

A Study to Assess the Effectiveness of an Information Education Communication Module Regarding Health Hazards of Junk Food Among Late Adolescent at Selected Villages

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Abstract

Junk food refers to ready-to-eat foods that are prepared and served quickly, including a wide range of fast-food products. In recent years, the popularity and consumption of junk food have risen markedly in India, particularly among adolescents and young adults, who constitute the largest consumer group. This growing preference has made junk food a regular component of the dietary patterns of many adolescents in developing nations. Frequent consumption of these energy-dense and nutrient-poor foods contributes to excessive calorie intake, increasing the risk of overweight and obesity. These conditions are associated with several long-term health problems, including metabolic disorders, cardiovascular diseases, and a decline in overall quality of life and life expectancy. The present investigation was undertaken to determine the effectiveness of an Information, Education, and Communication (IEC) module in enhancing awareness of the health hazards associated with junk food among late adolescents. The study adopted a one-group pre-test and post-test research design to evaluate the effectiveness of the educational intervention. A total of 60 late adolescents were recruited using a convenience sampling technique. Data were gathered through a structured questionnaire and analyzed using appropriate descriptive and inferential statistical methods. The findings revealed a marked improvement in participants' knowledge after the intervention. The mean knowledge score increased from 9.17 in the pre-test to 17.16 in the post-test, indicating a significant gain in knowledge. The standard deviation changed from 2.49 before the intervention to 2.69 after the intervention, reflecting the variability in knowledge scores at the two assessment periods. A paired t-test was performed to compare the pre-test and post-test scores and to evaluate the effectiveness of the IEC module. The statistical analysis showed a significant increase in adolescents' knowledge regarding the health risks associated with junk food after exposure to the IEC module. Based on these findings, it was concluded that the educational intervention was effective in improving awareness and strengthening late adolescents' understanding of the adverse health effects of junk food. The study highlights the importance of structured educational programs in promoting healthy dietary behaviors and preventing the long-term consequences of unhealthy eating habits among adolescents.

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INTRODUCTION

“If junk is the devil, then a sweet orange is as scripture”—Foris A

In the modern era, junk food has become a common component of the daily diet of adolescents. Rapid changes in food consumption patterns, dietary habits, economic development, and evolving

lifestyles have significantly influenced eating behaviors among young people. Adequate nutrition is essential for healthy physical growth and cognitive development in children and adolescents. Despite its importance, many adolescents regularly consume junk food without sufficient knowledge of its potential health effects. Frequent consumption of these energy-dense, nutrient-poor foods can increase the risk of various health disorders and have a detrimental effect on overall health and well-being. The expression "junk food" was first coined in 1972 by Mychael Jacobson, Director of the Center for Science in the Public Interest, to describe foods that are high in calories, sugar, salt, and unhealthy fats but provide minimal nutritional value. He coined the term to draw public attention to foods that are high in calories but low in essential nutrients and raise awareness of their potential health consequences. Junk food contains high level of refined, sugar, white flour, fats, polysaturated fats, salt and numerous food additives and tartrazine and lacking in protein, vitamins and fibers coming to Indian junk food, locally called 'chat,' these mostly include the samosas, kachoris, fried items with various filling within an outer layer made of refined flour [1].

The World Health Organization (WHO) has reported that unhealthy dietary habits contribute to a substantial number of deaths globally each year. In India, the proportion of individuals who are overweight has risen considerably in recent years, reflecting a growing public health concern. Globally, adolescents aged 17–21 years represent approximately 1.2 billion people, accounting for nearly 19% of the world's population. This period is marked by rapid physical growth and development, resulting in increased nutritional requirements. Consequently, adolescents are more susceptible to the adverse effects of unhealthy eating patterns, which can negatively affect their immediate health and future well-being. Furthermore, the prevalence of overweight and obesity among children and adolescents has increased steadily over the past few decades, emerging as a major public health challenge. Research has shown a substantial rise in obesity among individuals aged 17–21 years, largely associated with unhealthy eating habits and sedentary lifestyles. These trends emphasize the need to improve adolescents' understanding of the harmful effects of frequent junk food consumption. Enhancing awareness can encourage healthier food choices, support the maintenance of a balanced diet, and reduce the risk of obesity, cardiovascular disease, diabetes, and other non-communicable lifestyle-related health conditions [2–4].

