

The study of Knowledge & Practices about Colostrum Feeding among Mothers in Rahim Yar Khan

Dr.Muhammad Ramzan Aziz; Dr.Altaf Hussain; Dr.Noman Ali; Dr.Aiman Shahid.

Department of Anesthesia, Sheikh Zayed Hospital, Rahim Yar Khan, University Of Health Sciences Lahore, Pakistan.

Correspondence: Dr.Muhammad Ramzan Aziz, Department of Anesthesia, Sheikh Zayed Medical College, Rahim Yar Khan, Pakistan.

E--mail:ramxan574@gmail.com

Abstract;

Background: Colostrum is important for promoting health, growth and development of newborn and fighting the infections. The momentous role it plays in sustaining baby's well being is poorly understood due to socio-economic dynamics among people of Rahim yar khan. Existence of false beliefs and practices about colostrum feeding led to development of this study.

Objective: To assess the knowledge and practices about "Colostrum feeding" in pregnant mothers of Rahim yar khan.

Method: A sample of 105 pregnant women who attended the OPD, Pediatric and Gynecology wards and EPI center in the Sheikh Zayed Hospital that were entered by the convenient sampling. A pre-designed questionnaire, was filled by interviewing these women, having variables of Age, Gestation periods, Income, Education and Occupation of pregnant mothers, No. of children, Residence area, Heard about colostrum, Source, Knowledge about colostrum, Misconception about colostrum, Importance of colostrum to child health, Practices about colostrum feeding, and anything given before colostrum feeding.

Results: In our study 76.2% women had knowledge about colostrum. 45.7% respondents mentioned that the source of information was friends and family. 27.6% of pregnant women told that it is nutritious milk. 26.7% think it is thick milk, while according to 14.3%, 7.6% and 5.7% it is extra good for child, first milk to be discarded and ordinary milk respectively. 69.5% women had no misconception regarding colostrum but

14.3% thinks that ghutti should be given while 11.4% had misconception that it is dangerous for babies health. 1.9% said its color is not good and not good for babies each. In this study 46.7% of the respondents thought colostrum to be good for babies when asked about

its importance while 25.7% had no idea about its importance. 31.4% of women have started breast feeding within ½ hour while others 21.9%, 21%, 16.2% and 9.5%, within 2, 4, 6, 12, 1st hours respectively. Majority 73.3% had given pre lacteal feeds like ghutti to their newborn babies. while 26.7% didn't.

Conclusion: Majority of mothers had knowledge about colostrum feeding, they thought that it is nutritious milk, good for babies health and had no misconception but still some respondents said that it is thick milk and first milk should be discarded. Others also told that ghutti should be given. Although mothers included in study had knowledge about colostrum feeding but they were not practicing in that proportion. Pregnant mothers has been found giving ghutti before colostrum feeding.

Key Words: Knowledge, Practice and Colostrum Feeding.

1.Introduction

Breastfeeding is the normal/natural way of providing young infants (from birth till 2 years of age) with the nutrients they need to grow and develop properly. It is strongly recommended to start feeding within the first hour after birth. First fluid given to baby by mother through breast feeding is colostrum.

- *Colostrum:*



The first milk secreted at the time of parturition, differing from the milk secreted later, by containing more lactalbumin and lactoprotein, and also being rich in antibodies that confer passive immunity to the newborn, also called “foremilk” (1). Colostrum is also known as “first milk”, and “beestings”. Colostrum is a form of milk produced by the mammary glands of mammals in late pregnancy.

According to World Health Organization,
“ it is recommended that mothers provide first breast milk to their babies within one hour of birth – referred to as early initiation of breastfeeding. This ensures that the child receives the breast milks, which is rich in protective factors “

To reduce infant mortality and ill health, the mother first provides breast milk to her infant within one hour of birth referred to as “early initiation of breast feeding”. This ensures that the infant receives the colostrum (first milk)(3). According to WHO, “If every child was breastfed within an hour of birth, given only breast milk for their first six months of life and continued breastfeeding up to the age of two years, about 800,000 child lives would be saved every year.

