

A DESCRIPTIVE STUDY TO ASSESS KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG NURSING STUDENTS IN SELECTED NURSING COLLEGE AT MADURAI, TAMIL NADU

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KEYWORDS

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ABSTRACT:

Introduction: Human milk is universally recognized as the ideal source of nutrition for infants, providing numerous health benefits both for the infant and the mother. However, due to various reasons such as maternal illness, insufficient milk supply, or premature birth, some infants may not have access to their own mother's milk. In such cases, human milk banks (HMBs) play a crucial role by providing donated human milk to infants in need.

Methods: The present study was conducted to assess the level of knowledge regarding human milk banking among the nursing students in selected nursing college at Madurai. In this Quantitative descriptive study, a total number of 56 B.Sc. Nursing students were selected using convenient sampling technique. Semi Structured knowledge questionnaire is used to assess the level of knowledge.

Results: The study results shows that the nursing students in demonstrated a moderate level of knowledge (58%) about human milk banking, suggesting the need for educational improvements in this area. The standard deviation (2.91) shows variability in individual knowledge, pointing to the fact that some students have a better understanding than others.

Conclusions: Therefore, it is crucial for nursing educators to focus on bridging these knowledge gaps, ensuring that all nursing students receive adequate training on the importance and practices related to human milk banking. This would ultimately equip them to better support maternal and infant health in their future professional roles.

INTRODUCTION

Human milk banking plays a critical role in promoting infant health by providing safe, pasteurized donor breast milk to infants who are premature, ill, or unable to receive their mother's milk. While human milk banking is an established practice in many developed countries, it remains underutilized or relatively unknown in several parts of India, including in certain educational institutions and communities. Nursing students, as future healthcare providers, play a pivotal role in promoting practices related to infant and maternal health, including the importance of human milk banking.

Human milk is universally recognized as the ideal source of nutrition for infants, providing numerous health benefits both for the infant and the mother. However, due to various reasons such as maternal illness, insufficient milk supply, or premature birth, some infants may not have access to their own mother's milk. In such cases, human milk banks (HMBs) play a crucial role by providing donated human milk to infants in need.

This study is significant because the findings can provide insights into the areas where nursing education may need to be strengthened. By enhancing the knowledge and understanding of nursing students, the study could contribute to the overall improvement of neonatal care and the promotion of human milk banking as a critical healthcare resource.

Statement of the Problem

A Study to Assess the Level of Knowledge regarding Human Milk Banking among Nursing Students in Selected Nursing College, at Madurai

Objectives

1. To Assess the Level of Knowledge regarding Human Milk Banking among Nursing Students
2. To Find the Association between the level of Knowledge regarding Human Milk Banking among Nursing Students with their Selected Demographic Variables

MATERIALS AND METHODS

A Quantitative Descriptive Research Design was used to assess the knowledge level regarding Human Milk Banking among Nursing students. The study was conducted in Chithirai College of Nursing at Madurai among B.Sc. Nursing Students of II, III & IV year, that fulfilled the inclusion criteria have been participated who fulfilled the inclusion criteria. Convenient Sampling technique was used to select the samples for this study. . Semi Structured knowledge questionnaire is used to assess the level of knowledge (which is composed of 10 demographic variables and 25 knowledge related question) is administered to the students after obtaining their willingness to participate.

RESULTS AND DISCUSSION:

