Statement of the Problem: A Study to Assess the Effectiveness of Video Assisted Teaching on Knowledge and Attitude of Adolescents Regarding Healthy Food Habits in Selected School of D&NH

Maulika Patel[1], Mrs. Priyanka[2]

[1]M.Sc Nursing, Shri Vinoba Bhave College of Nursing, Silvassa
[2]Assistant Professor, Shri Vinoba Bhave College of Nursing, Silvassa

ABSTRACT

Background: The world health organization (WHO) defines an adolescent as any person between ages 10–19. During adolescent various physiological changes occurs as a result, nutritional requirement of the body increases tremendously, therefore important to consume a balance diet at this stage. In adolescent various health problem occur such as reproductive health problems, nutritional health problem, psychosocial problem etc., but due to poor intake and availability of diet major health problem is under nutrition or over nutrition. Adolescent especially school going children are most vulnerable towards the problem like undernutrition or obesity and when they grow in age this adverse health tendency continues to persist and impairs the health and wellbeing of adolescent population and increase the risk of type 2 diabetes, cardiovascular disease, non-alcoholic fatty liver disease and some cancer.

Aim: The aim of the study was to assess the effectiveness of video assisted teaching on healthy food habits among adolescents.

Methodology: In this study, pre-experimental research design was used. For total 100 adolescents who met the sampling criteria were selected with Simple random sampling technique from the selected school of D&NH. The data were collected using structure knowledge questionnaire and 5-point attitude scale.

Results: The result revealed that a significant difference in the mean pre-test knowledge score (9.13) and the mean post-test knowledge score (17.08) of adolescent after administering of video assisted teaching as measured by 't' test (27.248) which was highly significant at 0.001 level of significance. It shows that there was significant difference in mean attitude pre-test score (42.87) and post-test attitude score (49.17) of adolescents, the 't' test measured (11.815) which shows highly significance at 0.001 level of significance. gender shows that Significant association on knowledge and attitude with selected demographic variable.

Conclusion: The study proved that video assisted teaching is an effective teaching strategy in improving the knowledge and attitude of adolescents related healthy food habits. Hence, there is a need to create awareness about healthy food habits among adolescents in school or community area.

Introduction:

Today's adolescents (24%) are tomorrows adults who are the strength of the nation. The word adolescent is derived from Latin word adolescence which means to grow in maturity. Adolescence is a dynamic face of development in the life of an individual. WHO considers adolescence to be the period between 10 to 19 years which generally encompasses the time from the onset of puberty to the full legal age. Adolescence is a nutritionally vulnerable time when rapid physical growth increases nutrient demands. Dietary behaviours established in adolescence may contribute to nutrition-related problems that have consequences for long-term health. Growth failure and micronutrient inadequacy during childhood and adolescence can delay growth and create high risk of chronic diseases in adulthood. Puberty is accompanied by a growth spurt that increases the requirement for both macronutrients and micronutrients. These higher requirements are balanced by a more efficient use of protein for development rather than energy. For, females, pubertal timing is affected by childhood body mass index (BMI) and percentage of body fat.

In India, 40% of girls and 18 % of boys are anemic. Anemia among adolescent adversely affect growth, resistance to infections, cognitive development and wok productivity. During adolescent various physiological changes occurs as a result, nutritional requirement of the body increases tremendously, therefore important to consume a balance diet at this stage. with changing diet and physical activity levels, overweight and obesity are also emerging problems, particularly among urban resident and wealthier households. The consumption of processed food high in fat and sugar is rising, and adolescent and adult are becoming increasingly sedentary. Overweight and obesity in adolescent girls is associated with obesity in adult women, which increase the risk of diabetes, hypertension and infant overweight and obesity. Adolescence provides an opportunity to correct nutritional deficiencies that may have occurred in early life and to catch-up on growth, and to establish good dietary behaviours.

Method:

Study design:

A pre-experimental study was conducted in selected school of D&NH

Subjects:

A total of 100 school children were included in the study. The participant were selected through a random sampling technique. The inclusion criteria are the students who is studying in 8th, 9th and 10th standard in a selected upper primary and higher secondary school of Dadra and Nagar Haveli, the student who is willing to participate in the study, The student who can able to read, write and understand Gujarati, Hindi and English.

