Effectiveness of Structure Teaching Programme on Knowledge Regarding Nutritional Diet among Mothers of Under-Five Children in Selected Rural Areas of Lucknow

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ABSTRACT

Background: Balanced diet is very vital for daily life's activities. Proper nourishment and right feeding routine prevents illness and disabilities. Malnutrition is still the root cause of morbidity and mortality in children of under-five years of age. Children of under-five age are far more at risk of suffering from nutritional deficiencies. A mother is a primary care giver to a child, and thus it is paramount that se requires to have accurate knowledge concerning the care of under-five years aged children and nourishment they require. Educating mothers can aid in enhancing the knowledge and practice to avoid malnourishment, in succession this can assist in lowering the incidence of malnourishment among the children of under-five years of age. **Objectives:** 1. To assess the level of knowledge regarding nutritional diet among mothers of under-five children. 2. To evaluate the effectiveness of structured teaching programme on knowledge regarding nutritional diet among mothers of under-five children. 3. To find association between the pre-test knowledge score with selected demographic variables. **Method:** In this study the research approach was quasi experimental one group pre-test and post-test design was applied. Total 100 samples selected by multi-stage random sampling technique. The intervention was structured teaching programme was introduced to the group. Knowledge was assessed by self structured questionnaire before and after the intervention. **Results:** It is observed that the statistical t value (24.86) is greater than the critical value (1.66) which rejects the null hypothesis and accepts the alternative hypothesis that there is significant difference in knowledge of mothers. **Conclusion:** The study concluded that, structured teaching programme is an effective way to improve the knowledge of mothers of under-five children. The study recommended that structured teaching programme nutritional diet should be implemented to improve the knowledge among the mothers of under-five children for providing a better health.

Keywords: *Effectiveness, Structured teaching programme, Knowledge, Nutritional diet*

1. Background

Balanced diet is essential for normal activities of life. Healthy eating and physical activity are essential for growth and development in childhood. To help children develop healthy eating patterns from an early age, it is important that the food and eating patterns to which they are exposed both at home and outside the home are those which promote positive attitudes to good nutrition.[1]

Nutritionally educated mothers can bring up their children in a healthier way. Improving breast feeding techniques not only provide adequate nutrition to the infant but can also decrease the frequency of gastro-enteritis and respiratory infections and reduce the number of infant deaths.[2]

Nutrition may be defined as science of food and relationship to health.[3]

A proper diet is essential from early stage of life children below age of five year constitute over 20% of our population and also form a most vulnerable group.[4]

Poor feeding practices, such as inadequate breastfeeding, offering the wrong foods, and not ensuring that the child gets enough nutritious food, contribute to malnutrition. Infection – particularly frequent or persistent diarrhea, pneumonia, measles and malaria – also undermines a child's nutritional status.[5]

In India, the majority of problems are related to deficiency status rather than excesses, the most important reasons being poverty, ignorance and illiteracy.[6] Studies have pointed out the significant role of women's education in infant and child mortality, widespread women's education is an important determinant factor in unusually less mortality and

yet low income regions and it has been noted that similar set of relationship has been noted with regard to women's education and child's nutritional status. Mother's education can generate different types of intra household effects and thereby reducing the risk of nutritional deficiency like Protein -Energy Malnutrition.

The effects which will bring through mothers' education were improved health and nutrition knowledge, psychological changes and improved nutritional behavior, shift of power relations within the household in favor of better nutrition which includes breast feeding, weaning practices and child feeding and pregnancy diets may lead to more effective dietary behavior on the part of mother's who manage food resources within the household[7].

2. Statement of the Problem
A study to assess the effectiveness of structured teaching programme on knowledge regarding nutritional diet among mothers of under-five children in selected rural area of Lucknow

3. Objectives
A. To assess the level of knowledge regarding nutritional diet among mothers of under-five children.
B. To evaluate the effectiveness of structured teaching programme on knowledge regarding nutritional diet among mothers of under-five children.
C. To find association between the pre-test knowledge score with selected demographic variables.

Hypothesis
H_0 : There is a significant difference between the mean pre-test and post-test level scores among mothers of under-five children.

H_1: There is a significant association between pre-test score and selected socio-demographic variables.

4. Methodology
Research approach: A quantitative research approach

Research design: Quasi experimental one group pre-test post-test design.

Setting of the study: Study was conducted in selected rural areas of Lucknow.

