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DEPARTMENT OF NURSING AND MIDWIFERY

PRE-LACTEAL FEEDING PRACTICE AND ITS DETERMINANTS AMONG MOTHERS OF CHILDREN AGED LESS THAN 24 MONTHS OLD IN SODDO ZURIA DISTRICT, WOLAITA ZONE, SOUTHERN ETHIOPIA, 2017.

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ABSTRACT

Back ground: Although Pre-lacteal feeding is a barrier for implementation of optimal breastfeeding practices and increases the risk of neonatal illness and mortality, still it is continued as a deep-rooted nutritional malpractice in developing countries. Introducing pre-lacteal feeding and inadequate amount of breast milk contributes to over a million avoidable infant deaths each year in developing countries.

Objectives: The studyaimed to assess the pre-lacteal feeding practice and its determinants among mothers of children less than 24 months of age in Sodozuria district, Wolaita zone, SNNRG, Ethiopia, 2017.

Methods: Community-based cross-sectional study design both quantitative and qualitative was employed.For quantitative data five hundred five (505) mothers of children aged less than 24 months were selected by multistage randomized sampling technique and the data was collected by using interview based structured questionnaire. Descriptive statistics, binary and multivariable logistic regression analysis were employed to identify the magnitude and factors associated with pre-lacteal feeding practices. Variables with a p-value < 0.05 were identified as statistically significant factors. Qualitative data was collected by focus group discussion and analyzed using thematic frameworks.

Results: The prevalence of pre-lacteal feeding practice was 20.6%. The common type of pre-lacteal feedinggiven was plain water; 38(7.7%) and the major reason wasinsufficient breast milk 32(6.5%).Mothers who live with extended family type were 6.239(1.073, 36.275)times more likely to give pre-lacteal feeding as compared to those mothers who live with nuclear family type. Mothers who didn't get breast feeding counseling were 4.069(1.338,12.377) times more likely give to pre-lacteal feeding as compared to those mothers who got breast feeding counseling.Mothers who avoided colostrums 10.358(3.670, 29.233)times more likely to provide pre-lacteal feeding as compared to those mothers who fed colostrums their infants. In qualitative part, most of the participants believed that giving Pre-lacteal feeding is culturally inherited and reluctant to accept information from health professionals.

Conclusion & Recommendation: Pre-lacteal feeding was more prevalent among mothers who live with extended family type,mothers who avoidcolostrums and mothers who didn't get breast feeding counseling. Therefore, strengthening breast feeding counseling about the risks associated with pre-lacteal feeding and integrated. Promotion of intensive nutrition education program by giving special emphasis toextended family mothers and should be implemented in the community.

Key words:pre-lacteal feeding, Determinants, Children less than 24 months of age.

Acronyms and Abbreviations

ANC-Antenatal Care

EBF- Exclusive Breast Feeding

EDHS - Ethiopia Demographic and Health Survey

FGD- Focus Group Discussion

HEW- Health Extension Worker

HIV- Human immunodeficiency virus

MCH- Maternal and Child Health

MOH -Ministry of health

PGIMER - Post Graduate Institute of Medical Education and Research

PLF- Pre-lacteal Feeding

SNNPRG- South Nation Nationalities and Peoples Regional Government

UNICEF -United nation international children's emergency fund

WHO-World Health Organization

TBAs -Traditional Birth Attendants

CHAPTER ONE

1. INTRODUCTION

1.1. Back ground

Exclusive breastfeeding is feeding an infant with only breast milk and no additional food, water, or other liquids (with the exception of medicines and vitamins, if needed) during the first six months of life. Infants who are exclusively breastfed have less chance of becoming ill or dying from diarrhea and other infections. In addition, they are less likely to acquire pneumonia, meningitis, and ear infections than non-breastfeed infant(1, 2).Despite the demonstrated benefits of breast milk, the prevalence of breastfeeding, in particular exclusive breastfeeding (EBF), in many developing countries including Ethiopia is lower than international recommendation of EBF for the first six months of life(3).By definition, a child provided with pre-lacteal feeds is no exclusively breastfed(4)

Most mothers practice pre-lacteal feeding because they mistake with wrong beliefs; pre-lacteal feeding gives the laxative effect, cleaning the meconium from gut or has rehydrate effect for newborns but rather these prone the newborn to contamination(5). Because of pre lacteal feeding and inadequate amount of milk over a million avoidable death occur each year in developing countries(6).

The recent study done by extracting data from the nationally representative 2011 Ethiopia Demographic and Health Survey (EDHS) and focused on a sample from child data, with a sample from 576 clusters of 7692 children 28.92 % were fed pre-lacteals. Butter (n = 1143), plain water (n = 395) and milk-other than breast milk (n = 323) were commonly used pre-lacteals(7). Based on the national strategy for infant and young child feeding ,that is colostrum (three times richer in vitamin A and ten times richer than in beta-carotene than mature milk) feeding should be promoted and pre-lacteal feeds discouraged, Some believe pre lacteals are a necessary substitute for colostrum(1, 8). The decrease in the practice of breastfeeding and increase PLF practice feeding may result in insufficient breast milk, lactation failure, diarrhea and shortening of the duration of breast feeding. Moreover, it mayincrease in diseases such as diabetes, obesity, autoimmune disorders, and cardiovascular diseases (9).

1.2. Statement of the problem

Although Pre lacteal feeding is a barrier for implementation of optimal breastfeeding practices and increases the risk of neonatal illness and mortality, still it is continued as a deep-rooted nutritional malpractice in developing countries (4).Every day,3000 – 4000 infants die in the developing world from diarrhea and acute respiratory infections because they were receiving inadequate amounts of breast milk intheir feeding and were introduced pre-lacteal feeding(6).Exclusive breastfeeding is the most widely known and effective intervention for preventing early-childhood deaths. Optimum breastfeeding practices can prevent 1.4 million deaths worldwide among children under five every year [3]. Suboptimal breastfeeding contributes to 45% of neonatal infectious deaths, 30% of diarrheal deaths and 18% of acute respiratory deaths among children under five in developing countries [4]. It is also responsible for 10% of the disease burden in children younger than 5 years old(2).

Giving Pre-lacteal feeds increases the risk of illnesses such as diarrhea and other infections and allergies, particularly if they are given before the baby has hadcolostrums. Pre-lacteal feeds satisfy a baby's hunger and thirst, result in less interest for breast feeding, so there is less stimulation of breast milk production. If a bottle is used, it may interfere with the baby learning to suckle at the breast(2).The use of pre-lacteal feeds is not recommended because it can make the infant ill which in turn interferes with breastfeeding and exposes the child to the risk of gastrointestinal infection and limits the frequency of suckling and breast milk consumption by the infant(2, 10).

The National Infant and Young Child Feeding (IYCF) Guideline has been developed in Ethiopia that discourages pre-lacteal feeding practices on newborns to achieve optimal breastfeeding and `breastfeeding is one of the components of Primary Health Care in Ethiopia. A wide range of harmful new born feeding practices are documented even after the implementation of infant and young child feeding line(1).Although pre-lacteal feeding is widely practiced in Ethiopia, the roles of various factors in determining pre-lacteal feeding were not well studied in Ethiopia particularly in Sodozuria district. Therefore, this study attempted to gap and come up with recommendation on possible intervention for PLF and its determining factors in Sodozuria district, Wolaita Zone, southern Ethiopia**.**

1.3. Significance of the study

Breast milk alone is the ideal nourishment for infants for the first six months of life, providing all of the nutrients, including vitamins and minerals, an infant need, which means that no other liquid or food is required. Exclusive breastfeeding (up to six months) confers many benefits to the infant. Amongthis protective effect against gastrointestinal infections, this is observed not only in developing but also in industrialized countries. The risk of mortality, due to diarrhea and other infections can increase many-fold in infants who are either partially breastfed or not breastfed at all (9). Beneficial effects of breastfeeding depends on correct breastfeeding practices like timely initiation, colostrum feeding, avoidance of pre lacteal feeding(11).

The finding of this study may add knowledge about the magnitude and its determinants with pre-lacteal feeding in the study area and will serve as source of information and hypothesis generation for the interested researchers in the area. The findings may also help to influence the regional and national policy makers to develop appropriate plan and intervention program. This in turn, may help to reduce the mortality and morbidity rate of infant in Ethiopia.

This study also may help Community health workers (health extension workers) and health care service provider (Nurses and midwifes), who work at under five and Maternal and Child Health Clinic (MCH) as a baseline in their counseling/health education session to minimize pre-lacteal feeding practice and strengthen good breast feeding practice

CHAPTER TWO

2. LITERATURE REVIEW

2.1. The prevalence and types of pre-lacteal feeding

Every day, 3000 – 4000 infants die in the developing world from diarrhea and acute respiratory infections because they are given inadequate amounts of breast milk and were introduced pre-lacteal feeding(6). Exclusive breastfeeding of newborns, a practice recommended by WHO, is hindered in many countries by practices such as pre-lacteal feeding (feeding other foods before breast milk is fed to infants)(12).The study done in Nepal showed that from a total of 3948 mother 841 (26.5%) of mothers reported of providing pre lacteal feeds to their newborn infants. Plain water (n = 75), sugar/glucose (n = 35), gripe water (n = 3), sugar/salt solution (n = 3), fruit juice (n = 3), infant formula (n = 96), tea (n = 3) and other milk other than breast milk (n = 556) were some of the types of pre-lacteal feeds reported(4).

According to study done in Vietnam Pre-lacteal feeding was very common, practiced by nearly three out of four respondents (73.3%) Infant formula was the most commonly fed pre-lacteal (53.5%), followed by plain water (44.1%). Other pre-lacteal feeds included honey, glucose water, and other liquids(13).Study done in rural northern India revealed that 40.1% of mothers gave pre lateral feeding to their newborn(14). A cross sectional study was conducted in 3 hospitals of Haryana district, Northern India, for the duration of six months in the year 2013. Data from 576 mother- new born pair was collected. During the first 24 hours after birth, 209 (36.9%) of the newborns were given pre-lacteal feeding in various form. Most common type of pre-lacteal feed was animal milk (56.9 %) followed by holy water (22.5 %)(15).

