Clinics in Mother and Child Health
ISSN: 2090-7214
OPEN ACCESS Freely available online
Research Article

Knowledge, Attitude and Practice Towards Colostrum Feeding Among Antenatal Care Attendant Pregnant Mothers in Goba Referral Hospital, Bale Zone, Oromia Region, Southeast of Ethiopia

Debebe Wordofa, Fikadu Nugusu Dessalegn, Tilahun Ermeko Wanamo*

Department of Public Health, Madda Walabu University, Bale Goba, Ethiopia

ABSTRACT

The role of colostrum in promoting growth and development of the newborn as well as fighting with the infection is widely acknowledged. In Ethiopia, there are differences in cultures in the acceptability of colostrum and the prevalence of colostrum feeding. Although, breastfeeding is a common practice in Ethiopia, there are difference on awareness, attitude and practice of pregnant mothers regarding colostrum.

Objective: To assess the knowledge, attitude and practice towards colostrum feeding among antenatal care attendant pregnant mothers in Goba Referral Hospital, Bale Zone, Oromia Region, Southeast of Ethiopia.

Methods: Institutional based cross sectional descriptive study design was conducted among 275 pregnant mothers in in Goba Referral Hospital, Bale Zone, and Oromia Region, southeast of Ethiopia. Simple random sampling technique was used to select study participants. Data was collected using structured interviewer administered questionnaires. The data was entered and analyzed by using Statistical Packages for Social Sciences (SPSS) version-20.0. Descriptive statistics; frequency and percentages were calculated, and chi square test was computed to see association between some socio-demographic variables, and knowledge, attitude and practice. p-value<0.05 was used to declare presences of association. The result was presented by frequency tables, charts, graphs and percentage.

Result: A total of 275 mothers participated in this study with the response rate of 100%.Among the study participant 235 (85.5%) were knowledgeable and 40 (14.5%) were not knowledgeable. 69.8% of mothers initiate breast feeding within the first one hour after delivery. Majority of the mothers 202 (80.4%) had positive attitude towards colostrum. Majority mothers 190 (69.2%) gave colostrum for their last child and the remaining (30.8%) were discard colostrum's. Majority of the respondents 156 (57%) had information about colostrum from different source like Television (TV) 66 (42.3%), health professionals 59 (37.8%), radio 11 (7.1%) and relatives 3 (1.9%). Educational level, place of residence, monthly income, place of delivery, accessing information, presence of Antenatal care and postnatal care had association with practice of colostrum feeding. Number of children, antenatal care and accessing information had association with knowledge about colostrum feeding. Age, residence, educational level, number of children and accessing information had association with attitude towards colostrum feeding.

Conclusion and recommendation: Even though mothers' knowledge and attitude seems higher still gaps were seen clearly. Mothers' practice is not satisfactory because mothers believe that colostrum's as it is dirty part of milk, forbidden in culture and it cause abdominal cramp and diarrhea. It is recommended to set strategies to promote colostrum feeding.

Keywords: Colostrum feeding; Knowledge; Attitude and practice; Antenatal care

INTRODUCTION

Colostrum is the first milk produced by the mammary glands of mammals in late pregnancy just prior to giving birth and continuing through the early days of breastfeeding [1]. Colostrum is very rich in proteins, carbohydrates, vitamin A, and sodium chloride, but contains lower amounts of lipids and potassium than normal milk [2]. It also encourages the passage of stool. This helps to clear excess bilirubin which is produced in large quantities at birth and helps prevent jaundice. It contains various immunoglobulin like IgA (reactive to Escherichia coli virulence associated proteins) [3], Immunoglobulin Gamma (IgG) and

Correspondence to: Tilahun Ermeko Wanamo, Department of Public Health, Madda Walabu University, Bale Goba, Ethiopia, Tel: +251909648032; E-mail: tilahunjimma2008@gmail.com

Received: October 08, 2021; **Accepted:** October 22, 2021; **Published:** October 29, 2021

Citation: Wordofa D, Dessalegn FN, Wanamo TE (2021) Knowledge, Attitude and Practice Towards Colostrum Feeding Among Antenatal Care Attendant Pregnant Mothers in Goba Referral Hospital, Bale Zone, Oromia Region, Southeast of Ethiopia. Clinics Mother Child Health. S10:001.

Immunoglobulin Mu chain (IgM). Other immune components of colostrum are lactoferrin, lysozyme, lactoperoxidase, complement and Protein Rich Peptide (PRP). It helps to fight against various viral infections like herpes viruses and Human Immune Virus (HIV), bacterial and viral infection which are difficult to treat, various cancer, asthma, allergies and autoimmune diseases. It helps to reduce one of the leading causes of death in our country like diarrhea and Acute Respiratory Infection (ARI).

There are many other qualities of colostrum that make it truly unique. Colostrum contains high amounts of sodium, potassium, chloride and cholesterol. This combination is believed to encourage optimal development of the infant's heart, brain and central nervous system. This may account for the prolonged secretion of colostrum in mothers who deliver their babies prematurely. All these components offer premature infants the best chance for the optimal development of their fragile organs [4].

The colostrum feeding has significant effects for immediate and future health of newborn infants especially in developing countries such as Ethiopia that have high rates of malnutrition, infectious diseases and mortality for children under the age of 5 years [5]. Health benefits and emotional bonding for mother and child is associated with lower infant morbidity and mortality rate, and better growth and development of the baby.

Unfortunately colostrum feeding is not given to newborn for various societal myths and misconception. In a false belief of gutty honey, sugar and glucose were fed as pre-lacteal feeds. These manmade problems affect directly and indirectly health of newborn infants and cause malnutrition and high mortality rate in infants. This cross sectional study was undertaken to evaluate the knowledge, attitude and practices of the mothers toward colostrum feeding in Goba Referral Hospital, Bale Zone, Oromia Region, Southeast of Ethiopia.

