

RESEARCH PAPER

A comparative study on the effect of breastfeeding and bottle-feeding among health of milk feed infant of district Muzaffarnagar

RITU GARG* AND VARSHA GOEL

Department of Home Science, Shri Ram Girls' P.G. College, MUZAFFARNAGAR (U.P.) INDIA
(Email: varshag79@gmail.com)

ABSTRACT

This study examined the effects of breastfeeding and bottle-feeding among health of milk feed infant of district Muzaffarnagar Uttar Pradesh (India). In this study, 200 respondents were selected randomly from Muzaffarnagar district. The information was collected from 200 mothers (100 taken for breast fed and 100 for bottle fed). Both primary and secondary data were collected. Primary data covering different aspects were collected through a self-developed questionnaire (collect general information, anthropometric information, specific information), personal observations and interview method. Data collected were tabulated and statistically analysed by working out frequencies, percentages, mean and SD. The result showed that there is a significant difference between bottle milk and breast milk feed infant. There is also difference between the child health too. Thus, it can be concluded from the results that breastfeeding was popular in rural women through their knowledge about the same needs to be improved. The hypothesis of the study is positive. As we assume that there is a difference between the bottle and breast feed. Based on these findings some recommendation was given with great implication for both practice and further studies.

Key Words : Breast milk, Bottle milk, Nutrients, Infant

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An infant or baby is the term used to refer to the very young offspring of humans. The term “infant” derives from the Latin word *infans*, meaning “unable to speak”. “Infant” is also a legal term referring to any child under the age of legal adulthood. Upon reaching the age of one or beginning to walk, infants are referred to as “toddlers” (generally 12-36 months). An infants grow, food supplements are added, Many parents choose commercial, ready-made baby foods to supplement breast milk or formula for the child. While other adapt their usual meals for the dietary needs of their child. Whole cow’s milk can be used at one year, but lower-fat milk should not be provided until the child is 2 to 3 years old.

* Author for correspondence

Ritu Garg, Department of Home Science, Shri Ram Girls' P.G. College, MUZAFFARNAGAR (U.P.) INDIA (Email: ritu77.garg@gmail.com)

Nutrients for infant :

Adequate nutrition during infancy is essential for life long health and well being-infant should be exclusively breastfed for the first six months of life to achieves optimal growth, development and health. There after, to meet their evolving nutritional requirement infants should receive nutritionally adequate and safe complementary foods, while continuing to breastfeed for upto two years or more.

Milk :

Milk is a white fluid produced by the mammary gland of mammals. It is the primary source of nutrition for young mammals before they are able to digest other type of food early loctation milk contains colostrums which carries the mother's antibodies to the baby disease in the body it also contains many other nutrients.

Cow's milk is beneficial for healthy bones, dental health, obesity reduction in children, protection from thyroid, and protection of heart.

Buffalo milk produce thick and creamy daily products suitable for the manufacture of traditional (indigenous- Indian) milk products like khoa, dhai, paneer, kheer payasam, malai, kulfi, and ghee. Cows milk being less creamy and thick is better used for sweets that's are chenna based products like sandesh, rasagolla, chumchum and rasmalai. Buffalo milk is used widely in western countries for the production for buffalo mozzarella cheese.

The best diet for a newborn and an infant is breast-feed. However, as the infant rows, he requires additional nutrition, which comes from animal milk as well as other foods- *i.e.* with the introduction of solids- Dalia, Halwa, Khichri, Egg, Curd, Bread in milk etc. Planning the diet of an infant or toddler is an opportunity as well as a responsibility. It the caloric value of the diet given is less than his requirement or specific nutrients like proteins, vitamins, minerals, etc. are inadequate, there will be problems.

Breast-feed for infant :

Best food for Infant is the mother's milk. Don't feed your child artificially unless you are sure that you have the money to by enough milk.

For the first few months of a child's life, the best possible protection which any mother can provide for the baby's normal health and growth is exclusive breastfeeding. After the age of 3-4 months breast milk

is often not sufficient to meet the nutritional requirement of children. So they need additional food- the weaning. In any case breastfeeding must continue along with the weaning foods (Kemberling, 1979).