A longitudinal observational study conducted in rural area of West Bengal showed that 71.7% infants were given pre-lacteal feed, honey (25%) was the most common followed by substitutes like water-18.4% and Palm candy water 13.3% or combination of those 10%(16) .Study conducted by in the area of Chandigarh, India showed that the necessity of pre lateral feed was seen amongst 74.7% of mothers. Around 75.2% were of opinion that Honey should be given followed by water (13.3%) and Jaggery water by 5.1%(17). Study done inAzamgarh district of Eastern Uttar Pradesh revealed that the pre-lacteal feed used by 33.1 % among rural mothers whereas it is comparatively more prevalent (60.9%) among urban mothers. Generally, 'cow milk mixed with water' and 'honey mixed water' is used as pre-lactealfeed. 'Cow milk mixed with water' is in use of 50.9% urban and

13.0% rural mothers whereas honey mix with water is in use of 13.9% of urban mothers and seems to be comparatively more popular among rural mothers (23.2%)(18).

According to the Study conducted in a rural area of Maharashtra, India, sixty-four (42.7%) out of 150 respondents practiced pre-lacteal feed while the remainder 86 (57.3%) did not, thus giving prevalence of the pre-lacteal feeding practices among the study population of 42.7%. Cow milk (45.3%) was the most common pre-lacteal feed administered followed by honey (40%). Honey with the castor oil administered by 6 (9.31%) respondent while castor oil, honey and cow's milk together given by 2 (3.12%) respondent. Only one (1.56%) respondent administered Jiggery water(19).

One study conducted in Bangladesh revealed that more than 10% of women reported giving their newborns ''drops,'' which consisted of a wide range of items. Usually sold commercially in small-volume plastic or glass vials, subsequent market studies found drops to include homeopathic supplements such as Arnica montana, homeopathic arsenic, and Atropa belladonna as well as broad-spectrum antibiotics, concentrated vitamin supplements, and purportedly sterile solutions of sucrose, glucose, dextrose, or saline(12).

A cross-sectional study done among lactating mothers in Benin City, Nigeria showed that forty-seven (11.7%) of the 403 respondents practiced pre-lacteal feeding while the remainder, 356(88.3%) did not. Water only constituted was the most common (19/47 or 44.2%) pre-lacteal feeds administered. This was closely followed by glucose drinks, 16/47 or (37.2%); while the least administered pre-lacteal feed was honey accounting for 4.6% of cases(20).Case control Study conducted in the Upper East Region of Ghana revealed that more than one in five children (18%) received a pre lacteal feed(21). A Cross-Sectional Study of Pre-Lacteal Feeding Practice among Women Attending Kampala International University Teaching Hospital Maternal and Child Health Clinic, Bushenyi, Western Uganda showed that the rate of pre-lacteal feeding practice was 31.3% (22).Another study done in Mansoura, Egypt regarding new born first feeds and pre-lacteal feeds showed that about 58% of newborns received pre-lacteal feeds. The commonest PLF was sugar/glucose water (39.6%)(23).

In Ethiopia about 52% of newborns benefited from within one hour of birth of breastfeeding, however, nearly three children in every ten (27 %) are given pre lacteal feeds within the first three days of life(24) and among the studies conducted at different areas show; institution based correctional study conducted in Harari Region, Eastern Ethiopia, Out of the total 612 respondents,

278 (45.4%) of mothers gave pre-lacteal liquids for their infants and the common pre-lacteal food includes sugar or glucose water 121 (43.5%) followed by milk other than breast milk 70 (25.1%) (45.4%) ,inArbaminchzuriaworeda, SNNPR,amongpre-lacteal feeds 383(8.9%), 14 (41.18%) of mothers provided water. Endertaworeda ,Tigray (12.8), Jimma Zone, South West Ethiopia (17%), Sidama Zone, SNNPR(40.8), West Gojam zone(48.3) respectively(25-29).

2.2. Reason for pre-lacteal feed administration

According to the Community based cross sectional study done in Maharashtra, India, Insufficient milk was the reason reported by the 20 (31.25%) mothers followed by elder's advice 19 (29.68%) and family custom 16 (25%). Thirteen mother (20.3%) gave reason of good for health (Child will talk early and Tongue will become thin) while 6 (9.37%) said that it will remove meconium from the gut of the child(19). The analytical study conducted in India showedthat the major reason cited for pre-lacteal feed were advice by the elders (52.8%) and cultural practice (48.6%) observed by the family such as to facilitate the passage of meconium in order to keep the child healthy or a very common belief that the child takes after the person who gives pre-lacteal feed to the child(18).Study done in Mahendragarh, India showed that most common reason for pre-lacteal feed was traditions & customs (41.6 %) followed by pressure/ suggestions from relatives (19.6%)(15).

The study carried out in Nigeria to determine the proportion of healthcare workers so revealed that reasons for given PLF fell into three main groups. These were: perceived breast milk insufficiency (33.4%)¾this was the commonest single reason given; medical reasons (35.2%)¾these were a group of reasons comprising mainly prevention of dehydration, hypoglycemia and neonatal jaundice; others included fluids like water given for diagnostic reasons, e.g. to rule out intestinal obstruction and drugs given to stimulate the baby's appetite; non-medical reasons (31.4%)¾these included cleansing and preparing the baby's gastrointestinal tract for digestion, to quench thirst, flush the bladder, rest the mother, provide variety in the baby's diet and because colostrum is thought to be too strong for the baby(30).

As the countrywide study conducted in Ethiopia which was used to identify the determinants of EBF practice showed as the reasons that mothers believe that they need to wait until the milk started flowing, secondly giving liquid will clean the baby's throat and it has been a long standing tradition(3). Study done in Arbaminchzuriaworeda showed that among those women who gave pre-lacteal feeds, 41.8% of women considered provision of water as a means of cleaning the

infant's stomach. This might be due to traditional beliefs and knowledge gap on the dietary value of breast milk(25).

2.3. Factors determining pre-lacteal feeding

According to many researches around the world, Health care factors (ANC, mode of delivery, place of delivery and delivery attendant), child and maternal socio demographic factors, maternal related factors like breast feeding problem, parity and maternal illness and culture factors are predominantly determining pre-lacteal feeding(31).The Recent countrywide study which aimed to identify the effects of individual and community-level factors in the introduction of pre-lacteal feeding in Ethiopia showed that at individual-level; ethnicity, religious status, assistance at delivery, mode of delivery, timing of initiation of breastfeeding and size of child at birth were significantly predicting introduction of pre-lacteal feeding at community-level, two variables; contextual region and community ANC utilization were significantly predicting introduction of pre lacteal feeding (7).

2.3.1. Maternal & child Socio-demographics factors

Study in Nepal showed that when compared to the mothers with no education, mothers with primary (OR 0.45; 95%CI 0.34, 0.60) and secondary education (OR 0.53; 95% CI (0.39, 0.73) were less likely to provide pre-lacteal feeds. The mothers who were not working (OR 1.49; 95% CI 1.06, 2.08), and the mothers from the Plain/Terai region (OR 2.28; 95% CI 1.46, 3.57) were more likely to provide their children with pre-lacteal feeds than their counterparts(4). PLF In Vietnam was more commonly given in Female child 48.0 % (1).Women in rural areas Honduras were significantly more likely to feed water-based pre-lacteal feeds but less likely to feed milk-based pre-lacteal feeds and colostrum than women in urban areas(13).

Community based cross sectional study conducted in Maharashtra, India showed that among respondents having education secondaryschool and above it was found that 33.9% practicing thepre-lacteal feeding practices while illiterate mothers andthe respondents having education less than primary itwas found that 63.3% practicing the pre-lactealfeeding. Chi square test showed significant association betweenthe pre-lacteal feeding and literacy. Study in Benin City, Nigeria showed that the age group with the highest proportion of respondents that practiced pre-lacteal feeding was 16-20 years (40%) and > 36 years (6.5%). The younger the respondents were, the higher the tendency to practice pre-lacteal feeding.

Pre-lactealfeeding was commoner among the Ibos (14.5%) and Esan people (13.1%) however there was no significant association between tribe/ethnicity and practice of pre-lacteal feeding(20).In Uganda, PLF given 83 (79%) Reside in the villages, the non-Catholic Christians religion 64.5 % and Young (age between 21-35 years) 74(71.2%)(22).

In Harare region Rural Residence 196 (70.5%) gave PLF than urban (29.5%)(6).InLalibela town administration the most prevalent traditional feeding practices that children had undergone were giving leftover food to child 296 (36%), bottle feeding practiced237 (28%), giving pre-lacteal feeding 158 (19%) and depleting colostrum 155 (18%) and malechildren were slightly affected to the most common type of traditional feeding practices of thearea than female children. Not giving the first milk (colostrums) and giving pre-lacteal fed to anewborn baby as the first feed were higher among female children than male(32).

2.3.2. Maternal Health related factors and heath care serviceutilization factor

In Bangladesh, findings from a study showed that compared to no antenatal care visit, one to three visits protected infants (OR 0.8, 95% CI 0.7-0.9) from being fed pre-lacteal foods(33). The other study conducted in this country showed that in rural areas of Bangladesh reason not giving colostrum were unknown about colostrum benefits (65.22%), children were sick 21.74% and mothers were sick (6.52 %). In this study 24.08% of mothers had given pre-lacteal feeding and breast problem during feeding such as cracked nipple 25.72%, 11.43% inverted nipple, breast abscess 5.72%, and breast lump 22.88% were also another reasons to avoid colostrum feeding(34).

According to the study conducted in Nepal showed that more than three antenatal care visits were associated with higher odds of breastfeeding within an hour after birth. In their study, compared to women who had no ANC visits, those who had more than three visits had significantly higher odds of initiating breastfeeding within an hour after birth after adjusting for maternal socio-demographic characteristics(35). The study conducted in Maharashtra, India Pre-lacteal feeding practices found to be more among the respondents who did not receive the antenatal counseling about the breast feeding as compare to those who received. In present study 47(23.6%) out of 78 practiced the pre-lacteal feed who did not receive the counseling by the health staff as compared to the 17 (60.3%) out of 72 who received the counseling. The association found to be statistically significant (p value <0.001)(19).

The study done in Maldives showed that introduction of infant formula as the pre-lacteal feed was positively associated with birth by cesarean section (p=0.01; AOR=4.6; 95% CI, 1.6–13.3)(36).In Vietnam pre-lacteal feeding increased in delivery by caesarean section (23%) or episiotomy38 %(13).

In Nigeria, twelve (23.1%) of the 52 respondents who had their babies through caesarian section practiced pre-lacteal feeding while only 35(10.3%) who had spontaneous vertex delivery did so. A significant association existed between route of delivery of index child and practice of pre-lacteal feeding. Mothers who had surgical deliveries were more likely to practice pre-lacteal feeding(20).In In Uganda Giving pre-lacteal feeds was also common among mothers who attended ANC 101(6.2%) and those who delivered by caesarean section in the health facility 14.7%(22).

