



“Effectiveness Of Structured Teaching Programme On Knowledge Regarding Nutritional Problems And Its Contributing Factors Among Adolescents In Selected Schools Of Kamrup (M), Assam: A Quasi Experimental Study”

YOMGAM DOJI¹, SABITA BAYAN², KAKOLI DUTTA BARUAH³

¹MSc.Nursing, Department of Community Health Nursing, Asian Institute of Nursing Education, North Guwahati, Assam. India

²Professor, Department of Mental Health Nursing,

³Lecturer, Department of Community Health Nursing, Asian Institute of Nursing Education, North Guwahati, Assam. India

Corresponding Author: Yomgam Doji

ABSTRACT:

BACKGROUND: A nutritional problem occurs when the body doesn't absorb or get from food the necessary amount of a nutrient. Nutritional problem refers to deficiencies or excesses in nutrient intake, imbalance of essential nutrients or impaired nutrient utilization. Adolescents are exposed to under nutrition, micronutrient malnutrition, anaemia as well as obesity. According to WHO, period of life between 10 and 19 years is adolescents and it is a critical period of growth and development, so good nutrition is essential.

NEED OF THE STUDY:

According to UNICEF 2021 data, nearly 1 in 5 adolescence globally(13-18years) are overweight and the prevalence of anemia among adolescence is 27% in developing countries and 6% in developed countries. WHO estimates that 40% of children 6–59 months of age, 37% of pregnant women, and 30% of women 15–49 years of age worldwide are anaemic. According to National Institute of health, the highest percentage of anemia was observed in the 12–14 years age group in girls (54.2%) and 15–18 year-old boys (54.2%). Also, 4.4% of boys and 4.9% of girls were found to be obese, whereas 8.4% boys and 9.2% girls were overweight.

OBJECTIVES OF THE STUDY

- 1.To assess pre test and post test Knowledge regarding Nutritional problems and its contributing factors among adolescents in selected schools of Kamrup (M) , Assam.
- 2.To evaluate effectiveness of Structured Teaching Programme on Knowledge regarding Nutritional Problems and its Contributing Factors among adolescents in selected schools of Kamrup (M) ,Assam.
- 3.To find out the association between pre test Knowledge regarding Nutritional Problems and its Contributing Factors with selected demographic variables.

METHODS AND MATERIALS: A quantitative approach with quasi experimental one group pre test-post test design was used by non-probability convenient sampling technique for obtaining adequate sample of the study. The study was conducted at selected schools of Kamrup (M), Assam. By using non- probability convenient sampling technique 100 samples were collected on the basis of inclusion and exclusion criteria. A self structured questionnaire was used to collect data to assess the knowledge on nutritional problems and its contributing factors and data was analyzed using descriptive and inferential statistics.

RESULTS: The result showed that out of 100 adolescents, majority i.e. 60 (60.0%) were in the age group of 13 – 14 years , 50 (50.0%) were male and 50 (50.0%) were female, 87 (87.0%) belongs to Hindu religion , 21(21.0%) in class XII, 51 (51.0%) lives in their own house , Fathers of 55 (55.0%) adolescent's are graduated, Mothers of 36 (36.0%) adolescent's are secondary educated , 75 (75.0%) belongs to nuclear family, Fathers of 54 (54.0%) adolescent's are self employed , Mothers of 49 (49.0%) adolescents are home maker , Total family income of 35(35.0%) adolescent's earns Rs 31,978-Rs 53,360, 70 (70.0%) have 1 – 2 siblings , 72 (72.0%) preferred fried food. On assessing the level of knowledge in the pre test. all the adolescents 100(100%) had moderate knowledge regarding Nutritional Problems and its Contributing Factors and after the intervention, 98(98%) had adequate knowledge and only 2(2%) had moderate knowledge. The mean difference score was 7.36 with mean difference percentage 33.45%. In association, educational standard of the adolescents ($\chi^2=9.637$, $p=0.047$) had shown statistically significant association with pre-test level of knowledge regarding nutritional problems and its contributing factors among the adolescents at $p<0.05$ level and the other demographic variables like age, gender, type of residence , educational qualification of father , educational qualification of mother, type of family, occupational status of father, occupational status of mother, total family income per month, number of siblings, type of food preferred most had not shown statistically significant association.

CONCLUSION: From this study it was concluded that adolescents have gained adequate knowledge on Nutritional Problems and its Contributing Factors after administration of structured teaching programme which was found to be effective in enhancing the knowledge of adolescents.

