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RESEARCH ARTICLE

AN EXPLORATIVE STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING THE STORAGE OF BREAST MILK FOR THE INFANTS AMONG STAFF NURSES AT SELECTED HOSPITALS OF GWALIOR CITY WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET.

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Abstract

Breastfeeding is the natural feeding. It is the ideal and uniquely superior food for infant. Nurses working for the care of new born should have the knowledge of storage and preservation of breast milk¹². This study aimed to assess the knowledge and attitude of staff nurses working in NICU, PICU, Antenatal, postnatal and labour room of the selected hospitals of Gwalior city. A quantitative approach with non-experimental exploratory research design was adopted. 60 staff nurses were selected by non-probability convenient sampling technique. Data was collected using a structured questionnaire containing 40 multiple choice questions for knowledge and a rating scale with 20 items for attitude assessment and the data was analyzed using descriptive and inferential statistics. Study findings revealed that 15% staff nurses had poor knowledge, 66.66% had average knowledge and 18.37% had good knowledge. In case of attitude 68.33%, 3.33%, 28.33% have positive, negative and neutral attitude respectively among the staff nurses regarding storage of breast milk. A weak correlation (0.2) was found between knowledge and attitude. Religion had a significant relationship with knowledge whereas age and source of knowledge had a high degree of significance with attitude (at $p < 0.05$ level). It was concluded that staff nurses had average knowledge with a positive attitude towards the storage of breast milk. An information booklet was developed and distributed to the staff nurses for further reference.

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Introduction:-

Breast milk is wholesome food for the baby. Breast feeding is most effective way to provide baby with a caring environment and complete nutrition. UNICEF and WHO recommends exclusive breast feeding to babies until 6 months of age. It is the ideal and uniquely superior food for infants which represents commitment on mother's part and ideal nourishment for her baby^[1]

A few years ago, formula feeding was encouraged as a replacement for breastfeeding, for those who were medically unfit to breastfeed. But people started taking it for granted and used formula feeding in place of breastfeeding but encountered with lot of problem to the infants. Breast milk storage is gaining popularity depending on its use and ease. Storing milk and using it for later use is helping working mothers to a great extent.^[2]

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The American Academy of Pediatrics states that breastfed premature babies have shown significant growth and progress beyond that of formula-fed counterparts. Studies have proven that breastfeeding lowers the risk of many illnesses in babies and mothers, like asthma, childhood leukemia, and emotional disturbance in children and breast cancer among mothers. Breast milk provides the right balance of nutrients to help an infant grow into a strong and healthy toddler. Breastfed infants, and those who are fed expressed breast milk, have fewer deaths during the first year and experience fewer illnesses than babies fed with formula.^[3]

Need of the study:-

Breastfeeding has been identified as an important “upstream” intervention that affects the health and well-being of babies and their mothers. In India most of the mothers are unaware of expression and storage of breast milk, which leads to inadequate provision of mother’s milk to the baby resulting in decreased health status of the child as the mother returns to work. So it is very important to give education to the working mothers regarding storage and expression of breast milk.^[7] Researches says that in the most tropical countries, breast feeding is essential if the baby is to survive and except for rare serious reasons the breast feeding should not be withheld.³

Nurses are the back bone of the health care delivery system. They are committed to care for all persons across life cycle. Being a primary health care delivery personnel he/she can teach the mothers about breast feeding, its importance, benefits and so on. Nurses, working in NICU, PICU and Newborn ward should know the concept of storing the breast milk. It is the duty of nurses to give education to the working mothers about storage of breast milk. Therefore it is necessary for the nurses to have adequate knowledge regarding expression and storage of breast milk.^[11]

Statement Of The Problem:-

“An explorative study to assess the knowledge and attitude regarding the storage of breast milk for the infants among staff nurses at selected hospitals of Gwalior city, with a view to develop an information booklet.”

