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Assessment of Knowledge, Attitude and Practices of Colostrum Feeding among Postnatal Mothers

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ABSTRACT

Background: Colostrum is yellow to orange color, thick and sticky first milk produced by the mammary glands which was universally recommend to feeding for every newborn. It has Laxative effect and contains bioactive immune factors which protect a neonate against a variety of infections and allergic diseases. Globally, around 5.6 million children died before reaching their fifth birthday, of those, 2.6 million (46%) died in the first 30 days of life. Approximately 7000 newborns died every day, most of which occurred within first 7 days after birth, with about 1 million dying on the first day and close to 1 million dying within the next 6 days in 2016. Various factors can effectively reduce neonatal mortality to greater levels early initiation of Colostrum feeding and exclusive breastfeeding for the first 6 months of life is one of them which prevent around 20% newborn deaths and 13% under-five deaths. Even those few studies conducted on Colostrum feeding in Ethiopia there is no sufficient information in our study area. There for this study will try to fill the information gaps and serve as implementation guide and reference for stake holder and other researchers. Objective: To assess knowledge, attitude and practices of colostrum feeding among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019. Methods and material: Health facility based cross sectional study was condcted on 306 women attending delivery service in Harar Town Jugal and Hiwot Fana Specialized university Hospitals. Sample was allocated proportionately and study participant was selected by systematic random sampling. Collected and checked data were entered in to Epi Data software version 3.02 and exported and analyzed using SPSS version 21. Mean value were used to classify as good or Poor knowledge, altitude and practice on hand hygiene. Finding was summarized and presented in different forms of diagrams and tables and statement. Result: The overall prevalence of good knowledge, altitude and practice on this study was 96 %, 89 % and 70 % respectively. Majority 65.5 % and 94 % of the mother replied that important for growth and development of baby and it protect disease from their new born. Few 8% provide other than colostrum after birth due to different reasons. Conclusion and Recommendation: Even if the overall prevalence of good knowledge. Altitude and practice was higher on this study few clients does not now initiation time of breast and also provide other substance instead of colostrum and discard it due to fear of abdominal cramp and their believed that it was not clear. Therefore responsible bodies and stake holders need to work for alleviating such misconception and information gaps.

Keywords: *Newborn, Colostrum, Feeding, Neonatal mortality*

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1. INTRODUCTION

Colostrum is yellow to orange color, thick and sticky first milk produced by the mammary glands. Rich in proteins, calories, vitamin A and sodium chloride, but contains lower amounts of lipids, fat and potassium than normal milk (WHO, 2017; Ghai et al., 2009). World Health Organization and United Nations Children's Emergency Fund Universally recommend colostrum feeding for every newborn (WHO/UNICEF, 2017). Newborns have premature digestive system so that Laxative effect of colostrum encourages passage of baby's first stool, meconium and it will helps to clear excess bilirubin which is produced in large quantities at birth that may causes jaundice (Fisher, 2000). The first milk (colostrum) contains bioactive immune factors which protect a neonate against a variety of infections and allergic diseases (Chae et al., 2017). It contain various Immuno Globulin like IgA, IgG and IgM which helps to protects the mucous membranes in the throat, lungs, ear and intestines of the infant. (Loureiro et al.,1998; Arifeen et al., 2001). In Ethiopia, colostrum were seen as abnormal milk. Many societies considering colostrum as it cause abdominal problems to the newborn and 50% up to 79% of mothers discarded colostrum to decrease this effect (Rogers et al., 2011).

Statement of the problem

Globally, around 5.6 million children died before reaching their fifth birthday, of those, 2.6 million (46%) died in the first 30 days of life (UNICEF, 2017). Approximately 7000 newborns died every day, most of which occurred within first 7 days after birth, with about 1 million dying on the first day and close to 1 million dying within the next 6 days in 2016 (WHO, 2017). Most of the neonates died in Southern Asia (39%), followed by sub-Saharan Africa (38%). Half of all newborn deaths occurred in the following five countries: India, Pakistan, Nigeria, the Democratic Republic of the Congo and Ethiopia (UNICEF, 2017). Various factors can effectively reduce neonatal mortality to greater levels; early initiation of breastfeeding is one of them (WHO, 2010). Early initiation of Colostrum feeding and exclusive breastfeeding for the first 6 months of life prevents around 20% newborn deaths and 13% under-five

