Knowledge, and Practice of Mothers and Its Associated Factors on Colostrum Feeding of Neonates at Este (Mekane-eyesus), South Gondar Amhara, North West, Ethiopia: Community Based Cross-sectional Study 2020

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Abstract

Introduction - Feeding of human breast milk, especially colostrum, is the normative standards for infants and regarded as a complete form of nutrition. The positive health benefits of breastfeeding/breast milk feeding as part of caring for premature, sick and vulnerable newborns are well documented in the scientific literature.

Objective -To assess the knowledge and practice of mothers and its contributing factors on colostrum feeding of newborn at Este (Mekane Eyesus), south Gondar Amhara ,north west, ethiopia,2020

Method – community-based cross sectional study design was conducted among 376 mothers, from March 10/2020 to May 2020. The study participants were selected by multistage sampling technique after selecting 02 urban and 03 rural kebeles by simple random sampling technique. Each participant was also selected from household after determining and proportionately allocating of samples in each selected kebeles. During selection of participants, house to house visit was made. To select the study participants from each household, K^{th} interval was determined for each proportionally allocated 3rural and 02 urban kebeles. Multivariable binary logistic regression model was fitted and adjusted odds ratios with 95% confidence interval were computed to determine the strength of association between each variable with milk teeth extraction. Variables with P-value < 0.05 was considered as statistically significant.

Result - knowledge of mothers about colostrum feeding was 86.4 % [95% CI: (83.0-89.6)] whereas the overall practice of mothers about colostrum feeding was found to be 98.4% [95%, CI :(96.8-99.5)]. counseling about colostrum feeding [AOR: 31.1(10.35, 93.2] were significantly associated with knowledge of mothers about colostrum feeding. Regarding to practice of mothers on colostrum feeding mothers' the place of delivery at home [AOR: 20.00(2.30, 173.8] was significantly associated with practice of mothers about colostrum feeding.

Conclusion - Discarding of colostrum (first milk) is still common in Este (Mekane Eyesus) and the surrounding rural kebeles. The current knowledge and practice level of colostrum feeding among mothers was 96.4% and 98.4% respectively and which was considered being high when compared the study conducted in Northern Ethiopia and post-natal educations in health institutions.

Introduction

Back ground of the study

Colostrum is defined as the first breast milk of the mother produced after birth and it is the most important for the promotion of health and prevention of infections of the newborn immediately after birth[1, 2].

Breastfeeding/breast milk feeding also reduces mortality rate and provides good nutritional support for such small babies. As society continues to view breastfeeding as problematic to the new born, many mothers truly believe that they cannot breastfeed, or they have been so hurt by the negative reactions of others that they stop doing so. Many women choose not to breastfeed for reasonable and pragmatic reasons, but when their baby is well, parents are often motivated to provide breast milk for their infants [1, 3].

World Health Organization(WHO) thrives on improved nutrition including breastfeeding, successful immunization programs and scaling up of integrated management of respiratory illnesses and diarrheal diseases played a significant role in improving health and survival of children and breastfeeding is considered the gold standard of infant nutrition and has been strongly recommended for preterm newborns due to the immunological properties of breast milk, its role in gastrointestinal maturation or gut priming and in the establishment of mother-child bond, thus contributing to a better growth and development prognosis[4, 5].

It is also the natural first food for babies. It continues to provide up to half or more of the child's nutritional needs during the second half of the first year, and up to one third during the second year of life. Breastfeeding is the safest, least allergic, and best infant feeding method. It has nutritional, immunological, behavioral and economic benefits and provides desirable mother infant bonding[6, 7].

Breastfeeding confers benefits on both children and mother; including helping protect children against a variety of acute and chronic disorders. Mothers' poor knowledge about the correct breastfeeding attachment and positioning technique and negative attitudes toward breastfeeding, particularly in developing countries, may influence the practice of effective breastfeeding[8–10]. Therefor this study aims to reduce problems related with knowledge and practice of mothers on colostrum feeding of their neonates at Este (Mekane –Eyesus) in 2020 G.C.

