Effectiveness of structured teaching program on diet during lactation among postnatal mothers

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Abstract

World Breastfeeding Week is celebrated annually from 1st to 7th August across 120 countries. It is promoted by global health organizations like WHO and UNICEF. The goal of this week is to spread awareness about the importance of exclusive breast feeding for the first six months of an infant's life. This helps to build the baby's immune system, provides critical nutrients and promotes development. It demands an additional 500 kcal in the diet of a breastfeeding mother. Quantitative research approach was designed to find out the effectiveness of structured teaching program on diet during lactation. Pre-experimental with one group pretest-posttest design was used. The study was conducted in CSI Mission Hospital, Neyyoor. The samples consisted of 50 postnatal mothers based on the inclusion criteria. They were selected by purposive sampling technique. Demographic variables, structured knowledge questionnaire and Likert five point attitude scale were used to assess the baseline data, level of knowledge and attitude on diet during lactation among postnatal mothers. The pre-test knowledge level was 60.24±13.84 and the post-test knowledge level was 80.72±13.9. The mean difference was 20.48 and the ‘t’ value was 7.383. The pre-test attitude level was 53.04±7.9 and the post-test attitude level was 81.38±5.29. The mean difference was 28.34 and the ‘t’ value was 21.077. The obtained ‘t’ value was higher than the table value. Hence, it was highly significant at 0.05 level. The study concluded that, structured teaching program on diet during lactation was effective in terms of improving the knowledge and attitude of postnatal mothers.

Keywords: Effectiveness, Structured teaching program, Diet during lactation, Knowledge, Attitude, Postnatal Mothers.

Introduction

Breastfeeding is the closest bond a mother shares with her offspring. While breastfeeding, a mother needs to have the right diet so that the baby is fulfilled with all the right nutrients. [1] A proper postnatal diet is very important to ensure the well being of the mother as well as the new born. Giving birth is a stressful activity for the body and post birth, the hormones are again in play. Therefore, the postpartum recovery period is very fragile and delicate for the new mother. [2]

During the first six months after delivery, the baby is fed only on breast milk and it depends on the mother for all nutrient requirements.

Eating a healthy diet during breast feeding is very important because the mother’s diet determines the energy, protein, nutrient and vitamin content of her breast milk. [3] Many mothers are confused about what they should be eating in order to provide the safest, healthiest breast milk. A mother's diet can impact her breastfeeding baby, making a healthy diet with adequate calories and plenty of fluids critically important for lactating women. [4]

Need for the Study

Effective postnatal period is an important phase in the mother’s life. Postnatal care is one of the most important maternal health care for not only prevention of impairment and disabilities, but also reduction of maternal mortality. [5] The highest annual neonatal rates are in South Asia, where an estimated 51 deaths
occur for every 1,000 live births. Each year in South Asia alone, 2 million children die within a month of their birth. By comparison, the rates per 1,000 live births are 42 in Africa, 25 in Latin America and fewer than 10 in Europe and North America. [6] The WHO describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and/or newborn deaths occur during the postnatal period. [7] Postnatal care reaches even fewer women and newborns: less than half of women receive a postnatal care visit within 2 days of childbirth. [8] Every year, nearly four million new-born babies die in the first month of life. India carries the single largest share (around 25-30%) of neonatal deaths in the world. Neonatal deaths constitute two thirds of infant deaths in India; 45% of the deaths occur within the first two days of life. Over the years, the IMR has reduced worldwide, as well as in India, but neonatal mortality rate has not decreased proportionately. [9] The Neonatal Mortality Rate (NMR) in India is 29 per 1000 live births. The Millennium Development Goals (MDGs) 2015 have not been achieved which focused on decreasing NMR of India to MDGs has been extended; a significant work has been done in the area of improving neonatal mortality in India. [10] The majority of maternal deaths and disabilities develop in the postpartum period because of inadequate postnatal care includes diet, hygiene, exercise, etc. On the account of above reasons, the researcher understood the appropriate care is very important for survival and healthy development of newborns. This was a motivation for the researcher to undertake this study.