According to Horton in the Lancet magazine:
“Of all deaths in children under the age of five years, nearly 40% occur during the first four weeks of life,

Two-thirds of deaths occur in 10 countries (Afghanistan, Bangladesh, China, Democratic Republic of Congo, Ethiopia, India, Nigeria, Pakistan, Indonesia, and the United Republic of Tanzania).”(4).

Infant mortality rate (74 deaths/1000 live births) means 1 in every 14 infants in Pakistan die before reaching one year of age. The annual health report of the Pakistan Medical Association (PMA) for the year 2011, that indicate one child dies every minute from communicable diseases. The report also reveals that every year about 400,000 infants die in the first year of their life.

1.2 Constituents and uses of colostrum:

Newborns have very immature and large digestive systems, and colostrum delivers its nutrients in a very concentrated low-volume form. It has a mild laxative effect, encouraging the passing of the baby's first stool, which is called meconium. This clears excess bilirubin, a waste-product of dead red blood cells, which is produced in large quantities at birth due to blood volume reduction from the infant's body and helps prevent jaundice. Colostrum is known to contain immune cells (as lymphocytes)(6) and many antibodies such as IgA, IgG, and IgM. This is due to the early "closure" of the intestinal epithelium to large molecule uptake in humans unlike the case in cattle which

	Human colostrum	Human breast milk
Total protein	23	11
Immunoglobulins	19	0.1
Fat	30	45
Lactose	57	71
Calcium	0.5	0.3
Phosphorus	0.16	0.14
Sodium	0.50	0.15

/ 16

Figure 1: Composition of Colostrum



Colostrum is very rich in proteins, vitamin A, and sodium chloride, but contains lower amounts of carbohydrates, lipids, and potassium than mature milk. 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 (12).

The most pertinent bioactive components in colostrum are growth factors and antimicrobial factors. The antibodies in colostrum provide passive immunity, while growth factors stimulate the development of the gut. They are passed to the neonate and provide the first protection against pathogens. Breasts produce colostrum beginning during pregnancy and continuing through the early days of breastfeeding. This special milk is yellow to orange in colour and thick and sticky.

It is low in fat, and high in carbohydrates, protein, and antibodies to help keep baby healthy. Colostrum is extremely easy to digest, and is therefore the perfect first food for your baby. It is low in volume (measurable in teaspoons rather than ounces), but high in concentrated nutrition for the new-born. Colostrum has a laxative effect on the baby, helping him pass his early stools, which aids in the excretion of excess bilirubin and helps prevent jaundice.

Colostrum provides not only perfect nutrition tailored to the needs of newborn, but also large amounts of living cells which will defend baby against many harmful agents.

Colostrum is considered baby's first immunization because it contains large quantities of an antibody called secretory immunoglobulin A.



Colostrum is often called “white blood” because it provides large amounts of living cells (lymphocytes and macrophages, similar to those in blood) which will defend the baby against infections

and illnesses. Colostrum is also rich in transfer factors that educate and modulate the immune system and successfully teach it to recognize specific antigens.

2. Objective:

Objective of this study was
To assess the knowledge and practices about “Colostrum feeding” in Pregnant mothers of Rahim Yar Khan.

3. Methodology:

3.1 Study Design:

Cross sectional.

3.2 Study Setting:

Outdoor patient department (O.P.D) and indoor of Gynecology and Pediatrics departments of Sheikh Zayed Hospital Rahim Yar Khan.

3.3 Study Subjects:

Pregnant mothers with at least one child of less than 1 year age.

3.4 Sample Size:

A total of 105 pregnant mothers.

3.5 Sampling Technique:

Convenient sampling.

3.6 Duration Of Study:

The study was conducted during 4 months from 01-03-2017 to 30-06-2017.

3.7 Inclusion Criteria:

Pregnant mothers having at least one child of less than 1 year age.

Who gave informed consent.

3.8 Exclusion Criteria:

Mothers who were pregnant for the first time.

Mothers who did not give informed consent.

