A study to evaluate the effectiveness of structured teaching program on knowledge regarding health hazards of junk food and its prevention among adolescents in selected high schools at Kudal."

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Abstract: Our modern eating environment has an effect on the way children eat. Junk food consumption tends to the occurrence of many life threatening diseases during adulthood and later life. Studies proved the school based education programme might be effective in influencing adolescents to choose a healthier diet. The health teaching programme is an effective teaching strategy, which can be used for this purpose. **Objectives of the study:** 1.To assess the knowledge on health hazards of junk food and its prevention among adolescents. 2. To evaluate the effectiveness of structured teaching programme on knowledge regarding junk food and its prevention among. 3. To find the association between the level of knowledge with selected socio-demographic variables. **Methodology:** An evaluator approach was used for this study. The research design was pre-experimental **one group pre-test and post-test design**. In view of the nature of the problem and to accomplish the objectives of the study, structured questionnaire was prepared focusing on knowledge of adolescents regarding health hazards of junk food and its prevention. Validity was ensured in consultation with guides and experts in the field of nursing. Reliability of the tool was tested. The study was carried out in selected high schools at Kudal. A sample of 60 adolescents was selected by using simple random sampling technique. Structured questionnaire was used to collect the data. The data was analyzed using descriptive and inferential statistics. Paired't' test was used to find the effectiveness of STP and chi-square test was used to find the association of pre-test knowledge score with selected demographic variables. **Major findings and results:** The result of this study showed that the adolescents have moderately adequate knowledge regarding health hazards of junk food and its prevention. The pre-test mean knowledge score was 14. There was a marked gain in mean knowledge score after administration of structured teaching programme was 20.57. The difference in mean knowledge score was statistically significant at 0.05 level 't' value is 14.635. There was no significant association between pre-test knowledge score on health hazards of junk food and its prevention with selected socio-demographic variables such as age (χ^2 =2.032), gender (χ^2=0.188), area of residence (χ^2=0.0705), pocket money per month (χ^2=6.841), occupation of father (χ^2=1.005), occupation of mother (χ^2=2.029), family income per month (χ^2 =2.700), source of information (χ^2 =6.709), frequency of junk food consumption (χ^2=1.043), and source of junk food (χ^2=1.251) at 0.05 level of significance. **Conclusion:** The findings of this study support that there is need for conducting an awareness programme on health hazards of junk food and its prevention among adolescents. The study proved that adolescents had moderately inadequate knowledge on health hazards of junk foods and its prevention before the administration of STP. Structured teaching programme carried out and the study has improved the knowledge of adolescent regarding health hazards. Such teaching programme can be carried out in the hospital and community to improve the health of adolescents and thereby reduce the health hazards among adolescents and promote healthy eating habits.

Key words

Structured teaching programme, Health hazards of junk food, Adolescents, evaluatory approach.

1. INTRODUCTION

Good health is the fundamental right of every human being. It is the general condition of a person in all aspects. It is also a level of functional and/or metabolic efficiency of an organism. Achieving health is

ongoing process .To maintain the health of individual food is required, it should be rich in all the essential nutrients for survival.[1]

Nutritional status of adolescents is highly influenced by various eating patterns. The eating pattern of adolescents has increasingly gained attention first in western countries in recent years claiming that they have a poor diet. Particular areas of concern have included intake of more dietary fats in comparison to fruits and vegetables. Owing to globalization and urbanization in developing countries, adolescent eating behavior is now in India also coming under spotlight[2].

Adolescents are typically fond of eating 'junk food' not only for its taste, but because of peer group habits. Although snacks can be a source of needed nutrients and calories, but it can lead to overweight too. Adolescents with special health care needs require a special diet, but they are not receiving special educational services, lack of awareness regarding healthy diet. The present scenario shows that many of the adult diseases have their origin during childhood and adolescence.[3]

Coming to Indian Junk food, locally called 'chat', these mostly include the very famous Somosas, kachories, panipuris \ golgappas and patties. These are fried items with various fillings within an outer layer made of refined flour. In India, even Chinese food sold in road side stalls is junk food because they contain high amount of Monosodium Glutamate (MSG), which is a flavor enhancer. MSG is recognized as a health hazard if taken in large quantities. Most colors in fast food are often inedible, carcinogenic and harmful to the body.[4]

