥ	

219.	ለምንያህልጊዜቅድመ ወልድክትትልአድርገዋል	1. አንደጊዜ 2. ሁለትጊዜ 3. ሶስትጊዜ 4. አራትእና ከዚያ በላይ	
220.	የመጨረሻ ልጅዎን ሲወልዱ የተሰጥዎ የጤና አገልግሎት;	1. የቤተሰብ እቅድ አገልግሎት 2. የአካል ምርመራ 3. ለ ህጽኑ ክቲበት መግኘት 4. እናት የ ቴተነስ ክቲበት መግኘት 5. ጡት ላጠበብ ለይና ምግብ ለይ ምክር መግኘት 6. አደጋኛ ምልኪቶች ለይ ምክረ መግኘት 7. ሌሎች … (ይገለፅ)	
221.	የድህረወልድ አገልግሎት ተጠቃሚ እንዳይሆኑ ያደረግዎት ምክንያት ምንድነዉ	1. የዕዉቀትማነስ 2. ጤነኛመሆን 3. የገንዘብእጥረት 4. ሌሎች(ይጥቀሱ).....	
222.	ለህክምና አገልግሎት ጤናተቋም መሄድ ስትፈለግ ማንነዉ የሚወስነዉ	1. አባወራ 2. እማወራ 3. ሁለቱም	
ክፍል ሶስት፡- ከጤና ተቋምጋር የተያየዙ ምክንያቶች			
301.	ከጤና በላሞያ ከወሊድ በኋላ ለሚደረገዉ ደህራ ወልድ ክትትልና ከወልድ ቦኃለ ልያገጥሙ የሚችሉ ችግሮች ተነግሮሽ ነበር	1. ኣዎ 2. አልተነገረኝም	
302.	ከቤቶዎ ወደ ጤና ተቋም ምን ያህል ያስኬዳል	1. ከ1 ሳዓትበታች 2. ከ1 እስከ 2 ሳዓት 3. ከ2 ሳኣትበላይ	

መረጃ የተሳበሰበ ቀን .....

መራጀ ሰብሳብ ስም.....

መለያ ቁጥር.....

አመሳግናላዉ !!

Appendix VI: (Kambatissa version)

Haramayi universite Fayima kalatuta Daqina Rosha kifili sawita Assani manata kulano kifila

Su'mmu'ee ..... Yamammi. Wombe Adana Eyob Haramayi universiten Lanki degree gardabi roshan maasa ihano sereegi xuuffi hasisano naqasha qu'mmancho. Sereegis xufi mahommata qawunka cakisanki'ne biki qawuta jaatta asiteenunta'e Xa'mmammi.

Sereket xuuf boqo xawa:- Damboya woradi Azen higo mato wogan illito Amakata illito hanich zakin yoo fayima kalatuta ta'maua ta'mmu hogi gajjajuta sereketihat.

Sereket xuffi yaada:- ku xuufu illen ke'emachi mato woge azen assamano fayimma kalatuta xuujogin horoman kalatusi ma aggudai'ndoo ; ikin kalatus ta'mmaqitumbu gajajjuta mahan'nindo dagi assamano sereketa ihani hitigamu hawwa hassen fushin Damboya woreda fayima biruti Wolliti anannat Dikishata ataa xaxxitakati , Amakati illit ke'ehochi yoo jaan fayima kalatuta daqitunta roshata assitunita hassisa dikishata assitunta ka'llano.

Hujesi birsawanqanchaha jechosi manata :- Ani sereketihans ikka 35 xa'mmuta xa'mmaki'nne. Xa'mmus fanqashi 35 daqiqa xoofano. Hikan biki xa'mmakas fanqashitenunta Abinin xa'mmanki'nee.

Serekintas aphami walano kalatus genus:- Sereketonkas eku yiti fanqashuta assintat jaata daqitant kalatuti yooba'a. wolu amo sereketinkas aphami kes genano xawwu yooba'a. . Xawu ikoda ati atanti fanqashuta gollemada horanka amaka ika'aa; illeni ke'emachi Zakin Assamano fayimma kalato tane minadabihanis dagisishataa hassanta hiratuta Assii kala'ano.

Fojuta maaxu:- Xa'mmatohanis atanti fanqashut maaxanite'ita qorabanite'ita ikaau. Xa'mmos jaata su'mmu xaaffamanoba'a; a'nnu atenta naqashu ayeha higisammi assamanob'a; ki'nneta higishi assano xawwu he'anoba'a.