Bottle-feed for infant :

In the battle between breast and bottle the child is always the loser whti our present day experience and knowledge, there is no place for a bottle in starting or maintaining the nutrition of a child. Bottle-feeding is unsanitary, uneconomical, time-consuming. Cumbersome, unhealthful and a potentially dangerous practice. Bottle-feeding is easier. This is true only if a grand mother or nurse is preparing and giving the feeds. Bottle-feed babies sleep better. There is no evidence that babies who are gaining well sleep longer when given extra milk or sieved foods. Bottle-feed babies cry less. Babies grow on bottle-feeding under-feeding can occur in a breast fed baby but if will be quickly recognized and treated if the child's progress in weight is charted at the child health clinic. Over-feeding is uncommon in breast-fed infants (135) (Kumar *et al.*, 1989 and Li *et al.*, 2012).

Benefits of breastfeeding :

Breast milk provides many health benefits and is the ideal first food for your baby for the first six months of life, the American academy of Pediatrics, (AAP) recommends only breastfeeding a baby.

While you were pregnant, your body was preparing a very special blend of nutrients to meet a baby's colostrums is the perfect starter food a baby. This yellowish, creamy substance is found in the breasts during pregnancy and for a few days after delivery. A colostrums provides all the nutrition a baby will need right after birth. It also provides important protestating against bacteria and viruses. Colostrums acts as natural laxative the meconium (the dark sticky stool that is made while the baby is in the uterus) from your baby's intestines. Singhal *et al.* (1989) and Shariff and Farsana (1990).

Benefits of bottle feeding :

Bottle feeding is one of the most viable alternatives or supplements to however, It has been getting so much negative publicity in the last few years that few mothers bottle feed their babies without wondering whether they are doing the right thing or not. Bottle feeling is convenient, relatively infallible and lot easier to schedule. For mother who have to work outside their homes when their homes

when their babies are young, the feeding bottle is a godsend. Also, other than expressed breast milk and formula, babies may be given other liquid foods like juice and soup through the bottle.

It is less convenient compare to breastfeeding- Since a bottle feeding mother needs a fair amount of additional equipment while a breastfeeding mom is naturally equipped. Cost is considerable compare to breastfeeding. Bottle feeders tent to swallow much more gas and air than breast feeders, which leads to more colic-related problem. Bottle fed babies are more prone to cavities than breast-fed babies.

Objective :

- To find out the knowledge of mother about breastfeeding and bottle feeding.
- To assess the health status of bottle fed and breast fed infant.
- To study the effects of feeding pattern on milkfeed infant.

Limitation :

- The study, carried out at Muzaffarnagar Distt. (Urban and rural area) only.
- Also the sample size was not large.

Moral *et al.* (2010) has conducted a study on "Mechanics of sucking: comparison between bottle feeding and breastfeeding. "The study shows when the mechanics of sucking in mixed feeding lay outside the range of equivalence comparing bottle feeding with breastfeeding, although difference were small. Children with missed feeding would mix both types of sucking movements (breastfeeding and bottle feeding) during the learning stage and adopt their own pattern.

A study conducted by Institute for Research in Medical Statistics (IRMS), Delhi revealed that about 29 per cent of the mothers started breastfeeding within 24 hours. The proportion was almost same in urban and rural areas. About two third mothers discarded the colostrum.

A study conducted by WHO in 1979/80, in Hyderabad revealed that around 96 per cent of the infants in major cities and 99 to 100 per cent of the babies in small towns and rural areas were breastfed.

Gale *et al.* (2012) has conducted a study on "Effect of breastfeeding compared with formula feeding on infant body composition: a systematic review and meta analysis.: The study shows when compared with

breastfeeding, formula is associated with altered body composition in infancy.

Anderson (1999) has conducted a study on "Breastfeeding and cognitive development" a meta-analysis". The study shows that meta-analysis indicated that, after adjustment for appropriate key cofactors, breast-feeding was associated with significantly higher scores for cognitive development than was formula feeding.

Nemeh *et al.* (2010) has conducted a study on "Factors affecting intention to breastfeed among Syrian and Jordanian mothers: a comparative cross sectional study." The data of study shows, in syria and Jordan, a more positive attitude to breastfeeding, previous breastfeeding experience and presence of supportive husbands are associated with intention to breastfeed. These factors should be considered when planning designed to promote breastfeeding in these two countries.

Smith *et al.* (2003) has conducted a study on "Initiation of breastfeeding among mothers of very low birth weight infants". The objective of study was to examine factors that predict the initiation of expressed milk and the transition to direct breastfeeding among mothers of years low birth weight (VLBW) infants. socio-demographic factors were associated with both the decision to initiate expressed milk feedings and the transition to direct breastfeeding. However, factors relation to infant health only influenced the transition to direct breastfeeding. Intervention programmes need to consider the socio-demographic factors that influence infant feeding decisions as well as specific challenges encountered by mothers of VLBW infants.