Research variables: Independent variable: Knowledge of mothers of under- 5 children

Dependent Variables: Structured Teaching Programme

Demographic variables: This includes mother's age in years, mother's educational level, occupational status, religion, type of family, monthly income of family in rupees, number of under-five children in family, utilization of health services, dietary pattern, previous knowledge, sources of previous knowledge.

Target population: The population of this study was mothers of under-five children who fulfill the inclusion criteria of the research study.

Accessible population: In this study assessable population is all the mothers of under-five children residing in rural areas

of Sarojini Nagar, Lucknow and are willing to participate in the study.

Sample size: It consisted of 100 mothers. Samples were selected from selected rural areas of Lucknow.

Sampling Technique
In this study a multi-stage random sampling was used. Multistage random sampling can be a complex form of cluster sampling because it is a type of sampling which involves dividing the population into groups (or clusters). Then, one or more clusters are chosen at random and everyone within the chosen cluster is sampled. 100 mothers were selected by multi-stage random sampling technique from the selected rural areas of Lucknow.

Criteria for Samples Selection:
Inclusion criteria:
Mothers of under-five children residing in rural area of Sarojini Nagar, Lucknow.
Mothers who are willing to participate in the study.
Mothers who can understand Hindi language.

Exclusion Criteria:
Mothers who are not available at the time of data collection. Mothers who have history of mental illness or any kind of physical illness. Mothers who have history of hearing disability.

Description of Tool
Section A: Demographic Questionnaire- 11 items
Demographic questionnaire for mothers consist of 11 items such as Mother's age in years, Mother's educational level, Occupational status, Religion, Type of family, Monthly income of family in rupees, No. of under-five children in family, Utilization of health services, Dietary pattern, Previous knowledge, Sources of previous knowledge.

Section B: Knowledge Questionnaire- 20 items
The tool consists of 20 items, seeking information regarding the level of knowledge of mothers of under-five children regarding nutritional diet. The score given for the right answer score is 1 and for wrong answer and not attempt score is 0. The maximum score is 20 and minimum score is 0.

Reliability
Reliability refers to the accuracy and consistency of information obtained in a study.

Reliability was found by using Karl Pearson test retest method based on pilot study data. Reliability for knowledge test was 0.707. The tools were found to be reliable.

Data collection procedure:
The data collection was done by multi-stage random sampling technique. Sarojini Nagar block was selected as PHC, Sarojini Nagar is adopted by KGMU. Sub-centers were selected using lottery method & villages under these sub-centers were selected. Self-introduction was given to the participants. Purposes and benefits of the study were explained to the participants and informed consent was taken. Questions were explained to the participants if any of the participants were not able to understand. On the day one pre-test was conducted and structured teaching programme

was also administered. Post-test was conducted after seven days of intervention.

Plan for data analysis

Statistical analysis is the organization and analysis of quantities data using statistical procedures including both descriptive and inferential statistics.

Ethical consideration

Ethical approval obtained from the institutional ethic committee and permission was taken from the departmental HOD's. Informed consent was taken from the subjects. Confidentiality and anonymity of information was maintained.

Result
Section 1: Description of socio-demographic variables of mothers of under-five children.

Table 1: Frequency & percentage distribution of subjects related to their socio-demographic variables

n=100

S. No.	Variables	Categories	Frequency	%
1.	Mother's age in years	18-25	30	30%
		26-33	70	70%
		34-41	0	0
2.	Mother's educational level	No formal education	26	26%
		Primary	33	33%
		Secondary	41	41%
		High school	0	0
		Intermediate	0	0
		Graduate	0	0
		Post graduate & above	0	0
		Other specify	0	0
3.	Occupational status	Private job	0	0
		Government job	0	0
		Homemaker	77	77%
		Agriculture	20	20%
		Daily wage workers	3	3%
		Self employed	0	0
4.	Religion	Hindu	67	67%
		Muslim	33	33%
		Sikh	0	0
		Christian	0	0
		Others	0	0
5.	Type of family	Joint	71	71%
		Nuclear	29	29%
		Extended	0	0
6.	Monthly income of family in rupees	Less than 4000/-	3	3%
		4,001 to 6000/-	71	71%
		6,001 to 10,000/-	20	20%
		More than 10,000/-	6	6%
7.	No. of under-five children in family	One	36	36%
		Two	64	64%
		Three	0	0
		More than three	0	0
8.	Utilization of health services	Government health care services	55	55%
		Private health care services	42	42%
		Home remedies	3	3%
		Quacks	0	0
9.	Dietary Pattern	Vegetarian	45	45%
		Eggarian	0	0
		Non-Vegetarian	55	55%
10.	Previous knowledge	Yes	95	95%
		No	5	5%
11.	Sources of previous knowledge (if answered Q.10. as Yes)	News paper	0	0
		Radio/ Television	2	20%
		Friends and relatives	1	10%
		Health personnel	5	50%