Keywords: Knowledge, Nutritional problems and its Contributing Factors, Adolescents

INTRODUCTION:

Nutritional problems in adolescents are multifaceted and can have significant impacts on their overall health and a development. This period is also characterized by shifts in dietary habits, increased autonomy in food choices and susceptibility to societal influences, all of which can contribute to nutritional challenges. Adolescence period is also challenging for nutrition, even if nutritional vulnerability may not be as great as in infancy and childhood. Adolescents are exposed to undernutrition, micronutrient malnutrition, anaemia as well as obesity.

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- 3.To find out the association between pre test Knowledge regarding Nutritional Problems and its Contributing Factors with selected demographic variables.

METHODOLOGY: A quantitative approach with quasi experimental one group pre test-post test design was used by non-probability convenient sampling technique for obtaining 100 sample on the basis of inclusion and exclusion criteria of the study. The study was conducted at selected schools of Kamrup (M), Assam. A self structured questionnaire was used to assess the knowledge on nutritional problems and its contributing factors.

DESCRIPTION OF TOOL:

In order to meet the objectives of the study, the following tools were constructed which consists of two sections:

SECTION- I: Demographic Proforma

SECTION-II: Self structured knowledge questionnaire schedule to assess the knowledge regarding nutritional problem and its contributing factors.

DATA COLLECTION PROCEDURE:

Data collection process was scheduled from 10th September to 3rd October, 2024.

A formal written permission was obtained from the respective principals of the schools for conducting the research study by the investigator before the collection of data. The investigator visited the school on the given respective dates and was introduced to the students who fulfilled the pre-determined selection criteria. The investigator explained the purpose of her study and she assured them of the confidentiality and anonymity. Convenience sampling technique was used to gathered the required samples then the, students

were gathered in one classroom. Data was collected after obtaining the informed consent of the participants for their willingness to participate in the study. The self structured knowledge questionnaire was distributed among the participants in order to assess the level of knowledge among adolescents regarding nutritional problems and its contributing factors. The questionnaire took 15-20 minutes to complete and the structured teaching programme on nutritional problems and its contributing factors was given after pre test. Then on the 7th day, post test was taken using same structured questionnaire on nutritional problems and its contributing factors.

RESULTS:

SECTION 1: Frequency and percentage distribution of demographic variables of adolescents

TABLE: 1

Age(in years)of the adolescent	Frequency(f)	Percentage (%)
13 – 14	60	60.0%
15 - 16	29	29.0%
17-18	11	11.0%
Gender		
Male	50	50%
Female	50	50%
Religion		
Hindu	87	87%
Islam	7	7%
Christian	6	6%
Others	0	0
Educational status		
VIII	20	20%
IX	18	18%
X	19	19%
XI	22	22%
XII	21	21%
Area of residence		
Hostel	0	0
Own house	51	51%
Rented house	49	49%
Paying guest	0	0
Educational qualification of father		
No formal education	0	0
Primary education	0	0
Secondary education	9	9%
Higher secondary education	36	36%
Graduate and above	55	55%
Educational qualification of mother		
No formal education	0	0
Primary education	22	22%
Secondary education	36	36%
Higher secondary education	30	30%
Graduate and above	12	12%
Type of family		

Nuclear	75	75%
Joint	19	19%
Extended	6	6%
Occupational status of father		
Unemployed	0	0%
Self employed	54	54%
Private service	22	22%
Government service	24	24%
Occupational status of mother		
Home maker	49	49%
Self employed	18	18%
Private service	23	23%
Government service	10	10%
Total family income		
Rs 2,13,814 and above	0	0
Rs 1,06,850 – Rs2,13,813	5	5%
Rs 80,110- Rs 1,06,847	20	20%
Rs 53,361- Rs 80,109	29	29%
Rs 31,978 – Rs 53,360	35	35%
Rs 10,703- Rs 31,977	11	11%
≤ Rs 10,702	0	0
Number of siblings		
1 - 2	70	70%
3 and above	14	14%
No siblings	16	16%
Type of food preferred		
Fried	72	72%
Boiled	0	0
Steamed	7	7%
Baked	21	21%

Table 1 portrays that most of the adolescents 60 (60.0%) were in the age group of 13 – 14 years, 50 (50.0%) were male and 50 (50.0%) were female, 87 (87.0%) belongs to Hindu religion , 22 (22.0%) were in class XI, 51 (51.0%) lives in their own house, 55 (55.0%) adolescent's father are graduate and above, 36 (36.0%)adolescent's mothers are secondary educated, 75 (75.0%) belongs to nuclear family, 54 (54.0%) adolescent's fathers are self employed,49 (49.0%)adolescent's mothers are home maker, total family income of 35(35.0%) earns Rs 31,978-Rs 53,360, 70 (70.0%) have 1 – 2 siblings and 72 (72.0%) preferred fried food.

