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

TIMELY INITIATION OF BREASTFEEDING AND ITS DETERMINANT FACTORS AMONG MOTHERS WHO HAVE LESS THAN 12 MONTHS OF AGE CHILDREN IN TIYO WOREDA, ARSI ZONE, OROMIA REGIONAL STATE, ETHIOPIA

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Acronyms

AAU-Addis Ababa University

ANC – Antenatal Care

AOR- Adjusted odds ratio

BFHI - Baby friendly Hospital Initiative

C/S- Cesarean section

CI- Confidence interval

COR- Crude odds ratio

EDHS – Ethiopia Demographic and Health Survey

HSDP IV – Health Sector Development Program IV

IYCF- Infant and Young Child Feeding

MDG – Millennium Development Goal

MFI- Master family index

PNC- Post natal care

SD- Standard deviation

SPSS- Statistical Package for Social Science

SRS- Simple random sampling

TIBF- Timely Initiation of Breastfeeding

WHO – World Health Organization

Abstract

Background: Timely initiation of breastfeeding is a recommended practice by the World Health Organization which says" initiate breastfeeding within one hour of delivery, though it is not a usual practice in Ethiopia. Untimely initiation of breastfeeding has negative effect on child health, survival, growth and development. Furthermore, timely initiation of breastfeeding has many advantages for the mother and the child. **Objective:** To assess timely initiation of breastfeeding and its determinant factors among mothers who have child less than 12 months of age in Tiyo woreda, Arsi Zone, Oromia region Ethiopia.

Methodology: A community based cross sectional study design was employed. Data was collected using interviewer administered pre-tested and structured questionnaire. A total of 386 respondents participated in the study. The data were cleaned, coded and entered into Epi-Data version 3.1 and then exported SPSS version 21windows for analyses. Logistic regression analysis was used to identify determinants of timely initiation of breast feeding and P value <0.05 was considered as statistically significant.

Results: A total of 386 mothers were interviewed, with a response rate of 96.6%. The prevalence of timely initiation of breastfeeding of in the current study is 67.3%. Mothers with formal education were more likely to initiate breastfeeding timely (AOR=4.509, CI: 1.084, 18.762). Mothers who gave birth at home were less likely to start breastfeeding timely than mothers who delivered at health institution with (AOR= 0.131, 95% CI: 0.049, 0.352). Advice about timely initiation of breast feeding provided to mothers immediately after delivery was independently associated with timely initiation of breastfeeding(AOR=3.710,95%CI:1.451,9.481).

Conclusions and Recommendations: The prevalence of timely initiation of breast feeding is below the target of millennium development goal IV. Formal education attended mother, mother with hospital admission immediately after delivery, place of delivery and advice for mothers on timely initiation of breastfeeding immediately after delivery were the independent predictors of timely imitation of breastfeeding. The woreda administration should give emphasis on increasing the formal education enrolment by women. More effort is expected from health extension workers and woreda health office to address the determinant of timely initiation of breastfeeding.

1. INTRODUCTION

1.1. Background of the study

Breast milk is the natural first food for babies. Early (within the first hour) introduction of breast milk to newly-born children immediately after delivery has numerous beneficial health effects (1, 2). Timely initiation of breast feeding has been recommended by the World Health Organization (WHO) since 1992(3). The WHO definition of timely initiation of breastfeeding is putting the infant to the breast within one hour of birth(4). Breastfeeding is one of the most effective ways to ensure child health and survival. Nearly three million babies die every year in their first month of life; from this, up to one half of all deaths occur within the first 24 hours of life which almost all are due to preventable causes, attributed to infections, like sepsis, meningitis and pneumonia(5).

This could be due to delayed initiation of breastfeeding because the risk of death as a result of infection increased with increasing delay in initiation of breastfeeding (6). If every child was breastfed within an hour of birth and continued breastfeeding up to the age of two years, about 800 000 child lives would be saved every year(7). Studies in Nepal and Ghana suggest that initiation of breastfeeding within the first hour could prevent 19-22% of neonatal death(8, 9). Infants who initiate breastfeeding within one hour of life are more likely to avoid prelacteal feeds and thereby have less chance of being exposed to pathogenic microorganisms(10).

Breast milk is widely acknowledged to provide the best and most complete nutrition for infants, with benefits to growth, immunity, development, and health(11). It regulate of body temperature and the blood glucose level (12). Breastfeeding immediately after delivery will also has advantage to the mother through facilitate placental expulsion and uterine contraction, reducing the risk of postpartum hemorrhage , prevent breast engorgement ,and reduces the likelihood of maternal breast and ovarian cancer later in life (13). Furthermore, early initiation of breastfeeding has been shown to be associated with a higher prevalence of subsequent breastfeeding. Study in rural Egypt showed that mothers

who started breastfeeding earlier were more long duration of breast feeding than who started breastfeeding within 2 hours of life of newborn(14).

The early breastfeeding initiation rates are not very encouraging in many parts of world despite of recommendations. Worldwide, only 43% of newborns are put to the breast within one hour of birth (15). For instance ,the prevalence of timely initiation of breastfeeding in some developing countries was documented as in Ghana (41%)(16), Sudan (54.2%)(17) Tanzania 46.1%(18) ,Jordan (49.5%) (19) and Nigeria(59.2%)(20).

Recognizing the importance of timely initiation of breastfeeding, the Ethiopian government had developed infant and young child feeding guidelines giving appropriate emphasis to key messages on timely initiation of breastfeeding in 2004(21). One strategy of National Nutrition Programme Implementing Sectors Declaration in Ethiopia is to improving nutrition through promoting of breastfeeding initiation within one hour of birth (22). There are diverse factors affect timely initiation of breastfeeding in Ethiopia; socio-demographic factors, obstetric factors and health service related factors and traditional beliefs (23).

The Ethiopian Ministry of Health (MOH) had targeted an increase in the proportion of newborn put to breast within the first hour of life to 92% by 2015 as one strategy to achieve HSDP IV to improve child survival but the Percentage of children who started breastfeeding within one hour of birth was 57% in town and 51% in rural areas only. Similarly the Oromiya regional state timely initiation of breastfeeding within one hour of live birth is 52.6(24). The studies done at different areas of Ethiopia indicate that the prevalence of timely initiation of breast feeding is 52.4%(25), 57.2%(26) and 87.0%(27).

1.2. Statement of the Problem of the study

Over 1 million children die each year on the day they born(28) so that the first day a baby born is the most dangerous time of life for new born. Among various reasons for the death, neonatal hypothermia that happen due to delayed initiation of breastfeeding(29) and infection; thought early initiation of breastfeeding(within one hour of birth) protects the newborn from acquiring infections and reduces newborn mortality(30). Initiation of breastfeeding within first one hour of birth is the first and most vital steps towards reducing infant and under five child mortality(9) because the neonate who initiated breastfeeding within one hour are less likely to die of neonatal sepsis than those who didn't(8). The risk of death as a result of infection increased with increasing delay in initiation of breastfeeding from one hour to day seven (31).

In developing countries alone early initiation of breastfeeding could save as many as 1.45 million lives each year by reducing deaths mainly due to diarrheal disorders and lower respiratory tract infections in children(32, 33);in contrast many women delay timely initiation of breastfeeding. In most regions of the world, fewer than half(43%) of all newborns are put to the breast within one hour of birth(34).The prevalence of timely initiation of breastfeeding in Asia, Africa, and Sab-Sahara Africa is 43%, 46% and 45% respectively(34).

Despite the Ethiopian Ministry of Health had targeted an increase in the proportion of newborn put to breast within the first hour of life as one strategy to improve child health, the 2011 EDHS showed that the proportion of children who were put to breast within the first hour of life as 52 %(24) which is even lower (69%) compared to 2005 EDHS(35). The Oromia regional state proportion of TIBF was 52.4% (24). In Ethiopia neonatal mortality rate was 37 deaths per 1,000 live births (27).If all babies started breastfeeding within one hour of live birth, it would reduce 22% of all neonatal deaths(16) which will contribute to the achievement of the Millennium Development Goal IV that contribute for the two-thirds reduction in child mortality. Timely initiation of breastfeeding are influenced by several factors: illiteracy(25, 36), being rural residents(25), home delivery(20, 25) , mothers who had not been following antenatal care (20) ,

cesarean section (36, 37) and cultures beliefs(25, 27). The study has shown that each day's delay in the start of breastfeeding led to a significant increase in infant deaths (16).

Though the studies conducted in Ethiopia concerning timely initiation of breast feeding are limited to urban areas and no study so far addressed the timely initiation of breastfeeding in the study area. Therefore, the intention of this study was to assess timely initiation of breastfeeding and its determinant among mothers of Tiyo Woreda, East Arsi Zone, Ethiopia.

1.3. Significance of study

The finding of this study could be used as literature for other researchers. It could also be used by policy makers while designing an intervention that improve timely initiation of breastfeeding strategies. Since child health nursing is a newly innovated program in our country, this research could contribute for development of both knowledge and practice of child health nursing and promote professional career. From the findings, professionals will understand the gap that exists on timely initiation of breast feeding and counsel the community based on the identified gaps. This study assessed means to promote enhancing and addressed hindering factors, and identified the interventions that support to increase the rate of timely initiation of breast feeding.