OBJECTIVES OF THE STUDY

1. To evaluate the level of knowledge regarding the health hazards of junk food among participants before the implementation of the educational intervention (pre-test).
2. To determine the level of knowledge regarding the health hazards of junk food among participants after the educational intervention (post-test).
3. To assess the effectiveness of the Information, Education, and Communication (IEC) module in improving participants' knowledge of the health risks associated with junk food consumption.
4. To examine the relationship between pre-test knowledge scores and selected demographic characteristics of the participants.

Hypotheses

- H_1 : A statistically significant difference will be observed between the participants' pre-intervention and post-intervention knowledge scores concerning the health hazards of junk food following the implementation of the Information, Education, and Communication (IEC) module.
- H_2 : A statistically significant relationship exists between the participants' baseline knowledge scores regarding the health hazards of junk food and their selected demographic characteristics.

REVIEW OF LITERATURE

Sanjay Kumar (2018)-conducted a cross sectional study on knowledge regarding hazards of junk food this study was done among 120 under graduate medical student of IGIMS, Patna for a period of 6 months the main objective of the study to determine knowledge regarding hazards of junk food and consumption among medical student, the data collection done using a pretest structured questionnaire

method, the result showed the knowledge of junk food was almost universal among adolescent medical student and majority of 83% being aware about hazards of junk food on health, all the subject continue to consume junk food most of students 48.3% were taking junk food as an alternative to dinner 26.6% as evening snack and 21.6% as an alternative to lunch 56.6% students preferred beverages was carbonated drinks consumed reason of taste avoid wastage of time [5].

Andleev Yousuf (2018) conducted a study in selected schools affiliated with the Institute of Education, University of London, United Kingdom, to assess the effectiveness of a teaching programme on students' knowledge of junk food and its associated health hazards. Data were collected using a structured questionnaire. The findings indicated a substantial increase in knowledge following the intervention, with the pre-test score recorded at 37% and the post-test score increasing to 76%. The calculated paired *t*-value for the overall knowledge score was 8.69, which was statistically significant at the 0.05 level of significance. The study concluded that the teaching programme was effective in enhancing participants' understanding of junk food and its adverse effects on health [6].

Kamala (2016) carried out a descriptive study to evaluate the knowledge of first-year B.Sc. Nursing students regarding the harmful effects of junk food at Vinayaka Missions College of Nursing, Karaikal. A total of 60 students were recruited using a non-probability convenience sampling method for this study. Information was collected through a semi-structured questionnaire to assess participants' knowledge regarding the harmful effects of junk food. The findings revealed that 55% of the students had a moderate level of knowledge, 40% exhibited inadequate knowledge, and only 5% demonstrated an adequate understanding of the adverse health effects associated with junk food consumption. These results indicate a gap in knowledge among the participants and emphasize the importance of implementing educational and awareness programs to promote healthy eating habits and improve nutritional knowledge among nursing students [7].

METHODOLOGY

This study adopted a quantitative research approach using a one-group pre-test and post-test research design. Before initiating the study, official approval was obtained from the Principal of Guru Shri Gorakshnath College of Nursing, Sonbarsa Balapar Road, Gorakhpur. The research was conducted at the Saraswati Vidya Mandir College, Gorakhpur.

A total of 60 participants were recruited using convenience sampling. Data were collected using a structured questionnaire developed to evaluate the participants' knowledge of the health hazards associated with junk food consumption. Along with the knowledge assessment, demographic information was collected to describe the characteristics of the study population of this study. The demographic variables included age, gender, educational level, religion, type of family, place of residence, and frequency of junk food intake. The required data were obtained from the selected participants using a questionnaire survey. The intervention (health teaching) was given for 1 hour to 60 sample and post test was conducted after 2 days using a structured questionnaire analysis of data was done using descriptive and inferential statistics.

