

Knowledge and Practices Among Immediate Post Partum Women About Colostrum at Women's Health Hospital

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Abstract

Background: Breast feeding is a basic practice in Egypt but the importance of giving colostrum milk is still poorly known because cultural variations. **Aim** to assess knowledge and practices among immediate post partum women about Colostrum. **Research design:** descriptive study design was used to achieve the objective of this study. **Subjects and methods:** 350 women immediately after birth who met the criteria of selection that were involved in the study at Women's Health Hospital, Assuit University. A structured interview questionnaire developed to assess knowledge and practices of women about colostrum milk. **Results:** Most of women had not knowledge about the importance of colostrum. Unsatisfactory level of knowledge (82.6%) toward colostrum feeding reported by the studied women. Also poor practices of post partum mothers (58.6%) for feeding colostrum to their newborn were presented by the studied mothers. **Conclusion:** Most of women unsatisfactory level of knowledge about the importance of colostrum and more than fifth percent of them had poor practices; toward colostrum feeding. **Recommendations:** Improving Knowledge and Practices of women toward colostrum feeding, through arranged educational programs, health care providers should focus special attention for pregnant women in discussing colostrum feeding in the antenatal care follow up visits.

Keywords: *Colostrum, Post Partum Mother's Knowledge & Practices.*

Introduction

Breastfeeding is an important public health strategy for reducing infant, child and maternal morbidity and mortality, and control health care costs. Breastfeeding is associated with reduced risk of otitis media, gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enterocolitis, obesity, and hypertension, also breast-feeding is the standard way of feeding for all newborns, and it is also enhances sensory and cognitive development (Al-Binali, 2012) Colostrum is the first milk secreted by the mammary glands of mammals in third trimester of pregnancy near to birth and continuing about three to four days after delivery. And is immediately available to the newborn at the birth. It contains some nutrients in higher concentration than that in mature breast milk, such as vitamin A and E, carotenoids, protein and minerals, but contains less glucose and urea, also colostrum contains high amount of carbohydrates, sodium chloride, and contains less amounts of lipids and potassium than mature milk (Joshi & Lamsal, 2012) Most of women inaccurately considering colostrum and mature milk as two different types, perceiving only mature milk as true breast milk; they may delay initiation breast feeding until secretion mature milk, avoidance and discarding colostrum milk (Nikki & Jemalla, 2011) Breast milk is secreted by the woman after birth and had three different stages: colostrum, transitional milk and mature milk, changes depending on child's

age, colostrum produced during the first days after childbirth (Motee & jeewon, 2014) It is yellow and thick breast milk and contains more antibodies and high amount of vitamins A, D, E and K. Transitional milk is the milk secreted after 3-4 days up to subsequent two weeks. The immunoglobulin and protein content decreases while the fat and sugar content increases; mature milk follows transitional milk (Rifat, et al., 2016) Colostrum milk contains different type of immunoglobulin's such as Immunoglobulin A (IgA) (reactive to Escherichia coli virulence associated proteins), Immunoglobulin G (IgG) and Immunoglobulin M (IgM3) and other defense factors that protect newborns from microorganisms of the environment and promote the maturation of the immune system (Golinelli, et al., 2014) Some mother's believed that colostrum is not secreted from the first day after birth, but colostrum will be secreted in the second or third day afterbirth and the minimal amount of milk was useless. So they gave their infants sugary water or formula milk to calm their infants' crying on the first day because the informants thought that their breast milk had insufficient to satisfy their infants (Abuidhail, 2014) Because there are still many people thought that colostrum is an unsafe substance which should be discarded, the importance of colostrum is poorly known to the population. Mothers with lower education generally believed that the colostrum should not be fed to the infant and that a pregnant

woman's milk is unhealthy for the baby. Cultural beliefs have a significant influence on breastfeeding practices. Some of these practices are potentially harmful to newborns (Haider, et al., 2010) It was reported that regular breast feeding should be initiated only when mother becomes 'pure' after bath although the best practice in breast feeding is the infant perceived colostrum milk immediately after delivery, breast feeding initiation was delayed for three to four days and the infant was fed on diluted milk or cow's milk or goat's milk during this period. Majority of women stated that breastfeeding was delayed for three days because of different cultural practices (Khakoni, et al., 2014).

Maternal health Nurses play an important role in assisting women to initiate and be successful with breastfeeding. The nurse can provide information about, and support of, breast feeding. The prenatal nurse can inform the women of the benefits of breast feeding to herself and her newborn (Adugna, 2014). This work aimed to assess knowledge and practices among immediate post partum women about Colostrum.

