"A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE REGARDING STORAGE OF BREASTMILK AMONG WOMEN IN SELECTED AREAS OF PUNE CITY IN A VIEW TO DEVELOP AN INFORMATION BOOKLET."

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KEYWORDS
Descriptive research, Assessment, Knowledge, Area, Development, Information booklet, Breastmilk.

ABSTRACT:
Introduction: Breast milk is defined as the milk produced by the woman's breast after childbirth, serving as the first immunization for her child. The prolactin hormone is responsible for the secretion of breast milk. Milk can be stored in a glass container or a clear plastic container. Breast milk can be stored in the refrigerator or even at room temperature, following the guidelines given by the WHO. After expressing breast milk, store it for 8 days. The National Institute for Health and Care Excellence advises that expressed milk can be stored for up to 5 days in the main part of a fridge at 4°C or lower, 2 weeks in the freezer compartment of a refrigerator, and 6 months in a domestic freezer at -18°C or lower. The storage of breast milk at room temperature depends on how warm the room is. The storage of breast milk in the fridge depends on which fridge is used for storage. If there is a separate compartment in the fridge, then store the breast milk in the separate compartment for 3-4 months. **Materials and Methods:** The present study aims to assess the knowledge regarding the storage of breastmilk with view to develop an information booklet. The research method used for this study was the quantitative research approach. Non-experimental descriptive research design was adopted for this study. The sample size which was selected for this study is 200 women. **Result:** The major finding is 48.5% of women had good knowledge remaining 48% women had average level of knowledge score and 3% of women had poor level of knowledge.

INTRODUCTION

Breast milk is defined as the milk produced by the woman's breast after childbirth as the first immunization for her child. Prolactin hormone is responsible for the secretion of breast milk. milk can be stored in a glass container, or clear plastic container. breastmilk can be stored in refrigerator or even at room temperature. Must follow the guidelines given by the WHO. When storing the breastmilk always label it with the date when it was expressed. Use the oldest dated breastmilk first. When breastmilk is stored in the fridge it will be separated with the milk layer and cream. The storage of human breast milk, by freezing or refrigeration, with and without heating, has been recommended. This can hardly be avoided because of the social circumstances of most mothers who are regularly separated from their infants due to work or schooling, as well as the particular needs of some pre-term or sick babies to be fed with expressed breast milk. The greatest fear that has hindered the prospects of in-vitro storage of breast milk for any considerable period is the possibility of bacterial contamination and the growth of infectious pathogens in the stored milk, thereby rendering them unsafe for human consumption. Bacteriological examination of refrigerated milk has proven its safety for human consumption.

Evidence shows that the temporary storage of human milk under appropriate conditions is not dangerous for babies and infants. This finding could further encourage the practice of prolonged exclusive breastfeeding, allowing families to reap its multifaceted benefits. When storing breast milk, always label

it with the date it was expressed. Use the oldest dated breast milk first. When breast milk is stored in the fridge, it will be separated into the milk layer and cream. Don't take the tension off it. Don't use the microwave to heat the breast milk. After heating the breast milk, don't give it directly to the baby; let the milk warm and then give it to the baby. High heating of breast milk may lower some nutrients. Discard the unused breast milk when out of the fridge.

NEED OF THE STUDY

The National Institute for Health and Care Excellence advises that expressed milk can be stored for up to 5 days in the main part of a fridge at 4°C or lower, 2 weeks in the freezer compartment of a refrigerator, and 6 months in a domestic freezer at -18°C or lower. The storage of breast milk at room temperature depends on how warm the room is. The storage of breast milk in the fridge depends on which fridge is used for storage. If there is a separate compartment in the fridge, then store the breast milk in the separate compartment for 3-4 months. When storing breast milk, always label it with the date it was expressed. Use the oldest dated breast milk first. When breast milk is stored in the fridge, it will be separated into the milk layer and cream. Don't take the tension off it. Don't use the microwave to heat the breast milk.

Expression and storage of breast milk is a strategy that ensures continued breast milk consumption in the event of temporary separation of an infant from the mother. However, many studies show that working mothers are unable to exclusively breastfeed for six months successfully. Working mothers are forced to wean early due to minimal support at the workplace, lack of knowledge on breast milk expression, and absence of storage facilities.

The 2017 Kenya Health Act mandates employers to provide lactation rooms to facilitate breast milk expression in support of lactating mothers. This study analyzes the knowledge, attitude, and practice of breast milk expression among working women in Kenya. Only 34% of working mothers achieved an overall satisfactory knowledge of breast milk expression and storage. Additionally, 84% agreed that the expression and storage of breast milk would positively contribute to their ability to maintain six months of exclusive breastfeeding.