2. LITERATURE REVIEW

2.1. Over view of Breastfeeding benefits

Breastfeeding is the ideal form of infant feeding and is crucial for lifelong health and well-being. Breast fed babies gain nutritional and growth benefits , helps develop an enhanced immune system and resistance to disease (38, 39). The regulation of body temperature and the blood glucose level are more satisfactory in babies who had timely breastfeeding; both are important contributors to newborn deaths(12). In the 20-30 minutes after birth, the baby's suckling reflex is strongest, and the baby is more alert, so it is the ideal time to start breastfeeding. If the infant is not fed, then the reflex diminishes rapidly only to reappear adequately forty hours later (40). Neonatal immune system development depends on transfer of specific antibodies through colostrum and is impaired by prior introduction of non-breast milk feeds because the antibody content of colostrum is at its maximum during the first twelve postpartum hours(41). Breastfeeding soon after delivery has a laxative effect on the meconium which decreased reabsorption of bilirubin that reduces the appearance of jaundice(42). Successful establishment of breastfeeding also increases self-confidence and facilitates bonding mother with baby (43). Sucking and hand touching by babies has physiological effect on mother; this is stimulates oxytocin release, which is significant for facilitate placental expulsion, uterine contractions, milk ejection and reduction in postpartum bleeding (44).

2.2. Magnitude of Timely initiation of breastfeeding

As indicated in EDHS (2011) 52% of infants started breastfeeding within one hour of birth. This percentage is lower than EDHS 2005 which was 69%. Breastfeeding within one hour after birth was more common in urban areas (57%) than in rural areas (51%) (24). According to a cross-sectional study done in Goba woreda the prevalence of timely initiation of breast feeding was 52.4 %(25). Community based cross-sectional study done in Nigeria reveals the prevalence of TIBF within one hour of delivery 59.2% (20). A secondary analysis of cross-

sectional data in Tanzania shows that the rate of timely initiation of breastfeeding is 49.6 %(8). According to the classification of the WHO percentages of breastfeeding initiation in the first hour of delivery is as follow: poor (0–29%), fair (30–49%), good (50–89%) and very good (90–100%) (45).

2.3. Factors Associated to Timely initiation of breastfeeding

As indicated in EDHS (2011) the prospect that a child is breastfed in the first hour after birth increases with the mother's educational status. Nearly three children in every ten (27%) are given prelacteal feeds within the first three days of life , but he proportion of children who breastfed within one hour of birth does not vary significantly by type of assistance at delivery. The ever breastfeeding rate of the country (96%) and Oromia region (94.1%) and other regional states in Ethiopia ranging from 93% in Addis Ababa to 99% in Harari(24).

According to a cross-sectional study done in Goba woreda thirty two percent initiated breastfeeding within the period of 1 hour to 1 day and 12% of the mothers initiated breastfeeding after three days Factors significantly associated with timely initiation of breast feeding include: educational status , mother's residents (urban 73.5% and rural 47.3%,) and place of delivery (health institution 63.9% and home 48.1%) and post natal information or advice on breastfeeding (52%). Due to cultural influences 35.0% of mothers squeezed out and discarded the colostrum and 17.2% give prelacteal feeding (25).

A community-based cross-sectional study in Bahir Dar indicate the factors like, having antenatal care follow-up during last pregnancy and delivering vaginally were found to have significant association with early initiation of breast feeding, while delivered by cesarean section is hinder timely initiation of breast feeding. Parity of the mother also associated to TIBF which is primiparous44.1% and multiparous 55.9%. Twenty seven percent of mothers gave one or more prelacteal feed and 11.9% of the participants reported to have breast related problems that create difficulty in feeding their infants (27).

A cross sectional study carried out on knowledge, attitude and practice of postnatal mothers for early initiation of breast feeding in the obstetric wards of a

tertiary care hospital of vadodara city most common causes of delay in initiating breastfeeding were caesarian section and fatigue (29.7% and 21.1% respectively). Incidence of early initiation of breastfeeding in mothers less than 21 years of age was 29.4%, 24.6% in illiterate mothers and 25% in those delivering by caesarian section (46)

Community based cross-sectional study done in Nigeria revealed that Significant determinant in the initiation of breastfeeding within an hour of child birth were history of ANC and place of delivery; where mothers who had antenatal care (64.4%) higher than who had no antenatal care (35.6%) and women who delivered at the health facility (66.1%) were higher than who gave birth at the home (35.0%) (20).

A secondary analysis of cross-sectional data in Tanzania showed early initiation of breastfeeding within the first hour after birth was significantly lower among mothers who delivered at home (34%); those who were not assisted by health professionals (32.7%); residing in rural areas (42.2%). In contrast, there was a better early initiation of breastfeeding within one hour of birth among mothers from those who had a higher level of education (62.7%) and their partners had secondary and higher level of education (62%) , from urban areas (61.2%); who delivered at health facilities (57.7%)(18).

A cross sectional study conducted in Brazil indicated that the factors associated with breastfeeding initiation within the first hour of life: mothers who received prenatal guidance regarding the advantages of breastfeeding, vaginal delivery and full term pregnancy; but factors like delivering by a cesarean section and premature newborns were delaying the initiation of breastfeeding (37).

A study conducted in India found that the reason for delay in initiation of breast feeding, which was mother undergone Caesarean Section (50%), delivery complication (22.91%) and milk not produce immediately(12.50%)(47).

According to another cross-sectional study conducted in India timely initiation breastfeeding significantly associated with: antenatal counseling on breastfeeding received (47.8%) and did not receive counseling25.3%, delivered by vaginal route

(52%) and cesarean section (5.9%). Delayed initiation of breastfeeding was a significant association with prelacteal feeding(36).

2.4. Conceptual framework

Many studies in different parts of the world reviewed that timely initiation of breastfeeding is associated to different factors. For this study according to the literature review the main factors are identified as socio-demographic factors, health service related factors, obstetrics factors, culture and traditional beliefs. The next conceptual frame work illustrates the possible relationship among the variables under the study. It helps to summarize the determinant factors and to analyze the association between dependent and independent variables.

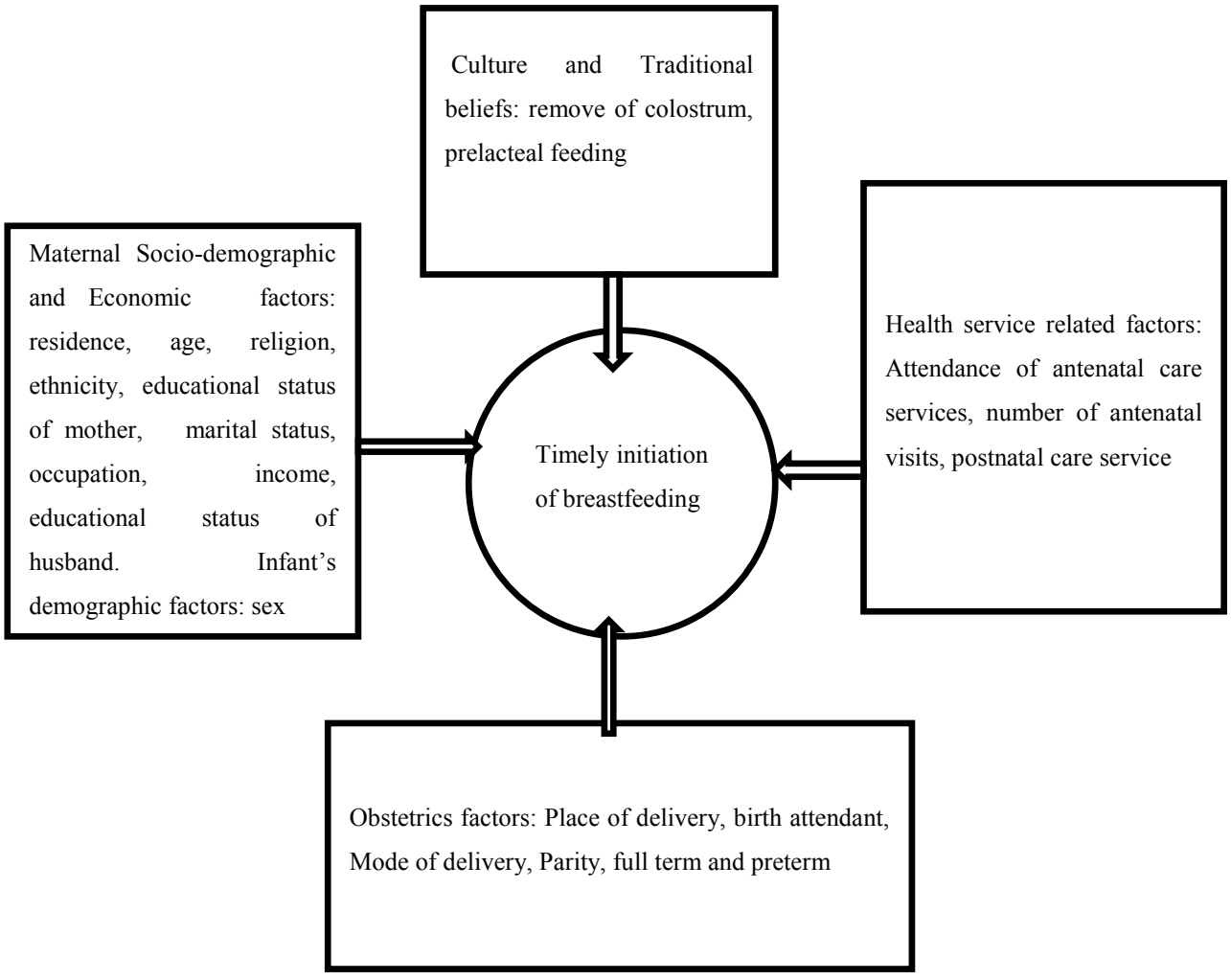

Figure 1 Conceptual framework for the determinants of timely initiation of breastfeeding developed by Principal Investigator

3. Objective of the study

3.1. General Objective of the study

- To assess timely initiation of breastfeeding and its determinant among mothers who had a child less than 12 months of age in Tiyo Woreda, Arsi Zone, Oromia region, Ethiopia in 2014.