Literature review

Globally, there exist a range of beliefs about colostrum, including positive, neutral or negative perceptions. Delayed initiation of breastfeeding, active discarding of first milk, pre lacteal feeding and delayed contact between mother and infant are among the potential results of negative perceptions. Several ethnographic studies illustrate these points, and a number of examples are discussed below.

A cross-sectional study conducted in Kolhapur, Dhaka city garment factory, a majority of the respondents have good knowledge regarding initial feeding (89%) and colostrum feeding (77%). But, most of the respondents have very poor knowledge regarding advantages of colostrum feeding (87%), exclusive breastfeeding (89%) and breastfeeding (100%).

Interviews with elderly women in Guinea-Bissau on the use of colostrum and ideas about bad milk revealed that Islamic groups in the region tended to give positive value to colostrum and initiate breastfeeding within the first day, whereas the most populous ethnic group of the study region (the Balanta) tended to regard colostrum as 'dirty' and as representing a risk of disease and death to the newborn infant In this group, prelacteal feeding was given in place of any breastfeeding for the first week after birth. The majority of women from other ethnic groups assigned neutral status to early breast milk [6].

In a review of the anthropological literature on infant feeding practices immediately after birth conducted in 1990, 16 of 120 distinct cultural groups identified worldwide were generalized as reporting that colostrum was "dirty, poisonous, contaminated, bad or contained pus", with several further groups classified as believing colostrum causes vomiting and diarrhea [7].

One study has investigated an association between feeding of colostrum and neonatal and post-neonatal mortality. Data presented on urban and rural residents of Varanasi district in Uttar Pradesh, India, suggested a higher rate of neonatal and post-neonatal deaths amongst infants of women who reported no knowledge or use of colostrum [8].

A potentially associated belief was that if a mother breastfeeds before cleaning her nipples, the newborn infant is at increased risk of diarrhea. Some individual respondents described colostrum as "pus", containing germs, or "dirty". Additionally, most women (typically 80%) across several regions of Indonesia have been described as providing their breast milk only after customarily discharging their colostrum, with mothers-in-law and traditional birth attendants typically advocating the practice. Widespread discarding of colostrum has also been described in Cambodia [9].

A comparison has been made of prelacteal feeding practices in Muslim and Hindu populations who had recently migrated to the USA, which included consideration of beliefs on colostrum.

The authors made the generalization that Muslim family give prelacteal feeds in the first days following birth because colostrum may be considered as dirty or harmful, amongst other reasons, despite the approval of breast milk in the Quran. In comparison, the authors assert that some Hindus hold the belief that colostrum is too thick for a newborn infant to swallow, or that the first breast milk is "stale", with the result that the breast must be washed and colostrum discarded on the first day [10].

Further examples of negative perceptions of colostrum and their impact on early infant feeding, can be identified; communities have been described in Papua New Guinea that do not allow a newborn infant to receive breast milk determined to be "hot" (yellow).

On Cross-sectional survey conducted on in India to compare effect of colostrum feeding on infant mortality in urban and rural setting shows more than half of urban mothers did not know about or feed colostrum to their newborns. 1.72% of urban neonates and 2.59% of urban post neonates who received colostrum died compared with 6.25% and 7.08% who did not receive colostrum. Comparable with rural neonatal and post neonatal deaths were 1.69% and 1.69%, respectively, for infants who received colostrum, and 7.37% and 3.53%, respectively, for infants who did not receive colostrum [11].

Demographic and health surveys

The Pakistan 2006-07 DHS labels a data heading "percentage who were given colostrum", reporting an overall figure of 62.8% among last-born children ever breastfed in the five years preceding the survey.

Study in Pakistan at 2015 showed that 65% of women heard about colostrum's from various sources like media, family and friends, and 35% heard from the health professional during antenatal visits. Only 6% of women knew that it is nutritious milk for the new born. Only women (9%) were aware about its protective effects and had knowledge that it helps to improve the growth of the babies and fight against infections. 35% of women perceived that there is something harmful which is not good for the newborn while 25% of women asked that this is the milk to be fed to baby and 15% of women asked this the milk to be

discarded before feeding. There were still many women (39%) who lacked knowledge about colostrum, only 14% of the women in this study knew that the appropriate time for feeding colostrum is immediately after birth (30 minutes-1 hour), whereas 86% of women start feeding after 6-24 hours. Majority of them who came from the rural areas were uneducated. Study done in Pakistan revealed that 88.8% mother considered as an integral part of diet new born.

Cross sectional study conducted by using focus group discussions in maternal and child health care centers in Assiut city Egypt The majority of the mothers had good knowledge about the advantages of breastfeeding for the child and the mother. About 80% of the mothers knew that breast milk protects the child from diseases as well as strengths the relation between the mother and her baby. Nearly 70% of the participant mothers stated that breastfeeding protects mothers against cancer. 46.5% of the mothers aware that breast milk are complete nutrition for the infant during the first 4 months. The majority (83.7%) of the participants that colostrum increases the immunity of the baby and 30.2% of the mothers reported that it is a first protection against infection [12].

