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RESEARCH ARTICLE

“A STUDY TO ASSESS EFFECTIVENESS OF STRUCTURE TEACHING PROGRAMME ON IMPORTANCE OF NUTRITION FOR GROWTH AND DEVELOPMENT OF INFANTS AMONG MOTHERS IN SELECTED RURAL AREA IN BANGALORE”

S. Leana Phebe Wilson.¹, Radhika K² and Sriram N³

1. Assistant Professor, Dept. of Paediatric (N), Shri Vinoba Bhawe College of Nursing, Silvassa.
2. Principal and HOD, Department of OBG, Anuradha college of Nursing, Bangalore.
3. Vice Principal and Professor Department of Medical and surgical nursing , Shri Vinoba Bhawe College of Nursing, Silvassa.

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Abstract

Background: Important areas in health promotion during the first year of life are infant nutrition. ⁴ Good nutrition, beginning in Utero and extending throughout the first year of life, is critical to the healthy growth and development of an infant. ⁵ the health and nutritional status of millions of infants which influence their subsequent growth and development throughout childhood is determined by the pattern of feeding practice during infancy.

Aim: The study was to assess the effectiveness of structured teaching programme on Knowledge among the mothers regarding importance of nutrition for growth and development of infant

Methods: One group pretest – posttest research design was used. Non probability purposive convenient sampling technique was used to select 40 mothers residing in Hengannagalli Primary Health center of Bangalore.

Results: The finding shows that the mean percentage of overall knowledge in pretest was 54 with standard deviation of 2.72. The mean percentage of overall knowledge in posttest was 69 with standard deviation of 2.48. The obtained value 11.22 is greater than the table value 2.423 and found to be highly significant at the level of $p < 0.01$. This evidenced that the structured teaching programme was effective in increasing the knowledge level of mothers regarding importance of nutrition for growth and development of infants.

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Conclusion: The present study found that most of the subjects 90% had inadequate knowledge in pretest and maximum number of subjects 100% had adequate knowledge in posttest and concluded that there was a significant improvement in subject's knowledge in the post test after administration of structured teaching programme (STP).

Corresponding Author:- S. Leana Phebe Wilson

Address:- Assistant Professor, Dept. of Paediatric (N), Shri Vinoba Bhawe College of Nursing, Silvassa.

Thus STP is effective in improving the knowledge of subjects regarding importance of nutrition for growth and development of infants

Introduction:-

Health and Nutritional status of the population of a nation is an Important Indicator for development of the country. Important areas in health promotion during the first year of life are infant nutrition.⁴ Good nutrition, beginning in Utero and extending throughout the first year of life, is critical to the healthy growth and development of an infant.⁵ The health and nutritional status of millions of infants which influence their subsequent growth and development throughout childhood is determined by the pattern of feeding practice during infancy.⁶ Food is important for human beings in health. Specific dietary constituents such as proteins, vitamins and minerals main function of food are (1) Provision of energy (2) Body building and repair (3) Maintain and regulation of tissue function (4) Maintenance of osmotic pressure (5) Synthesis of certain substances like antibodies, plasma proteins, hemoglobin, enzymes, hormones and coagulation factor.³

Children under the age of five years are considered biologically vulnerable and needs special attention from the health workers. Almost one half of the total deaths in our Country occur in this age group. Although the iron content of breast milk is low, few exclusively breast fed infants become anemic in first six months of life. The high bioavailability of iron in breast milk and infant iron reserves help to meet the needs of These young babies. So start a source of iron (supplemental iron at 1 mg/kg/day or iron fortified infant cereal or meat) at age 4 months. Recently, the World Health Assembly and the American Academy of Pediatrics recommended that complementary foods or iron enriched solids be given from the age of about six months³³

