Effectiveness of an awareness programme on knowledge and attitude regarding the ill effects of junk food and fast food among students in a selected high school of Mulki, Mangalore

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Abstract

Background: Contemporary modern lifestyle has encouraged an obesogenic culture of eating amongst children. The adolescents are more exposed to junk food and fast food. Multiple factors may influence an adolescent's susceptibility to this eating culture, and thus act as a barrier to healthy eating. Due to the increasing prevalence of obesity and its associated illnesses amongst adolescents, the need to reduce these barriers has become a necessity.

Materials and Methods: An evaluative research approach, quasi experimental design was used for the study. The sample consisted of 100 high school students selected by simple random sampling method from a selected high school at Mulki, Mangalore. Pre-test was conducted by administering a structured knowledge questionnaire and an attitude rating scale prepared by the investigator. After the pre-test, the awareness programme was given to the high school students and on the eighth day post-test was conducted using the same structured knowledge questionnaire and attitude scale. The collected data was analysed using descriptive and inferential statistics.

Result: The mean percentage post-test knowledge score (80.13%) was higher than the mean percentage pre-test knowledge score (59.96%). The computed 't' value ($t_{99} = 15.198$, $p < 0.05$) showed a significant difference suggesting that the awareness Programme was effective in improving the knowledge of high school students regarding the ill effects of junk food and fast food. The mean percentage post-test attitude score (79.4%) was higher than the mean percentage pre-test attitude score (59.72%). The 't' value computed ($t_{99} = 23.489$, $p < 0.05$) showed a significant difference suggesting that the awareness programme was effective in changing the attitude of high school students towards the ill effects of junk food and fast food. There was no significant relationship between the mean pre-test knowledge and attitude score of high school students regarding the ill effects of junk food and fast food.

Conclusion: The study indicated that the awareness programme was an effective teaching strategy for providing information and improving the knowledge and attitude of high school students regarding ill effects of junk food and fast food.

Keywords: effectiveness; awareness programme; knowledge; attitude; ill effects of junk food and fast food; high school students

Introduction

There is an adage "You are what you eat". But the dictum "One should eat to live and not live to eat" sounds better and appropriate as far as an individual's health is concerned. A balanced and nutritious diet provides carbohydrates, proteins, vitamins and minerals in the right measure to keep our body and mind healthy and happy; it is fundamental. But today, health of millions of people across the globe is at risk due to wrong eating habits, eating disorders and, above all consumption of junk, fast or fad foods. If junk food and fast food regularly replaces other types of healthy foods in one's daily diet, it results in obesity, vitamin deficiency disorders, heart diseases and cancers. The Oxford Advanced Learner's Dictionary defines 'junk, fast or fad food' as a food that is considered to be not good for one's health, but which many people eat because it is easy to prepare and good to taste.[2] Nutritional needs during adolescence are increased because of the increased growth rate and changes in body composition associated with puberty. The dramatic increase in energy and nutrient requirements coincides with other factors that may affect adolescent's food choices and nutrient intake and thus nutritional status. These factors,

including the quest for independence and acceptance by peers, increased mobility, and greater time spent at school or work activities, and preoccupation with self-image, contribute to the erratic and unhealthy eating behaviours that are common during adolescence.[5] Obesity puts children and adolescents at risk for a range of health problems and can affect cardiovascular health (hypercholesterolemia and dyslipidemia, hypertension), the endocrine system (hyper-insulinism, insulin resistance, impaired glucose tolerance, type II diabetes mellitus, menstrual irregularity), and mental health (depression, low self-esteem). Overweight children and adolescents are likely to grow into overweight adults. The probability of childhood obesity persisting into adulthood is estimated to increase from about 20% at four years of age to approximately 80% by adolescence.[7] Most harmful effects of fast food and junk food include increased cholesterol levels, cardiac problems, hypertension, obesity, dental caries, cancer and many other threatening health hazards.[13] In India nearly 250 million adolescents are obese and experts blame the marketing of fast food chains and quick-serve restaurants for it. The number of overweight and obese children in Delhi has increased from 16% in 2002

to 24% in 2007. A study was conducted to find the reason for consumption of junk food on 15,872 students from New Delhi, Mumbai, Agra, Jaipur and Allahabad. The study revealed that 73% children ate junk food because of taste, 68% were tempted by the advertisement, and 63% children ate snacks while watching television. There was a substantial link between being overweight and obese in childhood and body weight in later life. Fast food is a primary reason for obesity in India, especially among adolescents.[14] Food patterns and eating habits once learnt are often maintained for the rest of the life. Therefore imparting knowledge early about food composition, food habits, nutritional physiology, and connections between health and nutrition as well as instilling competence in dealing with food are of particular importance.[12] From the above studies and statistics, it is clear that junk food and fast food cause many health hazards in adolescents. Hence the investigator felt the need to create awareness among adolescents regarding the health hazards of junk food and fast food by conducting an effective teaching program with an attempt to eradicate the grave health hazards looming large in their future.

