

**Full Length Research Paper**

A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Selected Diets for Enhancing Breast Milk Production Among Antenatal Mothers in Selected Antenatal Clinics: A Case Study of Bangalore India

¹Feba Jacob, ²Jayanthi Gopal, ³O.Chandra Sekhara Reddy and ⁴Kota Vasudeva Rao

¹ Staff Nurse, Cloud Nine Hospital, Bangalore, India.

² Lecturer, Ambo University, Ambo, Ethiopia

³ Associate Professor, Ambo University, Ambo, Ethiopia

⁴ Assistant Professor, Ambo University, Ambo, Ethiopia

*Corresponding Author: O.Chandra Sekhara Reddy

Abstract

Breastfeeding is a very special time when mother experience a wonderful bonding with her baby. Nutrition is an important aspect of breastfeeding. "Taking a nutritious diet is a good source of high production of milk; ultimately it helps to build a good future of child, in turn good future of society. Diet has always been an important part of a person's life. As the pregnant and lactating mother's eats for two persons, the deficiencies in her diet directly affect the baby also. So the mother should be aware of the dietary habits, she should adopt during the period of pregnancy and lactation. Hence the aim of present study is to assess the effectiveness of structured teaching programme on knowledge regarding selected diets for enhancing breast milk production among antenatal mothers in selected antenatal clinics, Bangalore.

Key words: Effectiveness, structured teaching programme, knowledge, selected diets, breast milk variables

Introduction

Nutrition is a key factor in national development. Nutritional well being is a sustainable force for health and development and for maximization of human genetic potential. The term maternal nutrition focuses attention on woman as mothers, on their nutritional status as it relates to the bearing and nurturing of children. At the same women also play vital roles in their families, communities and societies (ICMR, 2007).

Lactation is the process of synthesizing and secreting milk from the breasts to feed young ones. It is an integral part in the physiologic completion of the reproductive cycle of mammals including humans. Human milk ensures the infants systemic protection, growth and development; therefore breastfeeding is one of the most effective ways to ensure excellent child health and survival (Rodwell Klilliam, 2010).

Colostrum is the first milk secreted and is important for the baby for nutrition and disease protection. Most babies are ready to feed 15-55 minutes after birth. Success at the first feeding often indicates successful later breastfeeding. The period of lactation is a relatively brief and very special time in a women's life that is fondly remembered with a measure of pride. During this unique phase in the child bearing cycle, a breast feeding mother will need to take some extra care to assure that she produces and provides to her infant abundant, high-quality milk (Picciano M.F, 2007).

A healthy diet is based on a varied menu of high quality foods to help the mother's body in production of breast milk which is rich in nutrients. Lactating mothers who eat a nutritious diet ensure good health for themselves and optimal growth pattern for their babies (Allen.F.A, 2005).

Nutrition at optimal levels is fundamental in the maintenance of positive health. Lactation represents a stage wherein health and nutritional status of the infant are dependent on the mother. Successful pregnancy and lactation require adjustments in maternal body composition, metabolism and function of various physiological systems. A diet that meets maternal nutritional needs is required for these adjustments. Thus improving the nutrition and health of mothers during lactation will derive benefits in terms of improved health of their children throughout their lives (Park.K, 2007).

When you're pregnant, you need to ensure your growing baby gets a good supply of all the essential nutrients, vitamins and minerals. As part of a balanced and healthy diet, make sure you eat plenty of foods rich in iron, folic acid and calcium, as all are crucial for your unborn baby (Swamynathan.M, 2006).

Calcium is mainly found in dairy products such as cheese, milk and yogurt and both full-fat and low-fat versions. As well as calcium, dairy foods also contain other vital nutrients, like vitamin D, vitamin B and zinc, which are needed for a healthy diet. Healthy pregnant women are the creators of the healthy children who are the wealth of the healthy nation. So, pregnant women need balanced nutrition from Indian journal of medical research.