Paine and Coble (1982) has conducted a study on breastfeeding and infant health in a rural US community. The study shows when the medical history for the first year of life of 106 infants in a rural community was reviewed. During the first month of life, a significant difference was found in the number of office visits for illness between breastfed infant and infants who were bottle-fed from birth. For the first 6 months of life, breast-fed infants with and without bottle supplements had significantly fewer months with illness than bottle-fed infants, regardless of prior exposure to breast milk. Demographic data indicated no appreciable differences between feeding groups. It is concluded that breast-feeding offers a protective advantage against illness.

Scientific management committee, published on line 2010 February 11. Suggested that infants aged 21-28

days. Exclusively bottle-fed showed fewer sucks and the same number of pauses but of longer duration compared to breastfeeding. In mixed feeding bottle feeding compared to breastfeeding showed the same number of sucks but fewer and shorter pauses. Both at 21-28 days and at 3-5 months.

RESEARCH METHODOLOGY

The study was conducted in the Muzaffarnagar district of Uttar Pradesh. Both rural and urban area was taken. Random sampling technique was used to select the areas and mothers. A list of all the rural and urban areas was obtained from the district development office Muzaffarnagar. 200 respondents were selected randomly from Muzaffarnagar district. The information was collected from 200 mothers (100 taken for breast fed and 100 for bottle fed). Both primary and secondary data were collected. Primary data covering different aspects were collected through a self-developed questionnaire (collect general information, anthropometric information, specific information), personal observations and interview method. Data collected were tabulated and statistically analysed by working out frequencies, percentages, mean and SD.

RESULTS AND REMONSTRATION

This table show the value of mean and SD values applied on the Table 1. The result about the different parameters of anthropometric measurement taken in the study is given as :- The mean value of height of the bottle feeding group is 2.14 and Breast feeding group is 19.5 The weight mean value of height and weight is 4.906 and 4.808. Head circumference mean values and 15.34 and 14.84 as per the group of bottle feed and Breast feed with the mean values of the height, weight and head circumference there are chest circumference and waist hip ratio of bottle feeding and breastfeeding is 16.04 and

15.81 with the mean value of samples the standard values are also calculated. SD values of different parameters are calculated. The height SD value of bottle feeding samples is 2.82 and breastfeeding samples is 1.17 and breastfeeding samples is 1.58. SD value of Head circumference of bottle feeding samples is 1.43 and breastfeeding samples is 1.29. Chest circumference SD values of bottle feed and breast feed samples is 2.12 and 1.97. And at last the SD value of waist hip ratio of Bottle feeding samples is 2.14 and breastfeeding group is 1.97. Similar work related to the present investigation was also carried out by Daisy (1993); Chandrashekar *et al.* (1995) and Jakobsen *et al.* (1996).

Conclusion :

This study was conducted to compare the bottle feeding and breastfeeding among milk feed infant. All the samples were divided into two groups, one group were consuming bottle feed and second group were consuming breastfeed. According to the study bottle milk and mothers milk has different in the nutrient level by which Anthropometric. Measurements are affected of the child. Findings have revealed that knowledge on the advantage of breast milk was satisfactory. All mothers were aware that breastfeeding is better than bottle-feeding. Breastfeeding is always better than bottle feeding and the study has proved this. The immense benefits of breastfeeding makes it the best choice. The result showed that there is a significant difference between bottle milk and breast milk feed infant. There is also difference between the child health too. Thus, it can be concluded from the results that breastfeeding was popular in rural women through their knowledge about the same needs to be improved. The hypothesis of the study is positive. As we assume that there is a difference between the bottle and breast feed. The study proves it. Research suggests that infant who are breast-fed, rather than bottle-fed breastmilk, are better to self determine fullness as

Table 1 : There is difference found in the tabulated values so the study shows that there is a difference between the anthropometric measurement of both group

Sr. No.	Parameters	Mean value		Standard deviation value	
		Bottle feed	Breast feed	Bottles feed	Breast feed
1.	Height	2.17	19.5	2.82	2.82
2.	Weight	4.906	4.808	1.71	1.58
3.	Head circumference	15.34	14.84	1.43	1.29
4.	Chest	16.03	15.81	2.12	1.97
5.	Waist- Hip ratio	16.04	15.81	2.12	1.97

children and may have a lower risk of overeating and obesity later in life (Isslemann, 2011), Recent research suggests that it is the act of breastfeeding that helps prevent rapid weight gain (Li and Magadia *et al.*, 2012).

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