Breastfeeding should be initiated within the first half hour to one hour of birth or as soon as possible. It should be initiated within 4 hours after a cesarean section delivery. Early suckling provides warmth, security, and colostrum during the baby's first immunization. No food or drink other than breast milk should be given to neonates. No water, glucose water, animal milk, gripe water, indigenous medicines, vitamins, and mineral drops or syrup should be given. No bottle or pacifier is allowed. In the case of preterm babies or sick babies being in the special care unit, they should be fed with expressed breast milk (EBM).

MATERIAL AND METHOD

Non experimental Descriptive study with including sampling technique non probability purposive sampling technique with 200 sample size the self-structured questionaries' used . Sampling technique - In this study, the Nonprobability Purposive sampling technique was used.

The research employed a quantitative approach to develop an information booklet for women in selected areas of Pune city, using a non-experimental descriptive research design. The study was conducted in these specific areas, targeting women as the population. The accessible population included women from these areas, with the sampling criteria comprising women above 19 years of age with at least one child, excluding illiterate women. A nonprobability purposive sampling technique was utilized to select the participants.

RELIABILITY OF THE TOOL The Test Re-Test method was employed to assess reliability from November 6, 2023, to November 11, 2023. The Karl–Pearson Correlation Coefficient was used, resulting in a score of 1.

PILOT STUDY

The pilot study was conducted from October 6th, 2023, to October 11th, 2023. The tool was administered to 20 samples using a nonprobability purposive sampling technique with characteristics similar to the main study sample. Informed consent was obtained from each respondent, and confidentiality was assured by the investigator. The average time taken by respondents to answer the tool was 15 minutes. Data were collected and analyzed using descriptive and inferential statistics. The results of the pilot study revealed that there were no major problems faced during the pilot process, and it is feasible to conduct the main study.

RESULT

Section – 1 Highest percentage 59.5% were in the age group of 26 years - 35 years, Highest percentages 75 % of women were completed Secondary and Higher secondary education, Highest percentages 98 % of women were Married, Highest percentages 85 % of women were House wife, Highest percentages 91.5 % of women were having no any history of any medication, Highest percentages 47 % of women were having two children.

Section -2 The major finding is 48.5% of women had good knowledge remaining 48% women had average level of knowledge score and 3% of women had poor level of knowledge.

Section I

Demographic characteristics of women

Analysis of Demographic characteristics in frequency and percentage

n=200

Demographic Variables	**Frequency**	**Percentage**
1. AGE		
A. 19 years - 25 years	42	21
B. 26 years - 35 years	119	59.5
C. 36 years – 45 years	26	13
D. Above 45 years	13	6.5
2. Education		
A. Primary	28	14
B. Secondary and Higher secondary	150	75
C. Graduation	21	10.5
D. Post graduation and above	1	0.5
3. Marital status		
A. Married	196	98
B. Widow	4	2
4. Occupational status		

A. Private job	16	8
B. Government job	14	7
C. House wife	170	85
5. History of any Breast complications		
A. Breast engorgement	0	0
B. Swelling, tenderness	1	0.5
C. Skin redness and Painful breast	1	0.5
D. No any	198	99
6. History of any medications		
A. Hypertensive medications	0	0
B. Diabetic medications	0	0
C. Any other medications	17	8.5
D. No any	183	91.5
7. Number of children		
A. One	82	41
B. Two	94	47
C. More than 2	24	12

It shows that the highest percentage (59.5%) was in the age group of 26 years to 35 years.

1. It indicates that the highest percentage, 75% of women, completed secondary and higher secondary education.
2. It reveals that the highest percentage, 98% represents married women.
3. It shows that the highest percentage (85%) of women were housewives.
4. It shows that the highest percentage (99 %) of women were no any breast complications
5. It shows that the highest percentage (91.5%) of women had no history of any medication.
6. It shows that the highest percentage (47%) of women had two children.

