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Effectiveness of structured teaching programme on knowledge regarding Maternal Nutrition and Fetal Brain Development among Antenatal Mothers in Outpatient Department at Thoothukudi Medical College and Hospital, Thoothukudi.

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Abstract:

A quantitative approach, pre experimental one group pre test and post test design was chosen to assess the effectiveness of structured teaching programme on knowledge regarding maternal nutrition and fetal brain development among antenatal mothers. The study was conducted in outpatient department at Thoothukudi medical college and hospital, Thoothukudi. The sample comprises of 40 antenatal mothers between the age group of 19-29 years. The samples were selected by non probability convenient sampling technique. Knowledge on maternal nutrition and fetal brain development was assessed by using a structured questionnaire. Findings showed that the structured teaching programme was found effective in improving knowledge among antenatal mothers regarding maternal nutrition and fetal brain development as mean post test knowledge score 13.625, was higher than the mean pre test knowledge score 6.85. The obtained‘t’ value was 18.3116 which was significant at 0.05 level.

Key word: Antenatal mothers, Knowledge, maternal nutrition and fetal brain development.

Introduction:

During pregnancy, the foods you eat directly affect the growth and development of your unborn child. A diet high in fruits, vegetables, lean protein, healthy fats, and low-fat dairy and whole grains is essential for supporting the development of every organ, including the brain. However, if we want to support the development of the fetal brain specifically, we can also add certain foods to our diet that foster neuronal development in the womb. Fortified cereals provide many of the micronutrients essential for proper fetal brain development. The folic acid and choline in fortified cereals help prevent spina bifida and other neural tube defects. Iron in fortified cereals can also improve fetal brain health, iron deficiencies during pregnancy are a leading cause of preventable mental retardation. Fish contain the omega-3 fatty acid known as docosahexaenoic acid, or DHA, which is necessary for optimal brain development. Babies born to mothers with a deficiency of DHA develop visual and behavioural defects; mothers with high omega-3 intake during pregnancy tend to have children who do better on tests measuring verbal, social and communication skills during early childhood. Iodine assists in brain and spinal cord development and prevents mental retardation. Sea vegetables also contain folic acid, chlorine and omega-3 fats, so it boosts brain development in a few different ways. Nuts and seeds contain healthy omega-3 fats as well as plenty of brain-boosting micronutrients, such as vitamin B6. This vitamin assists in normal brain functioning by acting as a chemical messenger between brain cells. The

developing brain between 24 and 42 weeks of gestation is particularly vulnerable to nutritional insults because of the rapid trajectory of several neurologic processes, including synapse formation and myelination. All nutrients are important for neuronal cell growth and development, but some appear to have greater effects during the late fetal and neonatal time periods. These include protein, iron, zinc, selenium, iodine, folate, vitamin A, choline, and long-chain polyunsaturated fatty acids. Hence the researcher conducted a study to assess the knowledge regarding maternal nutrition and fetal brain development during antenatal period among antenatal mothers.

Statement of the problem:

A pre experimental study to assess the effectiveness of structured teaching programme on knowledge regarding maternal nutrition and fetal brain development among antenatal mothers in outpatient department at Thoothukudi medical college and hospital, Thoothukudi.

Objectives:

- To assess the pre test and post test knowledge score regarding maternal nutrition and fetal brain development among antenatal mothers.
- To find the effectiveness of STP on the post-test knowledge score regarding maternal nutritional and fetal brain development among antenatal mothers.
- To find out the association between post test knowledge score regarding maternal diet and fetal brain among antenatal mothers with their selected demographical variables.

Hypothesis:

H_1- There is a significant difference between pre-test and post-test knowledge score regarding maternal nutrition and fetal brain development among antenatal mothers.

H_2- There is asignificant association between post-test knowledge score regarding maternal nutrition and fetal brain development among antenatal mothers with their selected demographic variables.

Research methodology:

Quantitative research approach, pre-experimental one group pre and post-test design was used for the study. The study was conducted in outpatient department at Thoothukuti medical college and hospital, Thoothukudi.40antenatal mothers between the age group of 19-29 years of were selected by non-probability convenient sampling technique. After getting the consent, the pre test and post test knowledge was assessed by using a structured questionnaire method. Reliability of the tool was found using test-retest method and the tool was found to be reliable.

Results and discussion:

1. Pre-test and post test knowledge score regarding maternal nutrition and fetal brain development:

Level of knowledge	Pre test		Post test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Inadequate knowledge (0-30)	16	40	0	0
Moderate knowledge (3165%)	24	60	18	45
Adequate knowledge (66100%)	0	0	22	55

The above tableshows that majority 16 (40%) of antenatal mothers had inadequate knowledge regarding maternal nutrition and fetal brain development in the pretest. In the post test, majority 22(55%) of antenatal mothers had adequate knowledge regarding maternal nutrition and fetal development.

2. Difference between pre test and post test knowledge score on maternal nutrition and fetal brain development:

Group	Mean	Standard Deviation	Paired-tvalue (p-value)
Pre test	6.85	2.8716	18.3116
Post test	13.625	2.7171	

The above table shows that mean post test knowledge score 13.625, was higher than the mean pre test knowledge score 6.85. The obtained 't' value was 18.3116 which was significant at 0.05 level. The finding shows that the structured teaching program had a significant effect in increasing the knowledge of antenatal mother regarding maternal nutrition and fetal brain development.

3. Association of the post test knowledge score regarding maternal nutrition and fetal brain development among antenatal mothers with their selected demographic variables.

There was no significant association found between pre test knowledge scores regarding maternal nutrition and fetal brain development among antenatal mothers with age, education religion, occupation,monthly income, gravida, gestational weeks of pregnancy, diet habits, source of health information and type of Family.

Nursing Implication:

Nursing service

- The structured teaching programme can be used to improve the knowledge study always motivated the antenatal mothers to educate other people in their family on maternal nutrition and fetal brain development.
- Nursing personal can plan, implement and evaluate various teaching program on maternal nutrition and fetal brain development.

Nursing education

- Students can utilize the structured teaching programme to give health education to antenatal mothers.
- The structured teaching programmecan be utilized by the nurses to educate the mothers in sub centresand primary health centres.

Nursing administration

- Nursing administration can utilized the structured teaching programme while conducting the in service education, work shop and continuing education programme for directing and motivating the staff towards implementation of nutritional programme.
- For coming students can use this structured teaching programme as a model for preparing various teaching material such as posters, charts, pamphlets etc.

Nursing research

- This study can be effectively utilized by the emerging researcher for their reference purpose.
- This study can be baseline for further studies is build upon.

Recommendations

- A similar study can be conducted on a large sample, there by finding can be generalized.
- Reinforcement and further education can improve the health of the antenatal mothers.
- A comparative study also can be done to determine the knowledge and practice of maternal nutrition and fetal brain development among antenatal mothers.

Conclusion

The study revealed that the knowledge regarding maternal nutrition and fetal brain development were significant after administration of structured teaching programme. Findings showed that the structured teaching programme was found effective in improving knowledge among antenatal mothers regarding maternal nutrition and fetal brain developmentmean post test knowledge score 13.625, was higher than the mean pre test knowledge score 6.85. The obtained 't' value was 18.3116 which was significant at 0.05 level.

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