# Effectiveness of Planned Teaching Programme on Health Hazards of Junk Food Among Adolescents

## Jinu K. Rajan

**Author Affiliation**
Assistant Professor
Majmaah University
Kingdom of Saudi Arabia.

**Reprint Request**
**Jinu K. Rajan,**
Room Number-7B1
SFS, Symphony Apartment
Opposite All India Radio,
Vazhuthacaud, Trivandrum
Kerala, Pin- 695014.
E-mail:
jinukrajan@rediffmail.com

**Abstract**

*Background of the Study:* Adolescence is a very critical and important phase in one's life. It is a stage with unique biological and social characteristics of its own. Most of the physiological, psychological, and social changes occur during this period. About one fifth (22.5%) of the total population in India is between the age group of 10-19 years. Our modern eating environment has an effect on the way adolescent eat. Junk food consumption tends to the occurrence of many life-threatening diseases during adulthood and later life. Studies proved that educational programme might be effective in influencing adolescents to choose a healthier diet. Hence the investigator felt the need to provide planned teaching programme on health hazards of junk food among adolescents in a selected Pre- University College at Trivandrum. *Objectives:* The objectives of the study were to- 1. Determine the existing level of knowledge on health hazards of junk food among adolescents in a selected Pre-University College by using structured knowledge questionnaire. 2. Evaluate the effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College by using same structured knowledge questionnaire. 3. Find the association between pre-test knowledge score on health hazards of junk food among adolescents with selected demographic variables. *Methods:* The research design was one group pre-test post-test design and the study was conducted at a Pre-University College, Trivandrum. The sample consisted of 110 adolescents who were selected by simple random sampling technique. Data collection was done by using the demographic variables, structured knowledge questionnaire for assessing the knowledge of adolescents regarding health hazards of junk food. After assessing the knowledge of adolescents a planned teaching programme was given on the same day. A post-test was conducted on the 7th day after the PTP to find out the gain in knowledge among adolescents regarding health hazards of junk food. *Results:* Majority of the subjects 85(77.27%) had moderately adequate knowledge score in the post-test, whereas in the pre-test none of the samples had adequate knowledge. In the post-test none of the sample had inadequate knowledge whereas in the pre-test 28(25.45%) samples had inadequate knowledge. The mean post-test knowledge score (19.32) was higher than mean pre-test knowledge score (13.18) suggesting that PTP helped in improving the knowledge of adolescents regarding health hazards of junk food. The mean difference between the post-test and pre test knowledge scores of adolescents regarding health hazards of junk food was found to be highly significant at 0.05 level. There was no significant association between mean pre-test knowledge score and selected demographic variable at 0.05 level of significance.

**Keywords:** Effectiveness; Planned Teaching Programme; Health Hazards of Junk Food; Adolescents; Pre-University College.

## Introduction

Every individual in this universe has to go through the various life stages of growth and development. Out of all the stages of life, the most fascinating is the adolescent age. Adolescence is one among those, which is a very critical and important phase in the development. It is a time of moving from immaturity of childhood into the maturity of adulthood. Young adulthood is a unique period whereby youth obtain independence from their parents. People in this age group are vulnerable to develop unhealthy behaviors', which will predispose them to chronic

diseases later in life [1].

There are 1.2 billion adolescents between the age of 10 - 19 in developing nations, making up one fifth to one quarter of their population [1]. About one-fifth of India's population is in the adolescent age group of 10–19 years. It is estimated that there are almost 200 million adolescents in India. This age group will continue to grow reaching over 214 million by 2020 [2].

Adolescence is one of the fastest growth periods of a person's life. During this time, physical changes affect the body's nutritional needs, while changes in one's lifestyle may affect eating habits and food choices. Nutritional health during adolescence is important for supporting the growing body and for preventing future health problems [3].

It is well known and documented that diet and nutrition play important role in maintaining health and preventing diseases. Decrease in morbidity and mortality associated with lifestyle, diseases may be achievable if satisfactory nutritional habits are adopted in early life and maintained in the long term. During adolescence, young people are assuming responsibility for their own eating habits, health attitudes and behaviors [4].

Nutritional intake during adolescence is important for growth, long-term health promotion and development of life-long eating behaviours. Nutritional intake during this period may have long-term health implications. Several physical, psychological and behavioral changes may affect food habits during adolescence and have long-term consequences on adult health status [5].

Factors identified by adolescents as being most influential on their food choices included hunger or cravings, appeal of food, time available to them and parents, convenience of food and peer pressure . The need to be in step with the trends and belong to the peer group leads the adolescent to eating non-nutritious food like pizzas, burgers, soft drinks, and also other roadside junk foods [5].

Junk food is an informal term applied to some foods that are perceived to have little or no nutritional value. These foods are typically ready-to-eat containing high levels of saturated fat, salt, sugar, little or no fruit, vegetables, or dietary fiber; and are considered to have little or no health benefits. Common junk foods include salted chips, candy, chewing gum, most sweet desserts, fried fast foods and carbonated beverages [6]. Most harmful effects of fast food include increased cholesterol levels, cardiac problems, hypertension, obesity, dental caries, cancer, reproductive problems and many other threatening health hazards [7].