3.2. Specific Objectives of the study

- To assess the magnitude of timely initiation of breastfeeding among mothers who had a child less than 12 months of age in Tiyo Woreda, Arsi Zone, Oromia region, Ethiopia.
- To identify factors affecting timely initiation of breast feeding among mothers who had a child less than 12 months of age in Tiyo Woreda, Arsi Zone, Oromia region Ethiopia.

4. Methodology

4.1. Study Area

This study was conducted in Tiyo Woreda, East Arsi Zone, and Oromia Region. Tiyo Woreda is located at 175 km from Addis Ababa to the south east of Ethiopia. There are 4 health centers, 18 health posts and 7 private clinics in the Woreda. Tiyo woreda is administratively structured into: Rural and urban kebeles, with 18 rural and 3 urban kebeles. The total population is 105,206 as projected from Central Statistical Agency Population Census 2007.There are a total of 4029 mothers who have a children less than 12 months years old in the woreda. The number of mother was calculated using the regional proportion of 12 months less years old children conversion factor which is 3.17% (48). The weather condition of the woreda is kola 39%, Dega35% and woinadega**17**% with an altitude of 1780- 4200m above sea level and annual rain fall of 720-1500mm.The dominant religions of the woreda are Orthodox Christianity and Muslims which are 58.5% and 40.24% respectively. Ethnic groups reported in Tiyo are Oromo (53.92%) and Amhara (37.63%).

4.2. Study period

The study was conduct from October 1st – November 3rd, 2014.

4.3. Study design

A Community based cross sectional study.

4.4. Population:

4.4.1. Source Population:

All mothers who had less than 12 months old children in Tiyo woreda.

4.4.2. Study population

All mothers who had less than 12 months old children in in the selected kebeles of Tiyo woreda.

4.5. Inclusion and Exclusion criteria

Inclusion criteria

Mothers who have less than 12 months of age children were included in study.

Exclusion criteria

Mothers who were unable to respond to the interview because of hearing impairment and communication problem, and who were critically ill and lived in the study area for the duration of less than six months were excluded from the study.

4.6. Sample size determination

To determine the number of mothers who were included in the study, the single population proportion formula was used based on the following assumption:

a) The level of confidence of the study 95%,
b) Margin of error is 5%
c) The proportion (P) is 52.4% which estimates the proportion of timely initiation of breast feeding (25).

Accordingly, by using the following single population formula of the sample size:

$$N_o = \frac{(Z_{\alpha/2})^2 * P * (1-P)}{d^2}$$

$N = (1.96)^2 \times 0.524(1-0.524) / (0.05)^2 =$ **384**

Since the study population is less than 10,000 which is 4029.

To get sample from the total population, we use correction formula. The exact sample size; therefore, is calculated as follows

$n_f = n_i * N / n_i + N$

Where n_i = calculated sample size

n_f= exact sample size

N= sample population

$n_f = n_i * N / n_i + N = 384*4029/384+4029=1547136/4413 =351$

Considering 10% non-response rate, the final sample size becomes **386**.

4.7. Sampling procedure

From the total 21 kebeles in Tiyo Woreda, 7(1 from urban and 6 from rural kebeles) were selected by using simple random sampling. The numbers of mothers who have less than 12 months of age children were identified from

Keeble's master family index (MFI) document before the study and sampling frame was prepared and household was selected by simple random sampling technique. The total populations of mothers who have children less than 12 months of age of selected kebele are 1146. If there were more than one mother who had a children age less 12 months living in the same house, then the mother with the youngest child was selected. Lottery method was used for mothers who have a child of the same age. For the eligible mother who was absent from the house at the time of data collection, revisit after a day was done and for those who were absent at second visit replacement were done.

Based on number of mothers who have less than 12month's old children, the total sample size was distributed for each kebele by using the probability proportion to size (PPS) sampling technique. For each kebele, to proportionate of the number of sample, participants were determined by using, $n=nf/N * ni$

Where ni= number of mothers who have children under 12 months old in each selected kebele.

nf = total sample size

N= Total number of mothers who have children under less than 12 months of age in selected kebeles.

n = number of respondents to be selected from each kebele.

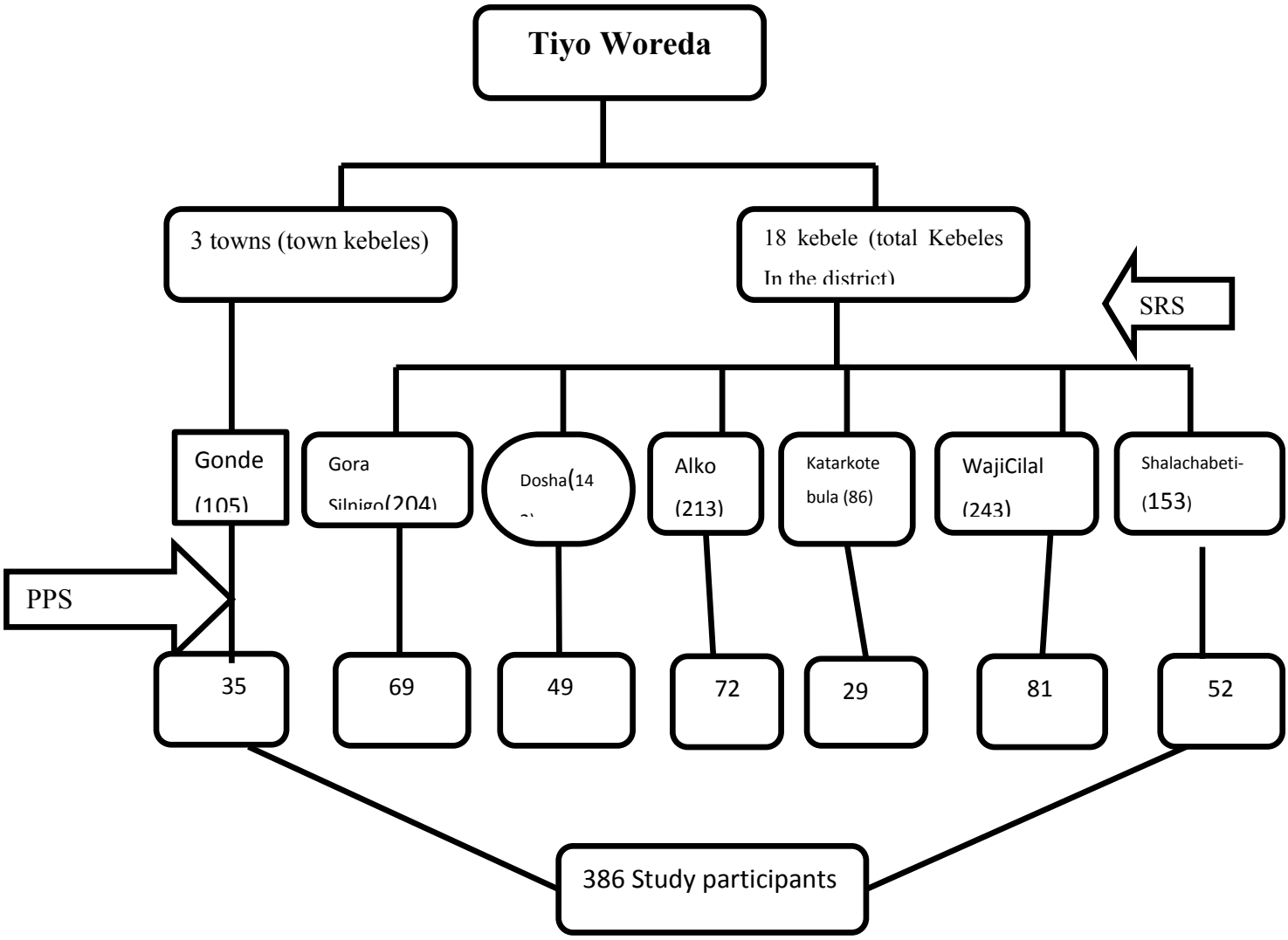

Figure 2 Schematic representation of sampling technique for the selection of mothers paired with under one year child from Tiyo Woreda, Arsi zone, Oromia regional state, Ethiopia, 2014.

4.8. Instruments and Data collection procedure

4.8.1. Instruments:

Questionnaire was adapted from Ethiopian demographic health survey (24), WHO (30) and other related published studies (25, 27). Questionnaire was translated from English to Afan Oromo by a translator and back to English by second translators (both health professionals) to check its consistency. Pre-testing was

done on 5% of the sample before the actual data collection on non-selected kebele and slight amendment on tool was made accordingly.

4.8.2. Data collection procedure

Face to face interview was conducted by trained health extension workers from October 1st – November 3rd, 2014.

4.9. Study Variables:

4.9.1. Dependent Variable: Timely initiation of breastfeeding.

4.9.2. Independent Variables:

Socio-demographic Factors- age, residence, educational status of the mother, and husbands, occupation and monthly income.

Obstetric factor- Place of delivery, birth attendant, mode of delivery and parity, full term and preterm baby.

Health service related factors -attendance of antenatal care services, number of antenatal visits, advice on TIBF by healthcare staff during ANC and mothers counseled on TIBF at PNC.

Traditional belief- removing of colostrum and prelacteal feeding

4.10. Operational and term definitions:

- ***Timely initiation of breast feeding*:** Initiation of breast feeding within one hour of birth (including one hour).
- ***Prelacteal feeding***-is the practice of giving liquids other than breast milk to a child during the period before the mother's milk give.
- ***Full t*erm**: is baby born at 37 and above weeks of pregnancy.
- ***Preterm***: is baby born before 37 weeks of pregnancy
- ***Prime- parity***: is defined as pregnant women who gave birth for the first time.
- ***Multi parity:*** is defined as pregnant women who gave birth for the second time or more.

