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Effect of Topical Application of Human Breast Milk, Chlorhexidine and Dry Cord Care on Neonatal Umbilical Cord Separation Time and Rate of Cord Infection in Butajira, Ethiopia 2017/2018: Cluster Randomized Trial

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List of Abbreviations and acronyms

BHDSS: Butajira Health and Demographic Surveillance Site

CHX: Chlorhexidine

CST: Cord Separation Time

DCC: Dry cord care

HBM: Human Breast Milk

HDA: Health Development Army

HEW: Health Extension Workers

NICU: Neonatal Intensive Care Unit

RCT: Randomized Cluster Trial

SNNPR: Southern Nations, Nationalities and Peoples´ Region

TBA: Traditional Birth Attendant

WHO: World Health Organization

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Abstract

Background- Annually 1 million newborns worldwide die of infection caused by bacteria that enter the body via the umbilical cord. Regarding this the Ethiopia national strategy of new born and child survival identified chlorhexidine (CHX) as one of the high impact intervention to minimize neonatal mortality. Whereas, studies have shown Human breast milk (HBM) application to the neonatal umbilical cord has a shorter cord separation time and lower rate of infection than CHX or the standard dry cord care (DCC). To the best of the investigators knowledge on to assess cord separation time and rate of cord infection, studies were not conducted comparing the standard DCC with that of CHX or HBM.

Objective: - Compare the effect of topical application of HBM, CHX and DCC on neonatal umbilical cord separation time (CST) and assess the rate of cord infection at the Demographic and Health Surveillance Site, Butajira, Ethiopia, 2017/18.

Method- From May to November, 2018, a three arm, non- masked, community based, cluster randomized controlled trial was conducted at Butajira Demographic and Health Surveillance site (BDHSS) located in Gurage Zone of the Southern Nations, Nationalities and Peoples´ Region (SNNPR) of Ethiopia. Nine kebeles of the BHDSS were randomized into two intervention groups i.e. HBM and CHX and a control group which is the standard DCC using a lottery method. From a sample size of 337, data were entered and analyzed for 302 term singleton newborns. Baseline characteristics across the groups were compared by ANOVA for continuous variables and Chi square for categorical variables. Mean CST was compared among the groups using one way ANOVA whereas the secondary outcome i.e. rate of omphalities was expressed in terms of frequency and was compared among the groups using Chi square. Level of significance was set at $p < 0.05$ with 95% CI.

Result- The mean cord separation time was 5.6 days in HBM group, 5.9days in CHX group, and 5.7days in DCC group but this difference was not statistically significant among the study groups (p value=0.40). The highest signs of cord infection rate were observed in dry care group and this was significant regarding the redness on the base of the cord stump ($P<0.001$).

Conclusion and recommendations- Topical application of HBM is related with shorter cord separation time compared to CHX or DCC. It also has reduced incidence of infection, as much as topical CHX application. Generally the readily available human breast milk should be given further emphasis.

1. Introduction

1.1 Back ground

Globally, every year nearly 45% of all under-five deaths occur in the neonatal age group. This is estimated to be around 2.7 million in 2015. Three fourth of all new born deaths occur in the first week of life. Among which up to two third of new born deaths can be prevented if effective health measures are provided. The vast majority of deaths take place in developing countries where access to health care as well as skilled care is low (1). Leading causes of neonatal mortality accounts for preterm birth, intra partum complications and sepsis in an orderly manner. Preterm birth and intra partum complications accounts for early neonatal death (0-6 days) while in late neonatal period (7-27 days) nearly half of all deaths occurred from infectious causes. In which the risk of death due to preterm birth and intra partum complications and sepsis are 10, 36, and 34 times greater ,respectively, in settings with more than 30 neonatal deaths per 1000 live births compared to settings with less than 5 neonatal deaths per 1000 live births(2).

Each year, approximately 1 million newborns worldwide die of infection caused by bacteria that enter the body via the umbilical cord (3). According to WHO report 300,000 neonates die annually due to tetanus infection, where umbilical cord is the leading route for such an infection(4). Whereas in Ethiopia, among the top three causes of neonatal moratality severe infection attributes to over 16,100 neonatal deaths annualy (5).

Interchange of substances, such as nutrients and oxygen, occurs between the maternal and fetal blood streams through the placenta where the umbilical cord connects the fetal circulation with the placental circulation(6); in which the umbilical cord contains two umbilical arteries and an umbilical vein. After birth, these blood vessels become functionally closed but anatomically patent for 10-20 days. During this interval, the umbilical vessels are potential portals of entry for infection. The umbilical cord stump usually separates within 2 weeks after birth. Delayed separation of the cord after more than 1 month, has been associated with neutrophil chemotactic defects and overwhelming bacterial infection as well as application of antiseptics to the stump and cesarean delivery(7, 8).

WHO recommends a daily Chlorhexidine application to the umbilical cord stump during the first week of life in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births) and to those who are born at home. Whereas clean dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of CHX in these situations may be considered only to replace application of a harmful traditional substance, such as cow dung, to the cord stump (8).

In addition CHX application to the cord reduces the risk of neonatal mortality and omphalitis in infants born at home in high-NMR settings. Therefore, routine CHX application, preferably daily for 7 to 10 days after birth, is recommended in these infants (9). Moreover, a study conducted in north India suggested that CHX umbilical cord care in the NICU setting is more appropriate to decrease neonatal sepsis than the currently WHO recommended dry cord care (10).

Applying HBM to the cord stump is also one of the cultural cord care practices used in Turkey and in Kwazula-Natal, some societies of Kenya. According to the WHO, this could be beneficial in view of the antibacterial factors present in human milk. On top of this, a study conducted in Iran states use of topical application of human milk on umbilical cord care was associated with shorter cord separation time (CST) than in topical CHX. Breast milk also reduced incidence of infection, as much as topical CHX (3, 11).

1.2 Statement of the problem

Delayed umbilical cord separation is related to bacterial overwhelming live leading to cord infection (omphalitis). Omphalitis is common in low-resource settings with much higher incidence rates of 55-197 per 1000 live births, estimated in community-based studies. Whereas, the incidence of omphalitis in developed countries is 0.2–0.7%. The complication of omphalitis ranges from local abscess formation to septic shock, necrotizing fasciitis, abscess formation at different site, intestinal evisceration, peritonitis, peritoneal adhesions, umbilical hernia, and portal vein thrombosis. Uncomplicated omphalitis usually resolves without serious morbidity but when presentation and treatment are delayed, mortality due to omphalitis could be as high 7–15%. Moreover, a study conducted in South Nepal revealed the odds of all- cause mortality were 46% (8–98%) higher among infants with redness extending onto the abdominal skin (12).

According to the 2016 Ethiopian Demographic and Health survey (EDHS) 74% of all delivery took place at home. Particularly in the South Nation Nationality and Peoples Region (SNNPR) where this study is conducted; only 25.5% of women delivered in a health facility and only 16.9% women had a postnatal checkup in the first 2 days after birth. This leads to the abandonment of hygienic delivery condition and adequate post natal care which can avert a large proportion of maternal and neonatal deaths occurring during the first 48 hours after delivery and that can minimize newborn infection and maternal risk of complications. Moreover, in such cases cord is cut and tied with unsterilized instruments, commonly coupled with the practice of applying topical substances commonly butter or ointment. The ultimate consequence of such practice may potentially enhances the spread of infection through the viable and opened blood vessels of the umbilical cord stump (13, 14). Regarding this, the Ethiopia National Strategy of New born and Child survival has identified CHX as one of the high impact interventions to minimize neonatal mortality which currently is 29 per 1000 live births (5).

So far, studies have shown HBM application has a shorter cord separation time and lower rate of infection while CHX application to have decreased neonatal sepsis among neonatal intensive care unit (NICU) admitted neonates as well as cord infection, when WHO suggests DCC as a standard mode of cord care practice (3, 4, 10, 11, 15, 16). Though there are studies in Ethiopia regarding the application of CHX for umbilical cord care (5, 17), no study has been conducted

towards the application of HBM for cord care practice let alone comparing the standard DCC with that of CHX or HBM.

1.3 Significance of the study

This proposed study will generate local evidence regarding which cord care practice sounds appropriately effective in minimizing cord separation time and preventing omphalitis/cord infections in communities where most of the delivery still continue to take place at home accompanied by potentially and largely unhygienic cord care practices.

Furthermore, this study will provide evidences for the government of Ethiopia that may serve as an alternative insight to improve the umbilical cord care practice.

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2. Literature Review

2.1 Newborn care:

Newborn is a period of childhood comprising the first 28 days (0-27 days completed) after birth. Care to newborns that is given immediately after birth is known as essential newborn care which includes 10 steps. Starting from immediate drying and additional stimulation, breathing evaluation, cord care, keeping the newborn warm, initiating breast feeding within one hour after delivery, administering eye ointment and vitamin K, placing the newborn's identification bands, weighing the newborn after it is stable and warm and finally recalling all observations. In addition to this other new born care include resuscitation, immunization management of neonatal sepsis, care of the newborn of HIV-infected mother, care of the preterm and low-birth-weight newborn, and management of other severe conditions including neonatal seizure (8, 18).

In Ethiopia, health facilities were prompted to establish newborn corners and neonatal intensive care units. Moreover, programs such as community newborn care have been implemented additional to the existing integrated maternal and newborn care. This new born care is delivered through the health extension workers (HEW) at the community level which includes early identification of pregnancy, provision of focused antenatal care, promotion of institutional delivery, safe and clean delivery including provision of misoprostol in case of home deliveries or deliveries at health post level, provision of immediate newborn care, including application of chlorohexidine on cord, recognition of asphyxia, initial stimulation and resuscitation of newborn baby, prevention and management of hypothermia , management of pre-term and/or low birth weight neonatesas well as management of neonatal sepsis/very severe disease at community level (19).

2.2 Traditional cord care:

A systematic review conducted by Patricia c. et al, on umbilical cord-care practices in low- and middle-income countries has revealed the common substances that are applied on the cord traditionally in different countries. These substances include food items like banana, butter ,chewed rice, cream from sour milk, dry coffee; bodily fluids like breast milk and saliva; water including hot water or water that has been used to wash adult woman's genitals; animal dungs; hot objects; minerals/powders like chalk, ash, charcoal, and dust; oils including lime olive,

cooking oil, coconut mustard oil with garlic; herb plants like banana steam, chewed ginger, black sesame; as well as other substances including burnt cloth/burned cotton, fish bone, shells, loma (crushed wasps nest) and tar (20).

A cross-sectional survey conducted in India on newborn care practices and home-based postnatal newborn care program states, half of the mothers (49%) did not apply anything on the cord stump. Whereas the traditional birth attendant (TBA) influence was reported as the leading cause (26%) for not keeping the cord clean for those who applied substances (21).

A qualitative study was conducted in Southern Province of Zambia, on local perceptions, cultural beliefs, and practices that shape umbilical cord care. This study mentioned birth attendants use any adult finger excluding the thumb to measure the umbilical cord and cut using non-sterilized blade and local grass root alternative tool being scissors in clinical settings. The umbilical cord was most frequently tied with white or black cotton interweaving wool during home deliveries, and with cord clamps if delivered at a health facility. Cord applications included drying agents like charcoal, baby powder, dust; lubricating agents like vaseline, cooking oil, used motor oil; and medicinal/protective agents like breast milk, cow dung, and chicken feces (22).

In Tanzania a qualitative study was conducted on knowledge, attitudes, belief systems and practices of delivery, immediate newborn and cord care practices. This study has revealed that the umbilical cord was cut soon after delivery and mostly it was by TBAs using razors, scissor and thread after boiling them in water. The umbilical cord was usually tied with normal tailoring thread; few of them also reported use of special thread provided by the hospital while others use Utembo, a kind of thread obtained from a palm tree called Muale. Regarding the length cord could be cut at any size while others reported that it should be cut at particular length mentioning it as an important part of delivery process. Following cord cutting, most of the mothers reported either using nothing or application of substances including: Saliva (Mate), dirty door powder from old door, hot knife, charcoal powder, shells, burning wood, banana steam, and fish bone(23) .

Qualitative studies conducted in Ethiopia has indicated that the umbilical cord is cut usually before the delivery of the placenta using a new razor blade which was sometimes boiled before use and the length of the cord ranges from a quarter to a full index finger long. Though the cord might not be tied at all after cutting in some societies but mostly it is tied using sewing thread, thread from kerosene stoves, sisal thread, or thread or strips of cloth from a local blanket, traditional shawl or bed sheets. Applying a petroleum jelly on the cord was reported in some societies while applying butter was the commonest one (14, 24, 25).

2.3 Cord care regimens:

The WHO standard dry cord care is defined as after cutting and tying the cord using clean method, keeping the cord clean without application of anything and leaving it exposed to air or loosely covered by a clean cloth (26).

Different antiseptic agents including alcohol, triple dye, CHX 0.5%, silver sulfadiazine, tincture of iodine, iodophors, antibiotic ointments and bacitracin have been used on the umbilical cord of new born, so as to prevent infection since umbilical cord is a potential route for the entrance as well as breeding of microorganisms. The effect of these antiseptics differ on the bases of CST as well as umbilical cord infection rate when compared to the standard dry cord care as well as with one another (3, 4, 16).

CHX is a broad-spectrum antiseptic that is effective against a wide range of both Gram positive and Gram-negative bacteria, including major agents of neonatal sepsis, as well as some viruses, including HIV (27) . Applying 4% CHX (7.1 % CHX digluconate) to the umbilical cord stump prevents infection and tends to decrease newborns mortality on average by 23%. Annually 200,000 newborn lives are saved in South Asia from widespread use of CHX. A study conducted in Bangladesh has revealed that a single CHX application on the first day of life reduced neonatal mortality by 20%, and moderately reduced severe omphalitis. In the same study a 7-day CHX application reduced severe cord infection by 65% and reduced bacterial colonization (28).

Human breast milk contains large amounts of IgA antibodies, growth factors, namely the transforming growth factors alpha and beta (TGF-A and TGF-B) and the insulin-like growth

factors 1 and 2 (IGF-1 and IGF-2), and also leukocytes or polymorphonuclear. The presence of this factors have a preventive effect on skin infections, antibacterial and antiviral effects, gives immune support, promotes musculoskeletal repair and growth, provides pronounced anabolism, wound-healing , tissue repair and slow catabolism. These factors accelerate complex umbilical cord separation through polymorphonuclar leukocytes present at umbilical cord (3, 4, 15).

Different studies had showed that breast milk has an effect of shortening cord separation time resulting reduced chances of acquiring cord infection. An experimental study conducted in India revealed about 57% of the study subjects in HBM group had a good cord drying on the fourth day compared to the control group (dry cord care) having only 7% of good cord drying on the same day. This study also concluded that breast milk with its antimicrobial properties acts as a defensive agent protecting the cord from getting infected as the newborn has no protective flora at birth. HBM also has an effect of shortening bleeding time after cord separation; regarding this a clinical trial conducted in Iran reveled that there was a significant statistical difference of number of bleeding days after the cord separation in HBM topical application group in which the median was 1.20±2.33 days when compared to the dry cord care group 3.1±3.77 days (3, 4, 11, 15, 16, 29).

2.4 Cord separation time:

A case–control study in Italy among 239 infants on the bases of comparing the effect of 70% alcohol versus dry cord care in the umbilical cord care found a CST of 10.1 days [SD=4.0] in dry cord care and 12.0 days [SD=4.2] in 70% alcohol ; with a P value of < 0.001 (30). Whereas a randomized controlled trial conducted (RCT) in Germany comparing the efficacy and safety of CHX powder with dry care among 669 newborns showed a cord separation time of 7.0±2.5 days in CHX treated neonates and 7.8± 2.9 days in dry cord care group($p<0.001$) (31).

Four RCTs conducted in Iran in terms of comparing the impact of topical application of human milk against CHX, ethanol, dry care, 96% ethyl alcohol, povidone-iodine and silver sulfadiazine on CST showed, a statistically significant short mean/median cord separation time in the human breast milk group. The mean time of cord separation being 7.15±2.15days, 6.5±1.93days, 150.95 hrs (median time) and 5.16 ±1.79 days in breast milk groups, while mean cord separation time

was 13.28±6.79 days in CHX, 7.54 ±2.37days in ethanol, 8.94±2days in dry care, 180.93 hrs (median) in 96% ethyl alcohol, 6.41 ± 1.95days in silver sulfadiazine, 10.45 ±3.62days in povidone-iodine, and 6.58±2.16days in dry care groups (4, 11, 15, 16).

A quasi-experimental study comparing topical human milk, povidone-iodine, and dry care and a prospective RCT comparing the impact of different antiseptics on umbilical cord colonization was conducted in Turkey. In the first study, cord separation occurred at a mean of 9.9 days in the povidone-iodine group whereas mean of 7.7 and 7 days of cord separation time was observed in the dry care and topical human milk groups respectively. In the second study, shortest CST (median) was observed in a dry care group which was 7 (6–7) days and the longest median CST was observed for single and multiple CHX application groups with 10 (7–12) days and 10 (8–12) days respectively(3, 31)

In India two RCTs were conducted, one on CST among breast milk group and dry care group and the other one in NICU comparing the risk of neonatal sepsis and CST between CHX and DCC groups. In the first study 76.6% of the breast milk group had a cord separation time of 4-6 days while in the dry cord group 56.7% had a CST of 6-10days. In the second study 71.42% of the CHX group and 47.14% of the control group had their cord fallen by ninth day of life and the mean time to cord separation was 8.92 (±2.77) days in CHX group, which was significantly shorter than 10.31 (±3.23) days in the dry care group (p=0.02) (10, 29).

A Cluster-Randomized Trial conducted in Bangladesh on CHX cleansing of the umbilical cord and separation time in which 27,381 newborns were randomly assigned within communities to receive 1 of 3 cord regimens: dry and clean cord care (comparison), single cleansing, or multiple-cleansing with 4.0% CHX. As a result the mean age at separation of the three groups was 6.36 days but the mean separation time differs for each group; in dry care the average cord separation time was 4.78 days old and it was 6.90 days (difference 2.10; 95% CI: 1.85–2.35) and 7.49 days (difference 2.69; 95% CI: 2.44–2.95) in the single and multiple CHX cleansing groups, respectively (32).

A cluster-randomized community-based trial conducted in south Nepal on the impact of umbilical cord cleansing with 4.0% CHX , soap and water, and dry cord on time to cord separation among 14, 887 newborns showed fully separated umbilical cord within the first 1 week of life for 13,658 infants (91.7%). The mean time to cord separation among infants who received CHX cleansing, was 5.32 ± 2.4 days, whereas the mean ages at cord separation for infants in the soap/ water and dry cord care groups were 4.25 ± 1.6 days and 4.2±1.6 days, respectively. The cord-separation time was significantly longer in the CHX clusters, compared with the non CHX groups combined (33).

2.5 Adverse outcomes associated with cord care

2.5.1 Omphalitis

There is a male predominance in terms developing omphalitis but no racial or ethnic tendency. Gestational age is one of the factors that affect the developing of omphalitis in which the mean age of onset is usually 3–5 days for preterm infants and 5–9 days for term infants. Unhygienic cord practices have been implicated as the main factor responsible for the high incidence of omphalitis in Africa. Other risk factors include inappropriate cord handling (e.g., cultural application of substances such as engine oil, cow dung, talc powder, or palm oil to the cord); septic delivery secondary to prolonged rupture of membranes or maternal infection; non sterile delivery; prematurity; low birth weight as well as neonates with weakened or deficient immune systems or who are hospitalized and subjected to invasive procedures such as umbilical catheterization (12).

A systematic review conducted by Sankar et al on umbilical cord cleansing with CHX in neonates revealed a significant reduction in the incidence of omphalitis in infants who received the intervention; CHX (9). Another study conducted by Mullany et al. on safety and impact of CHX antisepsis interventions for improving neonatal health in developing countries, reviewed literatures on CHX interventions (vaginal, newborn skin and umbilical cord cleansing) with a focus on neonatal outcomes. Among the literatures four of the studies were from developed countries (Norway, Sweden, and New Zealand) which suggest that 4.0% CHX can reduce the risk of omphalitis and other superficial infections of the eye and skin. The literature reviewed

from a developing country like southern Nepal in comparing 4.0% CHX, soap-and-water solution and dry cord care showed a significant reduction of incidence of mild and severe omphalitis by 32% (RR = 0.68 [0.58, 0.80]) and 75% (RR = 0.25 [0.12, 0.53]), respectively. However soap-and-water cleansing showed no protective benefit (27).