In Mansoura Egypt, PLF was significantly more encountered among women who received antenatal care at private clinics 275 (62.6%) and those who never received antenatal care 14 (77.8%), with delivery in private clinic/hospitals 263 (66.4%) , Caesarean section 156 (75.4%) and among infants admitted to ICU 59 (81.9%) and 48.5% mothers who never been educated by medical personals(23).

According to the study done in Ethiopia the effects of individual and community-level factors in the introduction of pre-lactealfeeding the higher the proportion of women using ANC in the community the likely hood of receiving pre-lacteals for newborn is low. Children from the community where higher proportions of women use ANC had 42 % (AOR = 0.58; 95 % CI 0.38, 0.87) lower odds to receive pre-lacteal feeds than those from lower proportions of women use ANC(7).Study done in Jimma town showed that 54 (8.9%) of the mother encountered the following breastfeeding problems ;Sore nipple 16 (29.6%),Engorgement 31 (57.4%) and “Not-enough” milk 7 (13.0%) this in turns leads to PLF(12.6%)(37). In Raya Kobo District, Ethiopia, where the prevalence of pre-lacteal feeding is high, found that mothers who delivered at home (OR 7.10, 95% CI 3.91 – 12.98) were seven times more likely to offer pre-lacteal feeds compared to those who had institutional deliveries(38).

2.3.3. Maternal knowledge on the risk associated withpre-lacteal feeding related factors

Study in Maharashtra India revealed that Insufficient milk was the reason reported by the 20 (31.25%) mothers followed by elder’s advice 19 (29.68%) and family custom 16 (25%). Thirteen mother (20.3%) gave reason of good for health (Child will talk early and Tongue will become thin)

while 6 (9.37%) opine that that it will remove meconium from the gut of the child(19). In Mansoura, Egypt the most frequent reasons for giving PLF are tradition (61.0%), mother's/mother in law's advice (58.3%), keeping mouth and throat moist (55.9%), lack of/delay in milk production (47.9%), and advice of health care provider (42.0%)(23).

A cross-sectional door-to-door survey was conducted in Jaipur, India 57.6% of the mothers think pre-lacteal feed should be given and majority of them were illiterate. 49.60% of the mother think that 1st feed (colostrums) should be discarded and should not be given to the baby but (25%) of the mother believe that it should be given this was statistically significant ($p<0.001$)(39).

In Ethiopia north Gondar kossoye colostrum was said to cause abdominal problems (63 %) reported ritual pre-lacteal feeding, Pre-lacteal substances may be given for non-nutritional reasons, such as to 'clear the throat' or bowels(40). In Harare region,Ethiopia, mother who had Good level of information of breast feeding gave PLF 207 (74.5%) than Poor level of information 71 (25.5%)(6).

2.3.4. Breast feeding initiation related factors

Across-Sectional Study showed among Women Attending Kampala International University Teaching Hospital Maternal and Child Health Clinic, Bushenyi, Western Uganda Delay in initiating breastfeeding was the key factor promoting Pre-lactealfeeding. Among mothers who initiated breastfeeding within 24 hour 86(84.3%) gave pre-lacteal feeds. The number of pre-lacteal feeding practice among mothers who initiated breastfeeding within one hour after birth equaled those who initiated after one hour (50% each)(22).

Study done in Indian demonstrated that 22.8% of the poorest women initiated breastfeeding within one hour and 29% initiated within 24 hours and 48.2% initiated after 24 hours. The richest women however initiated breastfeeding within one hour more often (34.2%) and 37.5% after 24 hours and 28.3% after 24 hours. Poorest women were less likely to initiate early breastfeeding compared to richest women(41).

Study done in rural part of West Ethiopia showed that being a housewife was found to be 2.5 times more likely to initiate breastfeeding within one hour of delivery compared to their counterparts. Mothers who fed colostrum after birth were 2.2 times more likely to initiate breastfeeding within one hour of birth. Mothers who did not receive health information on breastfeeding after delivery from health personnel were 56 % times less likely to initiate early breastfeeding. Likewise women

who gave PLF were 70 % times less likely to initiate early breastfeeding within one hour of childbirth(42).

A cross-sectional study done in North Eastern Ethiopia, Raya Kobo district, showed that late initiation of breastfeeding was associated with pre-lacteal feeding practice. Pre-lacteal feeding was more common among Mothers who initiated breastfeeding after one hour of delivery 100 (56.8%) than mothers who initiated breastfeeding within one hour of delivery 142 (31.8%).which were 2.7 times(38).

2.3.5. Colostrums Avoidance related factors

In Bangladesh on asking respondents who did not give colostrum answered that 13.04% were sick, child was sick 21.74% and 65.22% were unaware of the benefits of colostrum(43). Study done in Advanced Pediatric Centre of PGIMER, Chandigarh found that sixty-six percent of the respondents had not given colostrum to the infant. It was believed that colostrum which is thick, causes obstructions in the intestines (54.5%) of the infant and therefore, difficult to digest (24.3%) because of its high consistency. Majority of them also consideredcolostrums as 'dirty, yellow, smelly, stagnant milk' which should not be given to the infant because of its impurity (12.1%) as it is produced during the antenatal period and others like medical reasons 9.1%(44).

A community based cross-sectional study done in Raya Kobo revealed that colostrum was discarded by 13.5% of mothers of children aged <24 months. Among those who discarded colostrum, 25.9% of mothers reasoned out that they believe colostrum is not good. Above 23.5% of the mothers discarded colostrum because it is tradition. About 58% of mothers were not aware about advantages of colostrum. Mothers reported that the most influential individuals for colostrum avoidance were grandmothers (44%), untrained traditional birth attendants (44%) and husbands (12%)0(38).In Ethiopia north Gondar kossoye, 79% of the respondents were discard colostrum and of them 63% gave PLF because of belief that colostrum may cause abdominal discomfort and diarrhea(45).

2.4. Conceptual frame work

Maternal and infant Socio-demographic character and culture are the distal variables which are affecting the proximal variables and dependent variable. The proximal variables like maternal health care utilization, colostrum avoidance, breast feeding initiation, maternal knowledge on demerits of PLF affected each other and the outcome variable which is pre-lacteal feeding.

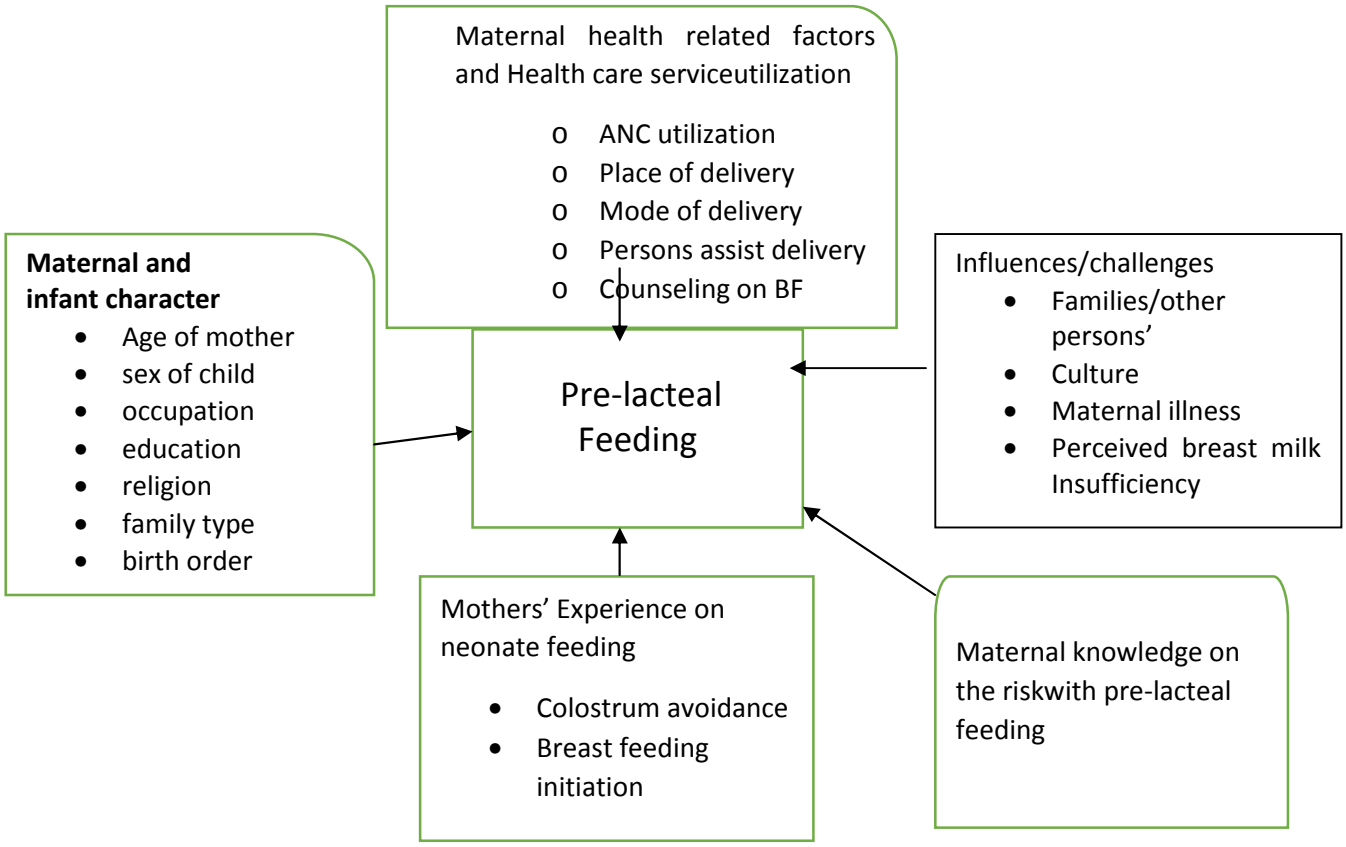


Fig.1. conceptual frame work of prevalence of pre-lacteal feeding and determining factors among mothers of children less than 24 months of age adopted and modified from literature review(6, 19, 41).

CHAPTER THREE

3. OBJECTIVE

3.1. General Objective

- The aim of this study was to assess the pre-lacteal feeding practice and its determinants among mothers ofchildren less than 24 months of age in Sodozuriadistrict,Wolaita zone,SNNPRG, Ethiopia, 2017.

3.2. Specific Objectives

- To determine the magnitude of pre-lacteal feeding practices among mothersof children age less than 24 months old.
- To identify the determinant factors of pre-lacteal feeding among mothers of children age less than 24 months old.