Methodology

Study area

The setting refers to the area where the study is conducted. The setting of this study was conducted in selected antenatal clinics, in Bangalore. This setting selected because of the availability of samples, feasibility of conducting the study and for ethical clearance.

Research design

The research design refers to the over – all plans for obtaining answers to the research questions and for testing the research hypotheses. Polit and Hungler stated that the research design incorporates the most methodological decisions that a researcher makes in conducting a research study. The research design spells out the strategies that the researcher adopts to develop information that is accurate, objective and interpretable.

Target population

The target population refers to the population that the researcher wishes to study and to make generalization on her research. In this study the target populations were the antenatal mothers.

Accessible population

It refers to the aggregate of cases which is accessible to the researcher for conducting the study. In this research the accessible populations were the antenatal mothers in selected antenatal clinics, Bangalore.

Sample size

To fulfill the objective of the study, the sample consists of 60 antenatal mothers who are in selected antenatal clinics, Bangalore.

Sampling technique

Sampling defines the process of selecting a group of other elements with which to conduct a study. In this study non – probability purposive sampling technique was adopted.

Purposive sampling sometimes referred to as “judgmental or theoretical sampling, which involves the conscious selection by the investigator of certain subjects or elements to include in the study.

Variables

Independent variables

In this study the independent variable will be structured teaching program on knowledge regarding selected diets for enhancing Breast milk production among antenatal mothers in selected antenatal clinics, Bangalore.

Dependent variables

In this study the dependant variable was gain adequate knowledge on selected diets for enhancing Breast milk production which will be tested before and after conducting structured teaching program among antenatal mothers.

Associated variable

It refers to those variables which are highly influence the dependent variables such as age, religion, educational status, occupation, family income per month, parity, types of family, family size, utilization of health services, sources of information and finally food habits among antenatal mothers in selected antenatal clinics, Bangalore.

Data collection procedure

An evaluative research approach was adopted in order to generate an understanding based on participants’ views. Prior to the actual data collection, written permission was obtained from the higher authorities from Begur PHC and concern from the antenatal mothers to conduct interview. Data collection was carried out in two phases.

In the first phase knowledge of antenatal mothers regarding selected diets for enhancing Breast milk production was assessed. After assessing the knowledge, the structured teaching programme was administered and in the second phase, data was collected in order to test the effectiveness of structured teaching programme on selected diets for enhancing Breast milk production.

All participants were informed that their contributions would be kept confidential and that individual responses would not be identified from the data. Outputs from the research would represent the combined views of antenatal mothers in Karnataka.

First Phase

Data collection was done in order to assess the knowledge of antenatal mothers regarding selected diets for enhancing Breast milk production for those who were in selected antenatal clinics, Bangalore. A structured interview was conducted for the antenatal mothers between 9 am to 12 noon daily using questionnaires. It took nearly one week to get responses from all the subjects.

Whenever necessary, items were clarified by the investigator and after pre-test; a structured teaching programme was implemented with the help of visual aids. All the study subjects were informed regarding post-test which was scheduled exactly after one week of implementation of structured teaching programme.

Second Phase

After one week of implementation of structured teaching programme post-test was done to same group with the help of structured interview schedule, which was used in pre-test.

Results

The data was collected from 60 antenatal mothers in selected antenatal clinic, using a structured questionnaire before and after the structured teaching program on selected diets for enhancing Breast milk production. The collected information was organized, tabulated, analyzed and interpreted using descriptive and inferential statistics. The collected information was organized and presented as follows:

Table 1. Association between Age and Knowledge level

Age (in yrs)	N = 60						Total	χ^2
	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)			
	N	%	N	%	N	%		
20 – 24 yrs	14	26.0	-	-	-	-	14	52.45 (significant) 0.05 level
25 – 29 yrs	18	33.0	-	-	-	-	18	
30 – 34 yrs	9	17.0	3	49.0	-	-	12	
35 – 39 yrs	8	15.0	1	17.0	-	-	9	
40 - 44 yrs	4	7.0	1	17.0	-	-	5	
45 – 49 yrs	1	2.0	1	17.0	-	-	2	
Total	54	100.0	6	100.0	-	-	60	100.0

