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A Pre-experimental study to evaluate the effectiveness of structured teaching programme on knowledge regarding benefits of Colostrum for newborn among Antenatal mothers attending antenatal OPD of Era Hospital (Lucknow).

SUSHMITA RAI
MSC. (N) STUDENT
ERA COLLEGE OF NURSING

INTRODUCTION

BACKGROUND OF THE STUDY

"Mother's milk, time tested for millions of years, is the best nutrient for babies because it is nature's perfect food"

- Robert S. Mendelsohn

Rind John (2003)[1] explained that breast feeding should be initiated within the first half an hour after birth. The first milk is the most suitable food for the newborn. It is the thick and yellow colored, the shaastras call it "peeyusha" (equal to amrit, the 'liquor of life') and western science uses the word "COLOSTRUM". For most of the children breastfeeding makes the difference between life and death and it is the infants "PASSPORT TO LIFE". It can be also considered as the first vaccine which needs a "warm chain" made by mother-infant contact. It is secreted in very less amount (30-100ml), so the mothers need to be explained that this small amount of colostrum is adequate for infant and must not be denied.

Kumari S (1988)[2] described that colostrum is universally acknowledged as the perfect first food for infants. A review of the costumer of expressing antenatally by all women is followed by the maternal and infant medical reasons for expressing and storing colostrum. A suggested regime for expressing and storing of colostrum during pregnancy is included with advice about skin-to-skin contact in the first twenty-four hours to maximize breast milk output in the long term.

Nanthini Sabbiah (2006)[3] stated that women are recognized as the "keepers of the culture", or the main people who transmit costumes to the next generation. Chief among these costumes is the method for feeding newborns. The rate of breastfeeding varies in communities from almost 70% to a low of 13% as this is culturally influenced. If a woman comes from a family where no one has ever breastfed, she may be very interested in being a "pioneer" in her family. On the other hand, she may be more interested in following her family's tradition of formula feeding. In hospitals breastfeeding is to begin immediately after birth. So, initiation of breast feeding while colostrum is still being produced is thought to decrease infant mortality, especially in non-industrialized populations.

Jackie Nix (2001)[4] stated that colostrum is the first fluid available for the baby after birth. It is usually thick yellowish and creamy. Colostrum has higher protein than mature milk. The protein compound of colostrum consists primarily of enzymes, anti- infectious agent and growth factor, which serves to support growth and development of the baby. Colostrum provide to the kids with immunoglobulin or antibody that provide passive immunity for the first two months of life. Kids born with no antibody for their own and rely on which provide by the mother.

Ellen L March (2006)[5] described that colostrum contain high amount of sodium, potassium, chloride and cholesterol. This combination is believes to encourage the optimum development of the infant heart, brain and central nervous system. Colostrum serves to supply the developing gastrointestinal tract with growth factor. That promotes the maturation of gastrointestinal epithelial cells which facilitate not only the absorption of nutrient but also the construction of physical barrier to invasion by pathogens.

Paula Yount (2003)[6] explained that colostrum feeding not only provide for the fundamental nutritional Need but also the emotional need of the neonate. Establishment of lactation within one hour after birth may have important consequence for the health and development of the new born. It contain full of antibody protected white cells, long chained polysaturated fatty acids, vitamin K, rich in minerals lower in carbohydrate than matured milk. It act as natural laxative helping to move meconium out baby's system, helping reduce the incidence of jaundice in the newborn baby.

DAFTUARY & DUTTA (2006)[7] explained that colostrum has got a higher specific gravity, a high protein vitamin A, sodium and chloride content. The antibodies provide immunological defence to the newborn. Studies showed that colostrum has an anti- diarrheal action in some patient with chronic diarrhea of infective origin.

Encyclopedia (2013)[8] colostrum has antioxidant and anti-inflammatory properties. The yellow color of colostrum is due to B-carotene, one of the many antioxidants present. Colostrum causes baby to bring up excretions. Colostrum calms the nausea that babies seem to have in those first few days.

Frankel G Aug (1998)[9] immune components of colostrum are lactoferrin, lysozyme, lacto peroxidase, complement and proline-rich peptide (PRP). It also contains various cytokines and growth factors. Proline Rich Peptide helps fight against various viral infections like herpes viruses and HIV, bacterial and viral infections which are difficult to treat, various cancer, asthma, allergies and autoimmune diseases. It helps to reduce one of the leading causes of death in our country like diarrhoea and Acute Respiratory Infection.

Reddy (1995)[10] Breastfeeding is the best for the baby. Nature's most precious gift to the newborn and equivalent of which is yet to be innovated by our scientific community despite tremendous advances in science and technology. Breastfeeding is virtually important to the health and well-being of the infants. It is evident that even the most sophisticated and carefully adapted formula can never replicate human milk, as human milk has anti-infective properties and is a "live" fluid which cannot be mimicked in artificial formula. Breast milk especially the colostrum in the long term prevents the arteriosclerosis, hypertension and obesity. It also prevents allergy to non-specific proteins and develops immunity. Breastfeeding has a vital child spacing effect. Breast milk is easily available, digestible and facilitates skin-to-skin contact and physical warmth between mother and child, which further strengthens the emotional bond between them.

WHO (1998)[11] states that an effective means to improve exclusive breastfeeding is to ensure that it is encouraged in a hospital or maternity center following delivery. As feeding the infant is a learned skill, which women acquire through education, observation and practice, it is the prime responsibility of the nurse to educate on infant feeding, as it is an integral part of antenatal and postnatal period. Breast-feeding has been universal practice in the past. But this situation is rapidly changing in the age modernization. Studies reveal that contemporary women are less able to breastfeed than their predecessors. Hence the practice of breastfeeding is on the decline both in terms of incidence and duration.

Anand et al. (2002)[12] conducted a study to assess the crucial period of success or failure of breastfeeding and the study recommended that the first two weeks after delivery are crucial for success or failure of lactation. Early milk secreted is a watery fluid known as colostrum, rich in immunoglobins. Milk secreted during the period between colostrum secretion and mature milk is called transition milk. Full lactation, or the secretion of mature milk, continues as long as the infant receives substantial quantities of milk from its mother, up to three to four years in some cultures. When nursing ceases the gland undergoes partial involution, which is completed only after menopause. Every stage, namely, mammary development, mammogenesis, lactogenesis, lactation and involution is specified by both systemic and local hormonal control mechanisms.

Gopalan et.al (2002)[13] hold that it is wrong to assume that no matter how poor the diet may be, mothers will be able to deliver milk of the right quality and quantity for the infant. Nursing women in poor communities in India with body weights ranging from 35-50 kg generally subsist on diets, which provide 1400 – 2200 calories

with a protein intake of 27-50 gm, largely derived from plant sources. There is little difference between the diets of non-pregnant, pregnant and lactating women. Even with poor diets the average output of breast milk ranged from 480-570 cc daily for the first six months.

Subbal & shmi G. et.al. (1990)[14] conducted a study on the practices colostrum's feeding in urban and slum areas of Maharashtra, among 2158 mothers belonging to the low socio-economic group. The difference was found between rural and urban areas with regard to the practice of feeding colostrums. Percentage of feeding colostrums was very poor. The discarding of colostrums was very less among rural mothers.

Somaiya P.A. (1990)[15] Conducted a study on infant feeding practices among 181 women reading in semi urban areas of Maharashtra. The study was on socio-economic status of the family, maternal literacy and occupation. The data pertaining to the type of pre-lacteal feeds, time of beginning of breast feeding, type of supplementary foods fed instead of colostrum, out of which 78.48% mothers used various inaugural feeds due to social tactile, poverty, lack of knowledge about infant feeding.

Miller et al (1995)[16] showed that the training of birth attendants among refugee Afghan women in Pakistan, provides an effective route for educating the women. Education on hygiene and health, reduces neonatal mortality and morbidity. In this study, breast feeding was started within an hour after delivery by 22 of the mothers out of 61. All the trained birth attendants know that colostrum is good for life of baby.

Akhatar and Shukla (1985)[17] observed that 32% Kashmiri mothers were not satisfied with first flow of breast feeding, others thought that breast feeding to be out of fashion. The mothers were quite aware of the advantages of breast feeding. Colostrum was thought to be heavy and indigestible initially. Mothers did not know about the benefits and nutritive value of colostrum. Researcher reported that higher the educational status of the Indian mother, lower incidence of lactation.

Mathur.et .al (1993)[18] A study reported that in most parts of our country, colostrum was considered dirty, harmful, heavy for baby. Therefore it is neglected by mothers. The studied on breast feeding in babies delivered by cesarean section only. The commonest reason given by mothers for delay in initiating breast feeding was sedation and pain in stiches (100%). Other reasons were administration of intravenous fluids (83%),no milk secretion (82%).traditional of not giving colostrum for 2-4 days after delivery (69%), delayed rooming in (12%) and essential complete bed rest (13%).

International Journal Of Advanced Research (2015)[19] conducted study in that the misconceptions and beliefs about the colostrum and breast feeding still remains the same. Breast feeding is the most natural method. Feeding is of greatest importance. It is a must to meet the nutritional as well as the psychological and emotional needs of the infant. The basic food for infant is milk. Colostrum can be defined as the first milk, initially for

two to three days after delivery, which is rich in proteins as compared to natural breast milk. Colostrum is rich in proteins as compared to mature breast milk it is rich in protein, vitamin A, Sodium, Chloride content, but has a lower potassium and carbohydrate content. It is a rich source of protective material as this high protein content is made up of antibodies for many types of infections. No vaccine or immunizing agent known so far has the capacity to protect the baby against so many type of infections.