3.9 Data Collection Method:

A Sample Of 105 Pregnant Women Who Attended The OPD , Pediatric And Gynecology Wards And EPI Center In The Sheikh Zayed Hospital That Were Entered By The Convenient Sampling. A Pre-Designed Questionnaire, Having Variables Of Age, Gestation Periods, Income, Education And Occupation Of Pregnant Mothers, No. Of Children ,Residency, Heard About Colostrum, Source, Knowledge About Colostrum, Misconception About Colostrum, Importance Of Colostrum To Child Health, Practices About Colostrum Feeding, Anything Given Before Colostrum Feeding Was Filled By Interviewing These Women. All The Data Was Collected After Getting Verbal Consent From Mothers. Each Mother Was Observed By Two Students At A Time To Avoid Any Mistake In Recording The Data.

3.10 Data Analysis:

Data Was Entered And Analyzed By Using SPSS Version 16.The Frequencies And Percentages Were Calculated On Categorical Variables. Means And Standard Deviation Were Calculated On Numerical Variables I.E Age And Monthly Income.

4. Results:

The Present Cross Sectional Study “Knowledge And Practices About Colostrum Feeding Among The Pregnant Mothers Attending SHEIKH ZAYED HOSPITAL Rhaim Yar Khan, Pakistan. In This Study 105 Isolates Were Study.

Following Results Were Observed.

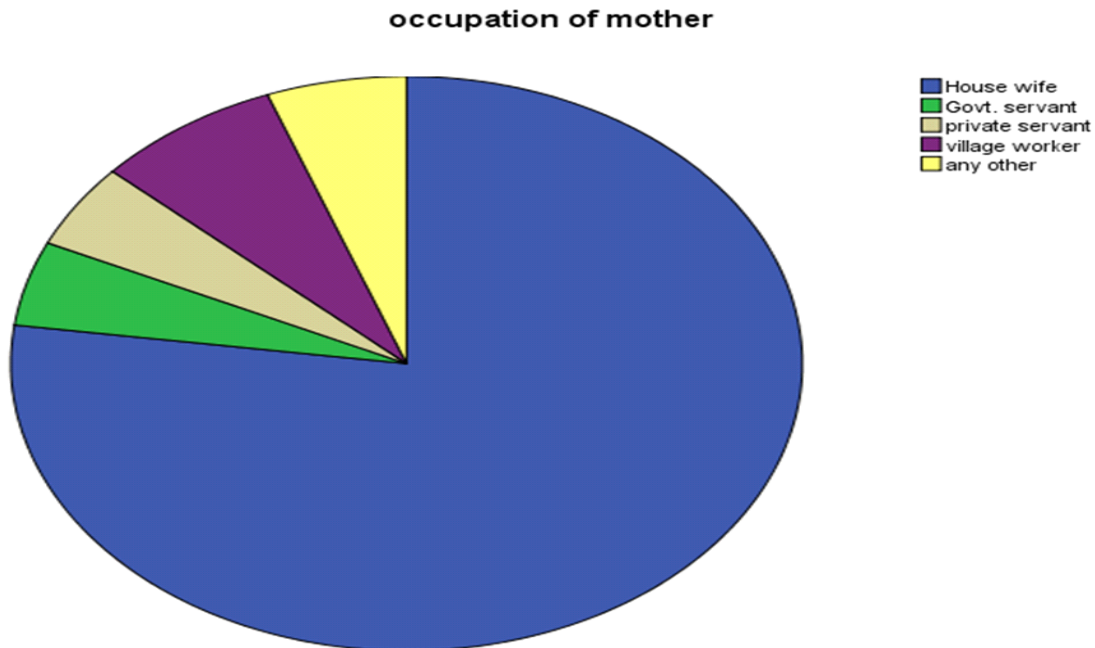
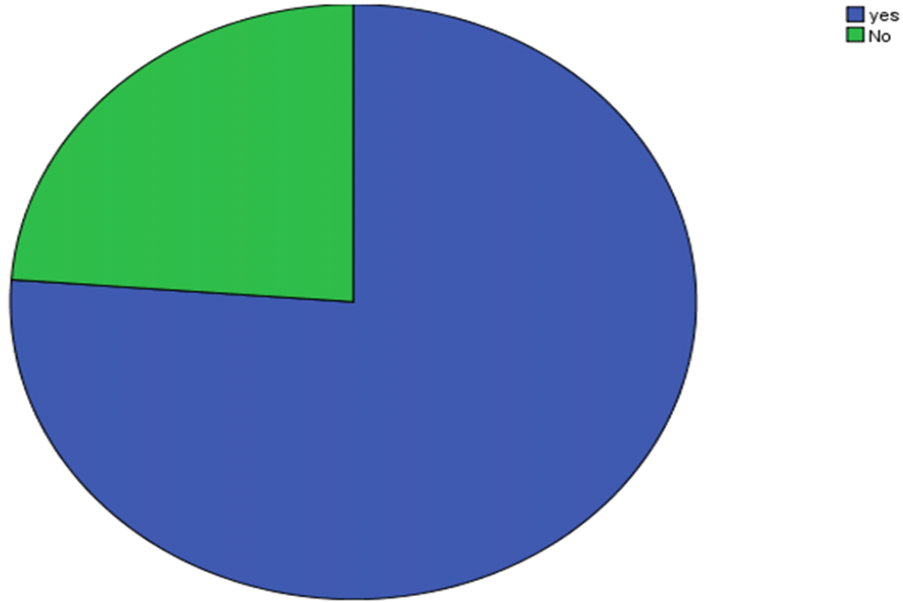