4.11. Data Processing and analysis

The data were checked for completeness and consistencies during the data collection, then it was cleaned, coded and entered in to Epi-Data 3.1 version

(Epidata Association, Denmark) then exported to a computer using statistical package for social sciences (SPSS) windows version 21 (IBM Corporation 1989, 2012). Descriptive analysis was computed to determine frequency of the variables. Binary and multiple logistic regressions were used to identify factors that affecting early initiation of breast feeding; a corresponding p-value of <0.05 was considered to be statistically significant.

4.12. Data Quality Control

A training that focused on understanding the research question, sampling technique, data handling, ethical conduct, and quality of data collection was given for two days for the data collectors and supervisors. Each data collector checked the questionnaires for completeness before winding up their visit to each study participant and each questionnaire was reviewed daily by the supervisors and the principal investigator to check for its completeness and early corrections and cleaning of the data were made.

4.13. Ethical consideration

The study was conducted after getting ethical clearance from departmental review board of Nursing and Midwifery, College of Health Science, Addis Ababa University. Supportive letter was taken from University to Zonal Health Department. Explaining the purpose of the study, verbal consent was obtained from the participants. The respondents were having the right to respond fully or partially to the questionnaire. All the information given by the respondents was used for research purposes only and confidentiality and privacy was maintained by omitting the name of the respondents during data collection procedure.

4.14. Dissemination plan of the result

The results of this study will be disseminated or communicated to Addis Ababa University, Tiyo Woreda health offices, Arsi Zonal Health Department as well as Regional Health Bureau, local institutions and other concerned bodies through reports and publication on peer reviewed scientific journal.

5. Results

5.1. Socio-demographic characteristics of mothers

In this study, a total of 386 mothers whose children aged less 12 months were interviewed making the response rate 373 (96.6%). Concerning the residence, 341(91.4%) of the mothers were rural and about 128(34.3%) of the months were between the ages of 25 and 29 years with mean (SD) age of (27.03, ±5.62). Majority 183(49.1%) of the mothers were Orthodox Christians, followed by Muslims, 164 (44.0%. The largest ethnic group was Oromo 284(76.1%), followed by Amhara, 89(23.9%). Concerning educational background, more than two-third 253 (67.8%) of the mothers and 301(80.7%) of their husbands attended formal education. From those who attended formal education, 195(49.9%) of mothers joined primary education, and 177(47.5%) of their husbands had accomplished secondary school and above (Grade 9 and above). Relating to marital status, great majority 361(96.8%) of mothers married and the current occupation 359(96.2%) of the mothers were housewife. Out of the total, 164(44.0%) of mothers earn an average monthly income of ≤500 ETB with a median monthly income of 600.00 ETB. Concerning the infant characteristics, more than half 213(57.1%) were male (see table-1).

Table 1- Distribution of socio demographic characteristics of the study participants (n = 373), of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014.

Variable	Frequency (n=373)	Percent (%)
Residence of the mothers		
Urban	32	8.6
Rural	341	91.4
Age category mothers		
15-19	28	7.5
20-24	94	25.2
25-29	128	34.3
30-34	64	17.2
35+	59	15.8
Religion of mothers		
Orthodox	183	49.1
Muslim	164	44.0
Protestant	26	7.0
Ethnicity of the mothers		
Oromo	284	76.1
Amhara	89	23.9
Respondent Formal education		
Yes	253	67.8
No	120	32.2
Educational level of mothers		
Uneducated	120	32.1
Primary education	186	49.9
Secondary and above	67	18.0
Marital status of mothers		
Married	361	96.8
Other*	12	3.2
Occupation of mothers		
House wife	359	96.2
Other**	14	3.8
Husband formal education		
Yes	302	81.0
No	71	19.0
Husband Educational level		
Uneducated	71	19.0
Primary education	177	47.5
Secondary and above	125	33.5
Income (ETB) <500	164	44.0
501-1000	138	37.0
≥1001	71	19.0
Sex of child Male	213	57.1
Female	160	42.9

- single, widow and divorced** *- students, merchants and house maid***

5.2. Practice of timely initiation of breastfeeding

Almost the entire mother had been breastfeeding at least once in their life time to their youngest child among which, 251(67.3%) of them started breastfeeding within the first delivery hour while 122(32.7%) didn't. Out of the mothers who delay initiate breastfeeding 30.2% report reason due to fatigue. The detail reasons for delayed initiation of breastfeeding are showed on figer-3.

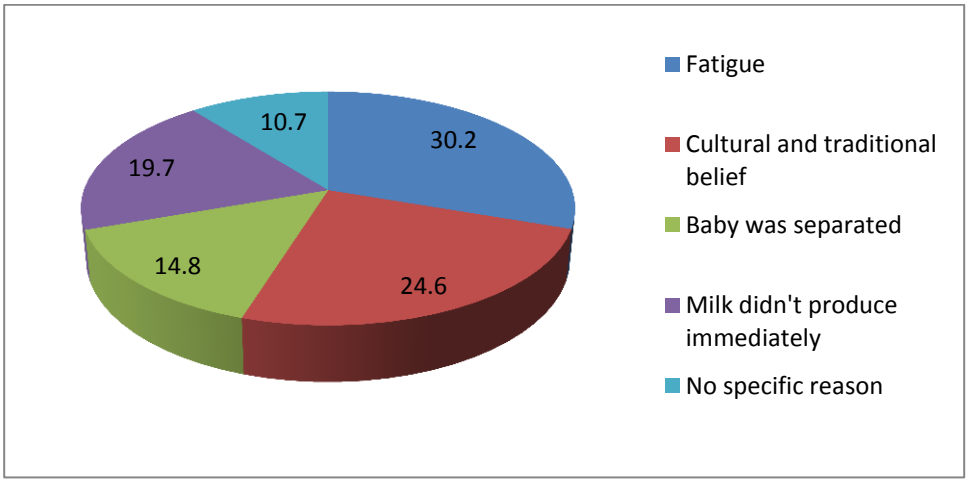

Figure 3 Reason why mothers did not start breastfeeding within one hour after delivery of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014.

5.3. Squeeze out and discard colostrum, and Prelacteal feeding practices

From all respondents, 32(8.6%) of the mothers squeezed out and discarded colostrum and out of these 15(46.9%) believed that colostrum caused abdominal cramp to their infant. Fifty five (14.7%) of the mothers were giving prelacteal feeding to their newborns other than breast milk ; 24 (43.6%) of them did this for the reason that their breast milk was insufficient for the newborns (see table-2). Out of the total mother who practiced prelacteal feeding, 40% of them used cow's milk (see figer-4).

Table 2 Prelacteal feeding and squeeze out and discard colostrum reason among mother of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014.

Variable	Frequency	Percent (%)
Squeeze out and throw away colostrum **Yes**	32	8.6
No	341	91.4
Reason of squeeze		
Colostrum causes abdominal cramp	15	46.9
To initiate Milk production	8	25.0
Dirty	9	28.1
Prelacteal Yes	55	14.7
No	318	85.3
Reason of pre-lactate		
Breast milk insufficiencies	24	43.6
To soften the stomach of the newborn	17	30.9
Colostrum causes abdominal cramp	14	25.5

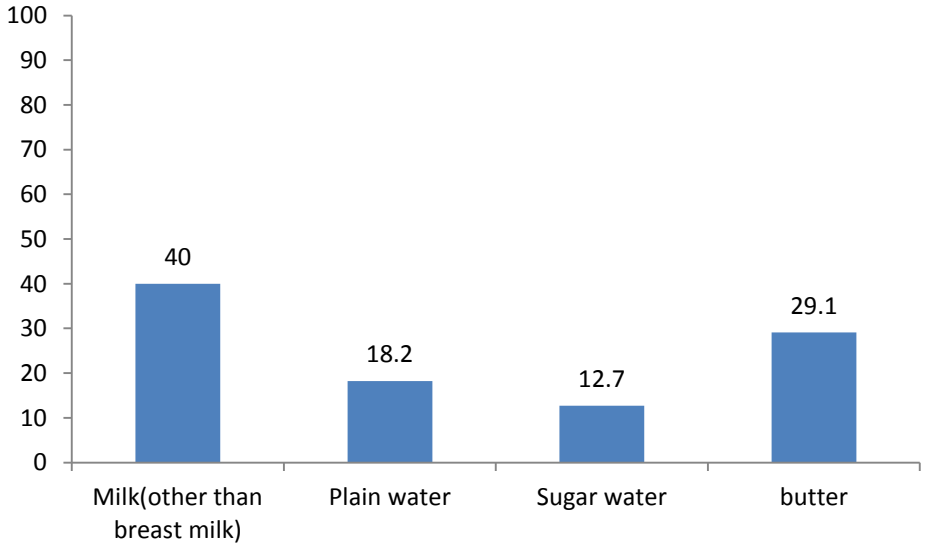

Figure 4 Mother used things during pre-lacteal feeding in Tiyo Woreda, Arsi Zone, Ethiopia, October 2014

5.4. Obstetrics and medical services related factors

All of the mothers were term and post-term relating to the current child pregnancy. One hundred ninety (50.9%) of the mothers had 2-4 parities. Majority 94.4% of mothers had reported the mode of delivery was spontaneous vaginal delivery (SVD) and 28(7.5%) of the mothers had history of hospital admission. From those who had history of hospital admission, 16(59.3%) of their infants admitted with them. Two hundred thirty five 235(63.0%) of the mothers had history of the ANC follow up, and out of this

145(61.7%) of mothers attended four and above ANC visits. Mothers who didn't get information/advice about timely initiation of breastfeeding during ANC visits were 185(63.6%). Concerning place of delivery, 221(59.2) of mother were delivered at health institution. Out of the 373 mothers, 221(59.2%) of them had got information/advice about timely initiation of breastfeeding immediately after delivery (see table-4).