A study conducted in Iran comparing breast milk and CHX application revealed a significant correlation between Signs of infection (discharge, redness, swelling and odor) in both groups (11).Whereas other studies conducted in Iran comparing ethanol, dry care and human milk as well as comparing application of human milk, 96% ethyl alcohol, and silver sulfadiazine showed no significant difference among the three groups in terms of the frequency of omphalitis and no cases of complications such as infection (sepsis, omphalitis), umbilical cord hemorrhage, and granuloma formation respectively (4, 16). Supporting this, a study conducted in Turkey among a single and multiple application of 70% alcohol, 4% CHX, or povidon-iodine showed no significant difference in the rate of omphalitis when compared between the study groups ($p = 0.375$) (34) .

In Bangladesh a study discovered the risk for moderate or severe omphalitis (i.e. redness around the stump with pus or redness extending around the base of the stump) was 3.1% higher for each additional day the cord did not separate, and 13.8% (RR = 1.14; 95% CI: 0.82–1.58) higher among infants whose cords separated after 7 days but neither of these estimates were statistically significant (32).

A cluster-randomized controlled trial conducted in in Southern province of Zambia, among 37,856 live births on the effectiveness of 4% CHX umbilical cord care on neonatal mortality showed a diagnosed omphalitis in 200 (0.5%) newborn babies, of whom 82 (41%; 4.43 cases per 1000 live births) were in the CHX group and 118 (59%; 6.10 cases per 1000 live births) were in the dry cord care group (RR 0.73, 95% CI 0.47–1.13) (35).

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2.5.2 Neonatal Sepsis

Depending on the onset, neonatal sepsis can be early or late. Early-onset neonatal sepsis are infections acquired before or during delivery (vertical mother-to-child transmission) occurring within the first week of the newborns life but most commonly within the first 72 hours, while

late-onset neonatal sepsis infections develop after delivery from organisms acquired in the hospital or the community occurring after 7 days but within a month. Term male infants have a higher incidence of sepsis than term females. This sex difference was less clear in preterm LBW infants(7).

The clinical feature of both early and late onset neonatal sepsis were failure to suck, fast breathing, lethargy, seizure, respiratory distress, meconium stained liquor, premature rupture of the membrane and low birth weight (36).

In India among NICU admitted neonates significantly higher incidence of culture-proven sepsis was observed among dry cord care group when compared to CHX group nonetheless, probable sepsis and meningitis was found to have similar incidence among the groups. The predominant organisms isolated from blood culture were Acinetobacter, Klebsiella, Enterococcus and Staphylococcus among the dry cord care group but only one organism was isolated from CHX group which was Enterococcus. Four isolates from dry care group and one from CHX group was Candida. The absolute risk for culture-proven sepsis was 21.43% and 2.86% in dry cord care and Chlorhexidine cord care groups, respectively, with relative risk (RR) 0.133 (95% CI: 0.0166 0.4046) and 18.57% absolute risk reduction (ARR) with CHX cord care (10). Other than this study a systemic review on CHX umbilical cord cleaning in neonates revealed no significant reduction in the incidence of any sepsis, that is, culture positive or culture negative (RR 0.67; 95% CI 0.35 to 1.28) (9).

Almost all studies have shown short cord separation time in breast milk group though no significant difference was observed on the incidence of omphalitis and neonatal sepsis. But most of these studies are conducted in hospitals and in countries where the neonatal mortality is less than 30 per 1000 live birth. This proposed study will generate evidence in a country where the neonatal mortality is 29 per 1000 live birth; at a community level with a research question of "Is breast milk more effective in shortening cord separation time and minimizing incidence of omphalitis when compared to CHX and dry cord care.

2.6 Conceptual framework

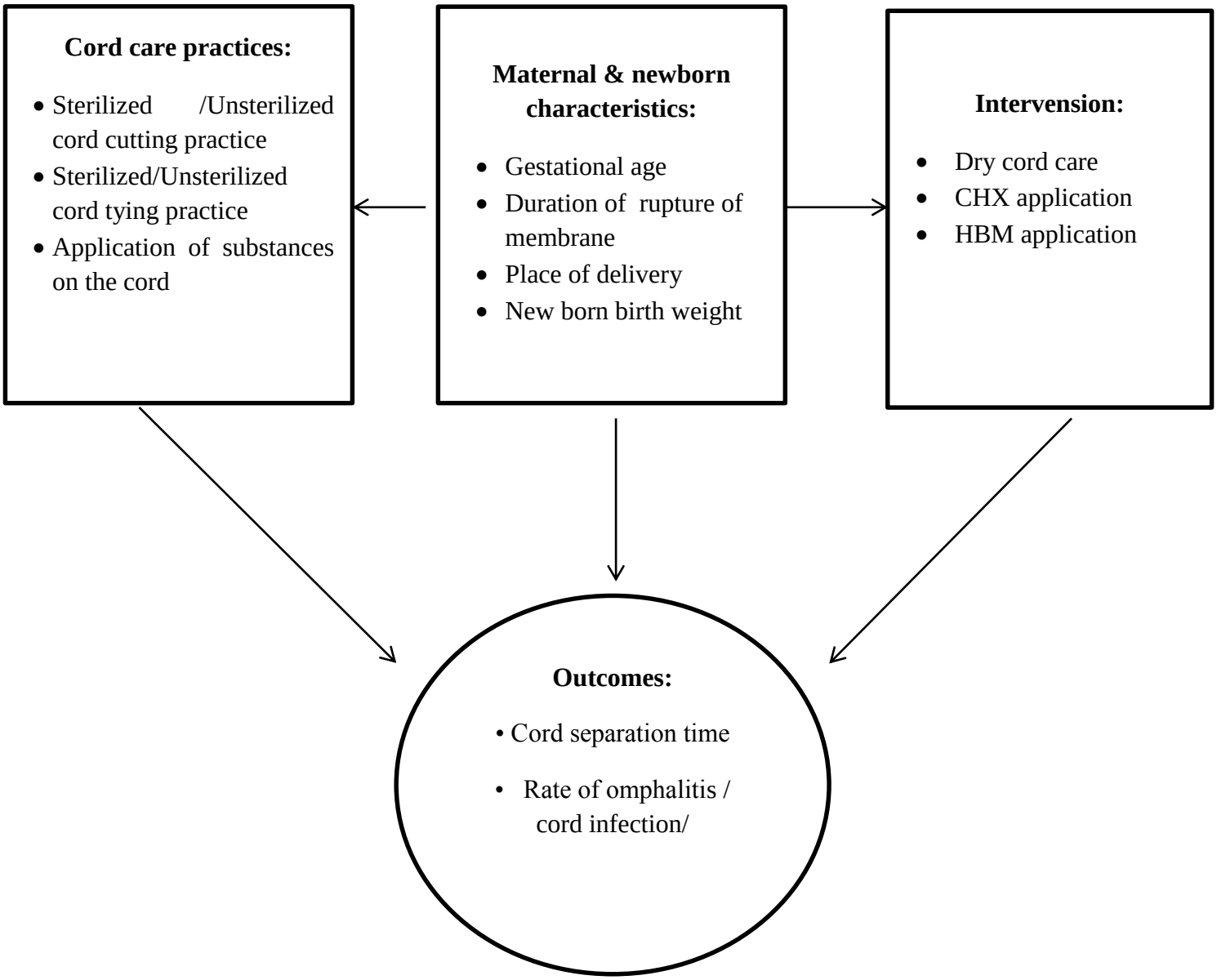

Figure 1: Conceptual frame work of the effect of cord care practice, maternal and newborn characteristics, and cord care interventions on the cord separation time and rate of omphalitis as developed by the researcher after reviewing literatures.

3. Research Question and Hypothesis

3.1 Research Question

In terms of cord separation time and rate of omphalitis, is topical application of HBM on neonatal umbilical cord more effective than CHX or DCC application?

3.2 Research Hypothesis

Topical application of 10 drops of HBM on neonatal umbilical cord once daily for the first seven days of the neonate's life will result in shorter cord separation time and lesser rate of omphalitis, compared with CHX or DCC application.

4. Objectives

4.1 General objective

- Determine the effect of topical application of HBM, CHX and DCC on neonatal umbilical cord separation time and rate of cord infection, at the Health and Demographic Surveillance Site, Butajira, Ethiopia, 2017/18

4.2 Specific objectives

- To compare the neonatal umbilical cord separation time among HBM, CHX and DCC groups , at the Butajira Health and Demographic Surveillance Site, Butajira, Ethiopia, 2017/18
- To compare the neonatal umbilical cord infectin rate among HBM, CHX and DCC groups , at the Butajira Health and Demographic Surveillance Site, Butajira, Ethiopia, 2017/18

5. Methodology

5.1 Study period and Settings

From May to November, 2018, this study was conducted at Butajira Demographic and Health Surveillance Site (BDHSS) located in Gurage zone of the Southern Nations, Nationalities and Peoples´ Region (SNNPR) of Ethiopia. The estimated size of the district is 797 km^2, of which Butajira town covers approximately 9km^2.The area is located 130 km south of Addis Ababa. The Surveillance System Site consists of 10 kebeles (the smallest governmental administrative unit) from two woredas (sub-districts) and two zones. Meskan woreda consists six of the kebeles namely Butajira 04 kebele, Dirama, Shershera Bido, Bati, Misrak Meskan and Wurib, whereas Mareko Woreda consists of Hope and Mekakelegna Jare Demeka kebeles. Dobena and Yeteker are the other two kebeles from Silite Zone. These kebeles were under follow up for over 25 years in Butajira by the BDHSS. 19,346 households are located in these areas consisting of 80,658 total number of population. Among which the number of female equals to 39,859 and 40,799 males. Annually about 1200 births take place at the ten kebeles of BDHSS. A total of 9 health posts, 7 health centers and one hospital are located in this site. The ANC coverage and health facility delivery is 80% and 25% respectively(37). About 77 % of the population is illiterate. Illiteracy is greater among the rural population and females (38). The major language of communication is Guragigna whereas Amharic is a widely spoken official (working) language.

5.2 Study design

A three arm, non- masked, community based, cluster randomized controlled trial was conducted. The clustering was based upon individual health posts located at each of the 10 kebeles of the BDHSS. Then the kebeles were randomized into three groups; two intervention groups i.e. HBM and CHX group and a control group which is the standard DCC group. Live born neonates of these women who fulfill the inclusion criteria received the intervention or the standard care. The effect of umbilical cord cleansing with a once daily application of CHX (as per the Ethiopian Federal Ministry of Health standard of practice (39)) and topical HBM once daily were compared with the WHO recommended DCC practice(8) in terms of cord separation time and rate of cord infection. The primary outcome of the study was cord separation time whereas rate of omphalitis was the secondary objective. Participants as well as data collectors and supervisors were aware of their study assignment.

5.3 Population

5.3.1 Source population

All live newborns in BHDSS, Ethiopia during the study period will be the source population

5.3.2 Study population

The study population was live born newborns that fulfill the eligibility criteria of the study at BHDSS within the study period Ethiopia.

5.4 Eligibility criteria

Inclusion criteria:

- Singleton neonates that did not have any birth complication which require hospital admission and whose mothers were aged 18 and above (for the purpose of avoiding further requirement of parental consent and legal issues):-
- Who would stay in the catchment area for at least 30 days after giving birth (for follow-up purpose); and

Exclusion criteria:

- Singleton neonates on whom substances other than the intervention were applied before the cord separates
- Neonates who were not visited within the first three days after delivery

5.5 Study variables

Dependent variables:

- Cord separation time
- Rate of infection

Independent variables:

- Treatment: DCC, HBM, CHX

Covariates and factors

- Gestational age in months
- Place of delivery
- Maternal age

- Maternal literacy
- Newborn birth weight
- Application of other substances
- Duration of labor
- Duration of pre-rapture of membrane (PROM)

5.6 Sample size

The sample size for the trial is driven by the primary outcome of cord separation time mean difference using the OpenEpi (a web application used to perform statistical analysis). By assuming equal sample size number in each group, two sided 95% confidence interval (CI), and 80% power. Mean difference was calculated between the standard cord care regimen (DCC) and the interventions (CHX or HBM).

Table 1: sample size calculation for the primary outcome of the study neonatal umbilical cord separation time and rate of cord infection in Butajira, Ethiopia 2017/2018

Place	**Variable**	**Groups**	**Mean CST(SD) in days**	**Mean difference**	**Calculated sample size with 10% loss to follow up and 0.5 design effect**
Iran(4)	CST	DCC and HBM	7.54(2.37) 6.5(1.93)	1.04	337
Nepal(33)	CST	DCC and CHX	4.24(1.6) 5.23(2.4)	-1.08	326

Total sample size = 337

5.7 Sampling and data collection procedure

5.7.1 Cluster randomization

Each Keble has a health post, in which the cluster randomization is based upon. From the 10 kebeles in BHDSS the 9 kebeles were included in the study. Each Keble was randomly assigned to study groups resulting 3 kebeles at each intervention (i.e. to HBM and CHX) and control (i.e. DCC) group using a lottery method. Equal numbers of study subjects (113) were assigned to

each group. Every procedure was identically conducted for all groups, except for the umbilical cord care. The reason for cluster randomization instead of individual randomization was to avoid cross contamination among the study groups and to increase compliance to the interventions.

5.7.2 Intervention procedure

HBM group: for neonate assigned to the HBM group, the mother was taught to at two occasion's i.e at the first and second time of contact with the intervension data collectors to wash her hands using soap or ash and water, and then clean the tip of her breast from inside to outside using a clean wet cloth. Then expose the newborns cord and apply 10 drops of her breast milk and rub it using her index finger on the tip, bottom and body of the cord. Then after, leave the cord without covering it for air dry and wash hands using soap or ash and water. Repeat this procedure for seven days once daily. Mothers were given a picture chart to remind them the procedure and to apply the intervention every day (Annex 4).

CHX group: neonates assigned to the CHX group, were provided with one tube (20gm) of 4% chlorhexdine gel manufactured by Addis Pharmaceutical Factory PLC, Adigrat, Ethiopia. The mother was taught to at occasion's i.e at the first and second time of contact with the intervension data collectors to wash her hands using soap or ash and water, pierce the sealed mouth of the tube, then expose the newborns cord and apply a bean sized gel on the index finger then rub the gel on the tip, bottom and body of the cord. Then after, leave the cord without covering it for air dry and wash hands using soap or ash and water. Close the tube tightly and store it in a cool place where children can't reach at. Repeat this procedure for seven days once daily. Then, dispose the tube in the toilet after the seventh day. Mothers were told to avoid applying the CHX on the neonate's eye, ear or mouth. Moreover mothers were given a picture chart to remind them the procedure and to apply the intervention every day (Annex5).

DCC group: neonate assigned to the DCC group, were provided with 30 pieces of "Arsan ultra compact cotton buds". Mothers were was taught at occasion's i.e at the first and second time of contact with the intervension data collectors to wash her hands using soap or ash and water and air dry them. And then expose the newborns cord and using two cotton buds dry the cord's tip, bottom and body. Then after, leave the cord without covering it for air dry and wash hands using soap or ash and water. Repeat this procedure for seven days once daily. Mothers were given a picture chart to remind them the procedure and to apply the intervention every day (Annex 6).

5.7.3 Identification of births and enrollment of newborns

Identification of birth were conducted through the triangulating effect of the existing system of Health Development Army (HDA) led network, the intervention group and evaluation group of the data collectors. The study participants were told to report their birth to the HDA team leader. Accordingly data regarding the newborn were obtained from the sequential HDA reporting the birth to the data collectors and data collectors evaluate the new born for enrolment and report this to the supervisors **(Figure 2)**.

5.7.4 Training of data collectors and supervisors

High school completed 15 data collectors as well as two supervisors were given a total of 7 days of training using training manual . regarding their roles and responsibilities regarding the study. Data collectors of this study were divided into two groups. The first groups were called the intervention group data collectors. They were trained to visit the newborn on the 1^{st} and 3^{rd} day after delivery. By doing so they were thought how to enroll the new born according to the inclusion criteria, obtain an informed consent from the mother, train the mother about how to apply and what procedures to follow when applying the cord care regimens according to the assigned group, council the mother about neonatal and maternal danger signs, signs of cord infection, and to seek for medical care whenever she notices these cord infection and danger signs. They were also trained to report to the supervisors whether the newborn they have visited was included or excluded from the research. The other groups of data collectors were called evaluation data collectors they were the ones who were trained about to collect data regarding demographic, maternal, and newborn characteristics, cord care regimen compliance, applications, and study follow-up, cord separation time in days identifying and recording signs of umbilical cord infection on the 4^{th}, 8^{th} and 15^{th} day. The supervisors were trained to coordinate the data collection procedure to remind the data collectors to go to the enrolled newborns per their scheduled visit, to disseminate important data collecting tools and obtain these tools per fixed amount of time, and report any adverse event if any.

5.8 Data collection tool

Training materials were prepared which covered procedures of the umbilical cord care (as appropriate to the group), basic newborn care, newborn care messages, danger signs of pregnancy, danger signs of the new born, compliance to the study intervention, images regarding

signs of omphalitis, how to collect data, and ethical issues regarding the study so as to enlighten the supervisor and data collectors. Intervention data collectors were given newborn enrollment checklists, intervention data collector's procedure reminding checklists, maternal compliance assessment picture chart(Annex III-VIII) whereas the evaluation data collectors were given three visit questioners as well as an adverse effect reporting checklist(Annex I and IX).

5.9 Data quality management

Prior to the initiation of the data collection, the Amharic version of the data collection tools were pretested on 5 newborns. Depending on the findings from the pretest grammatical and structural adjustments were made after discussion with data collectors to clarity and make sure the consistency of the data collection tool. The two supervisors made sure that the data collectors be it the intervention or evaluation ones visit the newborns after receiving the delivery report per the prescheduled follow-up days according to the protocol. And they have obtained the completed data collecting tools every other week. The investigator of the study monitored the progress of the data collection procedure every week and received the filled out data collecting tools every month. Throughout the process, the collected data were checked and corrections were made whenever necessary. Compliance was assured trough training the mother in two follow ups*on the1st and 3rd day), through giving a compliance checklist that includes pictures of the treatment procedure on one side and to make a mark on the other side of the paper every time she apply the treatment and trough the three visit questioners.

Throughout the data collection process loss to follow up was minimized through obtaining informed consent, and involving inclusion criteria that asked study participants whether or not they will stay in their residential area for at least 30 days after giving birth.

5.10 Data Analysis Procedure

The data were entered into Epi data version 3.1 and exported to Stata version 14.0 for cleaning, editing and analysis. Descriptive statistics was used to describe the baseline characteristics of the study participants. Mean and SD were used for the description of continuous data while frequencies and percentages were used for the description of categorical data. The similarity of the base line characteristics across the groups were compared by ANOVA for continuous variables and Chi square for categorical variables. The normality distribution of the primary and secondary outcome was checked by histogram and homoscedasticity of variance was checked

using Bartlett's test. Intention to treat analysis was used during the analysis of the outcome variable the study in which subjects were analyzed as part of the group they have been allocated to regardless of whether they comply with the procedures of the intervention or not.

Mean CST was compared among the groups using one way ANOVA whreas the secondary outcome i.e rate of was omphalities was expressed interms of frequency and was compared among the groups using Chi square. Level of significance was set at $p < 0.05$ and 95% CI. Tables were used to present the findings.

5.11 Ethical considerations

Ethical approval was obtained from the School of Public Health/College of Health science, Addis Ababa University and Research Ethical Committee. After the ethical approval, formal letter of cooperation was written to BDHSS in order to review records of pregnant women in the catchment area, for the enrollment purpose. Separate information sheet was prepared that states the Purpose, benefit, and harm of the study as well as confidentiality and right of participants. After which informed written consent was obtained from the mothers of the newborns during data collection. Only approved study personnel had accessed this information. After completion of the study, identifier information were set aside and only study identification numbers (ID no.) were used during analysis. At the time of enrollment, study participants and their family members were encouraged to contact the data collectors in the unlikely event of any adverse event occurrence. Data collectors were obliged to record and report incidence of adverse events on the separated adverse event reporting form. Moreover they were obliged to advice the mother to seek for medical care whenever she notices maternal or newborn danger signs, cord infection and adverse effect of CHX. The right to withdraw from the research process at any point in time was respected.

Regarding safety of intervention, since its synthesis in 1950, CHX has been used for hospital and other clinical settings for hand and wound cleansing and skin and mucosal antisepsis before surgery or other procedures that penetrate these barriers. Compared with the widespread use of CHX, reported side effects have been few and have included delayed reactions such as contact dermatitis and photosensitivity, toxicity as a result of inadvertent application to the ear with access to the inner ear through a perforated tympanic membrane, and, in very rare cases, hypersensitivity reactions such as anaphylactic shock (27). HBM also contains many hundreds to

thousands of distinct bioactive molecules that protect against infection and inflammation and contribute to immune maturation, organ development, and healthy microbial colonization. The milk fat globule (MFG) contains mucins (MUC1, MUC4, and potentially others) derived from the maternal plasma membrane. These mucins are multi-functional, but most importantly, protect infants from infection. Granulocyte-colony stimulating factor (G-CSF), identified in human milk decades ago, and has beneficial effects on intestinal development and the treatment of sepsis (40).