Lavish usage of oils, salts and sugar give food their great taste and once addicted one finds it hard to think about the loss of nutrition. If ingredients make junk foods appealing, it is the same reason that makes them health hazardous too. The fat contents, barring a few manufactures, have high cholesterol levels. Secondly the sugar and sodium salts have their effects on health. High calorie content with sugar can lead to dental carries, obesity. Cholesterol and salt are known to set off blood pressure, stroke and heart diseases in a chain. Excessive salt can affect functioning of kidneys.[5]

American Journal of Preventive Medicine (2009), concluded that the major reasons obesity rate contains to rise among 12 –17 years and nowadays 79 million children prefers soft drinks, chips, cookies which are high in added sugars, fat, calories and sodium but low in nutrition. Adolescents are a time of period of rapid physical growth and development and pubertal increase in height, weight, lean muscle mass. Hence adolescent requires minerals particularly iron and calcium.[6]

Health education measures have to be taken for changing the diet of adolescents who have fallen into the junk food habits. Teacher and parents can play a pivotal role in educating children to make healthy food habit, institution like World health organization should educate consumer on health hazards of junk food.

2. Material and Methods

An evaluator approach was used for this study. The research design was pre-experimental **one group pre-test and post-test design**. In view of the nature of the problem and to accomplish the objectives of the study, structured questionnaire was prepared focusing on knowledge of adolescents regarding health hazards of junk food and its prevention. Validity was ensured in consultation with experts in the field of nursing. Reliability of the tool was tested. The study was carried out in selected high schools at Kudal. A sample of 60 adolescents was selected by using simple random sampling technique. Structured questionnaire was used to collect the data.

The data was analyzed using both descriptive and inferential statistics. Paired't' test was used to find the effectiveness of STP and chi-square test was used to find the association of pre-test knowledge score with selected demographic variables.

3. Major findings and Discussion

The major findings of the study were discussed under the following sections:

- Section I: Frequency and percentage distribution of the socio-demographic Variables of respondents
- Section II: Analysis of pretest and posttest knowledge Scores on health hazards of Junk food and its prevention.
- Section III: Effectiveness of structured teaching programme regarding health hazards of Junk food and its prevention.
- Section IV: Association of pretest level of knowledge score of adolescents with selected socio-demographic variables.

Section I: Frequency and percentage distribution of the socio-demographic Variables of respondents.

Table- 1- Frequency and percentage distribution of the selected socio-demographic Variables of respondents

Sl.No.	Demographic Variables	Frequency(f)	Percentage (%)
1.	Age in years		
	14	15	25.0
	15	23	38.3
	16	22	36.7
2.	Gender		
	Male	36	60.0
	Female	24	40.0
3.	Residence		
	Urban	54	90.0
	Rural	6	10.0
4.	Pocket money per Month		
	a. Below 100 rupees	34	56.7
	b. 101-200 rupees	16	26.7
	c. Above 200 rupees	8	13.3
	d. No pocket money	2	3.3
5.	Occupation of father		
	a. Employee	29	48.3
	b. Business	25	41.7
	c. Agriculture	6	10.0
	d. Unemployed	0	0
6.	Occupation of mother		
	a. Employee	7	11.7
	b. Business	3	5.0
	c. Agriculture	0	0
	d. House wife	50	83.3

7.	**Family income**		
	a. 1,001-5,000	8	13.3
	b.5001-10,000	21	35.0
	c. 10,001-15,000	20	33.3
	d. Above 15,000	11	18.3
8.	**Sources of information regarding health hazard of junk food and its prevention**		
	a. Family members	27	45.0
	b. Peers or friends	13	21.7
	c. Mass media	5	8.3
	d. Health professionals	6	10.0
	e. Teachers	3	5.0
	f. No previous information	6	10.0
9.	**Frequency of junk food consumption per week**		
	a. Never	1	1.7
	b. 1-4 times	49	81.7
	c. More than 4 times	10	16.7
10.	**Sources of junk food**		
	a. From home	5	8.3
	b. School canteen	11	18.3
	c. Fast food corner	21	35.0
	d. Road side stalls	23	38.3

Table 1: Revealed that,

1) Age: The result shows that 23 (38.3%) respondents of adolescents were in the age group of 15 Years, 22 (36.7%) were in the age group of 16 Years, 15 (25%) were in the age group of 14 Years. Thus it can be interpreted that highest percentage was in the age group of 15 Years.