NEED FOR THE STUDY

Mallika et al, *(***1999)**[20] define that mother and children constitute one fourth of the total national population. They are the most vulnerable group to ill health. One of the main causes of neonatal mortality and morbidity is inadequate breastfeeding, following faulty breastfeeding technique, ignorance of mother regarding feeding practices, lack of health education given by the health care providers. Many cultural beliefs and practices all prevalent in postpartum period that some mothers may not feed the baby immediately after birth. They neglect "COLOSTRUM" instead of it they will give sugar water, plain water, honey etc, all these practices lead to suppression of lactation as prolactin gradually ceases and the breast stops secreting milk.

WHO (2012)[21] stated that breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Virtually all mothers can breastfeed, provided they have accurate information and the support of their family, the health care system and society at large. Colostrum, the yellowish, sticky breast milk produced at the end of pregnancy, is recommended by WHO as the perfect food for the newborn, and feeding should be initiated within the first hour after birth. Exclusive breastfeeding is recommended up to 6 months of age, with continued breastfeeding along with appropriate complementary foods up to two years of age or beyond. A study was conducted to investigate current prenatal breast feeding in India. They states that lack of confidence, problem with latching, breast/nipple soreness, and lack of encouragement from health care professional are common reason for discontinuing breast feeding.. Their research shows that prenatal counseling is not often done in India and that nearly half of pregnant women do not have information about breast feeding.

O.P Ghai (2004)[22] stated that Breastfeeding is most convenient and time saving. Breast milk contains high concentration of lactose (6-7g/dl). It helps in the absorption of calcium and enhances the growth of lactobacilli in the intestine. A healthy start in life is the most precious gift one can give to a new born child. Breast milk can make difference between healthy growth and malnutrition between life and death. When it comes to nutrition the best first food for the baby is the first milk that is colostrum.

Karen M (2006)[23] conducted a study about the late initiation of breast feeding increases the risk of neonatal mortality in Bihar. The data reveals that about 29% of the mother started feeding within 24 hours about two third of mothers discarded colostrum, about one third discarded colostrum with the advice of elders. The study

found that 22% of neonatal death could be saved if breast feeding was started with in 1 hour after birth and 16% of all neonates. Neonatal mortality could be reduced by 24%. The study concluded that promotion of early start of feed that is colostrum make major contribution towards child survival.

Banaprmath CR (2010)[24] conducted a study states that India has close to 2.5million children born every year out 1.9million are under five who die in a year. Roughly one million children die within an hour of birth. Only 23.4% newborns across the country begin breast feed within an hour of birth. In central Karnataka a community based study was conducted on 1050 mother with infant younger than 24 months to examine infant feeding in rural area. Only three infant offered breast feeding within one hour after delivery. All infant had pre-lacteal feeds. In that 28% of mother discarded colostrum 97% ever breast fed.

Dandapany, et. al. (2008)[25] conducted a study to investigate current prenatal breast feeding in India. They states that lack of confidence, problem with latching, breast/nipple soreness, and lack of encouragement from health care professional are common reason for discontinuing breast feeding. It is their contention that these problems may be overcome if the women have adequate teaching programs and prepared mentally for exclusive breast feeding. Their research shows that prenatal counseling is not often done in India and that nearly half of pregnant women do not have information about breast feeding.

WHO (1995)[26] stated that according to recent research, it was found that by initiating exclusive breast feeding soon after birth is help full to prevent certain diseases like neonatal diarrhea, pneumonia and neonatal sepsis which causes neonatal death. “The WHO has estimated that breast feeding could prevent the death of one million children a year" WHO, UNICEFF declare Aug 1st to 7th as breast feeding week.

Sahana C (2007)[27] conducted a National family health survey on state lagging behind in adoption of breast feeding knowledge and report that Karnataka is at an known rank of 14th in the country with regard to initiation of breast feeding within one hour is concerned. Only 35.6% of mother’s breast feeding in the 1st hour of birth and Karnataka is far behind the Mizoram which is in the 1st rank with 65.45. The knowledge about the importance of colostrum is very poor in our state.

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Ekambaram M (2000)[31] conducted a study current Pediatric Research Medical Journal that though colostrum has been proved beneficial to the new born babies, studies have revealed that breastfeeding mothers and the other family members do not have adequate knowledge about it, thus, preventing the infants from acquiring this nutritional food. A study in India revealed that mothers were unaware about the time of initiation of breastfeeding and colostrum feeding.

Chaudhary RN (2011)[32] Knowledge and practice of mothers regarding breast feeding: a hospital-based study conducted that only 92% and 70% women undergoing normal delivery and caesarean section respectively gave correct response about time of initiation of breastfeeding. Though 92% of the mothers knew that breastfeeding should be initiated within one hour after delivery, only 36% of them had actually done so. It also showed that 52% of the mothers did not receive any advice on breastfeeding during antenatal period. A similar study conducted in the eastern part of Nepal on knowledge, attitude and practice of mothers regarding breast feeding showed that though all mothers knew that they had to breastfeed their babies, they did not have knowledge about the appropriate timing for breastfeeding and colostrum feeding.

Brown, M.S. et.al. (1975)[33] stated that the obstacles for initiation of breast feeding include breast problems like sore and damaged nipples, abnormal nipples (long, short, inverted and flat nipple) and other causes like misinformation, insufficient prenatal breast feeding education etc. The factors contributing to unsuccessful breastfeeding among primi mothers during early days of postnatal period were soreness of nipple, breast engorgement and cracked nipples. He also identified that women need more accurate information about the process of initiating breastfeeding and the skill involved.

Gayathri Priya N. (2004)[34] observational study conducted Antenatal OPD, Sri Ramachandra Hospital, to assess the prevalence of breast problems among 96 nulliparous mothers during antenatal period. She found out that 46% of the sample had breast problems, 17.7% had flat nipple, 1.1% had sore nipple, 2.1% had nipple inversion, 4.2% had fibro adenoma, 1% had nipple discharge, 7.3% of mothers had previously done a self-breast examination, 16 %were aware of the breast problems, 20% were performing nipple exercise an point prevalence was 26%. This study clearly indicates that all the primi mothers have some sort of breast problems during antenatal period. This insists that the antenatal mothers need some sort of guidance, support and education to prepare him or herself to enter into the postpartum period.

National Family Health Survey (NFHS) (2006)[35] In India, breastfeeding has been practiced entirely cutting across the socioeconomic status and has strong cultural sanction. The issue of breastfeeding has been largely a concern for health professionals

due to its implications on child health of the available reports from innumerable studies conducted in the areas of breastfeeding in India, reported that only 24.5 % of primi mothers initiated breastfeeding in an hour after birth, whereas nearly 46.4 % of them breastfed, exclusively for the first six months and a slightly more encouraging 56.7 % nursed beyond six months with the introduction of complementary food.

Lingam et.al. (2001)[36] conducted a study regarding rejection of colostrum, give a high incidence of discarding colostrum in both rural and urban areas in India. Though there is high incidence of rejection of colostrum, research does not support the view that Indian mothers universally discard colostrum. There is no clarity on how much milk and for what period needs to be expressed and discarded to conclude that colostrum has been discarded. The authors advocate a clear cut definition of colostrum.

Sachdev et.al. (1995)[37] a study conducted and report that about 70 to 90% of newborns in India 54 are not fed colostrum (first milk). Most Indian studies have focused on practices considered detrimental to the health of the mother and the infant and very few have studied those that positively influence the practices. Culture is known to influence feeding practices. The cultural practice of going to the natal home for delivery enabled mothers to stay away from domestic chores, have greater rest and breastfeed the infants more number of times.

Kamdar, *(*2000)[38] studied the knowledge, attitude and practices of breast feeding in antenatal, postnatal and neonatal women and knowledge of exclusive breast feeding was emphasized. The study showed that 60% of antenatal women had least information about colostrum, of these 50% felt that babies should also be bottle fed whereas 25% of postnatal and 4% neonatal felt that colostrums should be discarded and prelacteal feed should be given. The misconceptions were clarified and exclusive breast feeding was emphasized.

Khan (1993)[39] A prospective study on maternal knowledge and belief on breast feeding. The interviewed 656 mothers within 12 hours of delivery and sought their opinion on the various aspects of breastfeeding. The study reveals that 94.1% considered breast milk the best, 78% wanted to feed colostrum's. They thought that it was appropriate to start breast feeding within 6 hours of birth and 25% of the educated mothers were tempted to start supplementary feeding within 4 months while 16.2% favored termination of breast feeding by **6** months.

Sharma Saraja, et.al. (1997)[40] A study conducted on knowledge, attitudes and practice related to breast feeding and weaning .The findings revealed among that the 200 rural working and non-working women, majority of women (71.5%) were in the age group 26-35 years and working women had better educational status. The mothers were aware that breast feeding should be started within 24 hours of of birth (82%). 72%

of the mothers had given prelacteal feed in the form of honey, within 24 hours of birth. Only (28%) of the mothers breast fed the infant within three hours of birth % colostrum was considered good for infants" health, by more than (50%) of the mothers. Nearly one third of the mothers (34.5%) stated that they breast fed the infant on demand. The work status of the mothers showed a significant relationship with infant's breast feeding pattern. Besides, (57%) of the mothers had initiated bottle feeding within the first three months of child birth. Commercial forms of milk were used by 14% of the mothers. Moreover 40% of the mothers had initiated feeding semi solids or curd before the age of four months.

Srivastava, S.P. (1994)[41] Conducted a study on breast feeding pattern in neonates, which comprised of 100 mothers of new born babies with regard to their belief and practice lactation, out of which the majority (98.2%) of mothers breast fed (87.9%), mothers used prelacteal feeds of one sort or the other, only 0.5% breast fed their babies within 6 hours nearly 50% started after 48 hours. Colostrum was discarded by (82.9%) of the mothers and nearly 73% wanted to continue breast feeding beyond one year. Mothers underwent antenatal advice to discourage wrong and harmful feeding practices.