Objectives:-

1. To assess the knowledge regarding the storage of breast milk for the infants among staff nurses.
2. To find out the attitude regarding the storage of breast milk for the infants among staff nurses.
3. To determine correlation between knowledge and attitude regarding the storage of breast milk for infant among staff nurses.
4. To assess the association between the knowledge and selected demographic variables regarding the storage of breast milk for the infants.
5. To assess the association between the attitude and selected demographic variables regarding the storage of breast milk for the infants.
6. To develop information booklet for the staff nurses on storage of breast milk for the infants.

Research Methodology:-

Research approach:-Quantitative (non- experimental) research approach

Research design:-Exploratory design

Setting of the study:-NICU, PICU, neonatal, antenatal, postnatal wards and labour room of K.R hospital and Mehra Children Hospital, Gwalior city.

Sampling technique:-Non- Probability Convenient Sampling Technique

Sampling size:-60 staff nurses working in NICU, PICU, neonatal, antenatal, postnatal wards and labour room of K.R hospital and Mehra Children Hospital, Gwalior city.

Description of the tool:-A structure knowledge questionnaire and attitude questionnaire was developed. It consists of three sections.

Section A:-Socio demographic profile.

Section B:-Structured Questionnaire on expression and storage of breast milk It had a total of 40 multiple choice questions. Each correct answer was awarded a score of one and wrong answer zero.

Section C:-Attitude Rating Scale. There were 20 questions in the attitude test and each correct answer was award a score of 2 and wrong answer was awarded a score of 1.

Reliability of the tool:-Reliability of the tool was computed by applying split half (odd-even) method and was calculated by Karl Pearson's co-efficient correlation and Spearman Brown Prophecy formula and was found $r=0.98$.

Results:-

The analysis was done using descriptive and inferential statistics.

Finding related to sample characteristics:

Majority of the staff nurses were in the age group of 21-25 years (36%), 68.33% were females, 80% were Hindus, 50% did GNM, 30% had <1 year of total professional experience, and 73.66% got information through professional training (Table 1).

Findings related to level of knowledge regarding storage of breast milk for infants among staff nurses:

Majority of the staff nurses, 66.67% were found to have an average level of knowledge. Whereas 18.33% of the staff nurses had excellent knowledge. It is only 15% of the staff nurses had poor knowledge regarding storage of breast milk for infants among staff nurses (Graph 1)

Findings related to level of attitude regarding storage of breast milk for infants among staff nurses:

Statistical analysis shows 8.33% of the staff nurses had negative attitude, 45% of the staff nurses have neutral attitude and 46.67% have positive attitude regarding the storage of breast milk among staff nurses at selected hospitals of Gwalior (Graph 2)

In case of item wise analysis of attitude regarding storage of breast milk for the infant, the table below shows that 76.67% of the staff nurses had positive attitude regarding breast feeding is the best method of infant feeding. 71.67% agreed that mothers should be encouraged for breast feeding. Regarding the storage of breast milk 65% agree that it should be stored safely. 61% of the staff nurses have positive attitude towards donor banks. 53.33% of the staff nurses felt that Artificial formula do not provide the broad range of benefits as human milk whereas 46.67% disagreed.

About 46.67% said that gloves are not required for handling breast milk while 53.33% say it is needed. 73.33% staff nurses agreed on the universal hand washing precaution which is required during storage of breast milk on the other hand 26.66% were disagreed. Half of the staff nurses said that HIV infected mother should not breast feed while other half said that they should. Majority 76.67% believed that the stored milk should be labeled. 76.67% had given emphasis on safe environment of new born. Majority 73.33% believes that Breastfeeding has been identified as an important "upstream" intervention that affects the health and well being of babies and their mothers. 43.33% of the staff nurses said that it is not a wrong practice to give the milk of a mother to someone else's newborn, on the other hand more than half 56.67% of them were disagreed. A major portion 75% felt there should be a programme for ongoing training of the staff. While 71.67% of the staff said there should be regular health checks and Hep B immunization. 43.33% of the staff felt that the milk from a mother whose baby is born dead can cause infection to other baby if given. Half of the participants had opinion expressed milk can not be stored for more than 5 days in refrigerator while other half says it can be stored. In the case of using left over milk about 50% of the participants said it the left over milk should be used while other 50% says it should not. Same in case of using micro wave for heating bottles 58.33% staff nurses said that micro wave can not be used while 41.67% says it can be used (Table 6)