Statement of the Problem

A study to assess the effectiveness of structured teaching program on diet during lactation in terms of knowledge and attitude among postnatal mothers in selected hospital at Kanyakumari District, Tamilnadu.

Objectives of the Study

- To assess the pre-test and post-test knowledge and attitude regarding diet during lactation among postnatal mothers
- To find out the effectiveness of structured teaching program on diet during lactation in terms of knowledge and attitude among postnatal mothers
- To find out the association between pre-test knowledge and attitude scores and selected demographic variables among postnatal mothers

Hypotheses

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H_1$, There will be a significant improvement on knowledge and attitude after structured teaching program regarding diet during lactation among postnatal mothers.

$H_2$ - There will be a significant association between pre-test knowledge and attitude scores and selected demographic variables among postnatal mothers.

Research Approach and Design

In this study, quantitative research approach was designed to find out the effectiveness of structured teaching program on diet during lactation. Pre-experimental with one group pretest-posttest design was used. The schematic diagram is given below:

$O_1$ X $O_2$

$O_1$ - Pre-test assessment of Knowledge and attitude on diet during lactation

$X$ – Exposure to an intervention (structured teaching program on diet during lactation)

$O_2$ - Post-test assessment of Knowledge and attitude on diet during lactation

Variables

Independent variable – Structured teaching program

Dependent variable – Knowledge and attitude

Settings of the Study

The study was conducted in CSI Mission Hospital, Neyyoor. This setting was selected because of the availability, feasibility and familiarity of the setting.

Population and Sample

The target population of the study was all the postnatal mothers who are admitted in selected setting. Postnatal mothers who fit into the inclusion criteria were selected as a sample.

Sample Size and Sampling Technique

The samples consisted of 50 postnatal mothers. They were selected by purposive sampling technique.

Criteria for Sample Selection

Inclusion Criteria

Postnatal mothers who were

- primi gravida
- in the age group of 21 – 35 years
- understand and speak Tamil
- available during the study period
Exclusion Criteria
Postnatal mothers who were
- in the medical field
- having severe depression and other postnatal complications
- not willing to participate in the study

Description of Research Tool
The data collection tool consists of three sections.

Section – I. Demographic Variables
It helps to collect the baseline socio demographic information about postnatal mothers. It consisted of age in years, education, religion, occupation, type of family, place of residence, type of delivery, dietary pattern, family monthly income and sources of health awareness.

Section – II. Structured Knowledge Questionnaire
It helps to assess the level of knowledge on diet during lactation among postnatal mothers. It consisted of 25 multiple choice questions with four options. Score ‘1’ was allotted for every correct response and score ‘0’ for every wrong response. The score was converted into percentage and interpreted as follows.
- Adequate knowledge - 76 – 100%
- Moderate knowledge- 51 – 75%
- Inadequate knowledge- 0 – 50%

Section – III. Likert Five Point Attitude Scale
It helps to assess the level of attitude on diet during lactation among postnatal mothers. It consisted of 10 statements. It was scored as strongly agree – 5, agree - 4, uncertain - 3, disagree – 2 and strongly disagree – 1. The score was converted into percentage and interpreted as follows.
- Most favorable attitude – 76 – 100%
- Favorable attitude – 51 – 75%
- Unfavorable attitude – 1 – 50%

Validity and Reliability

Description of demographic variables among postnatal mothers

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td><strong>Age in Years</strong></td>
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<tr>
<td>21 - 25</td>
<td>24</td>
<td>48</td>
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<tr>
<td>26 - 30</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>31 - 35</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>School education</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>
Table 1 showed that, 48% of samples were belonged to the age group of 21 – 25 years and 26 – 30 years, 76% were completed their college education, 56% were Christians, 70% were housewives, 54% belongs to nuclear family, 58% residing in rural area, 52% were delivered by caesarean section, 62% are non-vegetarian, 54% got monthly income above Rs. 15,000 and 70% got awareness through magazines.

