*Research Article*

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# VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG CAREGIVERS OF NEONATES

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## ABSTRACT

**Background and Objective of the study:** India faces its own unique challenges. The country is the highest contributor to the global birth cohort, neo-natal mortality rate, and birth of vulnerable infants. Guidelines from International Paediatrics Societies indicate that if the mothers own milk is not available donor milk should be the next choice. The study aims to determine the  "Effectiveness of video assisted teaching on knowledge regarding Human Milk Banking among Caregivers of neonates in Intensive Care Unit at vani vilas Hospital, Bengaluru" **Methods:** Evaluative approach, pre-experimental one group pre-test post-test design was used. The samples of 100 caregivers of neonates were selected at Vani Vilas Hospital Fort, Bengaluru by Non-Probability convenient sampling technique. The data was collected by using a structured interview schedule with structured knowledge questionnaire before and after administration of video assisted teaching. **Results:** The overall mean percentage score in the pre-test is 8.83 % and in post-test is19.29%. Enhancement in mean percentage score were found to be 10.46%. the statistical paired 't' test indicates that enhancement in the mean percentage knowledge score were found to be significant at 0.05 level for all the aspects under the study. The association is found to be significant between the pre-test knowledge score and selected socio-demographic variables such as Gender, Marital Status, Type of family and Any information regarding Human Milk Banking at 0.05 level (p<0.05) **Interpretation and Conclusion:** The findings of the study revealed that there is a significant difference in the mean pre-test and post-test knowledge scores of Caregivers of neonates. The mean post-test knowledge score was higher than mean pre-test scores. There was significant improvement in the knowledge after the intervention and  it can be concluded that the Video Assisted Teaching was effective invimproving the knowledge of Caregivers of neonates hence, H1 is accepted. There was significant association between the pre-test knowledge score and selected demographical variables such as Gender, Marital Status, Type of family and Any information regarding Human Milk Banking.

**KEYWORDS:** Effectiveness; video assisted teaching; knowledge; caregivers of neonates; Human Milk Banking.

## INTRODUCTION

Breast milk is wholesome food for the baby. It is the most effective way to provide baby with a caring environment and provides ideal nutrition for babies. It meets the nutritional as well as emotional needs of the baby. UNICEF and WHO recommends exclusive breastfeeding to babies until six months of age.However, many infants lack access to their mother's own milk (MOM) because of issues related to the mother's illness or death, abandonment, infant's illness, inability to latch, or delay in milk production. This lack of access to breast milk leaves infants more vulnerable to disease, poor health, or death, especially when they are born pre-term, low birth weight, or are severely malnourished. In such a scenario, the World Health Organization, American Academy of Paediatrics, the Committee on Nutrition of the European Society for Paediatric Gastroenterology, Hepatology, and Nutrition, and other policy groups recommend donor human milk, made available through human milk banks, as the next best feeding option when Mothers Own Milk (MOM) is unavailable.[1,2]

The National Health Mission, Government of India, the main goal is to reduce neonatal morality rates in India and to achieve this the best method for feeding babies is through the donor's mother milk which has similar nutritional factors when babies' mothers own milk is not available, this method has high importance in reducing neonatal death rates. The pasteurized donor human milk can be prescribed on priority for preterm babies and sick babies, babies of mothers with postpartum illnesses, and babies whose mothers have lactation failure, till their milk output improves.

India has a special significance of milk banks. The Government of India has acknowledged the role that human milk banking in reducing neonatal mortality and morbidity, and with a vision to make breast milk universally available for all infants, launched the "National Guidelines on Lactation Management Centres in Public Health Facilities" in 2017. The Government is now working on an implementation strategy to scale up the lactation management centre model (promotion of breastfeeding, kangaroo mother care, and donor human milk) for all new born care units and delivery centres in the country.

Donor human milk reduced the risk of late-onset sepsis in vulnerable, low-birthweight infants by 19% in the first 28 days. Donor human milk has a greater protective effect compared with formula.

**Necrotizing enter colitis**•Human milk feeding, whether mother's own milk or donor human milk reduces necrotizing enterocolitis by as much as 79% when formula is avoided.