On study conducted in Northern Gondar province of the Amhara region Kossoye rural village 79% of the women who breast-fed reported discarding colostrum before breastfeeding. However, the same percentage also claimed to initiate breast-feeding within 24 hours of birth. The women's descriptions make it clear that only a portion of the colostrum was discarded before breast-feeding. This practice was continued by some until they perceived an increase in fluid volume in their breasts and/or breast milk. The consensus view was that colostrum was potential harm to newborns. 60% women specifically referred to abdominal cramps or stomach ache as a consequence of feeding inger, 13.3% specified diarrhea, 20% said that it contaminated an infant's stomach and two thought it would introduce the Ascaris parasite 6.7% woman called it 'bad for the stomach' and another said it was 'our culture' to dispose of inger. Inger was described as 'dirty milk' by one mother and another suggested that a child who ingested inger might eventually die from its effects (some interviewees referred to more than one consequence.

Study conducted in North Shoa Zone of Amhara Regional State, Ethiopia showed neonates who were not fed colostrum were more likely to experience death during their first 28 days of life than that of who were fed colostrum.

The study conducted in Raya Kobo district of Amharic region, colostrum was discarded by 13.5% of mothers of children aged less than 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's because it is tradition. About 58% of mothers were not aware about advantages of colostrum. In relation to colostrum's avoidance, a 39 year old discussant said, 'colostrum cannot prevent disease rather it causes abdominal cramp; it is yellowish dirty food that should be discarded' (grandmother).Distribution of respondents based on colostrum avoidance practices in Raya Kobo district mothers reported that the most influential individuals for colostrum avoidance were grandmothers (44%), untrained traditional birth attendants (44%) and husbands (12%).In support of the idea of colostrum discarding, a 42 years old mother said, 'in our community colostrum is believed to cause abdominal cramp, therefore to prevent such problem as grandmother of children I recommend my daughter to discard colostrum for the first three days before breastfeeding initiation' (grandmother). A 45 year old woman said, since colostrum causes abdominal cramp and raw butter cleans infants' stomach, I recommend mothers to discard colostrum and to feed their infants with raw butter before breastfeeding initiation. In rich families mothers discard colostrum and feed newborns with raw butter within the first 3-7 days' (In-depth interview untrained traditional birth attendant). A 37 years old woman said, 'since with colostrum's' (In-depth interview trained traditional birth attendant colostrum is sticky and yellowish it seems dirty, but I recommend mothers to feed their infants). Binary logistic regression analysis showed that living in rural places, mother heading households, giving birth at home, late initiation of breastfeeding and mothers that did not know advantages of colostrum were statistically associated with colostrum avoidance [13].

The study conducted in Nigist Ellani Mohamed Memorial Hospital Hossana Town Hadiya Zone according to set of criteria for colostrum's feeding attitude indicated that the majority (78.18%) of mothers have positive attitude towards colostrum's feeding. But the remaining (21.82%) have negative attitude. Most mothers (38.8%) agree that colostrum is important for growth and mental development. Among the mothers studied, higher proportion (70.6%) gave colostrum's for their baby, while the remaining (29.4%) did not. The reason for not giving colostrum's was mothers believed that It is forbidden in culture (34.2%), cause abdominal cramp and diarrhea (28.6%) and it is dirty part of breast milk 26 (34.2%).Among those 115 mothers 29 (25.21%) stop colostrum's feeding before releasing stopped, when their baby was sick. According to the set criteria for colostrum's feeding knowledge (44.24%) were found to be knowledgeable, (41.21%) fairly knowledgeable and the remaining (14.54%) were classified as not knowledgeable.

MATERIALS AND METHODS

Study settings

Madda Walabu university Goba referral hospital is one of hospitals in south east Bale zone established in 1972 in Goba town which is found 443 km away from Addis Ababa and 14 km from Robe. As the data obtained from program and data technician the recent catchment population is about 895,346 among these 438,720 are males and 456,626 are females. Children under one years of age are 28,382, less than five years of age are 146,837, women 15-49 years of age are 198,140 and numbers of pregnant women are estimated to be 33,128. It provide various services with its department of surgery, Gynecology, Pediatrics, Medical, Obstetrics, Emergency, Laboratory, Pharmacy and ART clinic. It gives ANC service for 5900 mothers per year out of this 491 mothers visit per month and also it gives Post Natal Care (PNC) services for 2706 mothers per years.

Study design and period

Institutional based cross-sectional study was conducted from April to May, 2017.

Population

Source population: The source population was all pregnant mothers who attend ANC follow-up in Goba Referral Hospital, 2017.

Study population: The study population was selected pregnant mothers, who attend ANC follow-up in Goba Referral Hospital from February to May, 2017.

Sampling unit

Mothers who attended ANC during the study period

Eligibility criteria

Inclusion criteria:

All pregnant mothers who attended ANC during the study period.

Exclusion criteria:

- Pregnant mothers who are critically ill and unable to respond.
- HIV positive mothers
- Breast amputated mothers
- Prim gravid mothers

Sampling size determination

The sample size (n) required for the study is calculated using the formula to estimate a single population proportion by considering the following assumptions.

Z/2=critical value for normal distribution at 95% confidence level

Which equals to 1.96 (Z value at alpha=0.05).

p=(52%) obtained from study conducted at NEMMH Hossana town.

d=Margin of error of 0.05 with 95% confidence level.

$n=(Z\alpha/2)^2 p (1-p)$

W^2 = Wired Xers

$n=(1.96)^2 (0.52) (1-0.52) (0.05)^2$

n=384 Individuals

Since the source population is less than 10000, an adjustment formula

nf=n/1+n/N is used,

where, N=Source population-all estimated pregnant mothers,

nf=Required sample size,

n=Calculated sample size,

Hence, the sample size is calculated at total of source population N=820 and n=384 and nf=262. Non response rate of 5% is 13 so total sample size was 275 pregnant mothers.

