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Research

Knowledge of human milk banking among nurses in selected institution in Bangalore, 2024

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Abstract

Introduction
Human milk banks play a crucial role in providing new-borns with pasteurized and donor human milk, thereby enhancing the benefits for both mothers and babies. Human milk banks provide pasteurized breast milk to neonates who cannot receive it from their biological mothers, promoting optimal nutrition and health for vulnerable neonates, especially those with special medical conditions.

Objective
To assess knowledge of Human milk banking among nurses in selected institution in Bangalore, 2024.

Methodology
The institution-based cross-sectional study design was conducted among 204 nurses. Samples were selected by purposive sampling technique. Data were collected using a structured knowledge questionnaire in June 2024.

Results
A total of 204 participants were employed in this study. Out of 204 total participants, 105 (51.47%) were female. The majority 98 (48.03%) of the participants belong to the Age group of 31 and above. About 134 (65.68%) were undergraduate and forty-six (22.54%) had postgraduate degrees. Among the participants 139 (68.13%) were single. Mainstream 110 (53.92%) belonged to rural residents and most of the 124 (60.78%) came from single families. One hundred forty-one (69.11%) had 1-5 years of work experience. About 91 (44.60%) had no awareness and about 104 (50.98%) study members had good knowledge about human milk banking.

Conclusion
The present study concluded only half of the participants had good knowledge about human milk banking. Additional studies have to be conducted with a multicentre approach with quantitative design and allied factors.

Keywords: Knowledge, Human Milk Banking, Nurses

INTRODUCTION

Human milk is the biological norm for infant nutrition, with mother's milk being the ideal source. The World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) recommend donor milk for low birthweights, leading to global interest in human milk banks. The growing global interest in human milk banks is driven by the growing recognition of the benefits of donor human milk [1]. In 1909, the first human milk bank was established in Vienna, Austria. In the 19th century, wet nursing was a common practice in Europe to give human milk to babies whose moms were unable to make milk for them. This alternative to wet nursing was a solution to the lack of available nurses [2]. Human milk banks are expanding globally, with a growing number in low-income and middle-income countries. However, limited guidance exists on their implementation, operation, and regulation [3]. The growth of human milk banks has prompted calls for equitable access for vulnerable infants [4]. Human milk, classified differently globally, is primarily a food or nutritional therapy, considered a medical product of human origin by the World Health Organization. A consensus on its nature is needed for unified safe handling procedures and precautions [5-6].

Donor human milk benefits vulnerable infants, preventing necrotizing enterocolitis and improving feeding tolerance. However, there is limited evidence of its effect on other health issues, and its value for healthy-term infants is not documented. Further research is needed to optimize processing by developing a standard protocol [7]. Human milk donation for monetary compensation could harm low socioeconomic donors, potentially leading to maternal depletion and nutrient deficiency. Universal coverage of donor human milk is crucial, but covering costs can be challenging in countries without universal health coverage. The availability of donor milk from human milk banks could divert resources from breastfeeding support. Providing human milk to all neonates to infants is essential for a health system's health and development goals. However, technical and ethical issues need to be clarified to minimize harm. A research agenda is needed to develop a full-bodied universal protocol on human milk banking and the appropriate use of donor human milk [8].

Human milk banks provide essential benefits to premature infants, protecting them from diseases like necrotizing enterocolitis and sepsis. They collect, screen, store, process, and distribute human milk, with donor women carefully selected and screened for various diseases. Although heat treatment can diminish its anti-infective properties, donor milk remains beneficial and preferable over formula [9].

In cases where an infant's mother's milk is unavailable, donor milk is used to fill the gap. Human milk banks collect, screen, pasteurize, and distribute donated breast milk to hospitals or outpatient recipients, following established guidelines. They are the most important providers of donor milk [10]. Human milk banks are non-profit organizations that collect, process, store, and distribute donated milk. They have operational guidelines developed by the Human Milk Bank Association of North America and Europe, with modifications from countries like Norway and Germany [11]. Local evidence on the effectiveness of the comprehensive lactation management center (CLMC) model and knowledge, practices, and perceptions of human milk banking are limited [12]. The above-cited data depicts the importance of human milk banking and gaps in the research on knowledge and practice since there is no concerned topic in the nursing curriculum. Hence it is requisite to introduce the human milk banking protocol to enhance the standards of the profession as well as practicability in reducing neonatal infection. So that the proposed solution will significantly enhance risk reduction and infection control measures for nursing officers employed in human milk banks.

Objective

To assess knowledge on Human milk banking among nurses in NSON institution at Bangalore.