• **Retinopathy of prematurity** •Human milk feeding in the NICU is associated with lower rates of severe retinopathy of prematurity.

• **Feeding tolerance** •Preterm infants fed unfortified donor human milk had greater feeding tolerance, fewer vomits, less gastric stasis, and reduced diarrhoea compared with formula-fed infants.

• **Reduced length of stay in NICU** •Cost of providing donor human milk to preterm infants is mitigated by a reduced risk of complications and shorter length of stay in NICU.

**Cost saving** •The percentage of infants who are exclusively breastfed at discharge is about 13% higher in NICUs with a human milk bank.

• **Neuro developmental outcomes and long-term benefits** •Later in childhood and adulthood, preterm infants fed human milk have been shown to have lower rates of metabolic syndrome, increased white matter and brain volume, and significantly greater scores for mental, motor, and behaviour ratings.[3]

About 75% of premature infants can be saved with feasible and cost-effective interventions. These include kangaroo mother care; adequate neonatal resuscitation; prevention, detection, and treatment of neonatal infections; and breastfeeding. Of these, breastfeeding has been identified as the single most powerful intervention, with the potential to prevent 0.16 million under-5 deaths in India. Yet, breastfeeding rates remain low, with only 41.6% of infants being initiated into breastfeeding within 1 hour of birth and 54.9% of infants exclusively breastfed until 6 months of age.[3]

Keeping in mind the complications associated with formula feeding to the sick, preterm neonates and mothers inability to breast feed in initial period, new-born undergoing surgical interventions, initial post-operative period there is a need to establish human milk banks to meet the nutritional demands and sensitize the caregivers and create awareness about human milk banking. Therefore, recognizing that the awareness about human milk banking is limited further research in this field will fill the knowledge gaps and also support mothers to provide their own breast milk and establish breastfeeding as soon as possible after birth.[4]

**MATERIALS AND METHODS**
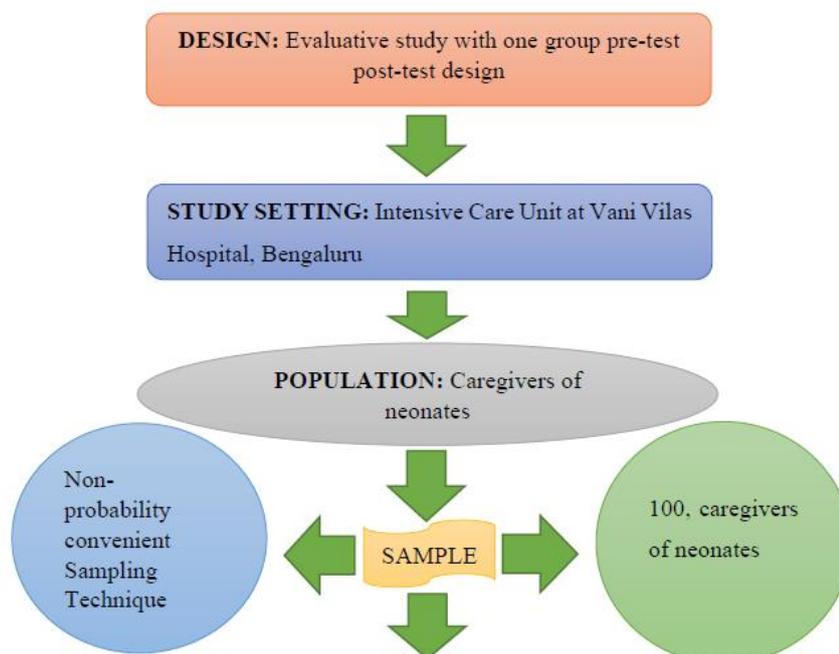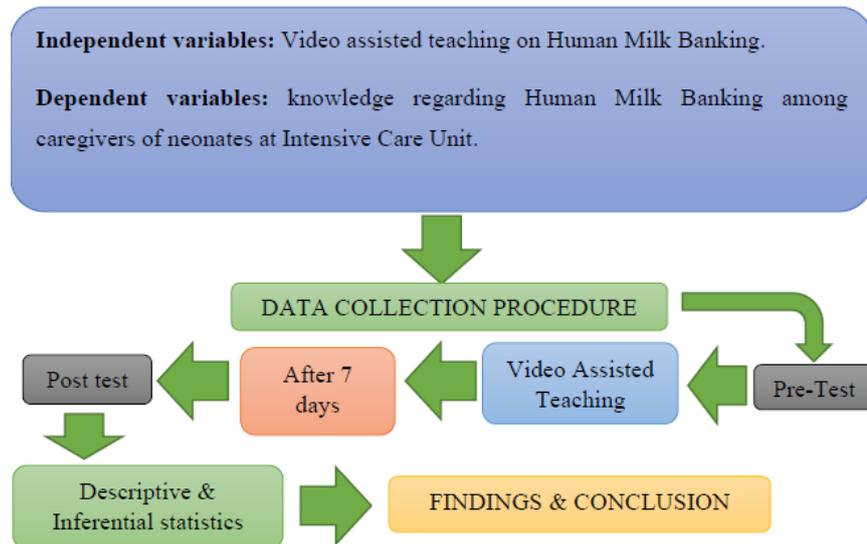
## DESCRIPTION OF THE TOOL