2) Gender: Majority of adolescents 36 (60%) were male, 24(40 %) were females.

3) Area of residence: Majority of adolescent 54 (90%) were residing in urban area and 6 (10%) of adolescents were residing in rural area.

4) Pocket money per month: Majority of adolescents 34 (56.7%) gets pocket money of less than 100 rupees per month and 16(26.7%) adolescents gets pocket money of Rs. 101-200, 8 (13.3%)of adolescents get above Rs 200/- per month respectively and 2(3.3%) gets no pocket money . It shows that majority of adolescent's gets pocket money of less than Rs100/- per month.

5) Fathers occupation: Majority of the adolescents fathers were 29 employees (48.3%), 25 (41.7%) are business- men, 6 (10%) are agriculturist and none were unemployed.

6) Mothers occupation: Majority of adolescents mothers were house wives 50 (83.3%), 7(11.7%) are employees, 3 (5%) are business women.

7) According to their family Income 21 (35.0%) of adolescents family income in Rs 5001 – 10,000/- per month, 20 (33.3%) of adolescents family income in Rs. 10001/-15,000/- per month and 11 (18.3%) of adolescents family income is rupees more than 15,000 per month and 8 (13.3%) family income were 1001-5000 per month. Hence Majority belongs to family income of Rs.5001/-10,000 per month.

8) Source of previous information: Majority of adolescents 27 (45%) gained information regarding health hazards of Junk food and its prevention from family members, 13 (21.7%) from mass media, 5 (8.3%) from peers or friends 5(10%)gained information from the health professional, 3 (5.0%) from teachers and 6 (10%) had no any previous information regarding health hazards of junk food and its prevention.

9) Frequency of junk food consumption per week: Majority 49 (81.7%) of adolescents consumes junks foods one to four times per week and 10 (16.7%) consume junk food more than four times per weeks and 1 (1.7%) had never junk food.

10) Source of junk food is from road side stalls 23 (38.3 %,), 21 (35%) from fast food corners and 11 (18.3%) from school canteen and 5(8.3%) from home. Majority adolescents had junk food from road side stalls.

Section II: Analysis of pretest and post test knowledge Scores on health hazards of Junk food and its prevention.

Table 2: Pre-test and posttest knowledge scores of respondents. n=60

Knowledge level	Pre-test		Post test	
	Frequency(f)	Percentage(%)	Frequency (f)	Percentage(%)
Inadequate	1	1.66	00	00
Moderately adequate	59	98.33	29	48.33
Adequate	00	00%	31	51.66

Table 2: Revealed that,

1. In the pre-test majority of the respondents 59 (98.33%) had moderately adequate knowledge, one of the respondents 1(1.66%) had inadequate knowledge.
2. None of the respondents possessed adequate knowledge on health hazards of junk food and its prevention and in the post test,
3. It was observed that 31(51.66%) respondents had adequate knowledge, 29 (48.33%) had moderately adequate knowledge and no one had inadequate knowledge on health hazards of junk food and its prevention.

