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ASSESSMENT OF KNOWLEDGE REGARDING HUMAN MILK BANKING AMONG NURSING STUDENTS

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ABSTRACT

Infants who would otherwise not be able to receive human milk are provided with human milk by human milk banks. Necrotizing enterocolitis, which causes necrotizing enteropathy, and sepsis, which causes sepsis, lead to the greatest benefit for premature infants. Taking into account and treating donor breast milk as a human body substance is essential. An interview on serological screening and a physician's consent are required for all blood donors. Objective: We assessed nursing students' knowledge regarding human milk banking and determined if it is associated with selected demographic variables as well as their level of knowledge regarding human milk banking. Methodology: Descriptive study without experimental components. This study used both descriptive and inferential statistics to assess nurse officers' knowledge levels using the structured questionnaire. In terms of human milk banking, most nursing officers (73.38%) had inadequate knowledge. According to the findings, no significant relationships were found between the level of knowledge and a selection of demographic variables, such as the year of study, the educational status of the father, the occupation of the mother, income generated by the family, the type of family, and previous knowledge about human milk banking. However, there was a significant association between level of knowledge and the demographic variables Age, Mother's education, and Father's occupation. In the present study, nursing students were assessed for their knowledge of human milk banks. They found that the students generally had inadequate, moderately adequate, and adequate knowledge of human milk banks. Nursing students need to be educated about human milk banking and the registration process, and this study emphasizes the importance of assessing their knowledge so that new education strategies can be developed.

INTRODUCTION

A healthy infant's diet may remain primarily based on breast milk through the first two years of life and thereafter as the optimum source of nutrition for the first six months of life.

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Human breast milk remains the most effective source of nutrition despite advances in infant formulas [1]. Pasteurized human donor breast milk should be offered as an alternative feeding option to commercial formula if the mother's own milk is unavailable for the sick new-born in the hospital. Infants would otherwise be incapable of receiving human milk without the assistance of human

milk banks [2]. Necrotizing enterocolitis and sepsis are two devastating conditions that are a great benefit to premature infants. A study found that infants fed human breast milk in the neonatal intensive care unit (NICU) had fewer severe infections, fewer cases of necrotizing enterocolitis (NEC), and fewer cases of pathogenic organism colonization [3].

In 1989, the Sion hospital became the first hospital in India to establish a human milk bank. Each year, this milk bank serves close to 5000 babies [4]. Breast milk from donors should be treated and handled like any other substance found in the body. An interview on serological screening and physician consent are required of all donors, similar to those who donate blood [5]. In serology, HIV and human T-cell leukaemia viruses are tested as well as hepatitis B and C. Around 80 milk banks in public health facilities are operating according to national guidelines. In addition, milk donation is a completely voluntary activity, and it is not incentivized [6]. First and foremost, infants should be fed their mothers' milk, but donated breast milk is a good alternative if this isn't possible.

Needs of the study

WHO and United Nations children's fund in 1989 has started that if the baby doesn't get his/her own mother's milk, the best food for that baby is human breast milk from another lactating mothers. Breast feeding is not recommended for mothers who have certain health problems etc. According to joint statement by the World Health Organization and United Nations children's fund in 1980.The best food for any baby whose own mother's milk is not available means feed by the donor breast milk of another healthy lactating mother. Indian Academy of Pediatrics (IAP) and Human Milk Banking Association together formed Infant and Young child Feeding & Human milk Banking Guidelines 2015. The purpose of these guidelines is to ensure quality milk as a safe end product. These guides would help the existing and upcoming human milk banks to ensure the quality of donated human milk.

There was a 49.13 % preterm new-born mortality rate in 2010 and a 47.57% rate in 2011, among males it was 46.18 % and females it was 49.14%. In the month after birth until the end of the first year of life, breastfeeding is the most important intervention for preventing preterm new-born infection, diarrhoea, and pneumonia [9].

Most preterm new-born and infant deaths in India can be prevented with breastfeeding in the first hour after birth and exclusive breastfeeding during the first six months after birth.

Preterm babies benefit from the human milk bank feed as well as postnatal mothers that there is an available donor milk bank and they feel more confident about donating breast milk [10]. Because of the above information, human milk banking remains relatively unknown to the public. Nursing students' knowledge of human milk banking is thus an exciting prospect for the researcher.