Eku yina yii hogi manata :-sereketonkas beqammi hassoich wimma ekutin ike'e ikke woya.

Sereketonkas beqama insitontich Zakin hakan jaan hassumboch aguri danditanti. Agurichik ke’ei meexxit genit illitakeba’a.

Daqi Ma’nita/woqa ፦- Sereketinkintas aphamegin komiti xa’mmuti yooda awani yoo daqi woqen daqi danditenanta.

Sereketanchu Adane Eyob tililen wolut 09-19-15-46-58/09-73-19-95-80/

Haromaya university fayyima kifili tililen wolut .025-4662011

Eku yik malata ፦- Ani kan sereketi boqo xawa; manas; fojuta maxu ; genis kalatusi ; ammo serekitichis hashomi jaan agur fulaamiga dagem. Hikkani tane. Sereketokas beqami wimma ikuta furimintae winishiyem.

Furima_____-

Naqasha qu’ma’anchi su’mma_____

Furima _____

Naqashu qu’mmi yee bari _____

Naqashi kooda _____

Appendix VII꞉ (Kambatissa version)

Haromayi universite Fayima kalatuta Daqina Rosha kifili sawita Assani manata kulano kifila Ummurussa 18 wogech worodin yoo ammakaat.

Su'mmu'ee.....Yamammi. Wombe Adana Eyob Haromayi universiten Lanki degree gardabi roshan maasa ihano sereegi xuuffi hasisano naqasha qu'mmancho. Sereegis xufi mahommata qawunk cakisanki'ne biki qawuta jaatta asiteta'e Xa'mmammi

Sereket xuuf boqo xawa꞉- Damboya woradi Azen higo mato wogan illito Amakata illito hanich zakin yoo fayima kalatuta ta'maua ta'mmu hogi gajjajuta sereketihat.

Sereket xuffi yaadata꞉- ku xuufu illen ke'machi mato woge azen assamano fayimma kalatuta xuujogin horoman kalatusi ma aggudaindoo ; ikin kalatus ta'mmaqitumbu gajajjuta mahando dagi assamano sereketa ihani hitigamu hawwa hassen fushin Damboya woreda fayima biruti Wolliti ka'lita woganakati Amakati illit ke'ehochi yoo jaan fayima kalatuta daqitunta roshata assitunita hassisa dikish ata assitunta ka'llano.

Hujesi birsawanqanchaha jechos manata ꞉- Ani sereketihans ikka 35 xa'mmuta betu'nne xa'mmam. Xa'mmus fanqashi 35 daqiqa xoofano. Hikan biki xa'mmakas fanqashititunta Abinin xa'mmanki'nee.

Serekintas aphami walano kalatus genus꞉- Sereketonkas eku yiti fanqashuta assita jaata daqqita kallatuti yooba'a. wolu amo sereketinkas aphami kesii beetukki genano xawwu yooba'a. . Xawu ikoda essi attaa fanqashut gollemada horanka amaka ika'aa; illeni ke'emachi Zakin Assamano fayimma kalato tane minadabihanis dagisishataa hassanta hiratuta Assii kala'ano.

Fojuta maaxu꞉- Xa'mmatohanis atta fanqashut maaxanite'ita qorabanite'ita ikaau. Xa'mmos jaata su'mmu xaaffamanoba'a; a'nnun ikkenta betu'nne ata naqashu ayeha higisammi assamanob'a; ki'nnetaa betu'nne higishi assano xawwu he'anoba'a.

Eku yina yii hogi manata ꞉-sereketonkas beqammi hassontich wimma ekutin ike'e ikke woya.Sereketonkas beqamu insitontich Zakin hakan jaan, hassumboch aguri danditanta'a. Agurichis ke'ei mexit genit illitasseba'a.

Daqi Ma’nita/woqa ፦- Sereketinkintas aphamegin komiti xa’mmuti yooda awani yoo daqi woqen daqi danditenanta.

Sereketanchu Adane Eyob tililen wolut 09-19-15-46-58/09-73-19-95-80/

Haromaya university fayyima kifili tililen wolut .025-4662011

Eku yik malata ፦- Ani kan sereketi boqo xawa; manas; fojuta maxu ; genis kalatusi ; ammo serekitichis hashomi jaan aguri fulamiga dagem. Hikkani tane Sereketokas beqami wimma ikuta furimintae winishiyem.