Sampling technique

The desired number of clients was determined based on the amount of patient flow. A study participant was selected by using simple random sampling technique. The first participant was selected by lottery method.

Study variables:

Outcome (dependent) variable: Knowledge, practice and attitude level of colostrum feeding Goba Referral Hospital, Bale zone, Oromia region, and Southeast of Ethiopia.

Exposure (independent) variables:

Maternal socio-demographics: Age, marital status, residence, occupation, maternal educational status, ethnicity, religion, and information access. Utilization of maternal health service related factors: antenatal care services, number of antenatal visits, of advice on breastfeeding by healthcare staff during ANC, Attendance of Postnatal Care services (PNC), place of delivery and birth attendance.

Obstetrics and Medical variables: Parity and birth interval.

Operational definitions

Colostrum: The breast milk women produce in the first few days after birth is very important for the infant, as it is rich in antibodies and white cells to protect against infection; it helps prevent jaundice, has growth factors which help the intestine to mature and is rich in vitamin A.

Knowledgeable: In this study refers to awareness about colostrum feedings of pregnant woman during breast feeding period and seven questions was prepared to evaluate mothers' knowledge. Those correctly answered greater than or equal to 75% questions out of total knowledge related questions.

Not knowledgeable: Those correctly answered less than 75% out of the whole knowledge related questions.

Attitude: In this study refers to believe of pregnant mothers towards colostrum feeding and Four questions was prepared to evaluate mothers' attitude.

Positive attitude: Those who answer positively to greater than or equal to 60% of attitude related questions.

Negative attitude: Those who answer positively to less than 60% of attitude related questions.

Practice: Those who gave colostrum for youngest baby and other older children.

Not practice: Those who did not give colostrum for their children.

Data collection instrument and procedure

Data collection instrument: A structured interviewer administered questionnaires will designed by investigators after reviewing literature, and used to collected data [14]. The questionnaires' was structured to collect demographic data, obstetric and reproductive data, knowledge, attitude and practice toward colostrum feeding. Questionnaires was prepared first in English and then translated to Amharic and Afaan Oromo language by members of the group to maintain its consistency.

Data collection procedures: During data collection first consent was asked. Simple random sampling was used to select the mothers. The first mother was selected using lottery. An exit interview was conducted in separate room that keeps the privacy and confidentiality of the information. The collected data was secured.

Data quality control: Data was collected by investigators and pretesting of the instrument was done before the actual data collection among 5% of the study subjects in hospital similar to the study population and the necessary modifications and correction was made to standardize and ensure its validity. The data was thoroughly cleaned and carefully entered in to computer for beginning of analysis. During entry of data and during analysis, data was cleaned carefully; missing values was handled not to be excluded in analysis by checking again and again through data exploration.

Data processing and analysis: The collected data was analyzed by using statistical tools. The collected data was cleaned and checked for completeness. Then data was entered to Statistical Package for Social Science (SPSS) version 20.0 software for analysis. Descriptive statistics was used to describe participants' demographic characteristics [11]. The result of descriptive statistics was expressed as percentage and frequency and chi-square tests was used to show association between socio-demographic variables, knowledge, attitude and practice. Finally tables and graphs were used to present the results.

Ethical consideration

Ethical clearance was obtained from CBE of Goba referral Hospital, Madda Walabu University. The purpose of study was explained to the study subject, and verbal consent was taken from participants to conform whether they are willing to participate. Those not willing to participate are given the right to do so. Confidentiality of respondents was also ensured throughout the research process.

RESULTS

Socio-demographic characteristic

A total of 275 mothers participated in this study with response rate of 100%. Among mothers interviewed 92 (33.5%) were in between 20-25 age group in years followed by 61 (22.2%) were in between 26-30 age group in years, 52 (18.9%) were <20 age group in years, 40 (14.5%) were 31-35 Age group in years and the rest were above 35 years. Majority the mothers 154 (56%) residence was urban and the remaining 121 (44%) was rural. Among respondent 227 (82.5%) were married followed by 28 (10.2%) were widowed and 20 (7.3%) were divorced.

The dominant ethnicity of the study population were Oromo 141 (51.27%) followed by Amhara 97 (35.27%). Majority of the respondent 133 (48.4%) were orthodox followed by Muslim 111 (40.4%). The analysis of educational level of mothers showed that 102 (37.1%) can read and write, 57 (20.7%) complete primary school, 46 (16.7%) cannot read and write, 37 (13.5%) complete secondary school, 21 (7.6%) complete higher education and the rest were post graduated. Among respondent 147 (53.5%) were visit hospital for follow up and the next 116 (42.2%) were visit hospital for checkup. Most mothers 95 (34.5%) occupation was house wife and followed by 82 (29.8%) was farmer (Tables 1-3).

Table 1: Socio-demographic characteristics of pregnant mothers attended ANC follow up in GRH, Oromia region, southeast of Ethiopia, 2017.