Method And Materials

Study area and period

Based on figures Central Statistical Agency in 2005, this woreda has an estimated total population of 403,956, of whom 199,325 are men and 204,631 are women; 16,014 or 3.96% of its population are urban dwellers, which is less than the Zone average of 8.3%. With an estimated area of 2,368.13 square kilometers.The largest ethnic group reported in Este was the Amhara (99.98%), and Amharic was spoken as a first language by 99.98%. The majority of the inhabitants were Ethiopian Orthodox Christianity, with 96.53% of the population reporting they observed this belief, while 3.45% of the population said they were Muslim

The study was conducted in Este (Mekane-Eyesus) among neonates, from March10/2020 to May 2020.

Study design

Community based cross sectional study was employed.

Sources population

All infants <=28 days of age found in Este (Mekane-Eyesus) administrative kebeles were the source population for this study.

Study population

Neonates who are found in randomly selected 02 urban and 03 rural kebeles in Este (Mekane-Eyesus) and who fulfill the inclusion criteria were the study population.

Sampling Unit

Households which found in the selected 02 urban and 03 rural kebeles were the sampling unit that the samples had been taken.

Sample size determination

In this study, sample size was determined by using single population proportion formula

Specific objective 1 aimed to identify practice of mothers on colostrum feeding of neonates at Este (Mekane-Eyesus), south Gondar Amhara, North Central, Ethiopia, 2020.

$$n_0 = \frac{Z^2 p(1-P)}{d^2}$$

$$n_0 = \frac{(1.96)^2 * 0.6666(1-0.6666)}{0.05^2}$$

n_0 = 341.5

n_0 = 342

By adding 10% none response rate the total sample size is

=342+34.2

=376

=376

The total sample size will be=376

Where:

n= the desired sample size

P= knowledge of mothers about colostrum feeding, Bench Maji Zone (66.66%)

Zα/2 = standard normal variation value at a confidence interval of 95% (1.96)

d= the margin error between the sample and the population (5%)

Sampling technique and sampling procedure

The study participants were selected by multistage sampling method after determining and proportionately allocated of samples. In Mekane −Eyesus there are 03 urban and 05 rural kebeles. The total samples (n=376) will be proportionally allocated based on total population and the required sample size. From this study area about 7676 neonates found distributed among 08 kebeles in Mekane −Eyesus. Among 08 kebeles, 05 kebeles were selected by lottery method, and then proportionally allocating study participants based on the target population who are living in those 05 kebeles. Each participant also selected from household after determining and proportionately allocated of samples in each selected kebeles. During selection of participants, house to house visit was made and all those neonates in one household would be included in the selection process. To select the study participants from each household Kth interval was used to select households which contain the required samples −value was calculated by using the formula N/n for each selected kebeles i.e. For K1=561/376=1st interval, K2=949/376=3rd, Mekane-Eyesus=1369/376=4th, Dengolt 1170 /376=3rd and ⊠iguara=1208 /376=3rd .So the sample will be taken to each kebele every 1st, 3rd , 4th , 3rd and 3rd interval from K1, K2, Mekane-Eyesus ,Dengolt and ⊠iguara respectively according to index neonates residence.

Data collection tools and procedures

Data was collected using structured interview based questionnaire. The questionnaire contains socio demographic characteristics, magnitude related questions, Level of Knowledge, sources of on colostrum feeding and practice part regarding colostrum feeding. Data also collected by using open ended questions and both open ended and closed ended interview based questionnaires primarily being prepared in English then translated to local language questionnaires with local language (Amharic) for its consistency and understandability to the community in which this research conducted. During time of translation all the concern and the local linguistic had been put into consideration and the local language (Amharic) was translated back to English for the appropriateness and conformability of analysis the

finding of the research. Pretest was conducted among 5% of the participants in Woreta town and modification will be considered according to its findings. After modification and amendment of the data collected by face to face interview by two BSc holder nurses and one health extension workers who are not working in the assigned area after they obtain a one day training on the tools and necessary cares needed. The parents/guardians were interviewed in their residence.