Significance of the study

Cultural beliefs have a significant influence on breastfeeding practices. Some of these practices are potentially harmful to newborns the most of mother thought that colostrum should not be fed to the infant and that a pregnant woman's milk is unhealthy for the baby (Haider, et al., 2010).

Joshi, 2012 reported that the Egyptian study revealed that most women (71.6%) gave the first breastfeed more than 36 hours after delivery, While, 10% of Turkish mothers breastfed their infants within the first hour of birth, with most women (90%) initiating breastfeeding two days after birth the main causes for this was poor maternal knowledge about appropriate time for initiating breastfeeding so The study assumed that health education about the timing of breast feeding and colostrum feeding during antenatal care visits is very important (Joshi & Lamsal, 2012). Based on the clinical experience of the investigator and finding of previous studies it was found that most women did not feed their newborns the colostrum, and it was found also limited researches discuss this problem in Egypt, so this study was conducted to explore mother's knowledge and practices regarding colostrum feeding.

Subject & Method

Research Design

Descriptiv study design was used to achieve the objective of the study.

Setting

The study was conducted at Women's Health Hospital, Assiut University. At the post partum and emergency ward.

Subjects

The subjects of this study consisted of 350 mothers immediately after birth who met the criteria of selection that was involved in the study.

Research question

- What is mother's knowledge and practices level about colostrum milk?

Sample type

Convenience sample which was included in this study.

The following sample size equation used to demonstrate the included sample size.

Sample Size

The sample size determined according to the sample equation

$$s_s = \frac{z^{2*} (p) * (1 - p)}{e^2}$$

Z=Z value (e.g.1.96 for 95% confidence level)

P=Percentage picking a choice, expressed as decimal

C=confidence interval, expressed as decimal (e.g., .04= ±4)

According to the sample size equation, 350 mothers were included in the study.

Inclusion criteria

- Singleton pregnancy.
- All mothers who have normal labor and cesarean section.
- Primiparas & multi pares mothers.

Exclusion criteria

- Mothers who have illness that prevent breast feeding. Such as (breast cancer, breast infection, HIV-positive mothers, breast abscess).
- Mothers who refused to participate in the study.
- Mothers with newborn admitted to neonatal intensive care unit.
- Multiple pregnancies.
- Preterm labor.

Data collection tool

A structured interview questionnaire was developed by the researcher in English language where the researcher was reads the questions to mothers and write their answers on the sheets based upon a review of current and previous national and international literature to assess the immediate post partum mother's knowledge and practices about colostrum milk.

Tool I: A structured interview questionnaire sheet

It included five parts to collect data related to the socio demographic characteristics of the studied mothers, obstetrical history and current pregnancy

data. Also it contained part related to assessment of mother's knowledge about colostrum feeding as (importance, advantages of colostrum and its effect on the fetus and mother's health, time of secreting colostrum, time of initiation of breast feeding, source of knowledge such as media, health care workers, grand mother, study...)

Scoring system for knowledge

Assessment of women's level of knowledge regarding colostrum milk, total knowledge scores was classified as Satisfied Knowledge if they answered questions correctly equals 60% or above and unsatisfied knowledge if their answers were less than 60% of the score.

Knowledge score divided into

- Satisfied ($\geq 60\%$) - Unsatisfied ($< 60\%$).

Tool II: Assess practice through observational checklist

Which contain questions about previous practices on breast feeding and observation of current women's practices during breast feeding as (giving breast or bottle feeding, giving any liquid, formula in hospital before breast feeding or not, types of fluid given, and time of initiation breast feeding).

Scoring system for Practice:-

Scoring system was adopted and total practices score were classified as good practices if their practices were correctly more than 70%, as fair practices if their practices were from 50% to 70% and poor practices if their practices were less than 50% of the score.

- Good ($> 70\%$)
- Fair (50% to 70%)
- Poor ($< 50\%$)

Procedure: It was concerned with construction and preparation of data collection tools. Managerial arrangement to carry out the study, where the investigator prepared formal requests to the directors of the study settings. The purpose and the nature of the study were explained to gain their acceptance and support. Data collected by using a structured interview questionnaire. All questionnaire items were explained by the investigator sufficiently. Interview with mothers was conducted over three days per week at the morning and afternoon shifts. Every interview took about 15-20 minutes immediate after labor. Data of the current study were collected over a period of 6 months from the beginning of August /2015; till the end of January /2016. Tools were filled and completed through three days per week from the beginning of the study.