Assessment of knowledge and attitude on diet during pregnancy among postnatal mothers

Frequency and Percentage Distribution based on the Knowledge and Attitude of Diet during Lactation among Postnatal Mothers in Pre-test and Post-test (n=50)
Figure – 1: Distribution of Samples according to the Pre-test and Post-test Knowledge on Diet during Lactation

Figure - 1 inferred that, 60% of samples had moderate knowledge, 24% had inadequate knowledge and 16% had adequate knowledge in pre-test. Among the samples, 72% had adequate knowledge, 26% had moderate knowledge and 2% had inadequate knowledge in post-test.

Assessment of pre-test and post-test attitude regarding diet during lactation among postnatal mothers

Frequency and Percentage Distribution based on the Attitude of Diet during Lactation among Postnatal Mothers in Pre-test and Post-test (n=50)

Figure – 2: Distribution of Samples according to the Pre-test and Post-test Attitude on Diet during Lactation
In Figure – 2, 60% of samples had favorable attitude and 40% had unfavorable attitude in pre-test. Among the 50 samples, 88% had most favorable attitude and 12% had favorable attitude in post-test.

Effectiveness of structured teaching programme on diet during lactation in terms of knowledge and attitude among postnatal mothers

Table – 2: Mean, Standard Deviation, Mean Difference, ‘t’ Value and P Value of Postnatal Mothers in Pre-test and Post-test (n=50)

| Variables | Pre-test | | Post-test | | Mean Difference | t’ Value | P Value |
|-----------|----------| |----------| |----------------|----------|---------|
|           | Mean | SD | Mean | SD | | | |
| Knowledge | 60.24 | 13.84 | 80.72 | 13.9 | 20.48 | 7.383 | p<0.0001 |
| Attitude | 53.04 | 7.9 | 81.38 | 5.29 | 28.34 | 21.077 | p<0.0001 |

Table – 2 revealed that, the pre-test knowledge level was 60.24±13.84 and the post-test knowledge level was 80.72±13.9. The mean difference was 20.48 and the ‘t’ value was 7.383. The obtained ‘t’ value was higher than the table value. Hence, it was highly significant at 0.05 level. The pre-test attitude level was 53.04±7.9 and the post-test attitude level was 81.38±5.29. The mean difference was 28.34 and the ‘t’ value was 21.077. The obtained ‘t’ value was higher than the table value. Hence, it was highly significant at 0.05 level.

Association between pre-test knowledge score and selected demographic variables among postnatal mothers

Table – 3: Association between Selected Demographic Variables and Pre-test Knowledge Score (n=50)

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Below Mean</th>
<th>Above Mean</th>
<th>Chi-square</th>
<th>Level of Significance</th>
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<tbody>
<tr>
<td>Age in Years</td>
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<tr>
<td>21 - 25</td>
<td>13</td>
<td>11</td>
<td>0.115</td>
<td>0.944</td>
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<tr>
<td>26 - 30</td>
<td>14</td>
<td>10</td>
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<td>31 - 35</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Education</td>
<td></td>
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<tr>
<td>Illiterate</td>
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<td>0</td>
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<tr>
<td>School education</td>
<td>9</td>
<td>3</td>
<td>2.313</td>
<td>0.128</td>
</tr>
<tr>
<td>College education</td>
<td>19</td>
<td>19</td>
<td></td>
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<tr>
<td>Religion</td>
<td></td>
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<tr>
<td>Hindu</td>
<td>11</td>
<td>5</td>
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<tr>
<td>Christian</td>
<td>15</td>
<td>13</td>
<td>2.374</td>
<td>0.305</td>
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<td>4</td>
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<td>Occupation</td>
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<tr>
<td>Housewife</td>
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<td>17</td>
<td>0.99</td>
<td>0.32</td>
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<tr>
<td>Private employee</td>
<td>10</td>
<td>5</td>
<td></td>
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<tr>
<td>Government employee</td>
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<td>0</td>
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<tr>
<td>Type of Family</td>
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<td>0.522</td>
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<tr>
<td>Joint</td>
<td>14</td>
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<tr>
<td>Place of Residence</td>
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</table>
Table 3 showed that, there was no significant relationship between pre-test knowledge score and age in years ($\chi^2=0.115$), education ($\chi^2=2.313$), religion ($\chi^2=2.374$), occupation ($\chi^2=0.99$), type of family ($\chi^2=0.41$), place of residence ($\chi^2=2.538$), type of delivery ($\chi^2=0.674$), dietary pattern ($\chi^2=0.141$), family monthly income ($\chi^2=3.463$) and source of health awareness ($\chi^2=3.025$) among postnatal mothers.