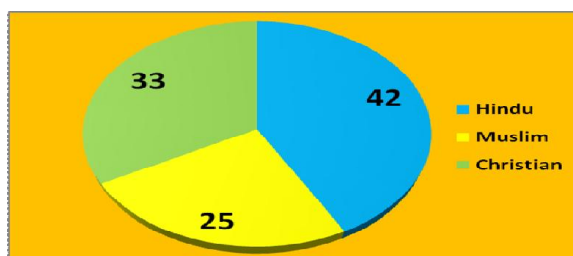


Figure 1: Pie diagram depicting percentage distribution of respondents according to religion.

Table 2. Association between Religion and Knowledge level

Religion	N = 60						Total	χ^2	
	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)				
	N	%	N	%	N	%			
Hindu	24	44.0	1	17.0	-	-	25	42.0	39.15 Significant 0.05 level
Muslim	13	24.0	2	33.0	-	-	15	25.0	
Christian	17	32.0	3	50.0	-	-	20	33.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

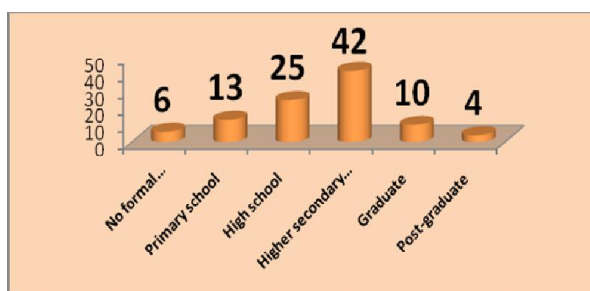


Figure 2: Cylindrical diagram depicting percentage distribution of respondents according to educational status.

Table 3. Association between Educational status and knowledge level

Educational status	N = 60						Total		χ^2
	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		N	%	
	N	%	N	%	N	%			
No formal education	4	7.0	-	-	-	-	4	6.0	30.84 .05 level (Significant)
Primary education	8	15.0	-	-	-	-	8	13.0	
High school	14	26.0	1	17.0	-	-	15	25.0	
Higher secondary school	23	43.0	2	33.0	-	-	25	42.0	
Graduate	4	7.0	2	33.0	-	-	6	10.0	
Post-graduate	1	2.0	1	17.0	-	-	2	4.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

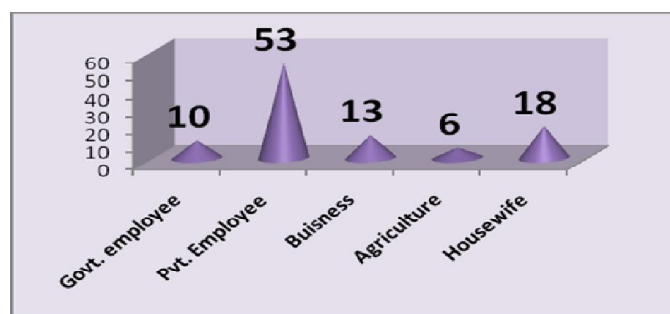


Figure 3. Cone diagram depicting percentage distribution of respondents according to occupation.