Katiyar (1990)[42] studied the feeding practices of postnatal mothers in Varanas Di istrict. They interviewed 784 mothers about the feeding pattern of their children in the age pup 1-2 years. The- mothers were grouped two- three communities, urban-slum and rural. The study report Suit the first fed given to the newborns in the urban group was diluted milk, while honey with water was given to the other two groups. Finding of the study reveal that 90% of both urban-slurn and rural groups of mothers discarded colostrum, while 63.74% of urban children were given Colostrum. It is clear from the above study that postnatal mothers were not aware of proper feeding practices.

Pinto studied (1980)[43] conducted a study in that 50 mothers to assess the existing pattern of breastfeeding practices in Kanpur, U.P. *An* interview technique was used to collect data. Findings revealed that a majority of mothers started breastfeeding after 24-48 hours, gave honey water as a prelacteal feed, One-third of them discarded colostrurns completely for few days after delivery as it was conaidered harmful, dirty and heavy for the baby. Majority of the mothers followed the demand-feeding schedule, two-thirds gave night feeds and less than half of the mothers cleaned their breasts before feeding. Majority of the mothers breastfed their children beyond seven months and did not add solids upto eight months. The main reason for introducing top milk was insufficient milk.

Pothen (1982)[44] study on slum children in India, found that 20% newborns were put to breast within 24 hours. 80.19% were put to breast within a period ranging from 2-7 days after birth because of beliefs the colostrum is stored for nine months and poisonous, it is bluish in colour, dirty and thick and therefore can't digested by newborn baby and get deposited and can cause gastro-intcstinal tract problems. The colostrum was fed by

only 15.38% of the mothers and this was most probably because they were delivered in hospitals and were conducated by medical and paramedical staff to start early feeding.

Shariff et.al. (1990)[45] A study was conducted on Urban and Rural women in and around Bangalore city. Most of the beliefs, customs and taboos appear to restrict mothers from providing the benefits of breast feeding to their infants. It was common practice to deprive children of breast feeding during the first two or five days of their life. The belief is that the milk is either not matured, inadequate for the child's needs the 'dirt' (amniotic fluid) which is accumulated in the child's stomach while in the womb 'pus' and spoiled milk, it will stick to the infants intestine and making it difficult for them to digest food and that it may cause colic and diarrohea.

International journal of advanced research (2015)[46] explained the study in that many developing countries they believe that the first milk, the colostrum as pus or poison. Cultural practices has its effects on colostrum feeding, as they believe it as old milk that has been present in mother and they believe it as unfit for the bay, hence it should be thrown out. The formula feeding has been considered as the status symbol for the mothers in many urban areas. The mistaken notions about the practice of the breast feeding, adversely affect body form and the gullibility regarding formula feed as being superior in composition to breast milk. Lack of will to breast fed the child by the mother is an another contributing factor.

The investigator during her clinical posting observed that pregnant women were not having adequate knowledge regarding benefits of colostrum for newborns. It is very essential to have a structured teaching program regarding the importance of colostrum among pregnant women and save the life's of neonates.

TITLE

A Pre-experimental study to evaluate the effectiveness of structured teaching programme on knowledge regarding benefits of Colostrum for newborn among Antenatal mothers attending antenatal OPD of Era Hospital (Lucknow).

Aim of the study

The aim of the study is to evaluate the effectiveness of structured teaching programme regarding benefits of colostrum for newborn in order to enhance the level of Knowledge among antenatal mothers.

Objectives

1. To assess the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

2. To compare the pre and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

3. To find the association between pre-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers with selected socio-demographic variables.

Operational Definitions

Effectiveness: In this study, it refers, to determine the extent to which the structured teaching programme has achieved its desired effect as expressed by gain in post-interventional knowledge score.

Structured Teaching Programme: In this study, Structured Teaching Programme refers to the systematically organized teaching material to improve Knowledge regarding the benefits of colostrum for newborn.

Knowledge: In this study, knowledge refers to responses given by the antenatal mothers to the structured knowledge questionnaire through interview schedule regarding.

Colostrum: It refers to first milk secreted from the breast during first three days after delivery which is essential for newborn.

Antenatal Mothers: It refers to the pregnant women.

Newborn: It refers to a child under 28 days of life for whom colostrum is fed for first 3 days of birth.

Benefits: It refers to enhancement of growth and immunity development through colostrum which contributes in the prevention of infection and neonatal health problem.

VARIABLES: -

Independent variables: - Structured Teaching Programme regarding the benefits of Colostrum for Newborn.

Dependent variables: - Knowledge of Antenatal Mothers regarding benefits of Colostrum for Newborn.

Demographic variables: -Age, educational status, occupational status, trimester, religion, type of family, family monthly income, area of residence.

HYPOTHESES

H0: There will be no significant difference between pre interventional and post interventional knowledge score regarding benefits of colostrum for newborn among antenatal mothers.

H1: There will be a significant difference between pre-interventional and post- interventional Knowledge score regarding benefits of colostrum for newborn among antenatal mother.

H2: There will be significant association between Knowledge score regarding benefits of colostrum for newborn among antenatal mothers and their selected demographic variables.

DELIMITATIONS

The study is limited to antenatal women attending antenatal OPD of ERA hospital, Lucknow.

CONCEPTUAL FRAMEWORK

The conceptual or theoretical framework in nursing research can help to provide a clear and concise idea of knowledge in the area.

The theoretical framework for the present study is developed from **Noel. J. Pender's health promotion model**. Noel. J. Pender's health promotion model is directed at increasing a client's level of well-being. The health promotion model directs the multi-dimensional nature of persons as they interact within their environment to pursue health to seek optimal health. The model focuses in the following 3 areas.

1) Clients cognitive perceptual factors (individual perception)

2) Modifying factors (demographic and social)

3) Participation in health promoting behavior.

The present study, the concept from Pender's health promotion model is utilized where client's cognitive perceptual factors like individual knowledge of mothers regarding colostrum feeding which is measured by structured interview schedule.

The second area of the model focus is on modifying factors (demographic variables), which includes age, education, occupational status, trimester, religion, types of family, family monthly income and area of residence. The focus of the model is to explain the factors that influence the colostrum feeding process of mothers.

The third area of model focus on health promoting behaviour, which can be improved by providing structured teaching programme on colostrum benefits about following aspects.

Anatomy and Physiology of breast
Initiation of breast feeding
Duration
Hygiene
Diet
Advantage
Practices (Techniques)

If the mother has adequate knowledge and practice (cognitive, perception factors) towards colostrum benefits and breastfeeding, she is likely to engage in colostrum feeding practices (health promotion behaviour).

If the knowledge and practice of mothers towards breast feeding is inadequate, the health promotion behaviour is interrupted which leads to illness and infections in the child.

This model is useful to the researcher as a framework for client assessment.

However, the health promotion model expands the principles of the health belief model and states that individuals are likely to change their behaviour to feel better physically, psychologically, socially and spiritually.

REVIEW OF LITERATURE

The review of literature is to develop a strong knowledge based to carry out research. The below literature review states regarding the various knowledge and importance of colostrum feeding among primigravida women and it support the researcher to conduct the study. It consists of-

1. Studies related to the importance of colostrum feeding.
2. Studies related to the effectiveness of structured teaching program.
3. Studies related to practice of mothers regarding early breast feeding.

1) Studies related to the importance of colostrum feeding

John Clemens. et al (2006) [47] A descriptive study was conducted on early initiation of breast feed and the risk of infant to evaluate whether initiation of breast feed with 3 days of life was associated with lower rate of diarrhoea in rural Egypt. Infant during the first 6 months of life and found that only 151 (76%) infant initiated early had 26% (95%) lower rate of diarrhoea than those initiated late. They concluded that early initiation of breast feeding was associated with marked reduction of the rate diarrhoea throughout the first 6 month of life possibly because of the satisfactory effect of human colostrum.

Madhu K, et al, (2006)[48] The study was conducted on "Breast feeding practices and new born care in rural areas" at Bangalore. This study was aimed to describe the breast feeding practice prevalent in rural areas. Most 96.5% mothers reported giving colostrum to the baby. This study emphasis the need for breast feeding intervention programmes especially for the mothers during antenatal and postnatal check-up and practice like discarding the colostrum, and early or late weaning are still widely prevalent and need to be addressed.

Naveen K, et al, (2008)[49] conducted a cross-sectional study to assess the knowledge and awareness regarding dietary practices pregnancy, lactation and infancy in specialized population of 253 mothers in Chandigarh. The majority of the subjects (87.8%) knew that medication should be avoided during pregnancy. Only 26.48% believed that drinking alcohol and smoking is harmful for pregnant females. Knowledge about need of extra food (78.7%) and extra iron (78.26%) during pregnancy was found to be quite high. Only 19.76% reported that extra sleep/rest is essential during pregnancy. Only 18.97% respondents had information about the importance

of colostrum. The study revealed that the provision of health education for all females is a prerequisite for reduction of morbidity and mortality amongst vulnerable groups of mothers and infants.

S.Kannan, et al (2009)[50] published a study on "Neonatal feeding practices of Anglo- American mothers and Asian Indian mothers living in US and India" in Journal Of Nutrition Education And Behavior volume 36. The objective of the study is to compare the colostrum and pre lacteal feeding practice of Anglo American mothers and Indians. Asian Indian women who came to live in US demonstrate different feeding practices that their Indian counterparts. Nutritionists are encouraged to understand the maternal reasons for withholding colostrum and pre-lacteal feeding to give compatible message targeted at women.

Ragesh G (2010)[51] An analytical cross-sectional study was conducted in 20 village in the district if Amritsar in India.1000 mothers were interviewed in community by standard cluster sampling. Statistical analysis was done by percentage compared with **x2** test. 225 responsdents (23.8%) started breast feeding their babies on the first day of birth, but in terms of early breast feeding only 128 (13.5%) respondents put their babies on the breast within 4 hours of birth of the 1000 respondent 356 (35.6%) of the respondent were unaware of the importance of colostrum. Early breast-feeding knowledge were suboptimal among the mothers in rural Punjab. Breast feeding counselling and health education on nutrition to the mother by health workers should be promoted.