Study tool:

A self-structured questionnaire was administered to collect demographic information from the participants. This included data on age in year, gender, religion, year of school study, type of family, father occupation, mother occupation, family income, any previous knowledge, if yes sources of information, type of diet, how much pocket money are do you get weekly, does any family member in your house have hypertension/Diabetes, how many times you have consuming junk food in a day, skipping meals.

Data analysis:

Data analysis was done by using the both descriptive and inferential statics based on the objective and hypothesis of the study. Descriptive analysis was presented with number and percentage, mean and

standard deviation. Chi-square test were used to find out the effectiveness of video assisted teaching on knowledge and attitude of adolescents regarding healthy food habits of adolescents.

Results:

The result revealed that a significant difference in the mean pre-test knowledge score (9.13) and the mean post-test knowledge score (17.08) of adolescent after administering of video assisted teaching as measured by 't' test (27.248) which was highly significant at 0.001 level of significance. It shows that there was significant difference in mean attitude pre-test score (42.87) and post-test attitude score (49.17) of adolescents, the 't' test measured (11.815) which shows highly significance at 0.001 level of significance. gender shows that Significant association with knowledge and attitude with selected demographic variable.

SECTION A: DEMOGRAPHIC VARIABLE

Table :1 demographic characteristic of the participants

N=100

R NO.	OCIO-DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE
1	**Age in year**		
	a) 13 years	11	11.00
	b) 14 years	27	27
	c) 15 years	46	46
	d) 16 years	16	16
2	**Gender**		
	a) Male	45	45.00
	b) Female	55	55.00
3	**Religion**		
	a) Hindu	99	99.00
	b) Christian	01	1.00
	c) Muslim	00	0.00
	d) Others	00	0.00
4	**Year of school study**		
	a) 8th standard	12	12.00
	b) 9th standard	50	50.00
	c) 10th standard	38	38.00
5	**Type of family**		
	a) Joint family	64	64.00
	b) Nuclear family	36	36.00
	c) Extended family	00	0.00
6	**Father occupation**		
	a) Professional	28	28.00
	b) Semi professional	04	4.00

	c) Clerical/shop/farmer	48	48.00
	d) Skilled worker	03	3.00
	e) Semi-skilled worker	04	4.00
	f) Unskilled worker	01	1.00
	g) unemployment	12	12.00
7	**Mother occupation**		
	a) Professional	05	5.00
	b) Semi professional	03	3.00
	c) Clerical/shop/farmer	36	36.00
	d) Skilled worker	05	5.00
	e) Semi-skilled worker	02	2.00
	f) Unskilled worker	10	10.00
	g) Unemployment	39	39.00
8	**Family income (in rupees)**		
	a) $\geq 185,895$	00	0.00
	b) 92951 – 185894	00	0.00
	c) 69535 – 92950	42	42.00
	d) 46475 – 69534	23	23.00
	e) 27883 – 46474	13	13.00
	f) 9308 – 27882	22	22.00
	g) ≤ 9307	0	0.00
9	**Type of diet**		
	a) Vegetarian	63	63.00
	b) Non vegetarian	37	37.00
10	**How much pocket money are do you get weekly? (in rupees)**		
	a) ≤ 40 Rs	35	35.00
	b) 50 - 70 Rs	21	21.00
	c) 70-100 Rs	27	27.00
	d) above 100 Rs	17	17.00
11	**Does any family member in your house have hypertension/diabetes?**		
	a) Yes	56	56.00
	b) No	44	44.00
12	**How many times you have consuming food in a day?**		
	a) 0	0	0.00
	b) 1	65	65.00
	c) 2 or 3	35	35.00
	d) 4 or more than 4	0	0.00
13	**Skipping of meals in a week**		
	a) Never	41	41.00

		b) 1-2 times	59	59.00
		c) 2-4 times	0	0.00
		d) 4-5 times	0	0.00
14	**Sources of information regarding healthy food habits**			
		a) Yes	100	100.00
		b) no	0	0.00
15	**If yes, specify the sources of information**			
		a) T.V., Radio, News Paper, Internet	90	90.00
		b) Peer group	10	10.00
		c) Teacher	0	0.00
		d) Family	0	0.00
		e) Health worker	0	0.00

SECTION B-1: ANALYSIS OF PRETEST AND POSTTEST KNOWLEDGE SCORE OF ADOLSCENTS ON HEALTHY FOOD HABITS

Table No.2 Area wise mean SD, to assess the pre-test and post-test knowledge score regarding healthy food habits among adolescents in selected school of Dadra & Nagar Haveli.