SECTION II: Frequency and percentage distribution of level of knowledge regarding nutritional problem and its contributing factors among adolescents before and after administration of STP

TABLE:2

LEVEL OF KNOWLEDGE	PRETEST		POST TEST	
	FREQUENCY	PERCENTAGE %	FREQUENCY	PERCENTAGE %
Inadequate knowledge ($\leq 33\%$)	-	-	-	-
Moderate knowledge (34-75%)	100	100.0%	2	2.0%
Adequate knowledge ($\geq 75\%$)	-	-	98	98.0

Table 2 shows that in the pretest, all the adolescents 100(100%) had moderate knowledge and after the intervention, 98(98%) had adequate knowledge and only 2(2%) had moderate knowledge.

SECTION-III: Effectiveness of structured teaching programme on knowledge regarding nutritional problem and its contributing factors among adolescents.

TABLE: 3

Knowledge	Median	Mean	S.D	Mean Difference & %	Paired “t” test & p-value
Pretest	12.0	11.93	1.61	7.36	t =37.515 p=0.0001, S***
Post Test	19.5	19.29	1.25	(33.45%)	

***p<0.001, S – Significant

Table: 3 shows that the pretest mean score of knowledge was 11.93±1.61 and the post test mean score was 19.29±1.25. The mean difference score was 7.36 with mean difference percentage 33.45%.The computed paired “t” test value of t=37.515 was statistically significant at p<0.001 level .

SECTION- IV: Association of pre test level of knowledge on nutritional problems and its contributing factors among adolescents with selected demographic variables.

TABLE: 4

Demographic Variables	≤Mean (11.93)		> Mean (11.93)		Chi-square p – value and Fisher Exact test p-value
Age (in years) of the adolescents	f	%	f	%	$\chi^2=0.453$ d.f=2 p = 0.797 (N.S)
13 – 14	23	23.0	37	37.0	
15 – 16	9	9.0	20	20.0	
17 – 18	4	4.0	7	7.0	
Gender					$\chi^2=0.174$ d.f=1 p = 0.677 (N.S)
Male	17	17.0	33	33.0	
Female	19	19.0	31	31.0	
Religion					p = 1.000 (N.S)
Hindu	32	32.0	55	55.0	
Islam	2	2.0	5	5.0	
Christian	2	2.0	4	4.0	
Others	-	-	-	-	
Educational standard of adolescent					$\chi^2=9.637$ d.f=4 p = 0.047 (S*)
VIII	6	6.0	14	14.0	
IX	5	5.0	15	15.0	
X	11	11.0	8	8.0	
XI	10	10.0	10	10.0	
XII	4	4.0	17	17.0	
Type of residence					$\chi^2=0.467$ d.f=1 p = 0.494 (N.S)
Hostel	-	-	-	-	
Own house	20	20.0	31	31.0	
Rented house	16	16.0	33	33.0	
Paying guest	-	-	-	-	
Educational qualification of father					$\chi^2=1.235$ d.f=2
No formal education	-	-	-	-	

Primary education	-	-	-	-	p = 0.539 (N.S)
Secondary education	2	2.0	7	7.0	
Higher secondary	12	12.0	24	24.0	
Graduate and above	22	22.0	33	33.0	
Educational qualification of mother					$\chi^2=2.971$ d.f=3 p = 0.396 (N.S)
No formal education	-	-	-	-	
Primary education	11	11.0	11	11.0	
Secondary education	10	10.0	26	26.0	
Higher secondary	11	11.0	19	19.0	
Graduate and above	4	4.0	8	8.0	p = 0.055 (N.S)
Type of family					
Nuclear	25	25.0	50	50.0	
Joint	6	6.0	13	13.0	
Extended	5	5.0	1	1.0	$\chi^2=2.139$ d.f=2 p = 0.343 (N.S)
Occupational status of father					
Unemployed	-	-	-	-	
Self-employed	16	16.0	38	38.0	
Private service	10	10.0	12	12.0	
Government service	10	10.0	14	14.0	$\chi^2=1.342$ d.f=3 p = 0.719 (N.S)
Occupational status of mother					
Homemaker	15	15.0	34	34.0	
Self-employed	8	8.0	10	10.0	
Private service	9	8.0	14	14.0	
Government service	4	4.0	6	6.0	p = 0.439 (N.S)
Total family income per month					
Rs 2,13,814 and above	-	-	-	-	
Rs 1,06,850 – Rs 2,13,813	2	2.0	3	3.0	
Rs 80,110 – Rs 1,06,849	8	8.0	12	12.0	
Rs 53,361 – Rs 80,109	7	7.0	22	22.0	
Rs 31,978 - Rs 53,360	16	16.0	19	19.0	
Rs 10,703 –Rs 31,977	3	3.0	8	8.0	$\chi^2=0.197$ d.f=2 p = 0.906 (N.S)
Number of siblings					
1 – 2	26	26.0	44	44.0	
3 and above	5	5.0	9	9.0	
No siblings	5	5.0	11	11.0	