Maheshwari E et al (2010)[52] conducted a descriptive study to assess the knowledge and practice on colostrum feeding among postnatal mothers department of peadiatrics in south Indian hospital. The data was collected from 100 postnatal mothers by trained interviewers using a structured performa. In addition to demographic data mothers were asked about the knowledge and practice they followed scoring of the response to questions was done and the data was analyzed using statistical package. The knowledge of the mothers was inadequate in area of initiation of breast feeding (92%) colostrum feeding (56%) duration of exclusive breast feeding (38%) knowledge on expressed breast milk (51%) and continuation of breastfeeding while baby is sick. Better scoring was co-related significantly with higher maternal age, education higher socioeconomic states so there will be need for programme which support and encourage breast feeding. Particularly at primary care level focusing on younger, less educated women and those from lower socioeconomic class.

Warchief (2010)[53] conducted a descriptive study to assess the knowledge on colostrum among primipara mothers postpartum room Pare Kediri. The population is all primipara mothers postpartum room Pare Kediri, the sampling technique used was Accidental sampling, data collection by questionnaire, then processed and analyzed by way of editing, cording, scoring, tabulating, data is presented in pie chart. The result showed that out of 23 respondents who researched, Most of the respondents had knowledge about colostrum understanding with less category i.e. 12 respondents (52.17%) the benefits of colostrum 15 respondents (62.22%) with less category, content of colostrum as many as 18 respondents (78, 26%), Most of the respondents had knowledge

about colostrum with less category of 15 respondents (65.22%). The study revealed that health workers to increase the socialization of colostrum.

Nikki L (2011)[54] A study was conducted by the department of community health and nutrition medical science university of Ife, Ile-Ife Nigeria. 180 normal neonates with an average weight above 2.50 kg and having no feeding difficulties were divided in to two group randomly assigned to either colostrum or to glucose water feeding. Regimens during the 3 days stay at the maternity ward. The effect of the feeding regimens on intestinal colonization were studied by examine stool of the neonates. All bacteria recovered were identified quantitatively and biochemically Of the 180 mothers 105 complied with the instruction of the feeding regimens .The majority of the neonates receiving colostrum had significantly lower bacterial count than those on glucose water (p<0,001).The result of the study indicate that early initiation of colostrum feeding to neonates where potable water is not readily available will suppress the proliferation of bacteria in the neonates.

Chaturvedi P, et al, (2016)[54]A study was conducted on knowledge and attitude regarding colostrum-feeding, in mothers attending antenatal clinics. A sample was taken 600 antenatal mothers. To assess their knowledge and attitude regarding, breast feeding. Mothers were interrogated by a single interviewer regarding knowledge and attitude of colostrum feeding within 24 hours of delivery by using a pretested semi structured open and close ended questionnaire. Only 54.5% booked mothers and 30.3% unbooked mothers were informed regarding benefits of colostrum feeding during antenatal visits. This difference was statistically significant. The study revealed that booked mothers wanted to initiate breastfeeding early and did not want to give water supplementation, and were also significantly more knowledgeable as compared to unbooked mothers regarding benefits of breastfeeding, feeding of colostrum.

G. Subbulakshmi, et.al,(2016)[55] A study was conducted on the practice of colostrum feeding and factors influencing the same were studied by interviewing 2158 mothers belonging to low socio-economic group from urban slums and rural areas of Maharashtra and Gujarat. Statistically significant difference was found between rural and urban areas with regard to the practice of feeding colostrum. Though the percentage feeding colostrum was very poor, the discard of colostrum was very less among rural mothers. Developmental programme such as Integrated Child Developmental Services and others also showed significantly beneficial effects on colostrum feeding practice in both urban and rural areas. Socio-economic factors such as better income general awareness of mothers, joint family system and hospital delivery were noted to have positive influence on colostrum feeding. Thus, religion did not seem to affect the practice of colostrum feeding.

2) Studies related to the effectiveness of structured teaching program

Surekha Kishore et al (1995)[56] conducted a study on determinants of breastfeeding practices among 200 mothers in rural community of Wardha. The finding revealed that 59.2% of the mothers initiated breastfeeding

within six hours of child birth. 7.5% of the sample initiated within one hour of birth, 28.5% of the mothers initiated after 24 hours. Initiation of breastfeeding had an increasing trend along with education of the mothers. Parity wise only 9.9% of the primipara and 6.2% of the multipara initiated breast feeding within an hour of child birth, however most of them (52.2%) initiated breastfeeding within six hours. 16.9% of the primiparous mothers initiated breast feeding after 24 hours where as 4.5% of the multiparous mothers initiated breastfeeding after 24 hours of child birth. It was observed that as the income increases the percentage of mothers feeding colostrums also increase. It was also observed that multipara mother's breast fed their child for a longer duration as well as initiated breastfeeding early.

Okolo, S.N. et al, (2000)[57] conducted a study on current breast-feeding knowledge and practices of mothers in rural Nigeria, 310 mothers in five rural communities were interviewed by using a questionnaire, 162 mothers were illiterate, 148 mothers had secondary school education. Other practices investigated such as exclusive breastfeeding; demand feeding, rooming in and first breastfeed were not influenced by the mothers' level of education. 53% of the mothers not given their babies colostrums, 47.7% mothers gave their babies colostrums. The practice of discarding, colostrums and replacing prelacteal feeds, late initiation of breastfeeding, has implications for health education programs and neonatal feeding strategies.

Chaturvedi and Banait (2000)[58]**,** A study conducted by on knowledge and attitude regarding breastfeeding in mothers attending antenatal clinics at Kasturba Hospital Sevagram. The sample consisted of 600 mothers who delivered at Kasturba Hospital were interviewed by using semi –structured open and close ended questionnaires. The findings of the study revealed that 303 mothers (50.%) had attended antenatal clinics of KHS (booked), where as 276 (46%) had antenatal checkups at other health centers and 21 (3.5%) did not had any checkups. Only 54.5% booked mothers and 30.3% unbooked mothers were informed regarding benefits of breastfeeding during antenatal visits. The booked mothers wanted to initiate breastfeeding early and did not want to give water supplementation and compared to unbooked mothers regarding benefits or breastfeeding, feeding of colostrums, avoiding prelacteal feeds, additional nutritional requirement during lactation and continuation of breastfeeding during maternal illness, pregnancy and maternal drug intake.

Dewan.N et al (2002)[59] conducted a study on breastfeeding knowledge and attitudes of teenage mothers in Liverpool the study included a sample of 40 teenageprimigravida and 40 non-teenage primigravida. The study revealed that teenagers had poorer knowledge about breastfeeding than the non-teenagers and fewer teenagers considered breast milk the best food for their baby. More teenagers than non- teenagers planned to bottle-feed [23 (57.5%) vs. 9 (22.5%), P=0.002] and only one teenager had knowledge about colostrums. Teenagers were more often single had lower level of education, higher unemployment, and higher smoking frequency and less contact with a person who had previously breastfeed.

Darry.I. Holman & Michael. A. Grimes (2006)[60] conducted a study to assess the effectiveness of structured teaching programme on early breastfeeding in Howrah District, Kolkata. Sample comprised of 60 antenatal mothers between the gestational weeks of 34-38 weeks. Random sampling technique was used to select the samples. The finding of the study shown that only 82% sample agreed to give early initiation of breast feeding and researcher also concluded that attitude of mothers on colostrums feeding is directly proportion to their cultural beliefs and tradition.

Gunasekaran Dhandapany (2008)[61] described a study to assess the breastfeeding and postnatal lactation support was conducted among the antenatal mothers at a tertiary hospital in Pondicherry, India. Sample size was 108 primigravida mothers. Every third primigravida mothers was recruited. The semi-structured questionnaire was administered within 24 hours of giving birth. The awareness pertaining to breastfeeding was assessed. Among the mothers, 21per cent had received some antenatal counselling about breastfeeding while 79per cent had not received any such counselling. Awareness related to breastfeeding among mothers in the "counselled" group was better than those in the "not counselled" group. This study recommended on strengthening the antenatal education.

Patil sapna, (2009)[62] A study on prevalence and the factors influencing exclusive breastfeeding was conducted. Sample size was 200. Data was collected using a pre-tested, structured questionnaire on breastfeeding practices. Prevalence of exclusive breastfeeding reported by the participants was 61.5per cent. Having a male child, maternal age < 30 years, level of education of mother, parity, receiving infant feeding advice, initiation of breastfeeding within one hour of birth and administration of colostrum to the baby were associated with exclusive breastfeeding ($p<0.001$). Practices like discarding the colostrum, giving pre-lacteal feeds, early/late weaning and use of formula feeds are still widely prevalent and need to be addressed**.**

Maheswari Ekambaram,(2011)[63] conducted a study to assess the exclusive breast feeding practices in the Neonatal Division, Department of Pediatrics at a tertiary care hospital in South India. Every 40th mother registered in the confinement register had included for the study. Sample size was 100. Structured interview was used to collect the data. The knowledge of the mothers was inadequate in areas of time of initiation of breastfeeding (92%), colostrum feeding (56%), duration of exclusive breastfeeding (38%), knowledge on expressed breast milk (51%) and continuation of breastfeeding while baby is sick. Better scores correlated significantly with higher maternal age, better maternal education, higher socioeconomic status and having received antenatal care from tertiary care centers and private practitioners.