Good nutrition is essential for attainment of normal growth and development. Not only physical growth and development, but also the intellectual development, learning and behavior are affected by malnutrition.⁷ India has one of the highest incidence of malnutrition in the developing world today. The 55th world health assembly adopted a global strategy on infant and young child nutrition recognizing the importance of nutrition of women throughout their life cycle for ensuring optimum nutrition of the child.¹ Malnutrition is more common in India than in sub Saharan Africa. One in every 3 malnourished children in the world is about 50% of all childhood deaths are attributed to malnutrition. Malnutrition limits development and the capacity in India, around 46 % all children below the age of 3 are too small for their age, 47 % are under weight. Many of these children are severally malnourished. Malnourished children are less likely to perform well in school and more likely to grow in to malnourished lead to diseases and early deaths.⁸

Malnutrition during early child hood delay physical and mental growth such children are slow in passing their “milestones” and are slow learners in school. Poor infant nutrition is associated with potently; lack of proper food has been linked to a range of health issues such as learning disabilities, blindness, hearing loss, impaired brain development and low resistance to disease. Infant who do not receive enough nutritionally adequate food will grow slowly lagging further behind as time passes, over weight and obesity are often symptoms of poor nutritional choices.⁹ After birth, many additional factors come into play. Research indicates a significant “nutrition gap” exists between recommended infant feeding practices and the average baby’s diet. Infant are currently being fed too much, too soon of the wrong kinds of foods.³⁴ Need to do more to improve infant nutrition. The poor nutritional habits seen in infants –too many calories, too many foods high in fat and sugar and too few fruits and vegetables. Unless more is done to help parents improve their own diets and those of their infants.³⁵

Materials and Methods:-

Evaluative approach with one group pretest – posttest research design was used. Non- Probability convenient sampling technique was used to select 40 mothers in Hengannagalli PHC of Bangalore. The tool consists of five sections. Section – I: Demographic Profile of Mothers. Section – II: Knowledge of Mothers regarding importance of nutrition for growth and development of infants in pretest .Section – III: Knowledge of Mothers regarding importance of nutrition for growth and development of infants in Post Test. Section – IV: Comparison of Knowledge of Mothers regarding importance of nutrition for growth and development of infants. Section – V: Association of Demographic Variables Knowledge of Mothers regarding importance of nutrition for growth and development of infants. In the present study the tool consisted two parts: Part – I and Part – II. **Part – I:** Consists of selected demographic variables such as age, education, occupation, income, number of children in the family, sex of the child, types of family, source of information. **Part – II:** Consists of 30 knowledge items related to General information and meaning of nutrition (5), feeding technique (7), Weaning and complementary feeding (6),

Nutritious diet for growth and development (7) and Nutritional deficiency diseases. Study was analyzed by using both experimental & inferential statistics. Formal permission was obtained from Ethical committee among mothers in selected rural area in Bangalore.

Results:-

Section – I: Demographic Profile Of Mothers Of Infants

Table – 1: Frequency and percentage distribution of demographic variables of mothers of infants. N = 40

S. No	Demographic Variables	Frequency	Percentage
1	Age		
	18-20 years	21	52.5
	21-23 years	16	40
	24-26 years	03	7.5
2	Education		
	Illiterate	26	65
	Primary	08	20
	High school	06	15
3	Occupation		
	coolie	12	30
	house wife	20	50
	private company	08	20
4	Income		
	12000-20000	17	42.5
	20001-25000	17	42.5
	25001-30000	03	7.5
	>30000	03	7.5
5	Types of the family		
	Nuclear	30	75
	Joint	10	25
6	No of children		
	One	29	72.5
	Two	11	27.5
7	Age of the infant		
	>4months	12	30
	4-6 months	09	22.5
	6-9 months	10	25
	9-12 months	09	22.5
8	Sex		
	Male	14	35
	Female	26	65
9	Source of information		
	Family	23	57.50
	Health personnel	06	15.0
	Mass media	09	22.50
	Neighbours	02	05.0

SECTION – II: Knowledge of The Mothers Regarding Importance Of Nutrition For Growth And Development Of Infants In Pre Test

TABLE – 2: Mean and standard deviation for the of the mothers regarding importance of nutrition for growth and development of infants in pre test N = 40

S. No	Knowledge Variables	Mean	Mean percentage	Standard Deviation
1	General aspects and meaning of nutrition.	3.00	60	1.30
2	Feeding techniques.	4.02	57	1.16
3	Weaning and complementary feeding	3.06	60	1.03
4	Sources of nutritious diet	3.15	45	1.31
5	Nutrition deficiency diseases	2.75	55	1.03
6	Over all knowledge	16.30	54	2.72