Table 4. Association between Occupation and Knowledge level

Occupation	N = 60						Total		χ^2
	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		N	%	
	N	%	N	%	N	%			
Govt. Employee	5	9.0	1	17.0	-	-	6	10.0	41.22 (Significant) 0.05 level
Pvt. Employee	29	54.0	3	50.0	-	-	32	53.0	
Business	6	11.0	2	33.0	-	-	8	13.0	
Agriculture	4	7.0	-	-	-	-	4	6.0	
Housewife	10	19.0	-	-	-	-	10	18.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

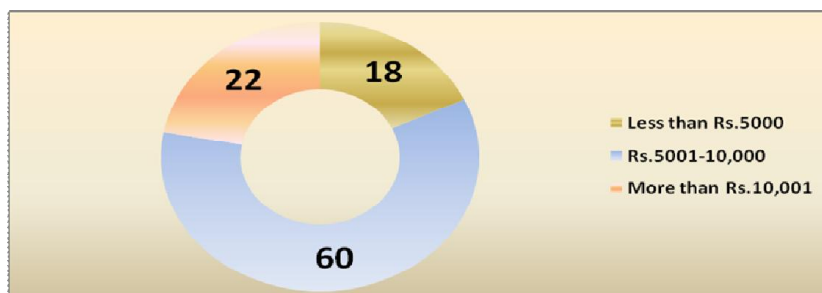


Figure 4. Doughnut diagram depicting percentage distribution of respondents according to family income per month

Table 5. Association between Family income per month and Knowledge level

Family income per month	Inadequate		Satisfactory		Adequate		Total		χ^2
	(0 – 14)		(15 – 28)		(29 – 43)				
	N	%	N	%	N	%	N	%	
Less than 5000	11	20.0	-	-	-	-	11	18.0	37.12 (significant) 0.05 level
Rs.5001-10,000	34	63.0	2	33.0	-	-	36	60.0	
More than 10,001	9	17.0	4	67.0	-	-	13	22.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

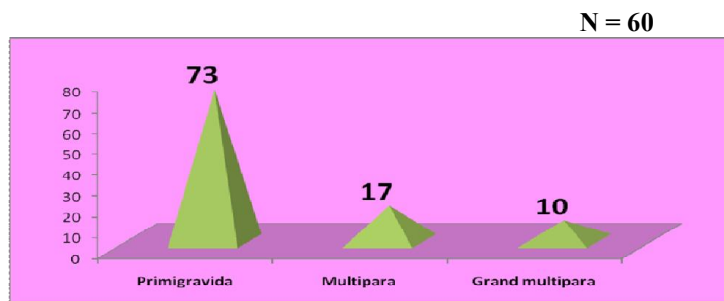


Figure 5. Pyramidal diagram depicting percentage distribution of respondents according to parity.

Table 6. Association between Parity and Knowledge level

Parity	Inadequate		Satisfactory		Adequate		Total		χ^2
	(0 – 14)		(15 – 28)		(29 – 43)				
	N	%	N	%	N	%	N	%	
Primigravida	43	80.0	1	17.0	-	-	44	73.0	38.55 (Significant) 0.05 level
Multipara	8	15.0	2	33.0	-	-	10	17.0	
Grand multipara	3	5.0	3	50.0	-	-	6	10.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

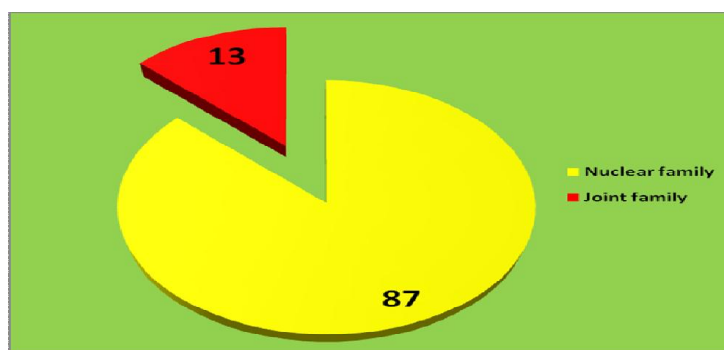


Figure 6. Pie diagram depicting percentage distribution of respondents according to types of family

Table 7. Association between types of family and Knowledge level

N = 50

Types of family	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		Total		χ^2
	N	%	N	%	N	%	N	%	
Nuclear family	50	93.0	2	33.0	-	-	52	87.0	24.67 (significant) 0.05 level
Joint family	4	7.0	4	67.0	-	-	8	13.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

