ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF ALLIED HEALTH SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY

EFFECT OF PLANNED TEACHING ON ESSENTIAL NEWBORN CARE PRACTICE AND IDENTIFICATION OF NEONATAL DANGER SIGNS AMONG MOTHERS IN CHEWAKA RESETTLEMENT AREA

By
Hasen Adem Aliyie

Thesis report Submitted to School of graduate studies of Addis Ababa University, school of Nursing and Midwifery for the partial fulfillment of the requirements for the award of the master's degree in Maternity and Reproductive Health Nursing.

June, 2014
ADDIS ABABA, ETHIOPIA

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Advisor: Sr. Worknesh Sinshaw

June, 2014
Addis Ababa, Ethiopia

Approved by the board of examiners

This thesis by **Hasen Adem Aliyie** is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of Masters of Science in Maternity and Reproductive Health Nursing.

Internal examiner

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Full Name	Rank	Signature	Date

Research advisor

_____	_____	_____	_____
Full Name	Rank	Signature	Date

June, 2014

Addis Ababa, Ethiopia

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Abbreviations

AAU……Addis Ababa University

ANC……...Antenatal Care

CHDK….. …….Clean home delivery kits

CSA……Central Statistics Agency

DC……..Data Collector

EDHS…….Ethiopian Demographic Health Survey

ENC……Essential Newborn Care

ETB……Ethiopian Birr

FMOH…….Federal Ministry of Health

HEP…….Health Extension Program

HEWs……..Health Extension Workers

HSDP……..Health Sector Development Program

HW…….Health worker

IEC ……....Information, education, Communication

IRERC……. Institutional Research and Ethical Review Committee

KMC……Kangaro Mother Care

MCHIP……..Maternal and Child Health Implementation Program

MDGs……..Millennium Development Goals

PI…….Principal Investigator

PNC…….Postnatal Care

SNL…….. ……..Saving Newborn Lives

TBA ……Traditional birth attendant

TT……Tetanus toxoid

TVETs……Technical and Vocational Education Training Schools

WHO……...World Health Organization

VCHWs……....Voluntary Community Health Workers

CB-MNH……..Community Based-Maternal and Newborn Health

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Abstract

Background: Every year over 130 million babies are born and 40 million women give birth at home globally. About 2.6 million births take place in Ethiopia and 2.34 million (90%) births per year occur in home without the help of a skilled birth attendant. Home delivery and newborn care provided by non-skilled personnel has not yet been evaluated whether the skills women have and the extent of newborn care they could provide is up to the world health organization definitions of essential newborn care. Therefore, this study was carried out to evaluate how far essential newborn care was being practiced in home delivery at Chewaka resettlement area.

Objective: The main objective of this study was to evaluate effect of planned teaching on essential newborn care practice and knowledge of neonatal danger signs among mothers in Chewaka resettlement area.

Methods: The study was employed by using community based a pre-experimental one-shot design was conducted among women who gave birth at home during the one year preceding the study. A total of 238 study subjects were involved in the study.

Result: Newborn care practices like bathing the baby immediately after birth 38.7%, giving pre-lacteals 40.8%, late initiation of breast feeding 37%, and application of substances on umbilical cord 102 42.9% were common. The study finding shows that a low level of use of the combined newborn care indicators: good thermal care 38 (16%), safe cord care practice 64 (26.9%), good neonatal feeding 16.8% and it found that poor thermal care was driven mainly by early bathing; poor cord care by putting substances on the cord; and poor breastfeeding by giving feeds other than breast milk. Mother's knowledge of newborn danger signs was good. In the present study the knowledge scores of mothers revealed that 64.3% of the respondents had good knowledge.

Conclusion Even after years of efforts by government to reduce unhealthy newborn care practices are highly prevalent in this setting. But some of the newborn care practices may have been influenced by the health education interventions.

Recommendation: The study suggests that effort should be made to stop unhealthy newborn care practice particularly, applying substances on the stump of umbilical cord, discarding colostrum, and pre lacteal feeding, and bathing the baby immediately after birth, and should be replaced by recommended practices.

Keywords: Home deliveries, Essential newborn care practice, Chewaka resettlement are

1. Introduction

1.1 Background

Every year over 130 million babies are born [11, 13], 40 million women give birth at home without the help of a skilled birth attendant.[1] There are approximately 2.6 million births in Ethiopia per year and 90% or 2.34 million births in Ethiopia per year occur in home without the help of a skilled birth attendant. [17] Delivering at home without a skilled health care provider leaves women and babies at greater risk of complications. The first 28 days of life is the neonatal period represent the most vulnerable time for a child's survival. In 2012 approximately 2.9 million (44 %) of under-five deaths occur during this period. [4] Virtually all (98 percent) of newborn deaths occur in developing countries. [1]Most neonatal deaths result from complications related to preterm birth or during birth. [4] Another significant cause of neonatal death is infection; including sepsis, meningitis, tetanus, pneumonia and diarrhea. [5] Analyses for 2010 show that 64% of child deaths are attributable to infectious diseases in newborns and children, and 40% occur during the neonatal.[10] Hypothermia is common in infants born at homes (prevalence range, 11% to 92%), even in tropical environments.Hypothermia is more prevalent on admission in infants born outside the hospital than those born at the hospital. The lack of thermal protection is still an underappreciated major challenge for newborn survival in developing countries. Although hypothermia is rarely a direct cause of death, it contributes to a substantial proportion of neonatal mortality globally, mostly as a comorbidity of severe neonatal infections, preterm birth, and asphyxia. [24] Despite proven cost-effective solutions to reduce neonatal mortality, such as promoting tetanus toxoid immunization, skilled attendance during delivery, immediate and exclusive breast-feeding, and clean cord care, there has been relatively little change in neonatal mortality. [14, 15] Neonatal tetanus has been, and remains, a common cause of neonatal death in settings where lack of hygiene at birth and inadequate cord care are prevalent, as many women are not immunized against tetanus and cannot protect the baby at birth. [11] The vast majority of these neonatal deaths occur in poor countries where standards of both maternal and newborn care are low. Globally, the largest numbers (1.4 million) of babies die in the South-East Asia Region each year. But while the actual number of deaths is highest in Asia, the rates for both neonatal deaths and stillbirths are greatest in sub-Saharan Africa.[5] A child born in a least developed country is almost 14 times more likely to die during the first 28 days of life than one born in an industrialized country.[51] The world's neonatal mortality rate

fell from 33 deaths per 1,000 live births in 1990 to 21 in 2012. The global number of neonatal deaths declined from 4.6 million in 1990 to 2.9 million in 2012. However, the share of neonatal deaths among under-five deaths has increased from about 37 percent in 1990 to 44 percent in 2012. [2] As the rate of under-five deaths overall declines, the proportion that occurs during the neonatal period (the first month after birth) is increasing. [3] Because declines in the neonatal mortality rate are slower than those in the mortality rate for older children. [2] The health interventions needed to address the major causes of neonatal deaths generally differ from those needed to address other under-five deaths. [12] Postnatal care visits from a skilled health worker can be very effective in encouraging proper care to prevent neonatal deaths. According to WHO postnatal-care guidelines, such care includes "early and exclusive breastfeeding, keeping the baby warm, increasing hand washing and providing hygienic umbilical cord and skin care, identifying conditions requiring additional care and counseling on when to take a newborn to a health facility. [6] A growing body of evidence confirms the significant impact of early initiation of breastfeeding, preferably within the first hour after birth, in reducing overall neonatal mortality. It does so by preventing hypo-thermia and strengthening the baby's immune system through colostrum (the mother's milk during the first days after birth). It also helps establish the bond between mother and child. [7] Much more must be done to promote this practice: In most regions of the world, More than half of the world's newborns are not breastfed within an hour of birth. [8] Early initiation of breastfeeding: Initiating breastfeeding with-in the first hour after birth can reduce neonatal mortality by up to 20%. [9] Immediate and exclusive breastfeeding and "kangaroo mother care" cost virtually nothing, but could save hundreds of thousands of babies' lives each year. [1] The rate of decline in under-five mortality has accelerated but remains insufficient to reach MDG 4, particularly in Sub-Saharan Africa.[2] Sub-Saharan Africa has shown the least progress of any region in com bating newborn deaths over the last two decades. In fact, due to slowly declining mortality rates and rising population over the period 1990-2011, the number of newborns who died in sub-Saharan Africa actually went up (from 1.0 to 1.1 million) even though newborn mortality rates fell overall.[1]

Ethiopia is committed to reducing the under-five mortality rate from101 to 68 deaths per 1,000 live births and decrease infant mortality rate from 77 per1000 to 31 per 1,000 live births by 2015 in order to achieve Millennium Development Goal Four [16]. Between 2000 and 2011, under-five mortality in the country declined dramatically, from 166 to 88 deaths per 1,000 live

births. [17] Nevertheless, as in other developing countries, the reduction is mainly a result of fewer deaths in children 1 to 59 months old, while neonatal (first 28 days of life) mortality has shown more modest change [18], dropping from 39 deaths per 1,000 live births in 2005 to 37 deaths per 1,000 live births in 2011. [17] In Oromiya only 8.1% labor attended by skilled personnel (Doctor, Nurse or Midwife), and less than 1 percent (0.8%) of birth was assisted by a HEW, and 52.3 percent of births were assisted by a relative, or some other person. 33% percent of births were assisted by a traditional birth attendant, while 4.9 of births were unattended. [2] Reducing neonatal mortality is now critical to achieving the 4th Millennium Development Goal [19] Literature suggests that the challenge for reducing neonatal deaths in any developing country requires solutions through research to inform program innovation and action oriented policies designed to improve newborn health and increase their probability of survival [23]. Implementation of an effective program for the promotion of childbirth and newborn care practices requires understanding of the community and household traditional newborn care practices.Home delivery and newborn care provided by non-skilled personnel has not yet been well evaluated whether the skills they have and the extent of newborn care they could provide is up to the WHO definitions of essential newborn care. Reducing neonatal mortality requires improving community and household-level practices of maternal and newborn care simultaneously.Of 7·6 million deaths in children younger than 5 years in 2010, 64·0% (4·879 million) were attributable to infectious causes and 40·3% (3·072 million) occurred in neonates. Preterm birth complications (14·1%; 1·078 million, uncertainty range [UR] 0·916–1·325), intrapartum-related complications (9·4%; 0·717 million, 0·610–0·876), and sepsis or meningitis (5·2%; 0·393 million, 0·252–0·552) were the leading causes of neonatal death. [44]Infections account for 47% of neonatal deaths in Ethiopiafor the year 2004. [52] Infections are the biggest cause of newborn death yet the most feasible causes to prevent and treat. The two other major causes of newborn deaths are preterm birth complications and intra partum related (previously called ‘’ birth asphyxia’’) which is closely linked with maternal health. [47] Study conducted in western Nepal show that, birth attendant hand-washing was associated with a statistically significant lower mortality among neonates (RRAdj=0.81, 95% CI: 0.66−0.99) as was maternal hand-washing (RRAdj=0.56, 95% CI: 0.38−0.82). [48]In addition to the causes of newborn mortality and morbidity, there are a number of underlying factors at the household, community and district levels that also serve to undermine the health and survival of newborns.[31]

The Government of Ethiopia has launched a highly innovative effort in the form of community-level structures designed to improve primary health care coverage for underserved communities.The Federal Ministry of Health (FMOH) of Ethiopia launched the Health Extension Program (HEP) in 2003 and it became operational with the 2004–2005 graduation of 7136 Health Extension Workers (HEW).The national Health Extension Program (HEP) includes community-based newborn survival interventions. As a preventive program, the HEP promotes four areas of care: Disease Prevention and Control, Family Health (maternal, newborn, and child health care), Hygiene and Environmental Sanitation, and Health Education..Since late 2011 integrated refresher training for HEWs has been implemented throughout the country, including the essential newborn care practices. Health extension workers, who are women, at least 18 years of age, with a minimum of 10^{th} grade education and trained (completed a one-year course of instruction and field training, provided by TVETs, operated by the Ministry of Education) to implement a Health Extension Package of 16 Health care activities (such as Maternal and child health and Health Education and Communication) at the kebele (village) level. HEWs spend 75 percent of their time visiting families in their homes and performing outreach activities in the community. The remaining 25 percent is spent providing services at the health posts, including immunizations and injectable contraceptives, among others. [53] To the best of my knowledge, the effects of planned teaching of HEW on essential newborn care practice and maternal knowledge of neonatal danger signs as the components of health extension package (Family Health) on site specifically have not been studied in local contexts.

1.2 Statements of the problem

Most newborn deaths occur in just 10 countries, Ethiopia is the 6th country were 81,700 newborn deaths occur each year and has the 6th highest burden with nearly 28,800 first-day deaths, or 3 percent Share of the global total first-day neonatal deaths following India, Nigeria, Pakistan, China, and DR. Congo. In Ethiopia Nine women in every ten delivery occurs at home without skilled attendant. As neonatal mortality contributes to over 62 % of infant deaths in Ethiopia,[1, 2] Interventions to improve child survival must address the neonatal period. The World Health Organization guidelines for essential newborn care encompass cleanliness during delivery practice, thermal protection, initiation of breathing, early and exclusive breast feeding, eye and cord care, immunization, management of illness, and care of low birth weight infants.[20]The health extension program was initiated in Ethiopia in 2003 in line with the basic principle of the Alma-Ata Declaration on primary health-care services for all. The program aims to reach all rural people with basic health services through HEWs and health posts. Quite a large health workforce of HEWs entirely serves the rural population. The HEP is the main vehicle for bringing key maternal, neonatal and child health interventions to the community.[21] The study conducted on evaluating the impact of HEP, indicated that the program significantly influenced child health measures. [22] Despite the various efforts by the Ethiopian MOH and partners, the trends and current status with regard to the key indicators for the development of health show that, particularly neonatal mortality rates are not on course to meet the MDG targets and lot has to be done to meet the global MDG target of 18 neonatal deaths per 1000 live births by 2015.[1,2,3, 22] Neonatal tetanus is a leading cause of neonatal deaths in Ethiopia and other developing countries where a high proportion of deliveries are conducted at home or in other places where hygienic conditions do not exist.[1] A broad literature has begun to identify the negative impact of home birth in Ethiopia on maternal and neonatal outcome as well as on the vulnerability of under-five mortality. [1, 2,4,10, 11] The lack of accurate, up-to-date information on essential neonatal care prevents concerned body from designing strategies to solve problems and allocating resources most efficiently on time.As per my knowledge little is known about essential new born care practice in home delivery in Ethiopia. Since the majority of births (90%) in Ethiopia occur at home without skilled birth attendants the need for assessing newborn care practices are clear.Therefore, this study will be carried out to evaluate how far essential newborn care is being practiced in home delivery at Chewaka resettlement area.

1.3 Significance of the study

Evaluation must be a key part of any program, from origin through implementation. Programs that have not been evaluated do not carry much weight. Lack of evaluation leaves stakeholders to guess whether the program worked [54]. This study assess the effects of the health extension program's outcomes of one component that informs future program planning and design for stakeholders and teaches broad lessons about essential newborn care practice and knowledge of neonatal danger signs of women in the study area.

The Neonatal mortality is really a concern for all the countries especially for developing countries like Ethiopia. Maternal and newborn health one of the six priority areas are identified from the large scope of service under reproductive health umbrella as intervention [49]. As it has been clearly seen from the statement of the problem, globally neonatal mortality is a major public health problem, particularly in Ethiopia. The fact that cultural diversity among the different communities in Ethiopia gives rise to many types of good or harmful neonatal care practice that may conflict with recommended newborn care practices that are risk-enhancing. As per my knowledge there are few research conducted on issue of newborn care practices in Ethiopia. The possibility of change in new-born care practices needs to be examined, including aspects of safety to a newborn baby. This survey is expected to provide information about community based new-born care practices. Therefore: Understanding routine newborn care practices in home birth is necessary in order to fill knowledge gap, the study findings will help to provide Regional Health Office, donors, policy makers, pediatricians and other stakeholders working in the country with valuable information to design and develop locally appropriate targeted and prioritized interventions plans and implementation strategies that will effectively address the problem of Neonatal morbidity and mortality.

Since there is little research conducted in this area of interest especially in newborn care, site specific information on the Essential newborn care practice of mothers in home birth is key to programmatic actions, in local contexts. The finding of this study will be also used as a baseline data for those who are interested in carrying out further research and neonatal care intervention programs in the future.