An exploratory descriptive approach was adopted to identify the modifiable and non modifiable risk factors of coronary artery disease present among adolescents

in Malad, India. A sample of 591 students aged between 12-18 years were selected by non- probability convenient sampling.  A structured questionnaire was used to collect the data regarding modifiable and non modifiable risk factors. The results showed that 71 percent of the samples consumed fast food daily and 67 percent of the samples were found to have three or more risk factors for coronary artery disease whereas 22 percent of them had two risk factors and 11 percent of them had one risk factor for coronary artery disease [8].

A survey was conducted to investigate the consumption of ten types of junk food practices among adolescents in Beijing. A sample of 1019 adolescents aged between 8-16 years were selected. A questionnaire technique was used to obtain the information. One month prior to the study 97.5 percent of the adolescents had eaten at least one type of junk food and 15.88 percent of them had eaten all ten types of junk food.  Most of the adolescents ate junk food during breakfast at home,  without a correct idea on the nutrition of junk food [9].

Adolescents, as a group, are at risk for nutritional problems both from a physiological and a psychosocial standpoint. Psychosocial changes, such as the adolescent's search for independence and identity, concern for appearance, and active lifestyle, can have a strong impact on nutrient intake and food choices

*Statement of the Problem*

Effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College at Trivandrum.

*Objectives*

1. To determine the existing level of knowledge on health hazards of junk food among adolescents in a selected Pre-University College by using structured knowledge questionnaire.

2. To evaluate the effectiveness of planned teaching programme on health hazards of junk food among adolescents in a selected Pre-University College by using same structured knowledge questionnaire.

3. To find the association between pre-test knowledge

score on health hazards of junk food among adolescents with selected demographic variables.

## Operational Definitions

### Effectiveness

In this study, effectiveness refers to the extent to which the planned teaching programme on health hazards of junk food, has achieved the desired objectives as evidenced by the gain in knowledge as measured by a structured knowledge questionnaire.

### Planned Teaching Programme

In this study it refers to a systematically developed teaching programme designed for Pre-University College adolescents regarding meaning, types, ingredients, promoting factors, health hazards of junk food and recommendation for healthy eating habits.

### Health Hazards of Junk Food

In this study it refers to the selected health hazards of junk food which are included in the structured knowledge questionnaire and planned teaching programme to assess the knowledge of adolescents and to teach them.

### Adolescents

In this study adolescents refer to those who are studying in 11th standard in a selected Pre-University College at Trivandrum.

### Pre-University College

In this study it refers to urban educational institutes which provides 11th standard education and which comes under deputy director of Pre-University education jurisdiction, who permitted me to conduct the study in Trivandrum.

### Assumptions

#### The investigator Assumes that

❖ Adolescents will have some knowledge regarding health hazards of junk food.

❖ A planned teaching programme will enhance knowledge of adolescents regarding health hazards of junk food.

❖ The adolescents will sincerely answer the questions.

### Hypotheses

The hypotheses will be tested at 0.05 level:

H1:The mean post test knowledge score of adolescents on health hazards of junk food will be significantly higher than mean pre-test knowledge score.

H2: There will be a significant association between pre-test knowledge score of adolescents on health hazards of junk food and selected demographic variables.

### Delimitations

The study is delimited to:

•   Selected health hazards of junk food.

•   Selected Pre-University College at Trivandrum.

•   A sample of 110 adolescents.

## Materials and Methods

### Research Approach

Evaluative approach is an applied form of research that involves finding out how well a programme, procedure or policy is working and its goal to assess or evaluate the success of a programme.

### Research Design

One group pre-test post-test design is the most appropriate design for measuring the impact or effectiveness of a programme. The design is described as two sets of cross-sectional observations on the same population to find out the change in the phenomenon between two points in time. The change is measured by comparing the difference in the phenomenon at the pre-test and post-test observation. No comparison with the control group is provided.

In view of the nature of the problem and to accomplish the objectives of the study, with a one group pre-test post-test, quasi experimental design was used to evaluate the effectiveness of the planned teaching programme on health hazards of junk food among adolescents.

**Table 1:** Representation of research design

| Sample | Pre-test | Treatment | Post-test | Effectiveness |
| --- | --- | --- | --- | --- |
| Adolescents | $O_1$ | X | $O_2$ | $E = O_2 - O_1$ |

$O_1$    Pre-test assessment of knowledge on health hazards of junk food among adolescents.

X    Treatment (planned teaching programme on

health hazards of junk food).

O[2]  Post effect of planned teaching programme on health hazards of junk food among adolescents.

E.  Effectiveness

*Variables*

*Independent Variable*

In this study, planned teaching programme is the independent variable.

*Dependent Variable:* In this study, knowledge of adolescents is dependent variable.

*Demographic Variables:* The demographic variables used in my study are gender, family income, and pocket money per month.