Pilot study

was done on 10% (35 women) of the sample to assess the clarity, completeness and understanding of the tools. It also helped in the determine the time needed

to fill the questionnaire; Related to the findings of the pilot study, tools was modified. The mothers who were participating in the pilot study were not included in the main study sample.

Administrative design and ethics

The following ethics point was considered during study period.

- There is no risk for study subject during application of the research.
- The study was following the common ethical principles
- Oral consent should be obtained from women that participate in the study, after explaining study purpose.
- Confidentiality and anonymity was assured.
- Mothers had the right to refuse to participate and or withdraw from the study without any rational at any time.

Statistical design

Data were analyzed by using the statistical package for social science (SPSS) version 21. Continuous data was expressed as frequency, percentage, mean and standard deviation. Discrete data were expressed as frequency, percentage, comparison between variable was done using Chi-square test. Probability (P. value) less than 0.05 was considered significant and less than 0.001 was considered highly significant.

Limitation of the study

This study has some limitation such as

- Some mothers had postpartum pain that impedes them from answering all the asked questions.
- Some mothers refused to give any information about their traditions and believe about colostrum or breast feeding as a general.

Results

Table1: Distribution of the studied mothers according to their Socio-demographic characteristics.

Item	n=350	%
Age		
<20 years	1	0.3
20-35 years	276	78.9
>35 years	73	20.9
Residence		
Rural	242	69.1
Urban	89	25.4
Semi urban	19	5.4
Educational level		
Illiterate	68	19.4
Read and write	49	14.0
Basic education	39	11.1
Secondary	131	37.4
University	51	14.6
Post university	12	3.4
Occupation		
House wife	327	93.4
Employed	23	6.6
Type of family		
Nucleated	250	71.4
Extended	100	28.6

Table (2): Distribution of the studied mothers according to their obstetrical history and current pregnancy and labor data.

	n=350	%
Number of Parity		
Primipara	24	6.9
Multipara (2-4)	230	65.7
Grand multipara (5+)	96	27.4
Number of Abortions		
No abortion	255	72.9
One – 2 abortion	67	19.1
Recurrent abortion (3 or more)	28	8.0
Duration since last delivery		
≤2 years	195	55.7
>2 years	155	44.3
Weeks of gestation for current pregnancy		
Full term	273	78.0
Post date	77	22.0
Complications occurring during labor		
Normal	338	96.6
Complicated	12	3.4
Mode of delivery		
Vaginal delivery	194	55.4
Cesarean section	156	44.6

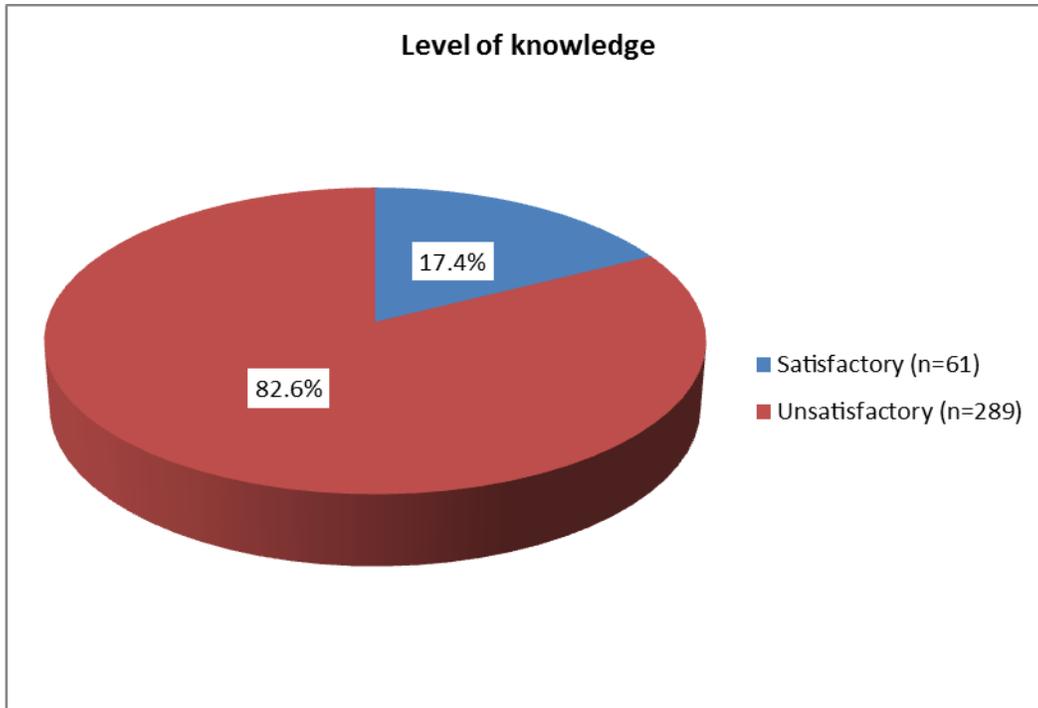


Figure (1): Distribution of the studied women according to their level of knowledge