2. Literature review

Thermal care practice

The lack of thermal protection is still an underappreciated major challenge for newborn survival in developing countries. [25]Study conducted in Pakistan, reveals that more than half56% (316)of neonates were given bath within 6 hours of birth. Of these majority (70%) were bathed within an hour after birth. Almost all (99.1%) Newborn covered properly from head to toe when handed over to mother. [26]

Study conducted in Tanzania show that 2,166 (10%) of baby was dipped in cold water immediately after delivery to check that it was healthy 9,228 (42%) dried 6,046 (27%) wrapped within 5 minutes of delivery. And over half of babies 13,190, (59%) were bathed within 6 hours of birth, 3/4 of them in warm water.With less than 1% of babies were put on her chest. [27]

Study conducted in Bangladesh show that, 65% of the infants were bathed before 24 hours. And 44% were bathed immediately after birth. Only 30.6% of newborn were bathed after 24 hours. [28] Another study conducted from 10 sub-districts of Rural Bangladesh depicted that, out of 1,472 mothers55% newborns dried and wrapped immediately after birth. Delaying bathing by 24 hours took place in 82% of births. [29]

Study conducted in Nepal show that, only 79 (1%) new washed cloths were wrapped for wrapping newborn infants.After the baby had been delivered 3683 (68%) rooms heated. Only 3482 (64%) had been wrapped within half an hour, rising to 5102 (94%) within an hour.Almost all babies had been bathed within six hours of birth, three quarters within the first half hour, and 92% (4992) within an hour.[30] Another study done in western Nepal shows that, 177 (73.8%)of newborn was often wrapped in an old washed cloth. In 137 (57.1%) deliveries the birth place was heated. In 88 out of these 137 (64.2%) deliveries birth place was heated throughout the delivery and in 23 (16.8%) instances it was heated after delivery. Only 100 (45.8%) newborns were wrapped within ten minutes and 233 (97.1%) newborns were wrapped within 30 minutes after birth. 225 (93.7%) out of 240 newborns were bathed after birth. Almost all of these newborns were bathed within six hours after birth. Nearly half of them were bathed within ten minutes, 88.9% within half an hour and 96% within one hour. [31]

Another additional study conducted in Bangladesh show that, only 10% of babies had a bath 24 hours or more after delivery. [32]

Study conducted in eastern Uganda show that, to keep the babies warm, 86% were immediately wrapped, but skin-to-skin care was almost non-existent (2%). Early bathing was the norm, with 56% of the babies bathed within the first 6 hours, 82% within the first 12 hours and almost all during the first 24 hours.[33]

Study conducted in Nigeria reveals that, 247 (82.3%) deliveries the birthplace was heated only after birth. The time taken to wrap the baby was usually prolonged. Only 150 (50%) newborns were wrapped within 10minutes, and 287 (95.7%) newborns were wrapped within 30 minutes after birth. Out of 300 newborns 277 (98.2%) after birth. 200 (70.9%) of them within ten minutes, 95.8% within half an hour, and 98.2% were bathed within one hour.[34]

Study conducted in 4 region of Ethiopia show that, 84 (58.9%) of newborns were dried and/or wiped before delivery of the placenta, while they were wrapped for 114 (80.5%) of births.In 7.7% of home births, the newborn was placed in skin-to-skin position at some point following the delivery.Out of 139 newborns, only 29 (18.7%) bathing was delayed at least 24 hours. [35]

Study done in 51 Philippine hospitals, shows that, 481 mothers were observed by trained physician. And only 9.6% were allowed skin-to-skin contact. More than 90% of infants were dried, weighed, given eye prophylaxis and injected with vitamin K. Approximately 70% were put to the breast for initiation.86% of women reported bathing the baby within the first two days after birth; most women reported bathing the baby soon after delivery, with most babies bathed just after the cutting of the umbilical cord. [36]

Cord care practice

Study conducted in Pakistan reveals that, out of 248 delivered at home, 53% were aware that a clean instrument from a sealed pack was used to cut the cord while 115 (46.4%) don't know. 58 %t of women used some application on the umbilical cord. [26]

Study conducted in Tanzania show that, birth attendants cut the cord with a razor blade 12,327, (96%), of this it was a new razor blade 12,188, (95%). Around half 6,449, (49%) reported that the cord was tied with a new thread.6,183 (28%) women reported putting something on the cord to help it dry, with the mostcommon substances reported to be traditional medicine (8% of all deliveries) and oil (7% of all deliveries). [27]

Study conducted in Bangladesh show that, Boiled instrument61.4% and thread57.1 % used for cutting and tying umbilical cord respectively. [28]

Study conducted in Nepal show that,1787 (33) New or boiled blade were used for cutting umbilical cord, Once the cord had been cut, 3970 (73%) the umbilical stump was usually left undressed, The most common application was oil 994 (18%). [30]

Another study done in western Nepal shows that, the umbilical cord was cut after the expulsion of placenta in 154 (64.2%) deliveries. The umbilical cord was cut with a new or boiled blade in 217 (90.4%) deliveries and in 17 (7.1%) deliveries a sickle/household knife or an old un-boiled blade was used. The stump of umbilical cord was left undressed in 177 (73.8%) deliveries. But oil was applied in 53 (22.1%) deliveries. In all the instances mustard oil was used.The application or massage of the newborn with oil was a common practice and 144 (60%) newborns received an oil massage any time after birth. Almost all of these newborns received mustard oil massage. [31]

Study conducted in eastern Uganda show that, cord cutting was mostly by use of a razor-blade (67%) of which 10% were reused, and only 28% reported to have used cord scissors. About half of the mothers put substances on the cord. [33]

Study conducted in Karnataka (India) reveals that, out of 76 newborn 61.8% cord left open. [34]

Study conducted in Nigeria reveals that, the umbilical cord was cut after the expulsion of placenta in 203 (67.7%) deliveries. It was cut with a new, boiled blade or sterile scissors in 279 (93%) deliveries, and in 12 (4.0%) deliveries a sickle/household knife or an old un-boiled blade was used. The stump of umbilical was left undressed in 50 (16.7%) deliveries. But oil was applied in 14 (4.7%) deliveries. The new born was often wrapped in an old washed cloth 208 (69.3%). More than half newborns 184 (61.3%) received an oil massage any time after birth. [35]

Study done in 51 Philippine hospitals shows that , almost all women reported taking special care of the umbilical cord (98%) using a new or boiled instrument (blade or scissors) to cut the umbilical cord. The majority of women reported cutting the umbilical cord after expulsion of placenta, which ranged from 2 to 20 minutes after the birth of the baby. [37]

Another study conducted in Bangladesh show that, about 87% of the mothers reported that the cord of their newborn babies was cut with a clean instrument**.** The only significant difference in regard to cord care practice was observed by religion (P=0.034). In the adjusted model, secondary and higher levels of maternal education was a significant predictor for clean cord care [odds ratio (OR) =1.3, 95% confidence interval (CI) 1.1, 1.9] compared with women with no education. [32]

Study conducted in 4 region of Ethiopia show that, a new string or thread was used to tie the cord for 65 (41.8%) of births, fiber from 'ensete' plant 34 (31.3%), as were other methods of tying (37.9%) and 12 (8.1%) of cord not tied at all. Out of 140 neonate most commonly the cord was cut with a new razor or blade122 (88.3%) or a previously used razor (6.2%). About 31 (20%) newborns were received butter application and 99 (72.6%) nothing was applied to the newborn's cord after cutting. [36]

Another study conducted in Ethiopia (Jimma Town) show that, for 32 (48.7%) babies butter was applied to the umbilical stump, 356 (58.4%) babies were bathed within 24 hours of delivery. All respondents reported that they cover their babies with clothes to keep them warm, but about 270(44.1%) left the head uncovered. 592 (97.0%) babies were bedded-in (slept in the same bed with their mothers). [38]

Breast feeding practice

Nationally 52% of infants started breastfeeding within one hour of birth, and 80 percent, within the first day [17]. 16% of neonatal deaths could be saved if all infants were breastfed from day 1 and 22% if breastfeeding started within the first hour. [45] A systematic review identified 18 studies reporting a direct association between early breastfeeding initiation and neonatal mortality and morbidity outcomes. [43] Study conducted in Tanzania show that, only 4,059, (18%) started to breastfeed within the recommended time period of an hour after delivery about 18,330, (83%) within 24 hours of delivery. About half 556 (48%) initiate breast feeding between 1 and 6 hours of birth. About half 11,247, (51%) women reported giving their baby something other than breast milk in the first three days after delivery, most commonly sugar water 7,297, and 65% of those giving other feeds. [26]

Study conducted in Pakistan reveals that, among 248 those who delivered at home 93% received pre-lacteals, 92% breast fed their babies after 2 hours of birth. [27]

Study conducted in Nepal show that 3403 (63%) of breast feeding initiated within an hour of birth. Colostrum was discarded before the first feed in 2416 cases (45%); foremilk was discarded at every subsequent feed in 3696 (69%). A taste of clarified butter (ghee), sugar, or honey was sometimes given before feeding began (12%). [30]

Another study done in western Nepal shows that, clarified butter (ghee), oil, honey, sugar or animal milk was sometimes given to the newborns (37/240, 15.4%) before the initiation of breast-feeding.203 (84.6%) mothers had given colostrum or breast milk to their babies as the first

feed. 26/240 (10.8%) mothers had discarded colostrum before initiating breast-feeding. The rates of initiation of breast-feeding were 57.9% within one hour and 85.4% within 24 hours. [31]

Study conducted in eastern Uganda show that, although all babies were breastfed, only about half were initiated within the first hour of birth, with 41% initiating within 1 - 6 hours. Other feeds besides breast milk, including cow's milk, plain water, sugar or glucose water, gripe water and tea, were given to 35% of babies in the neonatal period, contrary to recommendations. [33]

Study conducted in Nigeria reveals that, overall out of 300 mothers, 291 (97%) mothers had given colostrum or breast milk to their babies as the first feed and only 6 (2%) discarded colostrum before initiating breastfeeding. The rates of initiation of breastfeeding were 65.3% within one hour and 95.7% within 24 hours. [35]

Study done in 51 Philippine hospitals shows that, 64% of women reported first feeding their baby something other than breast milk (colostrum).40% of women reported first giving their baby honey, while 16% of women gave sugar water, and 4% gave mustard oil. Half of women reported breastfeeding within one hour of birth, 35% reported breastfeeding within one day of birth, and 14% reported breastfeeding after one day of birth. [37]

Study conducted from 10 sub-districts of Rural Bangladesh depicted that, out of 2,787 mothers76.2% of the newborns were put to the mother's breast within one hour of birth. Most (96.5%) mothers reported giving colostrum to the baby, and 81.2% newborns was Nothing given before giving them breast milk. This result founded after 2years of community-based interventionswere under-taken in 10 upazilas (sub-districts) of Bangladesh. The strategies of the SNL program included community-based interventions, including behavior change communication; improving services through training on essential newborn care; monitoring and evaluation of program activities; advocacy and research. [29]

Another study conducted in Bangladesh show that, only about 19% of the newborns were breast fed immediately after birth. Early breast feeding was positively associated with secondary or higher education level of mothers [OR=1.6, CI 1.2, 2.2]. [39]

Study conducted in Kware, Nigeria show that, out of 179, 54(31%) of the mothers had adequate knowledge of exclusive breastfeeding with more than half, 94(53%) initiated breastfeeding immediately (<30minutes) after delivery, while 85(47%) did so long after 30 minutes. Only 55(31%) of the mothers practiced exclusive breastfeeding. [40]

Study conducted in 4 region of Ethiopia show that, out of 140 newborns 69 (50.2%) breastfed within the first hour, and out of 139 mothers 70 (50.2%) squeezed out and threw away the colostrum/first milk. 18 (11.9%) newborns given something other than breast milk during the first 2 days. Which was plain water, sugar water, fresh butter, milk (other than breast milk), 7 (44.2%), 4 (21.4%), 4 (20.9%), 1 (3.9%), and 7 (45.1%) respectively. [36]

Another study conducted in Ethiopia (Jimma Town) show that, only one-half (305) of the infants received breast milk within one hour of delivery. [38]

Place of delivery and attendance at delivery

Study conducted in Pakistan reveals that, among all (248) home delivery mostly (73%) attended by TBAs and (22%) assisted by LHWs. A small number of women (5%) called for a doctor, nurse or a relative to help them deliver at home. [26]

Study conducted in Tanzania show that, non-facility deliveries 12,624 birth (57%) took place at home, of this 8,681 births (39%) attended by a female relative or friend and 6,824 birth, (31%) attended by Traditional birth attendant (TBA).Six hundred and thirty women (3% of deliveries) gave birth alone). [27]

Study conducted in Bangladesh show that, 53% of births were delivered by traditional birth attendants (TBAs), and 34% were delivered by friends or relatives.At delivery66.5% of attendants washed hands with soap before delivery. [28]

Study conducted in Nepal show that, 4893 women gave birth at home, either inside or in the courtyard. 619 (11%) women gave birth alone, a familymember or neighbor 4241 (78%), and particularly thewoman's mother-in-law 2178 (40%).Skilled attendants covered 6% of births (334), and TBAcovered 267 (5%) delivery. [30]

Another study done in western Nepal shows that, the majority (92.5%) of the deliveries took place either in a separate room or inside the house and the remaining 18 (7.5%) took place outside the house, either in the backyard or other places. More than half 128 (53.3%) deliveries were attended by neighbors, 51 (21.3%) were attended by family members and 38 women (15.8%) gave birth alone. Only 15 (6.3%) deliveries were attended by skilled personnel and 13 (5.4%) deliveries were attended by TBA. [31]

Study conducted in Nigeria reveals that, out of 300 mothers the majority 277 (92.3%) of the deliveries took place either in a separate room or inside the house, and the remaining 23 deliveries (7.7%) took place outside the house, either at the backyard or other places. 100

(33.3%) deliveries were attended by neighbors, 70 (23.3%) were attended by TBA and 47 (15.7%) were auxiliary nurse midwife or health assistant, and 40 (13.3%) were attended by family members. [35]

Study conducted in Dhaka, Bangladesh show that, among 672 women with a live birth in the year preceding the survey 84% gave birth at home and 92% assisted by a TBA or 8% by a relative/ neighbor. Few women gave birth with a skilled provider (12%). [41]

Another study conducted in Bangladeshreveals that, family members or neighbors assisted about 70% of the deliveries. [32]

Study conducted in 4 region of Ethiopia show that, among women delivered at home the most common birth attendant that women reported was a relative or friend 40.1%, while 31.7% were attended by TBA and health workers 31.6%, most notably a nurse midwife 27%, doctor 9%, or HEW 4%. [36]

Another study conducted in Ethiopia (Jimma Town) show that, TBA assisted 129 (74.1%) of home deliveries while relatives and neighbors attended the rest. Only 25 (19.4%) of TBAs used gloves and all the birth attendants cleaned their hands with water and soap prior to assisting. [38]

Cleanliness and hygiene practices during childbirth

The appropriate use of a clean delivery kit or clean delivery practices is associated with relative reductions in neonatal mortality among home births in underserved, rural populations. [46] A systematic review of multiple databases conclude that, based on expert opinion, clean birth and particularly postnatal care practices are effective in reducing neonatal mortality from sepsis and tetanus. Clean birth practices at home with no skilled attendant could reduce neonatal sepsis deaths by 15% and tetanus deaths by 30%. Postnatal new-born care practices were considered to have a higher effect on neonatal mortality with 40% reduction in both sepsis and tetanus deaths [42].

Study conducted in Tanzania show that, cleanliness and hygiene practices during childbirth Over half 7,690, (58%) of women who delivered at home reported that the attendant wore gloves. Six thousand and forty-six (46%) birth attendant washed his/her hands before delivery and used soap. [27]Study conducted in Nepal show that 2729 (55%) women recalled that helpers had washed their hands, 1372 (28%) not done so, and 691 (14%) could not clearly remember.Clean

home delivery kits 461 (8%) had used one for their last delivery, 631 (12%) recognized the kit but had not used one, and 4319 (80%) did not recognize it. [30]

Another study done in Nepal, 92 (38.3%) mother recalled that the birth attendant/s had washed their hands and 116 (48.3%) recalled that they did not do so. Thirty two mothers (13.3%) could not remember at all.46 (19.2%) mothers responded that CHDK was used and 168 (70%) had not used one during their last delivery. [31]

Study conducted in Karnataka (India) reveals that, out of 251 mothers about half home birth 48.2% attended by relative/neighbor, 37% attended by skilled birth attendants and 2.4% left without attendant. [34]

Study conducted in Nigeria reveals that, 120 (40%) mothers recalled that the birth attendants had washed their hands and 152 (50.7%) recalled that they did not do so. 28 (9.3%) mothers could not remember at all.Fifty one (17%) mothers responded that a clean surface was used, and 165 had not used clean surface during their last delivery. [35]

Reason for home delivery

Study done in western Nepal shows that, the common reasons cited for unplanned home deliveries were 'precipitate labor' (51.0%), 'lack of transportation' (18.0%) and 'lack of companion' during labor (11.0%). 'Financial problems at home' and 'worries about cost of care in the hospital' (11.3%), 'distance of the hospital' (6.7%), 'fear about hospital' (2.5%) and 'family members' preference for home delivery' (2.5%) were also mentioned as the reasons for delivering at home. [31]

Study conducted in Nigeria reveals that, out of 300 home deliveries 200 (66.7%) were planned, of these 153 (76.5%) the reasons cited by the mothers were “I prefer home delivery,” “home delivery is easy and convenient,” and “all my previous deliveries were at home.” And 100 (33.3%) home deliveries were unplanned. The common reasons cited for unplanned home deliveries were “precipitate labor” (57.0%), “lack of transportation” (21.0%), and “lack of escort during labor” (5.0%). “Worries about cost of care in the hospital ”and “financial problems at home” (13.7%), “distance of the hospital” (2.7%), family members preference for home delivery (1.7%), and “before the expected date” (0.7%) were also mentioned as the reasons for delivering at home. [35]

Antenatal Care

Study conducted in Nigeria reveals that, out of the 300 mothers 76 (25.3%) had no antenatal visit and about 91 (30.3%) mothers had at least four antenatal visits. 50 (16.7%) mothers did not receive tetanus toxoid vaccine during their previous pregnancies and 210 (70%) received at least two doses of TT. [35]

Study conducted in Pakistan reveals that, majority (70%) of women reported receiving ANC from a skilled provider (doctor) during pregnancy however only 54.5% had four or more visits. About 79% of women received tetanus toxoid vaccination during pregnancy and of these 88% had TT2. [27]

Knowledge of newborn danger signs

Newborn's danger sign namely poor sucking, lethargy or inactivity, fever or hypothermia, respiratory distress, convulsions, vomiting, abdominal distension, umbilical infection [WHO]. Study done in western rural Bangladesh shows that, mostmothers (94.6%) were aware of at least two neonatal danger signs that require immediate medical care.Mothers' knowledge of three or more neonatal danger signs 55.4%. The major danger signs of the newborn within seven days of delivery, as perceived by the respondents, were: fever (81.3%), difficult or fast breathing (75.2%), yellow coloration of the palm and sole–jaundice (36.6%), poor sucking or feeding (26.6%), redness and discharge around the umbilicus/cord stump (25.2%), and convulsion (24.3%). [29]

Study conducted in 4 regions of Ethiopia shows that, mother's unprompted knowledge of newborn danger signs was rather low, with only 29.3% of respondents able to name 3 or more danger signs out of a list of 11. The only newborn danger sign for which there was high awareness among mothers was fever (83.6%). To a lesser extent, mothers were also aware of poor feeding/suckling (39.5%), difficult/fast breathing (21.1%), unconsciousness (17.3%), convulsions (12.7%), and red eyes (10.3%) as signs of serious newborn illness. Very few mothers listed other newborn danger signs, including cold temperature (8.5%), lethargy (3.5%), redness or discharge at the cord (1.7%), and yellow palms, eyes, or soles (0.4%) [36].