deaths (Jones et al., 2003). It can also reduce mortality due to neonatal infections (sepsis, pneumonia, tetanus, and diarrhea) (Mullany et al., 2008) which contribute 36% in neonatal deaths from all causes, and preterm birth an additional 27% (Lawn et al., 2005). Every day, as many as 4,000 infants and young children die worldwide because they do not get colostrum with in the first hour after birth (WHO, 2008) UNICEF global databases in 2016 indicates the rates of early initiation of colostrum feeding are extremely low i.e.(within one hour of giving birth) initiation of colostrum feeding about 17% in Eastern Europe and Central Asian countries and 33% in Asia-Pacific. About 50% are in Latin America, the Caribbean, East and North Africa. 43% of newborns in the developing world are put to the breast within one hour of birth. Regional averages range from a high of 54% in Eastern and Southern Africa to a low of 39% in South Asia and West and Central Africa (UNICEF, 2016). Several factors could cause neonatal death among those, one of the main causes of neonatal mortality and morbidity is inadequate breast feeding. (Kumari et al., 1988) Ethiopia has one of the highest infant mortality rates in the world and inappropriate neonatal feeding is primary factor. (Kaewsarn et al., 2003). Even those few studies conducted on Colostrum feeding in Ethiopia; there is no sufficient information in our study area. There for this study will try to fill the information gaps. This study is also needed because colostrum feeding play a vital role in preventing under five nutritional problem as well as neonatal death in relation to breast feeding.

Significance of Study

This study will identify knowledge, altitude and practice of postnatal mother on Colostrum feeding and it shows how far the practice is exit, the major gaps and what measurement should be taken to improve Colostrum feeding practice in the study area as well as other similar settings.

The ability to identify gaps that exists on knowledge, attitude, and practices toward colostrum feeding will help health care workers, stakeholders, Programmers /planner, governmental and Non-governmental organization and responsible bodies for having relevant information which helps for timely planning, interventions and established appropriate strategies to improve, promote and maintain Colostrum breast milk feeding which would lead to better neonatal outcomes. The study will also serve as a reference data for other researcher.

Objectives

General objectives

To assess knowledge, attitude and practices of colostrum feeding among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019

Specific objectives

- To assess knowledge of postnatal mothers towards colostrum feeding among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia
- To determine attitude of the postnatal mothers towards colostrum feeding among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia
- To identify colostrum feeding practice among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia

2. METHODOLOGY

Study area and period: This study was conducted in Harari regional State which is one of the ten regional states of the Federal Democratic Republic of Ethiopia which was located in the eastern part of the country at 526 km away from Addis Ababa, the capital city of Ethiopia. In the region 3 governmental, 2 private and 1Hamline Fistula hospital and 8 health center were found. The study was conducted in Jugol and Hiwot Fana Specialized university hospital. Those hospitals were provides several clinical services, laboratory, radiology services, pharmacy services, surgery care, Gynecology, pediatrics, obstetrics, Maternal and child health cares. The study was conducted from December 16, 2018 to Jan 4, 2019 G.C

Study design: Health facility based cross sectional study was used

Population

Source population: The source of population was all postnatal mothers who was attending postnatal service in Jugol and Hiwot Fana Specialized University Hospital

Study population: The study population was selected postnatal mother who was attending postnatal service in Jugol and Hiwot Fana Specialized University Hospital during data collection period.

Inclusion and Exclusion criteria

Inclusion criteria: All postnatal mothers who have postnatal care follow up Jugol and Hiwot Fana Specialized University Hospital

Exclusion criteria:

Women who are chronically ill

Those mothers who refuse to participate on the study

Mother who have still birth child

Mother who are unable to speak or and hear

Sample size determination: Sample size was determined by using a single population proportion formula by assuming 5% marginal error and 95% confidence interval (∂ (alpha) = 0.05) and sample size was calculated for the three variables using of good knowledge 76.26, prevalence of good attitude which is 78.84 % and prevalence of colostrum feeding practice, which is 77.71 % from study conducted Debremarkos town governmental health institution Amhara regional state, Ethiopia (Gualu et al., 2017). By comparing the three sample size the highest was taken which becomes 278 by adding 10% non response rate the final sample was 306.