CHAPTER FOUR

4. METHODS AND MATERIAL

4.1. Study Area

This study wasconducted in Sodo Zuria district, wolaita Zone, one of the 13 Zones in the southern Nations Nationalities and People's Regional Government (SNNPRG). The total population of wolaita zone is 1,928,196 and of them10, 9967are children less than 24 months of age. Sodo Zuria district is one of the district of Wolaita zone, and is situated 327 Km, 151Km from Addis Ababa and Hawassa (capital town of southern) respectively. The district is administratively structured by 36 kebeles and has a total population of 176810 of which 86,637 are males and 90,173are females. Out of all female population 449,270of they are women in the reproductive age group (15-49yr). About 9159of the total population is accounted by children less than two years of age. The district has also7 governmental and 1 private health centers, 41 health post, 19 private primary health units(Sodo Zuria woreda health office, maternal and child health core process).

4.2. Study Period

The study was conductedfrom February 15 to March 12, 2017

4.3. Study Design

Community-based cross-sectional study design with mixed method (both quantitative and qualitative) was employed.

4.4. Source of population

Mothersof childrenless than 24 months of age who are found in Sodo Zuria district.

4.5. Study population

Mothers of children less than 24 months of age that are living in randomly selected kebeleswere considered as study population.

4.6. Eligibility criteria

4.6.1. Inclusion criteria

Mothers of children less than 24 months of age who were permanent residents of the Sodo Zuria district and willing to participate in the study in randomly selected kebeleswere included in the study.

4.6.2. Exclusion criteria

Mothers who were seriously ill and mothers of seriously ill baby, mental problem or unable to communicate were excluded.

4.7. Sample Size Determination

The sample size was determined based on the formula used to estimate a single population proportion and using 28.92% prevalence of PLF which is from recent countrywide study which aimed to identify the effects of individual and community-level factors in the introduction of pre lacteal feeding in Ethiopia(7)and a 5%margin of error with 95% confidence level.Regarding the prevalence of PLF, even if there is local study done near by the Sodo Zuriadistrict (the study done at ArbaminchZuriadistrict) with the prevalence of 8.9%(18) results in small sample size which is even lower than national, it was preferred to use the national prevalence of introduction of pre-lacteal feeding practice (28.92%).

$$n = \frac{(z\alpha/2)^{2p(1-p)}}{D^2}$$

Where, Z= Standard normal variable at 95% confidence level (1.96), p= estimated proportion of pre-lacteal feeding (28.92%), d= margin of error (5%),

$$\frac{(1.96)^2 \text{ o.2892 } (1-0.2892)}{(0.05)^2} = 316$$

Since the population is less than 10,000, I used correction formula as follows:

$$n \text{ final} = \frac{n \times N}{n + N}$$

Where, N=the target population =9159, n=the sample size =306

$$\frac{316 \times 9159}{316+9159} = \frac{2894244}{9475} = 306$$

And then 306×1.5 (design effect) =459 and by adding 10% (459+45.9=505) non-response rate, the sample size becomes 505**.**

Therequired final sample size for quantitative part is 505mothers having children less than twenty-four months.

For qualitative study three focus group discussions (27 women) from threekebeleswasselected by using purposive sampling, each group comprising around 8-10 participants.

4.8. Sampling procedure/Technique

Quantitative part: Multi-stage randomized sampling technique was used to capture the study participants. Sodo Zuriadistricthas the total of 36kebeles,among these, 6kebeleswere selected by lottery method. In order to obtain the sample size from each kebeles proportional allocation to size was done. Then after obtaining the sampling fraction/interval K(by dividing total number of sample for each group to the study subjects for each group which was found to be 3) motherswere selected from each household by using HEW family record book as a sampling frame using systematic random sampling technique. Finally, everykth mother from each Kebeleswasidentified. The starting household was selected using a lottery method.

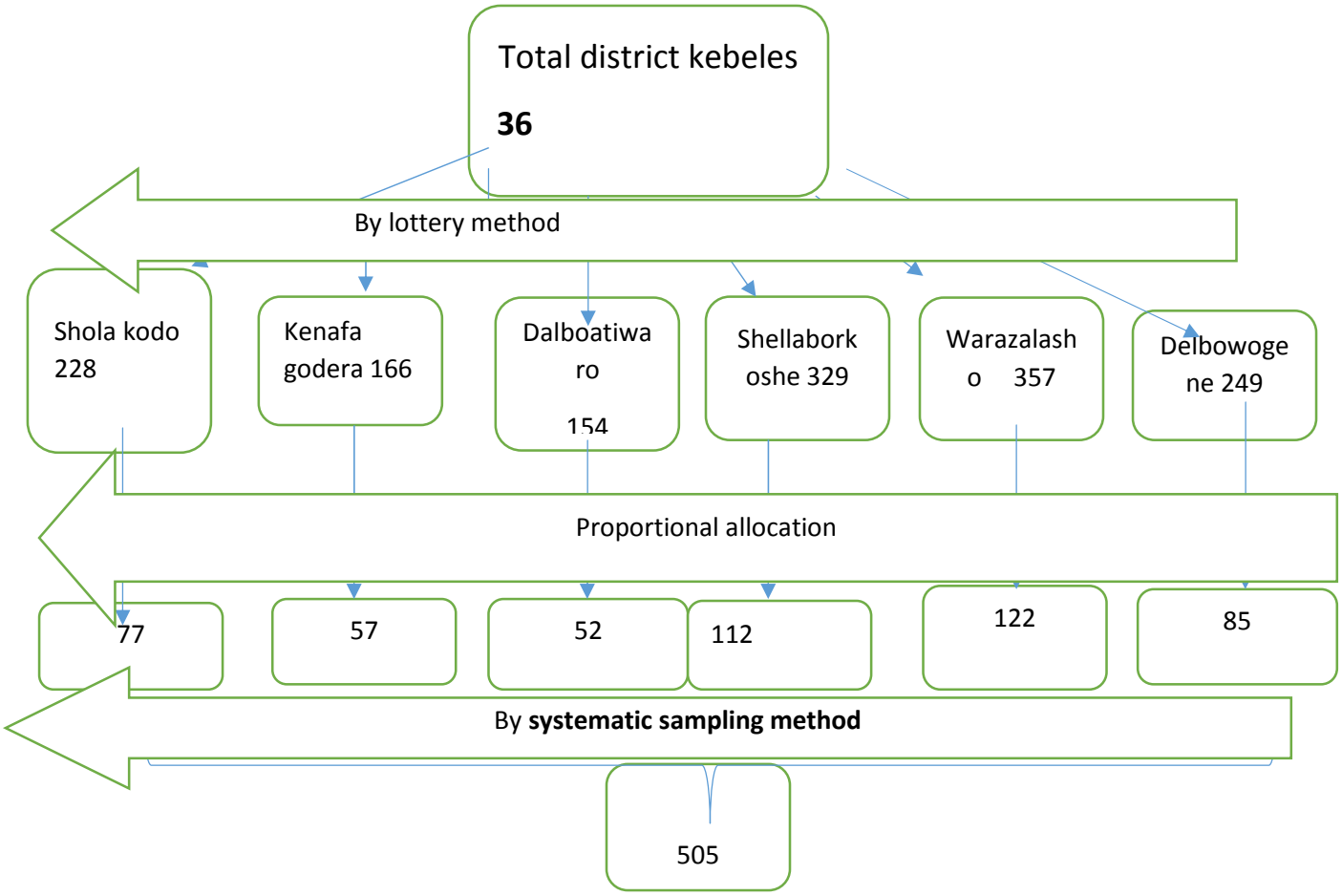


Figure 2: sampling procedure for quantitative part of study

4.8.1. Qualitative part:

Mothers with at least one under two years of child was involved. A total of 27 women were selected using purposive sampling for three focus groups, each comprising around 8-10 participants.

4.9. Study variables

4.9.1. Dependent Variable

- Pre-lacteal feeding

4.9.2. Independent Variables

- Maternal demographic variable
- Child (age in months, birth order)
- Maternal health related factors
- Maternal knowledge on risk of PLF
- Colostrums avoidance
- Breast feeding initiation
- Families/other persons' influence
- Culture

4.10. Operational definition

Pre-lacteal feeding; defined as giving fluid or semisolid food before breast feeding to an infant during the first three days after birth

Colostrums avoidance; includes; pumping and discarding colostrum during the first five days after birth.

Family type: extended family is family includes colleagues, aunts or uncles and grandparents living together, single parent family is only mother with her children with no father, thenuclear family is family type consists of two parents and children.

4.11. Data collection tool

The data collection tool is adopted from EDHS and the national nutrition survey. Both of them was used this tool for collecting infant feeding practice as the national level for many years. It has 3 parts, the first part contains socio-demographic characteristics of mothers and children, the second

part contains infant feeding practice to assess pre-lacteal feeding practiceand, the third is factors influencing pre-lacteal feeding practice. The adopted questionnaire was modified and contextualized to fit the local situation and the research objective. The questionnaire was prepared first in English, translated into Wolaita language and then back into English by fluent speakers of both languages to check its consistency.

4.12. Data collection method

The data wascollected through face to face interview using structured questionnaires which was adopted from Ethiopian Demographic and Health Survey and the national nutrition survey questionnaire. The pre-testing was conducted in 5% of the sample size of mother in similar area which is not selected in study area. For this purpose, Kokatekebele, which is one of the kebeles of the district and is not included as study kebeles, is selected to establish accuracy of questions and clarity and to determine the length of interviews. During pre-testing an effort was made to check for consistency in the interpretation of questions and to identify ambiguous items. After review of the instruments all suggested revisions were made before being administered in the actual study.

Six data collectors and one supervisor were recruited to participate in the study. The selection criterion for data collectors was those individuals who had Diploma in nursing. The supervisor should have bachelor science degree in public health or nursing and have previous experiences. During data collection when the selected mother is not available, visit two times and if still it is not possible to find the intended mother the next mother was interviewed.