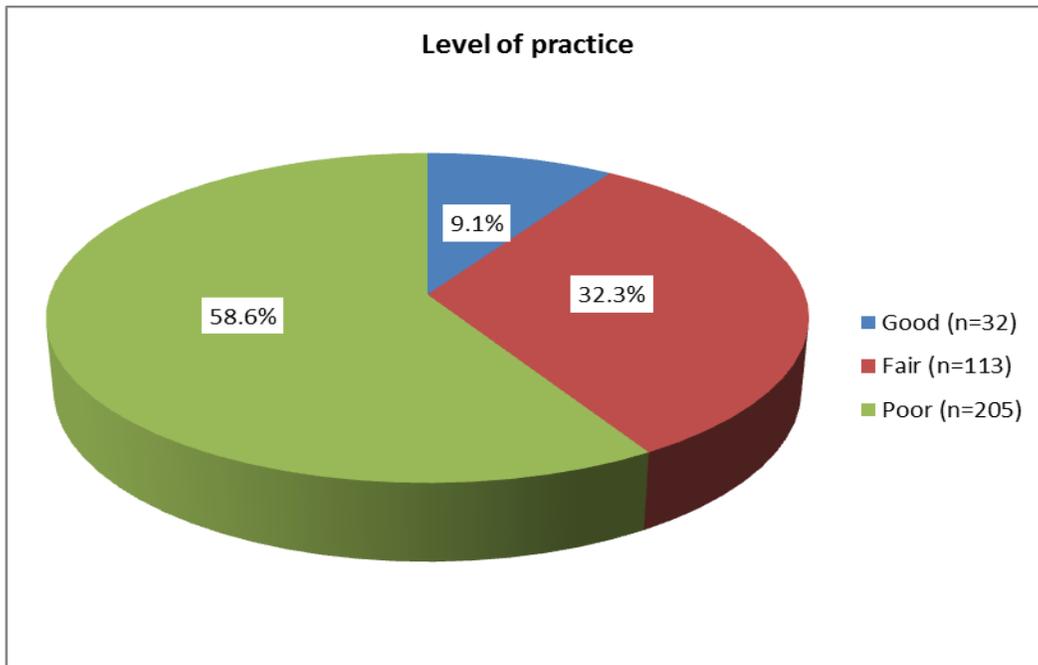


Figure (2): Distribution of the studied women according to their level of practices toward colostrum feeding immediately of birth

Table (3): Relation between level of knowledge of the studied mothers about colostrum feeding and their socio-Demographic characteristics.

Item	Knowledge				P. value
	Satisfactory		Unsatisfactory		
	No.(61)	%	No.(289)	%	
Age					
<20	0	0.0	1	0.3	0.384
20-35	52	85.2	224	77.5	
>35	9	14.8	64	22.1	
Residence					
Rural	25	41.0	217	75.1	<0.001**
Urban	34	55.7	55	19.0	
Semi urban	2	3.3	17	5.9	
Educational level					
Illiterate	0	0.0	68	23.5	<0.001**
Read and write	1	1.6	48	16.6	
Basic education	1	1.6	38	13.1	
Secondary	25	41.0	106	36.7	
University	26	42.6	25	8.7	
Post university	8	13.1	4	1.4	
Mother's occupation					
House wife	43	70.5	284	98.3	<0.001**
Employed	18	29.5	5	1.7	
Type of family					
Nucleated	55	90.2	195	67.5	<0.001**
Extended	6	9.8	94	32.5	

** Statistically significant difference ($p < 0.01$)

Table (4): Relationship between mother's practices toward colostrum feeding and their obstetrical history.