After a thorough review of literature related to the topic and considering the suggestions of experts structured knowledge questions was developed.

The structured knowledge questionnaire comprised of two parts
➢ **Part I: -** Consists of socio demographical profile such as age, gender, religion, education, occupation, family income, marital status, type of family, parity of mother, any previous information regarding Human Milk Banking.
➢ **Part II**: - Consists of structured knowledge questionnaire consists of three sections.

**Section A:** It consists of questions on demographic questionnaire which are 10 in number.

**Section B:** It consists of 25 items to assess the knowledge regarding to Human Milk Banking among Caregivers of Neonates at Intensive Care Unit.

**Aspect A:** Questions related to General information on Human Milk Bank.
**Aspect B:** Questions related to needs and benefits of pasteurised donor human milk.
**Aspect C:** Questions related to functioning of Human Milk Bank.

## RELIABILITY OF THE TOOL

The tool after validation was subjected to test for its reliability by administering structured knowledge questionnaires to 10 samples. The reliability of the tool is computed using Split Half Karl Pearson's correlation formula (Raw Score Method) and internal consistency reliability. The reliability co-efficient worked to be 0.98 for knowledge questionnaire revealing that the tool is. feasible for administration for the main study, Since the knowledge reliability co-efficient for the scale r>0.70 The tool was found to be reliable and feasible.

## RESULTS

Data was processed and analyzed on the basis of the objectives and hypotheses formulated for the purpose of the study and were tabulated, analyzed and interpreted using descriptive and inferential statistics.

The demographical variables were analyzed in terms of frequency and percentage. To identify the effectiveness of video assisted teaching program mean, standard deviation and Mean Percentage of knowledge score of the participants were used. The significant between the Mean Pre-test and Mean Post-test knowledge score was calculated using Paired' t' test. Chi-square test was used to find the association between the Pre-test knowledge score, with their selected demographic variables.[46]

The table number-1 revealed that in Pre-Test majority 77(77%) of participants had Inadequate knowledge and only 23(23%) had average knowledge level. whereas in Post-test majority 73(73%) of participants had Adequate knowledge and only 27(27%) had average knowledge.

The table number-2, revealed that mean post-test knowledge score (19.29) was considerably more in comparison with mean pre-test knowledge score (8.83) of the participants regarding Human Milk Banking.

Table number -3 results revealed that mean pre-test knowledge score was 8.83 and mean post-test knowledge score was 19.29 and the difference in knowledge score was 10.46 with percentage improvement in knowledge was 43.58%.

The table number -4 shows $\chi 2$ value computed between the pre-test knowledge level regarding Human Milk Banking among caregivers of neonates in Intensive Care Unit and selected demographic variables. Variables such as Gender, Marital Status, Type of family and Any information regarding Human Milk Banking were significant at 0.05 level. Thus, it can be inferred that there is a significant association between pre-test

knowledge level of caregivers of neonates in Intensive Care Unit and selected variables.