5.5. Factors associated with timely initiation of breastfeeding

5.5.1. Bivariate Analysis

On Bivariate analysis, the socio-demographic characteristics were seen to have association with breastfeeding initiation within one hour including: age of the mothers, educational status, religion, their husbands' educational status and child sex. From the obstetric and health service characteristics: parity, mode of delivery, history of ANC visit, place of delivery and having information/advice on timely initiation of breast feeding during ANC visits and immediately after delivery.

5.5.1.1. Socio-demographic predictors of timely initiation of breastfeeding

From category of group age, 25-29 years of mothers were greater than two times more likely to start breastfeeding timely than those mothers whose age were 35 and above years (COR= 2.710 , 95% CI: 1.416 , 5.185). Mothers who attended formal education started breastfeeding within one hour of delivery were 2.8 times more likely to initiate breastfeeding than mothers who didn't attend formal education (COR= 2.763, 95% CI:1.750 , 4.362). Also, those their husbands attended formal education 3 times more likely to start early breast feeding as compared to those whose husbands didn't attend formal education (COR= 3.216 , 95% CI: 1.890 , 5.471). Mothers who attended secondary and above education 4 times more likely to initiate breastfeeding within one hour of delivery than uneducated mother (COR= 4.288, 95% CI: 2.087, 8.807). Mothers whose husband had secondary and above education level 4 times more likely to initiate breastfeeding as compared to mother who had married uneducated husband (COR: 4.290 , 95% CI: 2.286 , 8.051). Mothers who reported their infant sex were male 2 times more likely to start breastfeeding timely than mothers who had female infant (see table -3).

Table 3- Bivariate logistic regression analysis of socio-demographic predictors of timely initiation of breastfeeding among mothers of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014

Variables	Timely initiation of breastfeeding		
	Yes n (%)	No n (%)	**COR (95% CI)**
Residence of the mothers			
Urban	26(7.0)	6(1.6)	2.234(.894 , 5.581)
Rural	225(60.3)	116(31.1)	1
Age category mothers			
15-19	21(5.6)	7 (1.9)	2.710(1.000,7.339)
20-24	62(16.6)	32(8.6)	1.750(.899 , 3.405)
25-29	96(25.7)	32(8.6)	2.710(1.416,5.185)*
30-34	41(11.0)	23(6.2)	1.610(.782 , 3.316)
35+	31(8.3)	28(7.5)	1
Religion of mothers			
Orthodox	131(35.1)	52(13.9)	.756(.287 ,1.9 88)
Muslim	100(26.8)	64(17.2)	.469(.179 , 1.230)
Protestant	20(5.4)	6(1.6)	1
Formal education of mothers			
Yes	188(50.4)	65(17.4)	2.763(1.750 ,4.362)*
No	63(16.9)	57(15.3)	1
Husband formal education			
Yes	218(58.4)	83(22.3)	3.216(1.890,5.471)*
No	33(8.8)	39(10.5)	1
Educational level of mothers			
Uneducated	63(16.9)	57(15.3)	1
Primary education	133(35.7)	53(14.2)	2.411 (1.491, 3.897)*
Secondary education	55(14.7)	12(3.2)	4.288 (2.087 , 8.807)*
Husband Educational level			
Uneducated	33(8.8)	39(10.5)	1
Primary education	120(32.2)	56(15.0)	2.532(1.444 , 4.441)*
Secondary and above	98(26.3)	27(7.2)	4.290(2.286 , 8.051)*
Ethnicity of the mothers			
Oromo	188(50.4)	96(25.7)	.808(.481 , 1.358
Amhara	63(7.0)	26(16.9)	1
Marital status of mothers			
Married	244(65.4)	117(31.4)	1.490(.463 , 4.793)
Other*	7(1.9)	5(1.3)	1
Occupation of mothers			
House wife	243(65.2)	116(31.1)	1.571(.533 , 4.633)
Other*	8(2.1)	6(1.6)	1
Income (ETB) <500	110(29.5)	54(14.5)	692(.370 , 1.294)
501-1000	88(23.6)	50(13.4)	.598(.316 ,1.131)
≥1001	53(14.2)	18(4.8)	1
Sex of child Male	153(41.0)	60(16.1)	1.613(1.043 , 2.495)*
Female	98(26.3)	62(16.6)	1

***- p-value < 0.05**

5.5.1.2. Obstetric characteristics and service provided predictors of timely initiation of breastfeeding

Mothers who gave birth spontaneous vaginal delivery were 4 times more likely to initiate breastfeeding within the first one hour of delivery than who gave birth through cesarean-section (COR= 4.455, 95% CI:1.630 , 12.175). Regarding history of hospital admission, mothers who had history of hospital admission immediately after delivery less likely to initiate breastfeeding within the first hour of delivery as compared to those who didn't admit to hospital (COR=0.168, 95% CI :0.072 , 0.394). Mothers who had history of ANC follow up at least once were 2.7 times more likely to initiate breastfeeding within one hour of delivery than those who had no ANC visits during current child pregnancy (COR=2.687, 95% CI: 1.078 , 6.699). Mothers who got information /advice during ANC visit about timely initiation of breastfeeding were 7 times more likely to initiate breastfeeding within one hour of delivery than mother who didn't get information/advice about timely initiation of breastfeeding (COR= 7.470, 95% CI: 4.605 , 12.117). Place of delivery had association with timely initiate breastfeeding. Home delivered mothers were less likely to initiate timely breastfeeding as compared to those who had institutional delivery (COR=0.045, 95%CI: 0 .025, 0.080). Mothers who had been advised about timely initiate breastfeeding immediately after delivery were 14 times more likely to initiate breastfeeding than mother who were not advice (COR=14.897, 95% CI: 8.695 , 25.522)(seen table-4).

Table 4- Bivariate analysis of timely initiation of breastfeeding with related variables among mothers of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014.

Variables	Timely initiation of breastfeeding		
	Yes n (%)	No n (%)	**COR (95% CI)**
Parity			
1	88(23.6)	43(11.5)	2.210(1.148 ,4.255)*
2-4	138(37.0)	52(14.0)	2.866(1.526 , 5.385)*
5+	25(6.7)	27(7.2)	1
Mode of delivery			
Spontaneous Vaginal	245(65.7)	110(29.5)	4.455(1.630 , 12.175)*
Cesarean-section	6(1.6)	12(3.2)	1
Mother Hospital admission			
Yes	8(2.1)	20(5.4)	.168(.072 , .394)*
No	243(65.2)	102(27.3)	1
ANC follow-up			
Yes	194(52.0)	41(11.0)	2.687(1.078 , 6.699)*
No	57(15.3)	81(21.7)	1
Number of ANC visit/s			
1	7(1.9)	6(2.6)	.291(.130 , .649)*
2-3	57(24.3)	20(8.5)	.975(.523 , 1.815)
4+	130(55.3)	15(6.4)	1
Advised about TIBF during ANC			
Yes	60(25.6)	5(2.1)	7.470(4.605, 12.117)*
No	134(57.0)	36(15.3)	1
Place of birth			
Home	49(13.1)	103(27.6)	.045(.025 , .080)*
Health institution	202(54.2)	19(5.1)	1
Home delivered assist			
Trained traditional birth attend	19(12.5)	35(23.0)	1
Untrained traditional birth ate	22(14.5)	43(28.3)	.942(.441 , 2.013)
Relative/Friend/Neighbour	8(5.3)	25(16.4)	.567(.215 , 1.494)
Advised TIBF after delivery			
Yes	197(52.8)	24(6.4)	14.897(8.695, 25.522)*
No	54(14.5)	98(26.3)	1

- P value<0.05

5.5.2. Multivariate Analysis

Those variables which were observed to have association in bivariate analysis were considered for multivariate analysis by controlling confounding effect of each variable with TIBF in the model. Mothers attended formal education, mother's hospital admission history, and place of delivery and mothers got information/ advice about timely initiation of breastfeeding after delivery had independent significant association with timely initiation of breastfeeding. However, maternal age, mothers level of education , husband educational level and status , child's sex, parity, mode of delivery, history of ANC follow-up, number of ANC visit/s and mothers advised about TIBF during ANC were not statistically associated with timely initiation of breastfeeding.

As observed from multivariate analysis, mothers who attended formal education were significantly associated with timely initiation of breastfeeding ($P<0.05$). Those mothers who attended formal education were more likely to initiate breastfeeding timely than mothers who didn't attend formal education (AOR=4.509, 95% CL: 1.084, 18.762). Mothers who admitted to hospital immediately after delivery were less likely to initiate breastfeeding timely as compared to those who did not admit to hospital immediately after delivery (AOR=0.0340, 95% CI: 0.007, 0.159). Place of delivery was statistically associated with timely initiation of breastfeeding ($P<0.001$). Mothers who gave birth at home were less likely to start breastfeeding timely than mothers who delivered at health institution with (AOR= 0.131, 95% CI: 0.049, 0.352).

Likewise, advised mothers about timely initiation of breast feeding immediately after delivery were independently associated with timely initiation of breastfeeding ($P<0.05$). Mothers who were advised about timely initiation of breast feeding immediately after delivery were 3.7 times more likely to initiate breast feeding timely than those who didn't get advice/information about timely initiation of breastfeeding immediately after delivery (AOR=3.710 , 95% CI: 1.451 , 9.481) (see table-5).