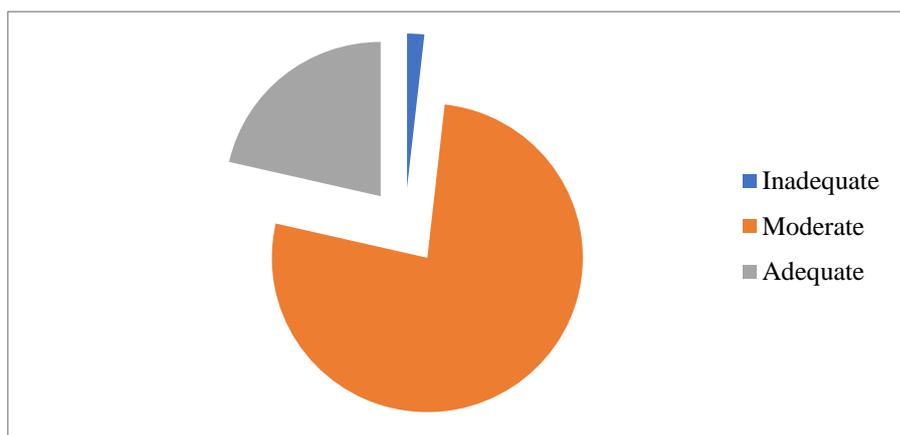


Fig-1: shows that, majority of participants (76.79%) were classified as having **moderate knowledge**, with a relatively smaller proportion (21.43%) demonstrating **adequate knowledge**. Only 1.79% of participants fell into the **inadequate knowledge** category. These results suggest that while the general level of knowledge within the sample is quite high, a significant portion of individuals may still require further education or clarification to achieve a higher level of understanding.

Table 1: Mean, SD, Mean% to assess the knowledge level on Human milk banking among Nursing students in selected nursing colleges.

Level of knowledge	Max score	Knowledge Score		
		Mean	SD	Mean%
Overall	25	14.52	2.91	58

Table -1 show that, the average score achieved by participants is 14.52. This indicates that, on average, participants scored slightly more than half of the total possible points, showing moderate knowledge or understanding of the subject. The mean value is 14.52, which confirms the average score achieved by participants. It is useful as a measure of central tendency. A relatively small standard deviation like

2.91 suggests that the scores are fairly clustered around the mean, meaning most participants performed similarly. The mean score as a percentage of the maximum score is 58%. This means, on average, participants achieved 58% of the total possible points, indicating that while the participants may have had a moderate grasp of the subject, there is room for improvement.

Table 2: Association for level of knowledge regarding Human Milk Banking and selected demographic Variables

Demographic variables	Inadequate		Average		Good		χ^2 -value	p-value
	f	%	f	%	f	%		
1.Age in years:								
a) 18	0	0	2	3.57	1	1.79	2.73 (df=4)	0.603 NS
b) 19	1	1.79	21	37.50	8	14.29		
c) 20	0	0	20	35.71	3	5.36		
2.Education:								
a) 3 rd year	1	1.79	27	48.21	9	16.7	9.06 (df=4)	0.05 S
b) 4 th year	0	0	14	25	0	0		
c) 2 nd year	0	0	2	3.57	3	5.36		
3.Gender:								
a) Male	0	0	0	0	0	0	0 (df=1)	1 NS
b) Female	1	1.79	43	76.79	12	21.43		
4.Habit:								
a) Urban	0	0	21	37.50	7	12.5	1.356 (df=2)	0.507 NS
b) Rural	1	1.79	22	39.29	5	8.93		
5.Economic Status:								
a) <5000	0	0	5	8.93	1	1.79	9.34 (df=8)	0.314 NS
b) 5001-10000	0	0	17	30.36	4	7.14		
c) 10000-25000	1	1.79	19	33.93	4	7.14		
d) 250001-50000	0	0	0	0	2	3.57		
>50000	0	0	2	3.57	1	1.79		
6. Father education:								
a) No formal education	1	1.79	8	14.29	1	1.79	10.08 (df=10)	0.430 NS
b) Primary level	0	0	14	25	4	7.14		
c) Secondary level	0	0	8	14.29	2	3.57		
d) Higher secondary level	0	0	10	17.86	2	3.57		
e) UG Level	0	0	2	3.57	3	5.36		
f) PG Level	0	0	1	1.79	0	0		
7. Mother education:								
a) No formal education	1	1.79	8	14.29	1	1.79	7.08 (df=8)	0.528 NS
b) Primary level	0	0	11	19.64	4	7.14		
c) Secondary level	0	0	13	23.21	4	7.14		
d) Higher secondary level	0	0	8	14.29	1	1.79		
e) UG Level	0	0	3	5.36	2	3.57		