Chart No 1 (Shows Occupation of Mothers)

Heard about Colostrum



_Chart No 2 (Shows How many individuals Heard about clostrum)

Table No.1

Distribution of Pregnant Women According to Their Knowledge about Colostrum.

Knowledge about Colostrum	Frequency	Percentage (%)
Ordinary milk	6	5.7%
Thick milk	28	26.7%
Nutritious milk	29	27.6%
Extra good for child	15	14.3%

First milk to be discarded	8	7.6%
No idea	19	18.1%
Total	105	100.0%

Table no.1 shows that 27.6 % of pregnant women thought that Colostrum is Nutritious milk and 26.7 % thought that it is thick milk.

Table No.2

Distribution of Pregnant Women According to Their Misconceptions about Colostrum.

Misconception About Colostrum	Frequency	Percentage (%)
Dangerous for baby health	12	11.4 %
Should be given Ghutti	15	14.3 %
Colour not Good	2	1.9 %
Not Adequate For Baby	2	1.9 %
Causes Pain in Nipples	1	1.0 %
No Idea	73	69.5 %
Total	105	100.0 %

Table no.2 shows that 69.5% of Pregnant women had No Idea about misconception of Colostrum But 14.3% thought that Ghutti should be given.

Table No. 3

Distribution Of Pregnant Women According To The Importance Of Colostrum Feeding.

Importance Of Colostrum	Frequency	Percentage (%)
Good for child	49	46.7 %
Prevents Infections	14	13.3 %
Promote Growth of Child	15	14.3 %
No Idea	27	25.7 %
Total	105	100.0 %

Table no.3 Shows that 46.7% Of Pregnant Women told that Colostrum is Good For Child And Other 25.7% had No Idea about the Importance of Colostrum.

Table No. 4

Distribution Of Pregnant Women According To The Practices Of Colostrum Feeding To Their Last Child.

Practices Of Colostrum Feeding	Frequency	Percentage (%)
Within 1/2 hr.	33	31.4 %
Within 1 hr.	10	9.5 %
Within 6 hrs.	22	21.0 %
Within 12 hrs.	17	16.2 %
After 24 hrs.	23	21.9 %
Total	105	100.0

Table no.4 shows That 31.4% Of Pregnant Women had Started Practices Of Colostrum Feeding Within ½ hour After delivery.

Table No.5
 Distribution Of Pregnant Women That Had They Given Your Last Child Anything Before Colostrum feeding.

Had You Given Your Last Child Anything Before Initiating Breast Feeding	Frequency	Percentage (%)
Yes	77	73.3%
No	28	26.7%
Total	105	100.0%

Table no.5 shows that 73.3% Pregnant Women said that they had given their last child anything before colostrum feeding.

Have you given your last child any thing before initiating breast feeding?