Variables	Category	Frequency	Percentage
Age	>20	52	18.7
	25-26	92	33.5
	26-30	61	22.2
	31-35	40	14.5
	>35	30	10.9
	Total	275	100
Residence	Urban	154	56
	Rural	121	44
	Total	275	100
Marital status	Married	227	82.5
	Divorced	20	7.3
	Widowed	28	10.2
	Total	275	100
Educational level	Cannot read and write	46	16.7
	Can read and write	102	37.1
	Primary school	57	20.7
	Secondary school	37	13.5
	Higher education	21	7.6
	Post graduate	12	4.4
	Total	275	100
Occupation	House wife	95	34.5
	Farmer	82	29.8
	Self-employed	79	28.7
	Government employed	19	6.9
	Total	275	100
Ethnicity	Oromo	141	51.3
	Amhara	97	35.3
	Tigre	24	8.7
	Other	13	4.7
	Total	275	100
Religion	Muslim	111	40.4
	Orthodox	133	48.4
	Protestant	19	6.9
	Other	12	4.4
	Total	275	100
Monthly income	≤ 1000	100	36.4
	1001-1500	61	22.2
	1501-2000	50	18.2
	2000-2500	44	16
	>2500	20	7.3
	Total	275	100
Why you visit hospital	Check up	116	42.2
	Follow up	147	53.5
	Sadden illness	12	4.4
	Total	275	100

Table 2: Mothers distribution by the number of children they have in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

Number of children	Frequency	Percentage
1-2	94	34.2
3-4	78	28.4
4-5	68	24.7
>5	35	12.7
Total	275	100

Table 3: Distribution of women gave birth at Jimma medical center by their obstetric and gynaecological history Jimma, Southwest Ethiopia, March to June, 2020.

Variable	Category	Frequency	Percentage
Get information	Yes	156	56.7
	No	119	33.3
	Total	275	100
Source of information	TV	66	42.3
	Radio	11	7.1
	Heath professional	59	37.8
	Relatives	3	1.9
	TV and health professional	14	9
	From all source	3	1.9
	Total	275	100

Maternal experience

Out of interviewed mothers 100 (36.4%) of them were gave children 1 to 2 in number. Among those mothers 94 (34.2%) had children alive. Majority of the mothers 246 (89.5%) had ANC follow up for previous pregnancy but the remaining 29 (10.5%) had not. Among the study participant 156 (63.4%) had ANC

follow up at governmental hospital, 80 (32.5%) mothers had ANC follow up at governmental health center and the remaining 10 (3.6%) at private clinics. of those mothers 65 (26.4%) visited for three time and 59 (24%) visited for four time (Figure 1). Among 275 mothers 144 (52.4%) had delivery at hospital followed by 64 (23.3%) delivered at health center and the rest 61 (22.2%) delivered at home and 6 (2.2%) delivered at private clinic [15]. At the time of delivery majority of the mothers 214 (77.7%) were attended by health professional and the remaining 50 (18.2%) were attended by traditional birth attendants and 11 (4%) attended by neighbors. During ANC visit 156 (56.7%) mothers were counseled about colostrum feeding and its advantage but the remaining 119 (43.3%) did not. Around 199 (72.4%) of the mothers had PNC and the remaining 76 (27.6%) (Tables 3-5).

Table 4: Mothers distribution based on their level of knowledge towards colostrum feeding in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

Level of knowledge	Frequency	Percentage
Knowledgeable	235	85.5
Not knowledgeable	40	14.5
Total	275	100

Table 5: Distribution of women gave birth at Jimma Medical Center by their source of information about labor pain management methods Jimma, Southwest Ethiopia, March to June, 2020 (N=165).

Attitude towards colostrum feeding	Response	Frequency	Percentage
Colostrum feeding is important for baby because its best food for growth	Agree	209	76
	I do not agree	31	11.3
	I do not know	35	12.7
	Total	275	100
Colostrum feeding is not good because it cause abdominal cramp and diarrhea	Agree	101	36.7
	I do not agree	166	60.4
	I do not know	8	2.9
	Total	275	100
Colostrum is not good for child and forbidden by culture	Agree	60	21.8
	I do not agree	195	70.9
	I do not know	20	7.3
	Total	275	100
Colostrum is not important for baby because its dirty part of milk	Agree	50	18.2
	I do not agree	185	67.3
	I do not know	40	14.5
	Total	275	100

Majority of the mothers 246 (89.5%) had ANC follow up among those mothers 65 (26.4%) were visit for three times and 54 (22%) they didn't remember time of visit (Figure 1). Regarding assistance of delivery of the mothers for their last child majority of the mothers 214 (77.8%) had assisted by health professionals, 50 (18.2%) had assisted by traditional birth attendants and the remaining 11 (4%) by neighbors (Figure 2). Majority of the mothers 156 (56.7%) have had information from different source during pregnancy and the remaining 119 (33.3%) had not. Concerning the source of information TV is the main source 66 (42.3%) followed by health professionals 59 (37.8%) (Tables 6 and 7).

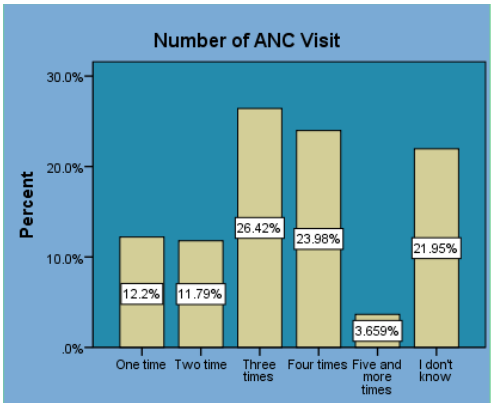

Figure 1: Mothers distribution based on the number of ANC visit in GRH, Bale zone Southeast of Ethiopia, 2017.

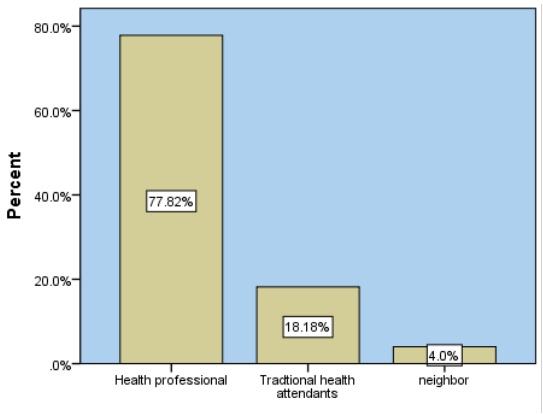

Figure 2: Mothers distribution by assistance of birth of last child in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

Table 6: Practice of the mothers on colostrum's feeding in GRH, Oromia region, Southeast of Ethiopia, 2017.