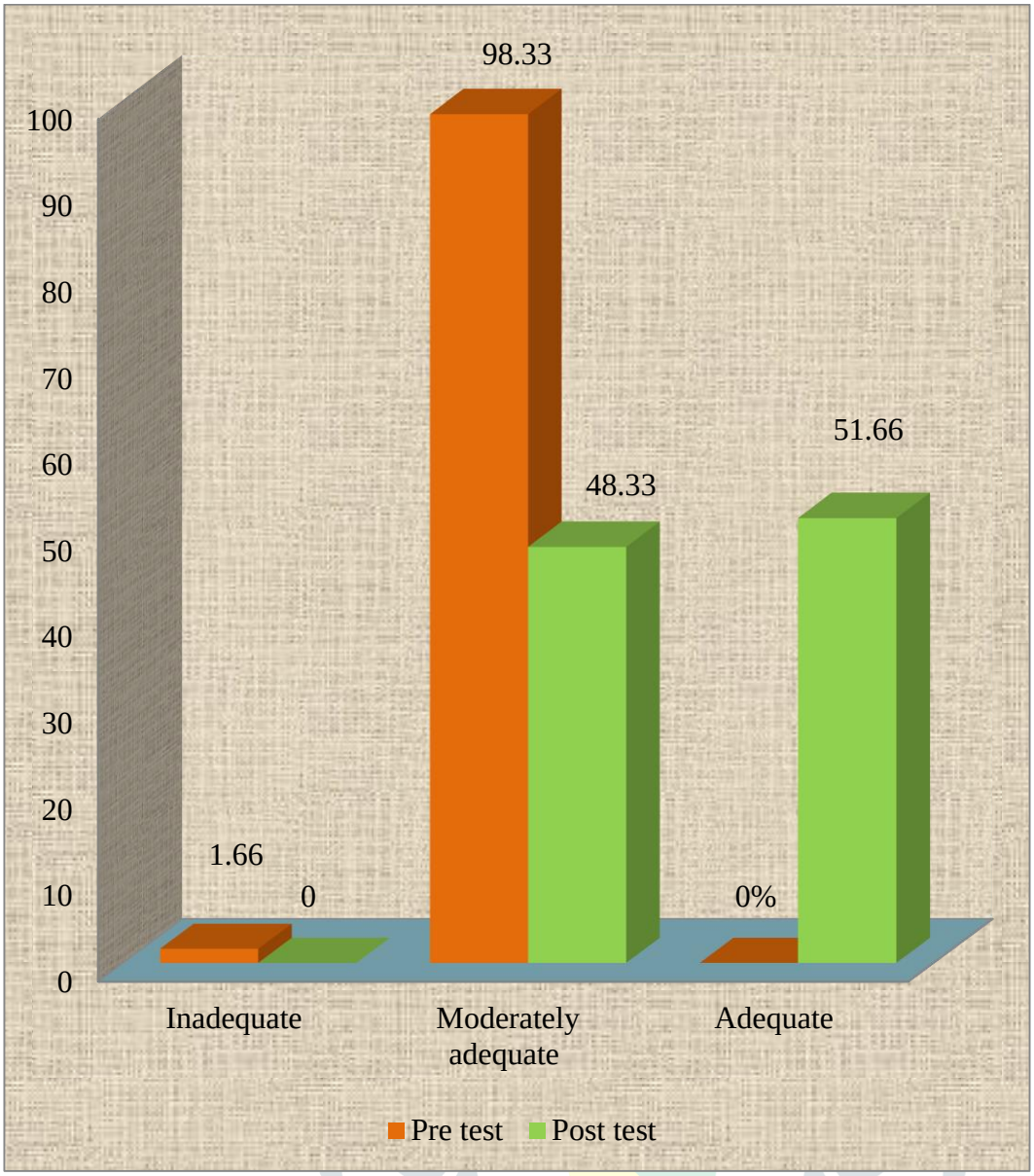

Figure-1: Comparison of pre-test and post-test knowledge scores of respondents.

Figure-1: Revealed That

The pre-test scores with post-test scores, it was found that all the respondents scored high in the post–test than pre-test.

Table 3: Range, mean, median and standard deviation of pre-test and post–test knowledge scores of the respondents.

n = 60

Knowledge score	Range	Mean	Median	SD
Pre-test	10-18	14.00	14.03	2.050
Post--test	14-28	20.57	21S	3.461

Maximum score = 30

The data presented in Table 3 reveals that the respondents knowledge scores was high in the post-test (range: 14-28) than that in the pre-test (range: 10-18) .It is also evident that mean±SD post- test knowledge score (20.57±3.461) was high than that of the pre- test knowledge score which was (14.00±2.050).

Section III: Effectiveness of structured teaching programme on knowledge regarding health hazards of Junk food and its prevention.

Table 4: Pre-test and post- test knowledge scores of respondents

. n=60

Group	Knowledge score	Mean	SD	t-value	p-value	Result
Respondents	Pre-test	14.00	2.050	14.635	0.000	P,0.05 sig
	Post-test	20.57	3.461			

Maximum score=30,df=59

It is evident from the data presented in the table 4 that the calculated 't'value (14.635) was greater than the table value. The mean difference between pre-test and post –test knowledge score was true difference and not a chance difference. This indicates that structured teaching programme was significantly effective in increasing the knowledge of respondents. Hence the null hypothesis was rejected at 0.05 level of significance.