5.12 Operational definition

Omphalitis /infection rate/: infection of the umbilicus in particular the umbilical stump characterized by redness around the umbilicus might extended to the skin of the stomach, edema, increased temperature of the area surrounding the umbilicus, and foul smelling purulent discharge.

Cord separation: fully detachment of the umbilical stump from the underlying skin.

Cord separation time: the time taken (in completed days) for the fully detachment of the umbilical stump from the underlying skin.

Topical HBM application: After washing hands with soap and water, scrubbing 10 droplets of human breast milk on the tip, bottom and body starting within the first three days of delivery, one time daily and letting it air dry for about three minutes till the seventh day.

Topical CHX application: After washing hands with soap and water applying CHX on the stump of the umbilical cord, on the tip, bottom and body starting within the first three days of delivery, one time daily and letting it air dry for about three minutes till the seventh day.

Dry cord care: After washing hands with soap and water drying and cleaning of the tip, bottom and body of stump of the umbilical cord using cotton stick buds starting within the first three days of delivery, one time daily and letting it air dry for about three minutes till the seventh day

Adherence: Applying no other regimen on the umbilical cord except the assigned intervention (CHX, breast milk or dry cord)

Follow up visits: paying visit to the study participants home on the 1st, 3rd, 4th, 7th, and 15th day after delivery.

6. Result

6.1 Study participants

From May 23,2018- November 19, 2018, a total of 342 live birth newborns were screened from 9 clusters. From which 40 neonates were excluded because they didn't meet the inclusion criteria(n=13), they were not visited within three days after birth (n=8) and because substances other than the provided cord care regimen before the cord was separated (n=19). Finally 302 (BM group 106, CHX group 107, and DC group 89) were enrolled and analysed (fig. 1).

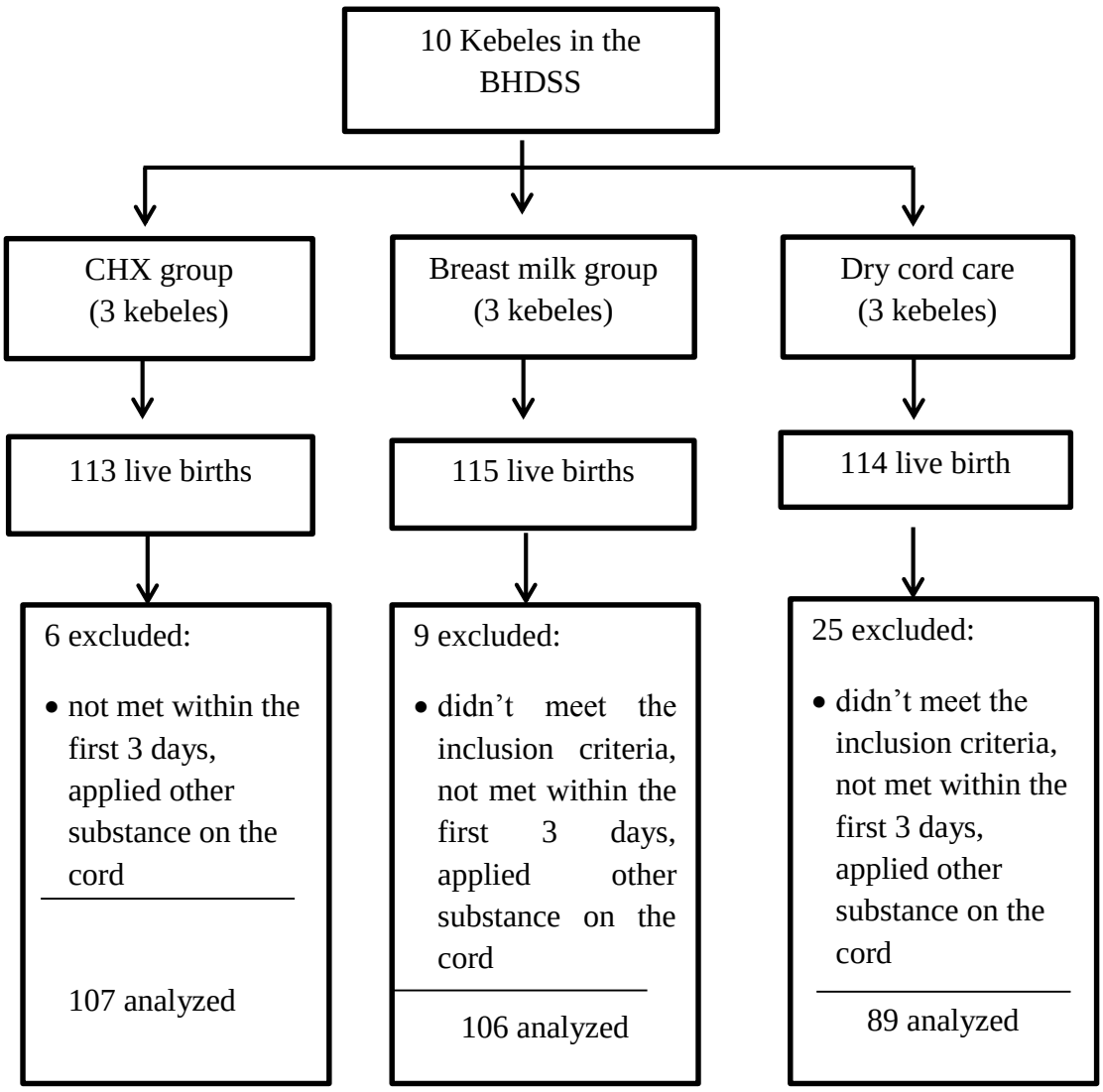

Figure 2: Study participant's flow chart for the study Neonatal Umbilical Cord Separation Time and Rate of Cord Infection in Butajira, Ethiopia 2017/2018

6.2 Baseline Comparison

Demographic, maternal, and newborn characteristics are shown in Table 2. These characteristics were comparable among the HBM, CHX, and DCC group, except for membrane rupture time (P=0.03), place of delivery (P<0.001).

Table 2: **Demographic, maternal, and newborn characteristics among the comparison groups for the study neonatal umbilical cord separation time and rate of cord infection in Butajira, Ethiopia 2017/2018**

General characteristics	***Breast milk group (n=106) n(%)***	***CHX group (n=107) n(%)***	***Dry cord care group (n=89) n(%)***	***P value***
Age				
18-27	57 (53.8)	22 (20.6)	38 (42.7)	
28-37	49 (46.2)	63 (58.8)	43 (48.3)	P=0.09
>=38	0 (0)	22 (20.6)	8 (9.0)	
Mean±SD	27±5	33±5	29±5	
Religion				
Orthodox	11 (10.3)	6 (5.6)	12 (13.4)	
Muslim	79 (74.5)	91 (85.1)	77 (86.5)	P=0.23
Protestant	0 (0)	10 (9.3)	0 (0)	
Catholic	16 (15.0)	0 (0)	0 (0)	
Formal education				
No education	38 (35.9)	73 (68.2)	35 (39.3)	
Primary	62 (58.5)	33 (30.8)	43 (48.3)	P=0.12
Secondary	5 (4.7)	1 (0.9)	10 (11.2)	
other	1 (0.9)	0 (0)	1 (1.1)	
ANC follow-up				
No follow up	3 (2.8)	10 (9.4)	6 (6.7)	
At health post	8 (7.5)	46 (43.0)	41 (46.1)	P=0.14
At health center	91 (85.9)	50 (46.7)	35 (39.3)	
At gov't hospital	2 (1.9)	1 (0.9)	7 (.9)	
At Private hospital	2 (1.9)	0 (0)	0 (0)	

General characteristics	***Breast milk group (n=106) n(%)***	***CHX group (n=107) n(%)***	***Dry cord care group (n=89) n(%)***	***P value***
Membrane rupture time(hrs)				
<12hr before birth	96 (90.6)	82 (76.6)	80 (89.9)	P=0.03
12-24hr before birth	8 (7.5)	22 (20.6)	7 (7.9)	
> 24 hrs of before birth	2 (1.9)	3 (2.8)	2 (2.2)	
Duration of labor				
12hr	83 (78.3)	83 (77.6)	75 (84.3)	P=0.50
12-24hr	18 (17.0)	17 (15.0)	8 (9.0)	
>24hr	5 (4.7)	8 (7.5)	6 (6.7)	
Place of delivery				
Home	10 (9.4)	41 (38.3)	22 (24.7)	P=0.00
Health institution	96 (90.6)	66 (61.7)	67 (75.3)	
Sex of the newborn				
Male	52 (49.1)	51 (47.7)	49 (55.1)	P=0.56
Female	54 (50.9)	56 (52.3)	40 (44.9)	

6.3 Cord care regimen compliance, applications, and study follow-up

Regimen compliance was recorded per the report of the mother. t 76(71.7%) and 59(66.3%) of the newborns in the HBM and DCC groups respectively were paid a single visit 68(63.5 %) newborns in the CHX group were visited two times by the trained cord care regimen provider. On the first day after delivery the cord care regimen was applied on 7(6.6%) newborns in the HBM group, on 53(49.5%) newborns in the CHX group and on 2(2.2%) newborns in the DCC group. Hand washing practice before applying the cord care regimen was maintained for all of them. The frequency of application of the cord care regimen was once daily on 106(100.00%) newborns of HBM group, on 107(100%) newborns of CHX group, and on 87(97.8%) newborns in dry care group. Throughout the follow-up period substances other than the cord care regimen were applied on the cord of 2 (1.9%) neonates in HBM group 4 (3.7%) neonates in CHX groups, and on 10 (11.2%) neonates in DCC group. These substances include butter, Vaseline, and animal dung **(table 3)**.

Table 3: Cord care regimen compliance, applications, and study follow-up for the study neonatal umbilical cord separation time and rate of cord infection in Butajira, Ethiopia 2017/2018

	BM group (n=106) n(%)	***CHX group (n=107) n(%)***	***DC group (n=89) n(%)***
Number of visits by trained cord care regimen providers			
One	76 (71.7)	39 (36.5)	59 (66.3)
Two	30(28.3)	68 (63.5)	30 (33.7)
Application of cord care regimen on			
1st day	7 (6.6)	53 (49.5)	2 (2.2)
2nd day	59 (55.7)	88 (82.2)	53 (59.6)
3rd -7th day	106 (100.0)	107 (100.0)	89 (100.0)
Applicator of cord care regimen			
Newborn's mother	106 (100.0)	106 (99.0)	88 (98.9)
Participant's mother	0	1 (0.9)	1 (1.1)
Frequency of application			
Once per day	106 (100.0)	79 (73.8)	45 (50.6)
Twice per day	0	27 (25.3)	24 (27.0)
Three times per day	0	1 (0.9)	20 (22.5)
Hands washed before intervention application			
yes	106 (100.0)	107 (100.0)	89 (100.0)
Washed hands using			
soap and water	106 (100.0)	107 (100.0)	89(100.0)

Source of water for washing hands			
tap	49 (46.2)	38 (35.5)	40 (44.9)
river	2 (1.9)	3 (2.8)	10 (11.2)
protected spring	2 (1.9)	1 (0.9)	1 (1.1)
well	53 (50.0)	63 (61.0)	38 (42.7)

	BM group (n=106) n(%)	***CHX group (n=107) n(%)***	***DC group (n=89) n(%)***
Amount of intervention applied			
More than bean sized*	-	17 (15.9)	-
Less than bean sized*	-	76 (71.0)	-
Equal to bean sized*	-	14 (13.0)	-
10 drops #	106 (100.0)	-	-
cord care regimen applied using index finger			
yes	106 (100.0)	107 (100.0)	89 (100.0)
cord care regimen applied on the tip of the cord			
yes	106 (100.0)	107 (100.0)	89 (100.0)
cord care regimen applied on the base of the cord			
yes	106 (100.0)	107 (100.0)	89 (100.0)
cord care regimen applied on the body of the cord			
yes	106 (100.0)	96 (89.7)	89 (100.0)
no	0	11 (10.3)	0
Drying the cord after applying the cord regimen			
Yes	104 (98.1)	84 (78.5)	80 (89.9)
No	2 (1.9)	23 (21.5)	9 (10.1)

Substance applied other than the cord care regimen			
Yes	2 (1.9)	4 (3.7)	10 (11.2)
no	104 (98.1)	103 (96.3)	79 (88.8)
Types of substance applied			
Butter	1(50.0)	2 (50.00)	1 (10.0)
Animal dung	0	1 (25.0)	1 (10.0)
Vaseline	1 (50.0)	1 (25.0)	8 (80.0)

	BM group (n=106) n(%)	***CHX group (n=107) n(%)***	***DC group (n=89) n(%)***
New born danger signs:			
Newborn failed to suck breast on			
1st visit	0	3 (2.8)	0
2nd visit	0	3 (2.8)	0
3rd visit	0	3 (2.8)	0
Newborn difficulty of breathing on			
1st visit	2 (1.9)	5 (4.7)	1 (1.1)
2nd visit	2 (1.9)	6 (5.6)	0
3rd visit	0	5 (4.7)	0
Newborn had gasping on			
1st visit	1 (0.94)	5 (4.7)	1 (1.1)
2nd visit	2 (1.9)	5 (4.7)	0
3rd visit	2 (1.9)	5 (4.7)	0
Newborn had fits or convulsions			
1st visit	0	1 (0.9)	0
2nd visit	1 (0.9)	1 (0.9)	0
3rd visit	0	1 (0.9)	0
Newborn less active than usual on			
1st visit	0	4 (3.7)	0
2nd visit	0	4 (3.7)	0
3rd visit	0	4 (3.7)	0
Newborn temperature increased on			
1st visit	0	4 (3.7)	1 (1.1)
2nd visit	1 (0.9)	7 (6.5)	1 (1.1)
3rd visit	0	5 (4.7)	1 (1.1)
Newborn temperature decreased on			
1st visit	0	5 (4.7)	0
2nd visit	0	4 (3.7)	0
3rd visit	0	5 (4.7)	0

(* variables not applicable for HBM and DCC groups; # variables not applicable for CHX and DCC groups)

6.4 Cord separation time

The mean cord separation time was 5.7 days among the three groups with 5.6 days, 5.9days and 5.7days of cord separation time was observed in the BM, CHX and DC group respectively **(table 4)**. Though this difference was not statistically significant among the study groups (p value=0.40), the maximum cord separation time was recorded in the CHX group (15 days) whereas the minimum cord separation time was recorded both in BM and DC group (3days).

Table 4: mean cord separation time in days for the study neonatal umbilical cord separation time and rate of cord infection in Butajira, Ethiopia 2017/2018

Study groups	Breast milk (106)	CHX (107)	Dry cord (89)	p-value
Mean(days)	5.6	5.9	5.7	P=0.40
Standard deviation	1.3	1.7	1.5	
Minimum CST	3	4	3	
Maximum CST	10	15	13	

6.5 Omphalitis

Signs of cord infection (redness on the base of the cord stump and that extended beyond the base of the cord stump, pus, and warm skin around the cord stump) were used to determine omphalitis. There were statistically significant difference among the groups regarding the redness on the base of the cord stump at all visit (P<0.001) and this was highly observed in the dry care group on 38, 37, and 32 neonates on the first , second and third visits respectively. Redness beyond the base of the cord stump was highly observed on the DCC group on 11, 11and 9 neonates on the first , second and third visits respectively, but this difference was significant among the groups only at the second visit (P<0.001). Pus on the cord stump was the highest in the HBM on the first visit and it was observed on 7 neonates; on second visit it was the same among the neonates in HBM and DCC 5 neonates each; on the third visit it was highest in the DCC in which it was observed on 5 neonates but all of this differences were not statistically significant among the groups. Warm skin around the cord was highly observed among the CHX group, in which it was observed on 7, 7 and 3 neonates on the first , second and third visits respectively, but this difference was significant among the groups only at the second visit (P<0.03) (table 5).

Table 5: Signs of umbilical cord infection for the study neonatal umbilical cord separation time and rate of cord infection in Butajira, Ethiopia 2017/2018

Sign of cord infection	***BM group(106)***	***CHX group(107)***	***DC group(89)***	***P-value***
Redness on the base of the cord stump				
1st visit	17 (16.0)	11(10.3)	38 (42.7)	P<0.001
2nd visit	12 (11.3)	7 (6.5)	37 (41.6)	P<0.001
3rd visit	9 (8.5)	4 (3.7)	32 (35.9)	P<0.001
Redness beyond the base of the cord stump				
1st visit	10 (9.4)	7 (6.5)	11 (12.4)	P= 0.37
2nd visit	6 (5.6)	2 (1.8)	11 (12.4)	P<0.001
3rd visit	5 (4.7)	4 (3.7)	9 (10.1)	P= 0.14
Pus on the cord stump				
1st visit	7 (6.6)	5 (4.7)	5 (5.6)	P= 0.83
2nd visit	5 (4.7)	3 (2.8)	5 (5.6)	P= 0.61
3rd visit	4 (3.7)	1 (0.9)	5 (5.6)	P= 0.18
Warm skin around the cord				
1st visit	3 (2.8)	7 (6.5)	1 (1.1)	P= 0.11
2nd visit	1 (0.9)	7 (6.5)	1 (1.1)	P= 0.03
3rd visit	1 (0.9)	3 (2.8)	2 (2.3)	P= 0.91

7. Discussion

A three arm, non- masked, community based, cluster randomized controlled trial was conducted at Butajira, Ethiopia on 302 newborns with an objective determining the effect of topical application of HBM, CHX and DCC on the neonatal umbilical cord separation time and assessing the rate of cord infection.

HBM contains large amounts of IgA antibodies, growth factors, namely the transforming growth factors alpha and beta (TGF-A and TGF-B) and the insulin-like growth factors 1 and 2 (IGF-1 and IGF-2), and also leukocytes or polymorphonuclear cells. These factors accelerate complex umbilical cord separation through polymorphonuclar leukocytes present inside umbilical cord. Regarding this, different studies had shown that HBM has an effect of shortening cord separation time resulting reduced chances of acquiring cord infection (3, 4, 11, 15, 16, 29). Supporting this, our study found the shortest mean CST in the HBM group 5.6±1.3 days and a mean of 5.9± 1.7days in CHX group and 5.7± 1.5 in the DCC group, though this difference was not statistically significant (P= 0.40) among the groups. This finding was in accordance with the previous six hospital-based trials; in which four of the studies were RCT conducted in Iran comparing the impact of topical application of HBM against CHX, ethanol, dry care, 96% ethyl alcohol, povidone-iodine and silver sulfadiazine(4, 11, 15, 16); one of the study was quasi-experimental study comparing topical HBM, povidone-iodine, and dry care (3); whereas the other one is RCT in India comparing HBM group and dry care group(29). All of these studies had shown statistically significant short mean/median cord separation time in the HBM group .Failure of our study to show a significance difference of CST among the cord care regimen groups could be due to the fact that the current study differs from previously conducted studies in terms of frequency and duration of cord care regimen application (once daily for seven days where as in other studies the cord care regimen was applied for twice a day for 7days or till 3 days after the cord had been separated), study design, procedure(using the tip of the index finger to apply BM and CHX rather than using a cotton swab), pre delivery activities(the newborns mother was contacted after delivery unlike the previous studies where the mother was contacted before delivery and provided with birth kits for home delivery and counseling regarding antenatal care (ANC) follow up and health institution delivery). A community based RCT conducted in Bangladesh and Nepal as well as clinical based RCT conducted in Italy and

India comparing dry cord care with that of CHX and 70% alcohol found a significant short CST in dry care groups (30-33). Opposing these findings a clinical based RCT that compared CHX with DC conducted in Germany and in India on newborns of NICU, showed a significantly short CST in CHX groups (10, 31). This could be due to the difference in study subjects and study settings (newborns with gestational age>32 weeks and weighing >1500 g at birth and admitted to NICU were enrolled for the study).

In our study, the overall CST was between 3 to 15 days. The longest CST was recorded in CHX group (15 days) whereas the shortest CST (3 days) was observed both in HBM and DCC group. This finding was consistent with clinical based RCT study conducted in Iran, in which shortest CST was observed in a HBM group which was 4 and the longest CST was observed for CHX application groups with 53 days(11). Thus, this finding could indicate that HBM can hasten CST as much as DCC and better than CHX, which enables it to be used as alternative cord care regimen.