Table 5- Multivariate Analysis of factors associated with timely initiation of breastfeeding among mothers of Tiyo Woreda, Arsi Zone, Ethiopia, October 2014.

Variables	Timely initiation of breastfeeding			
	Yes n (%)	No n (%)	**COR (95% CI)**	AOR (95% CI)
Age category of mothers				
15-19	21(5.6)	7 (1.9)	2.710(1.000,7.339)	.703 (.099 , 4.984)
20-24	62(16.6)	32(8.6)	1.750(.899 , 3.405)	.645(.172 , 2.424)
25-29	96(25.7)	32(8.6)	2.710(1.416,5.185)*	2.975(.801, 11.047)
30-34	41(11.0)	23(6.2)	1.610(.782 , 3.316)	.697 (.155 , 3.146)
35+	31(8.3)	28(7.5)	1	1
Formal education of mothers				
Yes	188(50.4)	65(17.4)	2.763(1.750 ,4.362)*	4.509(1.084,18.762)*
No	63(16.9)	57(15.3)	1	1
Husband formal education				
Yes	219(58.7)	83(22.3)	3.216(1.890,5.471)	1.489 (.425 , 5.213)
No	32(8.6)	39(10.5)	1	1
Educational level of mothers				
Uneducated	63(16.9)	57(15.3)	1	1
Primary education	133(35.7)	53(14.2)	2.411(1.491,3.897)*	.286(.070 , 1.166)
Secondary and above	55(14.7)	12(3.2)	4.288(2.087, 8.807)*	.330(.084 , 1.290)
Husband Educational level				
Uneducated	32(8.6)	39(10.5)	1	1
Primary education	121(32.4)	56(15.0)	2.633(1.497 , 4.632)	1.133(.497 , 2.423)
Secondary and above	98(26.3)	27(7.2)	4.424(2.350 , 8.326)	2.434(.050 , 3.426)
Sex of child				
Male	153(41.0)	60(16.1)	1.613(1.043 , 2.495)	1.850 (.712 , 4.809)
Female	98(26.3)	62(16.6)	1	1
Parity				
1	88(23.6)	43(11.5)	2.210(1.148 , 4.255)	3.133(.494 , 19.880)
2-4	138(37.0)	52(13.9)	2.866(1.526 , 5.385)	2.393(.573 , 10.002)
5+	25(6.7)	27(7.2)	1	1
Mode of delivery				
Spontaneous Vaginal	245(65.7)	110(29.5)	4.455(1.630, 12.175)	3.656 (.522 , 25.596)
Cesarean-section	6(1.6)	12(3.2)	1	1
Mother Hospital admission				
Yes	8(2.1)	20(5.4)	.168(.072 , .394)	.034 (.007, .159)*
No	243(65.1)	102(27.3)	1	1
Antenatal care follow-up				
Yes	194(52.0)	41(11.0)	7.470(4.605 , 2.117)	.232 (.004 , 13.653)
No	57(15.3)	81(21.7)	1	1
Number of ANC visit/s				
1	7(3.0)	6(2.6)	.291(.130 , .649)	2.828(.466 , 17.185)
2-3	57(24.3)	20(8.5)	.975(.523 , 1.815)	1.470(.528, 4.089)
4+	130(55.3)	15(6.4)	1	1

Advised on TIBF during ANC				
Yes	60(25.5)	5(2.1)	2.687(1.078 , 6.699)	1.643(.422 , 6.395)
No	134(57.0)	36(15.3)	1	1
Place of birth				
Home	49(13.1)	103(27.6)	.045(.025 , .080)	.131 (.049 , .352)*
Health institution	202(54.2)	19(5.1)	1	1
Advised TIBF after delivery				
Yes	197(52.8)	24(6.4)	14.897(8.695,25.522)	3.710(1.451 , 9.481)*
No	54(14.5)	98(26.3)	1	1

- P value<0.05

6. Discussion

In this study, the percentage of breastfeeding initiation within the first hour of delivery was 67.3%. This is considered "good" result, according to the classification of the WHO which was the percentages of breastfeeding initiation in the first hour of delivery as poor (0–29%), fair (30–49%), good (50–89%) and very good (90–100%) (45). This finding was congruent to study from Bahir Dar city which was 68.5% (49). It was higher when compared to the study conducted in Sudan 54.2% (17), Tanzania 46.1% (18) and Nigeria 59.2% (20). This might be due to cross-cultural difference. Similarly, this finding was higher when compared to EDHS 2011 Oromia region 52.4% (24) and Bale Goba 52.4 % (25). This ***encouraging*** result could possibly be due to higher proportion of mothers who had history of institutional delivery and who got information / advice immediately after delivery which could be the important services delivery point to establish timely initiation of breastfeeding. In addition, majority of them delivered via spontaneous vaginal delivery which could help them to initiate breastfeeding early. In contrast, the result of this study was lower than study done in Nekemte town 88.5% (50). This might be due to the respondent's residents' difference where majority mothers in this study were rural. The main reasons for mothers delaying in initiating timely breastfeeding within one hour of delivery were fatigue, cultural and traditional beliefs and milk did not produce immediately.

World Health Organization guideline of infant and young child feeding recommends that all new born should start breastfeeding within the first hour after delivery and feeding of colostrum is encouraged. However , the current study showed that 32(8.7%) of mothers did not give the first milk (colostrum) to their new born but rather squeezed and discarded it before breastfeeding the child. This finding was better than studies done in Bahir Dar city which was 33.5% (49) , Bale Goba 35.0% (25) and Axum town 45% (51). The main reasons, as explained by mothers who did not giving colostrum were giving colostrum caused abdominal cramp, dirty and milk did not produce immediately. This indicates that mothers were having misconception about the importance of first milk.

About 14.7% of mothers practiced prelacteal feeding to their infants in this study. The result is lower than national figure which was 27% (24) , Bahir Dar city 26.3% (49)

and Vidarbha Region of Maharashtra, India 29.3% (46). Despite the encouraging result, none of the mothers initiated timely breastfeeding to their new born from those practiced prelacteal feeding in this study. The contemporary finding showed that breast milk insufficient 43.6% was the commonest reason reported by mothers , followed by soften the stomach of the new-born 30.9% and colostrum cause abdominal cramp (25.5%) , but study conducted in Mekelle traditional/cultural 35.1% was the commonest followed by breast milk insufficiency 27% and caesarean-section delivery 18.9% (52). From the prelacteal food used for prelacteal feeding, as mother reported the most frequent in this study was milk/ rather than mother breast milk/, followed by butter and plain water. In contrast to this result, study done in Bahir Dar city showed that plain water 48.6% was the commonest prelacteal food, followed by butter 34.9% and fresh animal milk 12.8%(49).

In this study, four factors were identified as predictors for breastfeeding within the first hour of life for new-born: mother attended formal education, mother hospital admission immediately after delivery, place of delivery and advice for mothers on timely initiation of breastfeeding immediately after delivery. Those mothers who attended formal education were more than four times more likely to start breastfeeding timely as compared to those mothers who didn't attend formal education. This result was in agreement with studies conducted in Bale Goba, Ethiopia (25), Tanzania (18) and India (45). Those mothers who delivered current child at home were less likely to initiate breastfeeding early than those mothers who delivered at health institution. This finding was consistent with those of other studies conducted in Tanzania (18), Nigeria (20) and Bale Goba; Ethiopia (25).This might be due to the fact that health institution delivery is the best source of information for early initiation of breastfeeding. However, result obtained from Mekelle , Ethiopia inconsistent with this result that mothers who delivered at home were 3.7 times more likely to initiate breastfeeding within one hour of delivery as compared to those who delivered at the health institution (52). EDHS 2011 indicated that home delivery has direct relationship with timely initiation of breastfeeding (24).

Another determinant factor for delay of timely initiation of breastfeeding identified in this study was maternal hospital admission immediately after delivery which agrees

with studies conducted in India (20) and Turkey (53) that confirm maternal hospital admission immediately after delivery had association with delay initiation of breastfeeding. One of the possible explanations for this is that hospital admitted mothers were unwilling to initiate breastfeeding due to their poor health status.

There is positive association between mothers who had information immediately after delivery regarding timely initiation breastfeeding. Mother who had information about timely initiation of breastfeeding immediately after delivery were 4 times more likely to start timely initiation breastfeeding than those mother who did not receive information/advice (AOR=3.775, 95% CI: 1.527 , 9.334). This result is in agreement with the study conducted in Bale Goba, Ethiopia (25) and Brazil (37). This might be related to the fact that mothers received to breastfeeding information/counselling immediately after delivery which is the most appropriate time for delivering key messages about breastfeeding.

7. Strengths and Limitations

Strengths:

Recall bias was reduced through an exclusion of mothers who had children above one year but other study used mother who had children less than two years. This may result in under- or overestimate of the true prevalence of early initiation. Time of data collection was also convenient for a mother where they were not busy by agricultural work.

Limitations

One of the limitations of this study was that because it was cross sectional, the cause–effect relationship of different variables with timely initiation could not be assessed. The other was that in order to obtain more information from the study participants, it was good if qualitative data collection approach were considered besides the quantitative one.

8. Conclusions

This study revealed that the prevalence of timely initiation of breastfeeding is encouraging. However, it is still lower than HSDP IV target. Significant figure of mothers tend to introduce pre-lacteal foods and, squeeze out and discard colostrum's due to cultural/ traditional beliefs and none of them initiate timely breastfeeding. From those mothers who had history of ANC visits, low percentage got /advice about timely initiation of breastfeeding. Formal education attended by mothers, maternal hospital admission immediately after delivery, place of delivery and advice on timely initiation of breastfeeding after delivery for a mother were the independent predictors for timely initiation of breastfeeding.