METHODOLOGY

Research Design and study time

Institution-based cross-sectional study design was employed among nurses and data were collected in June 2024.

Study variables

Dependent variables

Knowledge of human milk banking

Independent variables

Socio-demographic variables

- Gender
- Age
- Educational Status
- Marital status
- Residence

- Type of family
- Work experience
- Have you heard about the human milk banking

Sample and Sampling
A purposive sampling technique was used to select all 204 nurses.

Data collection tool
Section-A: Sociodemographic variables
Section-B: Structured Knowledge Questionnaire

Data Collection Procedure
Informed consent was obtained from the participants. Data were checked for completeness and the collected data were analysed by using descriptive statistics to assess the knowledge of Human Milk Banking.

RESULTS

Socio-demographic characteristics

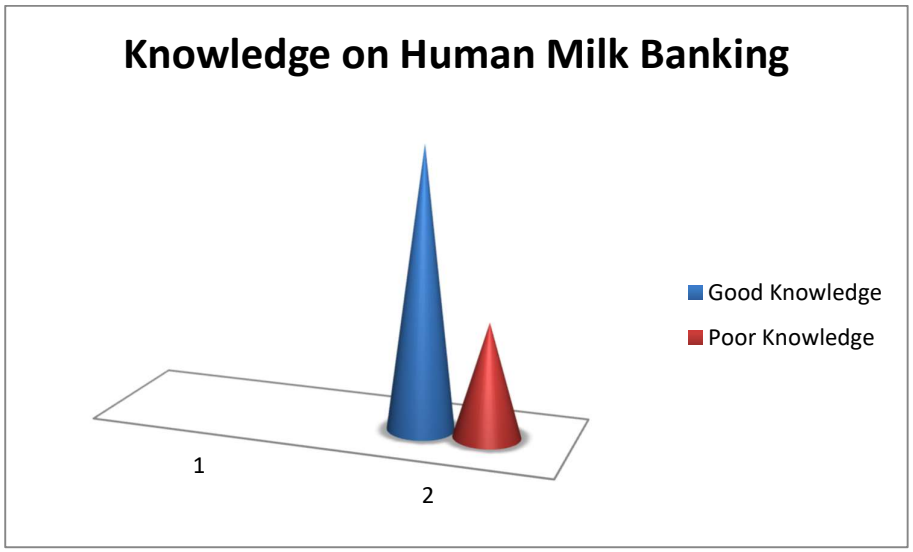
A total of 204 participants were employed in this study. Out of 204 total participants, 105 (51.47%) were female. The majority 98 (48.03%) of the participants belong to the Age group of 31 and above. About 134 (65.68%) were undergraduate and forty-six (22.54%) had postgraduate degree. Among the participants 139 (68.13%) were single. Mainstream 110 (53.92%) belonged to rural residences and most of the 124 (60.78%) came from single families. One hundred forty-one (69.11%) had 1-5 years of work experience. About 91 (44.60%) had no awareness of the Human Milk Banking.

Table 1: Sociodemographic characteristics of the study participants (n = 204)

Sociodemographic characteristics of the participants		Frequency	Percentage
Gender	M	99	48.52
	F	105	51.47
Age (in years)	18-25	70	34.31
	26-30	63	30.88
	31 and above	98	48.03
Educational Status	Diploma	24	11.76
	Undergraduate	134	65.68
	Postgraduate	46	22.54
Marital status	Single	139	68.13
	Married	65	31.86
Residence	Urban	94	46.07
	Rural	110	53.92
Type of family	Single	124	60.78
	Joint	80	39.21
Work experience(in years)	1-5	141	69.11
	5 and above	63	30.88
Have you heard about the human milk banking	Yes	113	55.39
	No	91	44.60

Level of knowledge on the human milk banking

Knowledge was assessed using structured knowledge questions related to the human milk banking. Subjects who scored above the mean value were categorized as having a good level of knowledge. About 104 (50.98%) study members had good knowledge about the human milk banking (**Fig 1).**



Discussions

This study was conducted to assess knowledge of Human milk banking among nurses. The current study showed that only about 48.03% of study members had poor knowledge about the human milk banking. This result is in line (43%) with the study conducted in Nepal [13] and Panjab 40 % [14]. It could be due to the geographical and other similar factors.

Limitations of the study

The study's single institution-based design may not generalize its findings due to its quantitative and cross-sectional nature, which may not confirm the cause-and-effect relationship.

CONCLUSION

The study revealed that nearly half of the participants had poor knowledge about the human milk banking.

Recommendations

Further study can be conducted with a multicentre approach with quantitative design and allied factors.

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