Garg R et.al. (2010)[64] A study was conducted to assess the breastfeeding knowledge and practices among rural women of Punjab. Cluster sampling method was used to select the 1000 women from the 20 villages of Amritsar. Two hundred twenty-five respondents (23.8%) started breastfeeding their babies on the first day of birth, but in terms of early breastfeeding only 128 (13.5%) respondents put their babies on the breast within 4

hours of birth. Of the 1,000 respondents, 356 (35.6%) of the respondents were unaware of the importance of colostrum, 733 (77.6%) were not given advice on benefits of breastfeeding/weaning, and 306 (33.5%) of respondents had not increased their diet during lactation.

Devang Raval et.al. (2011)[65] A study of breast-feeding practices among the infants living in the slums of Bhavnagar city, Gujarat, India was assessed. Cluster sampling technique was used to draw a sample size of 840. Semi structured interview schedule was used to collect the data. The result of the study shows that 61.9 per cent of newborns received prelacteal feed. Illiterate mother (85.2%) practices more prelacteal feeding than literate mother (50.9%) which was statistically significant in our study (<0.01).All home delivered infants received prelacteal feeding and half infant receive prelacteal who were delivered in hospital and difference was statistically significant. 38.1 per cent of newborns received breast feeding within hour. Statistically significant association found between type of family and colostrum feeding practices ($p<0.05$).

3) Studies related to practice of mothers regarding early breast feeding.

Dr. Sharma Saroj et.al. (1997)[66] had undertaken a study to assess knowledge, attitudes and practice of breastfeeding among 200 working mothers in Haryana. The findings revealed that the majority of mothers (82%) were aware that breastfeeding should be started within twenty-four hours after birth. Seventy two percent of mothers had given prelacteal feed is the form of 'gurti' or 'honey'. Only 28% of the mother's breast fed the infant within three hours of birth. Colostrums were considered good for infant's health by more than fifty percent of the mothers. 34.5% stated that they breast fed the infant on demand besides, 57% of the mothers had initiated bottle feeding within the first three months of childbirth. Moreover, 40% of the mothers had initiated semi-solid foods before the age of four months.

Dr. Ramakrishna M.N. (1998)[67] conducted as study with the objective to assess the knowledge and practice of mothers regarding breastfeeding in relation to educational and economic status in a rural coal mine area of Andhra pradesh. A cross sectional survey was conducted among 498 feeding mothers having a child up to two year of age. Analysis revealed that about 97% of the mothers knew that breast milk is superior to artificial milk. 99.4% of the mothers were of the opinion that breastfeeding beyond one year is good and 77.3% of the mothers knew the importance of colostrums. Majority (69.67%) of the mothers initiated breastfeeding within two to three hours.

Wadhava et al (1998)[68] conducted a study on awareness and practice of breast feeding among 335 mothers at Nagpur, the result showed that 42.4% of the mothers initiated breastfeeding after 24 hours of child birth. 66.3% of the mothers gave prelacteal feeds. 70.7% of the mothers had given colostrums to their babies. It was observed that more mothers from nuclear families as compared to those from joint families who followed the

practice of colostrums feeding. However, only 19% infants above four months were being exclusively breast fed.

Parmar et al (1998)[69] conducted a study on knowledge, attitudes and practices regarding breastfeeding at Chandigarh among 250 mothers. Analysis revealed that only 61.6% of the mothers started early breastfeeding 42% of the mothers gave prelacteal feeds, 49% of the mothers from rural area gave prelacteal feed as compared to 36.6% of the mothers living in urban areas. 18.4% of the mothers discarded colostrums, 31% of the mothers from rural area and only nine percent from urban areas discarded colostrums 63% of the subjects had the opinion that colostrums was not good for their child 36.8% of the mothers started bottle feeds to their babies, of these 66% of the sample did so before six months of age.

Nanthini Subbaiah (2003)[70] A Study conducted to assess the knowledge, attitude, practice and problems of postnatal mothers regarding breastfeeding. It consists of 100 postnatal mothers who had normal deliveries in the selected hospitals of Madurai revealed that overall knowledge regarding breastfeeding the study population was 47.4±11.84 (Ranges 25 – 78). All the members in sample liked to breastfeed their babies and were aware of the benefits or breastfeeding only 14 members of the sample were antenatally prepared for breastfeeding 77 members of the population remarked that breast milk is the ideal food for the baby and 22 of them said it contains protective substances 91 of them knew that they should feed the baby with colostrums but only 50 of the population knew the reason for feeding colostrums 92, of the total population fed their babies soon after delivery. But only (23) knew the reason for feeding breast milk soon after delivery. None of the study population was aware of the relationship of early feeding with involution of uterus. Necessity to feed from both breasts each time was known to 75 of the population. Only Hindu multipara mothers (54)f had more knowledge when compared with Hindu primipara mothers (8) on this aspect of breastfeeding ($\chi 2$ value is 5.23 $p< 0.05$). 34 of the population had correct attitude of giving breast milk to the premature child there is significant difference in the attitude between primi (6) and multipara (13) mothers living in nuclear family set up on this aspect of breast feeding ($\chi 2$ value is 4.29 $P < 0.05$). 79 of the population had wrong notices that the mother should not breast feed when she is pregnant. 56 of the population opined that breastfeeding should be continued when baby is ill and remaining 44 had misconception that the baby should not be fed with breast milk when he is ill. 90 of the mothers felt that breastfeeding does not disfigure the mothers body structure.

Ludivigsson. J.F (2003)[71] A cross-sectional study conducted by breastfeeding in Bolivia, information and attitudes.Bolivian mothers with an infant less than or equal to 11 years of age were included in the sample the study revealed that the attitudes of the mother, her partner and the infant's grandmother toward breastfeeding did not influence the infant feeding pattern. Women who had received breastfeeding information from health care personnel before birth or on the maternity ward breastfed exclusively for a longer duration (adjusted P=0.0233) and avoided prelacteal food to a greater extent (adjusted odds ratio = 0.42; 955 confidence interval for adjusted odds ration (95% CI AOR) = 0.23 – 0.72), information from a doctor before birth or on the

maternity ward was associated with less use of prelacteal food (AOR = 0.53; 95% CI AOR = 0.31 – 0.93), an increased use of colostrums (AOR = 3.30 ; 95% CI AOR = 1.16 – 9.37). But was not linked to the duration of exclusive breastfeeding (P = 0.1767) 47.

Kronborg H (2004)[72] A Study conducted on Mothers. The study was undertaken to examine to what extent psychosocial factors are related to the length of breastfeeding. A total of 471 (88%) mothers participated in this study. The study revealed that 98.7% initiated breastfeeding; 99 mothers 51% of those who stopped, stopped within the first five weeks. In Cox regression analysis the duration of breastfeeding showed a positive association with mother schooling (p= 0.002), her intention to breastfeed (p=0.001), previous experience with breast feeding (p<0.001), self-efficacy with respect to breastfeeding (p<0.001), her confidence in breastfeeding (p=0.012) and knowledge about the breastfeeding (p=0.001). These finding shows that the effect of the mother's knowledge depended on the parity of the child.

John Clemens (2006)[73]conducted a descriptive study on early initiation of breast feed and the risk of infant to evaluate whether initiation of breast feed with 3days of life was associated with lower rate of diarrhea in rural Egypt. Infant during the first 6 months of life and found that only 151(76%) infant initiated early had 26% (95%) lower rate of diarrhea than those initiated late. They concluded that early initiation of breast feeding was associated with marked reduction of the rate diarrhoea throughout the first 6 month of life possibly because of the satisfactory effect of human colostrums.

Singh J et.al. (2012)[74] A study was conducted by to assess the prevalence of exclusive breastfeeding practices at Attyampatti Panchyat Union, Salem district, Tamil Nadu. Sample size was 291 children. Only 34 per cent children were exclusively breastfed for six months. The majority of women (60.5%) initiated breastfeeding within half an hour after delivery. Various demographic factors like the education of the mother, type of delivery, type of family, occupation, number of children, monthly income, family size, age at marriage and religion had a direct influence on exclusive breastfeeding.

Radhakrishnan S (2012)[75] A study with the objective to describe and explain the factors influencing breastfeeding practices in Mysore city, and the secondary objective was to compare the breastfeeding practices of lactating mothers attending well baby clinic with their selected personal variables. Lactating mothers having at least a single infant attending well baby clinic at selected hospitals were included in the study and data was collected using the pre-tested questionnaire on breastfeeding practices. The study shows 74.29 per cent of the mothers initiated breastfeeding, more than 50per cent used pre-lacteal feeds, 36per cent had discarded the colostrum and the majority of mothers had followed hygienic practices while feeding their child. This study emphasizes the need for breastfeeding intervention programs especially for the mother during antenatal and postnatal check-ups.

METHODOLOGY

Methodology deals with the research approach, research design, setting of the study, population criteria for selection of sample, sample size, sampling technique, description of procedure, pilot study, data collection procedure, plan for data analysis and protection of human rights.

This chapter includes:

- Research approach
- Research design
- Variables under study
- Research setting
- Target population
- Sample

Sampling technique

- Inclusion & Exclusion criteria
- Selection & Development of the tool
- Description of the tool
- Criterion measures
- Validity of the tool
- Reliability of the tool
- Ethical considerations
- Pilot study
- Data collection procedure
- Plan for data analysis
- Summary

The methodology of a research study is defined as the way the pertinent information is gathered in order to answer the research question or analyse the research question or analyse the research problem. It enables the researcher to project a blue print of the research under taken. Research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion.

The present study conducted a study to evaluate the effectiveness of structured teaching programme on knowledge regarding benefits of colostrum for newborn among antenatal mothers attending antenatal OPD of Era Hospital, Lucknow.

This chapter deals with the different steps, which were undertaken by the investigator for gathering and organizing the data. It includes the description of research approach, research design, setting of the study population, sampling technique, criteria for selection of the sample, sample size, limitations, method of data

collection, and development of the tool, ethical consideration, validity, pilot study, reliability, the data collection procedure and plan for data analysis.

