RESEARCH ARTICLE

ASSESS THE KNOWLEDGE AND PERCEPTION ON HUMAN BREAST MILK BANK AMONG POSTNATAL MOTHERS.

Sharumathy V1, Dr. Vetriselvi. P2 and Dr. Adhisivam. B3

1. B.SC[N], College of nursing, JIPMER, Puducherry.
2. Assistant professor, College of Nursing, JIPMER, Puducherry.
3. Additional Professor & HOD, Department of neonatology, JIPMER, Puducherry.

Abstract

Background: Human breast milk is considered as the best source of all nutrients, beyond that it the only living food source for infants especially during the first six months of their life. WHO recommends the exclusive breastfeeding till 6 months of life for all infants and then supplemented breastfeeding is recommended until at least two years of age and it is recognized as globally highly more nutritious. According to the joint statement given by the World Health Organization and United Nations International Children’s Emergency Fund (UNICEF) in 1980, the best and essential food for any baby whose own mother’s milk is not available is the breast milk from another donating healthy mother. Hence this study focuses on identifying and assessing the knowledge and perception among postnatal mothers about Human Breast Milk Bank establishment and its donation. It aims to describing behaviors, beliefs, and feelings behind Human Milk Bank and its donation by identifying donor’s individual, social and environmental features that could affect the donation of human milk. The findings will help to develop health education tools to promote human milk donation by identifying the factors that hinder the human milk donation and rectifying it accordingly.

Objectives:
1. To assess knowledge and perception on Human Milk Bank among postnatal mothers.
2. To identify the association of knowledge and perception with selected demographic variables.

Methods: The design of the study is cross-sectional. The participants who met the inclusion criteria were selected by convenient sampling technique. The total participants included in this study were 100. The data was collected by using structured questionnaire. Statistical methods like frequency and percentage, chi-square test have been used and all statistical analysis has been carried out at 5% level of significant and P<0.05 has considered as significant.

Results: The study concluded that only 19% of the postnatal mothers had adequate knowledge and in regard to...
perception 70% of postnatal mothers had favorable perception. There was no significant association of knowledge and perception with any of the socio-demographic variables.

**Conclusion:** The above results stress the importance of organizing health education to postnatal mothers.

---

**Introduction:**

Human breast milk is considered as the best source of all nutrients, beyond that it is the only living food source for infants especially during the first six months of their life. \(^{(1)}\)

WHO recommends the exclusive breastfeeding till 6 months of life for all infants and then supplemented breastfeeding is recommended until at least two years of age and is recognized as globally highly nutritious. \(^{(2)}\)

It is vital because of its bio-active substances like free amino acids, nucleotides, cells, growth factors, enzymes, hormones, pro-biotic bacteria, and prebiotic oligosaccharides that are essential for development of immature immune system and gut micro biome of both full-term and high-risk newborns like low birth weight and preterm. It also decreases the incidences of necrotizing enterocolitis, late onset sepsis, retinopathy, food intolerance or mal-absorption, immunodeficiency and improve the neuro-cognitive development. Meanwhile, lower the risk of childhood diabetes, obesity compared to those infants fed with formula milk and animal’s milk. \(^{(1,3,4,10,12)}\)

Exclusive breastfeeding is very essential not only for infants but also for mothers as it prevents the risk of breast cancer and enhances the bond between mothers and babies. \(^{(11)}\)

According to the joint statement given by the World Health Organization and United Nations International Children’s Emergency Fund (UNICEF) in 1980, The best and essential food for any baby whose own mother's milk is not available is the breast milk from another donating healthy mother. \(^{(5)}\)

Breast Milk Donation is recommended and suggested for hospitalized (sick) or preterm babies in which their mothers don’t have sufficient milk production (or) underwent any breast surgery in past (or) under any medications like chemotherapy (or) any other condition where mother can’t be able to give her breast milk. The Human Milk bank receives human milk from donor after screening, then collects, process, pasteurize, store and then distributed to needy. \(^{(6,7,9,12)}\)

But unfortunately, most of the developing countries including our nation which has highest burden of global neonatal mortality and morbidity rate lag in the implementation of donor breast milk as an alternative choice for vulnerable infants. Breast milk banks aren’t a new phenomenon in India, but they are scarce. Eventhough Asia’s first milk bank was set up in Mumbai (Lokmanya Tilak Hospital) in 1989. Currently there are only 60 human milk bank. Whereas Brazil, another developing country, is an international leader with 217 banks and 113 collection centers which has helped to reduce Brazil’s infant mortality rate by 73%. \(^{(1,3,8,9)}\)

Hence this study focuses on identifying and assessing the knowledge and perception among postnatal mothers about Human Breast Milk Bank establishment and its donation. It aims in describing behaviors, beliefs, and feelings behind Human Milk Bank and its donation by identifying donor’s individual, social and environmental features that could affect the donation of human milk. The findings will help to develop health education tools to promote human milk donation by identifying the factors that hinder the human milk donation and rectifying it accordingly.

**Objectives:**

1. To assess knowledge and perception on Human Milk Bank among postnatal mothers.
2. To identify the association of knowledge and perception with selected demographic variables.
Methodology:–
Study design:
Cross sectional study

Inclusion criteria:
Postnatal mothers in Women and Children Hospital JIPMER

Exclusion criteria:
Mothers who are sick during the data collection procedure

Sampling population:
Postnatal mothers who are admitted in Women and Children Hospital JIPMER.

Sample size: 100

Sampling technique:
Convenience sampling technique.

Tool description:
Structured questionnaire was used to collect data from postnatal mothers.