Summary of literature review

The immediately after birth newborns bathe puts the newborn at risk of hypothermia which gets worse with the lack of adequate drying and warm clothes. But it is a very common practice to bathe the newborns immediately after birth [25-35], while WHO declares do not bathe a baby before 6 hours of age. Findings from different studies show low coverage of skin - to - skin care practices at home delivery in Africa varying from less than 1% to 9.5% [27, 33, 35, 36]. Although hypothermia is rarely a direct cause of death, it contributes to a substantial proportion of neonatal mortality globally, mostly as a comorbidity of severe neonatal infections, preterm birth, and asphyxia [24].

The cord stump remains the major means of entry for infections after birth. Principles of clean cord stump care (keep it dry, clean and do not apply anything) apply at home as well as in the health facility.Local practices of putting various substances on the cord stump, whether in health facilities or homes, it should be carefully examined discouraged [50]. Using some application on the umbilical cord is a well-known harm full practice in different part of the world including Ethiopia [26, 27, 30, 31, 33, 35, 36, 38]. The cutting of the cord and handling the placenta may be bound by tradition in different cultures.

An average 16% of neonatal deaths could be saved if all infants were breastfed from day 1 and 22% if breastfeeding started within the first hour. [45] But Various studies done in developing countries have reported low prevalence ranging from 4,059(18%) in Tanzania to 2,787 (76.2%,) Rural Bangladesh mothers started to breastfeed within the recommended time period of an hour after delivery.[26,30,31,33,35,29,40,36]

Majority of home birth attended by non skilled birth attendants [26-28, 30-32, 35, 36, 38, 41]. In Ethiopia newborn care provided in home delivery by non-skilled personnel has not yet been studied whether the skills they have and the extent of newborn care they could provide is up to the WHO definitions of essential newborn care. Study conducted in eastern Uganda shows there was a low level of use of the combined newborn care indicator of safe cord care (38%), good neonatal feeding (57%) and optimal thermal care (42%). It found that poor cord care was driven mainly by putting substances on the cord; poor thermal care by early bathing and poor breastfeeding by giving feeds other than breast milk [33]. Since there is little research conducted in this area of interest especially in newborn care, site specific information on the Essential newborn care practice of mothers in home birth is key to programmatic actions, in local contexts.

2.1 Conceptual Framework

This study is used a conceptual framework developed from various literatures.The details of the framework displayed in figure 1 below.The arrows in the diagram show interactions between the variables. As depicted in the diagram Essential newborn care practice in home birth is affected by socio demographic factor, service providers, maternal knowledge and place of birth.

Essential newborn care practice andIdentification of newborn danger signs

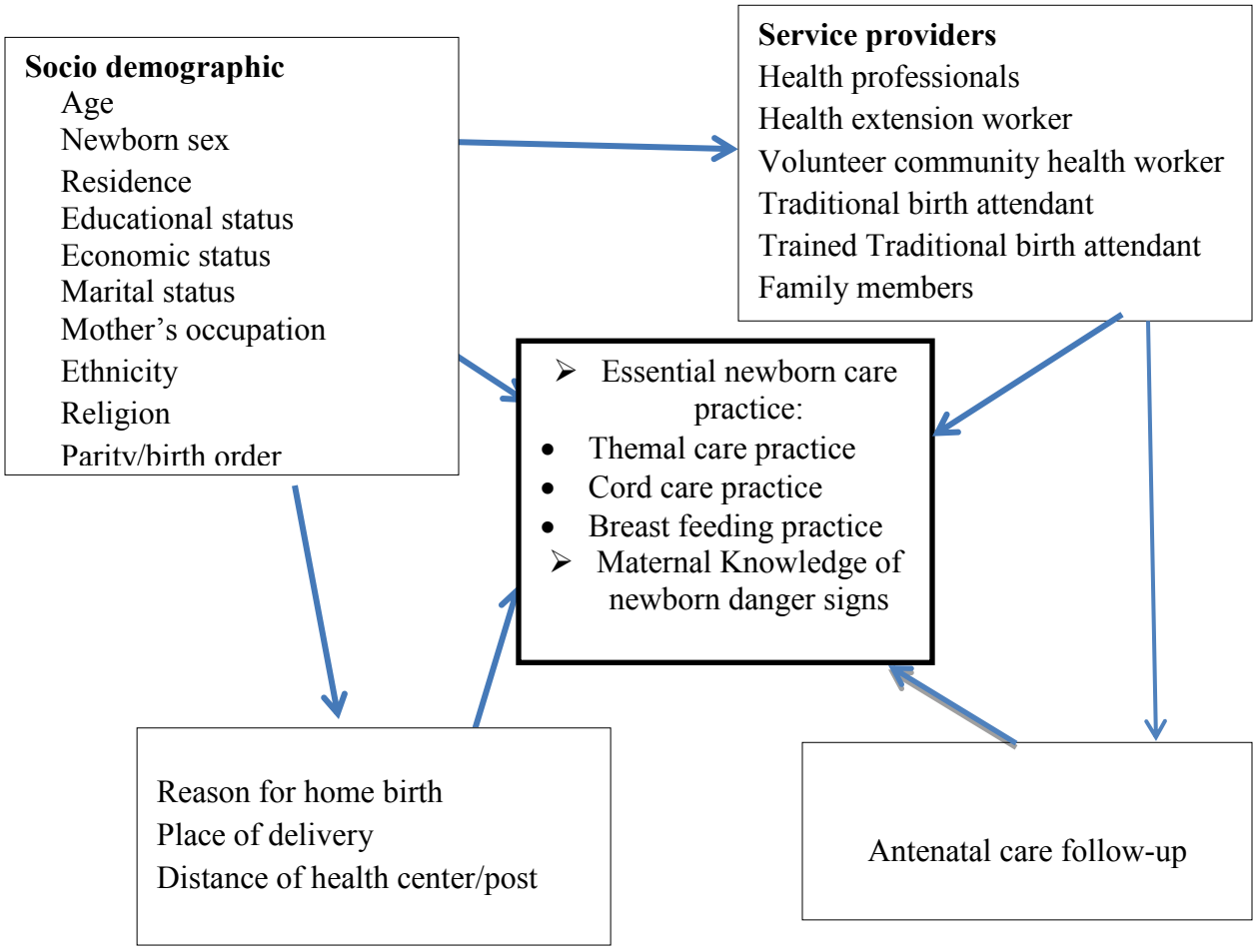

Figure-1.Conceptual frame work showing factors affecting essential neonatal care practice which was developed from literatures

3. Objectives

General objective

To assess effect of planned teachingof health extension package of HEP on essential newborn care practice and knowledge of neonatal danger signs among mothers in Chewaka resettlement area,Illu Abba Bora zone, Oromiya region, Ethiopia.

Specific objectives

1. Toassess if health education had any effect on essential newborn care practice among mothers who give birth at home in the past one year.
2. To assess if health education had any effect on knowledge of mothers regarding identification of neonatal danger signs who give birth at home in the past one year.

4. Methods, materials and procedures

4.1 Study area and period

This community based pre-experimental one shot study design was conducted from April th7 to may1, 2014 in 7 randomly selected kebeles in Chewaka resettlement area. Chewaka resettlement area which is the largest of the resettlement area andit is located in Illu Abba Bora zone, Oromiya region. The site established at the end of 2003 and is about 90km far from Bedele town in the Northwest direction. The area is situated at an altitude of 1250m above sea level and is categorized under lowland (kola) agro- ecological zone.The settlers were previously living in East and West Harerghe zone of Oromiya region. The resettlement program was done by two phases where 8000 households settled in the first phase and 6000 households in the second phase. This resettlement area has seven major sub-sites and further sub divided into 28 (8 urban, 20 rural) smaller administrative units (kebeles).All the seven major sites are accessible by dry weather roads but difficult during rainy season. The 2007 Population and Housing Census of Ethiopia was reported a total population for this Woreda is 56,106, of whom 29,681 were men and 26,425 were women; 1,048 (1.87%) and 55,058 (98.13%) of its population were urban and rural dwellers respectively. This woreda has a total of 12,244 households and 12050 women in reproductive age group (15-49 years). The majority of the inhabitants were Muslim; with 94.17% of the population reporting they observed this belief, while 4.53 of the population practicing Ethiopian Orthodox Christianity, and 1.19% were Protestant. According to the information obtained from Chewaka woreda Administration Office,the district has 49 HEW, three health center, has no hospital but the regional hospital (Nekemt) serves as the first referral level for emergency obstetric care for this district where emergency obstetric care services are provided for 24 hrs.

4.2 Study design

The study was employed by using community based a pre-experimental one-shot study design among women who gave birth during the one year preceding the study using structured questionnaire interviews.

4.3 Source and study Population

Source population; all women in reproductive age group who are permanent residents of the study area

Study population; all women in reproductive aged 15 to 49 years who had given birth to a live baby within a year before the survey.

Study subjects; Sample of women in reproductive age group who had given birth to a live baby greater than 28 gestational weeks within the a year prior to the survey and their place of delivery is at home.

Study unit; Individual women

4.4 Inclusion criteria and Exclusion criteria

Inclusion criteria;

Women in reproductive age group who:

- ✓ Resided in the study area for at least one year regardless of marital status
- ✓ Have given birth at home within a year preceding the survey
- ✓ Reported to have delivered live birth after 28 weeks of gestational age
- ✓ Had an infant loss prior to the study period
- ✓ Are mentally and physically capable of being interviewed

Exclusion criteria; include

Those that did not fulfill the inclusion criteria plus, mothers who had a stillbirth, mother who have had institutionalized delivery of baby and who refuse to give informed consent.

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4.5 Sample Size Determination

The required sample size of eligible mothers for the study was determined by using Single population proportion formula

$$n = \frac{(Z_{\alpha/2})^2 p(1-p)}{d^2} = \frac{(1.96)^2 (0.9)(1-0.9)}{(0.05)^2} = 138$$

The Sample size calculation was made based on the following assumptions

The margin of error and confidence interval were taken to be 5% and 95% respectively.

Proportion of women who gave birth at home 90%

Where: n= sample required

$Z_{\alpha/2}$ = Critical value for normal distribution at 95% confidence level which equals to 1.96 (z value at α =0.05)

P= Prevalence of home birth in Ethiopia. 90%

D= Margin of error (0.05%)

Design effect assumed to be 1.5 owing to the use of multi stage stratified samplingand supposing that adequate sample size was obtained.

Expecting a 15% non-response rateis considered for eligible mother who might refuse to participate, missed, and changes their residence.

Based on the above assumption, the final required sample size was calculated to be **238**

4.6 Sampling Procedures

The lists of names of the smallest geographical units (kebeles), and the number of women who had given birth and were received health education from health extension worker within the previous one year were obtained from Chewaka woreda administration office. A multi stage stratified sampling scheme was employed. Out of 28 administrative units (kebeles) found in Chewaka resettlement area, first, all the kebeles in the woreda were stratified in to urban and rural kebeles. Two urban (Gudure and Jogen) and five rural kebeles (namely: Dire Misoma, Walitasis, Burika Aneni, Tokuma Harer, And Terekanfeta Misoma) were selected using simple random sampling technique for the study by lottery method. Then the determined sample sizes were distributed proportionally to each selected urban and rural kebeles based on probability proportional to population size of each kebele. To select the study participants from total population of women who had given birth within the previous one year systematic random sampling method was applied. The sampling interval was determined by dividing the total women who gave birth in previous year by the total number of sample size [N/n=K=610/238=3]. Then, the Center was located as the starting point and a direction is chosen by spinning a pencil. The first household visited was selected by drawing randomly. In the direction of the pencil tip up to the end of the outer border of the kebele by 3intervals the entire selected participant s were interviewed though the total number of eligible participants became equals to the determined sample size for each kebele. A total of 238 eligible participants were interviewed. Figurer 2 below shows schematic presentation of sampling procedure.

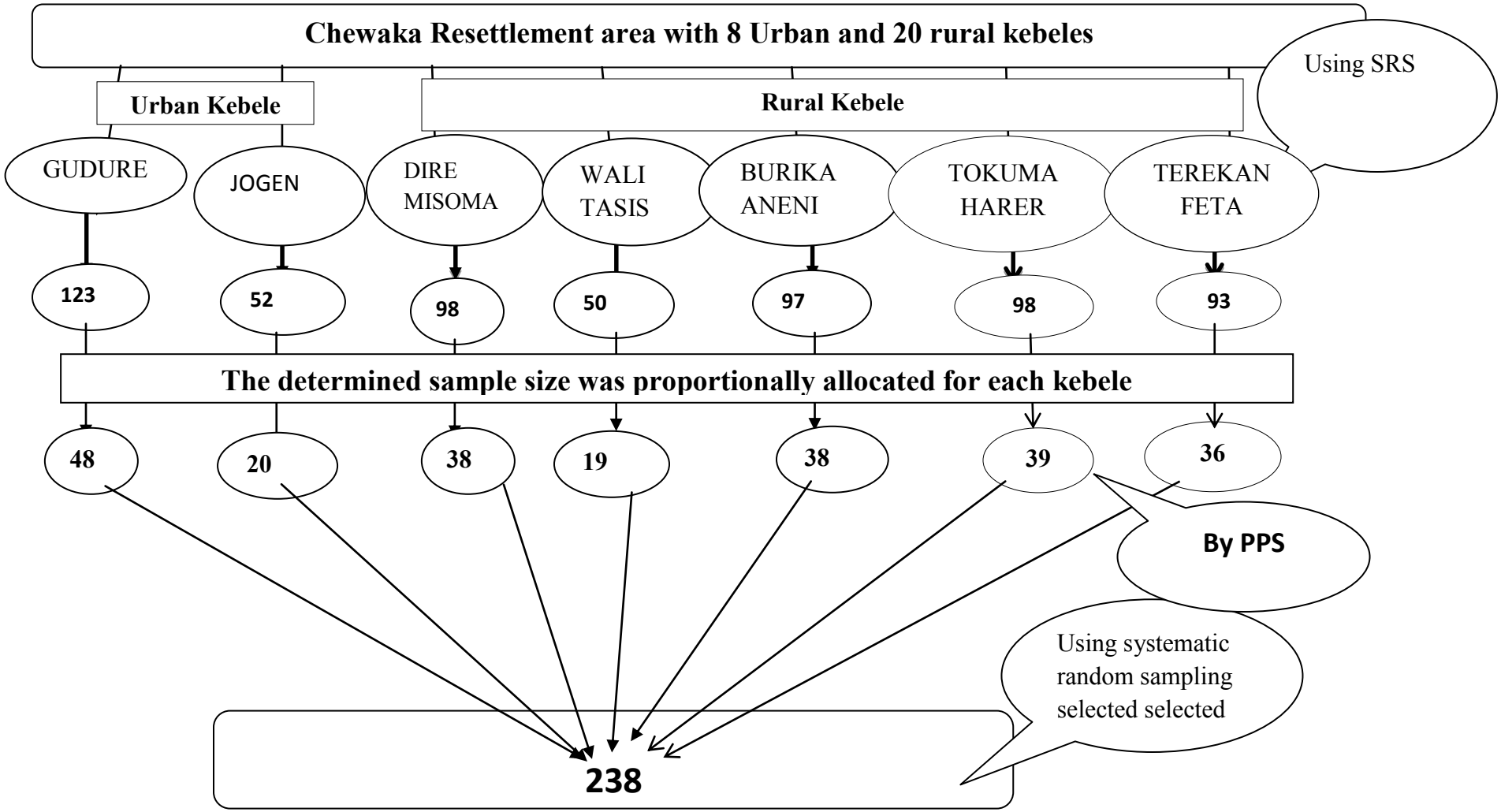

Fig2. Schematic presentation of sampling procedure

PPS= population proportion size

4.7 Data collection tool

Primary data was collected by using properly structured questionnaire interview (containing both close ended and open ended questions) which are adopted from CB-MNH, Nepal, Baseline Survey questionnaire [55] and are designed in such a way that they include all the relevant variables to meet the objectives of the study.The questionnaires were developed in English first then the English version of the questionnaire was translated in to Oromic language for better understanding by both data collectors and respondents. Consistency and equivalencywere checked by translating the Oromic version back to English by another individual who is fluent in both languages.Finally, the Oromic version was utilized for data collection. The questionnaire was pre tested 4 days prior the actual study on 10 eligible women outside the study area in one randomly-selected neighboring kebele called Dersitu-misoma. Findings was discussed among data collectors and supervisors, so that, the questionnaire was modified according to local traditions, cultural sensitivity, clarity was made on vague questions, and repeated questions were removed before actual data collection. The final interview was conducted at participant's home at convenient time, and place arranged by the data collectors to gether with the women using the modified questionnaire.