f) PG Level								
8. Occupation of father:								
a) Home maker	0	0	2	3.57	0	0	1.73 (df=8)	0.988 NS
b) Daily wages	1	1.79	24	42.86	6	10.71		
c) Private	0	0	6	10.71	2	3.57		
d) Government	0	0	5	8.93	2	3.57		
e) Self business	0	0	6	10.71	2	3.57		
9. Occupation of mother:								
a) Home maker	1	1.79	27	48.21	8	14.29	8.22 (df=8)	0.413 NS
b) Daily wages	0	0	13	23.21	1	1.79		
c) Private	0	0	2	3.57	2	3.57		
d) Government	0	0	0	0	1	1.79		
e) Self-employee	0	0	1	1.79	0	0		
10. Previous Sources of knowledge:								
a) Nursing curriculum	0	0	32	57.14	10	17.86	9.11 (df=6)	0.167 NS
b) Social media	0	0	0	0	0	0		
c) Health worker	0	0	1	1.79	0	0		
d) Self-learning	0	0	6	10.71	1	1.79		
e) No previous knowledge	1	1.79	4	7.14	1	1.79		

* $p < 0.05$ significant, ** $p < 0.01$ & *** $p < 0.001$ Highly significant.

The above table shows that, most demographic variables (such as age, gender, education, economic status, occupation of parents, and previous sources of knowledge) did **not** show statistically significant relationships with the outcome categories. **Education Year (Education)** showed a significant p-value of **0.05**, which suggests a significant relationship between educational year and the outcome category.

Recommendations

Given the predominance of **moderate knowledge**, there is a clear opportunity for improvement. Future interventions should focus on transitioning individuals from a moderate to an adequate knowledge level. This can be achieved by:

- Providing more in-depth educational resources.
- Implementing specialized training programs or workshops.
- Ensuring continued engagement with up-to-date materials and evidence-based practices.

For the small group of individuals with **inadequate knowledge**, tailored support programs should be developed. These could include:

- More accessible learning resources.
- Peer support systems or mentorship to enhance understanding.
- Focused outreach initiatives to bridge knowledge gaps in underrepresented groups.

SUMMARY AND CONCLUSION

In summary, while the majority of the population possesses moderate knowledge, there is room for improvement. By addressing the gaps through targeted interventions, the overall knowledge level could be elevated, ultimately enhancing the effectiveness of the group in applying their knowledge.

Human milk banking is an essential practice for providing premature and vulnerable infants with the health benefits of breast milk. Expansion of milk banks, improved access to donor milk, and better awareness could significantly reduce infant mortality rates and improve long-term health outcomes. Increased education, research into milk banking technologies, and policies that encourage milk donation and support for milk banks will be crucial for the future of infant health globally.

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Conflicts of Interest

No

REFERENCES

1. World Health Organization (WHO). (2020). "Breastfeeding and Complementary Feeding." WHO.
2. American Academy of Pediatrics (AAP). (2017). "Donor Human Milk for the High-Risk Infant." Pediatrics.
3. Lechner, B. E., et al. (2020). "Human Milk Banking: A Review of the Current Status and Practices." Journal of Human Lactation.
4. Labbok, M. H., & Rollins, N. C. (2017). "Human Milk Banking in the 21st Century." Pediatric Clinics of North America, 64(4), 649-660.
5. Ballard, O., & Morrow, A. L. (2013). "Human Milk Composition: Nutrients and Bioactive Factors." Pediatric Clinics of North America, 60(1), 49
6. https://www.researchgate.net/deref/http%3A%2F%2Fneoreviews.aappublications.org%2F?_tp=eyJjb250ZXh0Ijp7ImZpcnNOUGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19
7. Knowledge, Attitudes, and Perceptions of Medical and Paramedical Students towards Human Milk Banks and Breast Milk Donation - PMC