RESEARCH PAPER

A Study to evaluate the effectiveness of video assisted teaching on knowledge regarding the effects of fast food consumption on health among adolescent in selected school at puducherry

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ABSTRACT

Background: Fast – food consumption among adolescents has increased significantly, contributing to poor dietary habits and long-term health risks. Adolescents often lack adequate Knowledge regarding the harmful effects of fast -food intake .Health education pays a crucial role in improving awareness and promoting healthy lifestyle practices .Video –Assisted teaching is an effective method for delivering health information in an engaging and understandable manner.

Methods: A Pre-Experimental one group pre and post-test research design was used .A total 60 adolescents were selected using convenient sampling technique. Data were collected using a Self- structured Knowledge questionnaire and an attitude questionnaire and analyzed using descriptive and inferential statistics.

Results: After the intervention ,52 (86.7%) had adequate knowledge , and 8 (13.3%) had moderate knowledge ,with none remaining in the inadequate category .The mean pre-test score was 6.87±1.662, and the post –test score 59,p<0.001)indicated to 18.00±2.017,showing a mean difference of 11.13.The paired t-test value (t=38.312,df =59,p<0.001)indicated a highly significant improvement in knowledge.

Conclusion: The study concludes that the video-assisted teaching is a highly effective educational strategy to improve adolescents Knowledge regarding the health effects of fast food consumption.

Keywords: Adolescents, knowledge ,Fast food consumption ,video assisted teaching.

"Unhealthy diets and physical inactivity are among the leading risk factors for global mortality"_world Health Organization

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INTRODUCTION

Adolescents is a crucial developmental period characterized by rapid physical ,psychological and social changes .According to the world health organization ,Adolescents are individuals aged between 10 to 19 years .This stage marks the transition from childhood to adulthood ,during which individuals establish behavioral patterns that can influence lifelong health . Nutritional habits formed during adolescence play a vital role in growth, development, and overall Well-being, However adolescents are increasingly exposed to unhealthy dietary patterns due to urbanization, globalization, and lifestyle changes. These changes often lead to poor dietary choices, including increased consumption of fast food, which may negatively impact their health outcomes [(1)].

Fast food consumption has been highly prevalent among adolescents due to its convenience, affordability, taste, and aggressive marketing strategies. Fast foods are typically high in calories, saturated fats, sugars, and salt while being low in essential nutrients such as vitamins, minerals and fibers. Frequent intake of such foods is associated with various adverse health outcomes, including obesity, hypertension, and metabolic disorders .Adolescents are particularly vulnerable to these effects due to their increased nutritional needs during growth spurts. Additionally, peer influence, media exposure, and lack of nutritional awareness further contribute to unhealthy eating habits among this age group [(2)].

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The impact of fast food consumption on adolescent health is a growing public health concern worldwide. Studies have shown that excessive consumption of fast food is linked to an increased risk of non-communicable diseases such as type 2 diabetes mellitus, cardiovascular diseases, and obesity. Furthermore, unhealthy eating patterns can also affects the mental health leading to issues such as low self-esteem and poor academic performance. Therefore, it is essential to promote healthy dietary practices and increase awareness among adolescents regarding the harmful effects of fast food. Early interventions during adolescence can significantly contribute to the prevention of long-term health complications and the promotion of a healthier future generation [1,2].

Another major effects of fast food consumption is the early development of non-communicable diseases among adolescents. Diets rich in saturated fats, trans fat, sugar, and sodium increase the risk of hypertension, insulin resistance, and type2 diabetes mellitus. Studies have shown adolescents consuming fast food more than twice a week have significantly higher body mass index (BMI) levels. These unhealthy dietary patterns also contribute to lipid abnormalities and cardiovascular risks. Overtime, these conditions may persists into adulthood, leading to major chronic health complication. Health complications. Hence, fast food consumption is a significant risk factor for early onset of lifestyle diseases [4] .

