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EFFECTIVENESS OF AN EDUCATIONAL SESSION ON KNOWLEDGE REGARDING HUMAN MILK DONATION AMONG ANTENATAL MOTHERS

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ABSTRACT

The greatest substitute for mother's milk in situations where it is unavailable or insufficient is pasteurized donor human milk. Breastfeeding lowers the risk of newborn infections in infants considerably. **Objectives**: To assess the effectiveness of an education session on knowledge regarding human milk donation among antenatal mothers and to find out the association between knowledge on human milk donation among antenatal mothers and selected demographic characteristics. **Methodology**: The researchers used a one-group pretest-posttest quantitative pre-experimental study design. The study included 63 pregnant mothers from a tertiary care hospital's Obstetric and Gynecological department. Purposive sampling was used to pick the samples. The study included mothers who were more than 32 weeks pregnant. A semi-structured knowledge questionnaire was used to examine pregnant mothers' understanding of human milk donation. Before collecting data, an ethical clearance was acquired. Subjects who fulfilled the sample selection criteria were selected, and informed written consent was taken, followed by a pre-test questionnaire was administered. Health education on human milk donation was given to each subjectfor 20 minutes. The post-test was taken fifteen days after the pre-test. **Results**: The study result highlighted that the pre-test mean score of awareness was 12.92 ±3.05, the post-test mean score was 19.81±3.23, and the mean difference was 6.89. The obtained "t" value was -13.808, which was statistically highly significant at the $p<0.001$ level. Thus, it was concluded that health education had a significant role in improving the level of knowledge regarding human milk donation. **Conclusion**: When donor human milk from human milk banks becomes available, to promote breast feeding it has to be utilized. More public awareness programs need to be conducted to promote the utility of such services, there by neonatal mortality and morbidity can be reduced to an extend.

KEYWORDS: Knowledge; Human milk donation;human milk banking, Antenatal mothers.

INTRODUCTION

A human milk bank, often referred to as a breast milk bank or lactarium is a facility that collects, screens, prepares, pasteurizes, and delivers prescription-only human milk that is provided by nursing mothers who are not the recipient child's biological relations. For the first six months of their existence, breast milk is the ideal nourishment for newborns; for women who are either incapable of nursing their infants or do not produce enough milk, pasteurized donor breast milk can be an effective feeding method. Breast milk from women other than the baby's mother that has not been pasteurized and unofficial breast milk sharing are not considered safe substitutes since they put the infant in danger of catching viruses and bacteria from the donor mother. Commercial formula is another recommended option in the event that pasteurized donor breast milk is not available.[1]

In Vienna, Austria, the world's first human milk bank opened its doors in 1909.[2] In 1989, the first Human Milk Bank in India was founded at the Sion Hospital in Mumbai, Maharashtra. In the Neonatal Intensive Care Unit, sick and vulnerable babies are fed approximately 800 to 1200 litres of human milk.[3] The first human milk bank in the state of Kerala opened its doors at the Ernakulam General Hospital in 2021 to provide breast

milk for infants whose mothers are either dead, ill, or unable to produce enough milk to nurse them.[4]

The highest rate of neonatal mortality (28 deaths per 1000 live births) and low birth weight babies are found in India. In the world, India has the highest rate of preterm births. Despite the establishment of the nation's first human milk bank in 1989, the concept has only gained traction in the past three to four years in India. At the world level, WHO and UNICEF made a combined announcement in 1980 which said,"Where it is not conceivable for the biological mother to breastfeed, the first substitute should be the use of human milk from other sources.[6]

METHODOLOGY

A pre-experimental one-group pretest-posttest design was used in the study, which used a quantitative research methodology. The study was carried out in a tertiary care hospital's Obstetrics and Gynecology department. The study's sample consisted of pregnant women who were more than 32 weeks and were seen in the obstetrics and gynecology department of a tertiary care hospital. In order to improve the study's generalizability, the researcher included 63 samples, above the minimum estimated sample size of 35. Using the purposive sampling technique, samples were collected. The researcher developed a semi-structured knowledge questionnaire including 25 questions to evaluate expectant mothers' awareness of human milk donation. The knowledge score fell into the good category(25–19), average (18–11) and poor (≤10). Content validity was obtained from seven experts, and suggested modifications were made to the tool. The split-half approach was used to assess the tool's dependability, and the results showed that it was trustworthy. Both descriptive and inferential statistics were used in the analysis of the data. An institutional review board ethical clearance was acquired. The study was authorized by the head of the Department of Gynecologyand Obstetrics as well. Subjects who fulfilled the sample selection criteria were selected, and informed consent was taken, followed by a pre test questionnaire was administered.On completion of the questionnaire health education on human milk donation was given to each subject for 20 minutes. The post-test was taken fifteen days after the pre-test. The confidentiality of the data collected was ensured.