For qualitative, the data collection was employed with FGD exploration through probing questions prepared in Amharic language. Tape recorder was employed to the area where FGD was conducted and field note and observation also was undertaken. Mothers with at least under 24 months' child, was selected from each Selected Kebeles. FGDs guide questions containing the current situation of pre-lacteal feeding practice, reasons and factors associated with pre-lacteal feeding in the area was used to collect qualitative data through FGD. Participants was left to discuss each question actively with as little interference as possible from the principal investigator who was act as a moderator, the principal investigator was assisted by two degree nurses; one assistant was responsible for the tape recording while the other was took field notes. A focus group discussion (FGDs) was conducted in threekebeles of Sodo Zuriadistrict the Kebeleswerepurposely selected from a list of 30Kebelesbased on population amount. FGDs' participants were recruited one week before the meeting for discussion, through the Kebeles health extension worker, health centerhead and Kebele leader who was informed of the criteria for selection of the FGDs participants. At the end,

participants took an opportunity to ask general questions on various infant nutrition issues, and the principal investigator and one degree nurse responded accordingly.

4.13. Data quality assurance

Training wasgiven for data collectors for three days to ensure the completeness and consistency of information during data collection, the investigators and supervisors weremade a thorough check before receiving the filled questionnaire from each data collector. In the mean time they were randomly select the questionnaire to crosscheck its completeness and errors on spot and during data collection. In this manner the data wascleaned and coded before data entry. There was meeting at the end of data collecting time for discussion. Data analysis was started by sorting and performing quality control checkup on field. Data was checked in the field to ensure that all the information was properly collected and recorded. Before and during data processing the information was checked for completeness. The questionnaire was pre-tested before data collection.

4.14. Data processing and analysis

Data cleaning was performed to check for accuracy, consistencies, and values. The datawas undergoinghard daily checking to identify and correct errors. The investigator with an experienced data clerk wasentering the data using Epi Data version 3.02 and wasexported to SPSS 23 statistical package for analysis.

Descriptive statistics (frequency and percentage) was used to describe socio-demographic of the study population and the magnitude of pre-lacteal feeding practices. Then bivariate logistic regression techniques were done to see the crude association between the independent variables and the dependent variable and the strength of association was expressed in odds ratio (OR). Eventually, result from bivariate analysis was moved to multivariate analysis and done through step wise multiple logistic regression technique to control the effects of confounding and to identify predictors of pre-lacteal feeding practices. A P value of < 0.05 was used as the criterion for statistical significance.

The qualitative data that was obtained from FGD was auto taped, transcribed, translated and coded. The responsewas transcribed to Wolaita language and translated to English and the main response was categorized to its theme. The main responses from the respondents werereported using narrative and werementioned in direct quotation. Inductive content analysis was used to process of analysis and systematically coding segment by segment based on the request questions. Finally, the

narrative qualitative information and the observation was organized and integrated according to emerging themes and concepts and the results were triangulated with quantitative finding.

4.15. Ethical Consideration

Ethical clearance wasobtained from Addis Ababa University, College of health science department of nursing and midwifery institutional ethical review Board to Sodo Zuria district health unit. A permission letters were obtained from Sodo Zuria district health unit and respective kebeles. After giving clear and deep understanding about the aim of the study, oral consent was obtained from each respondent before the interview conducted. Persons who were unwilling to the responsewereexempted from the study. Anonymous data was taken and the confidentiality of participants'' information was secured.

4.16. Dissemination of the Result

The primary objective of this thesis is for partial fulfillment in the requirements to degree of master in child health nursing; it will be submitted to the Department of Nursing and Midwifery, Addis Ababa University. In addition, copies of the result will be given to Wolaita zone health department and Sodo Zuria district. Presentations at professional, local, national and international meetings and publication in peer reviewed national or international journals will be attempted.

CHAPTER FIVE
Results
5.1 Socio demographic characteristics

About 505 mothers having children less than 24 months of age were drawn and 495 consented to participate and included in this study resulting a response rate of (98.01%). Out of the total respondents 272 (57.0%) were 26-35 years with the mean age of 31.48 years (±6.77) and ranged from 18 to 46 years. Majority of the mothers; 425(85.7%) have nuclear type of families and the rest 25(5.1%), 32(6.5%) are single parent and extended family respectively. A197 (39.8%) were unable to read and write; 338 (68.3%) protestant 329 (66.5%) were house wife followed by trader 127 (25. 7%).The mean age of infants was 13.65 with (SD ±6.388) months.

Table1: Socio-demographic characteristics among mothers having children less than 24 months of age in Sodo Zuria district, southern Ethiopia, 2017(n=495).

Variables	**Frequency**	**Percentage (%)**
Age of mothers (n=495)		
18—25	82	16.6
26—35	272	57.0
36--49	131	26.5
Total	495	100
Family type		
Nuclear Family	425	85.9
Single Parent Family	25	5.1
Extended Family	32	6.5
Other (specify)-	13	2.6
Level of education		
Unable to Read and write	204	41.2
Able to read and write	87	17.6
Complete Primary education	151	30.5
Complete Secondary education (9-12)	28	5.7
College and above	25	5.1
Maternal Religion		
Protestant	338	68.3
Orthodox	139	28.1

Catholic	15	3.0
Others	3	.6
Maternal Occupation		
House wife	329	66.5
Trader	127	25.7
Student	8	1.6
Civil servant	23	4.6
Daily Laborer	8	1.6
Age of the child		
<1month	6	1.2
1-6 months	71	14.3
>6months-24months	418	84.4
Sex of the child		
Male	259	52.3
Female	236	47.7
Birth order of the child		
First	60	12.1
2-3	251	50.7
4-6	164	33.1
7+	20	4.0
Birth Spacing of the child		
No previous child	64	12.9
<24months	139	28.1
>24months	292	59.0

5.2. Health care service utilization among mothers

Regarding maternal health service utilization of the total respondents 456(92.1%) mothers were attending ANC; 129(26.1%) utilized ANC four and more times, 435(95.4%) had gotten breast feeding Counseling at ANC Clinic, 391(79%) delivered their child at government health facility, 449(90.7%) delivered through normal spontaneous and their delivery was assisted by health professional**.**

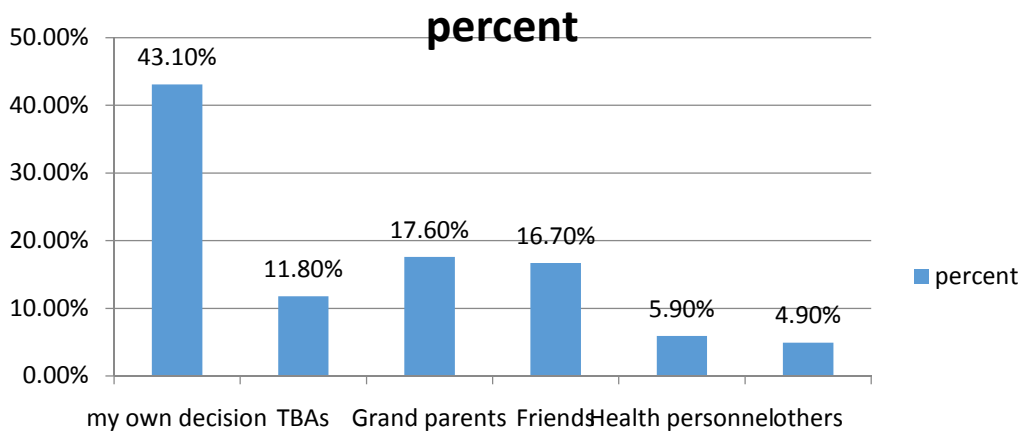
Table 2: distribution of mothers in their health care service utilization among mothers having children less than 24 months of age in Sodo Zuria district, southern Ethiopia, 2017

Variables	Frequency	Percentage (%)
Attending antenatal care (n=495)		
Yes	456	`92.1
No	39	7.9
Utilization of Antenatal care(n=456)		
1 times	75	15.2
2 times	108	21.8
3 times	144	29.1
4 and above	129	26.1
Get breast feeding Counseling(n=456)		
Yes	435	95.4
No	21	4.6
Place of Delivery (n=495)		
Health facility	391	79.0
At Home	104	210
Mode of Delivery(n=495)		
C/S delivery	43	8.7
Spontaneous delivery	449	90.7
Instrumental delivery	3	0.6
Delivery attendants(n=495)		
Health professionals	419	84.6
Traditional birth attendants	76	15.4

5.4 Prevalence of Pre-lacteal feeding practices

Out of 495 who had ever breastfed their index child;102 (20.6%) were reported giving pre-lacteal feeds to their infants within the first three days before giving breast milk. The most common types of pre-lacteal feeding were plain water; 38 (7.7%) followed by butter; 23 (4.6%). The major Reason for PLF were; mothers believed that breast feed only does not satisfy the new born; 32(6.5%), cultural practice; 25(5.1 %), To clean infant's bowel throat /Mouth;21(4.2%).Regarding the advice/ influence to provide the PLF were; mothers own decision; 44(8.9%), Grandparents; 18(3.6%) followed by advice from friends; 17(3.4%).

PLF practice for Child(n=495)	Frequency	Percentages %
Yes	102	20.6
No	393	79.4
Types of PLF		
Plain water	38	7.7
Cow milk	18	3.6
Water and ‘‘‘natra’’’	14	2.8
Butter	23	4.6
Others	9	1.8
Reasons for PLF (n=102)		
Breastfed only is not satisfy the new born	32	6.5
To clean infant’s bowel throat /Mouth	21	4.2
Maternal medical illness	8	1.6
cultural practice	25	5.1
To calm/soothe the baby	11	2.2
Others (specify	5	1.0



5.5. Colostrum avoidance.

Of the total respondents; 453(91.5%) were feed colostrum for their infants within the first five days after delivery and 42(8.5%) was avoided colostrum. Out of those who gave colostrum for their infants, 241(48.7%) was initiate within one hour, 170(34.3%) were initiate of breast feeding more than one hour. The main reasons for colostrum avoidance were maternal medical illness 20(4%), and insufficient breast milk 9(1.8%).

Table 4:Distributionof colostrum feeding practice and initiation of breast feeding among mothers of children less than 24 months of age in Sodo Zuria district, 2017

Variables	Frequency(n=495)	Percentage %
Mothers who avoid colostrums(n=495)		
Yes	42	8.5
No	453	91.5
Time of initiating breast feeding (n=453)		
<1hrs	241	48.7
1-6hrs	170	34.3
7-12hrs	14	2.8
Greater than 12hrs	28	5.7
Reasons for colostrum avoidance (n=42)		
Maternal medical illness	20	47.6
for the child growth	7	16.6
My breast has no milk	9	21.4
Cause Abdominal discomfort and diarrhea	6	14.2

Table5:Knowledge of mothers having children less than 24 months of age on pre-lacteal in Sodo Zuria district, southern Ethiopia, 2017

Variables	Frequency	Percentage (%)
Knowledge on risk with PLF (n=495)		
Yes	409	82.6
No	86	17.4
Information on problems of PLF		
Poor growth	74	14.9
Vomiting	107	21.6
Diarrhea	126	25.5
Infection	102	20.6

5.6. Factors associated with pre-lacteal feeding practice

The binary logistic regression analysis showed that family type, delivery attendants, breast feeding counseling; mothers who know the disadvantage of pre-lacteal feeding and mothers who avoid the colostrum were statistically associated with pre-lacteal feeding.