Colostrum feeding practice	Frequency	Percentage
Yes	190	69.20%
No	85	30.80%
Total	275	100

Table 7: Practice of feeding additional food before their baby reach six month in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

Practice of feeding additional food	Frequency	Percentage
Nothing	171	62.2
Water	54	19.6
Cow's milk	28	10.2
Others	22	8
Total	275	100

Results regarding knowledge level of respondents on colostrum feeding

According to the set criteria regarding knowledge of respondent toward colostrum feeding, 235 (85.5%) were knowledgeable and the remaining 40 (14.5%) were not knowledgeable. As the analysis of the mothers response on knowledge related questions showed that majority the mothers 76 (30.13%) believe colostrum is important for the growth of the baby, 46 (20.1%) believe it protect from the illness, 38 (16.6%) believe important for both. of those mothers 174 (63.3%) believe starting breast feeding one hour after delivery is important (Figure 3). Concerning the time of intuition breast feeding majority of the mothers 138 (69.82%) initiate within the first one hours (Figure 4).

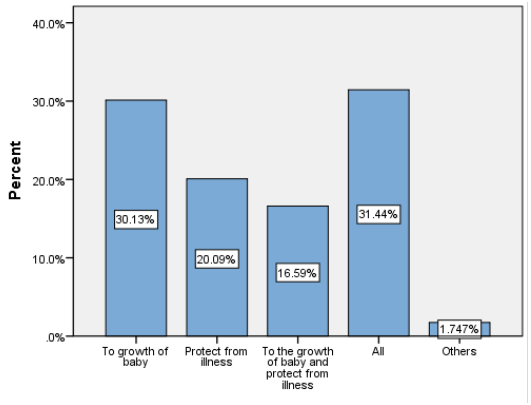

Figure 3: Mothers distribution based on believes on the advantage of colostrum in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

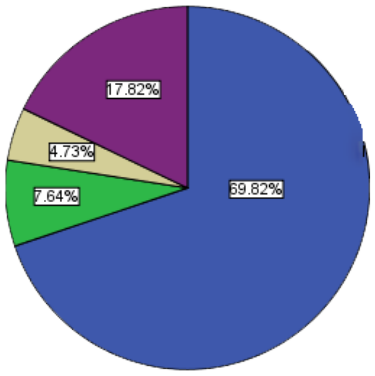

Figure 4: Mothers distribution based on the time of initiation of breast feeding in GRH, bale zone, oromia region, southeast of Ethiopia, 2017.
Note: ( )within the 1st one hours, ( ) within the 1st six hours, ( ) within the 1st 24 hours, ( ) I don't know

Results on attitude of the respondents towards colostrum feeding

According to set criteria regarding the attitude of the respondents towards colostrum feeding majority of mothers 221 (80.4%) had positive attitude toward colostrum and the remaining 54 (19.6%) had negative attitude [16].

Practice level of the respondents on colostrum feeding

Regarding practice of mothers on colostrum feeding majority of the mothers 190 (69.2%) gave colostrum for their baby but the remaining 85 (30.8%) did not. The reason why the mothers stop giving colostrum was that they believe it cause abdominal cramp and diarrhea 101 (36.6%), forbidden in culture 60 (21.8%) and it's a dirty part of milk 50 (18.2%). Among those 190 mothers 41 (14.9) stop colostrum feeding before releasing was stopped, when their baby was sick. Majority of them 35 (70%) stop feeding their baby two day after start feeding. The reason why they stop it is described below in pie chart. The analysis of pie chart show that most of the mothers 143 (51.92%) stop giving colostrum when their baby was sick because they believe that as it aggravate disease and 85 (30.77%) stop giving colostrum because they believe it cause diarrhea (Figure 5). Concerning pre-lacteal feeding most mothers 37 (13.5%) gave water with sugar, 8 (2.9%) gave butter and 28 (10.2%) gave pure water but the remaining 202 (73.5%) didn't give any additional food before a breast milk. When we come to breast feeding 171 (62.2%) mothers give breast milk alone up to six month for their child but the other gave water 54 (19.6%), cow's milk 28 (10.2%) and 22 (8%) gave other (Table 8).

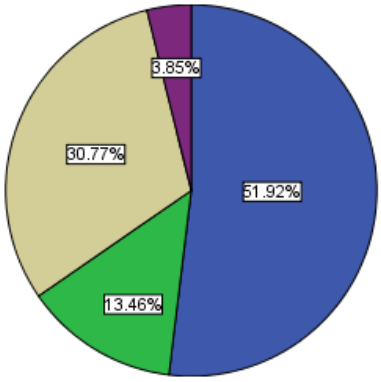

Figure 5: Mothers distribution based on the reason of stop giving colostrum when they baby was sick in GRH, bale zone, oromia region, southeast of Ethiopia, 2017.
Note: ( ) it aggravate disease, ( ) Forbidden in culture, ( ) it cause diarrhea, ( )

Table 8: Association between socio-demographic variables and practice of colostrum feeding among pregnant mothers at Goba Referral Hospital in GRH, Bale zone, Oromia region South-east of Ethiopia, 2017.