Fast food consumption not only affects physical health but also has a negative impact on mental and emotional well-being. Research indicates that adolescents who consume high amount of fast food more likely to experience stress, anxiety, and depressive symptoms. Poor nutrition affects the brain development and neurotransmitter function, leading to emotional instability. Moreover, frequent fast food intake is associated with poor sleep patterns and decreased cognitive performance. These psychological effects can influence academic achievement and social interactions. Thus, unhealthy dietary habits significantly affect both mental and emotional health among adolescents.

MATERIALS AND METHODS

Research design is the architectural backbone of the study. **Pilot (2008).**

The research design is the plan, structure and strategy of investing of answering the research questions. It is the overall plan or blue print, the researcher select to carry out the study. In this study, a pre experimental one group Pre and Post-test research design was used. The setting of the study at St Joseph English Higher Secondary school at Kirumampakkam, Puducherry. In this study the investigator used non probability convenient sampling technique.

DATA COLLECTION PROCEDURE

After obtaining approval from the Institutional Ethical Committee, the data collection process will be initiated. The study will be conducted at St Joseph English Higher Secondary School, Kirumampakkam, Puducherry. The participants will be selected based on the inclusion criteria, and their participation will be entirely voluntary. Prior to data collection, the purpose and objective of the study will be clearly explained to the participants, and the written informed consent will be obtained, Assurance will be provided to the participants regarding the confidentiality and the anonymity of the information shared.

Initially, a pre-test will be conducted using a self- structured knowledge questionnaire to assess the pre – interventional level of knowledge regarding the effects of fast food consumption on health among adolescents. Following the pre-test , a video assisted teaching program will be administered to provide information about the harmful effects of fast food consumption on health .A post-test will be conducted on the 7th day using the same questionnaire to evaluate the effectiveness of the video-assisted teaching program.

The collected data will be compiled and organized in a data sheet for further analysis. Descriptive and inferential statistical methods will be used to analyze and interpret the data in order to determine the effectiveness of the intervention and the association between knowledge levels and selected demographic variables.

ETHICAL CONSIDERATION

The Research Proposal was approved by the experts, pilot study and permission for the man study and permission for the main study was obtained from the head of the department.

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RESULTS

The collected data were computerized and analyzed using SPSS version 25. The data was analyzed using descriptive statistics (distribution, mean, standard deviation) and inferential statistics (chi-square value test, correlation pearson r test). The test result have been organized and presented as given below:

SECTION A: Frequency and percentage Distribution of demographic variables among adolescents. (N=60)

Demographic variables	Category	Frequency (n)	Percentage (%)
Age	13-14 years	2	3.3%
	15-16 years	58	96.7%
Gender	Male	27	45.0%
	Female	33	55.0%
Education	11th standard	60	100%
Type of the family	Joint family	15	25.0 %
	Nuclear family	39	65.0%

	Extended family	6	10.0%
Residential area	Urban	15	25.0%
	Rural	38	63.3%
	Semi-urban	7	11.7%
Religion	Hindu	45	75.0%
	Muslim	11	18.3%
	Christian	4	6.7 %
Educational status of the father	Illiterate	7	11.7%
	Primary education	15	25.0%
	Secondary education	15	25.0%
	Higher education	16	26.7%
	Graduate & above	7	11.7%
Education status of the mother	Illiterate	1	1.7%
	Primary education	19	31.7%
	Secondary education	16	26.7%
	Higher secondary	16	26.7%
	Graduate & above	8	13.3%
Occupation of the father	Government employee	7	11.7%
	Private employee	13	21.7%
	Self-employed	9	15.0%
	Daily wage work	30	50.0%
	Unemployed	1	1.7%
Occupation ofthe mother	Housewife	27	45.0%
	Government employee	5	8.3%
	Private employee	15	25.0%
	Self-employed	9	15.0%
	Daily wage worker	4	6.7%
Monthly Family Income	Below ₹10,000	16	26.7%
	₹10,001 – 20,000	16	26.7%
	₹20,001 – 30,000	18	30.0%
	Above ₹ 30,000	10	16.7%
Dietary pattern	Vegetarian	5	8.3 %
	Non-vegetarian	50	83.3%
	Mixed	5	8.3%
Frequency of fast food consumption	Daily	6	10.0 %
	2-3times/week	9	15.0%
	Once a week	34	56.7%
	Occasionally	11	18.3%
Source of information about fast food	Parents	9	15.0%
	Teachers	1	1.7%
	Friends/Peers	13	21.7%
	TV/internet/ social media	36	60.0%
	Health Professionals	1	1.7%