Pre-test score		Post-test score	
Mean	**SD**	**Mean**	**SD**
9.13	2.444	17.08	1.773

Above table shows that mean of pre-test is 9.13, which is increase to 17.08 after post-test. The SD in pre-test and post-test are 2,444 and 1,773 respectively. Increase in post-test mean reveals that there was increase in knowledge related to healthy food habits among adolescents after administration of video-assisted teaching.
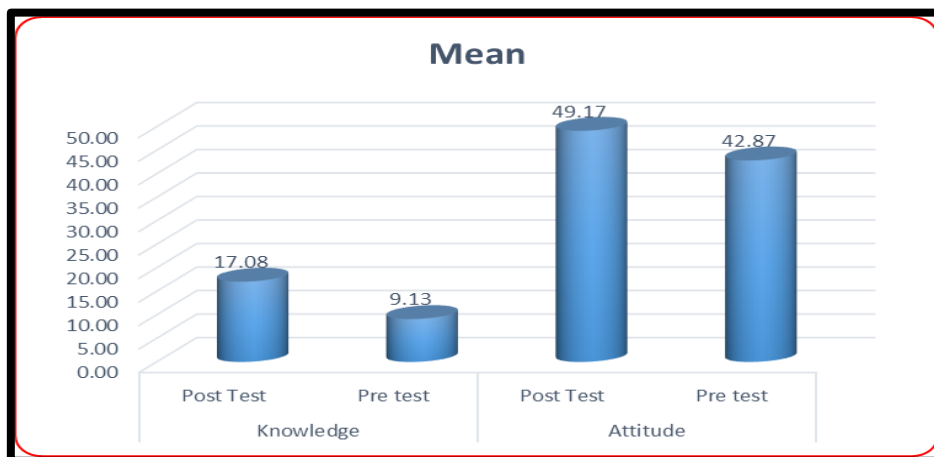

Figure 1: Area wise mean percentage distribution to assess the level of knowledge on healthy food habits among adolescents.

ANALYSIS OF PRE-TEST AND POST-TEST KNOWLEDGE SCORE

Table no. 3: Frequency and percentage wise distribution to assess the effectiveness of video assisted teaching on knowledge and attitude regarding healthy food habits among adolescents in selected school of Dadra & Nagar Haveli.

| LEVEL OF KNOWELDE | KNOWELDGE SCORE | | | |
| | Pre-test | | Post-test | |
	Frequency	Percentage	Frequency	Percentage
Inadequate	29	29.00	0	0.00
Moderate	68	68.00	4	4.00
Adequate	3	3.00	96	96.00
Total	100	100.00	100	100.00

The above table depict that in the pre-test, the maximum number of adolescents 29 (29%) had inadequate knowledge on healthy food habits and 68 (68%) had moderate knowledge of healthy food habits and only 3 (3%) had adequate knowledge of healthy food habits. They had the moderate knowledge may be because of lack of information regarding healthy food habits. Whereas in post-test the majority 96 (96%) of adolescents had adequate knowledge and only 4 (4%) had moderately adequate knowledge on healthy food habits.