*Setting*

The present study was conducted in a selected Pre-University College at Trivandrum .

*Population*

In the present study the population comprised of adolescents studying in 11th standard in Pre-University College at Trivandrum.

*Sample*

The sample for the present study consist of 110 adolescents, who met the sampling criteria.

*Sampling Technique*

Simple random sampling technique was found appropriate to select 110 adolescents studying in 11th standard from a Pre-University College as samples for the study. In the sample universe there were 32 Pre-University Colleges. In the first stage, simple random sampling method, i.e., lottery method was adopted for selecting a Pre- University College. Thus one of the Pre-University College was selected for the study. From the selected Pre-University College, 55 adolescents were selected from section A and 55 adolescents were selected from section B of 11th standard by simple random sampling technique using lottery method.

*Sampling Criteria*

*Inclusion Criteria*

*Adolescents*

• who are present at the time of data collection.

• who are studying in 11th standard.

*Exclusion Criteria*

• Who are not willing to participate in the study.

*Findings*

*Section I: Demographic Variables*

This section deals with the frequency and percentage distribution of demographic variables and presented in Table 1.

Data presented in the Table 3 shows that majority (55%) of the participants are males. Majority (40%) of the adolescents family income was 5001-10,000 rupees. Highest percentages (57%) of adolescents get 1-500 rupees pocket money per month. Majority (60%) of the participants did not receive previous information regarding health hazards of junk food. Forty eight percent of adolescents consume junk food from home. Most (45%) of the participants visit fast food centres 1-4 times/week. Majority (54%) of adolescents  do not have the habit of  skipping breakfast.

*Section II: Pre-Test Knowledge Scores of Adolescents on Health Hazards of Junk Food*

This part deals with assessment of the existing knowledge of adolescents regarding health hazards of junk food and the area-wise analysis of pre-test knowledge.

*Section A: Assessment of the Level of Rxisting knowledge*

In order to assess level of knowledge of adolescents, the percentage scores were graded arbitrarily as follows: 0-33% - Inadequate, 34– 66% -Moderately adequate, 67-100% - Adequate.

The data in the table 4 and figure 1 shows that majority of adolescents (74.55%) had moderately adequate knowledge, 25.45% had inadequate knowledge whereas none of the adolescents had adequate knowledge regarding health hazards of junk food.

*Section B: Area-Wise Analysis of the Pre Test Knowledge Scores*

This part deals with the area-wise Mean, SD and Mean percentage of pre-test knowledge scores of adolescents regarding health hazards of junk food.

The data in Table 3 reveals that the mean percentage of the pre-test knowledge score was 41.81% with mean and SD (13.18±2.36). Area-wise mean percentage of knowledge scores was  53.03%

**Table 1:** Frequency and percentage distribution of samples according to demographic characteristics

| S. No. | Variables | Frequency | Percentage |
|---|---|---|---|
| 1. | Gender | | |
| | a.  Male | 61 | 55 |
| | b.  Female | 49 | 45 |
| 2. | Family income( Rupees per month) | | |
| | a .  1,001  -5000 | 38 | 35 |
| | b .  5,001  -10,000 | 45 | 40 |
| | c .  10,001  -15,000 | 7 | 6 |
| | d .  Above  15,000 | 20 | 19 |
| 3. | Pocket money( Rupees per month) | | |
| | a .  1 - 500 | 63 | 57 |
| | b .  501 - 1,000 | 24 | 22 |
| | c .  1,001  -1,500 | 15 | 14 |
| | d .  Above  1,500 | 8 | 7 |
| 4. | Previous information regarding health hazards of junk food | | |
| | a.  Yes | 44 | 40 |
| | b .  No | 66 | 60 |
| 5. | Sources of junk food | | |
| | a.  Home | 53 | 48 |
| | b.  College canteen | 14 | 13 |
| | c.  Fast food corner | 43 | 39 |
| 6. | Frequency of visiting fast food centres | | |
| | a.  Rarely | 50 | 45 |
| | b.  1-4 times/week | 30 | 27 |
| | c.  More than 4 times/week | 14 | 13 |
| | d.  Daily | 16 | 15 |
| 7. | Skipping breakfast | | |
| | a.  Yes | 51 | 46 |
| | b .  No | 59 | 54 |

**Table 2:** Percentage and distribution of level of knowledge of adolescents regarding health hazards of junk food    N =110

| Range of score % knowledge | Level of | Number of respondents | Percentage (%) |
|---|---|---|---|
| 0-33 | Inadequate | 28 | 25.45 |
| 34-66 | Moderately adequate | 82 | 74.55 |
| 67-100 | Adequate | - | - |
| | Total | 110 | 100.00 |