*p<0.05, S – Significant, N.S – Not Significant, p>0.05

INTERPRETATION

Table: 4 depicts the association of pre test level of knowledge on nutritional problems and its contributing factors among adolescents with selected demographic variables

Age: The calculated chi square value (0.453) is less than the tabulated value (5.99) at 0.05 level of significance with df 2. Hence, there is no association between pre test knowledge and age group of the respondent.

Gender: The calculated chi square value (0.174) is less than the tabulated value (3.84) at at 0.05 level of significance with df 1.Hence,there is no association between pre test knowledge and gender of the respondent.

Religion: The calculated Fisher test value (1.000) is less than the tabulated value at at 0.05 level of significance with df 1.Hence,there is no association between pre test knowledge and gender of the respondent.

Educational standard of student : The calculated chi square value (9.637) is more than the tabulated value (9.49) at at 0.05 level of significance with df 4.Hence,there is association between pre test knowledge and educational standard of the respondent.

Type of residence: The calculated chi square value (0.467) is less than the tabulated value (3.84) at at 0.05 level of significance with df 1.Hence,there is no association between pre test knowledge and type of residence of the respondent.

Educational qualification of father: The calculated chi square value (1.235) is less than the tabulated value (5.99) at 0.05 level of significance with df 2. Hence,there is no association between pre test knowledge and educational qualification of father of the respondent.

Educational qualification of mother : The calculated chi square value (2.971) is less than the tabulated value (7.82) at at 0.05 level of significance with df 3.Hence,there is no association between pre test knowledge and educational qualification of mother of the respondent.

Type of family : The obtained Fisher exact test value (0.055) was less than the tabulated value at 0.05 level of significance. Hence ,there is no association between pre test knowledge and type of family of the respondent.

Occupational status of father : The calculated chi square value (2.139) is less than the tabulated value (5.99) at at 0.05 level of significance with df 2.Hence,there is no association between pre test knowledge and occupational status of father of the respondent.

Occupational status of mother : The calculated chi square value (1.342) is less than the tabulated value (7.82) at at 0.05 level of significance with df 3.Hence,there is no association between pre test knowledge and occupational status of mother of the respondent.

Total family income : The obtained Fisher exact test value (0.439) was less than the tabulated value at 0.05 level of significance. Hence ,there is no association between pre test knowledge and total family income of the respondent.

Number of siblings : The calculated chi square value (0.197) is less than the tabulated value (5.99) at at 0.05 level of significance with df 2.Hence,there is no association between pre test knowledge and number of siblings of the respondent.

Type of food preferred : The calculated chi square value (1.861) is less than the tabulated value (5.99) at 0.05 level of significance with df 2. Hence, there is no association between pre test knowledge and type of food preferred of the respondent.

RECOMMENDATION

1. A similar study can be conducted in the future among the staff nurses working in different fields of nursing.
2. A study can be done to evaluate the effectiveness of other interventions like information booklet, computer assisted instructions, self-instructional module regarding nutritional problems and its contributing factors.

CONCLUSION

The knowledge on Nutritional Problems and its Contributing Factors, out of 100 adolescents 100(100%) had moderate knowledge regarding nutritional problems and its contributing factors and after the intervention, 98(98%) had adequate knowledge and only 2(2%) had moderate knowledge. The pretest mean score of knowledge was 11.93 ± 1.61 and the post test mean score was 19.29 ± 1.25 . The mean difference score was 7.36 with mean difference percentage 33.45%. The computed paired “t” test value of $t=37.515$ was statistically significant at $p < 0.001$ level. This shows that there was significant difference between the pre-test and post-test scores of knowledge, which clearly infers that structured teaching programme on knowledge regarding nutritional problems and its contributing factors was found to be effective in improving the level of knowledge among adolescents in post-test.

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