	Practice						P. value
	Good		Fair		Poor		
	No.(46)	%	No.(44)	%	No.(260)	%	
Number of Parity							
Primipara	4	8.7	6	13.6	14	5.4	0.004*
2-4	37	80.4	31	70.5	162	62.3	
5+	5	10.9	7	15.9	84	32.3	
Number of Abortion							
No abortion	34	73.9	29	65.9	192	73.8	0.471
One-2	10	21.7	12	27.3	45	17.3	
Recurrent abortion	2	4.3	3	6.8	23	8.8	
Mode of delivery							
Normal	25	54.3	28	63.6	141	54.2	0.05
Cesarean section	21	45.7	16	36.4	119	45.8	
Duration since last delivery							
≤2 years	23	50.0	32	72.7	140	53.8	0.046*
>2 years	23	50.0	12	27.3	120	46.2	
Duration of pregnancy							
Full term	36	78.3	39	88.6	198	76.2	0.181
Post date	10	21.7	5	11.4	62	23.8	
Pregnancy status							
Normal	40	87.0	43	97.7	238	91.5	0.03
Complicated	6	13.0	1	2.3	22	8.5	

** Statistically significant difference ($p < 0.01$)

Table (5): Relation between mother's knowledge and practice regarding colostrum milk.

Practice	Knowledge				P. value
	Satisfactory		Unsatisfactory		
	No.	%	No.	%	
Good	45	73.7	1	0.3	0.000**
Fair	14	23.0	30	10.4	
Poor	2	3.3	258	89.3	

Table (1): shows that most of studied mother's age were ranged from 20-35 years, living in rural area, secondary educated and were a house wife.

Table (2): According to the past and current obstetrical profile of the studied women, it was found that 65.7% of the women delivered from two to four times. Concerning to the duration since last delivery, it was showed that (55.7%) had birth spacing from one to two years. According to mode of delivery (55.4%) delivered by spontaneous vaginal delivery.

Figure (1): Shows that the total level of the studied women's knowledge regarding colostrum milk. It was observed that majority of women (82.6%) had unsatisfactory knowledge about colostrum milk, while minority of them (17.4%) had satisfactory level of knowledge.

Figure (2): This figure shows the total level of the studied women's practices regarding to colostrum feeding. It was found that 58.6% of the women had poor practices toward given colostrum feeding, and 32.3% of the women had fair practices, while only 9.1% of them had good practices toward colostrum feeding.

Table (3): This table shows a statistical significant relation between women's level of knowledge and place of residence, level of education, women's occupation and family type, it was observed no statistical significant relation between level of knowledge and women's age at P value > 0.05

Table (4): This table found that, there is a statistical significant relation between practices level of women regarding colostrum feeding and their parity, mode of delivery, duration since last delivery and pregnancy status.

Tables (5): Present a statistical significant difference between women's level of knowledge and practice toward colostrum feeding. As, women who had satisfactory level of knowledge, had good practices of colostrum feeding.

Discussion

Infant feeding practices appear to be the most affective factor for infant health. It is known that the best source for infant's nutrition is breast feeding, which gives immunological and psychological benefits. Colostrum is unique in its composition and

consists of specific anti-infective factors which protect neonates from infection (Sujatha & Prasad, 2015).

Regarding to the personal characteristics of the studied women, it was found that more than three quarter of them their age range from 20-35 years, with mean \pm SD of age (31.2 \pm 5.0), most of them was housewives, and more than one third of them had secondary educated, according to place of residence, the present study showed that more than two third of women were living in rural area, and these characteristics are relevant to the subjects of many related researches.

As regards to knowledge of the studied mothers about colostrum, this study reflect a poor level of knowledge about colostrum milk, about half of them didn't have enough knowledge about colostrum milk. Which lead to delayed breast feeding initiation. This lack of knowledge may be due to lack of attending antenatal care visits. This result is in disagreement with Geetha, (2015) who studied knowledge and practices of colostrum and exclusive breast feeding among women of children less than six months at Puducherry, they reported that about one third of their sample had adequate knowledge toward colostrum feeding. This difference may be due to size of the sample and place of residence of the studied women.

In the current study, more than two thirds of women didn't have knowledge about importance of colostrum milk. Related to the role of colostrum milk to infant's health, few of the studied women said that it helps for nutritious, and it protect from disease, this finding may be due to the most sample size were illiterate, which reflect that the education is an important factor in women's knowledge about breast feeding. The present study is in agreement with Chaudhary, et al., (2011) who studied Knowledge and practice of women toward breast feeding: in Nepal, he reported that only one quarter of women had knowledge about colostrum feeding importance.