Section II

Level of knowledge regarding storage of breastmilk

n=200

Item Wise	Frequency	Percentage
1. Colostrum is useful for newborn …….	161	80.5
2. …… should be written on bottle when stored the breastmilk in the milk bank.	171	85.5
3. Mothers milk can be store in freezer	74	37

for …… months		
4. Mothers milk can be safe in room temperature for ……	115	57.5
5. Before mother's milk expression and storage ……. must be done.	177	88.5
6. Before the storage the breastmilk…… mother should rule out for	164	82
7. For storage of breastmilk …… is useful	144	72
8. Use the breastmilk which is out of the refrigerator before……..Hour	144	72
9. ……. is necessary when breastmilk is out from the refrigerator for mixing of fat	119	59.5
10. ……. is necessary when breastmilk is out from the refrigerator for mixing of fat	161	80.5
11. Mother is storing the breastmilk and after that she can give milk to the child within ……. Minutes.	124	62
12. Mother should express her milk for storage ……minutes	144	72
13. Don't keep the stored breastmilk in the……	120	60
14. Temperature must be …..... when storage of breastmilk in The deep freezer	101	50.5
15. Before storage of breastmilk bottle must be washed with…….	169	84.5

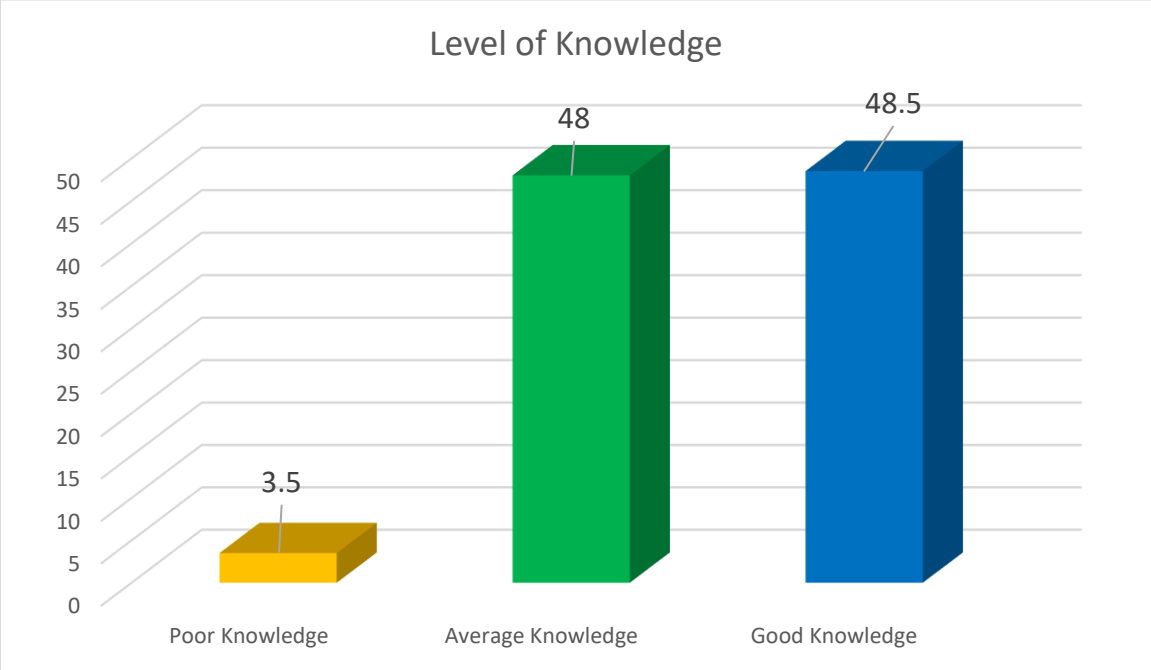

Fig – 1 shows that level of knowledge regarding the storage of breastmilk among women in selected areas of Pune city. The major finding is 48.5% of women had good knowledge remaining 48% women had average level of knowledge score and 3% of women had poor level of knowledge.

MAJOR FINDINGS OF STUDY

Section: I - Analysis of Demographic characteristics in frequency and percentage

1. It shows that the highest percentage (59.5%) was in the age group of 26 years to 35 years.
2. It indicates that the highest percentage, 75% of women, completed secondary and higher secondary education.
3. It reveals that the highest percentage, 98% represents married women.
4. It shows that the highest percentage (85%) of women were housewives.
5. It shows that the highest percentage (99 %) of women were no any breast complications
6. It shows that the highest percentage (91.5%) of women had no history of any medication.
7. It shows that the highest percentage (47%) of women had two children.

Section –II The association between the level of knowledge and selected demographic variables.

No significant association was found between knowledge and selected demographic variables concerning the storage of breast milk among women in selected areas of Pune city.