**Association between pre-test attitude score and selected demographic variables among postnatal mothers**

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Below Mean</th>
<th>Above Mean</th>
<th>Chi-square</th>
<th>Level of Significance</th>
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<tbody>
<tr>
<td><strong>Age in Years</strong></td>
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<tr>
<td>21 - 25</td>
<td>15</td>
<td>7</td>
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<tr>
<td>31 - 35</td>
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<tr>
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<tr>
<td>Illiterate</td>
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<tr>
<td>School education</td>
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<td>20</td>
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<td><strong>Religion</strong></td>
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<tr>
<td>Hindu</td>
<td>7</td>
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<tr>
<td>Christian</td>
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<td>2.015</td>
<td>0.365</td>
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<tr>
<td>Muslim</td>
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<td>2</td>
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<tr>
<td><strong>Occupation</strong></td>
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<tr>
<td>Housewife</td>
<td>16</td>
<td>19</td>
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<tr>
<td>Private employee</td>
<td>13</td>
<td>2</td>
<td>7.229</td>
<td>0.007*</td>
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<tr>
<td>Government employee</td>
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</table>
Table 4 showed that, there was a significant relationship between pre-test attitude score and occupation ($\chi^2=7.229$), type of family ($\chi^2=4.428$), place of residence ($\chi^2=10.45$), type of delivery ($\chi^2=7.962$) and dietary pattern ($\chi^2=6.131$). There was no significant relationship between pre-test attitude score and age in years ($\chi^2=1.672$), education ($\chi^2=1.873$), religion ($\chi^2=2.015$), family monthly income ($\chi^2=2.624$) and sources of health awareness ($\chi^2=1.801$).

**Discussion**

The first objective of the study was to assess the pre-test and post-test knowledge and attitude regarding diet during lactation among postnatal mothers. The corresponding hypotheses (H1), there will be a significant improvement on knowledge and attitude after structured teaching programme regarding diet during lactation among postnatal mothers.

- In pre-test, 60% of samples had moderate knowledge, 24% had inadequate knowledge and 16% had adequate knowledge. Among the samples, 72% had adequate knowledge, 26% had moderate knowledge and 2% had inadequate knowledge in post-test.
- Regarding the attitude, 60% of samples had favourable attitude and 40% had unfavourable attitude in pre-test. Among the 50 samples, 88% of samples had most favourable attitude and 12% had favourable attitude in post-test.

The above finding would be compared with the study done by Jassie, (2000), on “Knowledge and attitude of lactating mothers regarding diet during lactation among 75 lactating mothers in selected maternity centers of Madurai”. Researcher used structured interview schedule and Likert attitude scale to assess the knowledge and attitude of lactating mothers. The study concluded that, 36 (48%) of lactating mothers had inadequate knowledge and 39 (62%) of lactating mothers had adequate knowledge, 38 (50.6%) of lactating mothers had unfavorable attitude and 37 (49.4%) of lactating mothers had favorable attitude towards lactating diet. [11]

The second objective of the study was to find out the effectiveness of structured teaching program on diet
during lactation in terms of knowledge and attitude among postnatal mothers

- The pre-test knowledge level was 60.24±13.84 and the post-test knowledge level was 80.72±13.9. The mean difference was 20.48 and the ‘t’ value was 7.383. The obtained ‘t’ value was higher than the table value. Hence, it was highly significant at 0.05 level.
- The pre-test attitude level was 53.04±7.9 and the post-test attitude level was 81.38±5.29. The mean difference was 28.34 and the ‘t’ value was 21.077. The obtained ‘t’ value was higher than the table value. Hence, it was highly significant at 0.05 level.