Variables of the study

Dependent variables

- Knowledge and practice of mothers about colostrum feeding

Independent variables

Socio-demographic characteristics

- Age of the baby and parents
- sex of the baby and parents
- Gender
- Marital status
- level of education
- Employment status
- Religion
- Relationship to the child
- Income status
- place of delivery,
- distance to health facility,
- time of labor and mode of delivery

Knowledge related variables

- Awareness about colostrum feeding
- Sources of information
- Counseling about colostrum feeding
- Time of breast feeding initiation

Practice related variables

- Time of to start first breast feeding
- Feeding practices in the community

Operational definitions

Knowledge: In this study refers to awareness about colostrum feedings of pregnant woman during breast feeding period. It will be evaluated by the mothers answer to the questions

Good knowledge: Those answers greater than or equal to 60% questions out of total knowledge related questions.

Poor knowledge: Those answers less than 60% questions out of total knowledge related questions.

Practice: The overt behavior habit or custom of women

Good practice: Score > 60% on the overall practice questions.

Poor practice: Those who answer <60% of practice related questions

Data processing and analysis

First the data was checked for its completeness, consistency and validity. After checking the collected data, then the data entered to EPI-data version 4.5 and transferred to SPSS version 23 statistical software for analysis. Data will be cleaned, and coded for completeness, consistency and to minimized errors. Both Bi-variable and multivariable logistic regression was used to identify factors and variables with p-value of 0.20 and less would fit to logistic model for multivariable analysis. SPSS version 23 statistical software was used and frequencies and odds ratio was determined. Factors associated with the outcome variable at Bi-variable analysis had been identified and the variables with p-value of 0.20 and less would fit to logistic model for multivariable analysis to determine relative prediction level of independent variables to the outcome variable. P-value less than 0.05 at 95% confidence interval had been considered as statistically significant. Model goodness-of-fit would be checked by Hosmer Lemeshow test. Multicollinearity was checked by durbin-Watson, tolerance and Variance Inflation Factors. Chi square also been calculated to test any association between dependent and independent variables .Lastly the result was presented with the form of texts, figures and tables by using frequency and summary statics such as mean, standard deviation, and percentage to relevant variables.

Data quality control

The quality of data was ensured by doing the questioner pre-tested on 5% of the total sample size at Woreta town that is assumed to have relatively similar characteristics of the targeted population. Based on their feedback the necessary amendment was done and the questioner was assessed for its clarity;

completeness and evaluate the validity and content of the questionnaire and modified accordingly .Close supervision also made during the data collection and appropriate feedback was provided. Training was given to the data collectors for one day by the principal investigator and the training was focused on the objective, how to obtain consent, keeping confidentiality of the information they gathered. The collected data been cheeked for its completeness every day before the following day of data collection by supervisors and the principal investigator and corrective measures had been taken according to the finding during supervision.

Data presentations

After the data analyzed the findings of the result was presented by descriptive and analytic forms. Descriptive analyzed statistical results was presented by texts, graphs, diagrams and tables but analytic form of findings was presented by text form of odds ratio.

Ethical consideration

Ethical clearance was obtained from Ethical Review Board of Debre Tabor University college of Medicine and Health Sciences, and department of mc midwifery. Letter of permission was granted to Este (Mekane-Eyesus) and South Gondar Zone. After obtained permission from those organizations, the data collectors were going to house to house and starting data collection. The data also was collected after clearly explained the purpose of the study to the participants and after obtained informed consent was got from each study participant.