5. Discussion:

The total sample size during data collection period in this study was 105. The mean age of women was 27.85 years median 28.00 years mode 30 years with standard deviation of 5.817 years. Most respondents were in their 2nd trimester(41%) while 29.5% were in 1st and 3rd trimester each. When asked about socioeconomic status the monthly income of pregnant women ranges from Rs 6000 to 35000 having mean Rs 14847.62 with standard deviation of Rs 7709.611. Majority of the pregnant women 42.9% were illiterate and 3.8% of them were above inter. while in another study only 2.5% were illiterate and 36.9% of them were secondary and above (26).

In our study 54.3% subjects belongs to urban area while 45.7 to rural area. Occupation of the pregnant ladies were as follows: house wife 77.1%, village worker 7.6% ,other 5.7%, government servant 4.8%, private servant 4.8% . Which is in contrast to another study in 95% of women were unemployed and only 5% were employed (27).In over study the pregnant women were multigravida majority 28.6% having more than 3 children while 28.6%,27.6% and 13.3% have 1 2 and 3 children respectively.

In our study 76.2% women had knowledge about colostrum. In another study it was 75%(28).45.7% women mentioned that the source of information is friends and family,for 9.5% ,13.3%,1%,3.3% its media,antenatal doctor,LHV,LHW respectively. According to another study More than half (65%) of pregnant women mentioned receiving breastfeeding information from sources other than the MCH nurses. Although health care providers' advice is not the only expected source of information, it is interesting to note that a higher number of the respondents received breastfeeding information from other sources such as their mothers (largest proportion),grandmothers, friends and relatives rather than the physician and the media(29).

27.6% of pregnant women told that it is nutritious milk.26.7% thought it is thick milk,while according to 5.7%,14.3% and 7.6% it is ordinary milk,extra good for child and first milk to be discarded respectively.69.5% women had no misconception regarding colostrum but 14.3% thinks that ghutti

should be given while 11.4% had misconception that it is dangerous for babies health.1.9% said that its color is not good and not good for babies each. Most explanations given by mothers for refusing to feed their babies colostrum were connected with cultural beliefs that "colostrum may harm the baby". Colostrum was described as "dirty", "unclean", "contained infected pus", "waste from mother's body", "not food for the baby", and "infectious to a child and can cause yellow eyes".

In this study 46.7% of the respondents told that colostrum is good for babies when asked about its importance while 25.7% had no idea about its importance which is comparable to another study in which about 64% of respondents said that colostrum is important and they knew that colostrum and breast milk was the best food and that only colostrum should be given to the baby immediately after a safe delivery. This positive result could be explained by the positive breastfeeding culture of the Tanzanian women (30).31.4% of women have started breast feeding within ½ hour while others 21.9%, 21%,16.2% and 9.5%, within 24,6,12,1st hours respectively. Majority 73.3% had given pre lacteal feeds like ghutti to their newborn babies. while 26.7% didn't.

5. Conclusion:

Majority of mothers had knowledge about colostrum feeding, they thought that it is nutritious milk, good for babies health and had no misconception but still some respondents said that it is thick milk and first milk should be discarded. Others also told that ghutti should be given. Although mothers included in study had knowledge about colostrum feeding but they were not practicing in that proportion. Pregnant mothers has been found giving ghutti before colostrum feeding.

References

- [1] Godhia M.L, Patel N. Colostrum - its Composition, Benefits as a Nutraceutical - A Review. *Curr Res Nutr Food Sci* 2013;1(1):37-47.



[2] . K.Park. Parks textbook of preventive and social medicine, 23rd edition ed. India: *Banarsidas bhanot*; 2016.

[3] WHO e-library of evidence for nutrition actions(eLENA). Early initiation of breast feeding. *WHO*;2014.

http://www.who.int/elena/titles/early_breastfeeding/en/

[4] S.Hussain, S. Malik and M. K. Hayat, "Demographic transition and economic growth in Pakistan." *European Journal of Scientific Research* 2009 ;31(3):491-99

[5] The Dawn. Child health in Pakistan. 17/4/2012.

<http://www.dawn.com/news/711129/child-health-in-pakistan>.