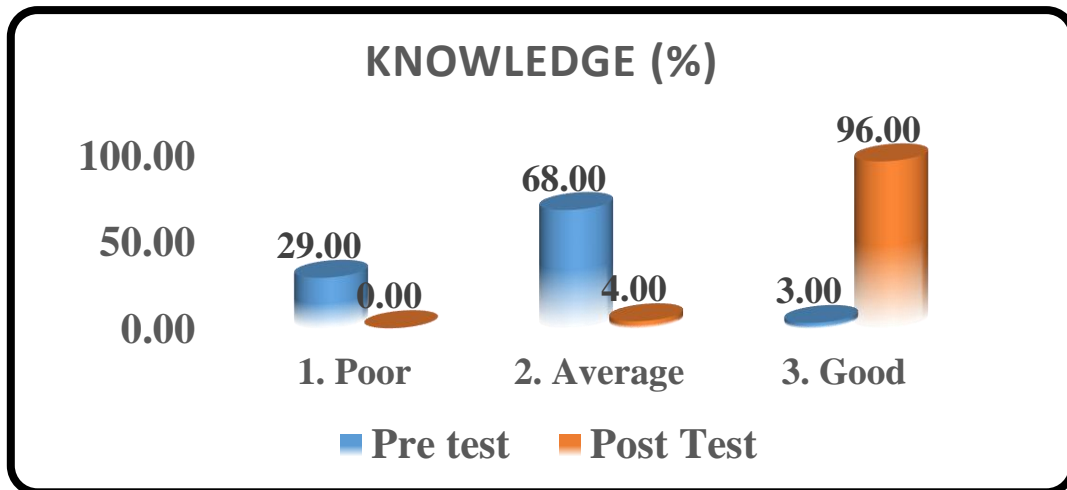**Figure 2: Frequency and percentage wise distribution to assess the knowledge on healthy food habits.**

SECTION B.2 ANALYSIS OF PRE-TEST AND POST-TEST ATTITUDE SCORE OF ADOLESCENTS

Table 4: Mean and SD the comparison between pre-test and post-test to assess the effectiveness of video assisted teaching on attitude regarding healthy food habits.

Pre-test		Post-test	
Mean	SD	Mean	SD

42.87	4.677	49.17	2.590

The above table shows that the mean of pre-test is 42.87, which increase to 49.17 after post-test. SD in pre-test and post-test are 4.677 and 2.590 respectively.

There was an increase in attitude related to healthy food habits among adolescents after administration of video assisted teaching on healthy food habits.

ANALYSIS OF PRE-TEST AND POST-TEST ATTITUDE SCELE

Table 5: frequency and percentage wise distribution to assess the effectiveness of video assisted teaching on healthy food habits regarding healthy food habits in selected school.

Level of attitude	Attitude score			
	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Positive attitude	26	26.00	92	92.00
Negative attitude	74	74.00	8	8.00
Total	100	100.00	100	100.00

The above table describe that in the pre-test the minimum number of adolescents 26 (26%) had positive attitude and 74 (74%) had negative attitude on healthy food habits. whereas in the post-test the maximum number of adolescents 92 (92%) had positive attitude and only 8 (8%) had negative attitude towards healthy food habits
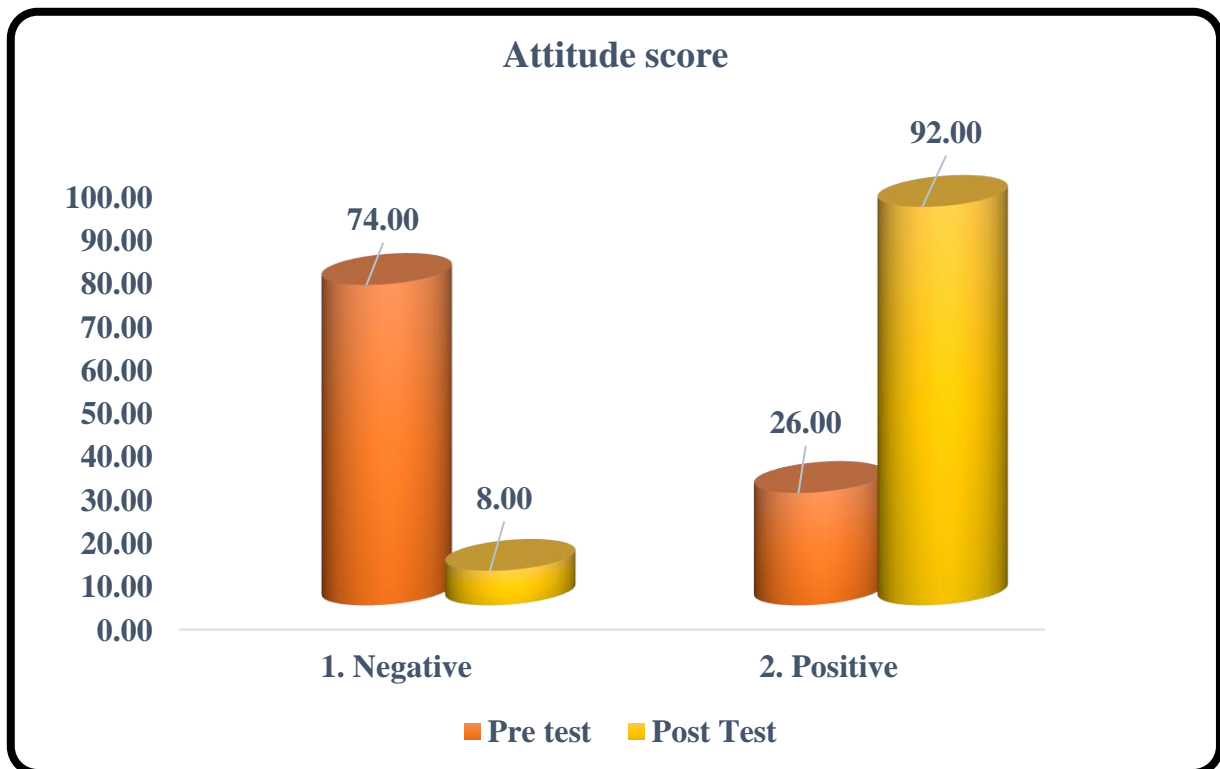