**TABLES AND FIGURES**
**Table No. 1: Comparison of Level of Knowledge Regarding Human Milk Banking Among the Participants.**

| Sl. No | KNOWLEDGE LEVEL | CATEGORY | PRE-TEST | | POST-TEST | |
|---|---|---|---|---|---|---|
| | | | Frequency | Percentage | Frequency | Percentage |
| 1 | Adequate knowledge | >18 | -- | -- | 73 | 73% |
| 2 | Average knowledge | 12-18 | 23 | 23% | 27 | 27% |
| 3 | Inadequate knowledge | <12 | 77 | 77% | - | - |
| | Total | | 100 | 100 | 100 | 100 |

**Table no. 2: Comparison overall mean pre-test and post- test knowledge score of participants regarding Human Milk Banking Knowledge.**

| Knowledge | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| Pre-test | 8.83 | 100 | 3.41 | 0.34 |
| Post-test | 19.29 | 100 | 2.35 | 0.23 |

**Table 3: Comparison of mean knowledge score difference in knowledge and percentage improvement in knowledge Mean Pre Test Score.**

| Mean Pre Test Score | Mean Post Test Score | Difference In Knowledge | Percentage Improvement in Knowledge |
|---|---|---|---|
| 8.83 | 19.29 | 10.46 | 43.58% |

**Table 4: Association of the Pre-Test Knowledge Scores of Caregivers of Neonates with the Demographic Variables.**

| VARIABLES | Below Median | Above Median | Chi-Square | df | p-value | Inference |
|---|---|---|---|---|---|---|
| AGE IN YEARS | | | | | | |
| Below 20 years | 10 | 03 | | | | |
| 21-40 Years | 28 | 38 | 5.88 | 2 | 0.0529 | NS |
| 41-60 Years | 08 | 13 | | | | |
| Above 60 years | 00 | 00 | | | | |
| GENDER | | | | | | |
| Male | 10 | 53 | 10.01 | 1 | 0.0016 | S |
| Female | 01 | 36 | | | | |
| RELIGION | | | | | | |
| Hindu | 28 | 37 | | | | |
| Muslim | 16 | 12 | 2.46 | 2 | 0.2923 | NS |
| Christian | 02 | 05 | | | | |
| Any other specify | 00 | 00 | | | | |

| EDUCATION | | | | | | |
|---|---|---|---|---|---|---|
| No formal education | 01 | 05 | 4.99 | 3 | 0.1725 | NS |
| Primary education | 06 | 09 | | | | |
| Secondary education | 27 | 21 | | | | |
| PUC and Graduate | 12 | 19 | | | | |