Studies indicated that the risk factor for neonatal cord infection include unhygienic cord practices , inappropriate cord handling (e.g., cultural application of substances such as engine oil, cow dung, talc powder, or palm oil to the cord); septic delivery secondary to prolonged rupture of membranes or maternal infection; non sterile delivery; prematurity; low birth weight as well as neonates with weakened or deficient immune systems or who are hospitalized and subjected to invasive procedures such as umbilical catheterization (12). Though a relationship between signs of cord infection and cultural application of substances was not established in our study, we found out that substances such as butter, Vaseline, and animal dung had been applied on the neonate's umbilical cord other than the assigned cord care regimen. The highest frequency of these substances were observed in the DCC group in which butter was applied on 1 neonates animal dung on 1 neonate and Vaseline on 7 neonates. This finding was important because in a way it indicates that, mothers tend to apply substances on the cord when they are not provided with substances that are antimicrobial agents.

Our finding regarding signs of cord infection indicated the highest cord infection signs were observed in neonates of the DCC group and least was on neonates of the CHX group and this was statistically significant regarding the sign of redness on the base of the cord stump at all visit

(P<0.001) observed on 38, 37, and 32 neonates on the first , second and third visits respectively. which might indicate the importance of antimicrobial agents contained in HBM or CHX. These finding was in align with systematic review conducted by Sankar et al that revealed a significant reduction in the incidence of omphalitis in infants who received the intervention; CHX (9). The literature reviewed by Mullany et al from a developing country like southern Nepal in comparing 4.0% CHX, soap-and-water solution and dry cord care showed a significant reduction of incidence of mild and severe omphalitis in DCC and CHX group. However soap-and-water cleansing showed no protective benefit (27). A cluster-randomized controlled trial conducted in in Southern province of Zambia showed a diagnosed omphalitis in 200 newborns, of whom 82 were in the CHX group and 118 were in the dry cord care group (35). In the contrary to these findings, studies conducted in Iran comparing ethanol, dry care and human breast milk as well as comparing application of human milk, 96% ethyl alcohol, and silver sulfadiazine showed no significant difference among the three groups in terms of the frequency of omphalitis (4, 16). Supporting this, a study conducted in Turkey among a single and multiple application of 70% alcohol, 4% CHX, or povidon-iodine showed no significant difference in the rate of omphalitis when compared between the study groups (34) .

8. Strengths and limitations of the study

The strength of this study was attributed to its design, in which it was powered enough and had controlled cross contamination among the study groups and confounders through cluster randomization as well as enabling us to measure the direct effect of the intervention on the study outcome.

The limitations of this study that needs to be acknowledged are:

- Despite the effort we have made to identify births within the time limit of three days, we couldn't include all newborns at birth due to delayed reports, which could have limited our understanding of the study outcomes on those who were not included.
- We have reported omphalities based on the signs of cord infection not through a culture proven tests, this may overestimate the incidence.
- Though each neonate was visited at least four times, we took the mother's word for the time of cord separation. It is probable that mothers forgot the exact time of cord separation, attributing to a recall bias.
- Due to limited time and financial resources, we couldn't assess the acceptability of the cord care interventions by the mother of the neonate.

9. Conclusion and Recommendations

9.1 Conclusion

This study found that topical application of HBM is related with comparable if not even shorter mean cord separation time than CHX or DCC. It also has reduced incidence of infection, as much as topical CHX application. Moreover in this study longer cord separation time was associated with cord infection and home delivery. And higher frequency of cord infection and use of cultural application of substances was observed in DCC group. Generally the readily available human breast milk can be considerd as an alternative cord care regime.

9.2 Recommendations

For policy makers

- It is recommended for policy makers to given further emphasis for the application of HBM in terms of its potential benefit in a way of strengthening community based newborn care package along with CHX to minimize cord infection and promote the health of the new born.

For researchers

- For researchers who want to pursue their study regarding neonatal cord care , it is recommended to carry out further large scale study with definitive culture proven omphalities diagnosis with respect to cord care regimen and cord separation time.
- Moreover to triangulate cord care regimen practice, it is recommended for researcher to conduct feasibility/practicability and maternal or care giver's cultural acceptance of human breast milk as a remedy for cord care in different contexts.

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ANNEX

Annex I- Data collection tools first, second and third round questioner (EnglishVersion)

Addis Ababa University, School of public health

Subject Information Sheet

Hello,

My name is ———————————————— I am here on behalf of Melat Mesfin, a student at Addis Ababa University School of Public Health reproductive and family health department. She is conducting a research for her MPH thesis. She has received permission from Addis Ababa University School of Public Health to conduct this research. I will be explaining information regarding the study and requesting you to participate in the study.

Objective of the study: to evaluate the effect of topical application of human breast milk/ CHX/dry cord care on neonatal umbilical cord separation time and rate of infection.

Benefit of the study: This study will help to know the cord care practices that shorten cord separation time and decrease rate of umbilical infection.

Harm of the study: The study will take time of you through requiring you to fill daily adhesion checklists and by the two times visits paid to your house.

Confidentiality and right of participant: You are selected by simple random sampling technique. Your participation on this study will only be based on your willingness .You have the right to choose not to take part in this study. If you choose to take part, you have the right to stop at any time. If you are willing to participate or refuse or decide to withdraw later, you will not be subjected to any ill-treatment. Both you and your infant's medical information that is going to be accessed for this study remained confidential. Data will be documented only using codes for each participant and no names will be recorded at the time of data processing. If you agree to participate in the study, you will be asked questions regarding your socio-demographic status, obstetric history of the index pregnancy, umbilical cord care, newborn danger signs, cord separation time, and sign of omphalitis.

For further clarifications you can contact the coordinator of the research- Melat Mesfin.

Phone number- + 251913846500

Informed Consent

Based on the understanding of the above information, are you willing to participate in this study?

A) Yes

B) No

If yes, please sign on the agreement form and continue to respond for the following questioners.

Respondent

Signature _____Date_____

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Effect of Topical Application of Human Breast Milk, Chlorhexidine and Dry Cord Care on Neonatal Umbilical Cord Separation Time and Rate of Cord Infection **First Round Questionnaire** for (CHX, HBM, DCC group)

ID Number | | | | | |

Name of the woreda _____

Name of the kebeles _____

Date of delivery | | | | |

Date of First visit | | | | |

Section 1: Basic socio-demographic questions

Ser.No	Question	Answer	Skip to the next question
101	How old are you?(age in full year)		
102	Religion	1.Orthodox 2.Muslim 3.Catholic 4.Protestant 5.others……	
103	Did you attained basic formal education?	1.yes 2.No	If no skip to 201
104	If yes, what is the highest level of Education you attained?	1.primary 2.secondary 3.Technical/vocational 4.others……..	

Section 2: Questions regarding current pregnancy

Ser no	Questions	Answer	Skip to the next question
201	Did you attend ante natal care in this pregnancy?	1.yes 2.no	If no ,skip to 205
202	If yes, where did you attend antenatal care?	1.Health post 2.Health center 3.Governmental hospital 4.private clinic 5.Private hospital	

		6.Non governmental clinic 7.Non governmental hospital 8.others……	
203.	Who gave you the antenatal care service?	1.Doctor 2.Health officer 3.Nurse 4.Midwifery 5.Health extension workers 6. Others……	
204.	How many times did you attend the antenatal care?	1.once 2.twice 3.three times 4.four times	
205.	How old was the pregnancy at the time of delivery**?(data collector: please write the mother's response in weeks)**	……	
206.	In this delivery,when did your water broke?**(data collector: please circle the mother's response in hour)**	1.within 12 hour before delivery 2.within 12-24 hour before delivery 3.beyond 24 hour before delivery	
207.	How long did your labour took for the index birth? **(data collector: please circle the mother's response in hour)**	1.<12 hour 2.12-24 hour 3.> 24 hour	
208.	Where did you gave birth to your baby?	1.In a health institution 2.At home	
209.	In which health institutions did you gave birth?	1.Health post 2.Health center 3.Governmental hospital 4.private clinic 5.Private hospital 6.Non-governmental clinic 7.Non governmental hospital 8. Others……	
210.	If you deliver at home, who helped you with the delivery?	1.Health extension workers 2.your mother 3.your mother in law 4.traditional birth attendant	

		5. Others…….	
211.	Was your delivery vaginal or with Cesarean section?	1.Normal vaginal delivery 2.Cesarean section	
212.	What is the sex of the baby?	1.Male 2.Female	
213.	Was the weight of the baby measured?	1.yes 2.No 3.Other……	If no skip to question no 215
214.	What was the weight of the baby?	1.From the chart of the health institution……kg 2.From what the mother remembers……kg	
215.	Did the size of your baby seem very large? Greater than medium? Medium? Less than medium? Very small?	YES No Very large…..1 2 >Medium…..1 2 Medium……..1 2 <Medium……1 2 Very small…..1 2	

Section3: Questions regarding cord care given for the baby (Only For those who delivered at home)

No	Question	Answer	Skip
301.	What did you use to cut the cord?	1. blade 2.broken glass tip 3. others……..	303
302.	By what kind of blade?	1. new blade 2. used blade 3. others……..	
303.	What did you use to tie the cord?	1. boiled string 2. un-boiled string 3.others……..	

Section 4:Questions regarding the application of cord care regimen per group

No	Questions	Answer	Skip
401	Did the health extension worker visited you at home after delivery?	1.yes 2.no	418
402	How often did she visits you?	1.one 2.Twice 3.other……..	
403.	When was the HEW visited you for the first time right after delivery?	1.On the first day 2.on the second day 3.on the third day 4. others……..	

404.	On the first visit did the advised you to put your breast milk on the baby's umbilical cord?	1.yes 2.no	

Age of the newborn		First day	Second day	Third day	skip
405	Was HBM/CHX/DCC applied to the newborns umbilical cord?	1.yes 2.no	1.yes 2.no	1.yes 2.no	418
406.	Who applied it?	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others…….	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others…….	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others……	
407.	How often did you apply HBM/DCC/CHX on the cord per day?	1.once a day 2.twice a day 3.three times a day 4.others	1.once a day 2.twice a day 3.three times a day 4.others	1.once a day 2.twice a day 3.three times a day 4.others	
408.	Did you wash your hand before you apply the HBM/DCC/CHX?	1.yes 2.no	1.yes 2.no	1.yes 2.no	
409.	What did you use to wash your hand?	1.with soap and water 2.with ash and water 3.with water only 4.others	1.with soap and water 2.with ash and water 3.with water only 4.others	1.with soap and water 2.with ash and water 3.with water only 4.others	411
410.	Did you wash your hands thoroughly by rubbing your palms and back of your hand?	1.yes 2.No	1.yes 2.No	1.yes 2.No	
411.	What is the source of the water that you've used to wash your hand?	1.Tap water 2.River water 3.pond water 4.dump water 5.others……	1.Tap water 2.River water 3.pond water 4.dump water 5.others……	1.Tap water 2.River water 3.pond water 4.dump water 5.others……	
412.	Did you cleanse your nipples	Yes No	Yes No	Yes No	

	from inside to outside with wet clean clothing before you apply breast milk on the baby's cord? **(for HBM group only)**	With wet…1 2 Clean Clothing Cleanse…1 2 Inside to outside	With wet.1 2 Clean Clothing Cleanse.1 2 Inside to outside	With wet.1 2 Clean Clothing Cleanse.1 2 Inside to outside	
413.	Before you apply HBM/DCC/CHX on the baby's cord, did you let your hand dry?	1.yes 2.No	1.yes 2.No	1.yes 2.No	
414.	Did you apply 10 drops of your breast milk on the baby's cord? **(for HBM group only)** Did you apply a bean sized CHX on your finger? **(for CHX group only)**	1.yes 2.No	1.yes 2.No	1.yes 2.No	
415.	Did you apply the HBM/DCC/CHX on the tip, between the tip and base and at the base of the cord?	Yes No -by index..1 2 finger -on the……1 2 tip of the umbilicus -between ..1 2 the tip & the base -at the base..1 2	Yes No -by index...1 2 finger -on the…1 2 tip of the umbilicus -between...1 2 the tip & the base -at the base...1 2	Yes No -by index...1 2 finger -on the…1 2 tip of the umbilicus -between...1 2 the tip & the base -at the base...1 2	
416.	Did you wash your hand with soap/ash and water after applying HBM/DCC/CHX?	1.yes 2.no 3.other……	1.yes 2.no 3.other……	1.yes 2.no 3.other……	
417.	Was the baby's cord left	1.yes	1.yes	1.yes	

	uncovered for 3 minutes for an air dry after applying HBM/DCC/CHX?	2.no 3.other……	2.no 3.other……	2.no 3.other……	
418.	Was there a substance applied on the baby's cord other than the mother's HBM/DCC/CHX?	1.yes 2.no	1.yes 2.no	1.yes 2.no	
419.	Who applied it?	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	
420.	What was applied?	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.Butter 2.cow's dung 3.Vaseline 4.other……	
421.	How frequent was it applied per day?	1.once a day 2.twice a day 3.three times a day 4.other…….	1.once a day 2.twice a day 3.three times a day 4.other…….	1.once a day 2.twice a day 3.three times a day 4.other…….	
422	Did you put the CHX at safe place where children can't reach at and where the temperature is cool?**(for CHX group only)**	Yes No Cool place...1 2 Children…..1 2 can't reach at	Yes No Cool place...1 2 Children…..1 2 can't reach at	Yes No Cool place...1 2 Children..1 2 can't reach at	421
423	Did the intervention provider warn you about the effect of accidentally applying CHX in the baby's ear, mouth or eye? **(for CHX group only)**	Yes No On the eye..1 2 On the ear…1 2 On the mouth..1 2	Yes No On the eye..1 2 On the ear…1 2 On the mouth..1 2	Yes No On the eye..1 2 On the ear…1 2 On the mouth..1 2	
423.	Did the intervention provider advised you on the following	Yes no -The use of applying	Yes no -The use of applying	Yes no -The use of applying	

	matters?	HBM/CHX/ DCC…….1 2 -To apply CHX/HBM/DCC for 7 days…1 2 -The harm of applying anything other than HBM/DCC/CHX -Cord Infection…...1 2 -how to fill the reminder form…….1 2 -about the danger signs that can be seen on the mother and the baby….1 2 -to seek health care if those signs are being seen……1 2 -about the use of exclusive breast feeding for 6 months…...1 2	HBM/CHX/ DCC…….1 2 -To apply CHX/HBM/DCC for 7 days…1 2 -The harm of applying anything other than HBM/DCC/CHX -Cord Infection…...1 2 -how to fill the reminder form…….1 2 -about the danger signs that can be seen on the mother and the baby.1 2 -to seek health care if those signs are being seen……1 2 -about the use of exclusive breast feeding for 6 months…...1 2	HBM/CHX/ DCC…….1 2 -To apply CHX/HBM/DCC for 7 days..1 2 -The harm of applying anything other than HBM/DCC/CHX -Cord Infection…..1 2 -how to fill the reminder form…….1 2 -about the danger signs that can be seen on the mother and the baby..1 2 -to seek health care if those signs are being seen……1 2 -about the use of exclusive breast feeding for 6 months…1 2	

Section 5: Questions regarding umbilical cord infection(The data collector will check whether the following signs and symptoms of umbilical cord infection are seen or not)

No	Questions	Answer
501	Is there any redness, pussy discharge or foul smelling that comes from around or from the umbilicus?	Yes / No Redness around the cord 1 2 Redness beyond the cord 1 2 Any discharge around the Cord…… 1 2 Any foul smell that comes From cord …… 1 2
502	Is the temperature of the skin around the cord has increased or not?(**The data collector should feel the difference in body temperature between around the cord and on the baby's chest**)	1.increased 2. not increased 3.difficult to say

Section 6: Questions regarding danger signs that are seen on the Neonate?(The data collector must advice the mother to seek health if one of the signs are seen)

No	Question	Answer
601	Does the baby feed breast milk?	1.yes 2.no
602	Does the baby have difficulty i breathing?	1.yes 2.no
603	Does the baby show shortness of breathing and gasps?	1.yes 2.no
604	Does the baby seize or shiver?	1.yes 2.no
605	Do you think the activity and consciousness of the baby slugged (reduced)?	1.yes 2.no
606	Do you think the baby's temperature has fallen?	yes / no Temperature increased 1 2 Temperature decreased 1 2

Section 7: Questions regarding the danger signs that might be seen on the mother after delivery(The data collector: should advice the mother if she experience even at least one of the signs)

No	**Questions**	**Answers**

701	Have you ever experienced seizure or loss of consciousness after deliver?	1.yes 2.no
702	Do you have fever or your body temperature has risen?	1.yes 2.no
703	Do you have headache?	1.yes 2.no
704	Are you experiencing heavy bleeding?	1.yes 2.no
705	Do you have foul smelling vaginal discharge?	1.yes 2.no
706	Are you feeling pain on your nipple? Is there any redness? swelling? unusual discharge?	Yes No Have pain 1 2 Redness 1 2 Swelling 1 2 Unusual discharge 1 2

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Effect of Topical Application of Human Breast Milk, Chlorhexidine and Dry Cord Care on Neonatal Umbilical Cord Separation Time and Rate of Cord Infection **Second Round Questionnaire** for (CHX, HBM, DCC group)

ID number | | | | | |

Name of the wereda……

Name of the kebele……..

Age of the newborn		4th day	5th day	6th day	7th day	skip
101.	Was HBM/CHX/DCC applied to the newborns umbilical cord?	1.yes 2.no	1.yes 2.no	1.yes 2.no	1.yes 2.no	105
102.	Who applied it?	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others…….	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others…….	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others……	1.you 2.your husband 3.intervention provider 4.your mother 5.your mother in law 6.others……	
103.	How often did you apply HBM/DCC/CHX on the cord per day?	1.once a day 2.twice a day 3.three times a day 4.others	1.once a day 2.twice a day 3.three times a day 4.others	1.once a day 2.twice a day 3.three times a day 4.others	1.once a day 2.twice a day 3.three times a day 4.others	
104.	Did you wash your hand before you apply the HBM/DCC/CHX?	1.yes 2.no	1.yes 2.no	1.yes 2.no	1.yes 2.no ⟶	110
105.	What did you use to wash your hand?	1.with soap and water 2.with ash and water 3.with water only 4.others	1.with soap and water 2.with ash and water 3.with water only 4.others	1.with soap and water 2.with ash and water 3.with water only 4.others	1.with soap and water 2.with ash and water 3.with water only 4.others	107
106.	Did you wash your hands thoroughly by rubbing your palms and back of your hand?	1.yes 2.No	1.yes 2.No	1.yes 2.No	1.yes 2.No	
107.	What is the source of the water that you've used to wash your hand?	1.Tap water 2.River water 3.pond water	1.Tap water 2.River water 3.pond water	1.Tap water 2.River water 3.pond water	1.Tap water 2.River water 3.pond water	

		4.dump water 5.others……	4.dump water 5.others……	4.dump water 5.others……	4.dump water 5.others……	
108.	Did you cleanse your nipples from inside to outside with wet clean clothing before you apply breast milk on the baby's cord? **(for HBM group only)**	Yes No With wet…1 2 Clean Clothing Cleanse…1 2 Inside to outside	Yes No With wet.1 2 Clean Clothing Cleanse.1 2 Inside to outside	Yes No With wet.1 2 Clean Clothing Cleanse.1 2 Inside to outside	Yes No With wet.1 2 Clean Clothing Cleanse.1 2 Inside to outside	
109.	Before you apply HBM/DCC/CHX on the baby's cord, did you let your hand dry?	1.yes 2.No	1.yes 2.No	1.yes 2.No	1.yes 2.No	
110.	Did you apply 10 drops of your breast milk on the baby's cord? **(for HBM group only)** Did you apply a bean sized CHX on your finger? **(for CHX group only)**	1.yes 2.No	1.yes 2.No	1.yes 2.No	1.yes 2.No	
111.	Did you apply the HBM/DCC/CHX on the tip, between the tip and base and at the base of the cord?	Yes No -by index..1 2 finger -on the……1 2 tip of the umbilicus -between ..1 2 the tip & the base -at the base..1 2	Yes No -by index...1 2 finger -on the…1 2 tip of the umbilicus -between...1 2 the tip & the base -at the base...1 2	Yes No -by index...1 2 finger -on the…1 2 tip of the umbilicus -between...1 2 the tip & the base -at the base...1 2	Yes No -by index...1 2 finger -on the…1 2 tip of the umbilicus -between...1 2 the tip & the base -at the base...1 2	

112.	Did you wash your hand with soap/ash and water after applying HBM/DCC/CHX?	1.yes 2.no 3.other……	1.yes 2.no 3.other……	1.yes 2.no 3.other……	1.yes 2.no 3.other……	
113.	Was the baby's cord left uncovered for 3 minutes for an air dry after applying HBM/DCC/CHX?	1.yes 2.no 3.other……	1.yes 2.no 3.other……	1.yes 2.no 3.other……	1.yes 2.no 3.other……	
114.	Was there a substance applied on the baby's cord other than the mother's HBM/DCC/CHX?	1.yes 2.no	1.yes 2.no	1.yes 2.no	1.yes 2.no	201
115.	Who applied it?	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	
116.	What was applied?	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.Butter 2.cow's dung 3.Vaseline 4.other……	
117.	How frequent was it applied per day?	1.once a day 2.twice a day 3.three times a day 4.other…….	1.once a day 2.twice a day 3.three times a day 4.other…….	1.once a day 2.twice a day 3.three times a day 4.other…….	1.once a day 2.twice a day 3.three times a day 4.other…….	