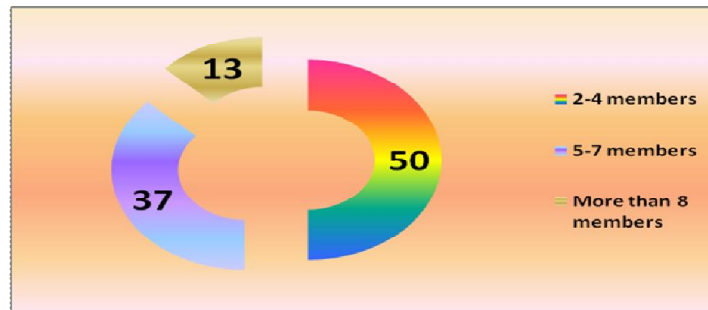


Figure 7. Doughnut diagram depicting percentage distribution of respondents according to family size.

Table 8. Association between family size and Knowledge level

N = 60

Family size	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		Total		χ^2
	N	%	N	%	N	%	N	%	
2 – 4 members	29	54.0	1	17.0	-	-	30	50.0	6.54 (Not significant) 0.05 level
5 – 7 members	20	37.0	2	33.0	-	-	22	37.0	
More than 8 members	5	9.0	3	50.0	-	-	8	13.0	
Total	54	100.0	6	100.0	-	-	60	100.0	

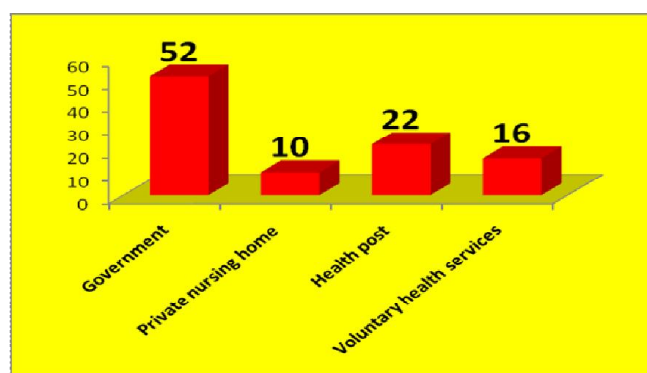


Figure 8: Bar diagram depicting percentage distribution of respondents according to utilization of health services.

Table 9. Association between utilization of health services and Knowledge level (N=60)

Utilization of health services	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		Total		χ^2
	N	%	N	%	N	%	N	%	
Government	31	57.0	-	-	-	-	31	52.0	42.65 (Significant)
Private nursing home	3	6.0	3	50.0	-	-	6	10.0	
Health post	12	22.0	1	17.0	-	-	13	22.0	
Voluntary health services	8	15.0	2	33.0	-	-	10	16.0	0.05 level
Total	54	100.0	6	100.0	-	-	60	100.0	

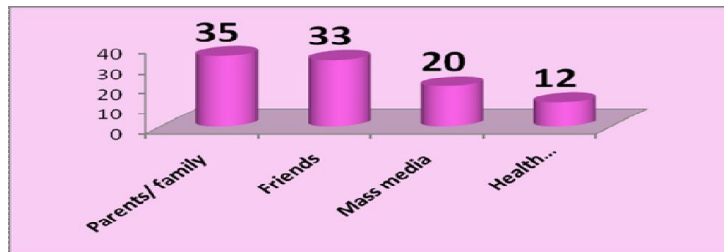


Figure 9: Cylindrical diagram depicting percentage distribution of respondents according to sources of information.