Research Hypothesis

H1: There is a significant association between the level of knowledge regarding human milk banking among nursing students with their selected demographic variables.

Research Methodology

Setting of research

The study was conducted in GRT College of nursing, Tiruttani, Tiruvallur district. The College provides adequate facilities and equipment for the development of students.

Research Design

The research design used for this study was non-experimental descriptive design.

Criteria for Sample Collection

Inclusion Criteria

- Nursing students of second year B.Sc nursing.
- Students who were willing to participate in this study.

Exclusion Criteria

- Those who were absent on the day of data collection.

Development of the Tool

Section A: Demographic data.

Section B: Knowledge questionnaire.

Data Collection Procedure

The investigators first introduced themselves to the B.sc Nursing second year students and the purpose of the study was explained, then the structured questionnaires were administered to the students. The B.Sc. Nursing second year students were given the structured questionnaires in a private room without any disturbances during the process; 30 minutes were given for answering questions. After 30 minutes all the answer sheet was collected. The collected data was tabulated for analysis.

Table-1Frequency and percentage distribution of demographic variables of nursing students (N= 100)

S. No	Demographic variables	Frequency (N= 100)	Percentage
1.	**Age in Years** 17-18 yrs	38	38%

	19-20years	39	39%
	21-22years	22	22%
	23 yrs and above	1	1%
2.	**Year of Study**	-	
	First year		-
	Second year	100	100%
	Third year	-	-
	Fourth year	-	-
3.	**Father's Educational Status**		
	Professional degree.	6	6%
	Graduate or post graduate	4	4%
	Intermediate or post high school	16	16%
	diploma	32	32%
	High school certificate	16	16%
	Middle school certificate	18	18%
	Primary school certificate	8	8%
	Illiterate	0	0%
4.	**Mother's Educational Status**		
	Professional degree.	8	8%
	Graduate or post graduate	2	2%
	Intermediate or post high school	27	27%
	High school certificate	34	34%
	Middle school certificate	10	10%
	Primary school certificate	14	14%
	Illiterate	5	5%
5.	**Father's occupation**		
	Professional	1	1%
	Semi professional	3	3%
	Shop owner or farm	13	13%
	Skilled workers	12	12%
	Semi-skilled workers	30	30%
	Unskilled workers	28	28%
	Unemployed	13	13%
6.	**Mother's Occupation**		
	Professional	5	5%
	Semi professional	2	2%
	Shop owner or farm	5	5%
	Skilled workers	6	6%
	Semi-skilled workers	8	8%
	Unskilled workers	5	5%
	Unemployed	69	69%
7.	**Family Monthly Income**		
	≥ 52,734	5	5%
	26,355- 52,733	3	3%
	19,759 –26,354	6	6%
	13,161 – 19,758	25	25%
	7,887 – 13,160	30	30%
	2,641 –7,886	23	23%
	≤2,640	8	8%
8.	**Type of Family**		
	Nuclear family	85	85%
	Joint family	12	12%

	Extended family	3	3%
9.	**Previous Knowledge About Human Milk Banking** Yes	75	75%
	No	25	25%
10.	**If Yes, Source of Information** Health care provider	50	50%
	Mass media	15	15%
	Neighbour friends	10	10%

Section-B: Assessment of knowledge regarding human milk banking among nursing students

Table- 2: Frequency and percentage distribution of level of knowledge on human milk banking among nursing students (N = 100)

	Inadequate (50%)		**Moderate (50-75%)**		**Adequate (>75%)**	
	No.	%	No.	%	No.	%
KNOWLEDGE	72	72%	27	27%	1	1%

Section-C: Assessment of Mean and Standard Deviation of Knowledge of Nursing Students

Table- 3 Mean and standard deviation of level of knowledge on human milk banking among nursing students

Aspect	**Mean**	**Standard deviation**
Knowledge	7.75	3.0145

Section-D: Association of Selected Demographic Variables and Level of Knowledge of Nursing Students

Table- 4: Association between selected demographic variables and level of knowledge of nursing students (N=100)