Research Approach

Sharma Sk (2016), stated that the research approach involves the description of the plan to investigate the phenomenon under study in a structured (quantitative) or unstructured (qualitative) a combination of two methods.

In the present study, the **Quantitative research approach** is considered appropriate.

Research Design

Pilot DF (2008) stated that a research design is a blue print for conducting the study that maximizes control over factors that could interfere with the validity of the findings. It provides a path for the investigator to obtain answers to the research problem. The selection of the design depends on the purpose and variables of the study.

In the present study, **Pre-experimental research design** is use to achieve the objectives of the study.

Setting of the Study

"The physical location and conditions in which data collection will be taking place". OPD of Era hospital of Lucknow was selected as study setting. The antenatal mothers who fulfilled the inclusion criteria were purposefully selected for the study.

Population

Population is all elements, individuals, objects or substances that meet certain criteria for inclusion in a given universe.

Target population

Sharma Sk (2016), The entire population in which the researchers are interested and to which they would like to generalize the research finding.

The target population of present study was antenatal mothers.

Accessible population

It is aggregate of cases that conform to the designated criteria and that are accessible as a pool of subjects for a study.

The accessible population of present study was the antenatal mothers of Era hospital, Lucknow.

Sampling Technique

Basvanthappa BT (2007) stated that Sampling is the process of selecting representative segment of the population under study and sample mis representative unit of a target population

Non probability sampling technique was considered appropriate for the study.

The **purposive sampling technique** is the type of non-probability sampling, which was found to be appropriate for the study. The purposive sampling proceeds on the belief that the investigator's knowledge about the population and its elements can be used to hand pick the causes to be included in the sample. For the present study antenatal mothers were purposively selected.

Inclusion Criteria

- Antenatal mothers who are willing to participate in the study.
- Antenatal mothers who are available at the time of data collection.

Exclusion Criteria

- Antenatal mothers are not willing to participate in the study.
- Antenatal mothers not available at the time of data collection.

Sample

A subset of the population of interest selected for a research study. It is a finite portion that is used to study the characteristics of concern in the population.

In the present study the **antenatal mothers** who meet the inclusion criteria were included for the study.

Sample size

A sample is a portion of the population that has been selected to represent the population of interest. It consists of subset of the units that comprise the population.

Sample size of the present study comprises totally **60** antenatal mothers from the OPD of Era hospital in Lucknow.

Variables

A characteristic or attribute of an individual or an organization that can be measured or observed that varies among people or organization being studied.

Independent variables: - Structured Teaching Programme regarding the benefits of Colostrum for Newborn.

Dependent variables: - Knowledge of Antenatal Mothers regarding benefits of Colostrum for Newborn.

Demographic variables: -Age, educational status, occupational status, trimester, religion, type of family, family monthly income, area of residence.

Development of the tool

After through search of literature and consultation with experts, the investigator developed a structured interview schedule to assess the effectiveness of structured teaching programme on colostrum feeding of the antenatal mothers.

The following steps were considered in developing the tool, i.e. first draft of schedule and assigning scores, revising the tool on the basis of the validity experts suggestion and ensured content validity, the tool was translated from English to Hindi and established reliability environments, based on the results of pilot study, final draft of the schedule was prepared.

Description of the tool

The tool consists of two parts

Section A: Socio demographic data of the antenatal mothers.

Section B: Structured interview schedule to assess the knowledge of the antenatal mothers regarding colostrum feeding. This section consists of 24items.

Scoring

Each correct response were assigned a score of one and wrong answer as zero. Total score was 24.

The level of knowledge scores were interpreted is as follows.

categories of scores for level of knowledge in percentage.

Level of knowledge in percentage	Category	Score
Inadequate Knowledge	<50%	**0-12**
Moderately adequate knowledge	51-75%	**13-18**
Adequate knowledge	76 -100%	**19-24**

Interpretation

- Maximum score: 24
- Minimum score: 0

Development of Structured Teaching Programme

The Content of the STP was prepared and organized under various headings according to the specific objectives. The content of the STP includes Meaning and concepts of colostrum feeding, Prelacteal feeds, components of breast milk and colostrum, advantages to the mother and baby, hygiene, breaking the wind, foremilk & hind milk, correct position, breast conditions and contraindications.

The method of teaching adopted was lecture cum discussion by using audio visual aids like chart, flip cards. Average time taken for the STP intervention was 15 minutes.

Ethical consideration:

The study objectives, structured teaching programme and data collection procedure were approved by the ethical committee of the institution. Formal consent was obtained from the hospital authorities.

Content Validity

The content validity of the tool and STP was established in consultation with the experts in the field of Paediatric Nursing, and obstetric health nursing. (Annexure) Experts were requested to give their opinion and suggestions regarding relevance, appropriateness, accuracy and degree of agreement in each item of the tool.

Suggestion and recommendation given by the experts were considered and modifications in the tool were made in the final tool.

The tool and STP was originally developed in English and translated into Hindi language and content validity was done by the experts in both languages.

Pilot study

Pilot study is a small-scale version or trial run of major study. The function of pilot study is to obtain information regarding accessibility and feasibility of study.

A pilot study is a study which is carried out at the end of the planning phase of research in order to explore the feasibility of the study. A pilot study was conducted from 17.06.2019 to 21.06.2019 at Charak Hospital, Lucknow. Administrative approval was obtained from the director of the Charak Hospial to conduct the pilot study.

The purpose of pilot study was to:

A total of 6 antenatal mothers were selected for the study by using Purposive sampling technique pre-test was conducted by using self-administered structured knowledge questionnaire to assess the knowledge regarding colostrum benefits among newborn. On the same day structured teaching programme was implemented to antenatal mothers who were included for the study. Post-intervention was conducted on same day of the administration of the structured teaching programme. The maximum time spend for filing the self-administer tool by each student was average 15-20 min.

Reliability

The reliability of the tool was assessed by using internal consistency reliability method to assess the effectiveness of structured knowledge interview schedule on exclusive breastfeeding. The reliability was estimated by Correlation & co-efficient method.

Reliability of the tool was $\alpha = 0.91$. The tool was found to be highly reliable for the data collection.

Data collection procedure

Data collection is the gathering of information needed to address the research problem. The formal prior permission was obtained from the authorities of the Era hospital, Lucknow. The investigator obtained the consent from the participants by explaining the purpose of the study. The investigator collected the data from 1.07.2019 to 21.07.2019. After the pre-test, the structured teaching programme was conducted. The duration of the teaching programme was 15 minutes. After that, post test was conducted to the same clients to evaluate the effectiveness of the structured teaching programme.

Plan for data analysis

Descriptive and inferential statistics was used for data analysis. The collected data will be presented in form of tables, diagrams and graphs.

Data Analysis	Statistical Test	Objectives
Descriptive statistics	Frequency/ percentage, mean, standard deviation ·	Frequency and percentage distribution of demographic variables & level of knowledge regarding knowledge on colostrum benefits in newborn among antenatal mothers.
Inferential statistics	Paired "t" test	Comparison of pre and post-test knowledge regarding knowledge on colostrum benefits in newborn among antenatal mothers.
	Chi-square test ·	Association of selected demographic variables with pre-inerventional level of knowledge regarding knowledge on colostrum benefits in newborn among antenatal mothers.

Summary

This chapter deals with the research approach, research design, research setting, target population, sample & sampling technique, inclusion and exclusion criteria, selection & development of tool, description of the tool, validity of the tool, reliability of the tool, pilot study, data collection procedure, ethical considerations and plan of data analysis.

ANALYSIS & INTERPRETATION

Analysis is the examination and evaluation of relevant information to select the best course of action from various alternatives systematic investigation to establish facts or principles or to collect information on a subject, to carry out investigation into particular sequence. Analysis is the process of carefully scrutinizing the data by placing it in categories and applying the statistical procedures.

The data was obtained from the sample of 60 antenatal mothers and compiled in a master sheet. Then it was analysed using the latest version of SPSS and interpreted using experimental statistics by calculating frequency and percentage, mean, standard deviation (SD) and interferential statistics i.e. chi square and t-test. The $p<0.05$ for significance was selected for the study.

OBJECTIVES-

- To assess the pre-interventional and post interventional level of knowledge regarding benefits of colostrum from newborn among antenatal mothers.

- To compare the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum from newborn among antenatal mothers.
- To find the association between the pre-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers on with selected demographic variables.

The analysed data was organized according to objectives and presented under the following major headings:

Section I: Sample characteristics

Section II: Objective wise analysis**.**

SECTION -1

SAMPLE CHARACTERSTICS

Table-1

Frequency and percentage distribution of antenatal mothers according to socio -demographic variables

N=60

S. No.	Socio-demographic variables	Frequency	Percentage%
1	**AGE (in year)**		
	a) Below 25	29	48.33
	b) 25-30	26	43.33
	c) 31-35	3	5.00
	d) Above 35	2	3.33
2	**Educational status**		
	a) Illiterate	6	10
	b) Primary	5	8.33
	c) Secondary	31	51
	d) Higher Secondary	11	18
	e) Graduate & above	7	11
4	**Trimester**		
	a) 1st	37	61.66
	b) 2nd	22	36.66
	c) 3rd	1	1.66

		0	0
5	**Religion**		
	a) Hindu	43	71.66
	b) Muslim	17	28.33
	c) Christian	0	0
	d) Other	0	0
6	**Type of family**		
	a) Nuclear	14	23.33
	b) Joint	46	76.66
	c) Extended	0	0
7	**Family monthly Income**		
	a) Below < Rs. 20,000		
	b) 20,001- 30,000	33	55.00
	c) 30,001- 40,000		
	d) More than 40,000	16	26.66
		8	13.00
		2	3.33
8	**Residence**		
	a) Urban	33	55
	b) Rural	27	45

Distribution of demographic study subject was done according to the categories as defined:

Percentage distribution of mothers according to their **age** shows that 48.33% of samples belong to the age group of below 25 years, 43.33% of them were in the age between (26-30) years, 5% of samples were in the age between (31-35years and 3.33% of samples were in the age above 35 years.