Table – 3: Frequency and percentage distribution of level of knowledge of the mothers regarding importance of nutrition for growth and development of infants in pre test N = 40

S. No	Knowledge Variables	< 50		50 – 74		> 75	
		F	%	F		F	%
1	General aspects and meaning of nutrition.	12	30	14	35	14	35
2	Feeding techniques.	14	35	22	55	04	10
3	Weaning and complementary feeding	05	12.5	28	70	07	17.5
4	Diet sources of nutrition.	23	57.5	17	42.5	-	0
5	Nutrition deficiency diseases	16	40	18	45	06	15
6	Over all knowledge	36	90	4	10	-	-

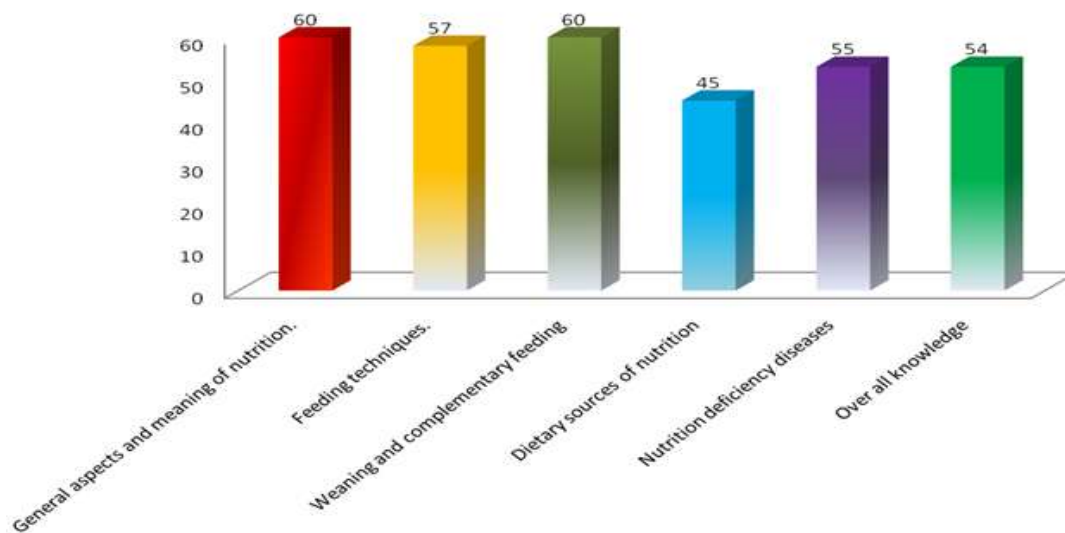


Fig-1; Mean percentage knowledge scores of the mothers regarding Importance of nutrition for growth and development of infants in pretest.