Result

Socio-demographic characteristics of the respondents

Three hundred seventy six (376) neonate-parents/care takers pair were included in the study with a response rate of 100 %. Among the overall study participants, 54.3% (204) parents were found to be the largest age group, 20-34years. From those parents, 18.9 %(71) of them belongs to the lowest age group, 15–19 years. Most of the study participants, 52.4 %(1967) were females and majority of parents, 76.9 %(289) were married, whereas 94.4 %(355) of the study participants were orthodox by religion but few of the participants, 0.3 % (1) of them also follows other religion. Regarding ethnicity 97.1 %(365) participants were Amhara by their nations and about 63 %(237) of them were housewives by their occupation. Majority of the respondents, 71.2%9268) were lived in rural areas where as 39.9 % (150) of mothers were cannot read and write by their education. Regarding economic status majority of the respondents, 35.4 %(133) did not know their income status and about 56.1 %(211) of the respondents were gave birth for the first time. Majority of the participants, 77.9%(293) delivered from the health institution similarly 36% (135) of them were lapsed < 10 minutes to reach health center by vehicle

.Majority of the respondents,92%(346) had Antenatal care follow up but more than half of (50.5%) of mothers only delivered within 1−12 hrs. of duration of labor followed by 92.2% delivered SVD (Table 1).

Table 1
Socio-demographic characteristics of the respondents, Este (Mekane Eyesus), among mothers who have neonate, Mekane-Eyesus, 2020 (n = 376)

Variables	Frequency	Percent (%)
Age of the mothers years		
15−19	*71*	*18.9*
20−34	*204*	*54.3*
35−49	*101*	*26.9*
Sex of the infant		
Male	*197*	*52.4*
Female	*179*	*47.6*
Marital status of mothers		
Single	*68*	*18.1*
married	*289*	*76.9*
Divorced	*17*	*4.5*
Widowed	*2*	*.5*
Religion		
Orthodox	*355*	*94.4*
Muslim	*17*	*4.5*
protestant	*3*	*.8*
Others	*1*	*.3*
Ethnicity		
Amhara	*365*	*97.1*
Oromo	*5*	*1.3*
Tigre	*6*	*1.6*
Residence of mothers		
urban	*108*	*27.8*
rural	*268*	*71.2*

Variables	Frequency	Percent (%)
Mother's occupation.		
House wife	237	63.0
Employee	95	25.3
Private	38	10.1
Other	6	1.6
Mothers educational status		
illiterate	150	39.9
Grade 1-8th	86	22.9
Grade 9-12th	65	17.3
>12th	75	19.9
Household monthly income by ETB		
< 500 ETB	55	14.6
501−1000 ETB	87	23.1
>1000 ETB	101	26.9
Don't Know	133	35.4
Parity		
Primi para	211	56.1
Multipara	165	43.9
Place of delivery		
Health institution	293	77.9
At home	78	20.7
Others	5	1.3
Time take to health center by vehicle		
< 10 minutes	135	36
10−20 minutes	123	32.7
21−30 minutes	72	19.1
>30 minutes	46	12.2

Variables	Frequency	Percent (%)
ANC follow up		
Yes	346	92.0
No	30	8.0
Time of labor		
1-12hrs	190	50.5
12-24hrs	133	35.4
>24hrs	53	14.1
Mode of delivery		
SVD	349	92.8
CS	22	5.9
Others	5	1.3

Knowledge of respondent mothers regarding neonates' colostrum feeding

Knowledge of mothers regarding neonates' colostrum feeding was found to be **86.4 % [95%, CI :(83.0-89.6)]** whereas, 6.9 %(26) of respondents did not know about colostrum feeding due to the reason of lack of knowledge. The majority of study participants, *84.8* %(319) had information about colostrum feeding and 72.9 %(274) were heard about colostrum feeding from health center. From the overall respondents 94.7 %(356) mothers know the importance of colostrum for neonates. Majority of the respondents, 64.9 %(244) correctly defines what colostrum means but few of them, 4.8 %(12) of the respondents define colostrum as first milk should be discarded... colostrum also understood by mothers for its role as for proper growth of the new born and fight against infection,53.5%(201), and bad for health, 6.9%(26) .Among 376 study participant 79.5%(299) got counseling about colostrum feeding of which 47.9%(180) ,12%(45) and 19.7%(74) from health care providers ,family and media respectively (Table 2).