**Table 3:** Area-wise mean, standard deviation and mean percentage of pre-test knowledge scores    N=110

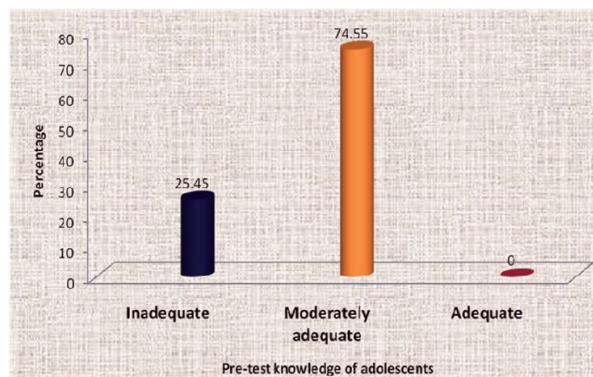| Areas | Minimum score | Maximum Score | Mean | SD | Mean% |
|---|---|---|---|---|---|
| Area I | 2 | 10 | 6.27 | 1.57 | 53.03 |
| Area II | 3 | 11 | 6.91 | 2.07 | 33.46 |
| Overall knowledge Maximum score=32 | 7 | 17 | 13.18 | 2.36 | 41.81 |



**Fig. 1:** The cylinder diagram shows percentage distribution of adolescents according to pre-test knowledge

in the area of knowledge on junk food with mean and SD (6.27±1.57). In the area of health hazards of junk food mean percentage was 33.46% with mean and SD (6.91±2.07). The above data reveals that the overall knowledge of the adolescents regarding health hazards of junk food is average.

### Section III: Effectiveness of Planned Teaching Programme on Health Hazards of Junk Food

This section deals with analysis and interpretations of pre-test and post-test knowledge such as distribution of samples, mean, standard deviation of difference, 't' value, area-wise mean, mean percentage and effectiveness.

The data in the Table 4 depicts that none of the adolescents had adequate knowledge regarding health hazards of junk food in pre-test whereas in the post-test, around 25(22.73%) adolescents had adequate knowledge regarding health hazards of junk food.

### Section A: Area-wise Mean, SD, and Mean Percentages of Pre-Test and Post-Test

This part deals with Area-wise Mean, SD, and Mean percentages of pre-test and post-test knowledge score.

The data presented in the table 5 shows that the total mean knowledge score is increased by 18.59% with mean and SD of 6.14 ± 0.55 after the planned teaching programme on health hazards of junk food.

**Table 4:** Distribution of samples according to their pre and post-test knowledge    N = 110

| Level of knowledge | Pre-test | | Post-test | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Inadequate | 28 | 25.45 | 0 | 0 |
| Moderately adequate | 82 | 74.55 | 85 | 77.27 |
| Adequate | 0 | 0 | 25 | 22.73 |

**Table 5:** Area-wise mean, standard deviation and mean percentage of knowledge scores in pre-test and post-test    N=110

| Knowledge area | Max. score | Pre-test (A) | | Post-test (B) | | Effectiveness (B-A) | |
|---|---|---|---|---|---|---|---|
| | | Mean±SD | Mean % | Mean±SD | Mean % | Mean±SD | Mean % |
| Junk food | 12 | **6.27±1.57** | 53.03 | 7.23±1.19 | 60.3 | 0.96±0.38 | 7.27 |
| Health hazards of junk food | 20 | 6.91±2.07 | 33.46 | 12.09±2.45 | 60.45 | 5.18±0.38 | 26.99 |
| Total | 32 | 13.18±2.36 | 41.81 | 19.32 ±2.91 | 60.4 | 6.14± 0.55 | 18.59 |

Area-wise comparison of mean and SD of the knowledge on junk food shows that the pre-test mean knowledge score was 53.03% (6.27±1.57) whereas post-test mean knowledge score was 60.3% (7.23±1.19). This shows that there was increase of 7.27% in the mean knowledge score of adolescents.

In the area of knowledge on health hazards of junk food shows that the pre- test mean knowledge score was 33.46%(6.91±2.07) whereas the post-test knowledge score was 60.45%(12.09±2.45). This shows an increase of 26.99% in the mean knowledge score of adolescents.

The overall findings reveals that the percentage of post-test knowledge score was more, hence the PTP was effective in enhancing the knowledge of adolescents regarding health hazards of junk food.

### Section B: Comparison of level of knowledge in pre-test with post test and effectiveness of the study

This part compares level of knowledge and mean of pre test and post test and it also deals with mean difference in pre test and post test and 't 'value thus finds the effectiveness of the study. To evaluate the effectiveness of planned teaching programme, a null hypothesis was formulated. A paired 't' test was used to find the effectiveness. The value of 't' was calculated to analyse the difference in knowledge score of adolescents in pre-test and post-test.

$H_{01}$: There is no significant difference between the mean pre test and post test knowledge of adolescents regarding health hazards of junk food.

The data presented in the Table 6 and Figure 2 shows that the pre-test knowledge level of 25.45% adolescents was inadequate, 74.55% adolescents had moderately adequate knowledge and in the post test 77.27% had moderately adequate knowledge, 22.73% of adolescents had adequate knowledge regarding health hazards of junk food.