4.8 Data collection process/procedures

Selection and Training of data collectors and supervisors

Eight people who are fluent speakers of Oromic language aged 18 years or older with at least 10^{th} grade completed and two nurses were recruited from the study area in which they reside in order to ensure acceptance by community membersand appropriate training was given by the Principal investigator (PI) prior to data collection for one day. The sessions of the training include purpose and objectives of the survey, the content of the questionnaires, meanings of each question and how to approach the respondents and conduct the interview. In addition the role and responsibilities of data collectors and supervisors were covered. During the sessions lecture, discussion and role play was used. Selection eligible women were madesystematically, interviewers was visited each selected house and any member of selected households was approached by interviewer and asked about the presence of any women in the household who had had given birth within the past one years. Prior to interview, informed consent was obtained from all participants and eligible study subjects were interviewed about their experience in caring their baby during the first 28 days of his or her life of newborns till the required sample size is achieved. In households with more than one eligible mother, lottery method was used to select the one to be included in the study.When selected woman was not at home on the first attempt to visit her, two additional attempts were made before another participant was selected to be interviewed. If a woman is unavailable due to working or travel, interviewers were made every effort to return at a time when she might be expected to be at home. Data collection was supervised by 2 Nurses (BSc.) and the Principal Investigator also was continuously supervised the data collectors.

4.9 Study Variables

Dependent variable

Home birth and Essential newborn care Knowledge and practice indicated by

- ✓ Thermal care practice
- ✓ Clean cord care practice
- ✓ Early initiation of breast feeding
- ✓ Maternal knowledge of neonatal danger sign

Explanatory variable /independent variable

A. Demographic and Socioeconomic characteristics of the respondents

- ✓ Residence
- ✓ Maternal age
- ✓ Ethnicity
- ✓ Educational status of the mother
- ✓ Occupation of mothers
- ✓ Religion of the mother
- ✓ Monthly income

B. Obstetrics characteristics of respondents

- ✓ Parity (Birth order)
- ✓ ANC follow up
- ✓ Age infant
- ✓ Newborn's sex
- ✓ A neonatal death
- ✓ Place of delivery
- ✓ Attendance at delivery
- ✓ Reasons for choice of home deliveries

4.10 Operational Definitions

Essential newborn care (ENC): It is a comprehensive strategy designed to improve the health of newborns through interventions at and soon after birth, and in the neonatal period that include:-

1. **Newborn thermal care practice**: Newborn dried and wrapped immediately after delivery and first bath delayed for 24 hours or more
2. **Clean cord care practice:** Umbilical cord cut with clean instrument (new/boiled blade), tied with sterile (clean) thread and applied nothing or only antiseptics on the cord stump.
3. **Early initiation of breastfeeding:** Newborn is put to breast immediately (within one hour) of birth; given colostrum (first milk), no prelcteal feeding.
4. **Knowledgeable of neonatal danger sign**: Unprompted, the woman correctly named 3 or more newborn danger signs.

4.11 Data quality assurance

Data quality was assured by using different approach. The questionnaire prepared in English was translated into Oromic language for field work purpose and back to English to check for consistency.Training and orientation was provided for one day to eight data collectors and two supervisors on data collection and interviewing approach. The questionnaire was pretested on 10 mothers who have similar characteristics with study population four days before the actual data collection. During data collection, supervisors and principal investigator waswatching over the data collectors on site and every evening checked the data for accuracy, consistency and completeness of the questionnaires. Supervisors also rechecked five percent of the samples in order to cross check the collected data. Incomplete questionnaires were returned back to data collectors to be filed again. The study was received ethical approval from the Addis Ababa University Institutional research Review Board (IRB). And also verbal informed consent was obtained from study subjects in their own language explaining the purpose of the study and the right to with draw from it. The respondents were also assured of confidentiality. Mothers were anonymously and confidentially interviewed.The 1-year limit was set with the intention to try to lessen the recall-bias by the mother who selected for interview.

4.12 Data management and Analysis

Data wascoded and entered using Epi-data version 3.2.2 by data clerks after the collected data checked for errors by the principal investigator and supervisors for completeness and accuracy. Then data were exported to SPSS version 20 for analysis. After that data were analyzed by using Statistical Package for Social Sciences (SPSS-20) and Microsoft excel, appropriate descriptive statistics were analyzed by describing in frequency distribution, percent distribution, means, standard deviations, and cross tabulation with Chi-square (X^2) test was done to access the significant differences in the covariates. A P value of less than 0.05 was considered significant. Binary logistic regression and Multivariate analysis was carried out. Initially, a simple logistic regression method was employed to select the variables that were significantly associated with the outcome variables of knowledge level. The variables that were not significant in the simple logistic regression were discarded. Most of the variables of the questionnaire set were not coded in the format that was necessary for analysis in this study. Therefore, before the analysis most of the variables were recoded to create new variables required for the analysis.

Good thermal care: A dichotomous variable was created as an indicator to measure the good newborn thermal care practice. Those women whose newborn were dried and wrapped immediately after delivery (before placenta was delivered) and first bath delayed for 24 hours or more were assigned a score of "1" and those mothers whose newborn were bathed any-time before 24 hours after birth, not dried and wrapped were assigned a score of "0". A score of '1' represented the preferred practice.

Good cord care: A dichotomous variable was created to measure the cord care practice. Those women who used clean instrument (new/boiled blade), tied with clean (new, washed) thread and applied nothing to the cord of the newborn, were assigned a score of "1". Those women who used any other instruments such as used blade, knife, and wood were assigned a score of "0". A score of '1' represented the preferred practice.

Good breast feeding: A dichotomous variable was created as a measure for early (good) breastfeeding practice. Those mothers whose newborn were breastfed within one hour of birth, given colostrum (first milk), no pre-lacteal feeding were scored as "1". Those women whose newborn were breastfed any-time after one hour of birth, not benefited from colostrum and pre lacteal feed were scored as "0". A score of '1' represented the preferred practice.

4.13 Ethical Consideration/ Clearance

This research was approved by the Institutional Review Board (IRB) for Health Research of the University of Health Sciences, in AAU. Official letter of cooperation was written from Addis Ababa University Medical facultySchool of Allied Health Science Department of Nursing and MidwiferyPostgraduate program and permission for the study wasalso obtained from Chewaka Woreda health bureau and all the concerned bodies in Chewaka resettlement area to obtain their cooperation in facilitating the study. Verbal consent was obtained from all of the study participants after informing them clearly and in detail about the nature and the purpose of the survey, procedures, potential risk and benefits of the study before participation in the study. They were assured anonymity and privacy; their name and identity was not disclosed at any time and the information provided by participants was kept confidential. All items were pre-coded. The study participants also was informed that they can withdraw at any time.

4.14 Dissemination of Results

The finding of this study upon the finalization of the analysis and interpretation of the result, it will bedefended and comprehensive report was submitted to Addis Ababa University School of Graduate Studies. The findings of this study will also be communicated to relevant and concerned bodies who are directly or indirectly working in improvement of neonatal health. Ways of disseminating the findings will be through public forum, meetings, written reports, and publication.

5 Results

5.1 Socio demographic characteristics of study participants

A total of 238 Women who gave birth within the 1 year prior to the survey were interviewed. Of which 170 (71.4%) were rural and 68 (28.6%) were Urban with overall response rate was 100%. The study revealed that majority of the mothers 94 (39.5%) belonged to the age group of 25-29 years. Their ages ranged from 17 to 40 years and the mean age of participants was 26.66 years old with $\pm$5.086 SD. The dominant ethnicity is Oromo 193 (81.1%) and the dominant religion was Muslim 190 (79.8%). Regarding their marital status, majority 204 (85.7%) and 31 (13.0%) of them were married and formerly married, respectively. More than half 126 (52.9%) of the respondents had never been to school (while 113 (47.5%) unable to read and write, only13 (5.5%) were able to read and write) and of those who reported to have attended formal schools, accounts almost half 112 (47.1%) of participants. Major occupation of respondents was house wife 131 (55.0%) and farming, accounting for 83 (34.9%) of the respondents. Economically, 135 (56.7%) of the households had monthly income of less than 1000 ETB and 103 (43.3%) had more than 1000 ETB monthly income based on their average income. See table 1 below.

Table 1: Distribution of sample by Socio demographic characteristics in Chewaka woreda from April 2005-April 2006

	N=238	Frequency	(%)	Cumulative %
Residence	Rural	170	71.4	71.4
	Urban	68	28.6	100.0
Age categories	15-19	30	12.6	12.6
	20-24	49	20.6	33.2
	25-29	94	39.5	72.7
	30-34	45	18.9	91.6
	35-39	19	8.0	99.6
	40-44	1	.4	100.0
Ethnicity	Oromo	193	81.1	81.1
	Gurage	23	9.7	90.8
	Amara	6	2.5	93.3
	Others* (Argoba)	16	6.7	100.0
Religion	Muslim	190	79.8	79.8
	Protestant	22	9.2	89.1
	Orthodox	26	10.9	100.0
Marital status	Married / Living together	204	85.7	85.7
	Formerly married(Divorced, Widowed)	31	13.0	98.7
	Never married / single	3	1.3	100.0
Educational status	Unable to read and write	113	47.5	47.5
	Able to read and Write	13	5.5	52.9
	Grade 1 to 4	50	21.0	73.9
	Grade 5 to 8	48	20.2	94.1
	Grade 9 to 10	9	3.8	97.9
	Grade 11 to 12	1	.4	98.3
	Grade 12+	4	1.7	100.0

Occupation	House wife	131	55.0	55.0
	Farmer	83	34.9	89.9
	Merchant/Trade	11	4.6	94.5
	Government employee	3	1.3	95.8
	Daily labourer	10	4.2	100.0

5.2 ANC service utilization

Majority195 (81.9 %) of the participants received ANC services most of them 124 (52.1 %) made their first visit in the 2nd Trimester (12 -24 weeks). However only 31 (13.0%) of participants received each of the four sets of focused ANC services as recommended by world health organization, while other 43 (18.1 %) were not received ANC service. About half 122 (51.3%) of women reported receiving some antenatal care services from Health extension worker most 112 (47.1 %) of it given in health post. Only 26 (10.9 %) respondents (23.5%) initiated antenatal care before 16 weeks of pregnancy, as recommended.45 (18.9%) those who attended antenatal care check-ups waited until the 3rd trimester before accessing ANC for the first time.

Table 2: Antenatal Care service Utilizations in Chewaka woreda from April 2005-April 2006

	Variables N=238	Frequency	Percent%	Cumulative %
	ANC service utilizations	195	81.9	81.9
ANC care providers	Midwife/Nurse	64	26.9	32.8
	Health extension worker	122	51.3	95.4
	Traditional birth attendant	9	3.8	100.0
	Not ANC Service received	43	18.1	
Place of ANC received	Ther home	13	5.5	6.7
	Other home	2	.8	7.7
	Hospital	3	1.3	9.2
	Health center	65	27.3	42.6
	Health post	112	47.1	100.0
	Not received ANC	43	18.1	
Trimester (GA) at 1st ANC visit	1st Trimester (1-12weeks)	26	10.9	13.3
	2nd Trimester (12 -24 weeks)	124	52.1	76.9
	3rd Trimester (25-37 weeks)	45	18.9	100.0
No of ANC visits	1 visit	42	17.6	21.5
	2 visit	75	31.5	60.0
	3 visit	47	19.7	84.1
	4 visit	31	13.0	100.0

The women from the parts of the resettlement area usually travel to health center a midian is 40 minutes journey on foot and 10 minutes for Health post. The majority of wome 195 (81.9%) were exposed to the ANC. About 26 (10.9 %) of women received first ANC during early pregnancy (less than 12 gestational week), 45 (18.9%) during late pregnancy (gestational week 25-37). 31 (13.0%) of women received at least four ANC visits during their pregnancy.

Forty-five (18.9%) mothers did not receive tetanus toxoid vaccine during their previous pregnancies and 136 (57.1%) received at least two doses of tetanus toxoid as recommended by world health organization. Only 2 participants have had lifetime protection. See Annex: A.

Table 3: A mong women attending ANC, percent receiving newborn care counselingin Chewaka woreda from April 2005-April 2006

N=238	Frequency	per cent
Counselled on New-born danger signs	173	72.7%
Coached on kangaroo mother care (KMC)	43	18.1%
Counselled on care of low birth weight LBW baby	79	33.2%
Counselled on breastfeeding	154	64.7%
Counselled on expressing breast milk	82	34.5%
Counselled on cup feeding with Breast milk	108	45.4%
Counselled on nutrition	180	75.6%
Counselled on birth preparedness	180	75.6%

Among women attending antenatal care from healh worker, the most commonly received counseling messages about new-born care were on Newborn danger signs 153 (64.3 %) breast feeding 142 (59.7%). Fewer women reported receiving counseling on kangaroo mother care (KMC) positioning 43 (18.1 %), care of the low birth weight baby (LBW) 79 (33.2%).

5.3 Place and attendant at delivery

Among 150 (63.0%) participant who planned their place of birth 122 (51.3) % of participants planned to deliver their baby at health center, 5 (2.1%) in hospital, 7 (2.9 %) at health post the reminder 16 (6.7%) at their home. The majority of participants 178 (74.8 %) delivered their child at their home, 54 (22.7%) in Other's home and the reminder 6 participant delivered other place like on the road to health center. The most frequently birth attendant that women reported was TBA, Traditional birth attendants (TBA) performed the majority 136 (57.1%) of deliveries attended, and Health extension workers (HEW) attended 66 (27. 7 %), relatives or friends performed 25 (10.5%). The percentage of births whose delivery was assisted by qualified medical personnel (doctor, nurse or midwife) was 7 (2.9 %), 3 participants were gave birth without assistant. During the study period 4 neonatal had died.

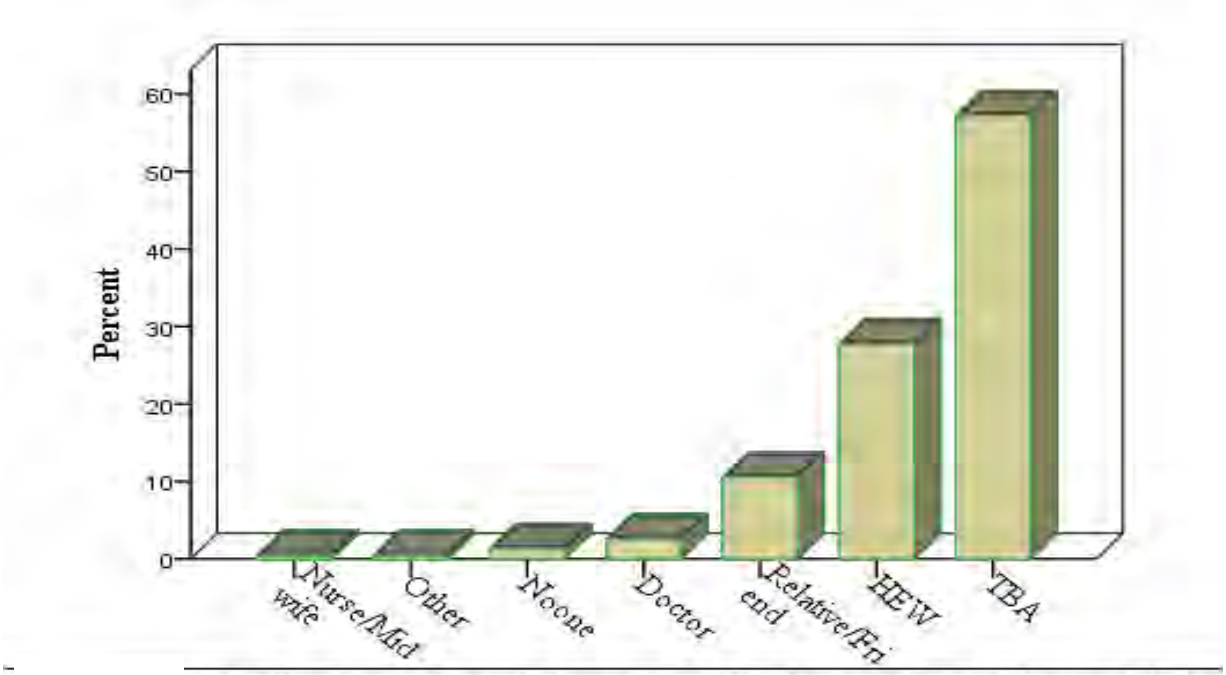

Figure3: Distribution of participants by birth attendant at home birth in Chewaka woreda 2006

5.4 Cleanliness and hygiene at delivery

The study revealed that regarding hygienic practices 155 (65.1%) of birth attendants washed their hands with soap before delivery, 87 (36.6%) wore gloves, 176 (73.9%) of the surface on which the cord is cut was clean.