Table 2

Knowledge of respondent mothers regarding neonates' colostrum feeding, Este (Mekane Eyesus), among mothers who have neonate, Mekane-Eyesus, 2020 (n = 376)

Variables	Frequency	Percent (%)
Participants who know about the advantages of colostrum feeding		
Yes	325	86.4
No	51	13.6
Reason of participants who are not know about colostrum		
Lack of information	25	6.7
Lack of knowledge	26	6.9
Information about colostrum		
yes	319	84.8
no	57	15.2
Source of information about colostrum		
feeding	57	15.2
From health care provider	274	72.9
From media	19	5.1
From other people	17	4.5
By my self	8	2.1
other	1	.3
Importance of colostrum for neonates		
Yes	356	94.7
No	20	5.3
Respondents who know about the importance of colostrum among all right options		
<=2 answers	346	92
>2 answers	30	8

Variables	Frequency	Percent (%)
colostrum is-----		
Just milk	101	26.9
A white milk	19	5.1
First milk vital to new born	244	64.9
First milk should be discarded	12	3.2
The role of colostrum in health		
Bad for health	26	6.9
Some role for health but I do not know exactly	131	34.8
For proper growth of the new born and fight against infection	201	53.5
I do not know	18	4.8
Counseling about colostrum feeding		
Yes	299	79.5
No	77	20.5
If yes, where do you get the counseling?		
From health care providers	180	47.9
From families	45	12.0
From media	74	19.7
Did you participate in women forum?		
Yes	370	98.4
no	6	1.6
Women who get information from attending women's forum	126	33.5
About colostrum feeding	73	19.4
About early initiation of breast feeding	62	16.5
About exclusive breastfeeding	96	25.5
When the baby starts additional food	13	3.5

Practice of respondent mothers regarding colostrum feeding regarding

The overall practice of mothers about colostrum feeding was found to be 98.4% [95%, CI :(96.8–99.5)] of which 72.2 %(283) of mothers feed their neonates with no discard of first milk (colostrum) but17.3 %(65) of the respondents feed colostrum after they discard some of it. Among the total respondents 29.5 %(111) were discard colostrum due to the reason of colostrum can cause abdominal cramp (18.5%), colostrum causes diarrheal disease (3.7%) and colostrum has no benefit (7.2%).Regarding the time of staring breast feeding after delivery for neonates about 21.8%(82) and 8.2%(31) of mothers start within 4 hrs. and after 24 hrs. respectively. Regarding feeding of neonates immediately after delivery, 92 %(346) feed breast milk but 7.2 %(27) of mothers feed butter to their neonates (Table 3).

Table 3

Practice of respondent mothers regarding colostrum feeding regarding, Este (Mekane Eyesus), among mothers who have neonate, Mekane-Eyesus, 2020 (n = 376)

Variables	Frequency	Percent (%)
Do you feed colostrum to your baby immediately after delivery up to 4 days?		
Yes	*370*	*98.4*
No	*6*	*1.6*
Way of feeding colostrum to neonates		
After discard some of the first milk	*65*	*17.3*
With no discarded	*283*	*72.2*
After waiting 24 hrs.	*22*	*5.9*
Have you discard colostrum before feeding your baby?		
yes	*111*	*29.5*
no	*265*	*70.5*
If you discard what is the reason behind?		
colostrum can cause abdominal cramp	70	18.6
colostrum causes diarrheal disease	14	3.7
colostrum has no benefit	27	7.2
When did you start breast feeding after delivery?		
Within 4 hrs	232	61.7
Within 6hrs	82	21.8
After 12 hrs	31	8.2
After 24 hrs	31	8.2
What do you feed after delivery to your kid?		
Butter	27	7.2
Breast milk	346	92.0
Gruel	1	.3
Water	2	.5