| OCCUPATION | | | | | | |
|---|---|---|---|---|---|---|
| House wife | 30 | 42 | 5.34 | 2 | 0.0693 | NS |
| Daily wage worker | 01 | 04 | | | | |
| Private employee | 15 | 08 | | | | |
| Government employee | 00 | 00 | | | | |
| Others | 00 | 00 | | | | |
| MONTHLY INCOME | | | | | | |
| 10,000-20,000/- | 01 | 01 | 4.01 | 3 | 0.2604 | NS |
| 20,001-30,000/- | 06 | 14 | | | | |
| 30,000-40,000/- | 23 | 28 | | | | |
| Above 40,001/- | 16 | 11 | | | | |
| MARITAL STATUS | | | | | | |
| Single | 00 | 00 | 7.66 | 2 | 0.0217 | S |
| Married | 36 | 49 | | | | |
| Divorced | 04 | 05 | | | | |
| Widow | 06 | 00 | | | | |
| TYPE OF FAMILY | | | | | | |
| Nuclear | 35 | 29 | 5.39 | 1 | 0.0203 | S |
| Joint | 11 | 25 | | | | |
| Extended | 00 | 00 | | | | |
| PARITY OF MOTHER | | | | | | |
| Primi gravida | 20 | 16 | 2.06 | 1 | 0.1512 | NS |
| Multi gravida | 26 | 38 | | | | |
| ANY PREVIOUS INFORMATION REGARDING HUMAN MILK BANKING. | | | | | | |
| Yes | 10 | 02 | 8.09 | 1 | 0.0045 | S |
| No | 36 | 52 | | | | |
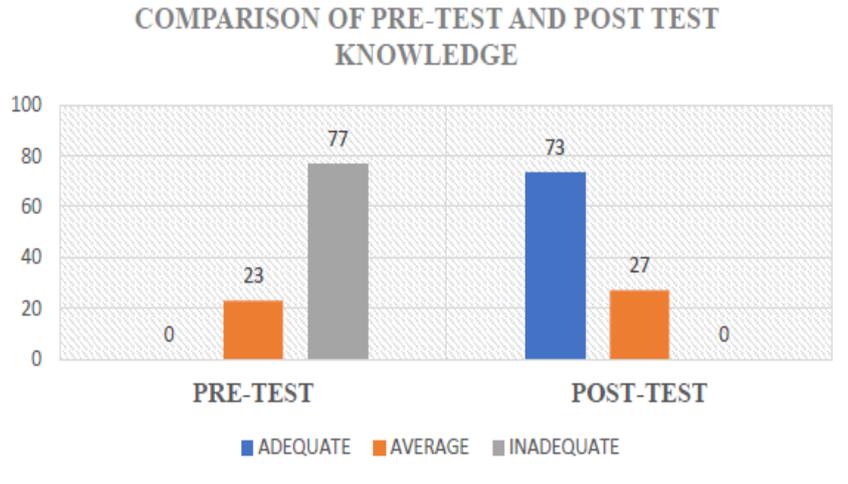
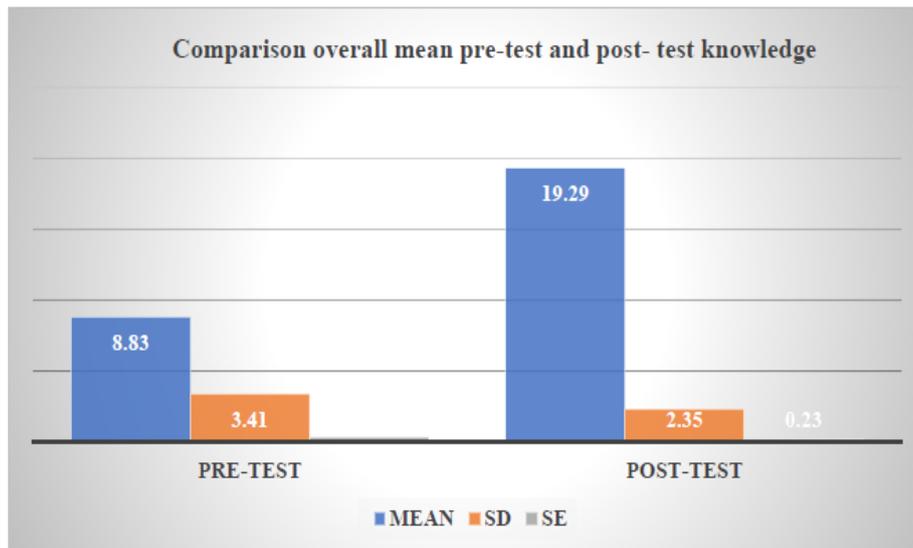**Figure 1: Comparison of Pre Test and Post Test Knowledge.**



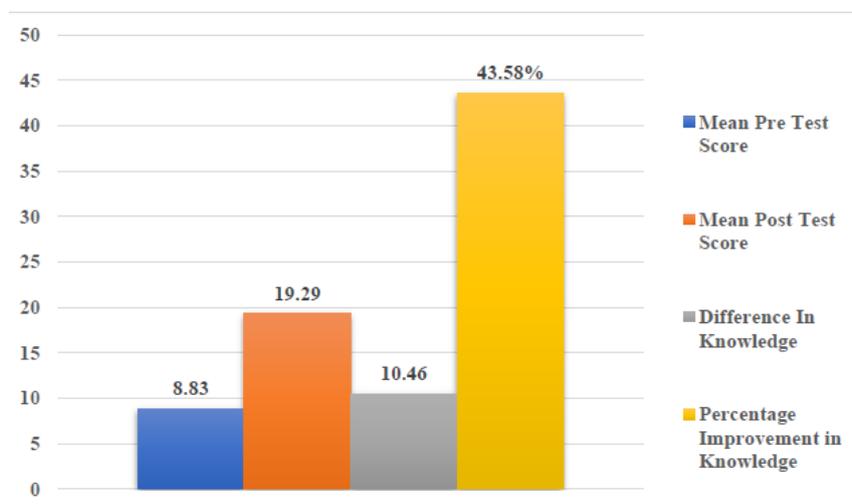**Figure 2: Comparison of Overall Mean Pretest and Post Test Knowledge.**