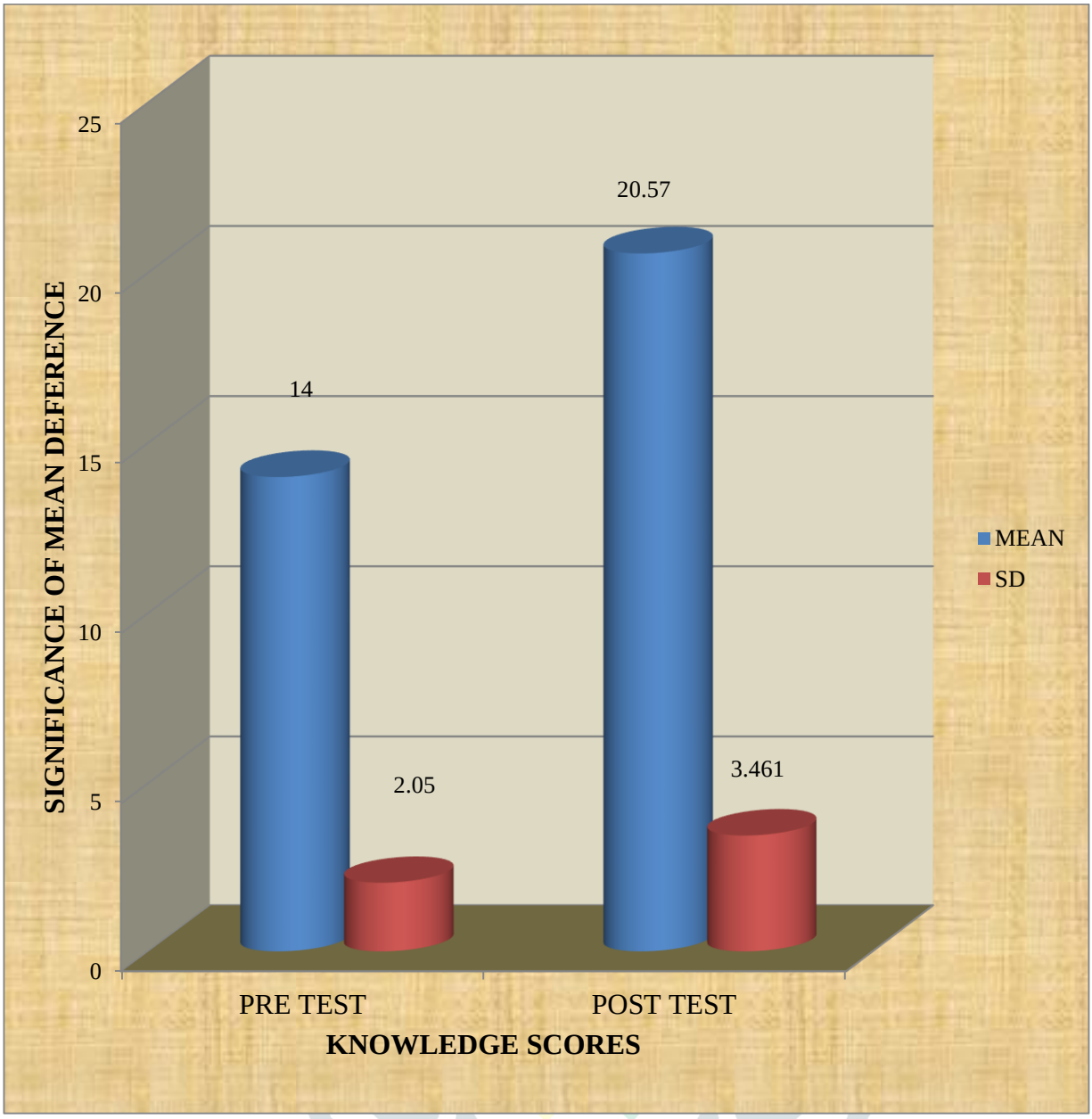

Figure 2: Mean and standard deviation of pre-test and post-test knowledge scores of respondents

The difference between the mean post- test and the mean pre-test scores was found to be statistically significant. Paired 't" value (t=14.635) at 0.05 level of significance, p value < 0.05 was greater than the table value .Hence the null hypothesis was rejected at 0.05 level of significance. The mean difference between pre –test and post –test knowledge scores was true difference and not a chance difference. This indicates that the structured teaching programme was significantly effective in increasing the knowledge of adolescents

The mean difference between pretest and post test was 6.567 and the obtained paired t value 14.635 < 0.05 was highly significant.