Factors associated with knowledge of mothers about colostrum feeding

Based on the findings of this study, variables such as, age of mothers [OR:0.52(.250,1.071], Sex of the neonate[OR:1.854(1.014,3.388],marital status of mothers were [AOR: 6.737(1.596,28.434],religion of mothers [OR: 4.107(1.366−12.347)], residence of mothers[OR:0 .025(0.003, 0.198], occupation of mothers [OR: 0.204 (0.071, 0.586)], educational status of mothers [OR: 0.358(0.141, 0.908)], income status of the household [OR: 0.068 (0.019,0.245], parity [OR: 2.209(1.208, 4.042], palace of delivery mothers [OR: 2.364(1.247, 4.479)],distance from health institution by vehicle [OR: 5.135(2.375 ,11.105)],[OR: 5.135(2.375 ,11.105)],time of labor [OR: 2.292(1.215,4.326],awareness about colostrum feeding [OR:.192(0.0980.37],obtaining counseling about colostrum feeding[OR: 46.004(19.978,105.933] and time of starting breast feeding after delivery[OR: 0.368 (0.150,0.902], having p-value less than 0.2 and significant.

Among the candidate variables for multi variable analysis 3 variables such as mother's occupation [AOR: 0.2270(.055, 0.93], time take to health center by vehicle [AOR: 4.056(1.385, 11.8] and counseling about colostrum feeding [AOR: 31.1(10.35, 93.2] were significantly associated with knowledge of mothers about colostrum feeding but the rest of the variables disappeared at the final stage of multi-variables analysis. Variables such as time take to health center by vehicle [AOR: 4.056(1.385, 11.8] and counseling about colostrum feeding [AOR: 31.1(10.35, 93.2] had having positive significantly association with knowledge of mothers about colostrum feeding but mother's occupation [AOR: 0.2270(.055, 0.93] had preventive factors and negatively associated with knowledge of mothers on colostrum feeding but all the above variables with p-value of less than 0.2 are exported to multivariable conditional forward analysis.

Mother's occupation whose occupation employed is reducing the risk of none acquiring knowledge by 77.3% when compared with those mothers who have housewife occupation [AOR: 0.2270(.055, 0.93].

On the other way mothers who transported by vehicle 10−20 minutes were significantly associated 4.056 times with knowledge of mothers about colostrum feeding than mothers who transports < 10 minutes by vehicle [AOR:4.056(1.385,11.8].Similarly mothers who did not get counseling about colostrum feeding were significantly associated 31.1times with knowledge of mothers about colostrum feeding than mothers who get counseling about colostrum feeding [AOR:31.1(10.35,93.2])(Table 4).

Table 4
Factors associated with knowledge of mothers about colostrum feeding, Este (Mekane Eyesus), among mothers who have neonate, Mekane-Eyesus, 2020 (n = 376)

Variables	Knowledge about colostrum feeding		COR (95%CI)	AOR(95%CI)
	Yes	No		
Mother's occupation.				
House wife	87(23.1)	0(0%)	1	1
Employee	108(28.7)	3(0.8%)	[COR:0.204(0.071,0.5]	[AOR:0.2270(.055,0.93]
Private	91(24.2%)	32(8.5%)	[COR: 0.703(0.26, 1.9]	[AOR: .567(0.115,2.795]
Other	39(10.4%)	16(4.3%)	[COR: 0.00(0.00…]	[AOR: 0.00(.000…]
Time take to health center by vehicle				
< 10 minutes	48(12.8%)	5(1.3%)	1	1
10−20 minutes	171(45.5%	19(5%)	[COR:2.292(1.22,4.33]	[AOR:4.056(1.385,11.8]
21−30 minutes	106(28.2)	27(7.2%)	[COR:0.938(0.333,2.641]	[AOR:3.270(0.733,14.5]
Counseling about colostrum feeding				
Yes	291(77.4)	8(2.2%)	1	1
No	34(9%)	43(11.4%)	[COR:46.00(19.98,106]	[AOR:31.1(10.35,93.2]

Notes: 1 = reference group, *significant p-value < 0.05, CI, confidence interval; COR, crude odds ratio; AOR, adjusted odds ratio.