5.5 Essential newborn care practice among mothers

5.5.1 Thermal care practice

Table4: Presents immediate newborn thermal care practices as reported by women. More than one fourth of the mothers warmed the room with firewood burning before, through birth, or after birth to maintain the warm of the room. The study revealed that thermal control practice by Skin-to-skin contact between mother and baby to protect the newborn's body temperature immediately after birthwere poor, only 18 (7.6%) of women were practiced in the study areas. This study revealed that about three fourth of the babies were wrapped with clean cloths, in other word only about one fourth of the babies were uncovered at appropriate timebefore the placenta was delivered, but 113 (47.5%) of them were dried at the proper time. The majority of the newborns 146 (61.3 %) were washed after 6 hours and in only 62 (26.1%) of births did the mother report that bathing of the newborn was delayed more than 24 hours. 92 (38.7%) of newborns were given a bath immediately after birth within the first 6 hours and 61.3% first bath delayed for 6

hours or more. Generally only 38 (16%) newborns received good thermal care (immediately dried and wrapped with clean cloth, time of bath delayed at least for 24hrs), the rest 200 (84%) of newborns were received poor newborn thermal care. See Appendix F.

Spontaneous breathing/asphyxia

The majority196 (82.4%) of the new-born cried or breathing spontaneously immediately after birth. Out of those who did not cry immediately after birth, 42 (17.6%) of new born were helped immediately after birth to cryor start breathing. The mothers did remember the steps taken to make baby cry such as 10.1% rubbingor massaging the back and 11 (4.6%) Mouth cleansing was done and 2 (0.8%) were taken to health institutionand one mother don't know what measure was taken. See table who took these measure to the new-born. More than half 129 (54.2%) of new born were received care from femalerelative 36 (15.1 %), mother or mother inlaw 28(11.8%), Sisteror sister inlaw38 (16%), TBA17 (7.1%), HEW 5 (2.1%), other 5 (2.1%) while placenta was delivered.

5.5.2 Cord care practice

Among 238, 205 (86.1%) of the mothers reported that the cord of their newborn babies was cut with a clean instrument (New razor blade), 24 (10.1%)old razor blade 15 (62.5%) of which were boiled, 9 (3.8%) other (domestic knife) 7 of which were boiled. 148 (62.2%) of umbilical cord was tied with new thread, 21 (8.8 %) of women reported that they did not know/remember by what the cord was tied, 64 (26.9%) were Oldthread (24 were boiled while the remaining 40 were not boiled) , other tie such as a string-like fiber from the plant was used, totally 29 (12.2% tie were boiled prior to use).However, the survey did not ask how long the blade or thread were boiled; boiling may have been inadequate or objects may have been re-contaminated before being used, so this figure may overestimate the prevalence of effective clean cord care 132 (55.5%) of mothers applied nothing on cord stump in dry cord keeping practice and 23 (9.7%) thestampofthe umbilical left undressed. Among 238, 102 (42.9%) of mothers reported that applying substances on the cord stump of their newborn babies such as butter, Ointment, oil, ash and Animal dug . The most commonly used substance was butter 56 (23.5%). In general cord care practice 64 (26.9%) of mothers reported safe cord care practice (a clean cutting instrument to cut the umbilical cord, clean thread to tie the cord plus no substance applied to the cord) while the remaining 174 (73.1%) of mothers unsafe cord care practice (one or more practices missing).

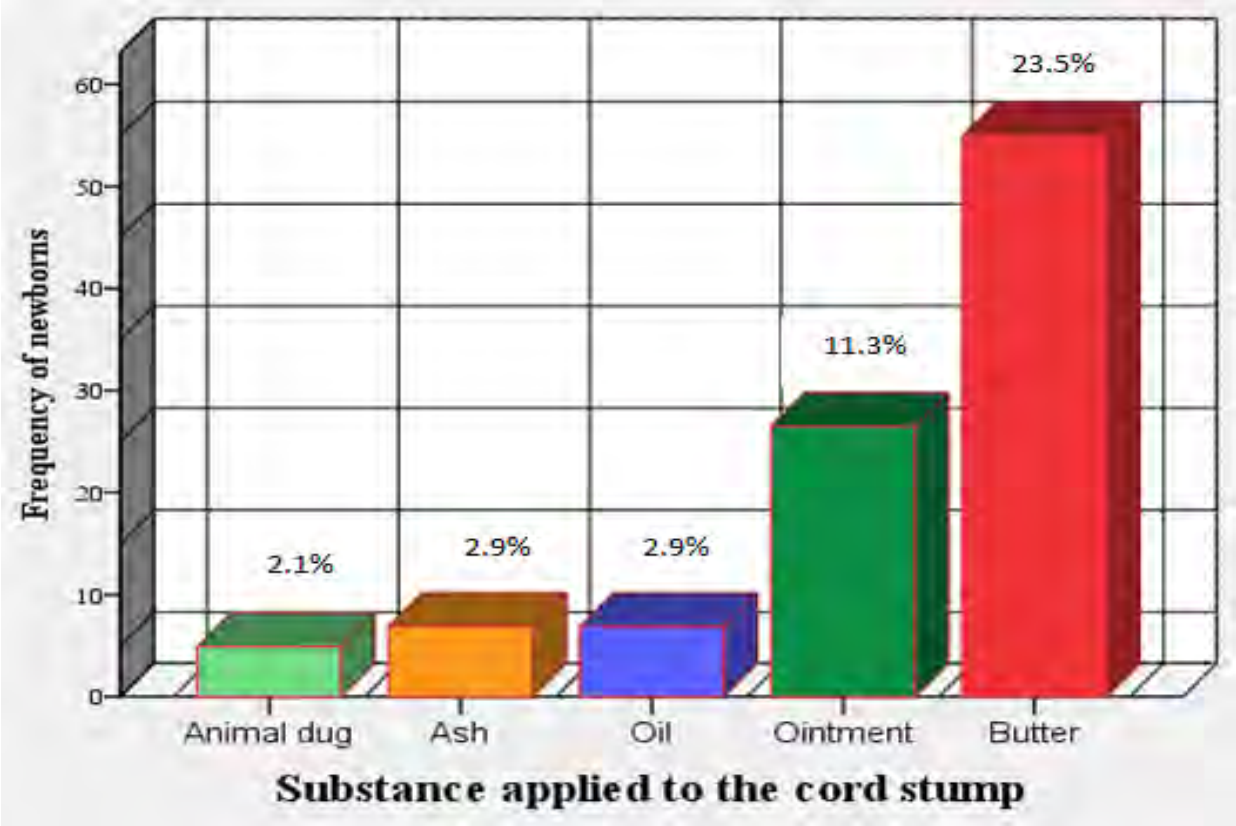

Figure4: Distribution of substance applied to the cord stump in Cheawa woreda from april2005-April 2006 E.C.

5.5.3 Breast feeding practice

Even though all children are breastfed, Only 78 (32.8%) of mothers were put their baby immediately to the breast before placenta was delivered, but 150 (63%), of mothers reported that their newborns were initiated breastfeeding within the recommended the first hour after delivery. Only 3 (1.3%) of mothers don't know or remember the time they feed their newborn for first time. See figure 4. Practices with respect to colostrum and pre lacteals were 53 (22.3%) of mothers reported that they squeezed out the colostrum before breastfeeding the newborn and 185 (77.7%) of the children benefited from colostrum and 141 (59.2%) were breastfed exclusively during the first 3days of life. 97 (40.8%) of mother gave feeds other than breast milk to their baby. 35 (14.7%) fresh butter and 20, (8.4%) of mothers had given the child plain water to drink within the first 3 days after delivery.

The chi-square test was done to test whether early breastfeeding practicehas a significant associationwith antenatal counseling on breast feeding. The results found a significant

association between early breastfeeding practice and counseling on breast feeding $\chi 2$ (1, N=238) = 6.666, $p<0.05$. The odds of early feeding practice of women received antenatal counseling regarding breast feeding are 3 times more likely than a women not received antenatal counseling from health workers with 95% of CI (1.264-7.119). Concerning neonatal feeding 40 (16.8%) of respondents reported good newborn breast feeding practice (Early initiating breastfeeding within the first one hour after birth, colostrum feedingand given no pre lacteal feed in the first 3day of life).

Table4: Counseled on breastfeeding and Early breast feeding practice Cross tabulation

			Early breast feeding practice		Total
			Good breast feeding practice	Poor breast feeding practice	
Counseled on breast feeding at ANC	Yes	Count	33	121	154
		Expected Count	(25.9)	(128.1)	154
	No	Count	7	77	84
		Expected Count	(14.1)	69.9)	84
		Count	40.0	198.0	238

Table 5: Pre lacteal feed in the first 3 days in in Chewaka woreda from April 2005-April 2006

Pre lacteal feed given to the baby during the first three days	Frequency	Percent %
Infant formula	1	.4
Other	9	3.8
Milk	13	5.5
Sugar solution	19	8.0
Plain water	20	8.4
Fresh butter	35	14.7
Total	97	40.8
EBF within the first 3 days	141	59.2

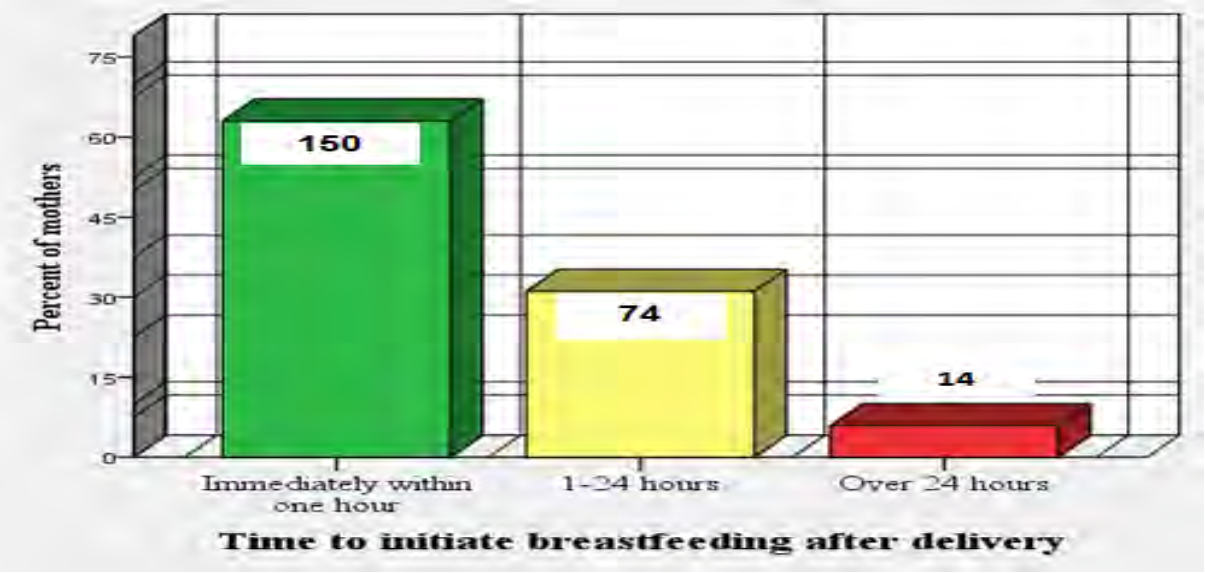

Figure5: Early breastfeeding practices among home birth in Chewaka woreda from April 2005-April 2006

Table 6: below shows reasons that women in Chewaka woreda choose not to deliver at a health facilityin Chewaka woreda from April 2005-April 2006

	Frequency	Percent	Cumulative %
Not necessary	7	2.9	2.9
Preferred to deliver at home	33	13.9	16.8
Delivered on the way to health facility	38	16.0	32.8
Too far or no transportation	46	19.3	52.1
Other[1]	49	20.6	72.7
Not customary	65	27.3	100.0
Total	238	100.0	

1 = Lack of transport during labour, lack of escort during labour, precipitate labour, night delivery

5.5.6 Knowledge of neonatal danger signs among mothers

Among the total of 238 eligible respondents who were asked about their current knowledge on neonatal danger signs, the questions were unprompted. In the present study the posttest only knowledge scores of mothers revealed that 153 (64.3%) of the respondents had good knowledge or they knew 3 or more neonatal danger signs out of the list of 11 danger signs, 85 (35.7%) of the respondents had poor knowledge or they were not aware of neonatal danger signs they only mentioned 2 or less of neonatal danger signs to identify newborn problem. Poor suckling or feeding143 (60.1%), Fever138 (58.0%), Convulsion78 (32.8%) were mentioned as common neonatal danger sign by respondents. To some extent, mothers were also aware of babies feel cold27 (11.3%), and redness or discharge around the cord 44 (18.5%), lethargy 52 (21.8%), unconscious65 (27.3%), difficulty of breathing65 (27.3%) as signs of serious newborn illness. The newborn danger sign for which there was low awareness among mothers was too small baby or born too early 3 (1.3%), yellow palms or sole or eyes 6 (2.5%), red swollen eyes or discharge 12(5%) (Table7). The chi-square test was performed to test whether mother's knowledge of newborn danger signs has a significant association with counseling on newborn danger signs from health workers. The result found a significant association between mother's knowledge of newborn danger sign and newborn danger signs counseling from health workers, $\chi 2$ (1, N=238) = 81.786, $p<0.001$. The cross tabulation analysis show that Knowledge of neonatal danger signs among counseled mothers on neonatal danger signs was greater 141 (81.5%) while only 12 (18.5%) of not counseled women were knowledgeable. By binary regression the odds of knowledge of women who received antenatal counseling regarding neonatal danger signs 19.461 times more likely to have knowledge of neonatal danger sign then women not counseled with 95% CI (9.334, 40.576), $p<0.001$.

Table 7: Counseled on newborn danger signs and knowledge level Cross tabulation

			knowledge3		Total
			Kowledgable	Not knowledgable	
Counseled on newborn dangersigns	Yes	Count	141	32	173
		Expected Count	(111.2)	(61.8)	
	No	Count	12	53	65
		Expected Count	(41.8)	(23.2)	
Total		Count	153	85	238

A knowledge score was computed based on their knowledge level of newborn danger signs and were divided into two groups, knowledgeable and not knowledge. A dichotomous variable was created as a measure for knowledge level about newborn danger signs. Those mothers who scored $\geq$ 3 neonatal danger signs were scored as "1". Those women who scored $\leq$ 2 neonatal danger signs of newborn were scored as "0". A score of '1' represented the preferred practice. The maximum score that obtained was eight and minimum was one. Those who were receiving care from a health worker seemed to have knowledge score of 3 or more.

Table 8: Distribution of Knowledge of mothers regarding on specific neonatal danger sign in Chewaka woreda from April 2005-April 2006

	For each variable N=238	Frequency	per cent %
1	Poor suckling or feeding	143	60.1
2	Fever	138	58.0
3	Convulsion	78	32.8
4	Difficulty of breathing	65	27.3
5	Unconscious	65	27.3
6	Lethargy	52	21.8
7	Redness or discharge around the cord	44	18.5
8	Babies feel cold	27	11.3
9	Red swollen eyes or discharge	12	5.0
10	Yellowpalmsorsoleoreyes	6	2.5
11	Babytoo smallorborntooearly	3	1.3

Table 9: Crude odds ratio and adjusted odds ratio with 95% CI for the effect use of some variables on knowledge of mothers about neonatal danger signs

Variables	df	Sig.	COR	95% C.I. for COR		Sig.	AOR	95% C.I. for AOR	
				Lower	Upper			Lower	Upper
ANC Utilization	1	.001	3.125	1.587	6.155	.540	2.049	.206	20.331
No ANC Utilization	1	1	1*						
ANC Provider									
Midwife/Nurse	1	.016	7.700	1.467	40.415	.583	1.865	.201	17.299
HEW	1	.007	9.439	1.865	47.767	.389	2.608	.295	23.060
TBA	2	.025	1*						
Counseled on Newborn danger signs									
Yes	1	.000	19.461	9.334	40.576	**.000**	**19.24**	**7.704**	**48.045**
No	1	.000	1*				1*		
Counseled on breast feeding									
Yes	1	.011	2.035	1.173	3.528	.391	.641	.232	1.771
No	1	1	1*						
Counseled on nutrition									
Yes	1	.000	3.957	2.131	7.347	.667	1.199	.524	2.746
No	1	1	1*						

By multivariate regression the odds of knowledge of women who received antenatal counseling regarding neonatal danger signs 19.24 times more likely to have knowledge of neonatal danger sign then women not counseled, with 95% CI (7.704, 48.045), $p<0.001$. This multivariate regression showed that maternal knowledge of neonatal danger sins is determined by counseling on neonatal danger signs from health workers.