9. Recommendations

The woreda administration should give emphasis on increasing the formal education enrolment by women. Health extension workers should address the traditional and cultural belief relating to TIBF and create awareness benefit of TIBF for the community. Health workers who work at MCH department address about TIBF during ANC and midwifery who work at delivery room give advice to mother immediately after delivery about TIBF. Woreda health office should give regular supportive supervision to health extension in order to alleviate traditional malpractice relating to TIBF. These concerned bodies should focus on those factors hindering timely initiation of breast feeding that were identified under this study. On top of this, misconception on colostrum and prelacteal feeding are the big concern that needs an attention.

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Annexes

Annex II: Information

Information sheet and consent form is prepared for mother who are participated in research project, a cross-sectional study assessing timely initiation of breastfeeding and its determinant factors among mothers of Tiyo woreda, East Arsi Zone.

Name of Principal investigator: Bedasa W/michael

Name of the organization: Addis Ababa University, College of Health Sciences, Department of Nursing and Midwifery.

Name of the Sponsor: Addis Ababa University

This information sheet and consent form is prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study. The investigator is final year MSN graduate student from the department of nursing, college of health science, Addis Ababa University, and one advisor from Addis Ababa University.

Purpose of Research Project

I am hopeful that this research will contribute for reducing mortality and morbidity of child by identifying the factors that affect TIBF.

Procedure

To assess timely initiation of breastfeeding and its determinant among mothers of Tiyo woreda, east Arsi Zone. You are invited to take part in this project. If you are willing to participate in this project, you need to understand and tick yes the agreement form. Then after, you will ask the question by the data collector to give your response. Your name don't write on the questionnaire and all your responses and the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 30 minutes. We hope you will participate in the

study for the sake of the benefit of the research result. There is no risk in participating in this research project.

Benefits: If you participate in this research project, there may has no direct benefit to you. Your participation to help us in assessing timely initiation of breastfeeding and its determinant among mothers who has child less than 12 months. Ultimately, this will help us to identify the gap and take the appropriate intervention by the authorized stakeholder.

Incentives: You will not be provided any incentive or payment to take part in this project.

Confidentiality: The information collect from this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. In addition, it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to refuse or withdraw:

You have full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish, without losing any of your right.

Persons to contact: If you have any question to ask, please contact

Name: **Bedasa W/michael**

Tel: **+251-912167790**

Email = bedasawold@gmail.com

Annexe-III: English Version Participant Consent and Questionnaire

Consent (Verbal Consent) form

My name is. ---------- (Interviewer)

I am working with a graduate student researcher from Addis Ababa University, College of Health Sciences, Department of Nursing and Midwifery. This is a study to be conducted with the objective of to assess timely initiation of breastfeeding and its determinant among mothers. You are one of the women who have been selected randomly to participate in this study. Therefore, you are kindly requested to participate in this study and provide the information required from you. I would like to ask you a few questions if I may, but you can refuse to answer any question I ask. You may end the interview at any time. You can also refuse to participate in the study entirely. Your refusal will not restrict you from obtaining the required medical care when you need. The interview will last approximately 30-45 minutes. Your responses will be kept confidential and there will be no way of linking your individual responses to the final results of the study findings. I would like to inform you that the responses that you provide to the questions are very essential, not only for the successful accomplishment of the study, but also for producing relevant information which will be helpful in the planning and implementation of intervention to delay initiation of breastfeeding.

Given all the above information, may I Proceed with the questions?

Yes; ----proceed with the interview No; ---- thank her and End.

If you have any question, you can contact the following person with these addresses

Bedasa W/michael (Mob No0912167790) (Email: bedasawold@gmail.com

Name of interviewer: _____Signature _____ Date: _____

Questionnaire code ----------Kebele ---------- House number----------

Instruction: - Circle the responses for questions with alternatives and write for open ended questions on the space provided.

Section 1: Background information of the Mother and the child

Background information of the Mother			
S.No	**Questions**	**Alternative answer**	**Skip**
Q101	What is your age?	Age in completed years_____	
Q102	What is your religion (now)?	Muslim Orthodox Protestant Other specify_____	
Q103	What is your ethnicity?	1. Oromo 2. Amhara 3. Other(specify	
Q104	Have you ever attended formal school?	1. Yes 2. No →	Q106
Q105	If yesQ104, what is the highest grade you completed?	Grade _____	
Q106	What is your current marital status?	1. Never married 2. Married 3. Divorced 4. Widowed 5. Other(specify	
Q108	Have your husband ever attended formal school?	1. Yes → 2. No	Q109
Q109	What is the highest class your husband completed?	Grade ----------	
		. Employed	

Q110	What is your current occupational status?	Business women Daily labourer Student House wife House servant Other (specify	
Q111	What is your average monthly income? **Probe for approximate amount**	_____Birr/month _____Birr/year	
Background information of the infant			
Q112	Sex of Child	Male female	

First, I want to ask you few questions about you and your youngest child

Section 2: ***Now I would like to ask you some questions which may need little memorization related to the time at which you had initiated breastfeeding and related question.***

S.No	Questions and filters	Code categories	Skip
Q201	Have you ever breast-fed your child?	Yes No →	Q301
Q202	If yes Q 201, How long after birth did you first put your child to the breast?	Within one hour After one Hour Don't Remember	
Q203	If answer Q202 is after one hour, what was the reason?	Fatigue Baby was separated Cultural and traditional beliefs I thought I would not have sufficient milk secretions No specific reason	
	Did you squeeze out and throw	Yes	

Q204	away the first milk (colostrum)?	No →	Q206
Q205	If No Q204 is yes, what was the reason?	Colostrum causes abdominal cramp To initiate Milk production Dirty Other specify----------	
Q206	Had your baby given anything to drink/eat before breast milk give?	Yes No → Don't Remember	Q209
Q207	If Yes to **Q206,** what was the reason?	Breast milk insufficiencies To soften the stomach of the newborn Colostrum causes abdominal cramp Other specify----------	
Q 208	If Yes to **Q204**, what was your child given to drink in the first three days? **Circle all liquids mentioned**	Milk(other than breast milk) Plain water Sugar or glucose water Fresh butter Other (Specify)……..…	

Section 3*: In this section I would like to ask you specific questions about the conditions, occasions or some other factors which might prevent or promote you to timely initiate breastfeed your youngest child successfully*.

Section 3A: Questions to asses obstetrics and medical factors			
S.No	**Questions and filters**	**Code categories**	**Skip**
Q301	What was the duration of the pregnancy of your youngest child?	Completed months_____	
Q302	Parity	No of parity _____	
Q303	In which way did you give birth to your youngest child?	Through vagina (Normal) By oppression (C/S)	

Q304	Have you been admitted hospital immediately after delivery from any illness?	Yes No Don't Remember	
Q305	Had your child been sleeping with you while you were admitted?	Yes No Don't Remember	
Section 3: Questions to assess Health service related factors/practice			
Q306	When you were pregnant with your child did you go to a health facility for antenatal care?	Yes No	
Q307	If yes to **Q306**, how many times did you visit?	No of visits----------	
Q308	If yes to **Q306,** has you ever been informed/ advised about timely initiation of breastfeeding during antenatal care?	Yes No	
Q309	Where did you give birth to?	Home Health institution	
Q310	If you deliver at home who assisted the delivery?	1. Trained traditional birth attendant 2. Untrained traditional birth attendant 3. Relative/Friend/Neighbour 4. No one Other(Specify	
Q311	Have you ever been informed/ advised about timely initiation of breastfeeding after delivery?	Yes No Don't Remember	

This is all what I want to ask you. Thank you for spending your time and valuable information you gave us. Do you have any question that I can address for you

Supervisor Name_____Signature _____ Date _____

Latii IV–Waraqaa Odeeffannoo

YuniversitiiFinfinnettimuummeeNarsiingii.

Maqaakoo_____QorannooYuunivarsitiiFinfinneettihojjatamaajiru kanmata-dureenisaa "Haatiakkumadeesensaa'aatokkokeessatiharmaahosiistu fi akkahosiisuhinjalqaabneewantootagufuuittita'ani'' odeeffannoofunaanuudhaafan as dhufe. Qorannookanaafisinfilatamtaniittu.Kanaafuu, eeyyamakeessanargachuukoodurseeodeeffannooga'aargachuuqabdu.Innis, akkaarmaangadittikanibsameta'a.

Kaayyoonqorannichaa

KaayyoonqorannookanaaodeeffannoonHaatiakkumadeesensaa'aatokkokeessatiharmaahosiistu fi akkahosiisuhinjalqaabneewantootagufuuittita'ani'funaanudhaa.

Namoota Qorannicha irratti hirmaatan

Hadholiinqoranchaairrattihirmaatakaneenda'imaanwaaggatokkoo fi isaagadiiqabaan fi gondootafilaatamnikeessaattiargaamaanta'aanikaniincaaraisaangaheedhaa..

MiidhaafiBu'aaqorannichaa

Miidhaa

Qorannichikangaggeeffamugaaffiifdeebiiqofaanwaanta'eefmidhaaqamaasta'esammuukessanirrattiwaanfiduhinhinjiru.
Akkasumas,odeffannooisinhinbeekneirrattideebilaachuufhindirqisiifamtan.

Bu'aa

Qorannoo kana kessatti hirmachuu keessaniif kaffaltiin isinii kennamu hin jiru. Karaa biraa garuu qorannoo kana keessatti hirmaattanii odeeffannoo kennuun keessaan fayyaa da'imaani fooyyessuu keessatti eddoo ol'aanaa qaba.