The study findings are consistent with the study on evaluation of the effectiveness of structured teaching programme in high school. This evaluation demonstrated that structured teaching programs can be effective for the outcomes. In this evaluation, Adolescents readily gained information on the health hazards of junk food and its prevention and it well help them to practice healthy life style.

Section IV: Association of pre-test knowledge score of adolescents with selected socio-demographic variables

This section deals with the findings of the association between pre-test knowledge score of respondents and selected socio-demographic variables.

Table 5: Association between pre-test knowledge scores of respondents and selected socio-demographic variable n=60

SOCIODEMOGRAPHIC VARIABLES		Above Mean	Below mean	DF	χ^2Value	P Value	Results
1.	**Age group**			2	2.032	5.99	P>0.05 NS
	14 years	5	10				
	15 years	7	16				
	16 years	11	11				
2.	**Gender**			1	.188	3.84	P>0.05 NS
	Male	13	23				
	Female	10	14				
3.	**Residence**			1	0.0705	3.84	P>0.05 NS
	Urban	21	33				
	Rural	2	4				
4.	**Pocket money per**			3	6.841	7.82	P>0.05 NS
	Less than Rs 100	11	23				
	Rs 101-200	10	6				
	More than rs200	1	7				
	No pocket money	1	1				
5.	**Fathers occupation**			2	1.005	5.99	P>0.05 NS
	Employee	13	16				
	Business	8	17				
	Agriculture	2	4				
6	**Mothers occupation**			2	2.029	5.99	P>0.05 NS
	employee	1	6				
	business	1	2				
	house wife	21	29				

	Family income per month						
7.	Rs 1001-5000	1	7	3	2.700	7.82	P>0.05 NS
	Rs 5001-10000	9	12				
	Rs 10001-15000	8	12				
	More than Rs15000	5	6				
8.	**Source of information**			5	6.709	11.07	P>0.05 NS
	Family members	9	18				
	Mass media	7	6				
	Peers/friends	2	3				
	Health professionals	1	5				
	Teachers	0	3				
	No previous information	4	2				
9	**Frequency of junk food consumption**			2	1.043	5.99	P>0.05 NS
	Never	0	1				
	1-4 times	20	29				
	More than 4 times	3	7				
10	**Source of junk food**			3	1.251	7.82	P>0.05 NS
	Home	1	4				
	School canteen	5	6				
	Fastfood corners	9	12				
	Roadside stalls	8	15				

NS = Not significant, S = Significance

To test the association between the knowledge scores and socio demographic variables, the following null hypothesis was formulated:

H_{02}: There is no significant association between level of knowledge and selected Socio-demographic variables of adolescents.

The findings of the study revealed that there was no significant association between pre test knowledge scores with the selected socio demographical variables such as age (χ^2 =2.032), gender(χ^2 =.188) ,area of residence(χ^2 =0.0705) , pocket money per month (χ^2 =6.841), occupational status of father (χ^2 =1.005),and mother(χ^2 =2.029) , family income per month (χ^2 =2.700), source of information(χ^2 =6.709),

frequency of junk food consumption (χ^2 =1.043) and source of junk food- (χ^2 =1.251) at 0.05 level of significance.

4. Conclusion

The findings of the study revealed that there was a marked increase in overall knowledge level scores (20.57) of post-test than the pre-test (14.02). The overall improvement in the mean score was 6.567 with the paired "t" value 14.635 which was highly significant at <.0.05. The mean difference between pre-test and post-test knowledge score was true difference and not a chance difference. This indicates that the structured teaching programme was significantly effective in increasing knowledge of adolescents. These findings will be helpfull in areas of Nursing Education, Nursing Practice, Nursing Administration and Nursing Research.

5. Recommendation

Based on the findings of present study the following recommendations were made:

- A future study can be conducted in rural settings.
- A comparative study can be carried out to ascertain knowledge, attitude and behaviors' regarding adolescents' nutritional pattern with a control group design.
- A similar study can be conducted in higher secondary schools and colleges.
- Knowledge, attitude and practice of consuming junk foods among rural and urban adolescents can be compared.

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7. Conflict of Interest

None

8. **Source of Funding**

Self

9. Ethical Clearance

Permission has been taken prior the study

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