Figure 3: Area wise distribution to assess the level of attitude on healthy food habits among adolescents.

SECTION C: EFFECTIVENESS OF VIDEO ASSISTED TEACHING

Table 6: Paired 't'-test was used to assess the effectiveness of video assisted teaching on knowledge and attitude regarding healthy food habits.

Sr. No.	Variables	Pre-test		Post-test		't' value	P value	Significance
		Mean	SD	Mean	SD			
1	Knowledge	9.13	2.444	17.08	1.773	27.248	0.001	HS
2	Attitude	42.87	4.677	49.17	2.590	11.815	0.001	HS
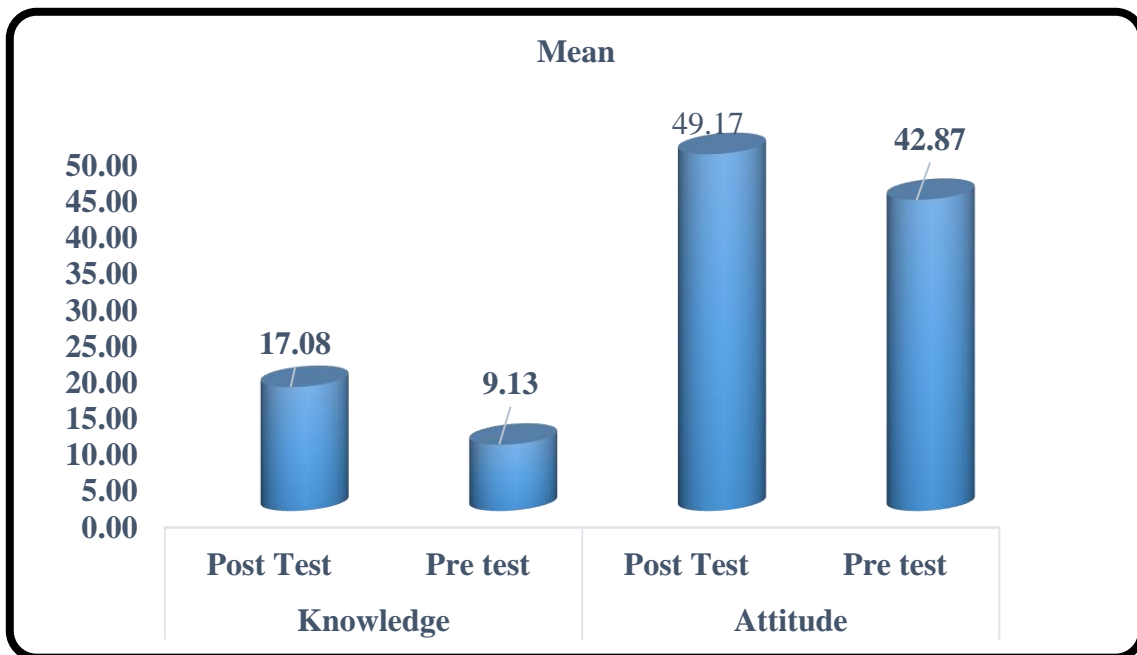
Figure 4: Mean pre-test and post-test wise distribution to assess the knowledge and attitude on healthy food habits among adolescents.