Section 2: Questions regarding cord separation

No	Question	Answer	Skip
201	Did the baby's cord separated?	1. Yes 2. No	301 →
202	when was the cord separated? **(data collector please write the exact date when the cord was separated)**	_____	
203	After the separation of the cord did the umbilicus bleed? Was there pus? Redness around the umbilicus? Foul odor from the umbilicus?	Yes No Bleed 1 Pus 1 Redness 1 Foul smelling 1	
204	Was there a substance applied on the baby's cord other than the mother's HBM/DCC/CHX?	1.yes 2.no	
205	Who applied it?	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	
206	What was applied?	1.Butter 2.cow's dung 3.Vaseline 4.other……	
207	How frequent was it applied per day?	1.once a day 2.twice a day 3.three times a day 4.other…….	

Section 3: Questions regarding umbilical cord infection(data collector please check whether the following signs and symptoms of umbilical cord infection are seen or not)

No	Questions	Answer

301	Is there any redness, pussy discharge or foul smelling that comes from around or from the umbilicus?	Yes No Redness around the cord 1 2 Redness beyond the cord 1 2 Any discharge around the Cord…… 1 2 Any foul smell that comes From cord …… 1 2
302	Is the temperature of the skin around the cord has increased or not?(**The data collector should feel the difference in body temperature between around the cord and on the baby's chest**)	1.increased 2. not increased 3.difficult to say

Section 4: Questions regarding danger signs that are seen on the Neonate?(The data collector must advice the mother to seek health if one of the signs are seen)

No	Question	Answer
401	Does the baby feed breast milk?	1.yes 2.no
402	Does the baby have difficulty i breathing?	1.yes 2.no
403	Does the baby show shortness of breathing and gasps?	1.yes 2.no
404	Does the baby seize or shiver?	1.yes 2.no
405	Do you think the activity and consciousness of the baby slugged (reduced)?	1.yes 2.no
406	Do you think the baby's temperature has fallen?	yes no Temperature increased 1 2 Temperature decreased 1 2

Section 5: Questions regarding the danger signs that might be seen on the mother after delivery(data collector please the mother to visit health facility if she experience even at least one of the signs)

No	**Questions**	**Answers**
501	Have you ever experienced seizure or loss of consciousness after deliver?	1.yes 2.no
502	Do you have fever or your body temperature has risen?	1.yes 2.no
503	Do you have headache?	1.yes 2.no

504	Are you experiencing heavy bleeding?	1.yes 2.no		
505	Do you have foul smelling vaginal discharge?	1.yes 2.no		
506	Are you feeling pain on your nipple? Is there any redness? swelling? unusual discharge?		Yes	No
		Have pain	1	2
		Redness	1	2
		Swelling	1	2
		Unusual discharge	1	2

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Effect of Topical Application of Human Breast Milk, Chlorhexidine and Dry Cord Care on Neonatal Umbilical Cord Separation Time and Rate of Cord Infection **Third Round Questionnaire** for (CHX, HBM, DCC group)

ID number | | | | | |

Name of the wereda……

Name of the kebele……..

Age of the newborn	101. any substance applied to the newborns umbilical cord?	102. Who applied the substance?	103. what was applied?	104. frequency of application?
8th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….
9th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….
10th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….
11th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….
12th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….

		6.others		
13th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….
14th day	1.yes 2.no **(if no skip to question 201)**	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	1.Butter 2.cow's dung 3.Vaseline 4.other……	1.once a day 2.twice a day 3.three times a day 4.other…….

Section 2: Questions regarding cord separation

No	Question	Answer	Skip
201	Did the baby's cord separated?	1. Yes 2. No	301 →
202	when was the cord separated? **(data collector please write the exact date when the cord was separated)**	_____	
203	After the separation of the cord did the umbilicus bleed? Was there pus? Redness around the umbilicus? Foul odor from the umbilicus?	Yes No Bleed 1 Pus 1 Redness 1 Foul smelling 1	
204	Was there a substance applied on the baby's cord other than the mother's HBM/DCC/CHX?	1.yes 2.no	
205	Who applied it?	1.you 2.your husband 3.HEW 4.your mother 5.your mother in law 6.others	
206	What was applied?	1.Butter 2.cow's dung 3.Vaseline 4.other……	
207	How frequent was it applied per day?	1.once a day 2.twice a day 3.three times a day 4.other…….	

Section 3: Questions regarding umbilical cord infection(data collector please check whether the following signs and symptoms of umbilical cord infection are seen or not)

No	Questions	Answer		
301	Is there any redness, pussy discharge or foul smelling that comes from around or from the umbilicus?		Yes	No
		Redness around the cord	1	2
		Redness beyond the cord	1	2
		Any discharge around the Cord……	1	2
		Any foul smell that comes		

		From cord …… 1 2
302	Is the temperature of the skin around the cord has increased or not?(**The data collector should feel the difference in body temperature between around the cord and on the baby's chest**)	1.increased 2. not increased 3.difficult to say

Section 4: Questions regarding danger signs that are seen on the Neonate(data collector please advise the mother to seek health if one of the signs are seen)

No	Question	Answer
401	Does the baby feed breast milk?	1.yes 2.no
402	Does the baby have difficulty i breathing?	1.yes 2.no
403	Does the baby show shortness of breathing and gasps?	1.yes 2.no
404	Does the baby seize or shiver?	1.yes 2.no
405	Do you think the activity and consciousness of the baby slugged (reduced)?	1.yes 2.no
406	Do you think the baby's temperature has fallen?	yes no Temperature increased 1 2 Temperature decreased 1 2

Section 5: Questions regarding the danger signs that might be seen on the mother after delivery(data collector please the mother to visit health facility if she experience even at least one of the signs)

No	**Questions**	**Answers**
501	Have you ever experienced seizure or loss of consciousness after deliver?	1.yes 2.no
502	Do you have fever or your body temperature has risen?	1.yes 2.no
503	Do you have headache?	1.yes 2.no
504	Are you experiencing heavy bleeding?	1.yes 2.no
505	Do you have foul smelling vaginal discharge?	1.yes 2.no
506	Are you feeling pain on your nipple? Is there any redness? swelling? unusual discharge?	Yes No Have pain 1 2 Redness 1 2 Swelling 1 2 Unusual discharge 1 2

Annex II- Data collection tools first, second and third round questioner (Amharic Version)

አዲስ አበባ ዩኒቨርቲ ህክምናና ጤና ሳይንስ ኮሌጅ
የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል

የጥናት ተሳታፊዎች የመረጃ ቅጽ

ጤና ይስጥልኝ እንደምን ነዎት? እኔ..... እባላለሁ የመጣሁት በአዲስ አበባ ዩኒቨርስቲ የህብረተሰብ ጤና አጠባበቅ የቤተሰብና የስነ-ተዋልዶ የትምህርት ክፍል ጤና ተማሪ የሆነችውን ሜላት መስፍንን ወክዬ ነው፡፡ ለድህረ ምረቃት ምህርቷ መመረቂያ የሚሆን ጥናት እያደረገች ሲሆን ከአዲስ አበባ ዩኒቨርስቲ ጤና ሳይንስ ፋክልቲ የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል ፍቃድ አግኝታለች፡፡ በጥናቱ ላይ ተሳትፎ እንዲያደርጉ ከመጠየቆት በፊት ጥናቱን በተመለከተ በቅድሚያ የተወሰነ መረጃ እንሰጥዎታለን፡፡

የጥናቱ አላማ፡ በጨቅላ ህፃናት እትብት ላይ የእናት ጡት ወተት መቀባት፣ ክሎሮከሲዲን መቀባት ወይም ደረቅ የእትብት እንክብካቤ ማድረግ የህፃኑ እትበት የሚወድቅበት ጊዜና የእትብት ማመርቀዝ ላይ የሚኖራቸውን ተፅኖ ለመመዘን

የጥናቱ ጥቅም፡ እትበት የሚወድቅበት ጊዜን የሚያሰጥሩና የእትብት ማመርቀዝን የሚቀንሱ የሚኖራቸውን የእትብት እንክብካቤ ዘዴዎች ለማወቅ ይረዳል፡፡

የጥናቱ ጉዳት፡ ሶስት ጊዜ መኖርያ ቤቶት በመምጣት የሚቀርብሎት ቃለመጠይቅ እነዲሁም በየቀኑ የሚከተሉትን የእትብት ዘዴ ለማስታወስ የሚሞሉት ማስታወሻ ቅፅ ጥቂትጊዜ ሊወስድቦት ይችላል፡፡

ሚስጥራዊነት እና የተሳታፊዎች መብት፡ እርስዎ በዚህ ጥናት ላይ እንዲሳተፉ የተመረጡት በአጋጣሚ የናሙና አወሳሰድ ስልት መሰረት ነው፡፡ የእርስዎ ተሳትፎ ሙሉ በሙሉ በፍቃደኝነት ላይ የተመሰረተ ነው፡፡በጥናቱ ላይ ያለመሳተፍ ሙሉ መብት አለዎት፡፡ ለመሳተፉ ፈቃደኛ ከሆኑ በኋላም በፈለጉት ጊዜ ማቆም ወይም ማቋረጥ ይችላሉ በመሆኑም በጥናቱ ባለመሳተፎ የሚደርስቦት ችግር አይኖርም፡፡በጥናቱ ለመሳተፍ ከተስማሙ በጥናቱ ተሳታፊ የሆነችውን እናት የሚመለከቱ መሰረታዊ ጥያቄዎች፣ ስለ አሁኑ እርግዝና፣ለህፃኑ እትብት የተደረገውን እንክብካቤ፣ በጥናቱ ውስጥ ስለተካተተው የእትብት እንክብካቤ ዘዴዎች፣ በህፃኑ እትብት ላይ የሚታይ የማመርቀዝ ምልክት መኖር አለመኖሩን፣ በጨቅላ ህፃናት ላይ ስለሚዩ አደገኛ ምልክቶች ፣ በጥናቱ ውስጥ ስለተካተተው ደረቅ የእትብት እንክብካቤ፣ የእትብት መውደቅና ማመርቀዝ የተመለከቱ ጥያቄዎችን ይመልሳሉ፡፡ በመጨረሻም ከእርሶም ሆነ ከልጆት የምንሰበስበው መረጃ ከስምዎ ጋር አይያያዝም ስምዎት እንደማይጠቀስና ለማንም አካል ተላልፎ እንደማይሰጥ ልናረጋግጥልዎት እንወዳለን፡፡ የዚህ ጥናት ውጤት ግን ተጠርዞ እና ተዘጋጅቶ ጉዳዩ ለሚመለከታቸው የጤና ድርጅቶች ወይም ለሌሎች አካላት ሊሰጥ ይችላል ::

ለሚኖሮት ተጨማሪ ጥያቄ የጥናቱን አጥኚ ሜላት መስፍንን ማነጋገር ይችላሉ፡፡

ስልክ ቁጥር፡ 0913846500

<u>የስምምነት መጠየቂያ /ማረጋገጫ ቅጽ</u>

ከላይ በተሰጠዎት መረጃ መሰረት በጥናቱ ላይ ለመሳተፍ ፍቃደኛ ነዎት?

1.**አዎ**

2.**አይደለሁም**

መልስዎ አዎ ከሆነ እባክትን የስምምነት መጠየቂያ ቅፁ ላይ በመፈረም በመረጃ ሰብሳቢው/ዋ ለሚቀርብሎት ጥያቄዎችን መልስ ይስጡ፡፡

የጥናቱ ተሳታፊ

ፊርማ_____ **ቀን** _____

የመጀመሪያ ዙር የጥናታዊ መረጃ መሰብሰቢያ መጠይቅ

የመጠይቁ ቁጥር | | | | | |

የወረዳ ስም፡ _____

የቀበሌ ስም፡ _____

እናትየው የወለደችበት ቀን | | | | | 2010 ዓ.ም

እናትየው ለመጀመሪያ ጊዜ በመረጃ ሰብሳቢው የተጎበኘችበት ቀን | | | | | 2010 ዓ.ም

ክፍል1፡በጥናቱ ተሳታፊ የሆነችውን እናት የሚመለከቱ መሰረታዊ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይለፉ
101	እድሜሽ ስንት ነው? (በሙሉ ዓመት ይገለፅ)	| |	
102	ሀይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላካለ ይገለፅ _____	
103	መደበኛ የሆነ ትምህርት ተምረሻል?	1. አዎ 2. አይደለም →	201
104	አዎ ከሆነ መልስሽ እስከ ስንተኛ የትምህርት ደረጃ ተምረሻል?	1. 1ኛ ደረጃ ትምህርት 2. 2ኛ ደረጃ ትምህርት 3. ሞያና ቴክኒክ 4. ሌላ ካለ ይገለፅ _____	

ክፍል 2: ስለ አሁኑ እርግዝና የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይለፉ
201.	በአሁኑ የእርግዝና ወቅት የቅድመ ወሊድ ክትትል አድርገሽ ነበር?	1. አዎ 2. አላደረኩም →	205
202.	መልስሽ አዎ ከሆነ የት ነበር ክትትሉን ያደረግሽው?	1. ጤና ኬላ 2. ጤና ጣቢያ 3. የመንግስት ሆስፒታል 4. የግል ክሊኒክ 5. የግል ሆስፒታል 6. መንግስታዊ ያልሆነ ድርጅት ክሊኒክ 7. መንግስታዊ ያልሆነ ድርጅት ሆስፒታል 8. ሌላ ካለ ይገለፅ _____	

203.	ማን ነበረ የቅድመ ወሊድ ክትትል አገልግሎት የሰጠሽ?	1. ሃኪም 2. የጤና መኮንን 3. ነርስ 4. አዋላጅ ነርስ 5. የጤና ኤክስቴንሽን ሰራተኛ 6. ሌላ ካለ ይገለፅ _____	
204.	ስንት ጊዜ ክትትሉን አድርገሻል?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራት ጊዜ 5. ሌላ ካለ ይገለፅ _____	
205.	ህፃኑ(በስም) ስትገላገይ እርግዝናሽ የስንት ወር ነበር? (**መረጃ ሰብሳቢ፡ እናትየው የምትሰጠውን ምላሽ በሣምንት ቀይረህ/ሽ ፃፍ/ፊ**)	| ሣምንት	
206.	በአሁኑ የወሊድ ወቅት የእንሽርት ውሃ ከመውለድሽ ከምን ያህል ጊዜ በፊት ፈሰሰ?(**መረጃ ሰብሳቢ፡ እናትየው የምትሰጠውን ምላሽ በሠዓት ቀይረህ/ሽ ከተሰጠው አማራጮች መካከል አክብብ/ቢ**)	1. ከወሊድ በፊት በ12 ሠዓት ውስጥ 2. ከወሊድ በፊት ከ12-24 ሠዓት ውስጥ 3. ከወሊድ በፊት ከ24 ሠዓት በላይ	
207.	በአሁኑ የወሊድ ወቅት ምጥሽ ምን ያህል ጊዜ ወሰደ?(**መረጃ ሰብሳቢ፡ እናትየው የምትሰጠውን ምላሽ በሠዓት ቀይረህ/ሽ ከተሰጠው አማራጮች መካከል አክብብ/ቢ**)	1. <12 ሠዓት 2. 12-24 ሠዓት 3. > 24 ሠዓት	
208.	ህፃኑን(በስም) የት ነበር የወለድሽው?	1. ጤና ድርጅት 2. በቤት ውስጥ →	210
209.	በየትኛው የጤና ድርጅት ውስጥ ነው?	1. ጤና ኬላ 2. ጤና ጣቢያ 3. የመንግስት ሆስፒታል 4. የግል ክሊኒክ 5. የግል ሆስፒታል 6. መንግስታዊ ያልሆነ ድርጅት ክሊኒክ 7. መንግስታዊ ያልሆነ ድርጅት ሆስፒታል 8. ሌላ ካለ ይገለፅ _____	
210.	በቤት ውስጥ ከሆነ የወለድሽው ማን ነበረ ያዋለደሽ?	1. የጤና ኤክስቴንሽን ሰራተኛ 2. እናትሽ 3. የባለቤትሽ እናት 4. የልምድ አዋላጅ 5. ሌላ ካለ ይገለፅ _____	

211.	የወለድሽው በምጥ ነው በቀዶ ጥገና?	1. በምጥ 2. በቀዶ ጥገና	
212.	የህጻኑ ፆታ ምንድን ነው?	1. ወንድ 2. ሴት	
213.	የህፃኑ ክብደት ተለክቷል?	1. አዎ 2. አልተለካም 3. ሌላ ካለ ይገለጽ _____	215
214.	ክብደቱ ምን ያህል ነበረ?	1. ከጤና ተቋም ከተሰጠ ካርድ _____ኪ.ግ 2. እናትየው ከምታስታውሰው _____ኪ.ግ	
215.	በአሁኑ የወሊድ ወቅት የወለድሽው ህፃን በጣም ትልቅ ነበር? ከመካከለኛ ይበልጥ ነበር? መካከለኛ ነበር? ከመካከለኛ ያንስ ነበር? በጣም ትንሽ ነበር?	አዎ አይደለም በጣም ትልቅ.....1 2 ከመካከለኛ የሚበልጥ....1 2 መካከለኛ.....1 2 ከመካከለኛ የሚያንስ.....1 2 በጣም ትንሽ.....1 2	

ክፍል ሶስት: ለህፃኑ እትብት የተደረገውን እንክብካቤ የተመለከቱ ጥያቄዎች (በቤት ውስጥ ለተወለዱ ህጻናት ብቻ)

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይለፉ
301	የህፃኑ እትብት በምን ተቆረጠ?	1. በምላጭ 2. በጠርሙስ ስባሪ 3. ሌላ ካለ (ይገለፅ) _____	303
302	በምን አይነት ምላጭ ነበር የህፃኑ እትብት የተቆረጠው?	1. በአዲስ ምላጭ 2. ከዚህ በፊት ጥቅም ላይ በዋለ ምላጭ 3. ሌላ ካለ ይገለፅ _____	
303	የህፃኑ እትብት በምን ተቋጠረ?	1. በተቀቀለ ክር 2. ባልተቀቀለ ክር 3. ሌላ ካለ ይገለፅ _____	

ክፍል 4:በጥናቱ ውስጥ ስለተካተተው የተመለከቱ ጥያቄዎች(የእናት ጡት ወተት ክሎሮክሲዲን ወይም ደረቅ እትብት እንክብካቤ ቡድን ቡድን)

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይሂዱ
401.	ከወሊድ በኋላ ስለእትብት እንክብካቤ የሚያስተምር/ የምታስተምርሽ ባለሙያ ቤትሽ በመምጣት ጎብኝታሽ/ቶሽ ነበር?	1. አዎ 2. አይደለም ⟶	418
402.	ስንት ጊዜ ጎበኘሽ/ችሽ?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሌላ ካለ ይገለፅ _____	
403.	ለመጀመሪያ ጊዜ የጎበኘችሽ/ኘሽ ህፃኑ በተወለደ በስንተኛው ቀን ነበር?	1. በአንደኛው ቀን 2. በሁለተኛው ቀን 3. በሶስተኛው ቀን 4. ሌላ ካለ ይገለፅ _____	
404.	በመጀመሪያው የጉብኝት ወቅት በህፃኑ እትብት ላይ የእናት ጡት ወተት እንድታደርጊ መክራ/ሮ/ሽ ነበር?	1. አዎ 2. አይደለም	