RESULTS AND DISCUSSION

Under the following heading, the study's findings are arranged.

SECTION 1: Socio-demographic characteristics.

Table 1: Distribution of subjects based on socio-demographic characteristics n=63.

Sl.No.	Demographic variables	Frequency	Percentage
1.	**Age (In years)**		
	a) 20-25	19	30.2%
	b) 26-30	28	44.4%
	c) 31-35	13	20.6%
	d) Above 35	3	4.8%
2.	**Education**		
	a) Secondary school	13	20.6
	b) Degree	38	60.3
	c) P.G	12	19
3.	**Occupation**		
	a) Government Job	1	1.6
	b) Private employee	22	34.9
	c) Self-employed	1	1.6
	d) Homemakers	39	61.9
4	**Gestational weeks**		
	a) 32-33	36	57.1
	b) 34-35	9	14.3
	c) 36-37	12	19
	d) Above 38	6	9.5
5	**Obstetrical score**		
	a) Multi gravida	31	49.2
	b) Primi gravida	32	50.8
6	**Area of living**		
	a) Urban	35	55.6
	b) Rural	28	44.4

Table 1 shows that most of the subjects belong to the age group of 26-30 years 60.3% of them are graduates, and 57.1% are in the 32-33 weeks of gestation. Out of all the subjects 50.8 % of the subjects are primi mothers.

SECTION II: Effectiveness of an educational session on knowledge regarding human milk donation among antenatal mothers.

Table 2: Mean score of knowledge regarding human milk donationamong antenatal mothers n=63.

Knowledge score	Mean	sd	t value	P value
Pretest	12.92	3.05		
			-13.808	<.001
Posttest	19.81	3.23		

Table 2 shows that the mean knowledge score in the pre-test is 12.92, and the post-test is 19.81.

In order to find out the significant difference in mean knowledge score on knowledge regarding human milk donation among antenatal mothers before and after the educational session, the following hypothesis has been formulated and was tested by paired t test.

H_1:There is a significant difference in knowledge score regarding human milk donation among antenatal mothers after the educational session.

The study results highlighted that the pre-test mean score of awareness was 12.92 ±3.05, the post-test mean score was 19.81± 3.23, and the mean difference was 6.89. The obtained "t" value was -13.808, which was statistically highly significant at p<0.001 level. It showed there was a significant difference in knowledge score regarding human milk donation among antenatal mothers after the educational session at p < 0.001. So, the hypothesis was accepted.

Pre-test knowledge regarding human milk donation n=63

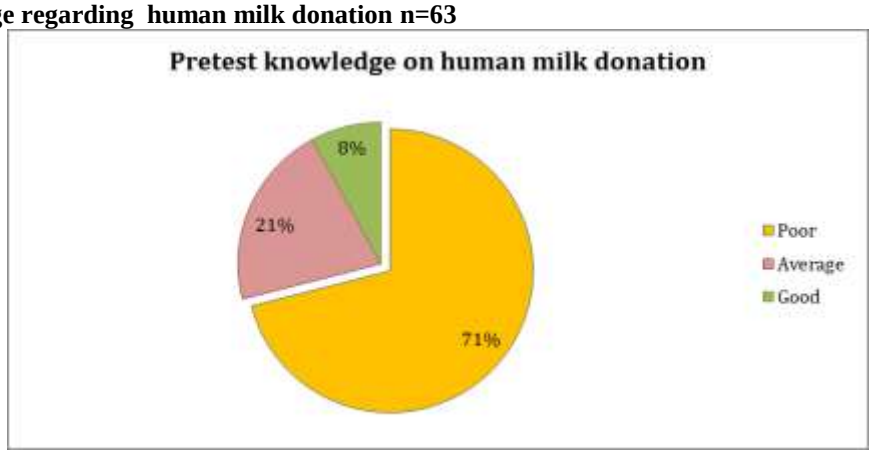

Figure 1: Pre-test knowledge regarding human milk donation among antenatal mothers.