The findings in Table 6 revealed that the mean post test score was significantly higher than their mean pre test score. The calculated 't' value (18.39, P<0.05) in knowledge aspect was greater than the table value (1.66) at 0.05 level of significance. Therefore, the null hypothesis was rejected and the research hypothesis was accepted indicating the

**Table 6:** Comparison of level of knowledge and effectiveness in pre-test with post test and effectiveness of the study

| Level of knowledge | Pre-test | | | Post-test | | | Mean difference | t value |
|---|---|---|---|---|---|---|---|---|
| | f | % | Mean | f | % | Mean | | |
| Moderately adequate | Inadequate 82 | 74.55 | 28 13.18 | 25.45 85 | 77.27 | 0 19.32 | 0.00 6.14 | 18.39* |
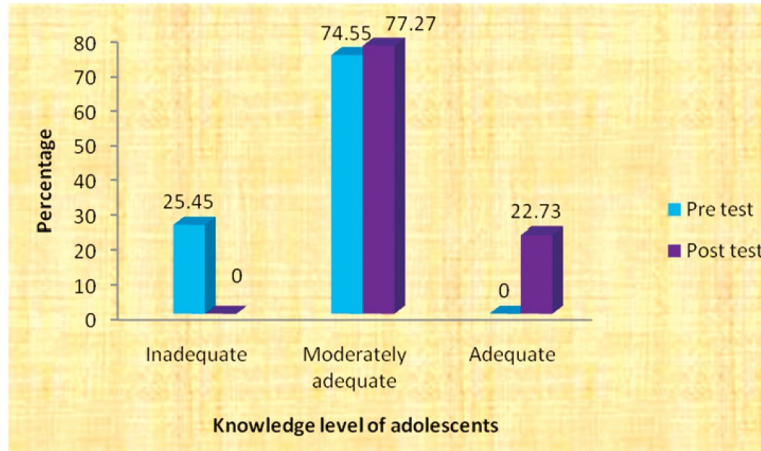


**Fig. 2:** The bar diagram compares pre-test and post-test knowledge scores of adolescents regarding health hazards of junk food
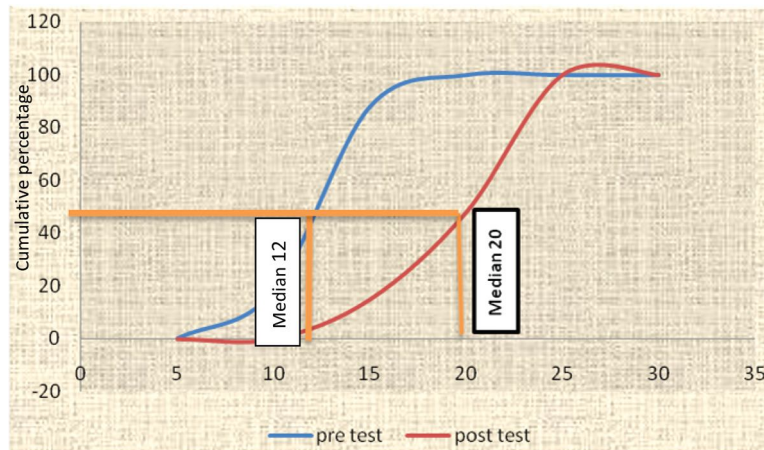


**Fig. 3:** "O" give of the pre-test and post-test knowledge scores of adolescents regarding health hazards of junk food

gain in knowledge was not by chance. Hence it is concluded that there is very high significant gain in knowledge of adolescents regarding health hazards of junk food.

The cumulative frequency distribution of pre-test and post- test knowledge scores is shown in the o gives. The data presented in the o gives shows significant difference between the pre-test and post-test scores. The knowledge pre-test median was 12.00 where as the post test median score was 20.00. It shows a difference of eight in knowledge. The o gives plotted shows that the first quartile score of post-test is higher than third quartile score of pre-test. This indicates that there is a significant increase in the knowledge of adolescents regarding health hazards of junk food.

*Section IV: Association between Pre-Test Knowledge Score with Selected Demographic Variables*

Chi-square test was computed to test the association between pre-test knowledge of adolescents and selected demographic variables; the following null hypothesis was formulated.

$H_{02}$:There will be no significant association between pre test knowledge score with selected demographic variables.

Data presented in Table 7 reveals that the calculated Chi-square value of all demographic variables are less than table value, hence the null hypothesis can be accepted and concluded that there was no significant association between the pre-test knowledge score with selected demographic variables.

**Table 7:** Association between selected demographic variables with pre-test knowledge score    N = 110

| Demographic variable | $x^2$ | Knowledge | | |
|---|---|---|---|---|
| | | df | p - value | Inference |
| Gender | 0.025 | 1 | 0.876 | NS |
| Family income | 3.660 | 3 | 0.301 | NS |
| Pocket money | 0.095 | 3 | 0.092 | NS |
| Source of junk food | 0.713 | 2 | 0.700 | NS |
| Frequency of visit to fast food center | 6.754 | 3 | 0.800 | NS |

## Discussion

*Pre-test Knowledge Scores of Adolescents Regarding Health Hazards of Junk Food*

The overall pre-test knowledge scores of adolescents regarding health hazards of junk food shows that majority 82(74.55%) adolescents had moderately adequate knowledge, 28(25.45%) had inadequate knowledge whereas none of the adolescents had adequate knowledge regarding health hazards of junk food.