Sampling Techniques and Procedure: Among 3 Governmental Hospitals two hospitals were selected by simple random sampling method. Sample was allocated proportionately based on their annually patient flow. Individual study subjects at each health facility were selected by systematic random sampling.

Total N in Hiwot Fana specialized university Hospital =330 and Total N in Jugal Hospital =165.

HFSUH $\frac{330\times306}{495} = 204$ and

Jugal hospital $\frac{165\times306}{495} = 102$

Total sample size=204 +102=**306**

Study variables

Dependent variables

Knowledge of colostrums breast feeding
Attitude of colostrums breast feeding
Practice of colostrum breast feeding

Independent variables

Socio demographic variables: Age**,** Marital status**,** Residence**,** Occupation, Educational status**,** Monthly family income**,** Ethnicity

Sources of information: Health institution, Community, family, friends, mass media**.** Colostrum feeding, early initiation of breastfeeding, pre lacteal feeding

Data collection tolls and method: Data collection tool was developed after critical review of literature. The questionnaires was prepared in English language then translated to Afan Oromo and Amharic language. It was prepared as an interview guide to assess participant's socio demographic condition, knowledge, attitude and clostrum feeding practice. Face to face interview was conducted by trained data collectors.

Data quality control: To assure the quality of data pretested was done on 5% of total sample size in Harar Federal Police Hospital. Training was given for data collector's supervisor and data entry clerks prior to the study. Data completeness, consistency and legibility were cheeked by supervisor on daily based and double data entry was performed by separated at a clerk.

Data processing and Analysis: After data collection each questionnaire was checked for completeness, consistency then coded. Epi-Data version 3.1 and SPSS version 21 were used for data entry and analysis. Frequency is rune to analyze descriptive statistics. Knowledge, attitude and practice part are analyzed based on total question mean value were used to classify as good or Poor knowledge, altitude and practice on colostrum feeding. Finding was summarized and presented in different forms of diagrams and tables and statement

Ethical considerations: Ethical clearance letter was obtained from Harar health Science College Institution Research Ethics Review Committee. Permission was obtained from study institution. All the participants were informed the purpose, advantages and disadvantages, and there right to be involved or not also with draw from the study at any time. Informed consent was obtained from all participants. Confidentiality was maintained by avoiding names and other personal identification.

Operational Definitions

Good knowledge: Participant who respond greater than or equal to mean value of total knowledge related questions (Gualu et al., 2017).

Poor knowledge: Participant who responds less than mean value of total knowledge related questions (Gualu et al., 2017).

Positive attitude: Participant who responds correctly greater than or equal to mean value of attitude related questions (Gualu et al., 2017).

Negative attitude: Participant who responds less than mean value of attitude related questions (Gualu et al., 2017).

Good practice: Those Participants who respond greater than or equal to mean value of practice related questions (Gualu et al., 2017).

Poor practice: Participant who responds less than mean value of practice related questions (Gualu et al., 2017).

3. RESULT:

Scio – Demographic Result

A total of 295 respondents have participated in this study with a response rate of 96 %. Majority 110 (38%) of respondents were between 25-35 years of age. Regarding residence and marital status majority were 176 (60%) urban habitant and 274 (94 %) married. 186 (63%) of respondents were Muslim religion followers. One third 99 (34 %) of study participants had Private employee **(Table-1).**

Table 1: Socio-demographic characteristics postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019 G.C

Variables	Characteristics	Frequency (No.)	Percent (%)
Age	< 25	99	34%
	25-35	110	38%
	35-45	79	27%
	> 45	5	2%
Residence	Urban	176	60%
	Rural	117	40%
Marital status	Single	2	1%
	Married	274	94%
	Divorced	10	3%
	Widowed	7	2%
Religion	Muslim	186	63%
	Orthodox	63	22%