Findings related to correlation of knowledge and attitude:-

The overall mean score of knowledge was 25.85 and attitude was 32.216. A weak positive correlation between knowledge and attitude, where $r=0.18$ at $p=0.16$ was found. (Table 4).

Findings related to association of the knowledge regarding the storage of breast milk for infants among staff nurses with their demographic variables:-

The finding said that the religion had low degree of significance with $\chi^2=15.21$ at $p<0.05$ level.

Findings related to association of the attitude regarding the storage of breast milk for infants among staff nurses with their demographic variable:-

The finding said that the age and source of knowledge have high degree of significance with $\chi^2=105.11$ at $p<0.001$ level, $\chi^2=221.9$ at $p<0.001$ level.

Table 1:-Frequency and percentage distribution of staff nurses age, gender, religion, general qualification, professional qualification, experience and source of knowledge. **N=60**

SL NO.	Variables	Division	Frequency	Percentage%
1.	AGE	21-25 Years	22	36.66
		26-30 Years	21	35
		31-35 Years	8	13.33
		36and above	9	15
2.	Gender	Male	19	31.67
		Female	41	68.33
3.	Religion	Hindu	48	80
		Muslim	5	8.33
		Christian	5	8.33
		Sikh	2	3.33
4.	General Education	Intermediate	11	18.33
		Graduation	43	71.66
		Post graduation	5	8.33
		Equivalent	1	1.66
5.	Professional Education	GNM	30	50
		BSc nursing	23	38.33
		Post Basic BSc nursing	6	10
		Msc nursing	1	1.66
6.	Experience	1year	18	30
		1year 3year	13	21.66
		3year 5year	15	25
		7years	14	23.33
7.	Source of knowledge	Media	10	16.67
		Relatives	1	1.67
		Friends	1	1.67
		Professional	46	76.66
		None	2	3.33

Figure 1:-Percentage distribution of knowledge among staff nurses regarding storage of breast milk for infants