Factors associated with practice of mothers about colostrum feeding

Based on the findings of this study, variables such as religion of mothers [OR: 4.375(.4823, 9.671)], palace of delivery mothers [OR:20.000(2.301,173.822)] and awareness about colostrum feeding [OR: .0 .270 (0.044 1, 0.641], had having p-value less than 0.2 and significant from the Bivariable analysis and exported to Multivariable analysis. Among the nominee variables for multi variable analysis only one (1) variable such as mothers place of delivery at home [AOR: 20.00(2.30, 173.8] was significantly associated with practice of mothers about colostrum feeding but the rest of two variables disappeared at the final stage of multi-variables analysis. As shown above this variable is positively associated with the outcome variable. Mothers who deliver at home were 20 times more risk to practice colostrum feeding than mothers who deliver from health institution [AOR:20.00(2.30,173.8](Table 5).

Table 5

Factors associated with practice of mothers about colostrum feeding, Este (Mekane Eyesus), among mothers who have neonate, Mekane-Eyesus, 2020 (n = 376)

Variables	Practice about colostrum feeding		COR (95%CI)	AOR(95%CI)
	Yes	No		
Place of delivery	n = 370			
Health institution	5(1.3%)	0(0%)	1	1
At home	292(77.7)	1(0.3%)	[COR:20.0(2.30,173.8] (1.00-5.3)]	[AOR:20.00(2.30,173.8]
Others	73(19.4%)	5(1.3%)	[COR: 0.00(0.00, ...]	[AOR:0.00(0.00,....]173.822

Notes: 1 = reference group, *significant p-value < 0.05, CI, confidence interval; COR, crude odds ratio; AOR, adjusted odds ratio.

Discussion

The study tried to address quantitative aspect of findings based on the stated objectives. The quantitative data were collected by face to face interviewer administered questionnaires using 3 data collectors among 376 participants by using multistage sampling technique following simple random sampling technique from the house hold level of the respondents. Overall 376 neonate mothers were included from the study and produces 100 % of response rate and knowledge of mothers about colostrum feeding 86.4 % [[95%, CI :(83.0-89.6)] whereas, the overall practice of mothers about colostrum feeding was found to be 98.4% [[95%, CI :(96.8–99.5)].Different factors were assessed whether which affects the outcome variable or not ,therefore variables like as mother's occupation [AOR: 0.2270(.055, 0.93], time take to health center by vehicle [AOR: 4.056(1.385, 11.8] and counseling about colostrum feeding [AOR: 31.1(10.35, 93.2] were significantly associated with knowledge of mothers about colostrum feeding. Similarly one variable such as mothers place of delivery at home [AOR: 20.00(2.30, 173.8] was significantly associated with practice of mothers about colostrum feeding. From the current study the total knowledge of mothers about colostrum feeding was 86.4%.Similar brothers study in Ethiopia showed that about (73.8% study participants had knowledge regarding colostrum feeding[11]. The magnitude of the current study was higher from the study which was conducted in Ethiopia. This high magnitude could be due to increase in awareness creation about colostrum feeding, proper health education and appropriate ANC follow up [12–14].However the study finding of the current research was similar(inline) with the study conducted in Egypt with knowledge level (82.6%) toward colostrum feeding reported .The similarity of findings could be due to similarities among health settings ,counseling and proper education of mothers about colostrum feeding [15].This finding also higher when compared similar research conducted in Pakistan .From Pakistan the overall knowledge of mothers about colostrum feeding was (70.1%).The level of knowledge in Pakistan not only lower than the current study but also it is lower than studies in Egypt and Ethiopia. The difference of knowledge among lactating mothers could

be different in understanding level, improper understating of mothers about the importance of colostrum feeding for their neonates rather they understand as colostrum bad for their neonates [10, 16].