Also the present study is in agreement with Rifat, et al., (2016) who conducted her study in Pakistan to assess knowledge, attitude and practices toward colostrum feeding among pregnant women in Military Hospital Rawalpindi of Pakistan, she

reported that, knowledge of the women toward colostrum feeding importance was not enough. One quarter of women perceived that colostrum milk should be feed to the new born, while more than one third of her studied women said that colostrum is substance which is unsafe for the new born.

On the other hand the results of the present study toward women's knowledge about colostrum were in disagreement with **Joshi & Lamsal, (2012)** that conducted his study In Nepal. He assess knowledge, attitude and practices toward colostrum milk, according to the importance of colostrum to newborn health, he found that two fifths of women though that it proper growth of infant and protect against infection, and one third of women had no idea about colostrum milk. This difference may be due to educational level, occupation and place of residence of the studied women.

According to the knowledge about the best time of breast feeding initiation in our study, minority of women had knowledge on breast feeding starting within ½-1 hour of birth, While more than two fifths of women believed that the appropriate time for giving colostrum is after three days of labor, which may delayed starting of breast feeding this may be due to lack of performing antenatal care or lack of discussing time of breast feeding with the mother, and reflect that culture beliefs is controlling some health hapits of women. Moreover, lack of knowledge may be because women had not got advice about colostrum feeding during ANC visits. This result was agreed with **Chaudhary, et al., (2011)** he reported that minority of women had knowledge about initiation breast feeding within ½-1 hour after birth.

Also this finding was agreed with **Rifat, et al., (2016)** she showed that minority of women knew that the best time for giving colostrum milk is immediately after delivery (1/2 - 1 hour), Where as most of these women initiated feeding within 6 - 24 hrs. There was a large gap between knowledge and practices toward colostrum feeding. So, health care providers should offer special attention for pregnant women in discussing colostrum feeding in the ante natal care follow up visits.

Moreover, this finding was disagreed with **Mohammed, et al., (2014)** who conducted her study in a Rural Areas at El-Minia Governorate, Egypt, to assess knowledge, attitude, and practices of breastfeeding and weaning among Mothers of Children up to 2 Years Old, she reported that Majority of the mothers initiated breastfeeding immediately after delivery. This difference may be due to size of the sample, educational level, occupation and place of residence of the studied women.

Concerning to practices regarding giving colostrum milk, the best practice in breast feeding is the infant perceived colostrum milk immediately after delivery. The practice of prelacteal feeding such as herbs and other fluids is still common in Assiut, Egypt. In the present study more than half of the studied women gave drink and herbs before breast milk and more than two fifths of them gave water with sugar, and it was observed the most of the studied women had given drink immediately after birth, this result may be due to the most sample size were illiterate.

This finding of the present study was agreed with **El-Gilany & Abdel-Hady, (2014)** who studied Newborn First Feed and Prelacteal Feeds, in Mansoura, Egypt. Her study reported that, more than fifth percent of infant had given different types of prelacteal feeding as the first feed for them.

These findings were disagreed with **Dastie, et al., (2010)** who conducted a study In Kuwait to determinants initiation of breastfeeding among women; PLF is the norm as most of newborn had given PLF as water, or milk as their first feed.

According to factors affecting on giving colostrum milk. The present study demonstrated high statistical significant difference between mother educational level and level of knowledge. It was observed that mothers who had unsatisfactory knowledge about colostrum feeding were illiterate and had secondary schools education in about one quarter and one third of the respectively. Unfourtiarily, university educated women had unsatisfactory knowledge regarding colostrum milk with statistical significant difference ($p=0.001$). These results were agreed with the study of **Afrosea, et al., (2012)** who conducted her research in Dhaka city to study Factors associated with knowledge about breastfeeding among female garment workers and observed a significant association between educations with total knowledge score of breastfeeding. A minimum level of good knowledge seemed to be directly from mothers who had secondary educated.

Conclusions

Based on the results of the present study, it can be concluded that

Most of the participated women had not knowledge about the importance of colostrum, as, most of studied women had unsatisfied knowledge and more than fifth percent of them had poor practices toward colostrum feeding, the data still indicate that more efforts are needed to improve the Knowledge and Practice toward colostrum feeding.

Recommendations

Based on the results of the present study, the following recommendations were suggested

- Improving Knowledge and Practices of women toward colostrum feeding in Assuit, through arranged educational programs.
- Raising women's awareness of the society about colostrum feeding that provided through health care providers, the media, local magazines and pamphlet in local languages.
- Health care providers should focus Special attention for pregnant women in discussing colostrum feeding in the antenatal care follow up visits.
- More researchers are needed to improve Newborn infant Nutrition.

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