6. Discussion

6.1 Thermal care practice

A newborn baby should not be bathed untill 24 hours after birth. The immediately after birth newborns bathe puts the newborn at risk of hypothermia which gets worse with the lack of adequate drying and warm clothesand if the baby is of low birth weight. The lack of thermal protection is still an underappreciated major challenge for newborn survival in developing countries. But it is a very common practice to bathe the newborns immediately after birth [25-35]. Although hypothermia is rarely a direct cause of death, it contributes to a substantial proportion of neonatal mortality globally, mostly as a comorbidity of severe neonatal infections, preterm birth, and asphyxia [24]. As findings reported from some research elsewhere showed, more than 60 % of instances birth place was heated either after or before or throughout delivery [30, 31, and 34]. This study depicted that more than one fourth (36.1%) of the mothers warmed the room with firewood burning before, through birth, or after birth to maintain the warm of the room, but the effects of inside air pollution to mother and babies are the matters of concerns. This deference might be due to climate variation, or season of birth or both. This study revealed that thermal control practice by Skin-to-skin contact (KMC) was only 18 (7.6%) of women were practiced in Chewak resettlement area. This is similar with the study conducted in 4 region of Ethiopia show that 7.7% of home births. However this finding is three times more than Tanzania 1%, and Uganda 2% which is almost none [27, 33]. Early bathing was common in Chewaka, with 38.7% of the babies bathed after birth within the first six hours and only 62 (26.1%) of births did the mother reported that bathing of the newborn was delayed more than 24 hours as recommended. This should be discouraged as it can lead to hypothermia.In other word three fourth of women reported bathing the baby within the first one hour. This common practice of bathing babies within six hours after birth is a cause of concern in this study. However, this was encouraging when compared with some study findings in elsewhere, in Pakistan, Tanzania, Nepal, western Nepal, Uganda, and Nigeria more than halfof neonates were given bath within six hours of birth [27, 30, 31, 33, and 34]. This study also revealed that, about three fourth wrapped and about half of women dried with clean cloths before the placenta was delivered. Similar practices have been stated earlier in western Nepal [31].

6.2 Clean Cord Care practices

In this study, most women, 205 (86.1%) reported that the instrumentused to cut the umbilical cord was clean (New razor blade). Almost similar findings have been reported from studies in western Nepal [31], Nigeria [35], Bangladesh [32] and Study conducted in 4 region of Ethiopia [36]. But which is more than two times than Study finding in Nepal [30], this difference may be seen due to the effect of health education given to the community by HEW at house hold level in the study area. About two third 148 (62.2%), of women reported tying the cord using new thread. This finding better when compare with the study finding in Tanzania [27] and Study conducted in 4 region of Ethiopia, which was less than half percent. This might be due to great efforts made to bring change in new born care practices by health education in the study area. The cord stump remains the major means of entry for infections after birth. Principles of clean cord stump care (keep it dry, clean, and do not apply anything) apply at home as well as in the health facility.Local practices of putting various substances on the cord stump – whether in health facilities or homes – should be carefully examined and discouraged. [50] Using some application on the umbilical cord is a well-known harm full practice in different part of the world including Ethiopia [26, 27, 30, 31, 33, 35, 36, 38]. In this study Among 238, 102 (42.9%) of mothers reported that applying substances on the cord stump of their newborn babies such as butter, which is the most commonly used substance this practice more common in the Chewaka resettlement area than in Nepal only 18 % practiced [30]. This practice (Chewaka) similarly has also been noted in Ethiopia (Jimma) [38]. Less than ten percent ofthe stamp of the umbilical left undressed in this study, but, While three fourth in Nepal [30, 31], more than half percent in Karnataka (India) [34] cord left open. Low performance of leaving undressed and not applying substances on the cord stump finding demonstrate that some harm full practice are widely practiced in Chewaka resettlement area, which might be a result of the low efficiency of the health extension worker in educating all the women they visit in the communities of Chewaka or cultural reasons of mothers to modify health education in practice or both. Therefore health extension worker should focus on behaviors that are less well practiced in this area.

6.3 Breast feeding practice

A growing body of evidence confirms the significant impact of early initiation of breastfeeding, preferably within the first hour after birth, in reducing overall neonatal mortality [6, 7]. 16% of neonatal deaths could be saved if all infants were breastfed from day 1 and 22% if breastfeeding started within the first hour [45]. Nationally 52% of infants started breastfeeding within one hour of birth, and 80 percent, within the first day [17]. In this study, it was found that in 63% of mothers reported that their newborns were initiated breastfeeding within the recommended the first hour after delivery. This finding is similar with Study conducted in Nepal [30] and Nigeria [35]. Which is encouragingnew-born care practice when compared with Study conducted in Tanzania that,only 4,059, (18%) [26], Pakistan, 8% [27], Uganda, only about half [33], Philippine 35%, Bangladesh only about 19% [39], Study conducted in 4 region of Ethiopia 50.2%, and Ethiopia (Jimma) only one-half were initiated within the recommended the first hour of birth. Better performance in the study area might be due to some of the newborn care practices may have been influenced by the health education. The chi-square test results also confirmedthat a significant association between early breastfeeding practice and counseling on breast feeding $\chi 2$ (1, N=238) = 6.312, $p<0.01$. In our study, 40.8% of the newborns received a pre-lacteal feed which is almost similar to that reported previously in Uganda35% [33]. The finding of this study show good performance when compared with Pakistan 93% and Tanzania 65% of newborn received pre-lacteals contrary to recommendations [27, 26].this deference might be due to socio cultural differences. In this study, 53 (22.3%) of mothers reported that they squeezed out and dis-carded the colostrum before breastfeeding the newborn As reported in some other studies, rates of discarding colostrum before the first breastfeeding the newborn is higher than this study finding in Nepal 2416 cases (45%) and 4 region of Ethiopia showed that 70 (50.2%) [30, 36]. In other study in contrast to only 6 (2%) in Nigeria and 26 (10.8%) in Nepal discarded colostrum before initiating breastfeeding [35, 31]. This indicates practices like pre-lacteal feeding and discarding colostrum which still continued in Chewaka resettlement area are a cause of concern. The practice of giving prelacteal feeds is discouraged because it limits the infant's frequency of suckling and exposes the baby tothe risk of infection.These findings have positive implications on newborn nutrition.

6.4 Knowledge of newborn danger signs

Mothers were asked, questions related to neonatal danger signs that require immediate medical attention. The result shown that mother's unprompted knowledge of newborn danger signs was encouraging, 64.3% of the respondents of study areas knew 3 or more neonatal danger signs. Poor suckling or feeding, Fever and convulsion were mentioned most commonly. This finding of knowledge of neonatal danger signs is comparable with study finding western rural Bangladesh [29]. But, twice more than the Study finding in 4 regions of Ethiopia, mother's unprompted knowledge of newborn danger signs was only 29.3% of respondents able to name 3 or more danger signs [36]. This deference might be due to health workers may always be following recommended newborn care practices or providing sufficient counseling for women on newborn danger signs in the study area. The chi-square test result found a significant association between mother's knowledge of newborn danger sign and newborn danger signs counseling from health workers, $\chi 2$ (1, N=238) = 81.786, $p<0.001$.

7. Limitations and strength of the study

Pre-experimental design not allows definitive conclusions about the causes of the effect observed. Because there is No control or comparison group is employed. Since the survey is retrospective and interviews to mothers with past births up to one year prior to the survey, recall bias may be introduced. This study was based on reported newborn care practice and not based on actual observations. Mothers of newborns might have some difficulties recalling events. As a result, responses for some of the practices might not be obtained. Mothers might know the healthy practices for newborns and might responded accordingly without practicing what they report. There was also a possibility of social desirability bias, in that women might have reported desirable practice to interviewers. This research was only conducted in Chewaka resettlement area and results cannot be generalized to the whole of Ethiopia. Time constraints of the semester require less time than might be ideal for this community based study. By being in the organization (AAU) for only April 7th to May 1st for about three weeks, there are bound to be aspects of Essential newborn care practice, and maternal knowledge of neonatal danger sign.

Strength being this research is a population based study. The study has also identified the areas, which should be focused on by the concerned body in this woreda, FMoH of Ethiopia, the external development partners, NGOs and private volunteer organization to improve the newborn care practices and the overall health status of the newborns. A strength of the thesis overall is that it provides a wider picture of the status of essential newborn care in Chewaka woreda.

8. Conclusion

Ethiopia has already made great effort to empower communities to improve maternal and child health through the HEW [53].The work of the HEWs have likely started to make a contribution to improving newborn care at community level, but baseline data on newborn care practices before the start of these programs are unfortunately not available. In aspect of the above discussion our study has obtained important community-level information about newborn care practices in Chewaka resettlement area. These findings provide valuable evidence to help develop and target community-based interventions to improve neonatal health in the area. The findings concluded that planned teaching were had effect in some essential newborn care practice such as: wrapping new-born with clean cloths, bedded in, cord tying with new thread, cord cutting with a clean instrument, applied nothing on cord stump, initiating breastfeeding within the first hour after delivery, feeding colostrum, avoiding pre-lacteal feed. Therefore, some of the newborn care practices may have been influenced by the health education interventions. But a lot more needs to be done to ensure best practices. Mother's knowledge of newborn danger signs was good. Based on the findings of the study, it is concluded that most of the mothers 64.3% had knowledge regarding newborn danger signs. The chi-square test results also confirmed that knowledge regarding newborn danger signs are significantly related to antenatal counseling from health workers $\chi 2$ (1, N=238) = 81.786, $p<0.001$. Thus, it was inferred that planned teaching by health extension workers was good teaching strategy in conveying knowledge to mothers on identification of neonatal danger signs at grass root level. However, the evaluation also points out the disseminating of health information through health education is not effective in some indicators of essential newborn care practice such as: early drying with clean cloth, skin-to-skin contact, leaving stamp of the umbilical undressed,ensuring warm environment at the delivery and harmful practiceswere detected most often in these circumstances. These practices contradicted with WHO recommendations. That were reported to some extent in this study include bathing during the first 24 hours of life, application of butter and other substances to the cord, covering umbilical stump, pre lacteal feeding and discarding of colostrum milk. Butif modified, could improve health outcomes of newborns. Even after years of efforts by government to reduce unhealthy newborn care practices are highly prevalent in this setting.

9 . Recommendations

1. The study suggests that effort should be made to stop unhealthy newborn care practice particularly, applying substances on the stump of umbilical cord, discarding colostrum, and pre lacteal feeding, and bathing the baby immediately after birth, and should be replaced by recommended practices.
2. The study recommends several aspects of essential newborn care to be substantially improved, specifically early drying with clean cloth, skin-to-skin contact, and ensuring warm environment at the delivery through discussing with health extension workers and trains them on essential newborn care.
3. The newborn health interventions should focus on unhealthy newborn care practiced in this area should be stopped and replaced by recommended practices, particularly, applying substances on the stump of umbilical cord, discarding colostrum, and pre lacteal feeding.
4. The Government should take necessary measures in terms of increasing evidence based practice of mothers through Information, Education, communication (IEC) activities about the recommended practice for caring newborn.
5. Future research on newborn health should focus on determiningrisk of neonatal death associated with sub-optimal newborn care practices and reasons for lack of skin-to-skin contact, delayed initiation of breastfeeding, early bathing of newborn, and discarding colostrum.

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11. Appendix II Questionnaire

INFORMATION SHEET FOR ORAL CONSENT

Introduction

Greeting!

My name is----------I am working as data collector for the study being conducted in this woreda by Mr.Hasen AdamAliyie who is studying for his master's degree at Addis Ababa University Medical faculty school of allied health science department of nursing and midwifery postgraduate study. I kindly request you to lend me your attention to explain you about the study and how you have been selected as study participant.

Study title–Effects of planned teaching on essential newborn care practice and identification of neonatal danger Signs among Mothers in Chewaka resettlement area.

Purpose-- The study will be helpful to assess effects of health education on essential newborn care practices and knowledge of neonatal danger signs in home birth among mothers. Knowing these practice contribute to design appropriate intervention strategies by Districts health office and different stakeholders to improve the neonatal care service and outcome. More over the main aim of this study is to write a thesis as a partial requirement for the fulfilment of Master's Degree inMaternity and Reproductive Health in Nursing.

Procedure and duration: First of all we selected you to take part in this study randomly. There are 59 questions to answer. By interviewing you, the questioner will be filled. The interview will take around 40 minutes.

Risks: The risks of being participating in this study are very minimal, only taking few minutes.

Benefit: At this moment you may not get any direct benefit by being involved in this study but the information you provide is very important to solve problems on new-born care issue.

Confidentiality: The information that you provide us will be confidential.The questioner will be coded to exclude showing your name on questioner and consent form.

Rights: Participation in this study is fully voluntary. You have the right to declare not to participate in this study and you have the right to with draw from participating at any time

Contact address: If there are any questions or unclear idea any time about the study or the procedures, please contact and speak to Principal investigator.

Principal investigator: Ato Hasen Adam, Cell phone number: 0919339512.

If you are willing to be in the study, you will be agreeing and let us proceed

Declaration of informed voluntary Consent

I have read/was read to me this consent form or participant information. I have clearly understood the purpose of the research, the procedure, risks and benefits, issues of confidentiality, rights of participating and contact address for any queries. I have 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; therefore I declare my voluntary consent to participate in this study with my signature.

Signature_____date_____

Interviewers name _____ signature _____ date _____

Questionnaire

This is a questionnaire set to gather information regarding practice of mothers who made their place of last 12 month delivery at home about essential new-born care practice and knowledge of neonatal danger sign in Chewaka resettlement area 2014 G.C. Now I will start asking you questions starting from general points of socio economic data. To do so I kindly request you to cooperate.

001 Questionnaire identification code _____

002 Interviewer name_____

003 Date of interview [_____|_____|_____]

004. Time at beginning of interview [____:_____]

005. Name of the kebele_____

006 When did you gave birth[_____|_____|_____]

007 Number of visit 1. First visit 2. Second visit 3. Third visit

008. Results of visiting: 1.Completed, 2. Rejected, 3. partially completed 4.Others (Specify)_____

Checked by supervisor; Name_____, Signature_____

Now I would like to ask you some questions about you and your household.			
No	**Question**	**Response/ Coding categories**	Remark
101	How would you describe the area in which you are residing?	1. Rural 2. Urban	
102	How old are you?	Age in completed years [___|____]	
103	What ethnic group do you belong?	1. Oromo 3. Gurage 2. Amara 4. Tigre 5. Others (specify) -------	
104	What is your religion	1. Muslim 3. Orthodox 2. Protestant 4. Catholic 5. Others (specify)-------	
105	What is your current marital status?	1. Married/Living together 2. Formerly married (Divorced, Widowed) 3. Never married	
106	What is your educational Status?	1. Unable to read and write	

		2. Able to read and Write 3. Grade 1 to 4 4. Grade 5 to 8 5. Grade 9 to 10 6. Grade 11 to 12 7. Grade 12+	
107	What is yourmain occupation?	1. House wife 2. Farmer 3. Merchant/Trade 4. Government employee 5. Daily labourer 6. Other (specify) -------	
108	What is the average family income per months?	----------ETB	
PART TWO: Antenatal Care service			
Now I would like to ask you some questions about services you may have received during your pregnancy			
201	How long does it take you to walk to the nearest health centre?	Minutes [____|___]	
202	How long does it take you to walk to the health post?	Minutes [____|____]	
203	Did you see anyone for ANC during last pregnancy?	1. Yes 2. No	if no skip to 208
204	IF YES: Whom did you see? (Health extention worker=HEW)	Mentioned: Yes No a) Doctor 1 2 b) Midwife/Nurse 1 2 c) HEW 1 2 d) TBA 1 2 3 Other(Specify)_____	
205	Where did you receive antenatal care for this	Mentioned: YesNo	

	pregnancy?	a) Your home 1 2 b) Other home 1 2 c) Hospital 1 2 d) Health centre 1 2 e) Health post 1 2 3 Other (Specify)_____	
206	How many months pregnant were you when you first received ANC for this pregnancy?	_____Months 2. Do not know	
207	How many times did you receive antenatal care during this pregnancy?	Number of visit_____ 2. Do not know	
208	Have you been told about the following by Health worker?	Yes No Don't know	
a)	Were you weighed?	1 2 3	
b)	Was your blood pressure measured?	1 2 3	
c)	Counselled on nutrition	1 2 3	
d)	Counselled on birth preparedness?	1 2 3	
e)	Counselled on breastfeeding?	1 2 3	
f)	Counselled on HIV?	1 2 3	
g)	Counselled on care of LBW baby	1 2 3	
h)	Counselled on Family Planning?	1 2 3	
i)	Coached on how to put baby in KMC position?	1 2 3	
j)	Counselled on expressing breast milk?	1 2 3	
k)	Counselled on cup feeding with Breast milk?	1 2 3	
l)	Counselled on new-born danger signs	1 2 3	
m)	Did you receive TT during last pregnancy?	1 2 3	
n)	If yes how many dose of tetanus toxoid (TT) did you received? (Check from ANC card)	_____dose (number) 2. Do not know	
o)	Other	2. Other (specify)_____	
p)	Obstetrics characteristics	Parity……..	In numbers
PART THREE: Birth Place and Attendant at Delivery			