Section –III Analysis related to validate of information booklet

DISCUSSION

The experts CVI was 0.7 and sample CVI 0.8 indicating that the information booklet was valid.

in this section, major findings of the study were discussed with reference to the results obtained by other investigators.

Findings of knowledge regarding Storage of Breastmilk among women

The study conducted by Debu Adhikari and mangala shrestha, 46.2 % were found to have adequate knowledge and 53.8 % of them had inadequate knowledge of expression and storage of breastmilk. In this study highest 72.6 % sample responds practice of breastmilk expression. Correlation regarding storage of

breastmilk is significant at 0.01. The study conducted by Yeon Ran Hong, and Eunyoung Do found 86.1 % were found intension to implement breastmilk storage. Higher levels of knowledge (r=333 p <001) were associated with higher intention of implementation. The study conducted by Ulfat Amin found that 46% of Women had inadequate knowledge, 54% of women having moderate knowledge, and none had adequate knowledge regarding expression and storage of breastmilk, there was a significant association between knowledge and demographic variables. The chapter dealt with the major findings of the study, the discussion in relation to other studies, conclusion drawn based on Research findings and the implication of the study in the field of nursing education, practice, administration, and research. it is also attempted to find out the limitations of the study and to give guidance for the future study in this field.

CONCLUSION

Analysis and interpretation of data collected from 200 women regarding their knowledge about the storage of breast milk in selected areas of Pune city. Descriptive and inferential statistics were used for the analysis.

The study revealed that approximately 48.5% of women had good knowledge, while the remaining 48% of women had an average level of knowledge scores, and 3% of women had a poor level of knowledge. From the result of the present study, it's summarized that most Highest percentage 59.5% were in the age group of 26 years - 35 years, Highest percentages 75 % of women were completed Secondary and Higher secondary education , Highest percentages 98 % of women were Married , Highest percentages 85 % of women were House wife, Highest percentages 91.5 % of women were having no any history of any medication, Highest percentages 47 % of women were having two children and findings reveal that 48% women had average level of knowledge regarding storage of breastmilk. demographic variable women are large (greater than 0.05), the all the demographic variables were found not significant association with the knowledge of women regarding storage of breastmilk in selected areas of Pune city.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

Funding Source: "There is no funding Source for this study

REFERENCES

1.Myles; Textbook for midwives; sixteenth edition; ELSEVIER Publication; page no 719; topic-breastmilk storage

2.https://internationalbreastfeedingjournal.biomedcentral.com/articles/10.1186/s13006-022-00469-6

3.https://www.google.com/imgres?imgurl=https%3A%2F%2F0.academia-photos.com%2Fattachment_thumbnails%2F63988985%2Fmini_magick20200722-7950-gapusy.png%3F1595404949&tbnid=vJHLTBtEQc8sVM&vet=1&imgrefurl=https%3A%2F%2Fwww.academia.edu%2F43686401%2FA_Study_to_Assess_the_Effectiveness_of_Educational_Package_on_Knowledge_Regarding_Breast_Milk_Expression_and_Its_Storage_among_Working_Lactating_Mothers&docid=ycT3oBbEQRhouM&w=595&h=842&hl=en-GB&source=sh%2Fx%2Fim%2Fm5%2F3

4.https://www.google.com/imgres?imgurl=https%3A%2F%2Fi1.rgstatic.net%2Fpublication%2F12248926_Techniques_for_the_storage_of_human_breast_milk_Implications_for_anti-microbial_functions_and_safety_of_stored_milk%2Flinks%2F5635451f08aebc003fff71d8%2Flargepreview.png&tbnid=17IsOgVS59gYAM&vet=1&imgrefurl=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F12248926_Techniques_for_the_storage_of_human_breast_milk_Implications_for_antimicrobial_functions_and_safety_of_stored_milk&docid=QSQ_PVLWf8hSBM&w=850&h=1122&itg=1&hl=en-GB&source=sh%2Fx%2Fim%2Fm5%2F3

5. https://www.parentcircle.com/how-to-store-breast-milk-properly/article

6.https://internationalbreastfeedingjournal.biomedcentral.com/articles/10.1186/s13006-022-00469-6

7. https://www.sciencedirect.com/science/article/abs/pii/S1871519219308595
8. https://www.freetofeed.com/post/breast-milk-supply
9. https://images.app.goo.gl/ARBQPq44ZufHJf6V6
10. https://images.app.goo.gl/AATdW9NA4pPYsqJEA
11. https://images.app.goo.gl/SicC8Trmt58GzNvB6