	የህፃኑ እድሜ	የመጀመሪያ ቀን	ሁለተኛ ቀን	ሶስተኛ ቀን	ወደ ሚቀጥለው ጥያቄ ይሂዱ
405.	የህፃኑ እትብት የእናት ጡትወተት /ክሎሮክሲዲን/ ተቀብቶ ነበር? ወይም የደረቅ እትብት እንክብካቤ ተደርጎለት ነበር?	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	418
406.	ማን ነበር የቀባው?	1.አንቺ 2.ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. አንቺ 2.ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6.ሌላ ካለ ይገለፅ _____	1. አንቺ 2. ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	
407.	በቀን ውስጥ ስንት ጊዜ የእናት ጡት ወተት/ክሎሮክሲዲን ቀባሽው /ቀባው/ ቀባችው/? ወይም ደረቅ የእትብት እንክብካቤ ተደርጎለታል?	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____	
408.	ከመቀባትሽ/ቱ/ት በፊት እጅሽን/እጁን/እጇን ታጥበሽ/ታጥቦ/ታጥባ ነበር?	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	414

409.	በምንድን ነበር እጅሽን/እጁን/እጇን የታጠብሽው/የታጠበው/የታጠበችው ?	1. በሳሙናና በውሃ 2. በአመድና በውሃ 3. በውሀ ብቻ 4. ሌላ ካለ ይገለፅ _____	1. በሳሙናና በውሃ 2. በአመድና በውሃ 3. በውሀ ብቻ 4. ሌላ ካለ ይገለፅ _____	1. በሳሙናና በውሃ 2. በአመድና በውሃ 3. በውሀ ብቻ 4. ሌላ ካለ ይገለፅ _____	411
410.	እጅሽን/እጁን/ለእጇን ሳሙና በመለቅለቅ መዳፍንና አይበሉባን በማሸት በደንብ ነበር የታጠብሽው /የታጠበው/የታጠበችው?	1. አዎ 2. አይደለም	1. አዎ 2. አይደለም	1. አዎ 2. አይደለም	
411.	ለመታጠብ የተጠቀምሽው/ የተጠቀመው/የተጠቀመችው ውኃ ከየት የተቀዳ ነው?	1. ከቧንቧ 2. ከወንዝ 3. ከምንጭ 4. ከጉድጓድ 5. ሌላ ካለ ይገለፅ _____	1. ከቧንቧ 2. ከወንዝ 3. ከምንጭ 4. ከጉድጓድ 5. ሌላ ካለ ይገለፅ _____	1. ከቧንቧ 2. ከወንዝ 3. ከምንጭ 4. ከጉድጓድ 5. ሌላ ካለ ይገለፅ _____	
412.	የጡትሽን ወተት የህፃኑ እትብት ላይ ከማድረግሽ በፊት የግራ ወይም ቀኝ ጡትሽን ጫፍ እርጥበት ባለው ንፁህ ጨርቅ ከውስጥ ወደ ውጪ አፅድተሽ ነበር?(**ለእናት ጡት ቡድን ብቻ)**	አዎ አይደለም እርጥበት ባለው ንፁህ ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	አዎ አይደለም እርጥበት ባለው ንፁህ ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	አዎ አይደለም እርጥበት ባለው ንፁህ ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	
413.	የጡትሽን ወተት/ክሎሮክሲዲን/ደረቅ እትብት እንክብካቤ የህፃኑ እትብት ላይ ከማድረግሽ በፊት እጅሽ/እጁ/እጇ እስኪደርቅ	1. አዎ 2. አይደለም	1. አዎ 2. አይደለም	1. አዎ 2. አይደለም	

	ጠብቀሽ/ጠብቆ/ጠብቃ ነበር?				
414.	በመቀጠል አስር የጡት ወተት ጠብታ የህፃኑ እትብት ላይ አድርገሽ ነበር? **(ለእናት ጡት ወተት ቡድን ብቻ)** በመቀጠል የባቄላ ፍሬ የሚያክል ክሎሮክሲዲን ጠቋሚ ጣትሽ ላይ አድርገሽ ነበር? **(ለክሎሮክሲዲን ቡድን ብቻ)**	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	
415.	ጠቋሚ ጣትን በመጠቀም የህፃኑን እትብት ጫፍ፣ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል በሚገኘው ቦታ ላይ የእናት ጡት ወተት/ክሎሮክሲዲን ቀብተሽ/ቀብቶ/ቀብታ ነበር? **(ለክሎሮክሲዲንና የእናት ቡድን ብቻ)**	አዎ አይደለም በጠቋሚ ጣት...1 2 የእትብት ጫፍ..1 2 የእትብት ስር....1 2 በእትብቱ ጫፍ እና ስር መካከል.....1 2	አዎ አይደለም በጠቋሚ ጣት...1 2 የእትብት ጫፍ..1 2 የእትብት ስር....1 2 በእትብቱ ጫፍ እና ስር መካከል.....1 2	አዎ አይደለም በጠቋሚ ጣት...1 2 የእትብት ጫፍ..1 2 የእትብት ስር....1 2 በእትብቱ ጫፍ እና ስር መካከል.....1 2	
416.	ቀብተሽ/ቀብቶ/ቀብታ (አድርቀሽ/አድርቆ/አድርታ) ከጨረስሽ/ከጨረሰ/ከጨረሰች በኋላ እጅሽን/እጁን/እጇን	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ _____	

	በሳሙና(በአመድ)ና በውሃ ታጥበሽ/ታጥቦ/ታጥባ ነበር?				
417.	ቀብተሽ/ቀብቶ/ቀብታ (አድርቀሽ/አድርቆ/አድርቃ) ከጨረስሽ/ከጨረሰ/ከጨረሰች በኋላ የህፃኑን እትብት በጨርቅ ሳይሸፈን ሶስት ደቂቃ ለሚያክል ቆይቶ ነበር?	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ________	
418.	ከእናት ጡት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ በተጨማሪ የህፃኑ እትብት ላይ የተቀባ ነገር አለ?	1. አለ 2. የለም →	1. አለ 2. የለም →	1. አለ 2. የለም →	422
419.	ማን ነበር የቀባው?	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	
420.	ምንድን ነበር የተቀባው?	1. ቅቤ 2. የከብት እበት 3. ቫዝሊን 4. ሌላ ካለ ይገለፅ ________	1. ቅቤ 2. የከብት እበት 3. ቫዝሊን 4. ሌላ ካለ ይገለፅ ________	1. ቅቤ 2. የከብት እበት 3. ቫዝሊን 4. ሌላ ካለ ይገለፅ ________	
421.	በቀን ውስጥ ስንት ጊዜ ነበር የተቀባው?	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	

422.	ቀብተሽ/ቀብቶ/ቀብታ ከጨረስሽ/ከጨረሰ/ከጨረሰች ክሎሮክሲዲኑን(የምስራች ቅባቱን) በመክደን ሙቀት የማይበዛበትና ህፃናት የማይደርሱበት ቦታ አስቀምጠሽ/አስቀምጦ/አስቀምጣ ነበር? **(ለክሎሮክሲዲን ቡድን ብቻ)**	አዎ አይደለም ሙቀት ማይበዛበት ቦታ..........1 2 ህፃናት ማይደርሱበት ቦታ.........1 2	አዎ አይደለም ሙቀት ማይበዛበት ቦታ..........1 2 ህፃናት ማይደርሱበት ቦታ.........1 2	አዎ አይደለም ሙቀት ማይበዛበት ቦታ..........1 2 ህፃናት ማይደርሱበት ቦታ.........1 2	
423.	የጤና ኤክስቴንሽን ሰራተኛዋ ክሎሮክሲዲኑን በህፃኑ ጆሮና አይን ላይ እንዲሁም አፍ አካባቢ እንዳትቀቢ መክራሽ ነበር? **(ለክሎሮክሲዲን ቡድን ብቻ)**	አዎ አይደለም በህፃኑ ጆሮ ላይ....1 2 በህፃኑ አይን ላይ...1 2 በህፃኑ አፍ አካባቢ..1 2	አዎ አይደለም በህፃኑ ጆሮ ላይ....1 2 በህፃኑ አይን ላይ...1 2 በህፃኑ አፍ አካባቢ..1 2	አዎ አይደለም በህፃኑ ጆሮ ላይ....1 2 በህፃኑ አይን ላይ...1 2 በህፃኑ አፍ አካባቢ..1 2	
424.	የጤና ኤክስቴንሽን ሰራተኛዋ በሚከተሉት ጉዳዮች ላይ ምክር ሰጥታሽ ነበር?	አዎ አይደለም የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ እትብት ላይ ስላለው ጥቅም...........1 2 የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ በህፃኑ እትብት ላይ ለ7 ቀን እንድታደርጊ........1 2	አዎ አይደለም የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ እትብት ላይ ስላለው ጥቅም...........1 2 የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ በህፃኑ እትብት ላይ ለ7 ቀን እንድታደርጊ........1 2	አዎ አይደለም የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ እትብት ላይ ስላለው ጥቅም...........1 2 የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ በህፃኑ እትብት ላይ ለ7 ቀን እንድታደርጊ........1 2	

		የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት.....1 2 የእትብት ማመርቀዝ ምልክቶች.....1 2 የማስታወሻው ቅፅ እንዴት እንደሚሞላ.....1 2 ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች.....1 2 በህፃኑም ሆነ በአንቺ ላይ እነዚህን ምልክቶች ስታዪ ወደ ጤና ተቋም መሄድ እንዳለብሽ.....1 2 ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም 1 2	የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት.....1 2 የእትብት ማመርቀዝ ምልክቶች.....1 2 የማስታወሻው ቅፅ እንዴት እንደሚሞላ.....1 2 ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች.....1 2 በህፃኑም ሆነ በአንቺ ላይ እነዚህን ምልክቶች ስታዪ ወደ ጤና ተቋም መሄድ እንዳለብሽ.....1 2 ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም 1 2 2	የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት.....1 2 የእትብት ማመርቀዝ ምልክቶች.....1 2 የማስታወሻው ቅፅ እንዴት እንደሚሞላ.....1 2 ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች.....1 2 በህፃኑም ሆነ በአንቺ ላይ እነዚህን ምልክቶች ስታዪ ወደ ጤና ተቋም መሄድ እንዳለብሽ.....1 2 ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም 1 2	

ክፍል 5: በህፃኑ እትብት ላይ የሚታይ የማመርቀዝ ምልክት መኖር አለመኖሩን የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢው/ዋ ከዚህ በታች የተዘረዘሩት የእትብት ማመርቀዝ ምልክቶች መኖራቸውን ያረጋግጣል/ታረጋግጣለች)

ተ.ቁ	ጥያቄ	መልስ
501	በእትበቱ ስር ዙሪያ ላይ ወይም ከእትብቱ ስር ዙሪያ አልፎ የሚታይ የመቅላት ምልክት፣ የመምገል ምልክት እንዲሁም ከእትበቱ ዙሪያ የሚመጣ መጥፎ ጠረን አለ?	አለ የለም የእትበት ስር ዙሪያ መቅላት....1 2 ከእትብት ስር ዙሪያ ያለፈ መቅላት .....1 2 እትብት ዙሪያ መምግል..... 1 2 ከእትበቱ ዙሪያ የሚመጣ መጥፎ ጠረን.....1 2
502	በእትብቱ ስር ዙሪያ ያለው የቆዳ ሙቀት ጨምሯል? **(መረጃ ሰብሳቢ፡አንዱን እጅህን/ሽን በህፃኑ ደረት ላይ ሌላኛውን እጅህን/ሽን እትብቱ ስር ዙሪያ ከሚገኘው ቆዳ ላይ በማስቀመጥ የሙቀት ልዩነት መኖሩን አረጋግጥ/አረጋግጪ)**	1. ጨምሯል 2. አልጨመረም 3. ለመግለፅ ያስቸግራል

ክፍል 6: በጨቅላ ህፃናት ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች(መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በህፃኑ ላይ ከታየ እናትየው ህፃኑን ወደ ጤና ተቋም እንድትወስደው ምክር እንድትሰጣት/እንድትሰጫት)

ተ.ቁ	ጥያቄ	መልስ
601	ህፃኑ ጡት ይጠባል?	1. አዎ 2. አይደለም
602	ህፃኑ ለመተንፈስ ይቸገራል?	1. አዎ 2. አይደለም
603	ህፃኑ የማቃሰት ወይም ቶሎ ቶሎ የመተነፈስ ድምፅ ያሰማል?	1. አዎ 2. አይደለም
604	ህፃኑ ይንዘፈዘፋል ወይም ይንቀጠቀጣል?	1. አዎ 2. አይደለም
605	የህፃኑ እንቅስቃሴ ወይም ንቃት የቀነሰ ይመስልሻል?	1. አዎ 2. አይደለም

606	የህፃኑ ሙቀት የጨመረ ወይም የቀነሰ ይመስልሻል?	አዎ አይደለም እርግጠኛ አይደለሁም ሙቀት መጨመር 1 2 3 ሙቀት መቀነስ 1 2 3

ክፍል 7: ከወሊድ በኋላ በእናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በእናትየው ላይ ከታየ ወደ ጤና ተቋም በመሄድ እንድትታከም ምክር እንድትሰጣት/እንድትሰጪት)

ተ.ቁ	ጥያቄ	መልስ
701	ከወሊድ በኋላ መንዘፍዘፍ ወይም ራስን መሳት አጋጥሞሽ ያውቃል?	1. አዎ 2. አይደለም
702	ትኩሳት አለሽ ወይም የሰውነትሽ ሙቀት ጨምሯል?	1. አዎ 2. አይደለም
703	ከፍተኛ የሆነ የራስ ምታት አለሽ?	1. አዎ 2. አይደለም
704	በብዛት ደም እየፈሰሰሽ ነው?	1. አዎ 2. አይደለም
705	መጥፎ ሽታ ያለው የማህጸን ፈሳሽ አለሽ?	1. አዎ 2. አይደለም
706	የጡትሽ ጫፍ ህመም አለው? ቀልቷል? አብጧል? የተለየ ፈሳሽስ አለው?	አዎ አይደለም ህመም አለው.....1 2 ቀልቷል.....1 2 አብጧል.....1 2 የተለየ ፈሳሽስ አለው.....1 2

Second round questionnaire (Amharic version)

አዲስ አበባ ዩኒቨርቲ ህክምናና ጤና ሳይንስ ኮሌጅ
የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል

በጨቅላ ህፃናት እትብት ላይ የእናት ጡት ወተት መቀባት፣ ክሎሮከሲዲን መቀባት ወይም ደረቅ የእትብት እንክብካቤ ማድረግ የህፃኑ እትበት የሚወድቅበት ጊዜና የእትብት ማመርቀዝ ላይ የሚኖራቸውን ውጤት በተመለከተ ለመለካት የተዘጋጀ የሁለተኛ ዙር የጥናታዊ መረጃ መሰብሰቢያ መጠይቅ (ለክሎሮሄክሲዲን.፣ የእናት ጡት ወተት፣ ደረቅ እትብት እንክብካቤ ቡድን)

የመጠይቁ ቁጥር | | | | | |

የወረዳ ስም፡ _____

የቀበሌ ስም፡ _____

ክፍል 1:በጥናቱ ውስጥ ስለተካተተው የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ የተመለከቱ ጥያቄዎች

የህፃኑ እድሜ		አራተኛ ቀን	አምስተኛ ቀን	ስድስተኛ ቀን	ሰባተኛ ቀን	**ወደ ሚቀጥለው ጥያቄ ይሂዱ**
101	የህፃኑ እትብት የእናት ጡት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ ተደርጎለት ነበር?	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	1. አዎ 2. አይደለም →	115
102	ማን ነበር የቀባው?	1.አንቺ 2.ባለቤትሽ 3.ባለሙያ 4.እናትሽ 5.የባለቤትሽ እናት 6.ሌላ ካለ ይገለፅ ________	1. አንቺ 2. ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	1. አንቺ 2. ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	1. አንቺ 2. ባለቤትሽ 3. ባለሙያ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ ________	
103	በቀን ውስጥ ስንት ጊዜ የእናት ጡት ወተት ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ ተደርጎለት ነበር?	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ ________	

104	ከመቀባት (ማድረቅ) ሽ/ቱ/ታ በፊት እጅሽን/እጁን/እጇን ታጥበሽ/ታጥቦ/ታጥባ ነበር?	3. አዎ 4. አይደለም →	3. አዎ 4. አይደለም →	3. አዎ 4. አይደለም →	1. አዎ 2. አይደለም →	110
105	በምንድን ነበር እጅሽን/እጁን/እጇን የታጠብሽው/የታጠበው/የታጠበችው?	5. በሳሙናና በውሃ 6. በአመድና በውሃ 7. በውሀ ብቻ 8. ሌላ ካለ ይገለፅ →	5. በሳሙናና በውሃ 6. በአመድና በውሃ 7. በውሀ ብቻ 8. ሌላ ካለ ይገለፅ →	5. በሳሙናና በውሃ 6. በአመድና በውሃ 7. በውሀ ብቻ 8. ሌላ ካለ ይገለፅ →	1. በሳሙናና በውሃ 2. በአመድና በውሃ 3. በውሀ ብቻ 4. ሌላ ካለ ይገለፅ →	107
106	እጅሽን/እጁን/ለእጇን ሳሙና በመለቅለቅ መዳፏንና አይበሉባን በማሸት በደንብ ነበር የታጠብሽው /የታጠበው/የታጠበችው?	3. አዎ 4. አይደለም	3. አዎ 4. አይደለም	3. አዎ 4. አይደለም	1. አዎ 2. አይደለም	
107	ለመታጠብ የተጠቀምሽው/ የተጠቀመው/የተጠቀመችው ውኃ ከየት የተቀዳ ነው?	6. ከቧንቧ 7. ከወንዝ 8. ከምንጭ 9. ከጉድጓድ 10. ሌላ ካለ ይገለፅ	6. ከቧንቧ 7. ከወንዝ 8. ከምንጭ 9. ከጉድጓድ 10. ሌላ ካለ ይገለፅ	6. ከቧንቧ 7. ከወንዝ 8. ከምንጭ 9. ከጉድጓድ 10. ሌላ ካለ ይገለፅ	1. ከቧንቧ 2. ከወንዝ 3. ከምንጭ 4. ከጉድጓድ 5. ሌላ ካለ ይገለፅ	
108	የጡትሽን ወተት የህፃኑ እትብት ላይ ከማድረግሽ በፊት የግራ ወይም ቀኝ	አዎ አይደለም እርጥበት ባለው ንፁህ	አዎ አይደለም እርጥበት ባለው ንፁህ	አዎ አይደለም እርጥበት	አዎ አይደለም እርጥበት	

	ጡትሽን ጫፍ እርጥበት ባለው ንፁህ ጨርቅ ከውስጥ ወደ ውጪ አፅድተሽ ነበር? **(ለእናት ጡት ወተት ቡድን ብቻ)**	ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	ባለው ንፁህ ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	ባለው ንፁህ ጨርቅ.....1 2 ከውስጥ ወደ ውጪ ማፅዳት.....1 2	
109	የጡትሽን ወተት/ክሎሮክሲዲን/ ደረቅ እትብት እንክብካቤ የህፃኑ እትብት ላይ ከማደረግሽ በፊት እጅሽ/እጁ/እጇ እስኪደርቅ ጠብቀሽ/ጠብቆ/ጠብቃ ነበር?	3. አዎ 4. አይደለም	3. አዎ 4. አይደለም	3. አዎ 4. አይደለም	1. አዎ 2. አይደለም	
110	በመቀጠል አስር የጡት ወተት ጠብታ የህፃኑ እትብት ላይ አድርገሽ ነበር? **(ለእናት ጡት ወተት ቡድን ብቻ)** በመቀጠል የባቄላ ፍሬ የሚያክል ክሎሮክሲዲን ጠቋሚ ጣትሽ ላይ አድርገሽ ነበር? **(ለክሎሮክሲዲን ቡድን ብቻ)**	አዎ አይደለም ሌላ ካለ ይገለፅ _____	አዎ አይደለም ሌላ ካለ ይገለፅ _____	አዎ አይደለም ሌላ ካለ ይገለፅ _____	አዎ አይደለም ሌላ ካለ ይገለፅ _____	