	Protestant	39	13%
	Catholic	5	2%
Ethnicity	Oromo	198	68%
	Amhara	43	15%
	Harari	16	5%
	Tigre	8	3%
	Others	28	10
Occupational of mother	Government employee	30	10%
	Private employee	99	34%
	Merchants	80	27%
	House wife	76	26%
	NGO employee	8	3%
Occupation of fathers	Government employee	36	13%
	Private employee	46	17%
	Merchants	53	19%
	Daily laborer	34	12%
	NGO employee	8	3%
	Farmer	97	35%
Monthly income	<1000	78	27%
	1001-2000	60	20%
	2001-3000	57	19%
	3001-4000	70	24%
	>4000	28	10%

Knowledge of the study participants towards colostrum Breast Milk

The overall prevalence of good knowledge in this study was 96%. Majority 282 (96%) was heard about clostrum and their main source of information was from 148 (52%) Health institutions and 281 (95.9%) was replied that colostrum is important for growth and development of baby as well 238 (81%) identify nutritive content of colostrum and 274 (94%) replied that Colostrum protect disease from babies.

Table 2: Knowledge of colostrum feeding among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019 G.C

Variables	Characteristics	Frequency	Percent
Do you heard about colostrums	Yes	282	96%
	No	11	4%
Source of information	Family	53	19%
	Health institution	148	52%
	Mass media	76	27%
	Friends	5	2%
Color of colostrum	Yellow	263	93%
	White	19	7%
Is colostrum important for growth and development of baby	Yes	281	95.9
	No	12	4.1
colostrums is the best first milk given to the infant	Yes	238	81%
	No	55	19%
Do you know the Contents of colostrum	Yes	238	81%
	No	55	19%
What contents do you know	Proteins	238	81%
	Minerals	221	75%
	Immunoglobulin	223	76%

	Carbohydrates	231	79%
	Fats	219	75%
	Minerals	221	75%
Colostrum protect disease from babies	Yes	274	94%
	No	19	6%
Use as first immunization	Yes	279	95.2
	No	14	4.8
Colostrum use as laxatives	Yes	279	95.2
	No	14	4.8

Attitude of postnatal mothers towards colostrums breast milk feeding

The overall good attitude towards colostrum feeding on this study was 89 % (271). Majority of the participant was disagreed that 120 (41%) Colostrum breast milk is dirty, looks like Pus and 149 (51%) Colostrum breast milk Causes diarrhea, 164 (56%) respond that there family told them that colostrum should not to be given to the new born. (Table 3)

Table 3: Altitude of postnatal mothers towards colostrum feeding in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019 G.C

S No	Variable	Strongly agree	Agree	Disagree	Strongly dis agree	Neutral
1	Colostrum is inadequate breast milk	0 (0%)	8 (3%)	120 (41%)	165 (56%)	0 (0%)
2	Colostrum breast milk is dirty, looks like pus	0 (0%)	8 (3%)	120 (41%)	165 (56%)	0 (0%)
3	Colostrum breast milk Causes diarrhea	14 (5%)	18 (6%)	149 (51%)	112 (38%)	0 (0%)
4	Baby did not likes colostrum breast milk	8 (3%)	23 (8%)	140 (48%)	122 (42%)	0 (0%)
5	Colostrum makes the baby sick	18 (6%)	10 (3%)	136 (46%)	129 (44%)	0 (0%)
6	Baby unable to suck colostrums	12 (4%)	9 (3%)	156 (53%)	116 (40%)	0 (0%)
7	My family says it should not to be given	20 (7%)	10 (3%)	164 (56%)	99 (34 %)	0 (0%)
8	Colostrum causes constipation	14 (5%)	14 (5%)	166 (57%)	99 (34%)	0 (0%)
9	Unable to protect babies from jaundice	25 (9%)	5 (2%)	110 (38%)	153 (52%)	0 (0%)
10	Colostrum is difficult to digest and needs to be discarded.	10 (3%)	2 (1%)	178 (61%)	75 (26%)	28 (10%)

Practice colostrums feeding among postnatal mothers

The overall prevalence of good Practice in this study was 70% (205). Majority 271(92%) of the mother provide colostrum to the baby after birth while 22 (8%) did not provide it and their main reason 10 (45%) was fear of abdominal cramping and instead of clostrum majority 14 (5%) provide cow's milk.