Analysis related to **educational status of mothers** revealed that 51.66% of the respondents had secondary education, 18.33% of them had higher secondary education, 11% of them had higher secondary education, 10% of them were illiterate and 8.33% of them had primary education**.**

Occupation wise analysis shows that 75% of the mother were housewife,13.33% of the participants were private job, 8.33% mother were self-employment,3.33% mothers were government job, none of the samples were daily labour.

Analysis related to **Trimester** revealed that 34 (56.66%) mothers were second trimester, 18 (30%) mothers were in third trimester and, 8 (13,33%) mothers were in first trimester. Distribution of samples according to the **religion** shows that 71.66% of mothers were Hindus, 28% of them were Muslim and none of the samples were Christians and other.

Analysis related to **types of family** explains 23.33% of the samples were from nuclear family and 46% of the mothers were belongs to joint family and none of the samples were extended family.

Analysis related to **family monthly income** denotes 33 (55%) of mother belong below Rs 20,000 income group, 16 (26%) of them belong to Rs 20,001-30,000 income group, 8(13 %) of mother belongs to Rs 30,001-40,00 0 income group and 2 (3.33%) of them belongs to above 40,000 income group.

Area of resident analysis shows that 33 (55%) of the samples were belongs to rural area and 27 (45%) of them were from urban area.

SECTION – 2

MAIN ANALYSIS

Objective-1- To assess the pre-interventional and post interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

Table-2(a)

Frequency, percentage and mean distribution of pre-interventional level of knowledge on benefits of colostrum for newborn among antenatal mothers.

N=60

KNOWLEDGE LEVEL	SCORES	FREQUENCY	PERCENTAGE %	MEAN
Inadequate knowledge	0 – 12	16	26.66	
Moderate knowledge	13 – 18	42	70	13.90
Adequate knowledge	19 – 24	2	3.33	
TOTAL	24	60	100%	

Maximum Score=24

Minimum Score=0

Table 2(a) and figure depicts the pre-interventional frequency, percentage and mean distribution of knowledge regarding colostrum benefits in new-born. The majority (70%) of the antenatal mothers were having moderate knowledge (26.66%) were having inadequate knowledge and adequate knowledge only (3.33%) regarding colostrum benefits.

Hence, it was concluded that majority of antenatal mothers were having moderate knowledge regarding benefits of colostrum for newborn.

Table-2(a)

Frequency, percentage and mean distribution of pre-interventional level of knowledge on benefits of colostrum for newborn among antenatal mothers.

N=60

KNOWLEDGE LEVEL	SCORES	FREQUENCY	PERCENTAGE %	Mean
Inadequate knowledge	0 – 12	0	0	
Moderate knowledge	13 – 18	10	16.66	20.05
Adequate knowledge	19 – 24	50	83.33	
TOTAL	24	60	100%	

Maximum Score=24

Minimum Score=0

Table 2(b) and figure depicts the post-interventional frequency the majority (83.33%) of the antenatal mothers were having adequate knowledge level followed by (16.66%) were having moderate knowledge regarding colostrum benefits in newborn and none of the antenatal mothers had inadequate knowledge.

Hence, it was concluded that majority of adolescent girls were having adequate knowledge regarding colostrum benefits in newborn after conducting structured teaching program.

Objective 2: To compare the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

TABLE-3

Knowledge	mean	SD	df	t
Pretest score	**13.90**	**2.704**		
			59	**14.67**
Post test score	**20.05**	**2.012**		

Maximum Score=24 **=significant at p<0.05**

Minimum Score=0

Table 3 depicts the comparison of the pre interventional and post interventional knowledge regarding benefits of colostrum for newborn among antenatal mothers. The mean (12.05) of post-interventional score was more than the mean (13.9) of pre-interventional score of antenatal mothers. The comparison of pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers had significant difference with 't' value (14.67) at p<0.05 level of significance.

Hence, it was concluded that there was significant difference between the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

Objective 3: - To find the association between post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers with selected socio-demographic variables.

TABLE

Socio-demographic variable	**Frequency**	**Respondants knowledge**			**df**	**P-value < 0.05**	**X^2**
		Adequate knowledge	**Moderate Knowledge**	**Inadeqauate knowledge**			
Age (in years)					**6**	**.646**	**** 4.2**
a) Below 25	29	6	22	1			
b) 25-30	26	9	17	0			
c) 31-35	3	0	3	0			

d) Above 35	2	0	2	0			
Educational status					**8**	**.293**	***9.6**
a) Illiterate	6	3	3	0			
b) Primary	5	0	5	0			
c) Secondary	31	9	22	0			
d) Higher Secondary	11	1	9	1			
e) Graduate & above	7	2	5	0			
Occupational status					**6**	**.574**	****4.7**
a) Housewife	45	13	31	1			
b) Government Job	2	0	2	0			
c) Self-employment	5	2	3	0			
d) Private Job	8	0	8	0			
e) Daily labor	0	0	0	0			
Trimester					**4**	**.507**	***3.3**
a) 1st	8	1	7	0			
b) 2nd	34	11	22	1			
c) 3rd	18	3	15	0			
Religion					**2**	**.799**	**.448****
a) Hindu	43	11	31	1			
b) Muslim	17	4	13	0			
c) Christian	0	0	0	0			
d) Other	0	0	0	0			
Type of family					**2**	**.792**	**.466***
a) Nuclear	14	3	11	0			
b) Joint	46	12	33	1			
c) Extended	0	0	0	0			
Family monthly income					**6**	**.381**	**6.393***
a) Below Rs. 20,000	33	11	22	0			
b) 20,001- 30,000	16	2	14	1			
c) 30,001- 40,000	8	1	7	0			
d) More than 40,000	2	1	1	0			
Area of residence					**2**	**.523**	**1.298***
a) Urban	33	7	25	1			
b) Rural	27	8	19	0			

NS= Non significant at p<0.05

***significant at p<0.05**

The above table 4 shows that:

The data presented in the above table shows that there was significant association between level of knowledge with education (χ 2 = 9.621), trimester (χ 2 = 3.309), Type of family (χ 2 = .466), family monthly income (χ 2 = 6.393) and area of residence (χ 2 = 1.298 and there was no association between level of knowledge with age (χ 2 =4.230), occupation (χ 2 = 4.768) and religion (χ 2 =.498) at $p<0.05$ at level of significance.
Hence, it was concluded that the majority of values are less than table value. So, researcher accepted the research hypothesis.

Summary

This chapter has dealt with analysis and interpretation of the results of the study. Descriptive and inferential statistics were employed to analyse the data. The analysis was carry out on the basis of objectives and hypothesis of the study. Frequency and percentage were used to represent the sample characteristics and knowledge and practice were analysed through mean, SD, and mean percentage. The associations of knowledge and practice score with selected demographic variables were assessed by using χ2 test.

DISCUSSION

A Pre-experimental study to evaluate the effectiveness of structured teaching programme on knowledge regarding benefits of Colostrum for newborn among Antenatal mothers attending antenatal OPD of Era Hospital (Lucknow)

A pre-experimental study approach was conducted to evaluate the effectiveness of structured teaching programme on knowledge regarding benefits of Colostrum for newborn among Antenatal mothers attending antenatal OPD. Data was collected from 60 mothers. Purposive sampling technique was used to select the sample. Collected data was analysed by using descriptive and inferential statistics and presented in the form of tables and graphs.

Major findings

Sample characteristics

It was found that out of 60 study sample,

- Majority of the antenatal mothers were in age group below 25 years.
- Maximum antenatal mothers educational status were higher secondary.

- Maximum antenatal mothers occupational status were housewife.
- Majority of antenatal mothers were in first trimester.
- Majority of antenatal mothers were Hindu religion.
- Majority of them were belonging to joint family.
- Maximum antenatal mothers had family monthly income below ≤ Rs 20,000.
- Most of the antenatal mothers were urban residence.

The findings were discussed under sections

Section I: Sample characteristics

Section II: Objective wise analysis

Section I- Demographic Characteristics of mothers

Regarding age majority 29 numbers (48.33%) were below 25 years. Regarding educational status majority 31 numbers (51%) were secondary educated. Regarding occupational status majority 45 numbers (75%) were housewife. Regarding trimester majority 37 numbers (61.66%) were first trimester. Regarding religion majority 43 numbers (71.66%) were hindu. Regarding type of family majority 46 numbers (76.66%) were joint family. Regarding Family monthly income majority 33 numbers (55 %) were below 20,000. Regarding residence majority 33 numbers (55%) were urban.

Section II**:** Objective wise analysis

Objective 1- to assess the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

Findings of present study revealed that the pre-interventional frequency, percentage and mean distribution of knowledge regarding colostrum benefits in new-born. The majority (70%) of the antenatal mothers were having moderate knowledge (26.66%) were having inadequate knowledge and adequate knowledge only (3.33%) regarding colostrum benefits. the post-interventional frequency the majority (83.33%) of the antenatal mothers were having adequate knowledge level followed by (16.66%) were having moderate knowledge regarding colostrum benefits in newborn and none of the antenatal mothers had inadequate knowledge. This findings of the study were supported by **Naveen K, et al, (2008)[49]** conducted a cross-sectional study to assess the knowledge and awareness regarding dietary practices pregnancy, lactation and infancy in specialized population of 253 mothers in Chandigarh. The majority of the subjects (87.8%) knew that medication should be avoided during pregnancy. Only 26.48% believed that drinking alcohol and smoking is harmful for pregnant females. Knowledge about need of extra food (78.7%) and extra iron (78.26%) during pregnancy was found to be quite high. Only 19.76% reported that extra sleep/rest is essential during pregnancy. Only 18.97% respondents had information about the importance of colostrum. The study revealed that the provision of health education for all females is a prerequisite for reduction of morbidity and mortality amongst vulnerable groups of mothers and infants.