SECTION D: ASSOCIATION BETWEEN THE PRE-TEST KNOWLEDGE SCORE WITH SELECTED DEMOGRAPHIC VARIABLES

Table no. 7: Association between the level of knowledge in pre-test and selected demographic data.
N = 100

Demographic variable	Inadequate		Moderate		Adequate		X^2 (df)	p- value
	F	%	F	%	F	%		
Age in year								
13 years	5	5.00	6	6.00	0	0.00		
14 years	7	7.00	19	19.00	1	1.00	3.538	0.739
15 years	11	11.00	33	33.00	2	2.00	df=6	NS
16 years	6	6.00	10	10.00	0	0.00		
Gender								
Male	8	8.00	34	34.00	3	3.0.	7.907	0.019
Female	21	21.00	34	34.00	0	0.00	df=2	**S**

Religion								
Hindu	28	28.00	68	68.00	3	3.00	2.473	0.290
Christian	1	1.00	0	0.00	0	0.00	df=2	NS
Muslim	29	29.0	0	0.00	0	0.00		
Other	0	0.00	0	0.00	0	0.00		
Year of school study								
8th standard	7	7.00	33	5.00	0	0.00	7.511	0.111
9th standard	15	15.00	30	33.00	2	2.00	df=4	NS
10th standard	7	7.00		30.00	2	2.00		
Type of family								
Joint family	17	17.00	44	44.00	3	3.00	2.066	0.356
Nuclear family	12	12.00	24	24.0	0	0.00	df=2	NS
Extended family	0	0.00	0	0.0	0	0.00		
Father occupation								
Professional	8	8.00	20	20.00	0	0.00		
Semi - professional	1	1.00	3	3.00	0	0.00	6.623	0.881
Clerical/shop/farmer	14	14.00	32	32.00	2	2.00	df=12	NS
Skilled worker	1	1.00	2	2.00	0	0.00		
Semi-skilled worker	2	2.00	2	2.00	0	0.00		
Unskilled worker	1	1.00	0	0.00	0	0.00		
Unemployment	2	2.00	9	9.00	1	1.00		
Mother occupation								
Professional	1	1.00	4	4.00	0	0.00.0		
Semi professional	2	2.00	1	1.00	0	.00	9.804	
Clerical/shop/farmer	11	11.00	23	23.00	2	2.00	df=12	0.633 NS
Skilled worker	2	2.00	3	3.00	0	0.00		
Semi-skilled worker	0	0.00	2	2.00	0	0.00		
Unskilled worker	0	0.00	10	10.00	0	0.0		
Unemployment	13	13.00	25	25.00	1	1.00		
Family income								
≥ 185,895								
92951 - 185894	0	0.00	0	0.00	0	0.00		
69535 - 92950	11	11.00	30	30	1	1.00	5.421	

46475 - 69534	9	9.00	14	14	0	0.00	df=6	0.491
27883 - 46474	3	3.00	10	10	0	0.00		NS
9308 – 27882	6	6.00	14	14	2	2.00		
≤ 9307	0	0.00	0	0.00	0	0.00		
Type of diet								
Vegetarian	19	19.00	43	43.00	1	1.00	1.213	0.545
Non-vegetarian	10	10.00	25	25.00	2	2.00	df=2	NS
How much pocket money are do you get weekly? (in rupees)								
≤40Rs.	12	12.00	23	23.00	0	0.00	11.209	0.082
50 - 70 Rs.	8	8.00	11	11.00	2	2.00	df=6	NS
70-100 Rs.	8	8.00	19	19.00	0	0.00		
above 100 Rs.	1	1.00	15	15.00	1	1.00		
Does any family member in your house have hypertension / diabetes ?							0.289 df=2	0.865 NS
Yes	17	17.00	37	37.00	2	2.00		
No	12	12.00	31	31.00	1	1.00		
How many times you have consuming junk food in a day?							0.155 df=2	
1								
2 or 3	18	18.00	45	45.00	2	2.00		0.926
4 or more than 4	11	11.00	23	23.00	1	1.00		NS
Skipping of meals in a week								
Never	10	10.00	30	30.00	1	1.00		
1-2 times	19	19.00	38	38.00	2	2.00	0.855	0.652
2-4 times	0	0	0	0.00	0	0.00	df=2	NS
4-5 times	0	0	0	0.00	0	0.00		
Source of information regarding healthy food habits								
Yes	29	29.00	68	68.00	3	3.0		Constant
no								