Variable		Practice of colostrum feeding		p-value
		Yes	No	
Age	<20	43	9	0.808
	20-25	52	40	
	26-30	45	16	
	31-35	26	14	
	>35	24	6	
Residence	Urban	96	58	0.006
	Rural	94	27	
Marital status	Married	156	71	0.96
	Divorced	17	3	
	Windowed	17	11	
Educational level	Cannot read and writes	27	19	0.007
	Can read and write	64	38	
	Primary school	48	9	
	Secondary school	21	16	
	Higher education	20	1	
	Post graduate	10	2	
Occupation	House wife	62	33	0.56
	Farmer	69	13	
	Self employed	45	34	
	Gov't employee	14	5	
Religion	Muslim	70	41	0.089
	Orthodox	96	37	
	Protestant	15	4	
	Other	9	3	
Monthly income	≤ 1000	86	14	0
	1001-1500	40	21	
	1501-200	36	14	
	1501-2000	21	23	
	>2500	7	13	
No of children	1-2	64	36	0.69
	3-4	60	16	
	4-5	47	16	
	>5	19	17	

ANC visit	Yes	175	71	0.03
	No	15	14	
Access information	Yes	90	66	0
	No	100	19	
Place of delivery	Home	54	7	0
	Institution	129	78	
Post natal visit	Yes	126	64	0
	No	64	12	

Association between socio-demographic variables and practice of colostrum feeding

chi-square test was computed to see association of socio-demographic variables with practice of colostrum feeding by setting p-value less than 0.05. Analysis of variables such as women's age, educational level, occupation of the respondent, place of residence, religion, marital status, monthly income, number of children, ANC visit, PNC visit, access information, place of delivery were done [6]. From those variables; educational level, place of residence, monthly income, ANC visit, PNC visit, place of delivery, access information had association with practice of colostrum feeding at p-value.

Association between socio-demographic variables and knowledge about colostrum feeding

The analysis of chi-square test show that number of children, ANC visit and accessing information had association with knowledge about colostrum feeding (Table 9). Association between socio-demographic variables and attitude towards colostrum feeding. The analysis chi-square test show that: age, residence, educational level, number of children and accessing information had association with attitude toward colostrum feeding (Table 10).

Table 9: Association between socio-demographic variables and knowledge of pregnant mothers regarding colostrum feeding in GRH, Bale zone, Southeast of Ethiopia, 2017.

Variable		Knowledge about colostrum feeding		p-value
		Knowledgeable	Not knowledgeable	
Age	<20	46	6	0.133
	20-25	82	10	
	26-30	52	9	
	31-35	29	11	
	>35	26	4	
Residence	Urban	131	23	0.865
	Rural	104	17	
Educational level	Cannot read and write	35	11	0.74
	Can read and write	93	9	
	Primary school	49	8	
	Secondary school	28	9	
	Higher education	20	1	
	Post graduate	10	2	
Occupation	House wife	77	18	0.098
	Farmer	70	12	
	Self employed	71	8	
	Gov't employee	17	2	
No of children	1-2	91	9	0
	3-4	69	7	
	4-5	54	9	
	>5	21	15	
Access information	Yes	129	27	0.008
	No	106	13	
ANC visit	Yes	215	31	0.006
	No	20	9	

Table 10: Association between socio-demographic variables and attitude of pregnant mothers towards colostrum in GRH, Bale zone, Oromia region, Southeast of Ethiopia, 2017.

Variable		Attitude towards colostrum feeding		p-value
		Positive	Negative	
Age	<20	52	0	0
	20-25	80	12	
	26-30	51	10	
	31-35	32	8	
	>35	17	13	
Residence	Urban	112	42	0
	Rural	110	11	
Educational level	Cannot read and write	35	11	0
	Can read and write	84	18	
	Primary school	50	7	
	Secondary school	31	6	
	Higher education	19	2	
	Post graduated	12	0	
Religion	Muslim	100	11	0.9
	Orthodox	101	32	
	Protestant	17	2	
	Other	12	0	
No of children	1-2	92	8	0.003
	3-4	70	6	
	4-5	57	6	
	>5	33	3	
ANC visit	Yes	204	42	0.056
	No	23	6	
Access information	Yes	117	39	0
	No	90	29	
Place of delivery	Home	44	17	0.082
	Institution	188	26	

DISCUSSION

This study assessed KAP of mothers towards colostrum feeding in Goba Referral Hospital, Ethiopia. Among studied mothers majority of them 156 (56.7%) have had information from different source on colostrum feeding during pregnancy this means more than half of the mothers have information on colostrum feeding. But, it's lower as compared to study conducted in Pakistan 65% of women heard about colostrum. The variation may be due to socio-cultural difference and sample size. Among the study participant (42.3%) and (37.8%) of respondent had received information on colostrum feeding from TV and Health professionals respectively. This means health professionals and other source of information like radio (7.1%) and relatives (1.9%) did not play expected role in passing information on colostrum feeding for the mothers. As discussed above in this study 37.8%

of mothers received information on colostrum from health professionals it's in line with the finding of Pakistan which is 35% of women received information from health professionals. But, it lower as compare to the study conducted in NEMMH Hossana Town which is 50.2%. The variations may be due to socio-cultural difference.

Regarding mothers knowledge towards colostrum feeding (85.5%) mothers have had knowledge but the remaining (14.5%) mothers did not know about colostrum. finding from this study is similar to the study conducted in NEMMH Hossana town (85.5%) of mothers had knowledge about colostrum. The study conducted in Kolhapur, Dhaka city 77% of mothers had knowledge about colostrum which is lower than our study. The difference may be due socio-cultural difference and sample size.