S. No	**Variables**	**Knowledge of Nursing students**			
		Inadequate	**Moderate adequate**	**Adequate**	**Chi-square value**
1.	Age in years 17-18 yrs	14	23	0	X2=18.2022 d.f =6 p= 0.0057 S
	19-20yrs	38	23	0	
	21-22yrs	19	3	1	
	23 yrs and above	1	1	0	
2.	Year of study First year	0	0	0	N/A
	Second year	72	27	1	
	Third year	0	0	0	
	Fourth year	0	0	0	
3.	Father's educational status Professional degree.	5	1	0	X2=10.9117 d.f = 12 P=0.536493 N.S
	Graduate or post graduate	4	0	0	
	Intermediate or post high school diploma	11	5	0	
	High school certificate	22	9	1	
	Middle school certificate	15	1	0	
	Primary school certificate	10	8	0	
	Illiterate	5	3	0	
4.	Mother's educational status Professional degree	5	2	1	X2=33.1324 d.f = 12 P =0.0009
	Graduate or post graduate	1	1	0	
	Intermediate or post high school diploma	24	3	0	
	High school certificate	27	7	0	

	Middle school certificate	6	4	0	S
	Primary school certificate	4	10	0	
	Illiterate	5	0	0	
5.	Fathers occupation Professional	0	1	0	X2 =41.486653 d.f =12 P=0.0000406 S
	Semi professional	0	3	0	
	Shop owner or farm	4	9	0	
	Skilled worker	5	7	0	
	Semi-skilled worker	26	3	1	
	Unskilled worker	26	2	0	
	Unemployed	11	2	0	
6.	Mothers occupation Professional	3	2	0	X2= 6.4339 d.f = 12 p =0.8926 N.S
	Semi professional	1	1	0	
	Shop owner or farm	0	1	0	
	Skilled worker	3	3	0	
	Semi-skilled worker	7	1	0	
	Unskilled worker	4	1	0	
	unemployed	50	18	1	
7.	Family's monthly income >52,734	3	2	0	X2=11.7682 d.f =10 p =0.3008 N.S
	2,6355-52,733	2	1	1	
	19,759-26,354	5	1	0	
	13,161-19,758	18	6	1	
	2,641-7.886	14	9	0	
	<2,640	7	1	0	
8.	Type of family Nuclear family	61	23	1	X2=1.53957 d.f = 4 p =0.819608 N.S
	Joint family	8	4	0	
	Extended family	3	0	0	
9.	Previous knowledge about human milk banking Yes	53	21	1	X2= 35.7535 d.f = 2 p =1.7227 N.S
	No	19	60	0	
10.	If yes, source of information Health care provider	42	17	1	X2 = 4.063786 d.f = 4 p =0.397442 N.S
	Mass media	11	7	0	
	Neighbour friends	19	3	0	

p 0.05, S=significant, N.S =No significant

DISCUSSION

A similar study was conducted in JIPMER, Puducherry to assess knowledge about human milk banking [11]. Nursing officers' knowledge about human milk banking was evaluated in this cross-sectional study with the aim of identifying service-related factors associated with nursing officers' knowledge. The study selected 176 participants who met the inclusion criteria. Several forms of statistical analysis were used in this study, including both descriptive statistics and inferential statistics. According to the study, most nursing officers (93.18%) knew little about human milk banking. As a result of the study, no significant relationship was found between level of knowledge and the selected demographic variables, such as age, education of the father, occupation of the mother, income of the family, type of family, knowledge about milk banking, and information source. However, there was a significant relationship between level of knowledge and demographic variables such as age, mother's education, and father's occupation. The research hypothesis H1 stated that "there is no significant association between the level of knowledge regarding human milk banking among nursing students and the selected demographic variables," was accepted for the variables Age, Mother's education status, and Father's occupation while the remaining variables such as Year of

study, Father's educational status, Mother's occupation, Family's monthly income, Type of family, Previous knowledge about human milk banking, and Source of information were rejected.

CONCLUSION

Based on the survey, nursing students are unaware of human milk banks, have moderately adequate knowledge, and are adequately knowledgeable. Despite the availability of human milk banks, there is a significant demand in countries such as India. It can be done in a variety of ways, including continuous mass media, campaigns through short films, advertisements, celebrity endorsements, etc., and panel discussions utilizing expectations in the field and incorporating it into the curriculum. In order to create awareness of human milk banking and its registration process, it is necessary to assess student knowledge about it and develop new education strategies.

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