Table 1 depicts that frequency & percentage distribution of mothers of under-five children in relation to demographic variables.

Section 2: Analysis and interpretation of pre-test and post-test scores of knowledge of mothers of under-five children regarding nutritional diet

Table 2: Level of knowledge among the mothers of under five children regarding nutritional diet

n=100

Level of knowledge	Category	Pre-test		Post-test	
		f	*%*	*f*	*%*
Good	>15 score	0	0	39	39
Average	8-15 score	47	47	58	58
Poor	<8 score	53	53	3	3

Table 2 reveals that among the 100 subjects 53% of subjects scored poor and 47% of subjects scored average in the pre-test knowledge regarding nutritional diet. In post-test knowledge regarding nutritional diet 59% of subjects scored average, 39% of mother's subjects scored good and 3% of subjects scored poor.

Table 3: Mean score and standard deviation of the mothers of under-five children regarding nutritional diet.

n=100

Level of knowledge	Pre-test	Post-test
	n=100	n=100
Mean	6.86	10.29
Standard deviation	2.36	4.53

Table 3 depicts that the mean pre-test score of the subjects was 6.8 and the post-test mean score was 10.29. The standard deviation of pre-test score was 2.3 and the post-test score was 4.5. Mean post-test score was significantly higher than the mean pre-test score.

Section 3: Effectiveness of structured teaching programme on knowledge regarding nutritional diet among mothers of under-five children**.**

Table 4: Comparison of mean, standard deviation and 't' value scores of mothers regarding knowledge of mothers of under-five

Knowledge	N	Mean	SD	df	Paired t value
PRE-TEST	100	6.8600	2.3657	99	24.864
POST-TEST		10.29	4.535		P <0.05

The data presented in the Table 4 shows that the subjects' mean post-test knowledge score (10.29) was apparently higher than the mean pre-test knowledge score (6.86). The dispersion of the pre-test score (SD= 2.36) was more than their post-test score (SD= 4.53), which shows that the level of knowledge of the subjects were improved.

Hypothesis testing

H_0 **:** There is no significant difference between pre-test and post-test mean knowledge score of mothers of under-five children regarding nutritional diet.

H_1 **:** There is a significant difference between pre-test and post-test mean knowledge score of mothers of under-five children regarding nutritional diet.

The researcher compared the calculated t- value (24.86) with the tabulated value (1.66). The obtained "t" value on analysis of the data was found to be significant at p<0.05 level. Since the calculated value lay beyond the tabulated value, the researcher rejected the null hypothesis and accepted the research hypothesis which revealed there is a significant change in the post-test practice score of subjects regarding nutritional diet. So, this is evident that the structured teaching programme on knowledge regarding nutritional diet was effective.

Section 4: Association of pre-test level of knowledge score with socio demographic variables**.**

Table 4: Association between the pre-test knowledge score of mothers regarding nutritional diet and their selected demographic variables