**Figure 3: Comparison of Mean Knowledge Score Difference In Knowledge and Percentage Improvement In Knowledge.**

## DISCUSSION

The mean post-test knowledge score (19.29) was considerably more in comparison with mean pre-test knowledge score (8.83) of the participants regarding

Human Milk Banking. Majority 73(73%) of participants had Adequate knowledge and only 27(27%) had average knowledge in post-test compared to majority 77(77%) of participants had Inadequate knowledge and only 23(23%) had average knowledge in pre-test. The overall mean knowledge of participants was enhanced by 10.46 after conducting video assisted teaching program regarding Human Milk Banking among caregivers of neonates in Intensive Care Unit at Vani Vilas Hospital, Bengaluru.

There is significant association between the pre-test knowledge scores of caregivers of neonates in Intensive Care Unit and selected demographic variables such as Gender, Marital Status, Type of family and Any information regarding Human Milk Banking were significant at 0.05 level.

The following recommendation can be made based on the findings of the study.

The present study can be conducted in larger sample size with different setting. A comparative study can be done on usage of PDHM to new-borns and older children. A descriptive study can be conducted on the attitudes and beliefs of care givers of neonates regarding Human Milk Banking.

## CONCLUSION

The main aim of the present study is to educate the caregivers of neonates in Intensive Care Unit regarding Human Milk Banking. The study found that caregivers of neonates in Intensive Care Unit had lack of knowledge regarding Human Milk Banking. It is indicated the health experts and the society must join hands to propagate the concept of human milk banking to reduce mortality and morbidity among preterm and low birth weight infants. Keeping in mind the complications associated with formula feeding to the sick, preterm neonates and mothers inability to breast feed in initial period, new-born undergoing surgical interventions, initial post-operative period there is a need to establish human milk banks to meet the nutritional demands and sensitize the caregivers and create awareness about human milk banking.

## BIBLIOGRAPHY

1. Rimple Sharma. Essentials of Pediatric Nursing:2 nd ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd., 140-142.
2. Kumari P et al. International Journal of Research in Medical Sciences, Dec. 2019; 7(12): 4715-4722. ISSN 2320-6071 | eISSN 2320-6012. www.msjonline.org
3. Sushma N, Ruchika CS, Vandana S. Human Milk Banking: An Indian Experience, April 2018 ; NeoReviews 19(4): e201. DOI:10.1542/neo.19-4-e201
4. WHO| Feeding of low birth weight infants in low and middle income countries: https://www.who.int/elena/titles/full_recommendatio ns/feeding_lbw/en/
5. Haiden N, Ziegler EE.Annals of nutrition and metabolism. Human milk banking, 2017; DOI: 10.1159/000452821
6. Polit D. F & Hungler B. Nursing Research principles and Methods. 5th edition. 2004. J.B. Philadephia: Lippincot publishers.
7. Ambika Chauhan, Knowledge and Attitude Regarding Human Milk Banking among Postnatal Mother in Selected Hospitals of Himachal Pradesh. International Journal of Obstetrics and Gynecological Nursing, 2022; 4(1): 19-23. E-ISSN: 2664-2301 P-ISSN: 2664-2298
8. Sheela J, Shasikala V. Knowledge and attitude of postnatal mothers on human milk banking. International journal of science and healthcare research, 2020; 5(4). ISSN: 2455-7587.
9. Taksande A A, Tote S, et al. Knowledge, Attitudes, and Perceptions of Medical and Paramedical Students Toward Human Milk Banks and Breast Milk Donation. Open Access Original Article. Cureus, 16(2): e55145. DOI 10.7759/cureus.55145.
10. Sandeep A. Sathya J, et al. Barriers to milk donation in Human Milk Banking. Progressing Aspects in Pediatrics and Neonatology, 2023; 4(1). DOI:10.32474/PAPN.2023.04.000176