Furima……

Naqasha qu’ma’anchi su’mma……

Furima ……

Wona kifila ፦- mexomana he’ano minadabin aphaqame naqasha			
wollu ta	Xa’mmuta	Do’rratuta	hig malat
101.	Ummuru’nnne me’oot?	.....	
102.	Galitene hagaru ma agunoo ?	1. Agisumbuta 2. Agiseta 3. Hirteita 4. Minise anu re’heta 5. Anana he’ata	
103.	Minadabokuki mahan?	1. Kambatichuta 2. Xambarichuta 3. Hadiichuta 4. Halabichuta 5. Wolett …	
104.	Amanatu’ne mahan?	1. Ama’nichuta 2. Ortodoxichuta 3. Islanchuta 4. Wolo yooda (boccesi)	
105.	Hakanenet he’enanta	1. Ketama 2. Gexara	
106.	Roshak Gardabu	1. Horan Rosumbuta 2. Wona Gardaba(1-8) 3. Lanki Gardaba(9-12) 4. Xoqemma Rosha Gardaba	

107.	Miniki Anni Rosha Gardabu	1. Horan Rosumbua 2. Wona Gardaba(1-8) 3. Lanki Gardaba(9-12) 4. Xoqemma Rosha Gardaba	
108.	Hujiki mahan?	1. Minita Ama 2. Hoga ‘anchuta 3. Zazalanchuta 4. Bare hujita 5. Mengist hujita affentita 6. Wolu yoda…(bochesi)	
109.	Minik Anni hujit mahan	1. Hoga ‘anchu 2. Zazalanchu 3. Bare hujita 4. hujita affeii(mengist) 5. Wolu yoda…(bochesi)	
110.	Mexoma he’ano Abaroosi Wolut me’oot	.....	
111.	Aganan daqitenanta Womashu hawankan ?	.....	

Lanki kifila- Hongen , illi kalaton aphaqame naqasha			
201.	Wona cilla illitenantada ummuru'ne me'ooti	……	
202.	Tada illann qaxe me'ee hogg'imiteninta	1. 1 2. 2 – 4 3. ≥5	
203.	Me'ita ossuta illiteninta?	1. 1 2. 2 – 4 3. ≥5	
204.	kan Bagi hongit/salo Hatiguta?	1. Sawi yamameha/dikisameha 2. Sawi yamamubu'a/ dikisamubu'a	
205.	Me'eti ossut foolini yoou?	…….	
206.	Reti illante ossuti hogoda illanto mato aganan rete ossuti yoo'indo ?	…….	
207.	Zakanchi hongen fayima mini kaltuta daqi martenta'indoo ?	1. Aaa Marem 2. Marimba'a	Martenbochi xa'mmo 210 Higi
208.	Fanqashu'ne A'aa ekida	1. Xena kela 2. Xena xaba 3. Hospitila	
209.	Me'ita kodata martentaau	1. Matita Kodata 2. Lamita kodata 3. Sasita kodata 4. Sholenii alluduhaa	
210.	Zakanchu cilla ilittonti hakanenenti?	1. Mine 2. Fayima minen	
211.	Zakanchi cilla ma hagarin illitent	1. Qoochato illi manoman 2. Masarinin Kale'nan 3. Godaba zarena	
212.	illin Aphaqame gennitaa malata daganin'doo?	1. Aaa 2. Dagamba'a	Dagambochi xa'mo

			214
213.	A’aa yitontichi bochesi	1. Aaa 2. Dagimba’a 1. Ununi xidata.....1 2 2. Manoma ib u bargu.....1 2 3. Siri manomachi qegufulu.....1 2 4. Siri manomachi faru foshu yooru dunamu.....1 2 5. Ke’mashata b oqo xidata.....1 2 6. Wolu (bocesi).....	
214.	Zakanchu cilla illinteninta jaata hawwu gamba yene’ndoo?	1. Aaa 2. Gamba yimba’a	Yoba’aich Xa’mmo 216
215.	Xa’mmo 26 A’aa Yitentontich man hawusi	1. Ununi xidata 2. Manoma ibu bargu 3. Siri manoma gagintas zaraamu 4. Siri manomachi faru foshu yooru dunamu 5. Ke’mashata boqo xidata 6. Wolu (bocesi	
216.	Bagi iilanatich birren ilitentida fayima minich kalatuta aqitenindoo?	1. Aaa 2. Yooeeba’a	
217.	Zakanchu cilla illitentachi zakin Fayima kalatuta Assitentaindo ?	1. Aaa 2. Assimba’a	Assitenbochi xa’amo 221
218.	Fanqashu’nee A’aa ikeda me’oo sat azen Kalatuta daqiten?	1. 24 sat Azen 2. 2-3Bare Azen 3. 7-14 Bare Azen 4. 6 Hezeti Azen	