The Questionnaire had 3 sections. They are:
Section – A: Socio-Demographic Data
Section-B: Knowledge on human breast milk bank.
Section-C: Perception on human breast milk bank.

Study procedure:
The study was conducted after approval from IEC (Human studies), JIPMER. The participants who met the inclusion criteria were selected by convenience sampling technique. The total participants included in this study were 100.

After getting informed written consent from the postnatal mothers, a structured questionnaire was administered to them to assess their knowledge and perception about human breast milk bank. In which it had 16 knowledge questions [multiple choice questions] and 13 perception questions and instructed them to mark the correct answer.

In knowledge questionnaire the correct answer was scored as 1 and the wrong answer as 0. In perception questionnaire, the response options for each question was strongly agree, agree, not sure, disagree, and strongly disagree.

Parameters studied:
Independent variable:
1. Age
2. Education
3. Religion
4. Type of family
5. Monthly income of family
6. Domicile

Outcome variables:
Level of knowledge and perception on human milk bank.

Confounding and interacting variables:
NIL

Statistical test used for data analysis:
The distributions of socio-demographic characteristics were expressed as frequency and percentage. The knowledge level was categorized into inadequate, moderate, and adequate based on the scores and it was expressed in
frequency and percentage. Perception level was categorized into unfavorable, average, and favorable based on the score and was expressed in frequency and percentage. The association of level of knowledge and perception categories with demographic variables was carried out by using chi-square test. All statistical analysis has been carried out at 5% level of significance and P<0.05 has considered as significant.

Results:

Table 1: Distribution of socio-demographic variables of postnatal mothers  

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency(N)</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>20-30</td>
<td>90</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Domicile</td>
<td>Rural</td>
<td>73</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>Semi-urban</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>27</td>
<td>27%</td>
</tr>
<tr>
<td>Education</td>
<td>Illiterate</td>
<td>23</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>6th - 10th</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>11th - 12th</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>32</td>
<td>32%</td>
</tr>
<tr>
<td>Type of family</td>
<td>Nuclear</td>
<td>36</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>Joint</td>
<td>64</td>
<td>64%</td>
</tr>
<tr>
<td></td>
<td>Extended</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Monthly income of family</td>
<td>≤2000</td>
<td>32</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>2001-5000</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>5001-10,000</td>
<td>21</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>&gt;10,000</td>
<td>28</td>
<td>28%</td>
</tr>
</tbody>
</table>

Table 2: Knowledge level of postnatal mothers:  

<table>
<thead>
<tr>
<th>Groups</th>
<th>Knowledge score</th>
<th>Frequency(NO)</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postnatal mothers</td>
<td>Inadequate (0-50%)</td>
<td>29</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Moderate (51-75%)</td>
<td>52</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>Adequate (&gt;75%)</td>
<td>19</td>
<td>19%</td>
</tr>
</tbody>
</table>

Table 3: Perception level of postnatal mothers:  

<table>
<thead>
<tr>
<th>Groups</th>
<th>Perception score</th>
<th>Frequency(NO)</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postnatal mothers</td>
<td>Unfavorable (0-50%)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Average (51-75%)</td>
<td>29</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Favorable (75-100%)</td>
<td>70</td>
<td>70%</td>
</tr>
</tbody>
</table>

Table 4: Association between knowledge and perception of postnatal mothers with socio demographic variables:  

<table>
<thead>
<tr>
<th>S. No</th>
<th>Variables</th>
<th>N</th>
<th>Knowledge score</th>
<th>P value</th>
<th>Perceptionscore</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>inadequ ate</td>
<td>moderate</td>
<td>adequ ate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age in years</td>
<td>9</td>
<td>26</td>
<td>45</td>
<td>19</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>16</td>
<td>5</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>Domicile</td>
<td>7</td>
<td>23</td>
<td>36</td>
<td>14</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Semi -urban</td>
<td>0</td>
<td>6</td>
<td>16</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>2</td>
<td>23</td>
<td>36</td>
<td>14</td>
<td>0.06</td>
</tr>
</tbody>
</table>
Iloh K, Osuorah C, Ndu I, et all. (2018) conducted a study in south-east Nigeria to determine the perception and acceptability of donor breast milk among mothers. It is a cross-sectional multi-center study in which the data was collected using pretested questionnaire among 1235 selected mothers by using purposeful and convenient sampling.
method. Results showed that 39% (480/1225) of them heard about it, whereas only 10% had adequate knowledge about the concept and policy of donor milk and 60% of them were willing to donate and use the donor breast milk.

These second objective of the study was to identify the association of knowledge and perception with selected demographic variables:

The current study findings revealed that there was no significant association of knowledge and perception with any of these selected demographic variables among postnatal mothers.

The above findings were supported by the following studies:

Ghuge S, Aghamkar J, Salvi R (2018) conducted a study in Maharashtra to determine the knowledge and attitude towards human milk bank among postnatal mothers. The research design was one group pretest posttest quasi experimental design. Descriptive research approach has been carried out. By using non-probability convenience sampling technique a total of 60 postnatal mothers were included in this study and the data has been collected through structured knowledge and attitude questionnaires. The results concluded that there was no significant association between the baseline variables with knowledge, attitude scores and the demographic variables.

Summary:
The study concluded that only 19% of the postnatal mothers had adequate knowledge and regard to perception 70% of postnatal mothers had favorable perception. There was no significant association of knowledge and perception with any of the socio-demographic variables.

Conclusion:-
The above results stress the importance of organizing health education to postnatal mothers, broadcasting about human milk bank in antenatal OPD, postnatal ward & NICU will enhance their knowledge and increase the number of donors. Handouts stressing the importance of human milk donation should be provided to all postnatal mothers.

References:-