Table 10. Association between Sources of information and Knowledge level

Sources of information	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		Total		χ^2
	N	%	N	%	N	%	N	%	
Parents/family	20	37.0	1	17.0	-	-	21	35.0	39.46 (Significant)
Friends	19	35.0	1	17.0	-	-	20	33.0	
Mass media	10	19.0	2	33.0	-	-	12	20.0	
Health professionals	5	9.0	2	33.0	-	-	7	12.0	
Total	54	100.0	6	100.0	-	-	60	100.0	0.05 level

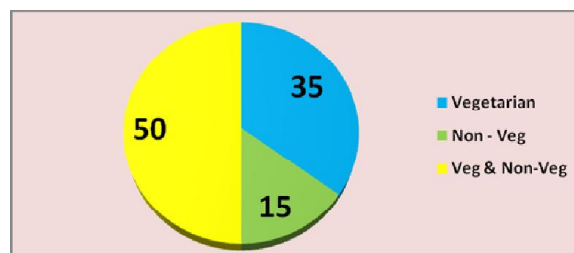


Figure 10: Pie diagram depicting percentage distribution of respondents according to food habits.

Table 11. Association between food habits and Knowledge level

N = 60

Food habits	Inadequate (0 – 14)		Satisfactory (15 – 28)		Adequate (29 – 43)		Total		χ^2
	N	%	N	%	N	%	N	%	
Vegetarian	19	35.0	2	33.0	-	-	21	35.0	8.45 (Non-significant)
Non-veg	8	15.0	1	17.0	-	-	9	15.0	
Both veg & non-veg	27	50.0	3	50.0	-	-	30	50.0	
Total	54	100.0	6	100.0	-	-	60	100.0	0.05 level

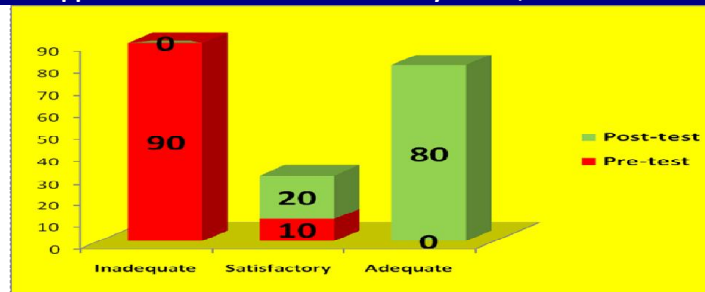


Figure 11. Sub-divided bar diagram depicting the distribution of overall respondent knowledge level regarding selected diets for enhancing Breast milk production among antenatal mothers in selected antenatal clinic, Bangalore, before and after structured teaching program.

Conclusion

Findings revealed that the highest 30% of the antenatal mothers were in the age group of 25-29 years, 42% were belongs to Hindu religion, 42% of the respondents were educated up to higher secondary school, 53% of the respondents were working as Pvt. employee, 60% of the respondents family income per month is Rs. 5001-10,000/, 73% were primigravida, 87% were belongs to nuclear family, 50% were having 2 to 4 members, 52% were utilizing Govt. health services, 35% of the respondents receiving information from parents and family members; and finally 50% were having both vegetarian & non-vegetarian food.

It was inferred that the socio-demographic factors such as age, religion, educational status, occupation, family income per month, parity, types of family, utilization of health services and finally sources of information of the respondents shows there is a significant association between the Pre-test knowledge level and socio-demographic variables ($P > 0.05$).

Family size and Food habits of the respondents is not significantly associated between the pre-test knowledge level and socio-demographic variable ($P > 0.05$).

The majority of antenatal mothers in selected antenatal clinic, Bangalore; overall there is a need for structured teaching program to enhance knowledge regarding selected diets for enhancing Breast milk production. The study finding reveals that there was highly significant enhancement in knowledge level regarding selected diets for enhancing Breast milk production after conducting structured teaching program among antenatal mothers.

The socio-demographic factors such as age, religion, educational status, occupation, family income per month, parity, types of family, family size, utilization of health services, sources of information and finally food habits, did not predict the enhancement in level of knowledge among the antenatal mothers. Therefore structured teaching program was independently effective among antenatal mothers in selected antenatal clinic, Bangalore.

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