RESULTS

The frequency and percentage distribution of demographic variables showed that majority of sample that is 83% were in age group of 18 years, 65% sample were in the age group of 19 years and 16.7% sample were in age group of 20 years and 10% sample were in the age group of 21 years 100% of the sample were female adolescent 71.7% of the sample were Hindu and 20% Muslim and 8.3% were Christian, 33.33% of the sample were from rural area and 66.67% from urban area, 8.34% of the sample were 3000-9000 per month 33.33% of the 9000- 15000 per month and 58.33% of the sample were >15000 per month, 40% sample having joint family and 60% of the sample were belong to nuclear family, 50% of the sample were living in their own house and 40% sample were living in hostel, 66.67% of the sample were vegetarian and 33.33% were non vegetarian.

The analysis of demographic characteristics revealed that 75% of participants had prior knowledge of the topic. Furthermore, 96.66% of the respondents reported that they were not suffering from any existing disease or health condition.

The calculated chi square value found significant in age and previous knowledge about hazards of junk food and the value found non-significant in types of family, types of food, place of living, gender, religion and area of residency.

The mean value of the level of knowledge regarding hazards of junk food among late adolescent pretest value 9.17 and posttest value 17.16. standard deviation of the level of knowledge regarding hazards of junk food among late adolescents are pretest value 2.49, posttest value 2.69. paired 't' test was used to assess the pre- and post-test knowledge scores of late adolescents regarding the hazards of junk food (Table 1 and Figure 1).

Table 2 presents the association between knowledge scores and selected demographic variables of the participants. Among the participants, the majority were 18 years of age (50, 83.0%), followed by 19 (39, 65.0%), 20 (10, 16.7%), and 21 years (1, 1.7%). All the participants were women (60, 100%). Regarding religion, most participants were Hindu (43, 71.7%), followed by Muslim (17, 20.0%) and Christian (5, 8.3%). Most participants resided in urban areas (40, 66.7%), while 20 (33.3%) resided in rural areas. Regarding family type, 36 (60.0%) participants belonged to nuclear families and 24 (40.0%) to joint families. Half of the participants (30, 50.0%) lived in their own houses, 24 (40.0%) resided in hostels, and 6 (10.0%) lived in rented houses. Most participants were vegetarians (40, 66.7%), while 20 (33.3%) were non-vegetarian. Furthermore, 45 (75.0%) participants had previous knowledge of the hazards of junk food.

Table 1. Effectiveness of IECM regarding health hazards of junk food among late adolescent students.

Area	Mean		SD		't' value	DF	Level of tabulated value	Inference
	Pre test	Post test	Pre test	Post test				
Knowledge regarding hazards of junk food among late adolescent students at Saraswati Vidya Mandir College, Gorakhpur	9.17	17.1	2.49	2.69	16.78	5	2.57	*S