A similar study was conducted to determine the prevalence of consumption and knowledge regarding junk food among adolescents in Trivandrum, kerala. A total population of 2636 students from 10 different schools aged between 4-15 were selected. Their knowledge regarding the type of food consumed was obtained by a questionnaire. The 60 percent of students consumed junk food on a daily basis and 70 percent of them were not aware of nutritional content of food consumed by them. This study emphasises education on health hazards of junk food among adolescents [14].

Another similar study was conducted to determine the socio-cultural influences on fast-food intake among adolescents in Thailand. A sample of 634 adolescents aged between 15-19 were selected by simple random sampling. A structured knowledge questionnaire was used to assess youth's knowledge, practices and feelings towards fast food. The study results shows that about three-quarters of respondents were aware of the high-calorie content of fast food and its link with obesity, about half were aware of fast food as a risk for high blood pressure and high cholesterol, and just over one-third knew the link to heart disease. The important factors influencing fast food consumption were convenience, speed, familiarity and advertising. This study found that 50 percent of adolescents have accurate knowledge of health risks of consuming junk food, however 50 percent of adolescents lack a proper understanding of health hazards of fast foods [23].

Effectiveness of planned teaching programme for adolescents regarding health hazards of junk food.

The post-test knowledge score reveals that 25 (22.73%) adolescents had adequate knowledge, 85 (77.27%) had moderately adequate knowledge and none of them show inadequate knowledge regarding health hazards of junk food.

A similar study was conducted to find inclination towards junk food consumption and effect of health education among 904 adolescent school children of 9-11 standard in Chandigarh. The information was collected regarding the dietary intake and eating habits through interview. Most common food item consumed by adolescents was samosa (42.4%), chat (39.7%), burger (24.5%), pizza (23.3%). A team comprising of doctors, medical social workers and supporting staffs gave education regarding diet and nutrition. One month later post test was done. The results showed that 58.8 percent of adolescents preferred fast food items but after intervention it is declined to 31.2 percent [38].

Another similar study was done to evaluate the effectiveness of implementing nutrition intervention among college students in Midwestern university. A sample of 80 college students enrolled themselves to participate in the study. A 3-day food records were collected, verified, and analyzed before and after the intervention. The intervention focused on nutrition knowledge related to prevention of chronic diseases, healthy dietary choices, increasing fruit and vegetable consumption, dietary feedback, and interactive hands-on activities. The results show that participants significantly increased consumption of not only total fruits and vegetables, but also fresh fruits and vegetables. Intake of French fries decreased significantly. The researcher concluded that class-based nutrition intervention focusing on prevention of chronic diseases is a cost-effective approach to increase fruit and vegetable consumption among college students [40].

It was also found that the difference between the mean pre-test (13.18) and post-test (19.32) knowledge scores were significant ('t'109=18.39, p<0.05), which suggest that PTP was effective in enhancing the knowledge of adolescents regarding health hazards of junk food. Hence PTP was effective in improving the knowledge of adolescents regarding health

hazards of junk food. So the research hypothesis which was formulated is accepted.

### Major Findings of the Study

The conclusions related to the major findings are as follows;

- In the pre-test 28(25.45%) adolescents had inadequate knowledge, 82(74.55%) adolescents had moderately adequate knowledge, and none of the adolescents had adequate knowledge regarding health hazards of junk food

- In the post-test, 25(22.73%) adolescents had adequate knowledge and 85(77.27%) adolescents had moderately adequate knowledge and none of the adolescents had inadequate knowledge regarding health hazards of junk food.

- The comparison of the mean pre-test (13.18) and post test (19.32) knowledge scores showed that there was significant gain in knowledge of adolescents after PTP at 0.05 levels ('t'109=18.39, p<0.05). This shows that PTP was effective

The study findings concluded that adolescents had inadequate knowledge regarding health hazards of junk food. The planned teaching program had great potential for improving the knowledge regarding health hazards of junk food.

### Limitations of the Study

- The study was limited to one particular Pre-University College at Trivandrum due to limited time for data collection.

- The study was limited only to the adolescents studying in 11th standard.

- The study did not use a control group.

- Structured knowledge questionnaire used for data collection restricts the amount of information that can be obtained from the respondents.

- No attempt was made to follow-up and measure the retention of knowledge of adolescents.

### Recommendations

Based on the findings of the present study recommendations are offered for further researchers:

- A similar study can be replicated on a large sample thereby generalize the findings to a large population.

- A descriptive study can be conducted to assess the knowledge regarding health hazards of junk

food among teachers in selected Pre-University College at Trivandrum.

- A study can be conducted to find out the knowledge and attitude of parents and teachers toward junk foods.

- Knowledge, attitude and practice of adolescents on junk foods among rural and urban can be compared.

- A similar study can be conducted in school settings.