VARIABLES	CATEGORY	SAMPLE	RESPONDENTS KNOLEDGE		P value <0.05	χ2 value
			AVERAGE	POOR		
Mother's age in years	18-25 years	30	13	17	3.84 df=1	0.54 NS
	26 – 33 years	70	35	35		
	34-41 years	00	0	0		
Mother's educational level	No formal education	26	10	16	5.99 Df=2	0.58 NS
	Primary	33	17	16		
	Secondary	41	20	21		
	High school	0	0	0		
	Intermediate	0	0	0		
	Graduate	0	0	0		
	Post graduate & above	0	0	0		
	Other specify	0	0	0		
Occupational status	Private job	0	0	0	5.99 Df=2	0.63 NS
	Government job	0	0	0		
	Homemaker	77	37	40		
	Agriculture	20	8	12		
	Daily wage workers	3	2	1		
	Self employed	0	0	0		
Religion	Hindu	67	27	40	3.84 Df=1	1.77 NS
	Muslim	33	20	13		
	Sikh	0	0	0		
	Christian	0	0	0		
	Others	0	0	0		
Type of family	Joint	71	34	37	3.84 Df =1	0.78 NS
	Nuclear	29	13	16		
	Extended	0	0	0		
Monthly income of family in rupees	Less than 4000/-	3	0	3	7.82 Df =3	0.06 NS
	4,001 to 6000/-	71	21	50		
	6,001 to 10,000/-	20	10	10		
	More than 10,000/-	6	4	2		
Number of <5 children	One	36	20	16	3.84 Df =1	0.19 NS
	Two	64	27	37		
	Three	0	0	0		
	>Three	0	0	0		
Utilization of health services	Government health care services	56	27	29	5.99 Df =2	0.87 NS
	Private health care services	41	19	22		
	Home remedies	3	1	2		
	Quacks	0	0	0		
Dietary Pattern	Vegetarian	45	21	24	3.84 Df =1	0.90 NS
	Eggarian	0	0	0		
	Non-Vegetarian	55	25	30		
Previous knowledge	Yes	95	46	49	3.84 Df =1	0.21 NS
	No	5	1	4		
Sources of previous knowledge(if answered Q.10. as Yes)	News paper	24	8	16	7.82 Df =3	0.51 NS
	Radio/ Television	16	9	7		
	Friends and relatives	9	4	5		
	Health personnel	46	22	24		

*Significant at 0.05 level
NS: non- significant

Discussion

Among the 100 mothers of under-five children 53% of mothers scored poor and 47% of mothers scored average in the pre-test knowledge regarding nutritional diet. In post-test knowledge regarding nutritional diet 59% of mothers scored average, 39% of mothers scored good and 3% of mothers scored poor. The mean pre-test score of the mothers was 6.8 and the post-test mean score was 10.29.The standard deviation of pre-test score was 2.3 and the post-test score was 2.1.Mean post-test score was significantly higher than the mean pre-test score.

There was a statistically significant difference between pre and post-test practice knowledge regarding nutritional diet among mothers of under-five children at level $P < 0.05$ which depicted the effectiveness of the structured teaching programme regarding nutritional diet.

There was no significant association between the pre-test knowledge score of mothers regarding nutritional diet with their demographic variables.

Level of knowledge regarding nutritional diet among mothers of under-five children.

The mean pre-test score of the subjects was 6.8, there was marked gain in the mean knowledge score of the group after giving structured teaching programme 10.29.

The standard deviation of pre-test score was 2.3 and the post-test score was 2.10.

5. Conclusion

Based on these findings of the study, it shows that the level of knowledge regarding nutritional diet among mothers of under-five children in the pre-test score was lower than the post-test score.

The study finding proved that the structured teaching programme intervened by the researcher was effective to increase the knowledge regarding nutritional diet among mothers of under-five children. So, there is a need of providing proper information and demonstration and education regarding nutritional diet, its importance, benefits, and diseases related to lack of nutritional diet.

So, health care provider should provide health education to improve their knowledge regarding nutritional diet among mothers of under-five children.

REFERENCES

[1] *Ahmed I. et al.* Lactation, breast-feeding supplementation and nutrition .Journal of Ayub Medical College.JAMC.2001; 13(2): 34-37. Available from: http://jamc.ayubmed.edu.pk.

[2] Patali C. S. A Descriptive Study to Assess the Knowledge of Mothers Regarding the Nutrition for Under Five Children in Selected Areas of Bagalkot with a View to Develop a Self Instructional Module. Crimson publishers.2018; 3(4): 1-10. Available from: https://crimsonpublishers.com.

[3] UNICEF. Breastfeeding. 2015. Available from: https://www.unicef.org

[4] Swaminathan M., Advanced Text Book of Food and Nutrition.2nd Edition; Published by Bangalore Printing and Co limited: page no 230,540.

[5] Malnutrition. WHO. 2017;Available from http://www.who.int/maternal_child_adolescent

[6] Viswanathan J., "Achar's Text book of Pediatrics", 2007, 3rd Edition, Orient Longman Private Limited, Hyderabad. Page No.68-72.

[7] Kumari N., "A text book of child Health Nursing-I" first Edition, S. Vikar& Co. Publishing House, Jalandhar, Page No. 495.