Table 4.1Frequency and percentage Distribution of demographic variables among adolescent shows that the majority of the participants were in the age group of 15 -16 years **58 (96.7%)** While only **2 (3.3%)** Were 13-14 years old. More than half of the adolescents were females **33 (55.0%),** While males accounted for **27 (45.0%).** All participants were studying in the 11th standard **60 (100.0%).** Most of the adolescents belonged to nuclear families **39**

(65.0%), followed by joint families **15 (25.0%)** and extended families **6 (10.0%).** A large proportion resided in rural areas **38(63.3%)**, whereas **15 (25.0%)** were from urban areas and **(11.7%)** from semi-urban settings. Regarding religion, Hindus constituted **45 (75.0%),** Muslims **11 (18.3%),** and Christians **4 (6.7%).** Educational status of fathers showed that **16 (26.7%)** had higher secondary education, **15 (25.0%)** had primary or secondary education, while **7 (11.7%)** were illiterate or graduates. Mothers' education indicated that **19(31.7%)** had primary education, **16 (26.7%)** had secondary or higher education, and **8 (13.3%)** were graduates, Whereas **1 (1.7%)**. With respect to occupation, half of the fathers were daily wages **30(50.0%),** while **13 (21.7%)** were private employees are **7 (11.7%)** were government employees. Most mothers were housewives **27 (45.0%),** followed by private employees **15 (25.0%)** and self-employed **9 (15.0%)**. Monthly family income was distributed as follows: below ₹10,000 **16 (26.7%),**₹10,001 – 20,000 **16 (26.7%) ,** ₹20,001 – 30,000 **18 (30.0%) ,** and above ₹30,000 **10 (16.7%).** Dietary patterns revealed that the majority were non-vegetarians **50 (83.3%),** while **5 (8.3%)** were vegetarians and **5 (8.3%)** consumed mixed diet. Fast- food consumption was high, with **34 (56.7%)** eating fast food once a week, **9 (15.0%)** consuming it 2-3 times per week, **6 (10.0%)** daily and **11 (18.3%)** occasionally. The main source of information about fats food was television, internet and social media **36 (60.0%),** followed by peers / friends **13 (21.7%)** and parents **9 (15.0%).**

SECTION B : Table 4.2 : Frequency and Percentage Distribution of pre-test and post-test level of knowledge on effects of fast food consumption on health among adolescents (N=60).

Knowledge level	Pre-Test	Pre-Test		Post-Test	Post-Test
	Frequency (n)	Percentage (%)		Frequency (n)	Percentage (%)
Inadequate knowledge	47	78.3%		0	0%
Moderate knowledge	13	21.7%		8	13.3%
Adequate knowledge	0	0%		52	86.7%
Total	**60**	**100%**		**60**	**100%**

Table,2.4 : Frequency and percentage Distribution of Pre-test and Post-test Level of knowledge on the effects of fast food consumption among adolescents (N=60) shows that during the pre-test , the majority of adolescents had inadequate knowledge **47 (78.3%)**While **13 (21.7%)** had moderate knowledge, and none of the adolescents had adequate knowledge **0 (0%).**

In contrast, the post-test results reveal a substantial improvement in knowledge levels following the intervention. In the post-test, most adolescents demonstrated adequate knowledge **52 (86.7%),** while **8 (13.3)** had moderate knowledge. None of the adolescents remained in the inadequate knowledge category **0 (0%)** after the intervention.

SECTION C: Table 4.3: Mean and standard Deviation of pre-test and post-test level of knowledge on effects of fast food consumption on health among adolescent (N=60).