Objectives
- To determine the level of knowledge of high school students regarding the ill effects of junk food and fast food using structured knowledge questionnaire.
- To assess the attitude of high school students towards the ill effects of junk food and fast food using attitude rating scale.
- To evaluate the effectiveness of awareness programme regarding the ill effects of junk food and fast food in terms of gain in knowledge score and change in attitude score.
- To find the relationship between pre-test knowledge and attitude of high school students regarding the ill effects of junk food and fast food.

Materials and Methods
The data was collected from the selected English medium high school students from 2nd to 23rd August 2012. In this study the population consisted of 100 high school students who were studying in a selected high school at Mulki, Mangalore were selected by simple random sampling method. A formal written permission was obtained from the concerned authorities before the data collection. Informed consent was obtained from the students indicating their willingness to participate in the study. An evaluatory approach with quasi experimental (one group pre-test post-test) design was used for the study. Pre-test was conducted by administering a structured knowledge questionnaire and an attitude rating scale prepared by the investigator. After the pre-test, the awareness programme was given to the high school students and on the eighth day post-test was conducted using the same structured knowledge questionnaire and attitude scale. Significant difference between pre-test and post –test knowledge scores and attitude scores were analysed by using paired t-test.

Results and Discussion
Analysis is the process of organizing and synthesizing the data in such a way that research questions can be answered and hypotheses tested. Analysis and interpretation of data collected from 100 high school students were done based on

the objectives and hypotheses of the study using descriptive and inferential statistics.

Baseline Characteristics of the high school students
Baseline characteristics of the high school students such as age, gender, education status of parents, occupation of parents, area of living, previous information on junk food and fast food, source of information, history of consuming junk food and fast food and frequency of its consumption were analysed using descriptive statistics.
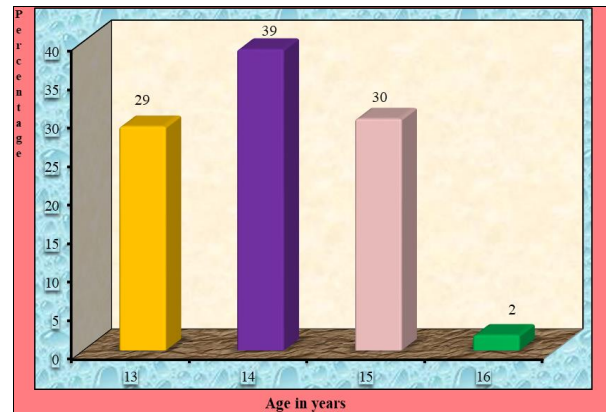

Fig 1: Bar diagram showing the percentage distribution of high school students according to their age.

Data in figure 1 depicts that most (39%) of the high school students belonged to the age group of 14 years, 30% belonged to the age group of 15 years, 29% belonged to the age group of 13 years and only 2% of them belonged to the age group of 16years.
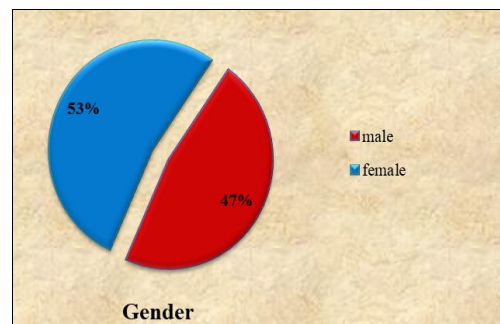

Fig 2: Pie diagram showing the percentage distribution of high school students according to their gender

The distribution of students with regard to gender showed that more than half (53%) of the high school students were females and less than half (47%) of the students were males.
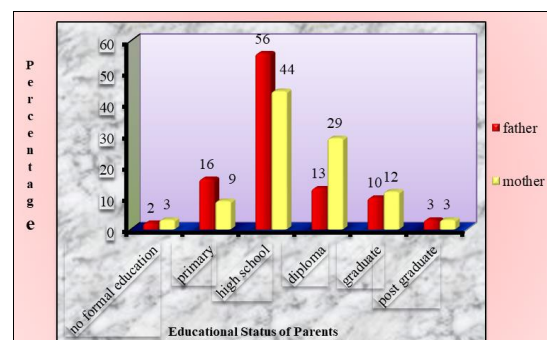

Fig 3: Bar diagram showing the percentage distribution of the high school students according to their parent's educational status.