111	በጠቋሚ ጣትን በመጠቀም የህፃኑን እትብት ጫፍ፣ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል በሚገኘው ቦታ ላይ የእናት ጡት ወተት ቀብተሽ/ቀብቶ/ቀብታ ነበር?	አዎ አይደለም በጠቋሚ ጣት…1 2 የእትብት ጫፍ..1 2 የእትብት ስር….1 2 በእትብቱ ጫፍ እና ስር መካከል…..1 2	አዎ አይደለም በጠቋሚ ጣት…1 2 የእትብት ጫፍ..1 2 የእትብት ስር….1 2 በእትብቱ ጫፍ እና ስር መካከል…..1 2	አዎ አይደለም በጠቋሚ ጣት…1 2 የእትብት ጫፍ..1 2 የእትብት ስር….1 2 በእትብቱ ጫፍ እና ስር መካከል…..1 2	አዎ አይደለም በጠቋሚ ጣት…1 2 የእትብት ጫፍ..1 2 የእትብት ስር….1 2 በእትብቱ ጫፍ እና ስር መካከል…..1 2	
112	ቀብተሽ/ቀብቶ/ቀብታ ከጨረስሽ/ከጨረሰ/ከጨረሰች በኋላ እጅሽን/እጁን/እጇን በሳሙና(በአመድ)ና በውሃ ታጥበሽ/ታጥቦ/ታጥባ ነበር?	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	
113	ቀብተሽ/ቀብቶ/ቀብታ ከጨረስሽ/ከጨረሰ/ከጨረሰች በኋላ የህፃኑን እትብት በጨርቅ ሳይሸፈን ሶስት ደቂቃ ለሚያክል ቆይቶ ነበር?	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	1. አዎ 2. አይደለም 3. ሌላ ካለ ይገለፅ ____________	
114	ከከእናት ጡት በተጨማሪ የህፃኑ እትብት ላይ የተቀባ ነገር አለ?	1. አለ 2. የለም 3. አላስታውስም	1. አለ 2. የለም 3. አላስታውስም	1. አለ 2. የለም 3. አላስታውስም	1. አለ 2. የለም 3. አላስታውስም	201

115	ማን ነበር የቀባው?	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ	7. አንቺ 8. ባለቤትሽ 9. የጤና ኤክስቴንሽን ሰራተኛ 10. እናትሽ 11. የባለቤትሽ እናት 12. ሌላ ካለ ይገለፅ	7. አንቺ 8. ባለቤትሽ 9. የጤና ኤክስቴንሽን ሰራተኛ 10. እናትሽ 11. የባለቤትሽ እናት 12. ሌላ ካለ ይገለፅ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ	
116	ምንድን ነበር የተቀባው?	5. ቅቤ 6. የከብት እበት 7. ቫዝሊን 8. ሌላ ካለ ይገለፅ	5. ቅቤ 6. የከብት እበት 7. ቫዝሊን 8. ሌላ ካለ ይገለፅ	5. ቅቤ 6. የከብት እበት 7. ቫዝሊን 8. ሌላ ካለ ይገለፅ	1. ቅቤ 2. የከብት እበት 3. ቫዝሊን 4. ሌላ ካለ ይገለፅ	
117	በቀን ውስጥ ስንት ጊዜ ነበር የተቀባው?	5. በቀን አንድ ጊዜ 6. በቀን ሁለት ጊዜ 7. በቀን ሶስት ጊዜ 8. ሌላ ካለ ይገለፅ	9. በቀን አንድ ጊዜ 10. በቀን ሁለት ጊዜ 11. በቀን ሶስት ጊዜ 12. ሌላ ካለ ይገለፅ	5. በቀን አንድ ጊዜ 6. በቀን ሁለት ጊዜ 7. በቀን ሶስት ጊዜ 8. ሌላ ካለ ይገለፅ	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ	

ክፍል 2፡ የእትብት መውደቅን የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይሂዱ
201	የህፃኑ እትብት ከእምብርቱ ተለያይቶ ወድቋል?	1. አዎ 2. አይደለም →	 301
202	ህፃኑ በተወለደ በስንተኛው ቀን እትብቱ ወደቀ? **(መረጃ ሰብሳቢ፡ ከተቻለ እትብቱ የ ወደቀበትን ትክክለኛ ቀን ካልሆነም ህፃኑ ከተወለደበት እትብቱ እስከ ወደቀበት ጊዜ ያለውን ቀን በመቁጥር በቀናቶች ይገለፅ)**	_____	
203	እትብቱ ከወደቀ በኋላ የህፃኑ እምብርት ደምቶ ነበር? መግልስ ነበረው?የእምብርቱ ዙሪያ መቅላት ነበር? ከእምብርቱ ዙሪያ የሚመጣ መጥፎ ጠረንስ ነበር?	አዎ አይደለም መድማት……..1 2 መምገል……1 2 መቅላት……1 2 መጥፎ ጠረን……..1 2	
204	የህፃኑ እትብት ከወደቀ በኋላ እምብርቱ ላይ የተቀባ ነገር አለ?	1. አለ 2. የለም →	
205	ማን ነበር የቀባው?	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	
206	ምንድን ነበር የተቀባው?	1. ቅቤ 2. የከብት እበት 3. ቫዝሊን 4. ሌላ ካለ ይገለፅ _____	

207	በቀን ውስጥ ስንት ጊዜ ነበር የተቀባው?	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____	

ክፍል 3፡ በህፃኑ እትብት ላይ የሚታይ የማመርቀዝ ምልክት መኖር አለመኖሩን የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢው/ዋ ከዚህ በታች የተዘረዘሩት የእትብት ማመርቀዝ ምልክቶች መኖራቸውን ያረጋግጣል/ታረጋግጣለች)

ተ.ቁ	ጥያቄ	መልስ
301	በእትበቱ ስር ዙሪያ ወይም ከእትብቱ ስር ዙሪያ አልፎ የሚታይ የመቅላት ምልክት፣ የመምገል ምልክት እንዲሁም ከእትበቱ ዙሪያ የሚመጣ መጥፎ ጠረን አለ?	አለ የለም የእትበት ስር ዙሪያ መቅላት....1 2 ከእትብት ስር ዙሪያ ያለፈ መቅላት.....1 2 እትብት ዙሪያ መምግል..... 1 2 ከእትበቱ ዙሪያ የሚመጣ መጥፎ ጠረን.....1 2
302	በእትብቱ ስር ዙሪያ ያለው የቆዳ ሙቀት ጨምሯል? **(መረጃ ሰብሳቢ፡ አንዱን እጅህን/ሽን በህፃኑ ደረት ላይ ሌላ ኛውን እጅህን/ሽን እትብቱ ስር ዙሪያ ከሚገኘው ቆዳ ላይ በማስቀመጥ የሙቀት ልዩነት መኖሩን አረጋግጥ/አረጋግጪ)**	1. ጨምሯል 2. አልጨመረም 3. ለመግለፅ ያስቸግራል

ክፍል 4: በጨቅላ ህፃናት ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች(መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በህፃኑ ላይ ከታየ እናትየው ህፃኑን ወደ ጤና ተቋም እንድትወስደው ምክር እንድትሰጣት/እንድትሰጪት)

ተ.ቁ	ጥያቄ	መልስ
401	ህፃኑ ጡት ይጠባል?	3. አዎ

		4. አይደለም
402	ህፃኑ ለመተንፈስ ይቸገራል?	3. አዎ 4. አይደለም
403	ህፃኑ የማቃሰት ወይም ቶሎ ቶሎ የመተነፈስ ድምፅ ያሰማል?	3. አዎ 4. አይደለም
404	ህፃኑ ይንዘፈዘፋል ወይም ይንቀጠቀጣል?	3. አዎ 4. አይደለም
405	የህፃኑ እንቅስቃሴ ወይም ንቃት የቀነሰ ይመስልሻል?	3. አዎ 4. አይደለም
406	የህፃኑ ሙቀት የጨመረ ወይም የቀነሰ ይመስልሻል?	አዎ አይደለም ሙቀት መጨመር.....1 2 ሙቀት መቀነስ.....1 2

ክፍል 5: ከወሊድ በኋላ በእናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በእናትየው ላይ ከታየ ወደ ጤና ተቋም በመሄድ እንድትታከም ምክር እንድትሰጣት/እንድትሰጫት)

ተ.ቁ	ጥያቄ	መልስ
501	ከወሊድ በኋላ መንዘፍዘፍ ወይም ራስን መሳት አጋጥሞሽ ያውቃልቨ?	3. አዎ 4. አይደለም
502	ትኩሳት አለሽ ወይም የሰውነትሽ ሙቀት ጨምሯል?	3. አዎ 4. አይደለም
503	ከፍተኛ የሆነ የራስ ምታት አለሽ?	3. አዎ 4. አይደለም
504	በብዛት ደም እየፈሰሰሽ ነው?	3. አዎ 4. አይደለም
505	መጥፎ ሽታ ያለው የማህጸን ፈሳሽ አለሽ?	3. አዎ 4. አይደለም

506	የጡት ጫፍ ህመም አለው? ቀልቷል? አብጧል? የተለየ ፈሳሽስ አለው?	አዎ አይደለም ህመም አለው.....1 2 ቀልቷል.....1 2 አብጧል.....1 2 የተለየ ፈሳሽስ አለው.....1 2

Third round questionnair (Amharic version)

አዲስ አበባ ዩኒቨርቲ ህክምናና ጤና ሳይንስ ኮሌጅ
የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል

በጨቅላ ህፃናት እትብት ላይ የእናት ጡት ወተት መቀባት፣ ክሎሮክሲዲን መቀባት ወይም ደረቅ የእትብት እንክብካቤ ማድረግ የህፃኑ እትብት የሚወድቅበት ጊዜና የእትብት ማመርቀዝ ላይ የሚኖራቸውን ውጤት በተመለከተ ለመለካት የተዘጋጀ የሶስተኛ ዙር የጥናታዊ መረጃ መሰብሰቢያ መጠይቅ (ለክሎሮሄክሲዲን፣ የእናት ጡት ወተት ወይም ደረቅ እትብት እንክብካቤ ቡድን)

የመጠይቁ ቁጥር | | | | | |

የወረዳ ስም፡ _____

የቀበሌ ስም፡ _____

ክፍል 1 የእትብት እንክብካቤን የተመለከቱ ጥያቄዎች

የህፃኑ እድሜ	101. የህፃኑ እድሜ 7 ቀን ከሆነ በኋላ የህፃኑ እትብት ላይ የተቀባ ነገር አለ?	102. ማን ነበር የቀባው?	103. ምንድን ነበር የተቀባው?	104. በቀን ውስጥ ስንት ጊዜ ነበር የተቀባው?
ስምንተኛ ቀን	4. አለ 5. የለም 6. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____
ዘጠነኛ ቀን	7. አለ 8. የለም 9. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	13. አንቺ 14. ባለቤትሽ 15. የጤና ኤክስቴንሽን ሰራተኛ 16. እናትሽ 17. የባለቤትሽ እናት 18. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____

አስረኛ ቀን	1. አለ 2. የለም 3. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____
አስራ አንደኛ ቀን	1. አለ 2. የለም 3. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____
አስራ ሁለተኛ ቀን	1. አለ 2. የለም 3. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____
አስራ ሶስተኛ ቀን	1. አለ 2. የለም 3. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____

አስራ አራተኛ ቀን	1. አለ 2. የለም 3. ሌላ ካለ ይገለፅ _____ ወደ ጥያቄ ቁጥር 201 ይለፉ	1. አንቺ 2. ባለቤትሽ 3. የጤና ኤክስቴንሽን ሰራተኛ 4. እናትሽ 5. የባለቤትሽ እናት 6. ሌላ ካለ ይገለፅ _____	1. የእናት ጡት ወተት 2. ቅቤ 3. የከብት እበት 4. ቫዝሊን 5. ሌላ ካለ ይገለፅ _____	1. በቀን አንድ ጊዜ 2. በቀን ሁለት ጊዜ 3. በቀን ሶስት ጊዜ 4. ሌላ ካለ ይገለፅ _____

ክፍል 2፡ የእትብት መውደቅን የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	ወደ ሚቀጥለው ጥያቄ ይሂዱ
201	የህፃኑ እትብት ከእምብርቱ ተለያይቶ ወድቋል?	3. አዎ 4. አይደለም →	301
202	ህፃኑ በተወለደ በስንተኛው ቀን እትብቱ ወደቀ? **(መረጃ ሰብሳቢ፡ ከተቻለ እትብቱ የ ወደቀበትን ትክክለኛ ቀን ካልሆነም ህፃኑ ከተወለደበት እትብቱ እስከ ወደቀበት ጊዜ ያለውን ቀን በመቁጥር በቀናቶች ይገለፅ)**	_____	
203	እትብቱ ከወደቀ በኋላ የህፃኑ እምብርት ደምቶ ነበር? መግልስ ነበረው?የእምብርቱ ዙሪያ መቅላት ነበር? ከእምብርቱ ዙሪያ የሚመጣ መጥፎ ጠረንስ ነበር?	አዎ አይደለም መድማት……1 2 መምገል……1 2 መቅላት……1 2 መጥፎ ጠረን……1 2	

ክፍል 3፡ በህፃኑ እትብት ላይ የሚታይ የማመርቀዝ ምልክት መኖር አለመኖሩን የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢው/ዋ ከዚህ በታች የተዘረዘሩት የእትብት ማመርቀዝ ምልክቶች መኖራቸውን ያረጋግጣል/ታረጋግጣለች)

ተ.ቁ	ጥያቄ	መልስ
301	በእትብቱ ስር ዙሪያ ወይም ከእትብቱ ስር ዙሪያ አልፎ የሚታይ የመቅላት ምልክት፣ የመምገል ምልክት እንዲሁም ከእትብቱ ዙሪያ የሚመጣ መጥፎ ጠረን አለ?	አለ የለም የእትበት ስር ዙሪያ መቅላት….1 2 ከእትብት ስር ዙሪያ ያለፉ መቅላት……1 2 እትብት ዙሪያ መምግል……. 1 2 ከእትበቱ ዙሪያ የሚመጣ መጥፎ ጠረን……1 2

302	በእትብቱ ስር ዙሪያ ያለው የቆዳ ሙቀት ጨምሯል? **(መረጃ ሰብሳቢ፡ አንዱን እጅህን/ሽን በህፃኑ ደረት ላይ ሌላ ኛውን እጅህን/ሽን እትብቱ ስር ዙሪያ ከሚገኘው ቆዳ ላይ በማስቀመጥ የሙቀት ልዩነት መኖሩን አረጋግጥ/አረጋግጪ)**	4. ጨምሯል 5. አልጨመረም 6. ለመግለፅ ያስቸግራል

ክፍል 4: በጨቅላ ህፃናት ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች(መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በህፃኑ ላይ ከታየ እናትየው ህፃኑን ወደ ጤና ተቋም እንድትወስደው ምክር እንድትሰጣት/እንድትሰጪት)

ተ.ቁ	ጥያቄ	መልስ
401	ህፃኑ ጡት ይጠባል?	5. አዎ 6. አይደለም
402	ህፃኑ ለመተንፈስ ይቸገራል?	5. አዎ 6. አይደለም
403	ህፃኑ የማቃሰት ወይም ቶሎ ቶሎ የመተነፈስ ድምፅ ያሰማል?	5. አዎ 6. አይደለም
404	ህፃኑ ይንዘፈዘፋል ወይም ይንቀጠቀጣል?	5. አዎ 6. አይደለም
405	የህፃኑ እንቅስቃሴ ወይም ንቃት የቀነሰ ይመስልሻል?	5. አዎ 6. አይደለም
406	የህፃኑ ሙቀት የጨመረ ወይም የቀነሰ ይመስልሻል?	አዎ አይደለም ሙቀት መጨመር.....1 2 ሙቀት መቀነስ.....1 2

ክፍል 5: ከወሊድ በኋላ በእናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች የተመለከቱ ጥያቄዎች (መረጃ ሰብሳቢ፡ ከነዚህ ምልክቶች አንዱ እንኳን በእናትየው ላይ ከታየ ወደ ጤና ተቋም በመሄድ እንድትታከም ምክር እንድትሰጣት/እንድትሰጪት)

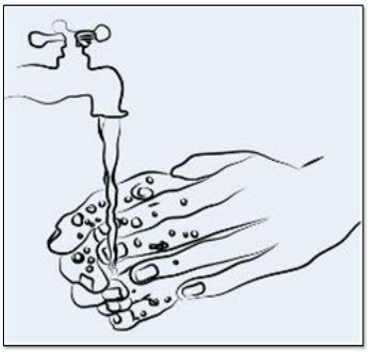
ተ.ቁ	ጥያቄ	መልስ
501	ከወሊድ በኋላ መንዘፍዘፍ ወይም ራስን መሳት አጋጥሞሽ ያውቃል?	5. አዎ 6. አይደለም
502	ትኩሳት አለሽ ወይም የሰውነትሽ ሙቀት ጨምሯል?	5. አዎ 6. አይደለም
503	ከፍተኛ የሆነ የራስ ምታት አለሽ?	5. አዎ 6. አይደለም
504	በብዛት ደም እየፈሰሰሽ ነው?	5. አዎ 6. አይደለም

505	መጥፎ ሽታ ያለው የማህጸን ፈሳሽ አለሽ?	5. አዎ 6. አይደለም
506	የጡት ጫፍ ህመም አለው? ቀልቷል? አብጧል? የተለየ ፈሳሽስ አለው?	አዎ አይደለም ህመም አለው……1 2 ቀልቷል……1 2 አብጧል……..1 2 የተለየ ፈሳሽስ አለው…….1 2

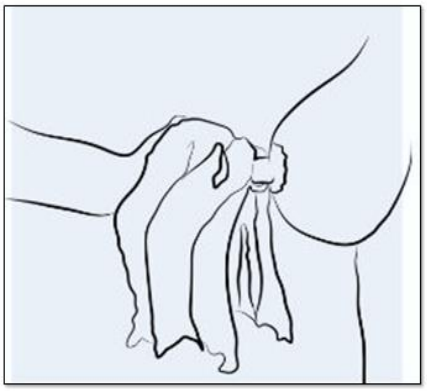
Annex III: Mothers compliance reminder checklist and picture chart of the breast milk group (Amharic version)

የእናት ጡት ወተት አቀባብ መመሪያ

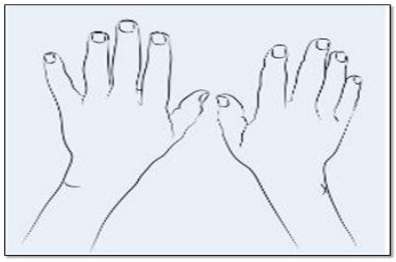
1. እጅን በሳሙና (በአመድ) መታጠብ



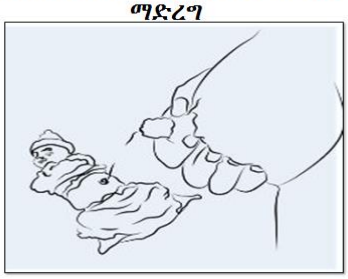
2. የጡትን ጫፍ በንፁህ ጨርቅ ማፅዳት



3.እጅን ማድረቅ

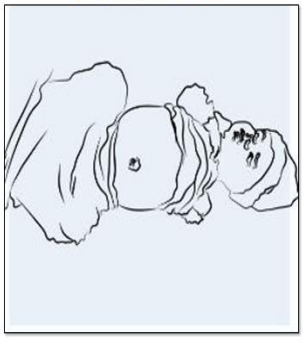


4. አስር የጡት ወተት ጠብታ እትብት ላይ ማድረግ



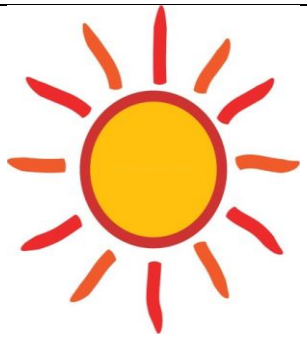
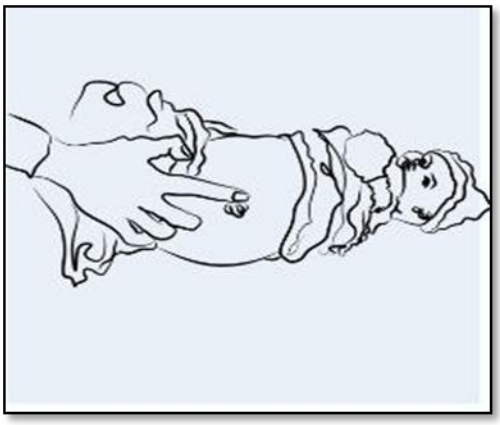
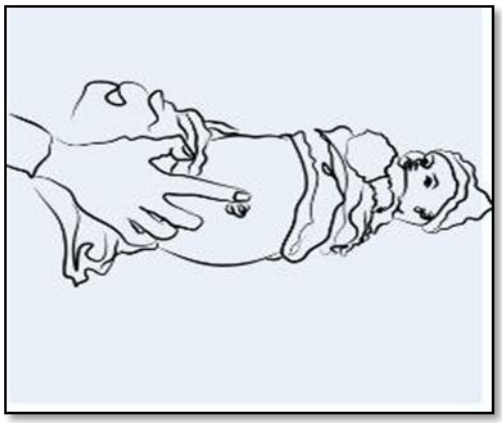
5. የእትብቱን ጫፍ፣ስርና ዙሪያ መቀባት

6.የህጻኑን እትብት ልብስ ሳያለብሱ 3ደቂቃ ለሚያክል ጊዜ ማቆየት



7. እጅን በሳሙና (በአመድ) መታጠብ

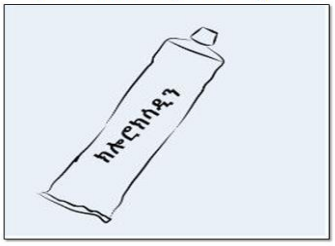
ለእናቶች በህፃኑ እትብት ላይ የእናት ጡት ወተትመቀባት አንዳይረሱ ለማስታወስ የሚረዳ ቅፅ

☞ የእናት ጡት ወተት በህፃኑ እትብት ጫፍ፣ ስር እንዲሁም በእትብቱ ጫፍና ስር መካከል የሚገኘው ቦታ ላይ በቀን አንድ ጊዜ ለ 7 ቀናት ማድረጎትን አይዘንጉ። ☞ ባደረጉም ቁጥር የ"√" ምልክት ያኑሩ።		
 	1ኛ ቀን.	
	2ኛ ቀን.	
	3ኛ ቀን.	
	4ኛ ቀን.	
	5ኛ ቀን.	
	6ኛ ቀን.	
	7ኛ ቀን.	