### Conclusion

Conducting this study was a good experience for the investigator. The present study in short, gave the researcher a new experience, a chance to widen the knowledge and a venue to interact with adolescents. The directions from the guide, various experts and co-operation of adolescents played a major role in the successful completion of the study. The investigator did not face any problem during the data collection. The adolescents were very attentive and co-operative.

### References

1. Adolescent Nutrition: [online]. Available from: URL:http://web.worldbank.org

2. Chatterjee S. Status of adolescent health in India. Journal of Indian Medical Association 2005 Nov; 103(11): 579.

3. Nutrition. [online]. Available from: URL: http://www.faqs.org/

4. Fleming-Moran M, Thiagarajah K. Behavioural interventions and the role of television in the growing epidemic of adolescent obesity-data from the 2001 Youth Risk Behavioural Survey. Methods Inf Med 2005; 44: 303– 309.

5. Rego N. Nutrition for adolescents. Times of India 2011 Jun 25.

6. Junk_food: [online]. Available from: URL: http://en.wikipedia.org/wiki/

7. Hazards of junk food. [online]. Available from: URL:http://healthfood- guide.com/fastfood

8. Shetty R. Coronary artery disease risk factors among adolescents. Nursing Journal of India 2010 Jul; 7.

9. Zhu SP, Ding YJ, Lu XF, Wang HW, Yang M. Studies on factors related to top ten junk food consumption at 8-16 years of age. Obesity. 2008 Aug; 29(8): 757-62.

10. Statistics on consumption of junk food. [online]. Available from: URL:http://en.wikipedia.org/wiki/fastfood

11. Junk food popular among teenagers. The Hindu. 2005 Aug 11.

12. Rhythma K. Burger kids putting India to obesity. Hindustan Times. 2009 Aug 1.

13. Junk food boosts teens' risk of heart disease. CBC News Health 2000 Nov 11.

14. Kaur M, Hegde MA. Are we aware of what we are, what we eat. Jaypee's International Journal of Clinical Paediatric Dentistry. 2008 Sep-Dec; 1(1): 13-6.

15. Burns N, Grove SK. The practice of nursing research, 3rd ed. Philadelphia: W. B. Saunders Co; 1997.

16. Polit DF, Hungler BP. Nursing research principles and methods. 6th ed. Philadelphia: J. B. Lippincott Company; 1999.

17. Gour N, Srivastava D, Adhikari P. Study to assess the prevalence of soft drinking and its determinants among the school going children of Gwalior city. Online Journal of Health and Allied Sciences 2008; 12(2): 112-5.

18. Denney-Wilson E, Crawford D, Dobbins T, Hardy L, Okely AD. Influences on consumption of soft drinks and fast foods in adolescents. Asia Pac J Clin Nutr. 2009; 18(3): 447-52.

19. Powell LM, Szczypka G, Chaloupka FJ. Trends in exposure to television food advertisements among children and adolescents in the United States. Arch Pediatric Adolesc Med. 2010; 164(9): 794-802.

20. Jackson P, Romo MM, Castillo DC. Junk food consumption and child nutrition. RevMed Chi 2004 Oct; 132(10): 1235-42.

21. Ji-young Y, Eun-soon L, Kyung-a L. Korean adolescents' perceptions of nutrition and health towards fast foods in Busan area. Nutr Res Pract. 2008 Autumn; 2(3): 171–177.

22. Hyemin K, Sung N H, Kyunghee S, Hongmie L, Lifestyle, dietary habits and consumption pattern of male university students according to the frequency of commercial beverage consumptions. Nutr Res Pract. 2011 Apr; 5(2): 124–31.

23. Seubsman S, Kelly M, Yuthapornpinit P, Sleigh A. Cultural resistance to fast- food consumption? A study of youth in North Eastern Thailand. Int J Consum Stud. 2009 Nov; 33(6): 669–75.

24. Nesli°ah R, Emine A Y. Energy and nutrient intake and food patterns among Turkish university students. Nutr Res Pract. 2011 Apr; 5(2): 117–23.

25. French SA, Story M, Neumark D, Fulkerson JA, Hannan P. Fast food restaurant use among adolescents: associations with nutrient intake, food choices and behavioural and psychosocial variables. International Journal of Obesity. 2001 Dec; 25(12): 1823-33.

26. Feng J, He Naomi MM, Graham AM. Salt intake is related to soft drink consumption in children and adolescents, a link to obesity?

27. Mikki N, Abdul FH, Gerd H. Social, economic, political and environmental determinants Dietary habits of Palestinian adolescents. Public Health Nutrition. 2010 13; 1419-29.

28. Khan MI, Lala MK, Patil R, Mathur HN, Chauhan NT. A study of the risk factors and the prevalence of hypertension in the adolescent school boys ofAhmedabadcity. Journal of Clinical and Diagnostic Research. 2010 Dec; 4: 3348-54.