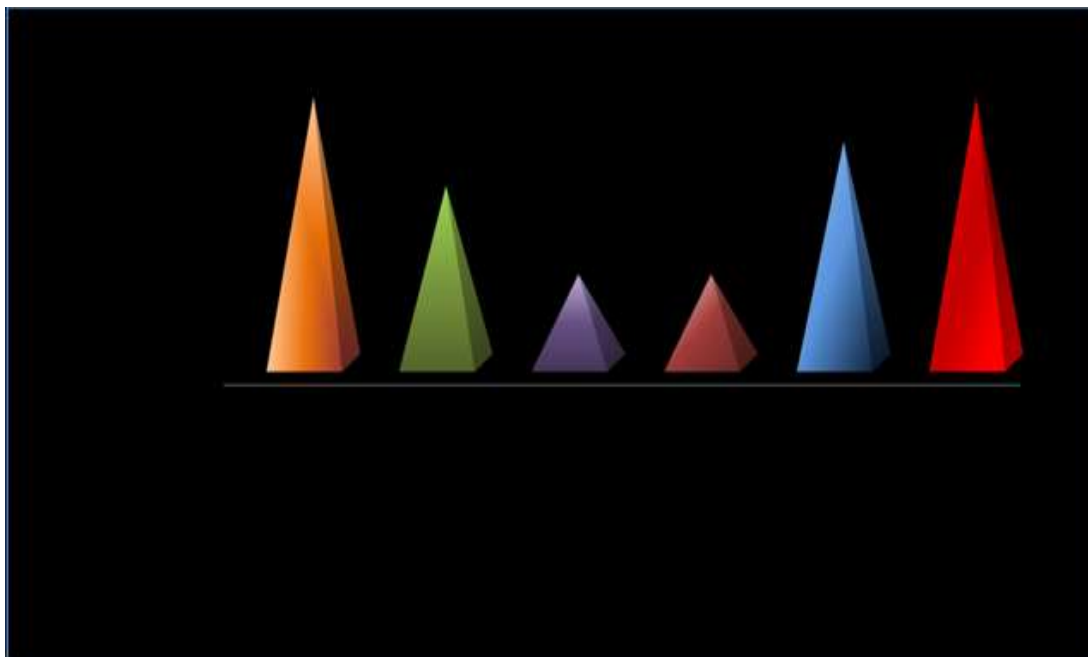


Fig-2; Mean percentage knowledge scores of the mothers regarding Importance of nutrition for growth and development of infants in posttest.

SECTION – III: Knowledge Of The Mothers Regarding Importance Of Nutrition For Growth And Development Of Infants In Post Test

Table – 4: Mean and standard deviation for the of the mothers regarding importance of nutrition for growth and development of infants in posttest N = 40

S. No	Knowledge Variables	Mean	Mean percentage	Standard Deviation
1	General aspects and meaning of nutrition.	3.45	69	0.95
2	Feeding techniques.	4.70	67	1.09
3	Weaning and complementary feeding	4.60	65	0.70
4	Dietary sources of nutrition.	4.62	65	1.47
5	Nutrition deficiency diseases	3.42	68	0.84
6	Over all knowledge	20.75	69	2.48

Table – 5: Frequency and Percentage Distribution of Level of Knowledge of the Mothers regarding importance Of Nutrition for Growth and Development of Infants in Post Test N= 40

S. No	Knowledge Variables	< 50		50 – 74		> 75	
		F	%	F	%	F	%
1	General aspects and meaning of nutrition.	8	20	11	27.5	21	52.5
2	Feeding techniques.	5	12.5	25	62.5	10	25
3	Weaning and complementary feeding	0	0	16	40	24	60
4	Diet sources of nutrition.	7	17.5	22	55	11	27.5
5	Nutrition deficiency diseases	6	15	31	77.5	3	7.5
6	Over all knowledge	0	0	30	75	10	25

SECTION – IV: Comparison Of Knowledge Of The Mothers Regarding Importance Of Nutrition For Growth And Development Of Infants.

Table – 6: Comparison Of Pre And Post-Test Of Knowledge Of The Mothers Regarding Importance Of Nutrition For Growth and Development Of Infants. N = 40

S. No	Knowledge Variables	Pre-test Mean	Post-test Mean	't' value
1	General aspects and meaning of nutrition.	3.00	3.45	3.49**
2	Feeding techniques.	4.02	4.70	4.80**
3	Weaning and complementary feeding	3.06	4.60	7.21**
4	Diet sources of nutrition.	3.15	4.62	8.84**
5	Nutrition deficiency diseases	2.75	3.42	4.65**
6	Over all knowledge	16.30	20.75	11.22**