Mothers who live with extended family type were 10.5(1.754, 62.839) times more likely to give pre-lacteal feeding as compared to those mothers who live with nuclear family type. Mothers who didn't get breast feeding counseling were 6.612(2.68816.264) times more likely give pre-lacteal feeding as compared to those mothers who got breast feeding counseling.

Mothers whose delivery was assisted by traditional birth attendants were 0.342(.202, .579) times practice to give pre-lacteal feeding as compared to delivery assisted by health professional. Mothers who delivered at home were0.408(0.251, 0.662) times practice pre-lacteal feeding as compared to mothers who delivered at health facilities. Mothers who avoided colostrums were 9.072(4.605,17.872) times more likely to give pre-lacteal feeding as compared to those mothers who fed colostrum their infants. Mothers who didn't have knowledge on risks associated with pre-lacteal feeding were .527(.312, .889) times give pre-lacteal feeding as compared to those mothers who had knowledge on the risks associated with pre-lacteal feeding.

In multivariable logistic regression analysis mothers who live with extended family type, mothers who didn't get breast feeding counseling, and mothers who avoidcolostrums were statistically significant positive predictors of pre-lacteal feeding practice. Mothers who live with extended family type were 6.239(1.073, 36.275) timesmore likely to give pre-lacteal feeding as compared to those mothers who live with nuclear family type. Mothers who didn't get breast feeding counseling were 4.069(1.338,12.377) timesmore likely give to pre-lacteal feeding as compared to those mothers who got breast feeding counseling.Mothers whoavoided colostrum 10.358(3.670, 29.233)timesmorelikely to providepre-lacteal feeding as compared to those mothers who fed colostrums their infants **(Table 6).**

Table 6: Factors associated with pre-lacteal feeding practices among mothers of children less than 24 months of age in Sodo Zuria district, southern Ethiopia, 2017

Variables (n=495)	Giving pre-lacteal feeding		COR(95%CI)	AOR(95%CI)
	Yes	No		
Family type				
Nuclear family	65(15.3%)	359(84.7%)	1.00	1.00
Single parent family	10(38.4%)	16(61.6%)	1.266(.302,5.306)	0.513(0.044,5.977)
Extended family	23(71.8%)	9(28.2%)	**5.75(1.407,23.493)**	**6.239(1.073,36.275)**
Others	4(30.7%)	9(69.3%	.414(.124,1.383)	1.293(0.144,11.604)
counseling on BF(n=456)				
Yes	73(16.7%)	362(83.3%)	1.00	1.00
No	12(57%)	9(43%)	**6.612(2.688,16.26)**	**4.069(1.338,12.377)**
Place of delivery n=495				
At governmental HF	67(17.1%)	324(82.9%)	1.00	1.00
At home	35(33.6%)	69(66.4%)	.408(0.251, 0.662)	.745(.339,1.641)
Person delivered				
Health professionals	73(17.4%)	346(82.6%)	1.00	1.00
TBAs	29(38.15%	47(61.85%)	.342(.202,.579)	.800(.304,2.102)
Mothers knowledgeof PLF (n =495)				
Yes	60(15.2%)	333(84.8%)	1	1
No	26(25.4%)	76(74.6%)	.527(.312,.889)	.686(.290,1.619)
Avoiding colostrums (n=495)				
Yes	75(21.2%)	378(78.8%)	1.00	1.00
No	27(62.7%)	15(37.3%)	**9.072(4.605,17.87)**	**10.358(3.670,29.23)**

5.7Qualitative result

A total of 27 women were participated in the three focus groups, each comprising around 8-10 participants. In three different FGDs a valuable discussion was carried out regarding the four probing questions which can assess the perception and practice of pre-lacteal feeding, the type of pre-lacteal feeding and the reasons why mothers were doing so and any recommendations regarding optimal breast feeding promotion and avoidance of pre-lacteal feeding**.**

The results are presented as follows:

5.7.1. Mothers perception and practice of pre-lacteal feeding:

Regarding the pre-lacteal practice almost all participants approved that there is a practice of providing anything that the infant can drink before breast feeding is initiated. The participants also noted that "Pre lacteal feeds ("laachiyoobba/lanquwaa") aregiven immediately after delivery for the newborns because of various reasons which are commonin our community. From total of 27 participants more than half of the respondentsalso stated that "Pre lacteal feeds ("laachiyoobba/ lanquwaa") do not harm their infantsbut instead it facilitatesthe growth of infants''.

A33 year lactating mother statedthat ***"I heard that the pre-lacteal feeding is harmful tradition increases the risk of neonatal illness and mortality, but as long as my knowledge it is just negligible. From my experience, for all children I gave Pre-lacteal feeds ("laachiyoobba /lanquwaa"), yet, no strange things were happened''.***

The other 24 years old mother also said "this practice is not new and most of the mothers provide simply by considering the baby would be benefited." **(Participants #FGD 2)**

In contrary with the above idea , a 29 yearsold mother said that "I think the practice of pre-lacteal feeding ("laachchiyooga") was more prevalent when I was child. But now peoples have relatively good awareness regarding benefits of exclusive breast feeding and the pre-lacteal practice is not such much common (**Participants #FGD 1)**

5.7.2The type of pre-lacteal feeding and common reason why mothers were doing:

As majority of theparticipants agreedthat there are different types of pre-lacteal feedingprovided to the infants within the community for the different reasons. More often Water, ''natra'' with water, butter, cow milk are some pre-lacteals provided to the infants

fortheir purported/supposed advantages. Thereasons like, insufficiency of milk, cultural influence, for cleaning the bowel of the infants, for the purpose of calming an infant and to resolve abdominal pain were stated most frequently by the participants.

A 40 years old mother said that ***''in our community it is common that providing small amount butter to lubricate the bowel of the infant.'' (Participants #FGD 1)***

A 28 years old mother said that "Every infant should be provided "''natra''' "before starting breastfeeding, because itcleans the infants' bowel and preparing the infant for next feeding." (Participants #FGD 2)

A 27 years old mother said that: ".....my breast had no milk at the time of delivery until 2 days. The baby was hungry and so cried and I worried about my baby is he gone to be die. My husband convinced me to give sugar solution. Even though I did know the consequence I have no choice to avoid it." (Participant #FGD 3)

A 40 years old mother said that:"Cow milk, are not problem to our babies, we used to care the other elder children just like this. But our problem is lack of money to give variety of food to our babies after 6 months of age." (Participant #FGD2)

A 35 years old said that mother"we provide ''natra'' with water for infants for two basic reasons: the '' natra'' cleans their mouth and stomach and we give water because of the breast milk has salt in its content, thus, the baby will be thirsty." (Participants #FGD 1)

5.7.3. Special reasons that push mothers for giving pre-lacteal feeding

Some of the participants claimed that pre-lacteal feeding is dangerous for their infant but they gave it because of different reason. The participantsalso stated that there were occasions like CS delivery, serious sickness after delivery and some other uncontrolled events that urge the mothers to give pre-lacteal foods ("laachiyooba/lanquwaa").

A 36 years old mother said that: "..... I delivered my child through surgical operation on my abdomen. I wake up after one hour and I became exhausted and feel stubbing pain on my abdomen and I couldn't afford breast feeding at that time. My mama gave water with sugar until the first day to my baby. Though I did know that anything is not given to the

baby until 6 month, I didn't have a choice to give sugar solution because of exhaustion and surgical pain." (Participant #FGD 2)

The idea was also stated from 30 years old mother that she delivered at hospital through cesarean section and she couldn't feed her child abreast milk, rather her mother brought a sugar solution at a moment. (Participant #FGD 1)

5.7.4. Any recommendations breastfeeding promotion and avoidance of pre-lacteal feeding

From all three groups, the participants replied to this probing question that the pre-lacteal feedingcan influence exclusive breast feeding practice and promote colostrumsavoidance. Althoughpractice of pre-lacteal feeding is deep-rooted practice in our community, because of the reasons the participants recommendedthat all the mothers should not provide any thing to their newborns except breast milk.

A35 year's old mother said that ***"in my experience, I didn't give anything to my index child except breast milk and now thechild isvery well. So I advice everybody to not provide any thing to the child in the six months of the life except breast milk Participants* #FGD 3)**

***A 41years old mother said that:"As the health extension workers taught as, it is very important to not provide "natra"/butter to lubricate theinfant's bowel since it hinders the full appetite of the infant. Moreover other diseases like diarrhea and vomiting Participants* #FGD 2)**

6. Discussion

This study assessed and showed that breastfeeding practices were sub-optimal in the study area due to the wide spread introduction of Pre-lacteal feeding. The prevalence of pre-lacteal feeding in Sodo Zuria district is found to be (20.6%). This finding is lower when compared with study done by extracting data from the nationally representative 2011 Ethiopia Demographic and Health Survey (EDHS) and focused on a sample from child data, in Ethiopia which revealed that from the total sample of 576 clusters of 7692 children (28.92 %) were fed pre-lacteals and consistent with Oromia region (21.9%) and BenshangulGumuze region (23.4%) (8). The finding is also consistent with studies done in different countries; (23.1%) in Nepal,(18%) in the Upper East Region of Ghana ((4)34).

The prevalence of pre-lacteal feeding in Sodo Zuria district to be higher than the study done(11.7%) in Benin City, Nigeria, Arbaminchzuriaworeda, SNNPR**(**8.9%), Endertaworeda, Tigray(12.8), Jimma (12.6%) **,**(20, 25-27).This might be due to the difference in culture, the population character, and geographic distribution. On the other hand this study were so much lowerthan the studies done in differentcountries; (73.3%) Vietnam, (74.7%) Harari Region, Eastern Ethiopia and (48.3%) West Gojam zone Chandigarh, India (45.4%) (13,17,25,29).This could be due to the difference in the involved population (ethnicity), health service access, religious, their culture.