This study show that among the study participant (18.2%), (21.8%) and (36.7%) believe that colostrum as its dirty part of the milk, forbidden in culture and it cause abdominal cramp and diarrhea respectively. Which is lower than study conducted in Northern Gondar 33.3% reported as it causes diarrhea and abdominal cramp. In contrary this study indicate that majority of the mothers (76%) agree as colostrum is best food for the growth of the baby, (20.1%) believe it's protect from illness and the other (16.6%) believed as it's important for growth of the baby and protect from illness. And also majority of them (69.8%) offered colostrum for their baby within the first one hour after delivery this indicates that there is better understanding about colostrum feeding among the study participant. Which is higher than the study conducted at Raya Kobo, Northern-East of Ethiopia 2014, as this study shows the population of Raya Kobo believed that; colostrum is dirty part of milk (25.9%), 23.5% it is tradition and the other 58% don't aware about colostrum. These differences may be due to socio-cultural difference between our study area and Raya kobo.

The finding from this study indicate among study participant (80.4%) had positive attitude towards colostrum which is higher than the finding of NEMMH in Hossana town (78.8%). The reason behind variation may be due socio-cultural difference and small sample size. When we come to prevalence of colostrum feeding practices among our studied participant (69.2%) of mothers were practicing colostrum, which is much lower than the study conduct at Raya Kobo Northern East of Ethiopia (86.5%). And also our study is lower than the study of NEMMH Hossana town (70.6%). The difference may be due to socio-cultural difference between Goba and Raya kobo. But, the finding of this study is higher than study conducted in India which is 23% and Nepal (27%). The difference may due to socio-cultural difference between those countries and our country.

Concerning pre-lacteal feeding in this study 26.8% of mothers had practice pre-lacteal feeding, among those (13.5%) gave water with sugar, (2.9%) gave butter and (10.2%) gave pure water and it's higher as compare to that of Hosanna town which is 18.78% were practicing pre-lacteal feeding. The difference may be due to socio-cultural difference and study setting.

Limitation of the study

Since the study was cross-sectional, it might not show causal relations. Prim gravid were not involved that might lead over estimate the knowledge and attitude level. Factors associated with colostrum feeding were not assessed.

CONCLUSION

Finding from this study indicate that the mothers knowledge and attitude is high. But, their practice is still not satisfactory. This is because the mothers believe that colostrum as its dirty part of milk, forbidden in culture and it cause abdominal cramp and diarrhea. Therefore, further awareness is necessary to improve KAP toward colostrum feeding in GRH. Also this study indicates that the prevalence of pre-lacteal feeding is high. This study indicate; educational level, place of residence, monthly income, place of delivery, accessing information, presence of ANC and PNC had association with practice of colostrum feeding and number of children, accessing information and presence of ANC had association with knowledge about colostrum feeding. It also indicate that Age, residence, educational level.

REFERENCES

1. Fisher H. Colostrum: Properties, functions, and importance. The relationship between the immunoglobulin concentration in Holstein colostrum and the total serum protein in Holstein heifer calves. Washington State University. 2000.
2. Loureiro I, Frankel G, Adu-Bobie J, Dougan G, Trabulsi LR, Carneiro-Sampaio MM. Human colostrum contains IgA antibodies reactive to enteropathogenic Escherichia coli virulence-associated proteins: Intimin, BfpA, EspA, and EspB. J Pediatr Gastroenterol Nutr. 1998;27(2):166-171.
3. Arifeen S, Black RE, Antelman G, Baqui A, Caulfield L, Becker S. Exclusive breastfeeding reduces acute respiratory infection and diarrhea deaths among infants in Dhaka slums. J Pediatr. 2001;108(4):e67.
4. Oddy WH. The impact of breast milk on infant and child health. Breastfeed Rev. 2002;10(3):5-18.
5. Silva P. Environmental factors and children's malnutrition in Ethiopia. 2005.
6. Alemayehu T, Haidar J, Habte D. Determinants of exclusive breastfeeding practices in Ethiopia. Ethiop J Health Dev. 2009;23(1):12-18.
7. Mannel R, Martens PJ, Walker M. Core curriculum for lactation consultant practice. Jones and Bartlett Publishers. 2012.
8. World Health Organization. Report of the global consultation on the summary of guiding principles for complementary feeding of the breastfed child. Geneva: WHO, Geneva. 2001.
9. Dewey KG, Cohen RJ, Brown KH, Rivera LL. Effects of exclusive breastfeeding for 4 versus 6 months on maternal nutritional status and infant motor development: Results of two randomized trials in Honduras. J Nutr. 2001;131(2):262-267.
10. Organisation mondiale de la santé. World Health Organization, World Health Organisation Staff, UNICEF. Fonds des Nations Unies pour l'enfance, UNAIDS. Global Strategy for Infant and Young Child Feeding. World Health Organization. 2003.
11. MoH F. National strategy for child survival in Ethiopia. Addis Ababa, Ethiopia. 2015.

12. Gunnlaugsson G, Einarsdóttir J. Colostrum and ideas about bad milk: A case study from Guinea-Bissau. Soc Sci Med. 1993;36(3):283-288.

13. Morse JM, Jehle C, Gamble D. Initiating breastfeeding: A world survey of the timing of postpartum breastfeeding. Int J Nurs Stud. 1990;27(3):303-313.

14. Wiryo H, Hakimi M. Implementation of health education, based on ethnographic study, to increase the colostrum and decrease early solid food feeding. Health Educ Behav. 2005;32(1):102-112.

15. Jacobs B, Roberts E. Baseline assessment for addressing acute malnutrition by public-health staff in Cambodia. J Health Popul Nutr. 2004;1:212-219.

16. Mc Kenna KM, Shankar RT. The practice of prelacteal feeding to newborns among Hindu and Muslim families. J Midwifery Womens Health. 2009;54(1):78-81.