[6] Bertotto, A; Castellucci, G; Fabietti, G; Scalise, F; Vaccaro, R (1 November 1990). "Lymphocytes bearing the T cell receptor gamma delta in human breast milk". *Arch Dis Child*.65 (11): 1274–5.

[7] Weaver, L. T., Wadd, N., Taylor, C. E., Greenwell, J. and Toms, G. L. (June 1991). "The ontogeny of serum IgA in the newborn". *Pediatric Allergy and Immunology*.2 (2): 72–75.

[8] . Zabłocka A, Janusz M, Rybka K, Wirkus-Romanowska I, Kupryszewski G, Lisowski J; Janusz; Rybka; Wirkus-Romanowska;Kupryszewski; Lisowski (2001). "Cytokine-inducing activity of a proline-rich polypeptide complex (PRP) from ovine colostrum and its active non a peptide fragment analogs". *Eur. Cytokine Netw*.12 (3): 462–7.

[9] Hagiwara K, Kataoka S, Yamanaka H, Kirisawa R, Iwai H; Kataoka; Yamanaka; Kirisawa; Iwai (October 2000). "Detection of cytokines in bovine colostrum". *Vet. Immunol.Immunopathol*.76 (3–4): 183–90. doi:10.1016/S0165-2427(00)00213-0. PMID 11044552.

[10] Flidel-Rimon O, RothP; Roth (November 1997). "Effects of milk-borne colony stimulating factor-1 on circulating growth factor levels in the newborn infant".

J. Pediatr. 131 (5): 748–50. doi:10.1016/S0022-3476(97)70105-7. PMID 9403658.

[11] Oddy, W. (2002) The Impact of Breast Milk on Infant and Child Health. *Breastfeeding Review*, 10, 5-18.

[12] United Nations Children’s Fund. The State of the World’s Children 2013: Children with Disabilities. Three United Nations Plaza, New York.

[13] Playford RJ, Macdonald CE, and Johnson WS. Colostrum and milk derived peptide growth factors for the treatment of gastrointestinal disorders. *American Journal of Clinical Nutrition*, 72(1):5–14, July 2000.

[14] Gastrointestinal Inflammation and Repair Group, Imperial College, London. Unpublished research. In an in vitro experimental study, colostrum stimulated intestinal cell growth and reestablished a healthy epithelial layer following injury. In an in vivo experimental study, colostrum powder was also shown to reduce gastric injury (2003).

[15] Carver JD, Barness LA. Trophic factors for the gastrointestinal tract. *Clinical Perinatology*, 23(2):265–285 (1996).

[16] Playford RJ, Woodman AC, Clark P, Watanapa P, Vesey D, Deprez PH, Williamson RC, Calam J. Effect of luminal growth factor preservation on intestinal growth. *Lancet*, 341(8849):843–848 (1993).

[17] Setegn T, Gerbaba M, Belachew T. Determinants of timely initiation of breastfeeding among mothers in Goba Woreda, South East Ethiopia: A cross sectional study. *BMC public health*.2011;11(1):217. doi: 10.1186/1471-2458-11-217

[18] Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50 302 women with breast cancer and 96 973 women without the disease. *Lancet* 2002; 360: 187–195.



- [19] <http://www.medicalnewstoday.com/articles/78485.php>
- [20] United Nations Children's Fund, Child Info: Monitoring the Situation of Children and Women; Statistic by Area/Child Nutrition, <http://www.childinfo.org/breastfeeding.html>.
- [21] Prof Cesar G Victora MD ,Rajiv Bahl MD, Prof Aluísio J D Barros MD,Giovanny V A França PhD, Prof Susan Horton PhD, Julia Krasevec MSc et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet* 2016; 387(10017):475-490. 10.1016/S0140-6736(15)01024-7
- [22] Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS: How many child deaths can we prevent this year?. *Lancet*. 2003, 362 (9377): 65-71. 10.1016/S0140-6736(03)13811-1.
- [23] UNICEF (2009) The Baby Friendly Hospital Initiative. <http://www.unicef.org/newsline/tenstps.htm>
- [24] Edmond, K et al. Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality. *Pediatrics*.2006 Mar;117(3):e380-6.
- [25] World Health Organisation. Infant and young child feeding. (press release) July 2010.