29. McGartland C, Robson PJ, Murry L, Cran G, Savage MJ, Watkins D, et al. Carbonated soft drink consumption and bone mineral density in adolescence, Ireland. Journal of Bone Mineral Research. 2003 Sep; 18(9): 1563-69.

30. Mahmood M, Saleh A, Al-Alawi F, Ahmed F. Health effects of soda drinking in adolescent girls in the United Arab Emirates. Journal of Critical Care. 2008 Sep; 23(3): 434-40.

31. Nisar N, Quadri MH, Fatima K. Dietary habits and life style among the students of a private medical university, Karachi. Journal of Pakistan Medical Association. 2009 Feb; 59(2): 98-101.

32. Washi S, Ageib M B. Poor diet quality and food habits are related to impaired nutritional status in 13- to 18-year-old adolescents in Jeddah.

33. Francis DK, Van den Broeck J, Younger N, McFarlane S, Rudder K, Gordon- Strachan G, Grant A, Johnson A, Tulloch-Reid M, Wilks R. Fast-food and sweetened beverage consumption: association with overweight and high waist circumference in adolescents. Public Health Nutr. 2009 Aug; 12(8): 1106-14.

34. Collison KS, Zaidi MZ, Subhani SN, Al-Rubeaan K, Shoukri M, Al-Mohanna FA. Sugar-sweetened carbonated beverage consumption correlates with BMI, waist circumference, and poor dietary choices in school children. BMC Public Health. 2010 May 9; 10: 234.

35. Liaqat P, Paracha PI, Qayyum A, Uppal MA. Assessment of nutritional status of adolescents versus eating practices in Islamabad City. Pakistan Journal of Nutrition. 8: 1304-8.

36. Jean A, Sharma A, Solveig A, Miriam B. Consumption of added sugars and indicators of cardiovascular disease risk among US adolescents. Circulation. 2011; 123: 249-57.

37. Rothman RL, Mulvaney S, Elsy TA, Gebretsadik T. Self-management behaviours, racial disparities, and glycemic control among adolescents with type 2 diabetes. Paediatrics. 2008 Apr 1; 121(4).

38. Puri S, Bhatia V, Swami HM, Rai S, Mangat C. Impact of a diet and nutrition related education package on the awareness and practices of school children of Chandigarh. Internet Journal of Epidemiology. 2008; 6(1).

39. Singhal N, Misra A, Shah P Gulati S. Effects of controlled school-based multi- component model of nutrition and lifestyle interventions on behaviour modification, anthropometry and metabolic risk profile of urban Asian Indian adolescents in North India. European Journal of Clinical Nutrition. 2010 Apr; 64: 364-73.

40. Ha EJ, Caine-Bish N. Effect of nutrition intervention using a general nutrition course for promoting fruit and vegetable consumption among college students. J Nutr Educ Behav. 2009 Mar-Apr; 41(2): 103-9.

41. Moore JB, Pawloski L, Rodriguez C, Lumbi L, Ailinger R. The effect of a nutrition education program on the nutritional knowledge, hemoglobin levels,and nutritional status of nicaraguan adolescent girls. Public Health Nursing. 2009 Mar-Apr; 269(2): 144–52.

42. Wood G. Nursing research methods-critical appraisal and utilization. 3rd ed. London. Mosby; 1994.

43. Dempsey AP. Using nursing research process, clinical evaluation and utilization. 5th ed. Philadelphia: Lippincott Publishers; 2000.

44. Field PA, Janice MM. Nursing research: the application of qualitative approaches. 2nd ed. London: Chapman and Hall; 1994.

45. Abdellah FG, Levine E. Better patient care through nursing research. 3rd ed. New York: McMillan Publishing; 1986.

46. Burns RB. Introduction to research methods. London: Sage Publication; 1998.

47. Bergman R. Nursing research for nursing practice. An international perspective. London: Chapman and Hall; 1990.

48. Kothari CR. Research methodology, methods and techniques. 2nd ed. New Delhi: New Age International; 2004.

49. Dane FC. Research methods. California : Brooks/Cole publishing company; 1990.

50. Treece EW, Treece BW. Elements of research in nursing. St. Louis: C. V. Mosby Company; 1986.

51. Knapp TR. Quantitative nursing research. London: Sage Publication; 1998.

52. Best WJ, Kahn VJ. Research in education. 7th ed. New Delhi: Prentice Hall of India Pvt. Ltd.; 1999.

53. Kumar R. Research methodology. A step by step guide for beginners. London: Sage Publication; 1999.

54. Haber J, Wood LG. Nursing research methods, critical appraisal and utilisation. Missouri: Mosby Yearbook 1999.

55. Kerlinger NF. Foundation of behavioural research. 2nd ed. New Delhi: Surjeet Publications; 1983.

56. Ramachandran L, Dharmalingam T. Health education: A new approach. New Delhi. Vikas Publication House; 1996.

57. Field, PA. Janica MM. Nursing research, the application of qualitative approaches. 2nd ed. London: Chapman and Hall; 1994.

58. Adolescence: [online]. Available from: URL:http://www.mnsu.edu/emuseum/cultural/anthropology/mead.html.