The qualitative approach of this study was also showed that almost all participants approved that there is a practice of providing anything that the infant can drink before breast feeding is initiated. Most frequently water, ‘’‘natra’’with water, butter, cow milk are some of the pre-lacteals that provided to the infants.This finding was supported by FGD as follows as; A 25 years old mother said that ‘’in our community it is common that providing small amount butter to lubricate the bowel of the infant.’’ (Participants #FGD 1) and a 32 years old motheralso said that’’’‘natra’’’ with water is provided for the purpose of resolving abdominal pain and to calm the infant” (Participants #FGD 3).The major Reason for PLF were; mothers believed that breast feed only does not satisfy the new born; 32(6.5%), cultural practice; 25(5.1 %), misperception of mothers that they provide PLF to clean infant’s bowel throat /Mouth;21(4.2%).

Regarding the advice/ influence to provide the PLF were; mothers own decision; 44(8.9%), Grandparents; 18(3.6%) followed by advice from friends; 17(3. 4%).The study further revealed that major reasons for the pre-lacteal feeding were the insufficient milk/ delayed lactation

(31.25%), elder's advice (29%) and family custom (25%). This finding is consistent in another study conducted in Nigeria by the Ibadin et al. [19] and Roy et al. [15] who found (51.1%) and (62.9%) mothers giving pre-lacteal feed due to insufficient milk respectively Those mothers who live with extended family type were 6.239(1.073, 36.275) timesmore likely to give pre-lacteal feeding as compared to those mothers who live with nuclear family type. This is congruent with the study conducted in Maharashtra, India on Pre-Lacteal Feeding Practices and its Determinants reported that Nineteen (61.3%) mothers out of 31 practiced feeding among extended family, 38 (42.7%)out of 89 given pre-lacteal feeding as compared to the 7 (23.3%) out of 30 amongst the nuclear family practiced pre-lacteal feed. Respondents from extended family aremore likely to practice the pre-lacteal feed due to thefamily customs. The relation between the type of family and the pre-lacteal feeding practices found to be statistically significant (p value<0.05)(19).

This study showed that mothers who didn't get breast feeding counseling were five times morelikely practice pre-lacteal feeding when compared to those mothers who got breast feeding counseling (AOR:4.069(1.338,12.377)). Study done in Maharashtra India is consistent with this study, as reported PLF practices found to be more among the respondents who did not receive counseling about the breast feeding as compare to those who received(19).The possible barrier to this service might be inadequate training regarding breast feed counseling, poor counseling skills, low confidence, limited understanding of breast feeding among health workers.Mothers whoavoidedcolostrums10.358 (3.670, 29.233**)** times more likely to give pre-lacteal feeding as compared to those mothers who fed colostrumstheir infants. This study is consistent with qualitative study conducted in the Raya kobo district showed thatcolostrums is thought to cause abdominal cramps and raw butter is thought to clean infants' stomachs. Therefore, untrained traditional birth attendants advised mothers to discardcolostrums and feed their infants with raw butter before breastfeeding initiation(38).And also consistent with community based study done in North Eastern Ethiopia showed that mothers who discardcolostrums were almost nine times more likely to practice pre-lacteal feeding compared to mothers who gavecolostrums to their children(46).

7. Strength and Limitations of the study

Strength of the study

- It was employed community based study and used adequate sample size.
- It was included both quantitative and qualitative methods.

Limitation of the study

- That information obtained from mothers having children less than 24 months of age is subject torecall bias.
- The study also shares the limitation of the cross-sectional study design

8. Conclusion

Pre-lacteal feeding is commonly practiced among mothers of children less than two year of age in Sodozuria district. This makes breastfeeding practices sub-optimal in the town. The most common types of pre-lacteal feeding were plain water; 38 (7.7%) followed by butter; 23 (4. 6%).The major Reason for PLF were; mothers believed that breast feed only does not satisfy the new born; cultural practice; misperception of mothers that they provide PLF to clean infant's bowel throat /Mouth; and regarding to influence/ advice to provide such type of PLF; their own decision was the dominant factors. Mothers who didn't get breast feeding counseling, mothers who live with extended family type and mothers who avoid colostrum were statistically significant positive predictors of pre-lacteal feeding practice.

Qualitative conclusion: Most of the participants were given Pre-lacteal feeding for their infants. Pre-lacteal feeding ''natra''' before starting breastfeeding cleaning the infants' bowel and preparing the infant for next feeding were the major reasons among the majority participants. Majority the participants believed that giving Pre-lacteal feeding is culturally inherited and reluctant to accept information from health professional.

9. Recommendation

The findings from this study are aimed to inform policy makers, planners, other health professionals, mothers/care givers and community leader about the Pre-lacteal feeding practices.

Therefore, the study makes the following recommendations aimed at avoiding Pre-lacteal feeding;

FOR FMOH:

Effective information, education and communication (IEC) strategies should be implemented by the MOH and Regional health bureau to apply a behavior change strategy at all levels: household, community, health facility, district and national, focusing on avoidance of Pre-lacteal feeding is recommended

The factors associated with Pre-lacteal feeding should be taken into account while designing an intervention likecolostrums feeding intervention should be integrated and, targeted, specific, and community oriented promotion of avoidance of Pre-lacteal feeding including women empowerment through education is recommended.

For HEWs:

Need to increase awareness about early initiation of Breast feeding and its importance foroptimal growth of children in the community. Need to give health education on EBF for the mother in the community.

Health personnel:

Need to provide appropriate counseling on breast feeding practice to the mothers withpracticaldemonstration of how to position the infant during breast feeding. Need to provide health education on breast feeding during ANC follow up, postnataldelivery, immunization and family planning.

For researchers:

Need to conduct further studies with different design to explore the underlying predictors of pre-lacteal feeding.

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11. ANNEXIES

Part I. Information sheet and consent form (English version)

Dear respondent my name is _____ I am here to collect data fora study which entitled with "Assessment of Determinants of Pre-lacteal feeding among mothers of children age less than 24 months old in Soddozuria district, Wolaita zone, southern Ethiopia." It is conducted byEsayasAydiko, who is a MSc in nursing student at Addis Ababa University, College ofMedicine and Health Sciences, Department of Nursing & Midwifery. The purpose of this study is to determine the prevalence of the Pre-lacteal feeding among mothers of children age less than 24 months old and to identify factors associated with it. The interview explores about yourbaby's pre-lactealfeeding practice and associated factors will require about 30 minutes to be completed. As a study participant, you will be benefited when the result is utilized.

The study will be carried out in the form of interview and do not cause any harm to you. Theresult will be displayed in general form not in individual. To achieve the study, your honest andgenuine participation by responding to the question prepared is very important and highlyappreciated. You have also a right to continue or to discontinue as a participant and there is noany influence that insists you to participate unless you are volunteer. We will proceed to the interview after you understand the following points

Objective of the study: to assess Assessment of Determinants of Pre-lacteal feeding among mothers of children age less than 24 months old in Soddozuria district, Wolaita zone, southern Ethiopia.

Benefit: The information generated from the study help decision maker and health care Professional fordesigning appropriate breast feeding education for the mothers.

Harm: The participants do not have any harm by participating to the study

Duration of the study and interview: The study conducted for two weeks. The interview may take about 30minutes.

Alternatives to participation: You do not have to take part in this research if you do not wish to do so.

Your participation/ non-participation, or refusal to respond to the questions will have no effect now or inthe future on services that you or any member of your family may receive from any

service providers. In between, you have the right to terminate from the study by any reason, related to the study or personal reason.

Confidentiality: We would like to assure you that the privacy will strictly be maintained throughout. Your responses to any of the questions will not be given to anyone else and noreports of the study will ever identify you. If a report of the results will be published, onlyInformation about the total group will appear.

Persons to contact: If you have any question you can contact the investigator at the following address and you may ask at any time you want.

EsayasAydiko

Tel: 0910685058

E-mail: esayasadako@gmail.com

Consent form: I have read the document stated above or it has been read to me by the dataCollector as I can understand all conditions stated above. Therefore, I have decided to:

1. Agree _____

2. Disagree _____ on participation of the study

And I confirmed it by signature _____

Name of the interviewer: _____Sign. _____ Date of interview_____

Name of the supervisor: _____ Sign. _____ Date_____

Thank You for willingness to participate

Part II: English version questioner

Section one: Demographic Data of Mother and child

S	Questions	Answers
101	How old are you?	1 18-.25 226-35 3. 36-45 4.> 46
102	What is your family type?	1.Nuclear Family 2 Single Parent Family 3 Extended Family 4.Other (specify)----------
103	What is your level of education?	1. Unable to read and write 2. Able to read and write 3. Primary education 4. Secondary education 5. College and above
104	What is your religion?	1. Protestant 2. Orthodox 3. catholic 4. Other (specify)----------
105	What is your current occupation?	1. House wife 2. Trader 3. student 4.Civil servant 5. Daily laborer 6 .Other (Specify)-----
106	How old is your (the index) child?	1.<1 months 2.1month-6month 3.> 6month
107	Gender of your (the index) child?	1. Male

		2. Female
108	Birth order of the index child	1. birth order 1 2. Birth order 2-3 3. Birth order 4-6 4. Birth order 7+
109	Birth spacing with the previous child	1. No previous birth 2. <24 months 3. >= 24 months

Section 2: INFANT FEEDING PRACTICES

S no	Questions	Answers
201	Did you give anything to drink and/or eat before breast milk within 3 days for your child, after delivery?	1.Yes 2.No
202	If question 201 is yes, what did you give? (Multiple responses are possible)	1. Plain water 2. sugar /Glucose water 3. Water and ‘‘natra’’’ 4. butter 5. Other (specify)----------
203	Why did you give anything to drink and/or eat before breast milk after delivery?	1. Breastfed onlyisnotsatisfy the new born 2. To clean infant’s bowel throat /Mouth 3. Maternal medical illness 4. cultural practice 5. To calm/soothe the baby 6. others (specify--------)
204	Who advised you to provide your child with such type of food/ fluid?	1. My own decision 2. Traditional birth attendant 3. grandparents 4. Friends 5. Health personnel

		6. Others specify----------
205	Did you feed colostrums (the first yellow milk) for this index during the first five days after birth?	1.yes 0..no
206	If yes, when did you initiate breast feeding (name of the index child) after birth?	1. < 1hrs 2 1-6 hrs 3 7-12 hrs 4 greater than 12 hrs
207	If question 205 is no why you avoid colostrum for your child?	1. Maternal medical illness 2. for the child growth 3.My breast has no milk 4. Cause Abdominal discomfort and diarrhea

Section 3; FACTORS INFLUENCING PRE-LACTEAL FEEDING PRACTICS

S no	Questions	Answers
301	Did you attend the ANC clinic during your last pregnancy?	1. Yes 2. No
302	If Yes, how many times did you attend ANC clinic during the last pregnancy?	1. 1 – times 2. 2- times 3. 3 times 4 times and above
303	Did you get breastfeeding unseling at ANC clinic?	1. Yes 2. No
304	Where did you give birth?	1. Gov't Health facility 2. At home
305	What was the mode of delivery?	1. CS delivery 2.Normal spontaneous delivery 3. instrumental

306	Who delivered you?	1. Health professionals 2. Traditional birth attendant
307	Do you know the disadvantage of pre-lacteal feeding?	1.Yes 2.No
308	If yes, could you mention?	1. Diarrhea 2. Vomiting 3. Poor growth 4.Interferes with breast feedingpractice 5. Others specify_____

Part III: qualitative questions and informed consent

Section one: Focus group discussion guideline and informed consent

Instruction for FGD:

1. . Greeting by saying:

Good morning /afternoon. First, I would like to thankyou for coming here by respecting my invitation.