301	During your last delivery did you plan for a place to deliver your child?	1. Yes 2. No	If no skip to 303
302	Where did you plan to deliver your child?	1. Your home 2. Other home 3. Hospital 4. Health Centre 5. Health post 6. Private Hospital/clinic 7. Other (Specify)_____	
303	Where did you give birth to (NAME)? Probe to identify and circle the appropriate code. (Name of the place)	1. Your home 2. Other home. 3. Other (Specify)_____	
304	Who assisted with the delivery of (NAME)?	Mentioned: Yes No a) Doctor 1 2 b) Nurse/midwife 1 2 c) HEW 1 2 d) TBA 1 2 e) Relative/friend 1 2 f) No One 1 2 3 Other (Specify)_____	

	PART FOUR : Delivery and Essential New-born Care		
No	**Question**	**Response/Coding categories**	**Remark**
401	Was/were the birth attendant/s had washed their handsand used soap?	1. Yes 2. No	
402	Was/were the birth attendant/s had wore gloves?	1. Yes 2. No	
403	Was a delivery surface clean/on a clean sheet/mat?	1. Yes 2. No	
404	Sex of Child	1. Male 2. Female	
405	Was the birthplace Heated?	1. Yes 2. No	
406	If yes when was the birthplace Heated?	1. Before birth 3, After birth	

		2. Throughout birth 4, None	
407	After the birth, was baby placed directly on the bare skin of your chest?	1. Yes 2. No	No skip 409
408	When was the baby placed skin-to-skin on your belly/chest? ***Read out responses***	Mentioned: Yes No Don't Know a) Before cord cut 1 2 3 b) Before placenta expelled 1 2 3 c) Before baby dried 1 2 3 4 Other (Specify)_____	
409	Was the baby wiped (dried) before the placenta was delivered?	1. Yes 2. No 3. Don't know	
410	Was the baby wrapped with cloth before the placenta was delivered?	1. Yes 2. No	If No 412
411	What kind of cloth was used to wrap the baby?	1. Old washed cloth 2. Old unwashed cloth 3. New unwashed cloth 4. New washed 5. Unknown	
412	What did you (or the birth attendant) do to keep (NAME) warm following delivery? (Circle all responses mentioned)	Mentioned: Yes No a) Dried the baby....1 2 b) Wrapped the baby with clean cloth 1 2 c) Put baby beside the mother.1 2 d) Kept the baby on bare skin to skin contact1 2 e) Bathed in warm water…1 2 f) Warmed delivery room..1 2 g) Nothing done……..…3 h) Don't know……....4 5 Other (specify) _____	
413	How long after birth was baby delayed for the first bath? If < 1 hour, enter "00"If < 1 day record the number of hours of life when bathed	Hours……. [____|___] Days…… [____|____] Don't Know……2	

414	Did your baby cry or breathe easily immediately after birth?	1. Yes 2. No	If yes 417
415	What was done to help the baby cry or breathe at the time of birth, if anything? ***Record all responses.***	Mentioned: Yes No a) Rubbed/massaged 1 2 b) Dried. ……1 2 c) Mouth cleared …1 2 d) Nothing……1 2 e) Don't know . . . . ……3 4 Other (Specify) _____	If nothing /don't know 417
416	Who took these measures to help the baby cry or breathe?	1. Doctor 2. Nurse/midwife 3. HEW 4. TBA 5. Relative/friend 6. Other (specify)_____	
417	Where was the baby placed immediately after delivery?	1. On the floor 2. On the mother's belly/chest 3. Beside the mother 4. With someone else 5. On new-born bed/table 6. Other (specify) _____	
418	Was there a person who took care of the new-born while you were delivering the placenta?	1. Yes 2. No 3. Don't know	If not yes 420
419	Who took care of the new-born?	1. Nurse/midwife 2. HEW 3. TBA 4. Mother/Mother-in-law 5. Sister/sister-in-law 6. Other female relative 7. No one	

		8. Other (specify)_____	
420	What was used to tie the cord?	1. New string or thread 2. Old String, or thread 3. Cord was not tied ⟶ 4. Don't know 5. Other (specify) _____	422
421	Was the tie/string used to tie the cord boiled prior to use?	1. Yes 2. No	
422	What was used to cut the cord?	1. New razor blade 2. Old Razor blade 3. Scissors 4. Don't Know/Can't Remember 5. Other specify ……	
423	Was the instrument used to cut cord boiled prior to use?	1. Yes 2. No 3. Don't know/ Can't Remember	
424	Was anything applied to the cord after the cord was cut and tied, until the cord fell off?	1. Yes 2. No 3. Don't know	If not yes 426
425	What was applied to the cord just after cutting the cord?	1. Butter 2. Ash 3. Ointment 4. Animal dung 5. Oil 6. Cold water 7..Don't know 8. Other (specify) _____	
426	Was the stump of umbilical left undressed?	1. Yes 2. No	
427	Was the baby put to the breast before the placenta was delivered?	1. Yes 2. No 3. Don't know	
428	How long after birth did you first put (NAME) to the breast? **If < 1 hour, record '00' hours.** **If < 24 hours, record hours.** **Otherwise, record days.**	Hours…….[_____|_____] Days.……[_____|_____] Don't Know…..…….2 Never breastfed……..…3	

429	Did you squeeze out and throw away the first milk/colostrum?	1. Yes 2. No	
430	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	1. Yes 2. No	If no 432
431	What was (NAME) given to drink? Record all liquids mentioned.	Mentioned: Yes No Milk (other than breast milk) 1 2 Plain water…….. 1 2 Sugar or glucose water……1 2 Fruit juice…… … 1 2 Infant formula…….1 2 Tea …… 1 2 Fresh Butter…….1 2 Fenugreek……1 2 3 Other (Specify)_____	
432	What was the reason you didn't deliver in a health facility?	Mentioned: Yes No a) Preferred to deliver at home 1 2 b) Cost too much 1 2 a) Too far/ no transportation 12 b) Not necessary 1 2 c) Not customary 1 2 d) Delivered on the way to health facility12 3 Other (Specify) _____	
433	Is child alive or deceased?	1. A live 2. Deceased	
434	If deceased at what age	_____in week	
435	Sometimes new-borns, within the first month of life, have severe illnesses and should be taken immediately to a health facility.	Mentioned: Yes No a) Convulsions……1 2 b) Fever...……...1 2 c) Poor suckling or feeding1 2 d) Child has difficult/fast breathing 1 2	

	What types of signs would cause you know to take your new-born to a health facility right away? **Prompt: "Anything else?"** **But do NOT prompt with any suggestions.**	e) Baby feels cold...……...1 2 f) Baby too small or born too early 1 2 g) Redness/Discharge around cord...1 2 h) Red swollen eyes/discharge…1 2 i) Yellow palms/soles/eyes…….1 2 j) Lethargy……1 2 k) Unconscious……..1 2 l) Don't Know…….……3 4 Other (S*pecify)*_____	
	Thank the mother for her cooperation in completing this questionnaire devoting her precious time!	_____:_____ **Time at End of Interview**	**END INTERVIEW**

Unka Odeffanno waltahinsa Afanin godhamu

Unka Odeffanno waltahinsa erga halli qoanna ilalchise ibsame boda godhamu kun hadholee akka qoanna kana kessatti akka hirmatan afferamanif qoppa'e.

Nagaa wal gafachu!

Akkam jirtu! Meqaan ko _____ _____ jedhema. Hasan Adamif odeeffanno sassabu irratti argama.Inni AAU kessatti barata Digri Masteri (MSc) yemmu ta'u.Yero amma qo'anna matadureKununsa barbachisa daa'imman hara dhalateni hammma guyyaa 28 gadi jiranif godhamu ilalchise hadhole manatti dahani fi Cawaqa kesseti qubatan irrati hojjecha jira.Amma odeffanno waa'e qoanna kana ilaalchise siif kenna, san boda atis akka irrati hirmaattu kabajaan siiga gafadha. Kayyon qoanna kana, Kununsa barbachisa daa'imman hara dhalateni hammma guyyaa 28 gadi jiranif godhame ilalchise hadhole manatti dahan fi Cawaqa kesseti qubatan ilalchise ibsa kennufi. Qoannan kun gocha hadhole waae kununsa barbachisa daimman hara manatti dhalatan hammma guyyaa 28 gadi jiranif godhan qaama karora fayyaa baasu bekkumsa qabu foyyessuf, akkasumas qaama feedhi karora fi raawwi sochilee tajaajila

daimman hara dhaltanii fi bua gaari daaimman hara dhalatan foyyeessuf tattaffataninif faayida gudda qaba. Kanaaf hirmannaan keeti kun fooyyaaina tajaajila gaari daaimman hara dhalatanif godhamu kessatti namota dhimma kana ilaallatu hundaf hiree bekkumsa waa'e kununsa barbachisa daimman hara dhalatan godhamuf akka argatan ummuudhan fi rakko jiru fuuruf carraqa akka godhatan gahee gudda taphata. Gabaasaan xumura qoanna kana AAU tif gabaafama. Akkuma misensa hawaasa worada kana, hala jiru kanaf debi onnerra madde nu kennuf yeroo sirri irratti argamtu, anis gaffi sigaafadhef debi akka naf kennitu kabajaan sii gaafadha. Gaffi fi deebin kun daqiqa 50 fudhata. Maqaan keti fi mallatto enyuma kee ibsan hin barbachisu. Odeffanon ati nukannittu kun feedhi kesetin male, nama dhunfafis ta'e dhabbata kammiyyuf hinkennamu. Hirmannan kee kun fedhii keetin waan ta'ef gutumangututti deebisu yookan debisu dhabu mirga qabdu eggamaa dha. Qoanna kana kessatti hirmachun Yoo feedhi kee tat'e, gaffiwwan waligala waa'e keeti gaafachun nan jelqaba. Debin ati nuf kennitu haqaa yoo ta'e qofa karora fayyaf karorfamuf bu'a kenna. Qoannan kun Universiti Addis Ababaa kessatti mirkana'e heyyama argate jira. Yoo jachota sif hingalle jiraate jiddutti nadhaabsisiti nagaafadhu ibsa sifkenna."Gaafi itti fufu?"Yoo tole jatte, Gaffi itti fufi, Yoo Lakki hin ta'u jatte, Galateffadhuti Gaffi kee dhaabi. Yoo gaffi qabattan obbo Hasan Adam dubisu ni dandessu Lakk. Bilbilla 0919339512Yoo fedhi kee ta'e, waltanee ha'egallu!

Declaration of informed voluntary Consent

Unkan odeffanno kana natti dubbifeme/dubbise, Kayyoon qo'anna fi qoranna, hala ademsa, faayida fi midhaa, hal icciti itti eggamu, mirga hirmachu sirritti hubadhera.Akkasumas wanta gafachuu barbaadu yoo jirate akka gafachu danda'u lakkofsa bilbila natti kennamera.Carraa wanta naaf ifaa hinta'in akka gaafadhu argadhera. Yeroo an dhaabu barbadu akka dhaabu danda'u hubadhera. Kanaaf qo'anna fi qoranna kana keessatti hirmachuf feedhi kiyya mallatton nan mirkanessa.

-

Mallato _____ Guyyaa_____/___/2014

Maqaa Gaafataa _____ Mallato_____ Guyya_____/___/2014

Appendix II : Gaaffilee Barreffamaa

Gaaffillen kun odeffannoo waa'ee Kununsa barbachisa daa'imman hara dhalateni hammma guyyaa 28 gadi jiranif godhame ilaalchise hadholeen manatti ji'oota darban 12 kessatti dhalan kan Cawaqa kesseti qubatan irraa sassabuf qopha'e dha.Amman tana odeffanno waligalaa waa'e dinagdee fi hawaasumma ilaallataniin jalqaba.Waan kana ta'eef akka odeffannoo beeyitu naaf kennitu kabajaan si gaafadha. Bara 2006 A.L.H

001 Lakkofsa adda gaaffilee _____

002 Maqaa gaafataa _____

003 Guyyaa gaaffileen itti raawwataman [_____|_____|_____]

004. Yeroo jelqaba Gaaffilee [____:_____]

005. Maqaa Aradda/Gandaa kana_____

006 Guyyaan da'umsa keetiyoom ture [_____|_____|_____]

007 Yaali 1. Si'a tokko 2.Si'a lama 3. Si'a sadi

008. Bu'aa yaalii: 1. Raawwatame 2. Hin raawwatamne 3.Muraasni isa raawwatamne 4.kanbiraa (Ibsi)_____

Itti Gaafatama mirkanesse; Maqaa_____, Mallatto_____

Amma immo gaffilee waa'e keeti fi maati keeti ilaallatan sigaafachuun barbada			
Lak.	**Gaffiwwan**	**Dabiwwan/lakkofsa adda ramaddilee**	**Skip/remark**
101	Nannon keessa jiraattu kana akkamitti ibsita?	1. Baadiyyaa dha 2. Magaala dha	
102	Umriin kee meqa?	Umrii waggaa guutuun [___|____]	
103	Sabummaan kee maalinni?	1. Oromo 2. Amara 3. Gurage 4. Tigre 5. Kanbira (Ibsi) -------	
104	Amantiin kee hoo maalinni?	1. Muslim 2. Protestanti 3. Ortodoxi 4. Catoliki 5. Kanbira (Ibsi) _____	

105	Halli bulti kketii akkam?	1. Kan herumte 2. Kan herumte beytu (Heerumtee kan hiiyte, Kan jarsi irraa du'e) 3. Kan hin herumine	
106	Sadarkaan barnoota keetii maali?	1. Kan Barreessufi dubbisuu hindandegnee 2. Barreessufi dubbisuu kan danda'u 3. Kutaa1 – 4 4. Kutaa 5 – 8 5. Kutaa 9 – 10 6. Kutaa 10 -12 7. Kuta 12 ol	
107	Dalagaan/Hojjin kee maali ?	1. Hadha Mana 2. Qote bultu 3. Daldala 4. Hojjettu motumma 5. Hojjetu guyyaa 6. Kan bira (ibsi) _____	
108	Galiin warra keeti jiddugalessan ji'atti meqa ta'a?	---------- Maallaqa Eiopiatin	

KUTAA 2 FFAA: TAJAAJILA HORDOFFII ULFAA			
201	Bufata fayyaa naannoo kee jiru dhaquuf yoo milaan demmte sa'ati meqaa sitti fudhata?	Daqiqaa [____|___]	
202	Kellaa fayyaa naannoo kee jiru dhaquuf yoo milaan demmte sa'ati meqaa sitti fudhata?	Daqiqaa [____|____]	
203	Yeroo ulfaa keeti tajaajila hordoffii ulfaatiif ogessi fayyaa ati argatte jira?	3. Eyee 4. Lakki miti ⟶	208
204	Yoo argattee ta'e: eenyu isaati?	Debi eerame: Eyee Lakki miti e) Doktora 1 2	

	(Hojjattu ekstenshini fayyaa =**HEF**)	f) Midwayifi/Nursi 1 2 g) HEF 1 2 h) Dessiftu aadaa 1 2 3 Kan bira (Ibsi) _____	
205	Hordoffii tajaajila fayyaa ulfa kee essaa argatte?	Debi erame: Eyyee Lakkimiti f) Mana keetitti 1 2 g) Mana nama biraa titti 1 2 h) Hospitala 1 2 i) Bufataa fayyaa 1 2 j) Kellaa fayyaa 1 2 5. Kan biraa (Ibsi)_____	
206	Yeroo jelqaba tajaajila hordoffi fayyaa ulfa keetii itti argattetti ulfi kee ji'a meeqa ture?	_____Ji'an 2. Lakki hinbeku	
207	Yeroo meeqaaf tajaajila hordoffii fayyaa ulfa keetii argatte? (kardi isii irraa mirkanessi)	Lakkofsaan Si'a meqa ___ 2. Lakki hinbeku	
208	Yeroo tajaajila hordoffii fayyaa yeroo ulfa siif godhan, hojjattonni fayya kanneen armaan gadii siif barsisaa turanii?	Eyyee lakkimiti hinbeku	
q)	Ulfaatina qaama kee simadaalanii?	1 2 3	
r)	Dhibba dhigaa kee safaranii?	1 2 3	
s)	Nyaata nyaachu qabdurratti gorsa siif keennanii?	1 2 3	
t)	Qophi daumasaaf ati gochuu qabdurratti gorsa siif kennannii?	1 2 3	
u)	Haala erga deette booda da'ima itti hosisturrati gorsa siif kennannii?	1 2 3	
v)	Waa'ee HIV irratti gorsa siif kennannii?	1 2 3	
w)	Gorsa ulfaatina qaama daa'imaa xiqqaa ta'e ilaalchise siif	1 2 3	

	kennani?		
x)	Karora maatii irratti gorsa siif kennannii?	1 2 3	
y)	Leenjii daa'imni akka dhalaten qaama qullaa kerratti akka hammattu sii hubachiisu siif kennanii?	1 2 3	
z)	Gorsa waa'ee harma eelmeni daa'imaaf jelqabsisu siif kennannii?	1 2 3	
aa)	Gorsa waa'ee kubbaayyaan annan harma obaasuu irratti gorsa siif kennannii?	1 2 3	
bb)	Mallattollee ulfaatoo ta'an kan gargaarsa ogeessaa fayya barbaachisu daa'imni haara dhalate agarsiisuu danda'u irraatti gorsa siif kennannii?	1 2 3	
cc)	Talaalli amdenqir (tetanasiif) kennamu siif kannanii? (kaardi ilaali)	1 2 3	
dd)	Yoo kan fudhatte ta'e si'a meeqaa siif kannanii? (kaardi laali)	_____lakkofsaan 2. Lakki hin beku	
ee)	Kan biraa	2. kan bira (ibsi)_____	
209	Baayina ijollen kee meqaa?	Baa'yina ejolle ……	