If yes, specify the sources of information							
T.V., Radio, News Paper, Internet	28	28.00	59	59.00	3	3.00	
	1	1.00	9	9.00	0	0.00	2.507	0.285
Peer group	0	0.00	0	0.00	0	0.00	df=2	NS
Teacher	0	0.00	0	0.00	0	0.00		
Family	0	0.00	0	0.00	0	0.00		
Health worker	0	0.00	0	0.00	0	0.00		
Any other, specify____	0	0.00	0	0.00	0	0.00		

The above table shows the association between the level of knowledge with their selected demographic variable which was assess by chi square test.

Present study findings shows that there was significant association in gender x2= (0.05) 7.907,0.019; p <0.05), and other variable had no association between demographic data such as age in year, religion, year of school study, type of family, father occupation, mother occupation, family income, type of diet, how much pocket money are do you get weekly? (in rupees), does any family member in your house have hypertension/diabetes, how many times you have consuming junk food in a day,Skipping of meals in a week, sources of information regarding healthy food habits, if yes specify the sources of information.

Table no. 8: Association between the level of attitude in pre-test and selected demographic data.
N = 100

Demographic variable	Negative		Positive		X² (df)	p- value
	F	%	F	%		
Age in year						
13 years	7	7.00	4	4.00		
14 years	23	23.00	4	4.00	3.470	0.325
15 years	34	34.00	12	12.00	df=3	NS
16 years	10	10.00	6	6.00		
Gender						
Male	37	37.00	8	8.00	2.875	0.090
Female	37	37.00	18	18.00	df=1	S
Religion						
Hindu	73	73.00	26	26.0	0.355	
Christian	1	1.0	0	0.00	df=1	0.551
Muslim	0	0.00	0	0.00		NS
Other	0	0.00	0	0.00		
Year of school study						
8th standard	10	10.00	2	2.00	3.801	0.150
9th standard	40	40.00	10	10.00	df=2	NS
10th standard	24	24.00	14	14.00		
Type of family						

Joint family	48	48.00	16	16.00	0.092	0.761
Nuclear family	26	26.00	10	10.00	df=1	NS
Extended family	0	0.00	0	0.00		
Father occupation						
Professional	21	21.00	7	7.00		
Semi professional	4	4.00	0	0.00		
Clerical/shop/farmer	33	33.00	15	15.00	3.521	
Skilled worker	3	3.00	0	0.00	df=6	0.741
Semi-skilled worker	3	3.00	1	1.00		NS
Unskilled worker	1	1.00	0			
Unemployment	9	9.00	3			
mother occupation						
Professional	4	4.00	1	1.00		
Semi professional	1	1.00	2	2.00		
Clerical/shop/farmer	29	29.00	7	7.00	5.190	0.520
Skilled worker	4	4.00	1	1.00	df=6	NS
Semi-skilled worker	1	1.00	1	1.00		
Unskilled worker	6	6.00	4	4.00		
Unemployment	29	29.00	10	10.00		
Family income						
≥ 185,895	0	0.00	0	0.00		
92951 - 185894	0	0.00	0	0.00		
69535 - 92950	32	32.00	10	10.00	6.144	
46475 - 69534	13	13.00	10	10.00	df=3	0.105
27883 - 46474	12	12.00	1	1.00		NS
9308 – 27882	17	17.00	5	5.00		
≤ 9307						
Type of diet						
Vegetarian	46	46.00	17	17.00	0.086	0.770
Non vegetarian	28	28.00	9	9.00	df=1	NS
How much pocket money are do you get weekly? (in rupees) ≤40Rs.						
50 - 70 Rs.	27	27.00	8	8.00	1.655	
70-100 Rs.	17	17.00	4	4.00	df=3	0.647
above 100 Rs.	19	19.00	8	8.00		NS
	11	11.00	6	6.00		
Does any family member in your house have hypertension /diabetes ?						
Yes	41	41.00	15	15.00	0.041	0.840
No	33	33.00	11	11.00	df=1	NS