Hence, the hypothesis (H1) - there was a significant improvement on knowledge and attitude after structured teaching program regarding diet during lactation among postnatal mothers was accepted.

The finding is supported by the study done by Malathy, Soli, Sheela and Rajakumari (2015) on “Structured education knowledge on postnatal diet among postnatal mothers”. A pre – experimental one group pretest – posttest design was adopted for this study. The study was conducted in Sai Hospital, suryapet, Teluguna, India. The investigator selected 30 postnatal mothers who were under the age group of 23 to 35 years and selected by using simple random sampling technique. The investigator assessed the level of knowledge of the women by using structured questionnaire and modified three point Likert Scale and by using checklist. The finding indicates clearly that, 86.67% of mothers had adequate knowledge. A well planned structured teaching program given to the same group. The effectiveness of program showed high level of significant at p<0.0001 level. It showed that, structured teaching program was an effective method to improve the knowledge of postnatal mothers regarding postnatal diet. [12]

The third objective of the study was to find out the association between pre-test knowledge and attitude score and selected demographic variables among postnatal mothers.

The corresponding hypothesis (H2) was there will be a significant association between pre-test knowledge and attitude scores and selected demographic variables among postnatal mothers.

- There was no significant relationship between pre-test knowledge score and age in years, education, religion, occupation, type of family, place of residence, type of delivery, dietary pattern, family monthly income and source of health awareness among postnatal mothers.
- There was a significant association between pre-test attitude score and occupation, type of family, place of residence, type of delivery and dietary pattern. There was no significant relationship between pre-test attitude score and age in years, education, religion, family monthly income and sources of health awareness.

Hence, the hypothesis (H2) - there will be a significant association between pre-test knowledge and attitude scores and selected demographic variables among postnatal mothers was partially accepted.

The study finding would be compared with the study done by Usharani (2010) on “Effectiveness of structured teaching program regarding diet during lactation in terms of knowledge, attitude and practice among primi para mothers in Memorial Hospital at Dindigul”. Fifty primi para mothers were selected for the study by purposive sampling technique. There was significant association found between post-test knowledge scores of primi parous mothers with education. There was significant association found between post-test attitude scores of primi parous mothers with occupation and food pattern at p<0.05 level. It was concluded that, the structured teaching program regarding diet during lactation was effective in terms of improving knowledge, attitude and practice of primi para mothers. [13]

Implications of the Study

Nursing Research

Extensive research must be conducted to identify several more effective methods of education for postnatal mothers on this issue. This study brings about the fact that more studies need to be done in different settings with better teaching strategies.

Nursing Education

The nurses should be well equipped with up-to-date knowledge on diet during lactation. It provides an opportunity for nursing students to actively participate in educating postnatal mothers regarding diet during lactation by using appropriate audio visual aids.

Nursing Administration

Nursing administrators should ensure that education on diet during lactation reaches all postnatal mothers. They should emphasize and encourage the nurses to conduct periodic health education programs on diet during lactation in the postnatal wards and community areas.
Nursing Practice
The structured teaching program can be used by nurses in the postnatal wards and community areas.

Recommendations
A similar study can be replicated with control group. A same study can be made to assess the practice of postnatal mothers regarding diet during lactation. A comparative study can be undertaken to compare the knowledge, attitude and practice of postnatal mothers regarding diet during lactation rural versus urban area.

Conclusion
The study concluded that, structured teaching program on diet during lactation was effective in terms of improving the knowledge and attitude of postnatal mothers. Maternal education plays an important role in the improvement of their knowledge and attitude on diet during lactation.

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13. Usharanil, Effectiveness of structured teaching program regarding diet during lactation among primi postnatal mothers in Kasturba Memorial Hospital at Dindigul. 2010. The dissertation submitted to the Tamilnadu Dr. MGR Medical University, Chennai. Available from: http://repository.tmgmrmu.ac.in/5559/1/3003065 usharanil.pdf

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