Iccitii qabuu yookiin eeguu

Odeeffannoon isin laattan eenyutti iyyuu darbee saaxila hin ba'u. Maqaan keessan qorannoo kana keessatti hin barreeffamu.

Mallattoo Eeyyamaa

Qorannoo kana keessatti hirmaannan keessan fedha keessan duwwaa irratti murtaa'a. Qorannoo kana keessatti hirmaachuufis ta'e dhiisuuf mirga qabduu. Gaaffii hin beekne deebisuuf hin dirqisifamtan.

Dhuma irratti cimseen isin galateeffachuun barbaada. Galatooma!

Maqaa qorannoo gaggeessaa: **Badhaasa W/mika'eel Bilbila: 0912167790**

E-**mail: bedasawold@gmail.com**

IRB Contact Address: Tel: 0115538734 E-mail: aaumfirb@yahoo.com

Yunvarsiitii Finfiine

Kollejjii Saaynisii Fayyaa

Muumme eNarsiingii fi Miid-wayfarii

LatiiV: Hiikaa Afaan Oromo Guca waliigaltee fi Gaafile

Guca waliigaltee

Akkaam jirtu? Ani Maqaan koo _____ jedhama. Qo'annaahaatiakkumadeesen saa'aatokkokeessatiharmaahosiistu fi akkahosiisuhinjalqaabneewantootagufuuittita'aniodeeffannoofunaanuudhaafan as dhufe.Qo'annaankunaanaaTiyokessattihojjatamaajira.

Isinimmooqo'annaakanaaffilannoocarraadhaantaasifameenfilatamtaniijirtuu.Kaayyoonqo'annichaasaababootahaatiakkumadeesseensaa'aatokkokeessattiharmahosiisusababahinjaalqabneefaddaanbaasudha.Innikunammo tattaaffiimootummaanbiyyakeenyaafayyaadaa'immaniifooyyessudhaaftaasisaajirukeessattigaheeol'aanaaqaba. Qo'annaa kanarratti hirmaachuu keessaniin miidhaan isinirra gahu tokkolee hin jiru. Akkasumas qo'annaa kanarratti hirmaachuu keessaniif faayidaan isin har'a ykn boru kallattiidhaan argattan hin jiru. Haata'umalee odeeffannoon isin har'a nuuf laattan fulduraaf fayyaa da'imaani fooyyessuu keessatti eddoo ol'aanaa qaba. Gaafiifi deebiin keenya daqiiqaa 30 hanga 40nutti fudhachuu danda'a. Maqaan hirmaataa kamiyyuu waan hin barreffamneef qo'annaa kanarrattii hirmaachuu keessan namuu hin beeku. Yeroo barbaaddanitti gaafii fi deebii waliin taasifnu addaan kutuu nidandeessu. Akkasumas gaafii deebisuu hinbarbaanne dhiisuu nidandeessu.

Haala oddeffannoo armaan oliitiinqo'annaa kanarratti hirmaachuudhaaf hayyamamoodhaa?

1. Eyyee: ... itti fufii 2. lakki : .... galatonfadhuuti dhabii

Wantiifa isiniif hintanee yoo jiraatee lakkofsa bilbilaa armaan gadiitiin gafachuu nidandeesu.

Badhaasaa W/mikaa'el (lakk. Mobiyyili 0912167790) (Email: bedasawold@gmail.com)

Qajeelfama: **Filaannowwaan irratti marsuu fi iddoo duwaa irratti guuti.**

Koodii gaafilee_____ Ganda_____ _____Lakk. Manaa_____

Maqaa nama odeeffannoo funaanuu: _____

Mallatto_____Guyyaa_____

Kutaa 1A: Odeeffannoo Haadhaafi daa'imaa

OdeeffannooHaadhaa			
Lakk.	Gaafilee	Filaanno	utaali
101	Umriinkeessanmeqaa?	_____(waggaadhan)	
102	Amantiinkeessanmaali?	Ortodaksii Musliima Pirotestaantii Kanbira (ibsi) _____	
103	Sabnikeessanmaali?	Oromo Amaara Kanbira (ibsi)_____	
104	Barumsaidileebarattaniijirtuu?	Eyyeen Lakki →	G106
105	Yoodeebniilakk. 104 '**Eyyeen'**ta'eehangakutaameqaabarattan?	_____	
106	Dubbisuufi barreesunidandeessuu?	Eyyeen Lakki	
107	Haalli fuudhaaf heeruma keessani amma akkami?	Heerume Hinheerumne Lubbunhinjiran Wal-hiiknee	
108	Abbaanwarraakeessanbarumsaidileebarataniijiruu?	Eyyeen Lakki →	~~G110~~
109	YoodeebiinLakk. 108	_____	

	‘**Eyyeen’**ta’ehangakutaameqaabaratan?		
110	Ammaa hojiin keessan maali?	Hadhaawarraa Barattuu Daldaltuu Hojjeettuuhumnaa Hojjeettuumanaa Kanbira(ibsi) _____	
111	Galiin keessan ji’aan meeqa? Tilmaama	_____Qar.	
Kutaa 2B. OdeeffannooDaa’imaa			
112	Saallidaa’imaakeessaniimaali?	Dhiira Durba	

Kutaa-2ffaa:

kanattiansuudhaangaafileeyeroodaa’imakeessanjalqabaharmahosiisuujalqaabdanii fi kanbiroonisingaafadhaa.

Lakk.	Gaafilee	Filanno	utaali
201	Daa’ima keessan harma hoosistee beektaa?	Eyyee Lakki →	G203
202	Yoodeebniikeessalakk. 201 ‘**Eyyeen’**ta’e, akkummadeesenyeroohaamamniiboodaharmaahosiisujalqaabdee?	Sa’aatokkoonduraa Sa’aatokkoonbooda Hinyaadadhu	
203	Yoo deebni keessan lakk. 202; saa’aa tokkoon booda ta’esababni isaa maali?	Dadhaabeeture Maati keessaa namnii hin hosiisin waan naanjedhaniif Di’imniinaaraaddanbaheeture Harmikooannaanhinbahuujedheewaanan yaadef Kan biro(ibsi)_____	
204	Annaan harma keessan isa duraa /silgaa/ eelmitani gadii naqxaani jirtu?	Eyyeen → Lakki	G301

205	Yoo deebnii kee lakk.204 '**lakki'**ta'e, sabaabni isaa maali?	Silgidaa'imaawaangaaramuruuf Garaachidaa'imaasilgaadanda'eewaanhi ndaayneef Xuraawaawaanta'ef Kanbira (ibsi)_____	
206	Da'immaa keessan osoo haarma hinhosiisin waan biraa laataniif jirtu	Eeyyem Lakki Hinyaadadhuu	301
207	Deebnilakk.206 eeyenyoota'e ,sabaabniisa?	Annaanikoogahaawaanhintaneef Garaachadaa'imaalafiisuf Silgidaa'imaawaangaaramuruuf Garaachidaa'imaasilgaadanda'eewaanhi ndaayneef Kanbira(ibsi)_____	
208	Deebni lakk.206 eeyyenyoota'ee , maallataaniif	Annaani / kanhadhaanalaa./ Bishaanqulquulu Bishaansukkaaraqabu Dhaadhao'aa Shaay Dhaangala'ookudraa Kanbira(ibsi)_____	

Kutaa 3ffaa:

Kutaakanakeessattigaafileeatiakkadaa'imaakeesaa'aatokkooduraharmahosiisuja lqaabduuisiingodhaaniyknisiindhowwaniinwaalqaabattaaniinisingaffaadhaa.

Kutaa 3A: Gaafileulfaa fi fayyummaanwalqabatan			
Lakk.	Gaafilee	Filaanno	Utaali
301	Ji'ameeqattideessan	_____	
302	Ulfaakeemeeqaffaadha	_____	
303	Haalakamiindeessan?	Karraaqaamasaalaa Baqaaqsaadhaan (CS) Kan biro (ibsi)_____	

304	Akkumadeessaniindhukkubsaattaniihospitaalacii ftaniiturtanii?	1. Eyyeen 2. Lakki →	G306
305	Yoodeebiinlakk. **306'Eyeen'**ta'e, daa'imnikeessanisiinwaliinciiseejiraa/jirtii?	1. Eyyeen 2. Lakki	
Kutaa 3B: Gaaffilee tajaajila argatun wal qabatan			
306	Yerooulfaadaa'imaakanaa ,tajaajlaulfaanduraahordoofteaniijirtaanii?	Eyyeen Lakki →	G308
307	Yoodeebiinlakk. **306 'Eyyeen'**ta'e, sii'aameeqaaf?	_____	
308	Yoodeebiinlakk. **306 'Eyyeen'**ta'e, yeroosanawaa'eeharmasaa'atiintokkoonduraaa kkuumadeessniinhossiisuakkaqabdanisingorsa niijiru?	1. Eyyeen 2. Lakki	
309	Daa'ima kana eessattideessan?	Manatti Giidduu gala fayyaatti →	G310
310	Yoo manatti deessan, enyutu isin deessise?	Warraleenji'aaniiaadaadhaandeessisa n Warra aadaadhaan deessiisan kan hinleeji'in Ollaa/hirriiyootta/firroottankoo Eenyumtuu	
311	Akkumaadeessaniin,waa'eeharmasaa'atiitokko onduraahosiisuakkaqabdanisingorsanijiru?	Eyyeen Lakki	

Gaaffiinaniqabuhanganuma.Waanyerookeessannaaflattaaniiodeeffannobarbaachisaanaa kennitaniifbaay'eeisingalateefadha.Gaaffiinakkaisiniibsubarbaddanjiraa?

Maqaato'aatta:_____mallattoo:_____guyyaa_____