How many times you have consuming junk food in a day?						
0	0	0.00	18	18.00	0.276	0.599
1	47	47.00	8	8.00	df=1	NS
2 or 3	27	27.00	0	0.00		
4 or more than 4	0	0.00	0	0.00		
Skipping of meals in a week						
Never	32	32.00	9	9.00	0.592	
1-2 times	42	42.00	17	17.00	df=1	0.442
2-4 times	0	0.00	0	0.00		NS
4-5 times	0	0.00	0	0.00		
Source of information regarding healthy food habits						
Yes	74	74.00	26	26.00		Constant
no	0	0.00	0	0.00		
If yes, specify the sources of information						
T.V., Radio, News Paper, Internet	65	65.00	25	25.00		
	9	9.00	1	1.00	1.478	0.224
Peer group	0	0.00	0	0.00	df=1	NS
Teacher	0	0.00	0	0.00		
Family	0	0.00	0	0.00		
Health worker	0	0.00	0	0.00		
Any other, specify____	0	0.00	0	0.00		

The above table shows the association between the level of attitude with their selected demographic variable which was assess by chi square test.

Present study findings shows that there was significant association in gender x^2= (0.05) 7.907,0.019; p <0.05), and other variable had no association between demographic data such as age in year, religion, year of school study, type of family, father occupation, mother occupation, family income, type of diet, how much pocket money are do you get weekly? (in rupees), does any family member in your house have hypertension/diabetes, how many times you have consuming junk food in a day, skipping of meals in a week, sources of information regarding healthy food habits, if yes specify the sources of information.

References:
1. https://my.clevelandclinic.org/health/articles/7060-adolescent-development#:~:text=what %20is%20own%20moral%20compass.
2. World Health Organization, Adolescent health in south east Asia region, Https://www.who.int/health-topic/adolescent-health#:~:text=WHO%

3. https://www.who.int/health-topic/adolescent-health.Institute of health Metrics and Evaluation. Global Health Data Exchange (GHDx).2020

4. Ms. Frederika Meijer, A profile of adolescents and youth in India, 2014, United Nation Population-Fund-India

5. Mental health of adolescents [Internet]. www.who.int. [cited 2024 Jan 2]. Available from:https://www.who.int//news-room/fact-sheets/detail/adolescent-mental-health/?gclid=EAIaIQobChMI7IOyvau-gwMVDhODAx13bQjNEAAYASAAEgKOUfD_BwE

6. Sharon Oostheoek. Earning junk foods can harm a teen's brain. Science news explores November 19, 2020. https://www.snexplores.org/article/junk-food-can-harm-teen-brains#:~:text=In%20fact%2c%20if%20you're,impulsive%20behaviours%2c%20says%20amy%ro Reichelt.

7. Global achievements 2023. Ward health organization. Healthy diet https://www.who.int/initiatives/behealthy/healthy-diet#:~:text=A%20healthy%20diet%20is%20essential,are%20essential%20for%20healthy%20diet.

8. 9500 Euclid Avenue, Cleveland, Ohio 44195/800.223,2273. ©2024 cleveland clinic, all rights researved.https://www.unicef.org/india/what-we-do/adolescent-nutrition

9. Adolescent nutrition [Internet]. www.unicef.org. Available from: https://www.unicef.org/india/what-we-do/adolescent-nutrition

10. Zulfiqar Bhutta, Aga Khan university,Karachi , pakishtan. Child and adolescent health and development. National centre for biotechnology information. 3rd edition https://www.Ncbi.nih.gov/pmc/articles/PMC6029598/