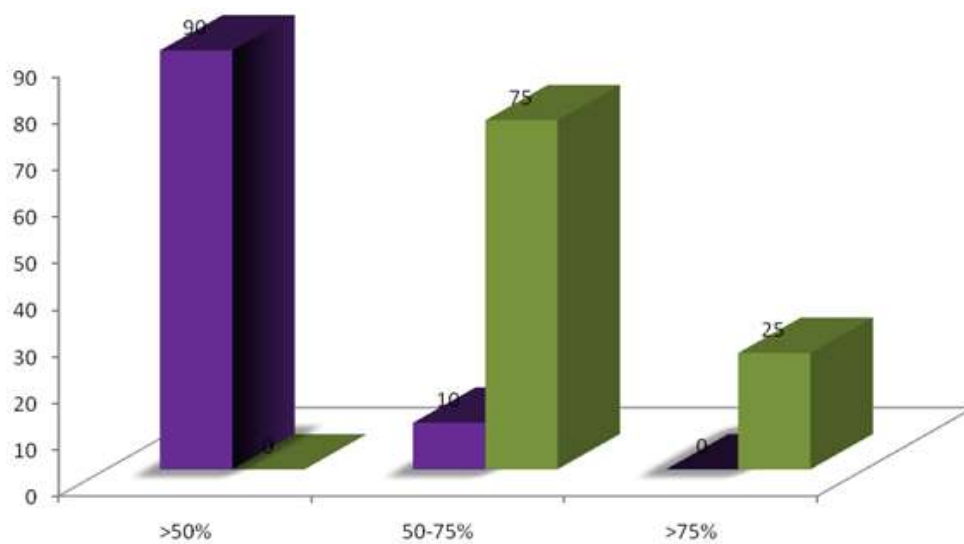


Fig-3; Comparisons of level of knowledge scores among the mothers regarding Importance of nutrition for growth and development of infants in posttest.

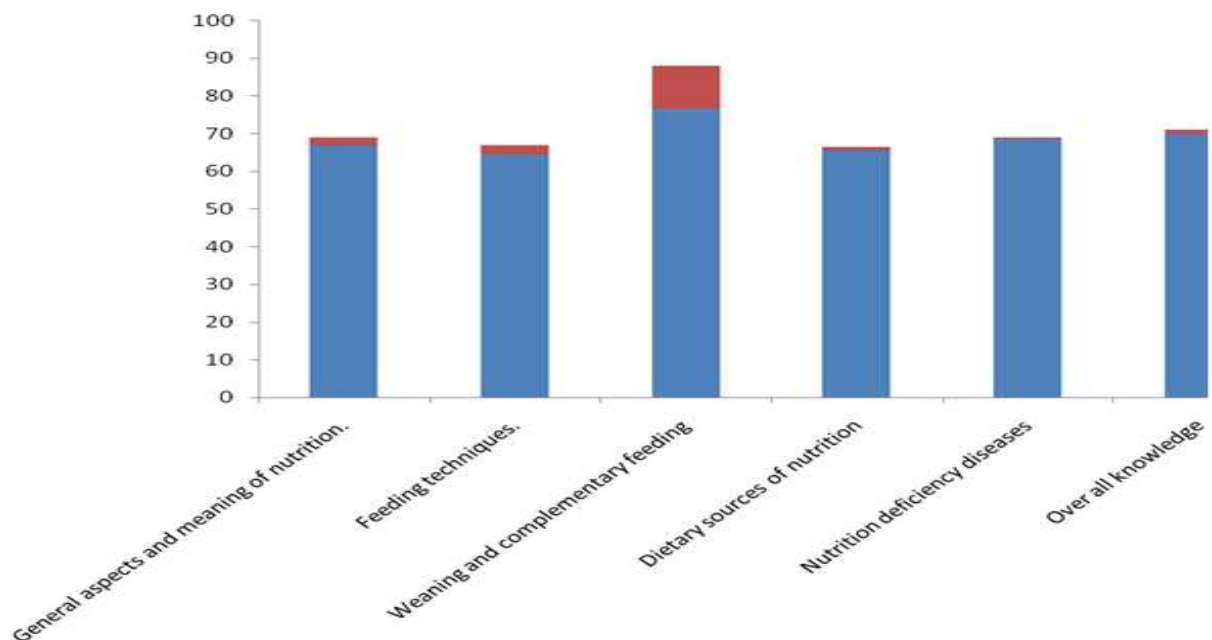


Fig. 4: Mean Improvement Scores to determine the effectiveness of structured teaching programme

SECTION – V: Association Of Demographic Variables Knowledge Of The Mothers Regarding Importance Of Nutrition For Growth And Development Of Infants.