Table 4: Colostrum feeding Practice among postnatal mothers in Harar Town governmental Hospital Harar, Eastern Ethiopia 2019 G.C

Variables	Characteristics	Frequency	Percent
Did you provide colostrum to the baby after birth	Yes	271	92%
	No	22	8%
If no reason for not feed and discarded colostrum	Abdominal cramping	10	45%
	difficult to digest	4	18%
	I believed it is polished	8	36%
When did you provide colostrum to the baby after birth	Within 1 hour after delivery	116	43%
	Within 6 hour after delivery	99	37%
	Within 24 hour after delivery	32	12%
	After discard some of colostrum milk	24	9%
	Total	22	100%
Instead of colostrum what did you provide to the baby	plain water	6	2%
	cow's milk	14	5%
	Butter	2	1%
	Total	22	8%

4. DISCUSSION

In this study out of 293 postnatal mothers 96 % had good knowledge this finding is greater than study conducted in East Gojjam zone Amhara regional state of Ethiopia which was 76.72 % have good knowledge about colostrum breast milk (Gualu et al., 2017). This difference might be due to difference in socio-cultural and study period as well sample size.

In this study majority 96 % of the mother was head about colostrum feeding and there major source of information was 52 % from health institution this finding is higher while it compared with study conducted in Nepal which was 74 % and 12 % (Joshi et al., 2012) This difference might be due to sample size and socio -demographic variation.

In this study 95.2 % mothers knew that colostrum is the first milk need to give for the baby and 81% also describe content of colostrum which was higher compared to study conducted in India 68.7% and 8.3 %. (Raina et al., 2012) This difference might be due to information provision through media and health extension workers in our study area.

The finding of this result indicates that 43% and 94 % of mother had knew the appropriate time for feeding colostrum and it protect disease from babies. This finding was higher than study conducted in Pakistan 14% and only 9% (Aisha et al., 2016). The reason for variation might be due to study area and socio cultural deference.

In this study 89 % had favorable attitude towards colostrum breast milk this finding is higher than study conducted East Gojjam 78.8% and 8% in this study perceived colostrum breast milk as dirty and looks like pus which is lower than East Gojjam 44.71% (Gualu et al., 2017). This discrepancy might be due to difference in study setting, sample size and socio-cultural deference's.

In this study 70 % of the study participant had good practice on clostrum feding which was in line with study conducted in 60.88%, MizanTepi University Teaching Hospital (Shewasinad et al., 2017). Regarding time of breast feeding and provision of colostrum in this study 43 % start feeding within an hour and 92 % provide colostrum which is lower 54 % and higher 82% than study conducted in Arbaminch (Tamiru and Mohammed, 2013). This difference might be due to discrepancy in study area and sample size.

In this study only 1 % of respondent provide butter which was lower 25.5 % than study conducted in Raya Kobo district, Northeastern Ethiopia (Legesse et al., 2015). This difference might be due to defense in study population and socio- cultural deference.

5. CONCLUSION AND RECOMMENDATION

Conclusion

Generally, the studies showed that majority 96% of clients had Good knowledge and 89 % had favorable altitudes on colostrums feeding as well as 70%, had good practices. Majority of postnatal mother had good knowledge about feeding but regarding the initiation time of breast feeding awareness creation and provision of counseling is important. Even if majority of postnatal mother provide colostrum after birth, 8% did not give to their babies instead they feed prelacteal like water, fresh butter and cow milk so that health education provision is important to improve on it.

Regarding attitude of postnatal mother's majority of mothers accept colostrum feeding immediately after delivery was adequate and it doesn't causes gastro intestinal discomfort like diarrhea or constipation, difficulty to digested for baby and protect him from disease.

Recommendation

- **Health workers** need to Provide health education and promotion on contents, advantages, duration, frequency ,and time of initiate breast feeding to the mothers
- To provide education on the health impact of providing other substance than colostrum like plain water, Cow's milk and butter.
- **For health Extensions worker:** Provide community based education in order to initiate colostrum feeding immediately after delivery, not provide other substances even water for new born until 6 months and don't accept tradition myths about colostrum feeding

For Mass Media: Disseminate health information for the families and mothers about colostrum feeding benefits as well as time of feeding to babies and postnatal mothers.

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