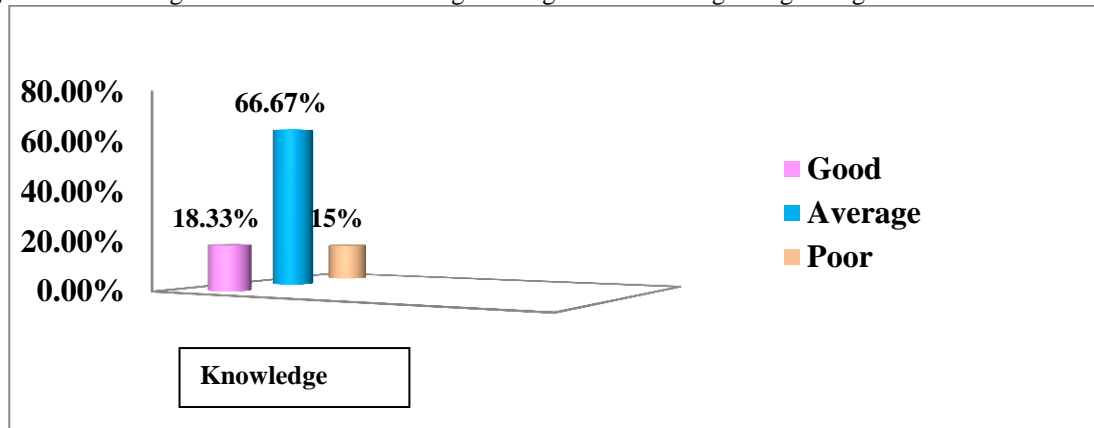
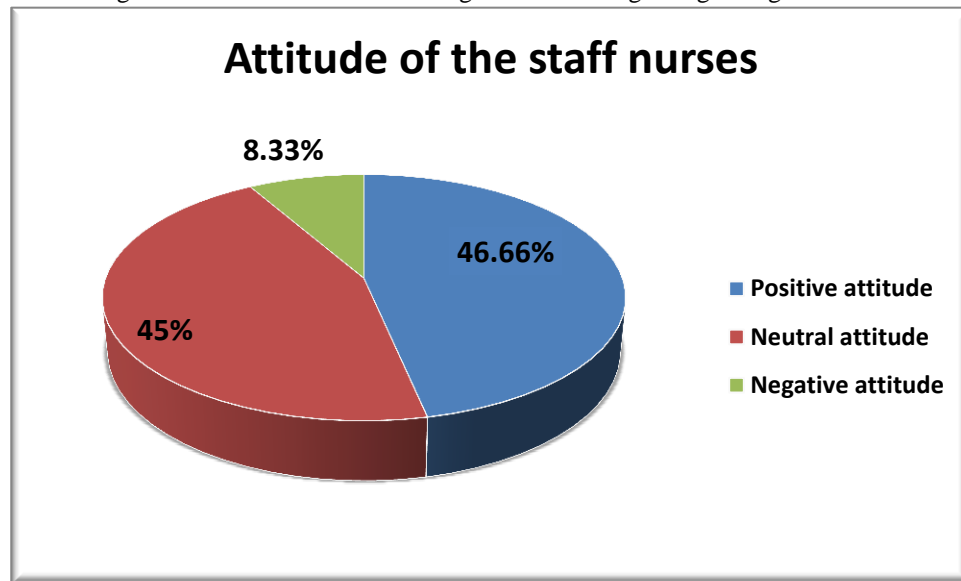


Figure 2:-Percentage distribution of attitude among staff nurses regarding storage of breast milk for infants**Table 2:-**Overall mean and standard deviation of knowledge regarding storage of breast milk for infants among staff nurses

N=60

Sample Staff nurses	N	Mean	S.D
	60	25.85	6.11

Table 3:-Overall mean and standard deviation of attitude regarding storage of breast milk for infants among staff nurses.

Samples Staff nurses	N	Mean	S.D
	60	32.216	4.21

Table 4:-Correlate between knowledge and attitude of the staff nurses regarding storage of breast milk for infants. N=60

Sr No.	Knowledge score			Attitude score			S.D	Correlation
	Mean	±	S.D	Mean	±	S.D		
1.	25.85	±	6.11	32.21	±	4.21		r= 0.18

Table 5:-Item wise analysis of attitude regarding storage of breast milk for the infants.

Sl. no.	Particulars	agreed	Percentage	disagree	Percentage
1.	Breast feeding is the best method of infant feeding.	46	76.67%	14	23.33%
2.	All the mothers should be encouraged to breastfeed their infants.	43	71.67%	17	28.33%
3.	Breast milk should be stored safely.	39	65%	21	35%
4.	Human milk bank are primarily focused to provide donor milk to sick new born admitted in neonatal unit.	37	61.67%	23	38.33%
5. *	Artificial formula do not provides the broad range of benefits as human milk.	32	53.33%	28	46.67%
6.	Gloves are not recommended for handling human milk in human milk banks.	28	46.67%	32	53.33%
7.	Expressed human milk doesn't require special handling, as is required for other bodily fluid.	22	36.67%	38	63.33%
8.	Current policies and procedure in hospital require staff to	44	73.33%	16	26.66%