Figure 1 shows that the majority (71%) of the subjects have poor knowledge regarding human milk donation, and 21% of the subjects have average knowledge. Only 8 % of subjects had good knowledge regarding human milk donation.

Post-test knowledge regarding human milk donation n=63.

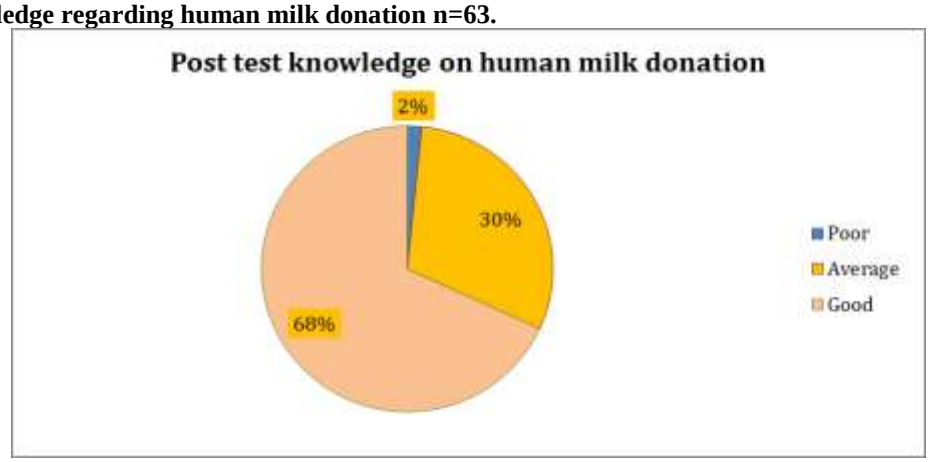

Figure 2: Post-test knowledge regarding human milk donation among antenatal mothers.

Figure 2 shows that in the post-test, 68% of the subjects had good knowledge,and only 2% of the subjects had poor knowledge regarding human milk donation.

n=63

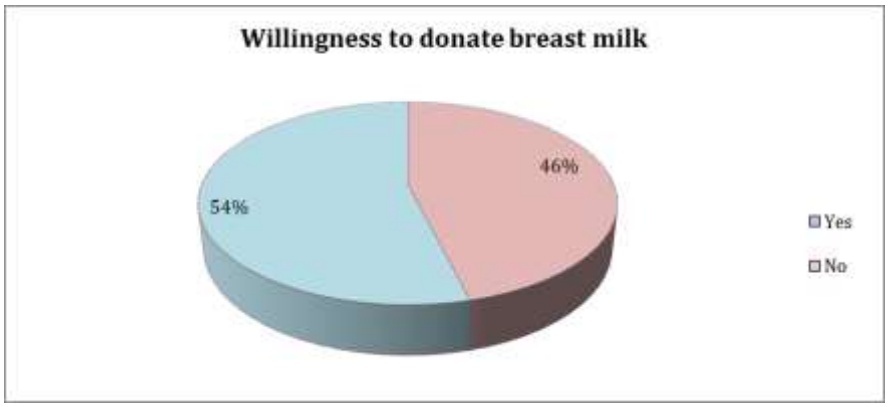

Figure 3: Distribution of subjects on the basis of willingness to donate breast milk.

Figure 3shows that only 46% of the mothers are willing to donate breast milk for human milk banking.