2. Introduce your self

My name is _____ I came from AAU, Department of nursing and midwifery

3. Explain the aim of the study by saying that: - The reason I came here is to discuss you on Pre-lacteal feeding. The aim of the interview is to share your thought, experience opinion that you got from past parent and you developed through infant feeding practice. This helps to designing acceptable intervention by the community to decrease childhood illness problems and other continuing researches.

Verbal informed consent:

Read the following as it is: -After I and you share some of our experiences, I start to record and to take note on your experiences of pre-lacteal feeding practice. The FGD question is simply to guide our discussion and to go with the subjects. I take more time depending on generating of new ideas by our discussion. Our relation is in friendly way and I am new for the information you would give me .I promise for you that your name should never use in summery materials and data are kept not to passed to the third person .Information that you provide are remain confidential .You have the right to stop the discussion whenever you want to stop.

Would you be willing to participate in the discussion?

If yes, proceed

If no, Thank and stop discussion

Signature_____ (Signature of the moderator certifies that consent has been obtained verbally

Section Two: probing question for FGD

1. From your point of view how do you define giving fluid or semi solid before breast milk is initiated within 3 days for your child, after delivery?
2. After give birth, did you give any fluid or semisolid before breast milk within 3 days for your child?If yes, what did you give to the baby?
3. Why they are doing so? Is there any influence/pressure to do so? What are these pressures?
4. What is your opinion/recommendation regarding giving fluid or semisolid food for new born baby within 3 days of life?

Part V: wolaitalanguage Questionnaires

Gujoba 1: Makettiyaa xinaatetus Wolayitato Oyshata

Ha xinaatiyaa oyshshati giigidoy Sodo zuria Alaanaan 2 laytappe gaarssara deiyaa nattu ayeetta naee yellettosappe 3 galasan lanqquuwaa imiyo mezia xeliyaga.

1. Kiitaa woraqataa

Lo”o aqidetii/lo”o pe”idetii? taani Adissaba univerisitiyaan Dere asa payateta naagiyaa timiritiyaan naa”anto digiriyaa tamaride de”iyaa manta AYDIKO ESAYAS. Sodo zurian Ne qabalene ne keettay **qaadadan** doretiis. Oyshay **30 daqiiqaa** keena ekes. Ha xinaatiyaa shakiyoo gasuwaan nenane ne keettaa asa ayiba **qohoyika** gakena. Ne suntayne ne oonatetaa qoncisiyaabi aybika xafetena. Ha neepe taani demiyoo qofaa ha xinate xalalawu go”etetes. Ha oysha ne shaakiyoo gishawu niyoo **qanxxetiyaabi** aybine baawa shin ne imiyoo qofay kawoyinne ha yohoy xeeliyoogeeti payateta ooso keettaan imetiyaa **yiraa nattu payateta nagiyo ogiya eranawu** madees. Ha oyshaa shakkanagee ne **maata**. Shakike giiko ayi saatiyanine esaganageeka ne shene. Shakike giido ne maachay bonchetees. Ha nu hasayidoban **oyshay** de”iko oychana dandayaasa. Awudene intiyoo oyshay de’iko ha xinatiyaa gadawaa hagappe kaliyaa **yafaratun** oychana dandayaasa.

ESAYAS AYDIKO

Mobiliyaa payidoy 0910685059

Emailiyaa: esayasadako@gmail.com

2. Sheniyaa/maayetiyoogaa kuntiyoogaa

Ha ta xinaatiyaa halchchuwaa akeekadasa gaada taani nenaan hidootaa wotayis. Hegaa gishawu ha xinaatiyaa shaakanwu koyayii?

1. Ee
2. Akay

Ee giiko, galatayis ne lo”o sheniyawu.

WolaytatooyshshaaQabaliyaa _____

Heeraa/Mootaa_____

Oychchidogalasaa |__|__| Galassaa |__|__| aginaa |__|__||__|__| layttaa

Doomidowodiyaa |__|__| saatiyaa |__|__| daqiiqaa

Wurssidowodiyaa |__|__| saatiyaa |__|__|daqiiqa

Wurssettaayfiyaa |__| * Wurssettaayfiyaa:

Oychchiyaagaasunttaa _____ 1= kumiis

Kaali xeeliyagaa sunttaa _____ 2= pacay de'ees

Pilggiyaagaasunttaa _____ 3= ixaasu/koyabeeku

Komppiiteriyaangelisiyaagaasunttaa_____ 4= Haraa (qoncisa) _____

Kiitaa: oyshatusizaarotaimetidadoorotuppehaniyaagaaxaaxa.

Bakkaa 1: So buquraabane heeraa mootta hanotaa xeeliyaa oyshata			
P.d	Oyshaa	Zaaruwaa	Xaala
101	Ne layttaywoysee?	_____layttaa	
102	Intesoo Assaqoodayaappunee?	_____ asaydees	
103	Ne iiritiyaaxekkayaapunttee?	NababanawukkaXaafanawudanddayikke----------1 NababananneXaafanadanddayayiis---------- -----2 Koyroxekkaatamaaraas (1-8 gakkanawu)----------3 2ttoxekkkatamaraas (9– 12taagakkanawu)---------- --4 Kolojiyaannehegappebolla----------5	
104	Ne amanoyaybee?	Phenxxe----------1 Orttodokise----------2 Katolike ----------3 Haraa (qonccisa)----------9	
105	Ne oosoyaybee?	So macaasa----------1 Zal"anchcha ----------2 Tamaare----------3 Kawooosanchcha---------- ------4 Gala galaoosokoyaootayiis----------5	

		Haraa, (qonccisa)----------6	
106	Hana'aas/ees/ aappunaginee?	----------	
107	matumatetayaybee?	Atuma----------1 Macca----------2	
108	Hana'aay/iya/aappunttana'?	----------	
109	Hana'aa/iyoo/ ayrayelasimadaaykeenagam" awurssetana"aayeladii?	Hageekoyrona'aa/iyoo-------1 <24 agina----------2 ≥24 agina----------3	

Bakkaa 2: Yiirayyeletossara(3zuu gaalasagidon) lanqqisiyooMeeziyaaxeeliyaaoyshata

P.d	Oyshaa	Zaaruwaa	Xaala
201	Na'aayyeletido 3 lassanxanttappekoyromiyoobaa / iyoobaaimmadii?	Ee----------1 Akkay--------0 ⟶	eegikko pina
202	Oyshaa 201 eegiiko, ayiimadii? (issuwaappedarrozaarooykkahannes)	Geesha haataa----------1 Haatan maarido sukariyaa----------2 Haattanne xalotiyaa/naatiraa/----------3 Oysaa----------4 Haraa, (qonccisa)----------5	
203	na'aayyeletido 3uu galassanxanttappekoyromiyoobaa uyiyoobaa/ ayisimmadii?	Xantta xalalay yiira kaalisenna gisha--1 Yiirra ulluwa geesho gada----------2 Tana sakido gishawu----------3 Heeraa asaa meeze gidiyoo gishawu----4 Yiiray yeekenadan----------5 Haraa, (qonccisa)----------6	
204	Hageetamalatiyaamiyoobata / uyiyoobataimanadanoonenenazoriday?	Tarka maacas----------1 Meeziyaanyelisiyaara----------2 Ta azinay----------3 Ta lagetti----------4 Payatetaeranchchati----------5 Haraa, (qonccisa)----------6	

205	Hanggaraa (5 galasaagidon) na'aaxantadii?	Ee ----------1 Akkay----------0	
206	Eegiikohegaaawudedoomadii?	1 saatee gaakeenan ----------1 1-6 saatiyaa gakanaashiin----------2 7-12 saatiyaa gakanaashiin----------3 1 galasan----------4 2-3 galasan---------- ----------5 Haraa, (qonccisa)----------6	
207	Oyshaa 205 akkaygidiko, hanggaraa (koyroadileciishamalatiyaamaattaa) na'aaaysixantabeekii?	Tana sakido gishawu----------1 Yiiray eesuwan dicco gaada----------2 Xantay maaxenan ixxin----------3 yiraaUluwaa sakissaanna gaadda---4 Haraa, (qonccisa)----------5	

Bakaa 3: yiraayyelettosaarraxantaappekoyroushiyoogaa/ miziyogaadigiyaabataxeeliyaaoyshaa

P.d	Oyshaa	Zaaruwaa	Xaala
301	Hana'ashaarande'ayidashaaraasassiimetiyaahag gaazaaekkadii?	Ee----------1 Akay----------0	
302	Eegiikoaapputoekkadii?	Issitoo----------1 Naa'utoo----------2 Heezzutoo----------3 Oyddutoonnebolla------- -4	
303	Shaaraasassiimetiyaahaggaazaaimiyosanyiirana ataxantiyoozoriyaaekadii?	Ee----------1 Akay---- ----------0	
304	Wurssettana'aawaanyeladii?	Payyatetaakeettaan---------1 Sooni----------2	
305	Wurssettana'aaaybahanotaanyeladii?	Uluwaashukiin----------1 Aybikabaynansaroyelaas-------2 Haraa, (qonccisa)----------3	
306	Ooneenenamaaretisiday?	Payattetaaeranchchat----------1 Meeziyaanyelesiyaara---------2 Haraa(qonccisa)----------3	

307	Na’aayyeletido 3assanxanttappekoyromiyoobaa / uyiyoobaaimmiyoogawuqohoyde”ii?	Ee----------1 Akkay-------0	
308	Eegiiko, aybeeaybee?	Karaayes----------1 Cooshees----------2 Dichchaa digees----------3 Yiraay xanttaa surree xamenaadan ottees------—4 Haraa(qonccisa)----------5	