219.	Me'itta kodata Kalatuta Daqitent	1. Matita kodata 2. Lamita Kodat 3. Sasita Kodat 4. Sholita kodata Aluduha	
220.	Daqitenta Kalatuti mahan ?	1. illa ka'mami zabu 2. Manoma xuudanchata 3. Cillu kitibata daqu 4. Cilli Amati tetanus kitibat daqu 5. Ossuta ununa hatiguta qansitaga saazanata aqu 6. genita mala tane sazana/ roshata aqu 7. wolu …… (bocesi)	
221.	illine kee 'emachi zakin daqeno kalatuta daqu ka'mmoke gajjajut mahan?	1. Dagita konti 2. Faya ikomi bikihat 3. Womashi kontiti 4. Wolu … (bocessi)	
222.	Fayimma mini marrii hasontida ayet muritita murano?	1. Minita ama 2. Minta ana 3. Lamonka	
Saki Kifila ፡- Fayimma minin Aphaqame Hawwa/ naqasha			
301.	Fayimma lubanu, illen ke'emachi daqeno kalato taneha illin aphaqame hawwi taneha kulteke'ndo	1. Aaa 2. Kulitimba'ee	
302.	Galitte minich fayimma mini illan qaxe hawanka xa'mmanoo	1. 1 sat worodu 2. 1 - 2 sata ilanqaxe 3. 2 satich allude	

Galaxaami!

Appendix VIII: Curriculum Vitae

I. Personal Information

Name Adane Eyob
Date of Birth January 1992
Place of Birth kambata Tambaro Zone, Southern Ethiopia
Sex Male
Nationality Ethiopia
Contact Address Mobile number: +251-919-154-658/+251-973-199-580
E-mail: Adaneeyob7@gmail.com

II. Work Experience

- From Nov, 2013 to Nov 2018 as Public Health professional and Adult OPD coordinator in Dayboy health center, Dayboy Worde, Kambata Tambaro Zone, and Southern Ethiopia.

III. Language Ability

Language	Speaking	Reading	Writing
Amharic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Kambatigna	Excellent	Excellent	Excellent
Sidamigna	V. good	V. good	V. good
Halabigna	V. good	V. good	V. good
Tembarigna	V. good	V. good	V. good

IV. Education Qualification

PeriodType of program Institution/Country Qualification
2009-2013 Public Health Wolita Sodo University Bachelor of Science
College of Health and Medicine
in Public Health
School of Public Health

V. Skills

- Computer and software
- Managing skills
- Teaching/lecturing

VI. Awards

- Distinction in BSc of Public Health Officer (CGPA 3.07)
- V. Good thesis result

VII. Interests

- Research activities

- Creativity
- Field work
- Consultancy

VIII. Special Trainings

- CBTP (Community Based Training Program During Under Graduate Training)
- TTP (Team Training Program During Under Graduate Training)
- CMAM(Community Based Management Of Acute Malnutrition organized By save The Children)
- IMNCI(Integrated management of neonatal and child health illness

IX. Reseach Experience

Assessment of Treatment seeking Behavior among childhood illness in BadessaTown, Wolaita Zone, Southern Ethiopia. BSc Degree in Public Health Requirement,Wolaita Sodo University 2013(unpublished)

References

- Gizachewu Gobana(Public health officer), Head of damboyaWoreda Health office Kembata tembaro zone.

  Address: Mobile number +251-931-533-507,

- Alimaz Kemal (BSc, Msc in Applied chemistry) instructor in Wolaita Sodo University.

  Address: Mobile number +251-919-116-948,

- Fekadu Elias (BSc, MPH/PHN), lecturer ,Wolaita Sodo University, College of Medicine and Health Sciences, School of Public Health

  Address: Mobile number +251-913-729-101, e-mail: eliasfekadu16@gmail.com

Finally I, the under signed, assure that the above piece of information are true and correct to the best of my knowledge

Signature Name: Adane Eyob Mekiso Date: 25/7/020