Objective 2- To compare the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum from newborn among antenatal mothers.

Findings of present study revealed that the comparison of the pre interventional and post interventional knowledge regarding benefits of colostrum for newborn among antenatal mothers. The mean (12.05) of post-interventional score was more than the mean (13.9) of pre-interventional score of antenatal mothers. The comparison of pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers had significant difference with 't' value (14.67) at $p<0.05$ level of significance.These findings of study were supported by **Radhakrishnan S (2012)[75]** A study with the objective to describe and explain the factors influencing breastfeeding practices in Mysore city, and the secondary objective was to compare the breastfeeding practices of lactating mothers attending well baby clinic with their selected personal variables . Lactating mothers having at least a single infant attending well baby clinic at selected hospitals were included in the study and data was collected using the pre-tested questionnaire on breastfeeding practices. The study shows 74.29 per cent of the mothers initiated breastfeeding, more than 50per cent used pre-lacteal feeds, 36per cent had discarded the colostrum and the majority of mothers had followed hygienic practices while feeding their child. This study emphasizes the need for breastfeeding intervention programs especially for the mother during antenatal and postnatal check-ups.

Objective 3-To find the association between the pre-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers on with selected demographic variables.

The researcher calculated the value of chi square in order to find out the association between the level of pre-interventional knowledge score with their selected socio demographic variable among antenatal mothers at $p<0.05$ level of significance. These findings of study were supported by **Singh J et.al. (2012)[74]** a study was conducted by to assess the prevalence of exclusive breastfeeding practices at Attyampatti Panchyat Union, Salem district, Tamil Nadu. Sample size was 291 children. Only 34 per cent children were exclusively breastfed for six months. The majority of women (60.5%) initiated breastfeeding within half an hour after delivery.

SUMMARY

The aim of the present study was to assess the effectiveness of the structured teaching programme on colostrum feeding among the antenatal mothers in the Era hospital of Lucknow.

The objectives of the present study were:

1. To assess the pre-interventional and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.
2. To compare the pre and post-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers.

3. To find the association between pre-interventional level of knowledge regarding benefits of colostrum for newborn among antenatal mothers with selected socio-demographic variables.

The conceptual frame work adopted for the study was modified Dorothy Johnsons

open system model.

This helped the researcher to evaluate to evaluate the effectiveness of structured teaching programme on colostrum feeding and to assess the level of knowledge gained by the antenatal mothers.

Review of literature and related studies helped the Investigator to collect the appropriate and relevant information to support the study design, the methodology, conceptual frame work, development of the tool and also helped for the analysis of data.

Evaluative research was adapted as research approach and Pre-experimental design with one group pre-test and post-test was used as research design in the present study.

The study was conducted in the OPD of the Era Hospital. The study population consisted of the antenatal mothers who is pregnant. By purposive sampling technique the mothers were selected. The sample consists of 60 antenatal mothers. A structured interview schedule was prepared and used for data collection which consists of two sections: Section A deals with the socio-demographic data. Section B consists of 24 questions related to colostrum feeding and breastfeeding. Content validity of the tool was done by the experts from the obstetrics and gynaecology and paediatric nursing. The reliability of the tool was assessed by using internal consistency reliability method. The reliability was estimated by Correlation coefficient method. Reliability of the tool was $\alpha = 0.91$. The tool was found to be highly reliable for the data collection.

During the main study the Investigator collected background information's and assessed the knowledge of colostrum feeding the S.T.P was intervened again after a gap of pre-test and post-test was done.

The data was coded, grouped, tabulated and interpreted according to the objectives of the study. Description and inferential statistics were used for data analysis.

Major findings of the study characteristics

Regarding age majority 29 numbers (48.33%) were below 25 years. Regarding educational status majority 31 numbers (51%) were secondary educated. Regarding occupational status majority 45 numbers (75%) were housewife. Regarding trimester majority 37 numbers (61.66%) were first trimester. Regarding religion majority 43 numbers (71.66%) were hindu. Regarding type of family majority 46 numbers (76.66%) were joint family. Regarding Family monthly income majority 33 numbers (55 %) were below 20,000. Regarding residence majority 33 numbers (55%) were urban.

Findings related to effectiveness of structured teaching programme

Frequency, percentage and mean distribution of the antenatal mothers regarding benefits of colostrum for newborn. The (26.66%) of the antenatal women were having inadequate knowledge level followed by (70 %) the majority were having moderate knowledge regarding benefits of colostrum for newborn and (3.33%) were having adequate knowledge.

Hence, it was concluded that majority of antenatal mothers were having moderate knowledge regarding benefits of colostrum for newborn.

Association of knowledge of the antenatal mothers regarding colostrum feeding with the selected socio-demographic variables.

No significant association between the age with knowledge score because the obtained $\chi 2$ (4.230) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

No significant association between the educational status with knowledge score because the obtained $\chi 2$ (9.621) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

No significant association between the occupational status with knowledge score because the obtained $\chi 2$ (3.309) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

No significant association between the trimester with knowledge score because the obtained $\chi 2$ (.448) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

Significant association between the religion with knowledge score because the obtained $\chi 2$ (.466) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

Significant association between the type of family with knowledge score because the obtained $\chi 2$ (6.393) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

No significant association between the family monthly income with knowledge score because the obtained $\chi 2$ (6.393) value is more than table value at 0.05 level of significance. Hence the null hypothesis accepted.

CONCLUSION

Conclusions were derived from findings and a synthesis of findings. Forming these conclusion requires a combination of logical reasoning, creative formation of meaningful whole from the pieces of information obtained through data analysis and findings from previous studies receptivity to subtle calves in the data and the use of open context in considering alternative of the data.

The following conclusions were drawn on the basis of present study to assess the effectiveness of structured teaching programme on colostrum feeding among the antenatal mothers in the antenatal OPD, Lucknow.

• In the pre-test, majority of the mothers had moderate knowledge regarding colostrum feeding.

• After the implementation of structured teaching programme in post-test 83.33% of the mothers gained adequate knowledge and 16.66% of the mothers gained average knowledge.

• There was a significant association was found between the knowledge of the antenatal mothers regarding colostrum feeding with the selected socio demographic variables like age, educational status, occupation, trimester, religion, type of family, family monthly income and area of residence.

NURSING IMPLICATIONS AND RECOMMENDATIONS

The findings of the study have implications in the following areas

• Implication for nursing practice

• Implication for nursing education

• Implication for nursing administration

• Implication for nursing research

Implications for nursing practice

• The nurses are playing the vital role among all the health team members in educating the mothers about colostrum feeding. They can create better awareness among the mothers.

• They can prepare and use the variety of audio-visual aids to create the awareness among the mothers.

• Nurses can include the other member of the family also to be involved along with the mother in learning about colostrum feeding.

• The teaching strategies used by the nurses should be simple, clear cut and able to follow by the mothers.

• Community educational programmes has to be planned to enrich the community awareness.

• The nurses and health care system should focus on the issues related to colostrum feeding.

• Strengthening the colostrum feeding programmes and policies.

Nursing Education

• Nursing curriculum should focus on the necessity of improving the strategies to strengthen the colostrum feeding practices.

• The nursing curriculum should consist of knowledge related to teaching strategies and various modalities. So that nursing students can use different teaching methods to impart the appropriate knowledge on colostrum feeding to the focus group. The students learning experience should provide an opportunity to conduct health education campaigns and supervised nursing practices.

• The nursing curriculum should be expanded with the evidence-based practice about the benefits of colostrum feeding.

• The students need to be directed towards changing the attitude of the mothers regarding the misconceptions regarding colostrum feeding.

• Nursing workshops and conferences to be conducted to update the knowledge about the breastfeeding.

• Research activities to be carried out on various aspects of breastfeeding.

• Educational materials can be prepared based on the special need of the communities.

Nursing administration

• The nurse administrator should organize in service education programmes for the staffs to get update with the strategies in colostrum feeding education.

• The nurse administrator should motivate the health care professionals to organize the awareness campaigns to the antenatal mothers and the post-natal mothers by providing adequate information about the development of healthy colostrum feeding advantages and techniques of breastfeeding.

• Nurse administrator should also involve the mass media to take part in the educational programmes regarding colostrum feeding.

• The nurse administrator should plan for the education for the working and non-working group.

• The teaching sessions can be videotaped and played for the mothers who are waiting at the outpatient department.

Nursing Research

• This finding of the study recommends to have structured educational programmes for the mothers regarding colostrum feeding.

• The research can be focused on the large sample.

• This study will be motivating factor for the beginning researcher to conduct the study on the same theme with the different variables.

• The nursing research should focus on the attitude of the family members as well as the mothers in giving colostrum feeding.

• The research can be focused on various intervention focused programmes to aim for the achievement of successful colostrum feeding.

Limitations

• Sample size was small, hence the generalization of the findings is limited.

• Study was conducted in only one hospital, there by restricting the generalization of the findings.

• Study was restricted only to the antenatal mothers.

Recommendations

Based on the findings of the study, the following recommendations are put forward for the further research.

1. A similar study can be undertaken with a large sample to generalize the findings.
2. The similar study can be conducted in the different set up like Government hospitals and health centers etc.
3. The pre-experimental study can be conducted with different teaching methods to know the effectiveness of each teaching method on the awareness of colostrum feeding.
4. A similar study can be conducted by using true experimental research.
5. A study can be conducted to identify the factors responsible for delayed initiation of breastfeeding.
6. A comparative study can be done between the urban and rural setting.
7. A study on identifying the causes of failure of breastfeeding until the recommended period.
8. A comparative study can be conducted between the working and non-working mothers regarding colostrum feeding and breastfeeding.

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