Knowledge score	Mean	Standard Deviation
Pre-test knowledge score	6.87	1.662
Post-test knowledge score	18.00	2.017

Table 4.3: shows that the standard deviation pre-test knowledge score of adolescents was **6.87 ± 1.662.** IN contrast, the mean and standard deviation post-test knowledge score increased substantially to **18 .88±2.017.**

SECTION D: Association between pretest level of knowledge on effects of fast food consumption on health with selected demographic variables among adolescents. (N=60).

Demographic variables	Category	Inadequate knowledge	Moderate knowledge	X^2value	df	p-value
		N (%)	N (%)			
Age (years)	13-14 years	2 (4.3%)	0 (0%)	0.572	1	0.449
	15-16 years	45 (95.7%)	13(100%)			
Gender	Male	22 (46.8%)	5 (38.5%)	0.287	1	0.592
	Female	25(53.2%)	8(61.5%)			

Education	11th standard	47 (100%)	13(100%)	-	-	Constant
Type of family	Joint	13 (27.7%)	2(15.4%)	1.141	2	0.565
	Nuclear	30(63.8%)	9 (69.2%)			
	Extended	4(8.4%)	2(15.4%)			
Residential area	Urban	9(19.1%)	6(46.2%)	3.696	2	0.137
	Rural	32(68.1%)	6 (46.2%)			
	Semi-urban	6(12.8%)	1(7.7%)			
Religion	Hindu	37 (78.7%)	8(61.5%)	7.183	2	0.028
	Muslim	9(19.1%)	2 (15.4%)			
	Christian	1 (2.1%)	3(23.1%)			
Father's education status	Illitert	5 (10.6%)	2 (15.4%)	9.175	4	0.057
	Primary	15 (31.9%)	0 (0%)			
	Secondary	13 (27.7%)	2 (15.4%)			
	Higher Secondary	10 (21.3%)	6 (46.2%)			
	Graduate+	4 (8.5%)	3 (23.1%)			
Mother's Education Status	Illiterate	1(2.1%)	0.(0%)	7.108	4	0.130
	Primary	17 (36.2%)	2(15.4%)			
	Secondary	14(29.8%)	2(15.4%)			
	Higher Secondary	11 (23.4%)	5 (38.5%)			
	Graduate +	4 (8.5%)	4(30.8)			
Occupation	Government employee	5 (10.6%)	2(15.4%)	1.546	4	0.818
	Private	11(23.4%	2(15.4%)			
	Self employed	6 (12.8%)	3(23.1%)			
	Daily wages	24(51.1%)	6(46.2%)			
	Unemployed	1(2.1%)	0(0%)			
Occupation of the mother	House wife	23 (48.9%)	4(30.8%)	1.724	4	0.784
	Government employee	4(8.5%)	1(7.7%)			
	Private	11(23.4%)	4(30.8%)			
	Self-employed	6 (12.8%)	3(23.1%)			
	Daily waged	3 (6.4%)	1(7.7%)			
Monthly income of the family	<10,000	15(31.9%)	1 (7.7%)	10.393	3	0.016*
	10,001 -20,000	15(31.9%)	1(7.7%)			
	20,001-30,000	10(21.3%)	8 (61.5%)			
	>30,000	7(14.9%)	3 (23.1%)			

Dietary pattern	Vegetarian	4(8.5%)	1 (7.7%)	0.020	2	0.990
	Non-vegetarian	39(83%)	11(84.6%)			
	Mixed	4 (8.5%)	1(7.7%)			
Frequency of fast food consumption	Daily	5 (10.6%)	1 (7.7%)	1.338	3	0.720
	2-3 times per week	6(12.8%)	3 (23.1%)			
	Once a week	28(59.6%)	6 (46.2%)			
	Occasionally	8(17.0%)	3(23.1%)			
Source of information	Parents	9(19.1%)	0 (0.0%)	16.632	4	0.007*
	Teachers	0	1 (7.7%)			
	Friends	10 (23.1%)	3(23.1%)			
	TV/Internet/Media	27(57.4%)	9 (69.2%)			
	Health professionals	1 (2.2%)	0(0%)			

P<0.05 – significant

Table 4.5: present the association between the pre-test level of knowledge on the effects of fast-food consumption and selected demographic variables among adolescents (N=60). The findings shows that the demographic variables **religion, monthly income of the family** and **source of information** had a statistically significant association with pre-test knowledge levels.