Even though the current study which reveals as knowledge of mothers about colostrum feeding was higher than most studies, study conducted in Nepal showed that 100% mothers knowledgeable about colostrum feeding whereas the study conducted in India reported that 30–40% of Indian women discard colostrum[15, 17].

As evidenced above the overall practice of mothers on colostrum feeding was 98.4% which was higher the knowledge level of the current study ,however the study conducted in Colostrum avoidance, prelacteal feeding and late breast-feeding initiation in rural Northern Ethiopia revealed that (21%) of the study participants feed colostrum. This was very lower when compared the findings of the current study. The higher practice may be due to place of delivery at health institution, post-natal counseling and education about colostrum feeding [5, 18, 19].

The practice of colostrum feeding differs from country to countries, for instance from the current study about 98.4% practice colostrum feeding .Similarly the study conducted in Daharan showed that colostrum was fed by 95% and the two research findings showed that there is similarities between them but the study conducted in Pakistan showed that about 72.1% mothers offered colostrum feeding while 27.9% discarded colostrum and the findings was lower than compared with the two study findings [16, 20]

Countries like rural Northern Ethiopia and in India revealed that 21% of mothers in urban areas had discarded colostrum whereas 79 % in urban and 70.5% in rural practices colostrum feeding. The study findings lower both the current study and the study conducted in Daharan [7, 18, 21].

Colostrum feeding affected factors like mother's occupation and counseling about colostrum feeding were significantly associated with knowledge of mothers about colostrum feeding but delivery at was significantly associated with practice of mothers about colostrum feeding.

However from similar research colostrum feeding had been influenced by maternal age, gravidity, and occupation. Similarly educational status of the mothers, socioeconomic status, place of delivery, mode of delivery were found to be significant association with colostrum feeding[7, 21].

Limitation

Knowledge of mothers about colostrum feeding was assessed by quantitative way is good but to furthers explore qualitative method is suggestive but due to COVID-trait qualitative mixed method was not used.

Conclusion

Discarding of colostrum (first milk) is still common in Este (Mekane-Eyesus) and the surrounding rural kebeles. The current knowledge and practice level of colostrum feeding among mothers was 96.4% and 98.4% respectively and which was considered being high when compared the study conducted in Northern Ethiopia, Egypt and India. Even though the knowledge and practice level of mothers about colostrum feeding was high and satisfactory still mothers practicing butter, water and gruel feeding to their babies immediately after delivery and which is very bad practice recommended to be corrected.

Abbreviations

AOR =Adjusted Odds Ratio, ANC=Ante Natal Care, DC=Data Collection, ERC-Ethical Review Committee, GC=Gregorian calendar, HIV=Human Immunodeficiency Virus, KM=Kilo Meter, KP-Knowledge and Practice, NEC=Necrotizing Entero Colitis, OR=Odds Ratio, PI=Principal Investigator, WHO=World Health Organization

Declarations

Ethical Approval and Consent to Participate:

Ethical clearance was obtained from the school of the nursing ethical review committee on behalf of the Debre Tabor University review board. The verbal informed consent was acceptable and approved by Ethical review board on the behalf of Debre Tabor University.

Consent to publication:

Not applicable

Availability of the Data:

Data will be available upon request from the corresponding author.

Acknowledgment:

Authors' Contribution:

All authors made substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data. And took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published, and agree to be accountable for all aspects of the work. All authors have read and approved the final manuscript.

Disclosure:

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