	maintain universal hand washing precaution during storage of breast milk.				
9.	The health care workers should advice the HIV infected mothers not to breastfeed the new born.	32	53.33%	28	46.67%
10.	The Health care professionals should clearly label the milk with date it was expressed to facilitate using the old milk first.	46	76.67%	14	23.33%
11.	A safe environment for new born and new born care workers is Important.	46	76.67%	14	23.33%
12.	Breastfeeding has been identified as an important “upstream” intervention that affects the health and well being of babies and their mothers.	44	73.33%	16	26.67%
13.	Its not a wrong practice to give the milk of a mother to someone else’s newborn.	26	43.33%	34	56.67%
14.	Staff should undergo regular health checks and be immunized against hepatitis B.	43	71.67%	17	28.33%
15.	There should be a program for ongoing training of the staff.	45	75%	15	25%
16.	Stored milk in the Refrigerator should not be kept more than 5 days.	30	50%	30	50%
17.	The breast milk, from a mother, who’s baby is born dead, will not cause infection if given to some other new born.	34	56.67%	26	43.33%
18.	Health care professionals should be sure to store expressed breast milk in a clean container	42	70%	18	30%
19.	The left over milk after a feed should not be used for another feed.	34	56.67%	26	43.33%
20.	Micro wave oven can not be used to thaw or heat bottles of breast milk.	35	58.33%	25	41.67%

Conclusion:-

Reaching at the conclusion it has been found out from the research that the knowledge regarding storage of breast milk among the staff nurses was an average whereas the attitude of the staff nurses are neutral to positive. From the above study the conclusion is being made that there is need to educate the staff nurses regarding storage and handling of breast milk as breast milk banks are increasing in numbers due to its usefulness. More over there is need to bring awareness among staff nurses to develop a positive attitude regarding storage of breast milk. The misconception regarding storage of breast milk and its handling should be removed by educating them through conducting various educational programmers. Increase in knowledge will lead to more positive attitude towards the storage of breast milk for infants

Discussion:-

The analysis reveals that the majority of the staff nurses, 66.67% were found to have an average level of knowledge. There is deficit of knowledge among the staff nurses regarding the storage of breast milk. This finding was supported by Lam EY (2012)³ stating that, there is a knowledge gap regarding breast milk banking with in the health care professionals..Where as 18.33% of the staff nurses had good knowledge. Its is only 15% of the staff nurses had poor knowledge regarding storage of breast milk for infants among staff nurses, on the other hand 8.33% of the staff nurses had negative attitude, 45% of the staff nurses had neutral attitude and 46.67% have positive attitude regarding the storage of breast as human milk among staff nurses at selected hospitals of Gwalior. This finding is supported by the research done by Lawrence RA(2001)⁴ and Bernaix LW et.al (2008)² stating that there is need to improve the attitude of the health care professionals regarding the storage of breast milk.

When item wise analysis is being done, it was found that that 76.67% of the staff nurses have positive attitude for breast feeding is the best method of infant feeding. Majority 76.67% believed that the stored milk should be labelled with that 73.33% believes that breastfeeding has been identified as an important “upstream” intervention. . A major portion 75% felt there should be a programme for ongoing training of the staff. While 71.67% of the staff felt there should be regular health checkups. On the other hand 56.67% staff nurses said that it is wrong practice to give the

milk of some mother to the baby of some other mother. With that 43.33% of the staff felt that a breast milk from a mothers whose baby is born dead can cause infection to other baby if given. While 50% of the participants said that the left over milk from the previous feed could be used while other 50 % says it should not be.

The another finding from the given research is a weak positive correlation between knowledge and attitude. This finding was supported by Lam EY (2012)³ who states that there is a knowledge gap with in the health care professionals regarding storage of breast milk for infants in comparison with the attitude on the other hand nurses/midwives positively view the practice of breast milk banking. The association between knowledge with selected demographic variables found religion had a low degree of significance with $\chi^2=15.21$ at $p<0.05$ level. In case of attitude the finding reveals that the age and source of knowledge had high degree of significance with $\chi^2=105.11$ at $p<0.001$ level, $\chi^2=221.9$ at $p<0.001$ level. An information booklet made was distributed among the participants of the research for further reference.

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