A significant association was observed with **religion** (x2=7.183,p= 0.028), indicating that adolescents' knowledge levels varied across different religious groups. Similarly, **monthly family income** showed a significant association (x2 = 10.393,p = 0.016), suggesting that adolescents from higher- income families had better pre-test knowledge that adolescents from the lower income groups . Another significant association was found with the **source of information** (x2 = 16.632, p= 0.007), indicating that the medium through which adolescents received information influenced their knowledge levels.

DISCUSSION

Frequency and Percentage Distribution of pre-test and post-test Level of knowledge on the Effects of fast food consumption among adolescents (N-60) Shows that during the pre-test, the majority of adolescents had inadequate knowledge **47 (78.3%),** while **13(21.7%)** had moderately adequately knowledge, and none had adequate Knowledge **0(0%).**

In contrast, the post-test results reveal a substantial improvement in knowledge levels following the intervention. In the post-test, most adolescents demonstrated adequate knowledge **52(86.7%),** while **8 (13.3%)** had moderately adequate knowledge. None of the adolescents remained in the adequate knowledge category **0 (0%)** after the intervention.

The effectiveness of video- assisted teaching on knowledge regarding the effects of fast food consumption among adolescents. The mean mean pre-test knowledge score was **6.87±1.662,** whereas the post-test mean score increased substantially to **18.00±2.017.**The mean difference of **11.13** indicates a marked improvement in knowledge following the intervention. The paired t-test value was found to be **t=38.312,** with **df=59,** and the corresponding p-value was **0.001(p<0.001),** which is highly significant improvement clearly demonstrate that the video assisted teaching program was highly effective in enhancing the adolescents knowledge regarding the health effects of fast food consumption. **The association between the pre-test level of knowledge on the effects of fast-food consumption and selected demographic variables among adolescents (N=60).** The findings show that the demographic variables **religion, monthly income of the family, and source of the information regarding fast food** had a significant association with pre-test knowledge levels.

A significant association was observed with **religion**(x^2=7.183,p=0.028),indicating that adolescents, knowledge levels varied across different religious groups, similarly, **monthly and family income and the source of information** had a statistically significant association (x^2=10.393,p=0.016),suggesting that adolescents from the higher income families had better pre-test knowledge than those from lower income groups. Another significant association was found with the **source of information** (x^2=16.632, p = 0.007), indicating that the medium through

which adolescents received information influenced their knowledge levels.

CONCLUSION

1) The present study aimed to assess the effectiveness of video-assisted teaching on knowledge regarding the effects of fast food consumption on heath among adolescents in St joseph higher secondary school at kirumampakkam, Puducherry. The findings of the study reveals that there was a remarkable improvement in the knowledge level of adolescents after the intervention. THE frequency and the percentage distribution of pre- test and post-test level knowledge showed that before the intervention, the majority of adolescents 47 (78.3%) had inadequate knowledge, followed by 13 (21.7%) had moderate knowledge and none had adequate knowledge. In contrast, the post-test findings indicated a substantial enhancement in knowledge following the video-assisted teaching session. After the intervention, most adolescents 52 (86.7%) had adequate knowledge, while 8 (13.3%) had moderate knowledge. Notably, none remained in the inadequate knowledge level category. The effectiveness of the video assisted teaching was further supported by the statistical analysis. The mean pre-test knowledge score was 6.87 ±1.662, Whereas the post-test mean score improved significantly to 18.00±2.017. THE mean differences of 11.13 demonstrate the substantial increase in knowledge score. THE paired t-test value ($t=38.312$, $df = 59$, $p<0.001$) indicated a highly significant improvement . Overall, the study concludes that the video-assisted teaching program was highly effective in enhancing the knowledge of adolescents regarding the health effects of fast-food consumption. This indicates the structured, visual and interactive educational interventions can greatly contribute to promoting healthy dietary practices among adolescents.

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