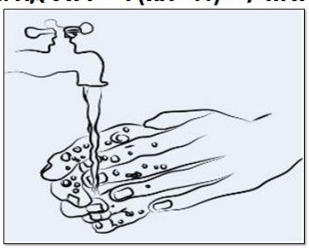
Annex IV: Mothers compliance] reminder checklist and picture chart of the chlorhexidine group (Amharic version)

1.የክሎሮክሲዲን(የምስራች) ቅባት አቀባብ መመሪያ

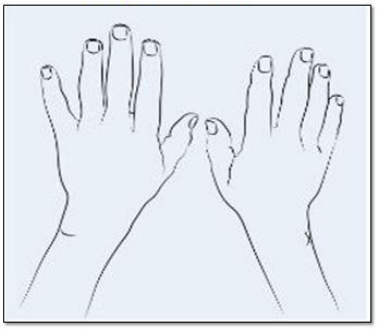
1.የክሎሮክሲዲን(የምስራች) ቅባት



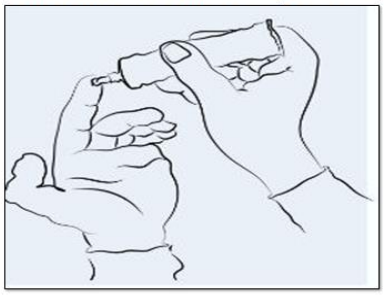
2. እጅን በሳሙና (በአመድ) መታጠብ



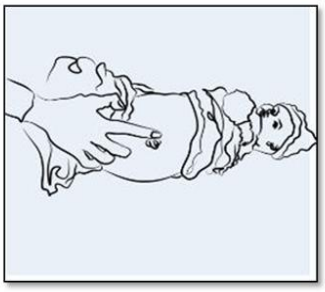
3.እጅን ማድረቅ



4.የባቄላ ፍሬ የሚያክል ጣት ላይ ማውጣት

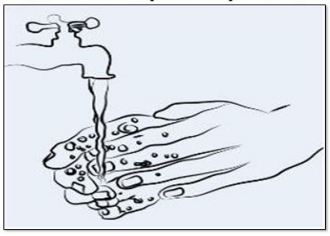


5. የእትብቱን ጫፍ፣ስርና ዙሪያ መቀባት



6.የህጻኑንእትብት ልብስ ሳያለብሱ 3 ደቂቃ ለሚያክል ጊዜ ማቆየት

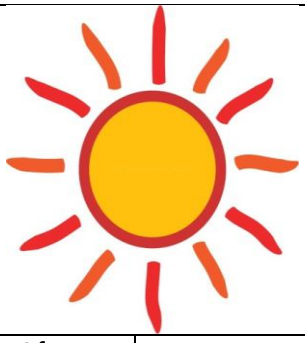
7. እጅን በሳሙና (በአመድ) መታጠብ

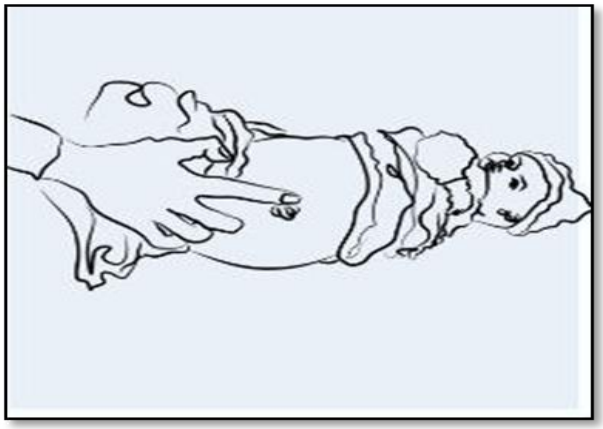


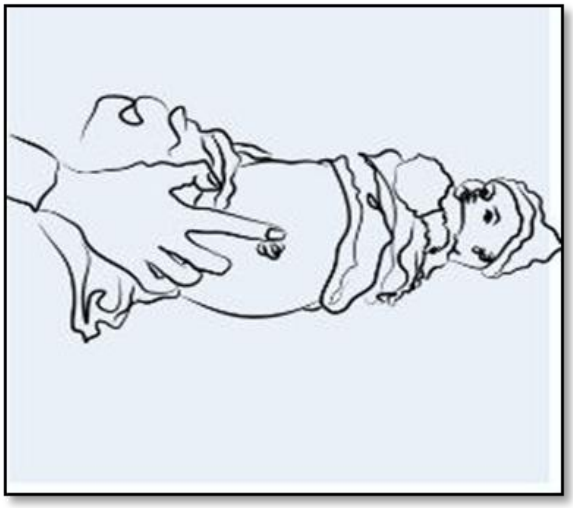
ለእናቶች በህፃኑ እትብት ላይ ክሎሮክሲዲን መቀባት እንዳይረሱ ለማስታወስ የሚረዳ ቅፅ

☞ ክሎሮክሲዲን በህፃኑ እትብት ጫፍ፣ ስር እንዲሁም በእትብቱ ጫፍና ስር መካከል የሚገኘው ቦታ ላይ በቀን አንድ ጊዜ ለሰባት ቀናት ማድረጎትን አይዘንጉ።

☞ ባደረጉም ቁጥርየ"√" ምልክት ያኑሩ።





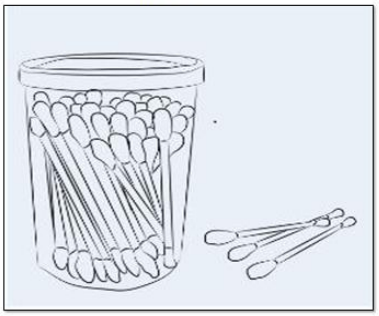


1ኛ ቀን.	
2ኛ ቀን.	
3ኛ ቀን.	
4ኛ ቀን.	
5ኛ ቀን.	
6ኛ ቀን.	
7ኛ ቀን.	

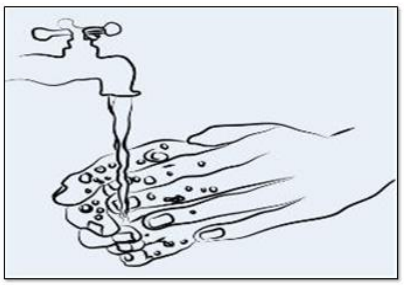
Annex V: Mothers compliance reminder checklist and picture chart of the dry care group (Amharic version)

የደረቅ እትብት እክብካቤ መመሪያ

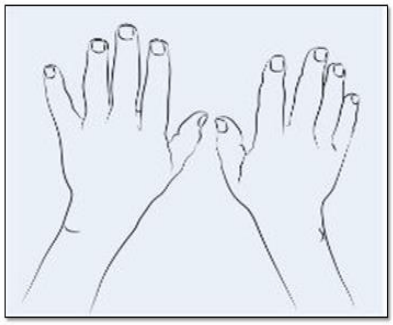
1.ጥጥ



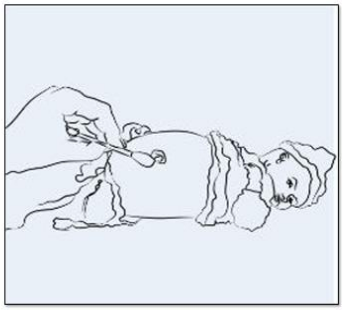
2. እጅን በሳሙና (በአመድ) መታጠብ



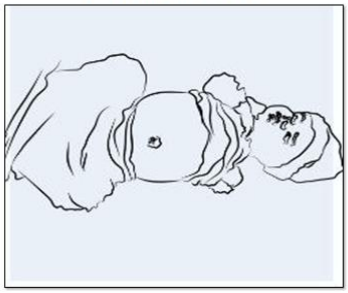
3.እጅን ማድረቅ



4. የእትብቱን ጫፍ፣ ስርና ዙሪያ በጥጥ ማድረቅ

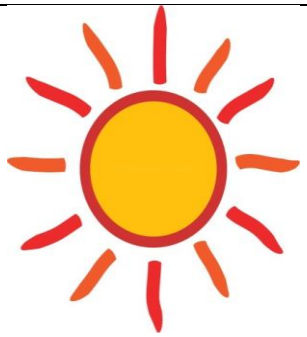
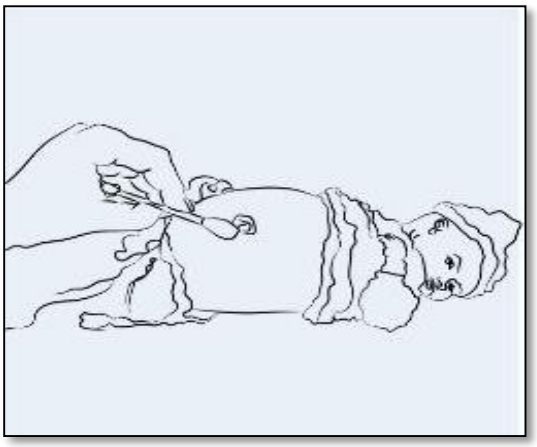
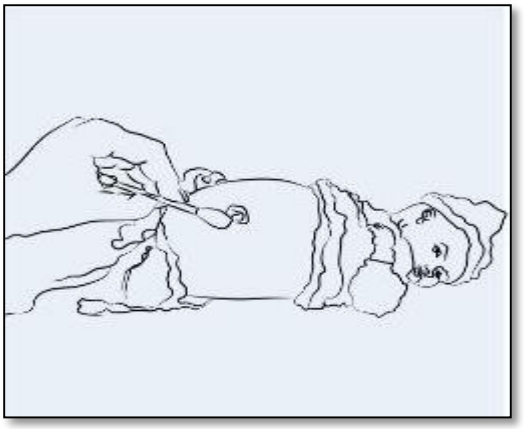


5.የህጻኑን እትብት ልብስ ሳያለብሱ 3 ደቂቃ ለሚያክል ጊዜ ማቆየት



7. እጅን በሳሙና (በአመድ) መታጠብ

ለእናቶች የደረቅ እትብት እንክብካቤ አንዳይረሱ ለማስታወስ የሚረዳ ቅፅ

☞ የደረቅ እትብት እንክብካቤ በህፃኑ እትብት ጫፍ፣ ስር እንዲሁም በእትብቱ ጫፍና ስር መካከል የሚገኘው ቦታ ላይ በቀን አንድ ጊዜ ለ 7 ቀናት ማድረጎትን አይዘንጉ፡፡ ☞ ባደረጉም ቁጥር የ"√" ምልክት ያኑሩ፡፡		
	8ኛ ቀን.	
	9ኛ ቀን.	
	10ኛ ቀን.	
	11ኛ ቀን.	
	12ኛ ቀን.	
	13ኛ ቀን.	
	14ኛ ቀን.	

Annex VI: activity reminder checklist for intervention data collectors of the BM groups (Amharic version)

<u>በጥናቱ የሚከናውኑ ተግባሮችን ማስታወሻ ቅፅ</u>

ቁጥር	የእናት ጡት ወተት መጠንና አቀባብ	አዎ	አይደለም
1	ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ		
2	የእናት ጡት ወተትን የህፃኑ እትብት ላይ ከማድረግ በፊት እናትየው የግራ ወይም ቀኝ ጡቷን ጫፍ እርጥበት ባለው ንፁህ ጨርቅ ከውስጥ ወደ ውጪ ማፅዳት		
3	የእናት ጡት ወተትን የህፃኑ እትብት ላይ በማድረግ እትብቱን ከመቀባት በፊት እጅሽ እስኪደርቅ መጠበቅ		
4	የእትብቱን አካባቢ የሸፈነውን ልብስ ብቻ በመግለጥ አስር የጡት ወተት ጠብታ የህፃኑ እትብት ላይ ማድረግ		
5	ጠቋሚ ጣትን በመጠቀም የህፃኑን እትብት ጫፍ፣ ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል የሚገኘውን ቦታ ላይ የእናት ጡት ወተት መቀባት		
6	ከተቀባም በኋላ የህፃኑን እትብት በጨርቅ ሳይሸፈን ሶስት ደቂቃ ለሚያክል ጊዜ ማቆየት		
7	ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ		
	ለእናትየው የሚሰጥ ምክር		
8	የእናት ጡት ወተት የህጻኑን እትብት ለተከታታይ ሰባት ቀናት ጥዋት ላይ መቀባት		
9	የእናት ጡት ወተት እትብት ላይ መቀባት ስላለው ጥቅም		
10	ከእናት ጡት ወተት ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት		
11	የእትብት ማመርቀዝ ምልክቶች		
12	የማስታወሻው ቅፅ እንዴት እንደሚሞላ		
13	ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች		
14	ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም		

Annex VII: activity reminder checklist for intervention data collectors of CHX group (Amharic version)

ለክሎሮክሲዲን የሚከናውኑ ተግባሮችን ማስታወሻ ቅፅ

ቁጥር	የክሎሮክሲዲን መጠንና አቀባብ	አዎ	አይደለም
1	ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ፡፡ ይህም እጅ ላይ የሚገኙትን በሽታ አምጪ ተህዋሲያን ለማስወገድ እነደሚጠቅም ማስረዳት		
2	የክሎሮክሲዲን (የምስራች ቅባቱን) ጠቋሚ ጣት ላይ ከማድረግ በፊት እጅሽ እስኪደርቅ መጠበቅ		
3	የክሌሮክሲዲን ቅባቱን ለመጀመሪያ ጊዜ ሲከፍቱ ክዳኑ ላይ ባለው ሹል እሽጉን መብሳት		
4	ጠቋሚ ጣት ላይ የባቄላ ፍሬ የሚያክል የክሎሮክሲዲን ቅባት ማውጣት		
5	በመቀጠል የእትብቱን አካባቢ የሸፈነውን ልብስ ብቻ መግለጥና ጠቋሚ ጣትን በመጠቀም የህፃኑን እትብት ጫፍ፣ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል የሚገኘውን ቦታ ላይ ክሌሮክሲዲንን መቀባት		
6	ከተቀባም በኋላ የህፃኑን እትብት በጨርቅ ሳይሸፈን ሶስት ደቂቃ ለሚያክል ጊዜ ማቆየት		
7	በመጨረሻም ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ		
	ቀበተሸ ከጨረስሸ በኋላ ክሎሮክሲዲን ቅባቱን በመክደን ሙቀት የማይበዛበትና ህፃናት የማይደርሱበት ቦታ ማስቀመጥ		
	ለእናትየው የሚሰጥ ምክር		
8	ክሎሮክሲዲን የህጻኑን እትብት ለተከታታይ ሰባት ቀናት ጥዋት ላይ መቀባት		
9	ክሎሮክሲዲንስላለው ጥቅም		
10	ከክሎሮክሲዲን ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት		
11	የእትብት ማመርቀዝ ምልክቶች		
12	የማስታወሻው ቅፅ እንዴት እንደሚሞላ		
13	ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች		
14	ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም		

Annex VIII: activity reminder checklist for intervention data collectors of DC group (Amharic version)

ለደረቅ አትብት እንክብካቤ የሚከናውኑ ተግባሮችን ማስታወሻ ቅፅ

ቁጥር	የደረቅ እትብት እንክብካቤ	አዎ	አይደለም
1	ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ። ይህም እጅ ላይ የሚገኙትን በሽታ አምጪ ተህዋሲያን ለማስወገድ እነደሚጠቅም ማስረዳት		
2	ደረቅ የእትብት እንክብካቤ ከማድረግ በፊት እጅሽ እስኪደርቅ መጠበቅ		
3	በመቀጠል የእትብቱን አካባቢ የሸፈነውን ልብስ ብቻ መግለጥ		
4	ከዚያም ጥጥን በመጠቀም የህፃኑን እትብት ጫፍ፣ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል የሚገኘውን ቦታ ማድረቅ		
5	የመጀመሪውን ጥጥ በመጣል በአዲስ ጥጥ በድጋሜ የህፃኑን እትብት ጫፍ፣ስር እንዲሁም በእትብቱ ጫፍ እና ስር መካከል የሚገኘውን ቦታ ማድረቅ		
6	ከደረቀ በኋላ የህፃኑን እትብት በጨርቅ ሳይሸፈን ሶስት ደቂቃ ለሚያክል ጊዜ ማቆየት		
7	ንፁህ ውሃን በመጠቀም እጅን በሳሙና ወይም አመድ በመለቅለቅ መዳፍና አይበሉባን በደምብ በማሸት መታጠብ		
	ለእናትየው የሚሰጥ ምክር		
8	የደረቅ እትብት እንክብካቤ ለተከታታይ ሰባት ቀናት ጥዋት ላይ ማድረቅ		
9	የደረቅ እትብት እንክብካቤ ስላለው ጥቅም		
10	የደረቅ እትብት እንክብካቤ ውጪ ሌላ ነገር እትብት መቀባት ስለሚያስከትለው ጉዳት		
11	የእትብት ማመርቀዝ ምልክቶች		
12	የማስታወሻው ቅፅ እንዴት እንደሚሞላ		
13	ህፃትና እናቶች ላይ ስለሚታዩ አደገኛ ምልክቶች		
14	ለ6 ወር የእናት ጡት ብቻ ለህፃኑ ማጥባት ስላለው ጥቅም		

Annex IX chloroxidine Adverse Effect reporting forms (Amharic version)

የወረዳ ስም……

የቀበሌ ስም……

የቤት መለያ ቁጥር .....

የእናትየው ስም.....

ቁጥር	ጥያቄ	የጉብኝት ዙሮች		
		የመጀመሪያ ዙር	ሁለተኛ ዙር	ሶስተኛ ዙር
	የህፃኑ አይን ወይም ጆሮ ላይ ክሎሮክሲዲን በስህተት ተደርጎ ነበር? ህፃኑ በስህተት ክሎሮክሲዲን ቅባት ውጦስ ነበር?	አዎ አይደለም አይን ላይ.....1 2 ጆሮ ላይ.....1 2 ከሎሮክሲዲን መዋጥ.....1 2	አዎ አይደለም አይን ላይ.....1 2 ጆሮ ላይ.....1 2 ከሎሮክሲዲን መዋጥ.....1 2	አዎ አይደለም አይን ላይ.....1 2 ጆሮ ላይ.....1 2 ከሎሮክሲዲን መዋጥ.....1 2
	ለምን ያህል ጊዜ ነበር ይሄ የጎንዮሽ ጉዳት የተከሰተው?	አንድ ጊዜ ሁለት ጊዜ ሶስት ጊዜ ሌላ ካለ ይገለፅ _____	አንድ ጊዜ ሁለት ጊዜ ሶስት ጊዜ ሌላ ካለ ይገለፅ _____	አንድ ጊዜ ሁለት ጊዜ ሶስት ጊዜ ሌላ ካለ ይገለፅ _____
	መቼ ነበር ከላይ የተጠቀሰው የጎንዮሽ ጉዳቱ የተከሰተው? (ቀን/ወር/አ.ም)	_____	_____	_____
	የጎንዮሽ ጉዳቱ ከተከሰተ በኋላ እናትየው ወደጤና ተቋም ሄዳለች?	አዎ አይደለም	አዎ አይደለም	አዎ አይደለም
	መቼ ነበር የጎንዮሽ ጉዳቱ ለተቆጣጣሪዎች ሪፖርት የተደረገው (ቀን/ወር/አ/ም)፡	_____	_____	_____

ማስታወሻ፡ ከላይ ከተጠቀሱት የጎንዮሽ ጉዳቶች መካከል አንዱ እንኳ ቢከሰት እናትየው ወደ ጤና ተቋም መሄድ እንዳለባት ምክር መስጠት ያስፈልጋል::