*Significant at $p < 0.001$

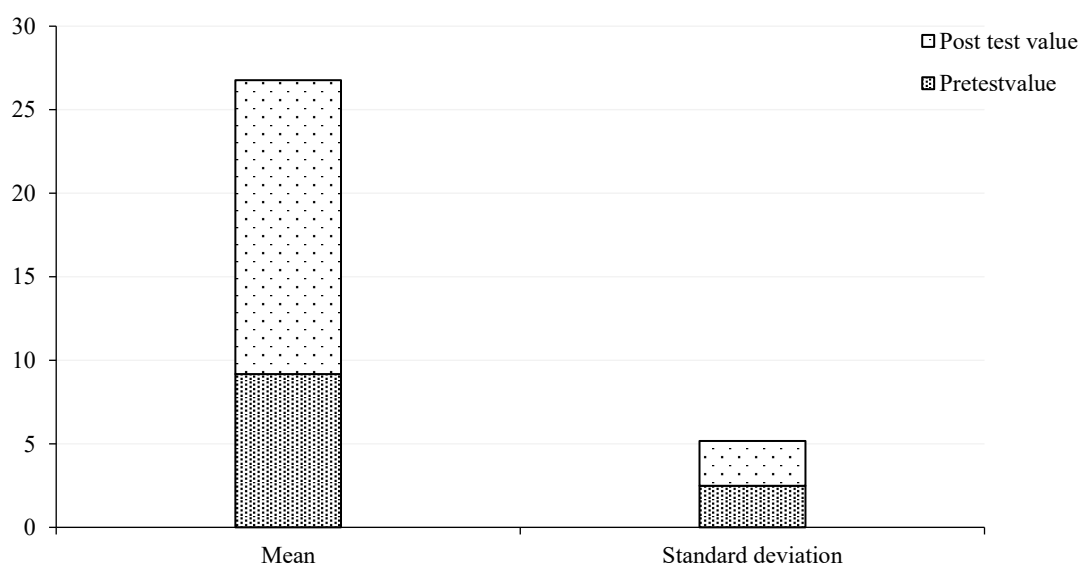


Figure 1. Effectiveness of IECM regarding health hazards of junk food among late adolescents.

Table 2. Association between knowledge score and demographic variables.

S.N.	Demographic variables	Frequency (M/F)	Percentage (%)	Degree of freedom	Calculated value (chi-square)	Tabulated value	Level of significance
1	<i>Age</i>			1	6.40	3.84	*
	18 years	50	83%				
	19 years	39	65%				
	20 years	10	16.7%				
	21 years	1	10%				
2	<i>Gender</i>			4	2.24	9.49	NS
	Male	0	0%				
	Female	60	100%				
	Transgender	0	0%				
3	<i>Religion</i>			1	3.50	3.84	NS
	Hindu	43	71.7%				
	Muslim	17	20%				
	Christian	5	8.3%				
4	<i>Area of residency</i>			4	39.07	9.49	NS
	Rural	20	33.33%				
	Urban	40	66.67%				
6.	<i>Types of family</i>			4	2.24	9.40	NS
	Joint	24	40%				
	Nuclear	36	60%				
	Broken	0	0%				
	Extended	0	0%				
7	<i>Place of living</i>			1	3.50	3.80	NS
	Hostel	24	40%				
	Own house	30	50%				
	Rented	6	10%				
8	<i>Type of food</i>			4	9.39	6.90	NS
	Vegetarian	40	66.67%				
	Non-vegetarian	20	33.33%				
	Others						
9	<i>Previous knowledge about hazards of junk food</i>			1	5.06	3.84	*
	Yes	45	75%				
	N	25	25%				

The chi-square analysis revealed that age ($\chi^2 = 6.40$, $df = 1$, $p < 0.05$) and previous knowledge regarding the hazards of junk food ($\chi^2 = 5.06$, $df = 1$, $p < 0.05$) were significantly associated with the knowledge scores. In contrast, sex, religion, area of residence, family type, place of living, and food type were not statistically significantly associated with knowledge scores ($p > 0.05$).

DISCUSSION

In demographic variables majority of sample that is 83% were in age group of 18 years, 65% sample were in the age group of 19 years and 16.7% sample were in age group of 20 years and 10% sample were in the age group of 21 years 100% of the sample were female adolescent 71.7% of the sample were Hindu and 20% Muslim and 8.3% were Christian, 33.33% of the sample were from rural area and 66.67% from urban area, 8.34% of the sample were 3000-9000 per month 33.33% of the 9000- 15000 per month and 58.33% of the sample were >15000 per month, 40% sample having joint family and 60% of the sample were belong to nuclear family, 50% of the sample were living in their own house and 40% sample were living in hostel, 66.67% of the sample were vegetarian and 33.33% were non vegetarian [8–10].

The frequency and percentage distribution of the sample having previous knowledge was 75%, and 96.66% of the sample had no diseases [11].

The findings revealed that the posttest mean value (17.16) of the level of knowledge regarding hazards of junk food among late adolescents was higher than the pretest mean value (9.17) paired 't' test was calculated to assess the effectiveness of IECM, and the 't' value score =16.78. There was a significant association between age and previous knowledge about hazards of junk food, and non-significant for socioeconomic status, type of family, type of food, place of living, gender, religion, and area of residency [12, 13].

CONCLUSION

From the results of the study, it was concluded that most of the sample had adequate knowledge regarding the hazards of junk food; through this, we have provided education to the samples, and it would help them to prevent certain life-threatening diseases in the future. Therefore, the researcher identified the need to emphasize health education and provide adequate information to adolescents regarding the harmful effects and health hazards associated with junk food consumption.

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