n=63

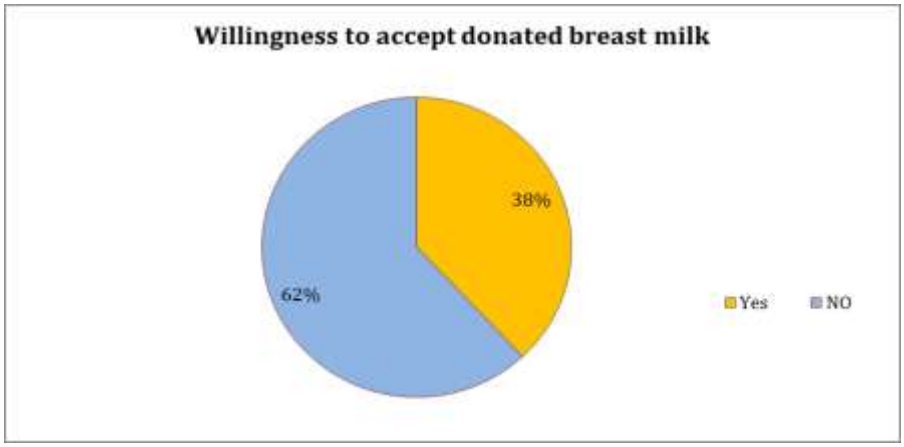

Figure 4: Distribution of subjects on the basis of willingness to accept donated breast milk for the baby.

Figure 4 shows that only 38% of the mothers are willing to accept breast milk from a human milk bank.

Table 3: Degree of Association between Demographic Variables and Knowledge on Human Milk Banking. n=63.

Demographic variable	Knowledge of Human Milk Banking		Chi-square value	df	p-value
	Average	Good			
Education (a)Secondary (b)Degree (c)PG	 23.1% 34.2% 41.7%	 76.9% 65.8% 58.3%	1.004	2	.605
Obstetrical score (a)Multi gravida (b)Primi gravida	 29.0% 37.5%	 71.0% 62.5%	0.508	1	.476
Area of living (a)Urban (b)Rural	 34.3% 32.1%	 65.7% 67.9%	0.32	1	.858

Table 3 shows that there is no association of knowledge with selected demographic variables.

DISCUSSION

The majority of the participants in the current study are between the ages of 26 and 30, 60% of them are graduates, 57.1% are in the 32-33 weeks of gestation, and 61.9% are homemakers. A study conducted by Kaur P etal. to determine the level of knowledge about human milk banking shows that 75.0% of mothers were from the age group 21-30 years, and 30.0% had higher education. Out of 60 mothers, 88.3% were homemakers.[11] These findings are consistent with the findings of the present study.

In our study, the primary objective is to evaluate the effectiveness of an education session on knowledge regarding human milk donation among antenatal mothers. The results show that, as compared to the pre-test, the knowledge among mothers regarding human milk donation increased after the education session. The mean pre-test value is12.92, and the mean post-test value is 19.81, which shows an increase in knowledge. In the pre-test, out of 63 participants, the majority (71%) of the subjects had poor knowledge regarding human milk donation, and 21% of the subjects had average knowledge. Only 8% of subjects had good knowledge regarding human milk donation. As in the post-test, 68% of the subjects had good knowledge, Only 2% of the subjects had poor knowledge about human milk donation, while the rest had average knowledge.

Similar research evaluating postpartum mothers' knowledge of human milk donation revealed that 66% of them had average knowledge, 26% had poor knowledge, and only 8% had excellent knowledge.[9] In both studies, mothers' prior knowledge about human milk donation was nonexistent, and their knowledge of human milk banking was inadequate. It shows a lack of public awareness regarding the availability of human milk banking services.

The current study's findings indicate that only 46% of women are willing to donate their breast milk for human milk banking. The percentage of mothers who would accept breast milk from a personal milk bank is just 38%. In research conducted on 1085 women in eastern Ethiopia between December 2015 and February 2016, 119 participants (11%) said they would be willing to contribute their breast milk for banking, while 165 mothers (15.2%) said they would be willing to use it to feed their children. The study also aimed to ascertain the acceptability of banking donor breast milk, its application in nursing infants, and related aspects.[10]

Studies have clearly demonstrated that there was very little acceptance of breast milk donation for banking and its usage for nursing babies because of a lack of information and misconceptions about the safety of breast milk. Thus, the public should be made aware of donor breast milk's safety prior to the start of any donor milk banking Programme. Since there were significant improvements, it is considered that the education session regarding human milk donation could be imparted to antenatal mothers. Thereby, we can change the acceptance rate and donation rate of human milk.

CONCLUSION

In India, there are currently about 14 human milk banks serving the community, but growth is incredibly sluggish. The primary causes are the general lack of awareness among community members and the absence of industry promotion. Pregnant women's understanding of human milk donation significantly improved as a result of the health education session.

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