KUTAA 3 FFAA : IDDOO DA'UMSAA FI NAMA TAJAAJILA DA'UMSAA GODHEF			
301	Yeroo da'umsa kan kee kan ammaa kana iddoo daa'ima kee itti dhaluu barbaddu karorfattee turtee?	3. Eyyee 4. Lakki miti ⟶	303
302	Yoo karorffattee turte eessatti da'ima kee dhaluuf karorfattee?	2. Mana ketitti 3. Mana nama biraatitti 4. Hospitala 5. Bufata fayyaa 6. kellaa fayya 7. Hospitala/klinik dhunfa 8. Kan biraa (Ibsi)_____	

303	Daa'ima kee eessatti dhalate?	3. Mana ketitti 4. Mana nambiraatitti 3. Kan bira (ibsi)_____	
304	Eenyutu si deessise (da'umsarratti si gargaare)? (Hojjattu extenshini fayyaa= **HEF**)	Mentioned: YesNo g) Doktari 1 2 h) Nursi/midwayifi 1 2 i) HEF 1 2 j) Dassitu ganda 1 2 k) Firaa/hiriya 1 2 l) Namtokkole 1 2 3 Kan bira (ibsi)_____	
	KUTAA 4FFAA : DA'UMSA FI KUNUNSA DAAIMAAF BARBAACHISAN		
No	**Gaaffillee**	**Deebiwwan/Lakkofsa adda garee**	**Remark**
401	Deessiftun (deessiftoonni) kan kee harka isaanii saamunadhan dhiqatanii?	2. Eyyee 2. Lakki miti	
402	Deessiftun (deessiftoonni) kee lastika (glaavi) harkaa godhatanii turan?	2. Eyyee 2. Lakki miti	
403	Iddoon da'umsi itti gaggeffame qulqulluu ture/ afaa qulqullu ta'e irrattii da'umsi adeemsifame?	2. Eyyee 2. Lakki miti	
404	Saala daa'imicha	**2.** Dhira 2. Dhala	
405	Iddoon dhalooni daa'imicha itti gaggeeffame akka ho'a qabatu taassifame ture moo?	2. Eyyee 2. Lakkimiti	
406	Yoo eyyee ta'e, iddoon daa'imni itti dhalate kun yoom akka hoo'u taassifame?	3. Dhalun dura 3, Erga dhalte booda 4. Bodafidura 4, Hinbeku	
407	Daa'imichi akkuma dhalateen qaama qullaa qoma keetirra buqate/ godhame?	3. Eyyee 4. Lakkimitti ⟶	409
408	Yoo eyyee ta'e, yoom daa'imni qaama	Deebi eerame:Eyyee1 Lakkimiti2 Hinbeku3	

	qulla qoma keetirra ciise?	d) Hiddi handhura osoo hin muramin dura 1 2 3 e) Osoo hobbatiin hiraawwatamin 1 2 3 f) Daa'imni dhalate osoo hin goggogfamin dura 1 2 3 4 Kan biraa Ibsi _____	
409	Osoo hobbatiin hiraawwatamin daa'imni dhalate goggogffame ture?	2. Eyyee 2. Lakkimiti 3. Hinbeku	
410	Osoo hobbatiin hiraawwatamin dura daa'imni dhalate uffataan haaguuggame ture?	2. Eyyee 2. Lakkimiti 3.	Yoo lakki, ta'e 412
411	Daa'imicha haguuguuf uffata akkam fayyadamte turte?	1. Huccu miccame Kan haraa hintane 2. Huccu hin miccam Kan haraa hintane 3. Huccu hin miccamne Kan haraa ta'e 4. Huccu miccame Kan haraa ta'e 5. Hinbekkamu	
412	Daa'imich erga dhalate booda ati yookin immoo dessiftuun kee daa'imichaf hoo'a keennuf maal gocha turtan?	Debi erame: <u>eyyeelakkimiti</u> i) Daa'imarra jidha goggogsu.1 2 j) Huccu qulqullutin da'ima haaguugu 1 2 k) Daa'ima hadha bira kaa'u..1 2 l) Da'ima qoma hadhaa irratti kaa'u fi wajjin uffisu 1 2 m) Bishan hoo'a tin dhiqu 1 2 n) Mana da'umsa hoo'isu 1 2 o) Kanbiraa ……..1 2 Ibsi _____ p) Homa hingodhamne …….…3 q) Lakki hin beku……....4	
413	Daa'imich erga dhalate sa'aa meqaa booda yeroo jalqabaa nafa dhiiqtan/ bishaan kessatti tarsistan	Yeroo……. [____|___] Guyyaa …… [____|____] Lakki hin beku……....2	

	yoo< 1 sa'aa, "00" barreessi yoo< 1 guyyaa ta'e sa'aati hamma tursifame barreesi		
414	Daa'imni kee akka dhalaten ni boo'e yookin salphaadhan hafuura baafate?	2. Eyyee 2. Lakkimiti	Eyyee 417
415	Daa'imni akka dhalateen akka boo'u/ttu yookin akka hafuura baafatu/ttu maal goodhameef?	Debi erame: eyyeelakkimiti a) Qaamaa Shukkumu 1 2 b) Jidha goggogsu …1 2 c) Afaan qulqullessu …1 2 d) Homa hingodhamne 1 2 → e) Lakki hinbeku . . . . ……3 → 4 Kan biraa (Ibsi)_____	417
416	Daa'imni akka dhalateen akka boo'u/ttu yookin hafuura akka baafatu/ttu eenyutu gargaarsa goodhef?	7. Doktori 8. Nursi/midwayifi 9. Hhojjattu ekstenshini fayyaa 10. Dassitu aadaa 11. Firaa/hiriyaa 12. Kan biraa (Ibsi)_____	
417	Da'imtichi/ttiin akkuma dhalatteen essa kawwamee/tee turte?	7. Lafaa irra 8. Qoma hadha irratti 9. Daa'ima hadha maddi kaa'u 10. Daa'ima nama biraf kennu 11. Siree daima irra kaa'u 12. Kan bira (Ibsi) _____ 7. Lakki hin beku	
418	Yeroo hobbaatii keetii da'imicha namni kununsa ture jira?	2. Eyyee 3. Lakkimiti → 3. Hinbeku →	420
419	Yoo jiraate ta'e, eenyunni?	9. Nursi/midwayifi 10. Hhojjattu ekstenshini fayya 11. Hojjata fayyaa akaaku hin bekkamne	

		12. Dessitu aadaa 13. Hadha/hadha buddena/ayoo guddoo 14. Obboletti 15. Firaa isii kan dhalaa 16. Kan biraa (Ibsi)_____ 17. Nom-tokkolle	
420	Yeroo handhurri muramu hiddi handhura maalin guduunfamee (hidhame) ture?	6. Jirbi haaraawaa 7. Jirbi moofa 8. Handhurri hin hidhamne ⟶ 9. Kan biraa (Ibsi) _____ 5. Hinbekku	422
421	Hanni hidda handhuuraa ittiin guduunfame durse danfifamee ture?	2. Eyyee 2. lakkimiti	
422	Hada handhura san muruuf maal fayyadamtani turtan?	6. Haddu/shigree haaraa 7. Haddu/shigree moofa 8. Maqasi 9. Hinbeku/hin yaadadhu 10. Kan biraa (Ibsi) _____	
423	Meshaan isin hidda handhuuraa muruuf itti fayyadamtan dursee danfifamee ture?	2. Eyyee 2. lakkimiti 3. Hinbeku	
424	Hiddi handhuraa hidhamee erga muramee booda hanga goggogee citee bu'utti dibanni itti fayyadamtan jira?	2. Eyyee 3. Lakkimiti ⟶ 3. Hinbeku ⟶	426
425	Yoo wanti fayyadamtan jiraate, maal ture?	2. Dhadhaa 3. Daaraa 4. Dibata 5. Falti hoori 6. Zeyiti 7. Bishan qabbana 8. Kan biraa (Ibsi) _____ 9. Hinbekku	

426	Hiddi handhura muramee daaimarratti rarra'e hafe uffataan akka hin haguugamne tassifamee ture?	2. Eyyee 3. Lakki miti	
427	Osoo hobbatiin hinrawwatin dura daa'imaaf harma hoosiftee?	2. Eyyee 2. Lakki miti 3. Hinbekku	
428	Daa'imni dhalatee hangam turtee harma hoosiftee? **Sa'a 1 hingutu Yoo ta'e '00' barreesi. Sa'a 24 hingutu Yoo ta'e sa'atiin barreesi. Sana ala guyyaan barreesi.**	Yeroo…….[_____|_____] Guyyaa ……[_____|_____] Hinbekku …..…….1 Harma hin hossisne ……..…2	
429	Silga (annan jalqabaa kessa bahu) elmitee gattee?	3. Eyyee 4. Lakkimiti	
430	Guyyaa sadan dhalota bodaa kessatti daa'imni annan harma hodhaa malee wanta biraa wanti dhugu kannamefi turee?	3. Eyyee 4. Lakkimiti	Yoo lakkimiti 432
431	Yoo kanname ta'e, maaltu kannamef? **Dhangala'a kanname hunda barressi**	Debi erame Eyyee lakkimit Annan (annan kan harmaa hin taane)1 2 Bishan qulqullu …… 1 2 Bulbula sukkara ……1 2 Cunfaa kuduraa … 1 2 Annan daaku ……1 2 Shaayi …… 1 2 Dhadhaa …….1 2 3 Kanbira (Ibsi)_____	
432	Sababni akka mana yaala hindeenne kan si taasisee maalinni?	Debi erame Eyyee lakkimit c) Mana tti dhaluun filatamaa waan ta'ef 1 2 d) Gatiin yaalaa guddaa waan ta'ef 1 2 e) Bay'ee fagoo fi tajaajilli gejjiba waan hin jirreef 1 2	

		f) Barbachisaa waan hin taanef 1 2 g) Baratama waan hin taanef 1 2 h) Osoo gara mana yaalaatti deema jiru waan dahef 1 2 3 Kan biraa (Ibsi) _____	
433	Daa'imni lubbun jira?	**2.** Nijira 2. Du'era	
434	Yoo du'e ta'e, umrii meqaatti	_____torbee dhaan	
435	Yeroo tokko tokko ji'a jalqabaa kessa daa'imman baay'ee waan dhukkubsatanif yoosuma gara mana yaalaatti gessuun barbaachisa dha. Halli kun asoo si mudate, mallattolee akkami yoo irratti argite gara mana yaalaa tti gessuu dandeessa? Kanneen beeytu tarresi? **Deebiwwan tarreffaman keessa hinfilachisin**	Debi erame: Eyyee lakkimiti m) Hollachuu ……1 2 n) Hoo'a qaamaa ……...1 2 o) Harma fudhachuu diduu 1 2 p) Hafuura baafachuu dadhabuu yookin immoo dafee dafee hafuura baafachu 1 2 q) Qorrinsa qaamaa...1 2 r) Ulfaatina qaama daa'imaa xiqqaatuu yookin osoo yeroon hin ga'in dhalatuu1 2 s) Diddimina yookin coccoofila naannoo hidda handhuratti1 2 t) Diimiina fi dhita'iinsa/ coom'uu ija 1 2 u) Kelloo ta'uu ganaa harka, faana milaa yookin ijaa 1 2 v) Laaffachuu daa'ima …1 2 w) Off wallaaluu……..1 2 x) Hinbeku …….……3 Kan biraa (Ibsi)_____	
	Hadha gaffi fi debii kanarratii yeroo ishee murtessaa ta'e siif kennitee sii wajjiin dalagde galateeffadhu.	_____:_____ **Yeroo xumura gaafii fi debi**	**END INTERVIEW**

Work Declaration

I, the undersigned, declare that the work in this Research for the partial fulfillment requirement for degree of Masters of Science in Maternity and Reproductive health Nursing is completely my own work, except where acknowledged. All work referenced is included in a reference list. No help was required from an external professional organization and there was no use of other students past work and has not been published or presented for a degree at this University or anywhere.

Name: Hasen Adem Aliyie Sign: _____ Date: _____

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge. This thesis has been submitted for examination with my approval as University Supervisor of the candidate's research theses.

Name……Signature ……..Date …….

APPENDICES

Appendix A

Tetanus toxoid vaccination status of participants in Chewaka woreda from April 2005-April 2006

N=238		Frequency	Percent %	Cumulative %
Who received TT vaccine	TT1	38	16.0	19.7
	TT2	136	57.1	90.2
	TT3 or more	19	8.0	100.0
	Total	193	81.1	
Who didn't received TT vaccine		45	18.9	
	Total	238	100.0	

Appendix B

Distribution of participants by Parity in Chewaka woreda from April 2005-April 2006

N=238	Frequency	Percent %	Cumulative %
Primipara	57	23.9	23.9
2-3	117	49.2	73.1
4-5	47	19.7	92.9
Grand multipara	17	7.1	100.0
Total	238	100.0	

Appendix C

Distribution of children born during the study period in Chewaka woreda from April 2005-April 2006

		Frequency	Percent	Cumulative Percent
Sex	Male	120	50.4	50.4
	Female	118	49.6	100.0
	Total	238	100.0	

As the study showed almost equal numbers of male and female were born in previous 1 year in Chewaka resettlement area during the study period. See table 6 below

Appendix D

Presents immediate newborn thermal care practices of women in Chewaka woreda from April 2005-April 2006

	Variables	Frequency	Present %
The birth place Was heated	Before birth	20	8.4
	Through birth	18	7.6
	After birth	46	19.3
	Don't know	2	.8
	Not heated	152	63.9
	The baby placed on bare skin of your chest	18	7.6
	The baby dried before placenta was delivered	113	47.5
	The baby wrapped with cloth before placenta was delivered	180	75.6
Types of cloth used to wrap the baby	Old washed cloths	111	46.6
	New unwashed cloth	67	28.2
	New washed cloth	2	.8
	Total	180	75.6
Where baby placed immediately after birth	Beside the mother	127	53.4
	With someone else	47	19.7
	On the floor	42	17.6
	On the mother's belly or chest	18	7.6
	On new-born bed or table	2	.8

	Don't know	2	.8
	Total	238	100.0

Appendix E

Shows measure taken to help the baby who did not cry immediately after birth to cry or breath in Chewaka woreda from April 2005-April 2006

Measure taken	Frequency	Percent %
Rubbing or massaging the back	24	10.1
Drying body	4	1.7
Mouth cleansing	11	4.6
Don't know	1	.4
Other*	2	.8
Total	42	17.6

*Taken to health center/ private clinic

Appendix F

Who took measure to help baby cry or start breathing in Chewaka woreda from April 2005-April 2006.

	Frequency	Percent%
Doctor	2	.8
Nurse or midwife	3	1.3
HEW	10	4.2
TBA	23	9.7
Relative or friend	4	1.7
Total	42	17.6

GLOSSARY OF TERMS

1. **Essential newborn care practice (ENC):** The recommended essential newborn care behaviors include thermal care, umbilical cord care, breast feeding and Extra care for low birth-weight/preterm birth.
2. **Umbilical cord care:** Clean cutting and tying instruments and applying nothing to the cord.
3. **Thermal care**: Immediate drying and wrapping of the baby in clean and dry clothes after delivery and delaying bathing until 24 hours after birth to reduce the risk of hypothermia.
4. **Breast feeding**: initiating breastfeeding within the first hour of birth, Colostrum feeding, and no pre lacteal feeding.
5. **Neonates/Newborn:** A newborn baby or an infant aged 0-28 days of birth.
6. **Parity:** The number of children to whom a woman has given birth.
7. **Antenatal Care (ANC):** Also known as prenatal care is the complex of interventions that a pregnant woman receives from organized health care services.
8. **Cleanliness during Delivery:** Cleanliness during delivery refers to keeping the following items clean during delivery- hands of the person assisting the delivery, the cord cutting instrument (razor blade), the surface on which the cord is cut, surface on which newborn is placed, the cord tie (thread) and the clothes for wrapping the baby.
1. **Neonatal mortality**: Number of deaths during the first 28 completed days of life per 1000 live births in a given year or other period.
2. **Skilled childbirth care**: Skilled birth attendant defined as an accredited health professional– such as a midwife, doctor or nurse–who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns."
3. **Traditional birth attendant** defined by WHO as "a person who assists the mother during childbirth and who initially acquired her skilled by delivering babies herself or through an apprenticeship to other TBAs"
4. A **"trained TBA"** is "any TBA who has received a short course of training through the modern health sector to upgrade her skills"
5. **Newborn danger signs:**, Convulsions or spasms, Fever/hot to touch, Baby feels cold to touch, Poor suckling or feeding, Child has difficult/fast breathing, Baby too small or born too

early, Redness/Discharge around cord, Red swollen eyes/discharge, Yellow palms/soles/eyes and Lethargy/ floppiness.

Work Declaration

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