Table – 7: Association Between Demographic Variables And Pre Test Knowledge Scores Of The Mothers Regarding Importance Of Nutrition For Growth And Development Of Infants. Median = 16 N = 40

S. No	Variable	Category	Total score		Chi-square value	Inference
			< Median	> Median		
1	Age	< Mean	05	07	0.004	NS
		> Mean	12	16		
2	Education	Primary	10	16	0.49	NS
		High School	4	4		
		Hr.Sec.Schol	3	3		
3	Occupation	Coolie	4	8	0.95	NS
		House Wife	10	10		
		Private company	3	5		
4	Income	Rs.<20000	8	9	0.401	NS
		Rs.20001-25000	7	10		
		Rs25001-30000	3	0		
		>30000	1	2		
5	Types of family	Nuclear	13	17	0.03	NS
		Joint	4	6		
6	Age of the Child	<4months	6	6	2.034	NS
		4-6 months	4	5		
		6-9 months	5	5		
		9-12 months	2	7		
7	NO of child in the family	One	10	19	1.119	NS
		Two	4	7		
8	Sex	Male	7	7	0.49	NS
		Female	10	16		
9	Source of Information	Family members	9	14	2.35	NS
		Health personnel	3	3		
		Mass media	5	4		
		Neighbours	0	2		

Discussion:-

Finding denotes that the overall knowledge in the pretest shows that level of the subjects reveals that 22 (55%) subjects had moderate knowledge on 'weaning and complementary feedings'. Over all knowledge in the pretest shows that majority of the subjects 36 (90%) had inadequate level of knowledge and 04(10%) subjects had moderate

level of Variables Knowledge of Mothers regarding importance of nutrition for growth and development of infants. The overall knowledge in the posttest shows that level of the subjects reveals that all subjects 31 (77.5%) had moderate knowledge on Nutritional deficiency diseases and 8(20%) subjects had inadequate knowledge on General aspects and meaning of nutrition. Regarding weaning and complimentary feedings most of the subjects 24 (60%) had adequate knowledge and 5 (12.5%) subjects had inadequate knowledge on 'Feeding techniques'. Over all knowledge in the post test shows that majority of the subjects 30 (75%) had moderate adequate level of knowledge and 10(25%) subjects had adequate level of Knowledge of Mothers regarding importance of nutrition for growth and development of infants. The overall comparison of pretest and posttest knowledge regarding Importance of nutrition for growth and development of Infants Mothers shows that the obtained 't' value 11.22 is greater than the table value 2.423 at the level of $p < 0.01$. Therefore value is found to be highly significant and the research hypothesis stated that there will be significant difference between pre and posttest level of Knowledge of Mothers regarding importance of nutrition for growth and development of infants was accepted. This supports that the structured teaching programme was effective in increasing Knowledge of Mothers regarding importance of nutrition for growth and development of infants.

Implications:-

Due to industrialization and commercialization the food pattern of the people have changed a lot, in other side colorful and attractive advertisement of infant food from the media have influenced more even rural areas also which they can't afford that. The commercial foods have prepared with chemical preservatives which is affecting human being in their later stage. Many of the children are not taking the nutritious diet and they couldn't shine as a star in their future. Hence nurse as health care personnel needs to educate all mothers regarding commercial hazardous food and local available cheap and nutritious diet for improve their nutritious status of the infant and prepare the future citizen to India.

Conclusion:-

The present study attempted to assess the knowledge and to evaluate the effectiveness of Structured teaching programme (STP) on knowledge of Mothers regarding Importance of nutrition for growth and development of infants and found that most of the subjects 32 (90%) had inadequate knowledge in pretest and maximum number of subjects 40 (100%) had adequate knowledge in posttest and concluded that STP was effective in improving the knowledge of subjects on Importance of nutrition for growth and development of infants. Mothers have expressed that they have been enabled to reflect on their own performance at own pace and expressed active participation in learning process. Hence the developed STP on Importance of nutrition for growth and development of Infants Mothers is instructionally effective, appropriate and feasible. It can be used in the rural areas to motivate and help the Mothers to update their knowledge in the aspects of infant nutrition.

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