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Data in figure 3 shows the educational status of parents, more than half (56%) of the fathers and less than half (44%) of the mothers had secondary education and above
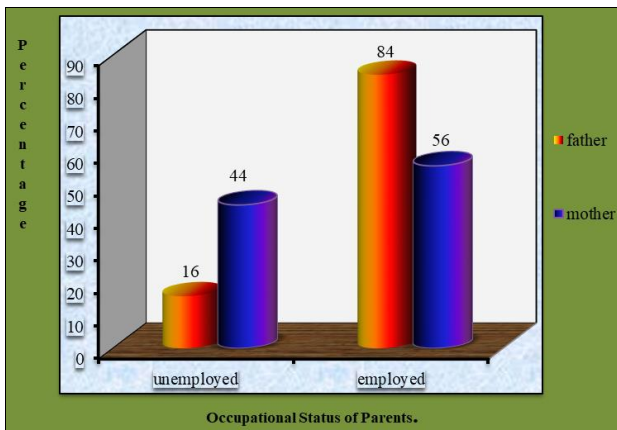

Fig 4: Cylindrical diagram showing the percentage distribution of the high school students according to their Parents occupational status.

Data in figure 4 showed that majority (84%) of fathers and more than half (56%) of mothers are employed.
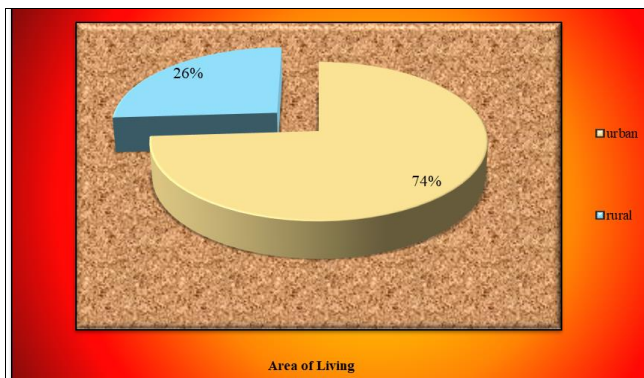

Fig 5: Pie Diagram showing the percentage distribution of the high school students according to thier area of living.

The distribution in figure 5 depicts the area of high school students according to the area of living showed that majority (74%) of the high school students belonged to the urban area.
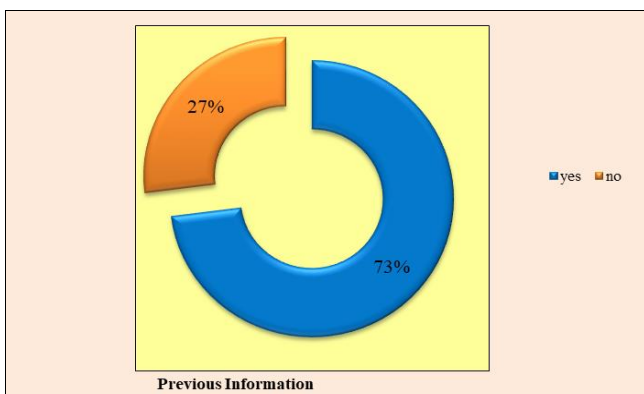

Fig 6: Doughnut diagram showing the percentage distribution of the high school students according to their previous information on junk food and fast food.

Distribution of high school students according to the previous information on junk food and fast food in figure 6

showed that majority (73%) of the students had previous information on junk food and fast food where as 27% of the students had no previous information on junk food and fast food.
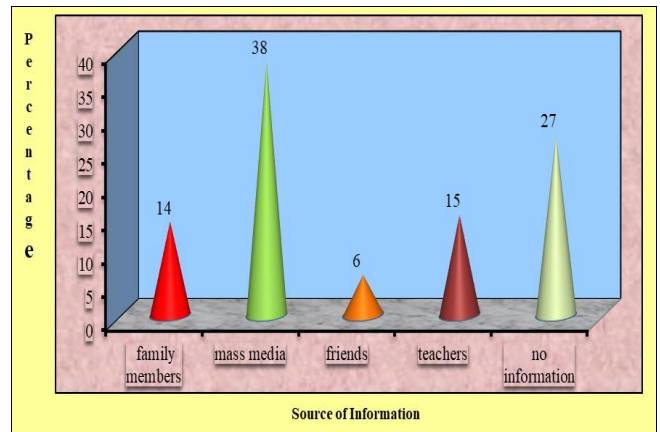

Fig 7: Cone diagram showing the percentage distribution of the high school students according to the source of information regarding junk food and fast food.

In relation to the source of information the research findings in figure 7 indicated that mass media was the main soure of information on junk food and fast food to 38% of the students.
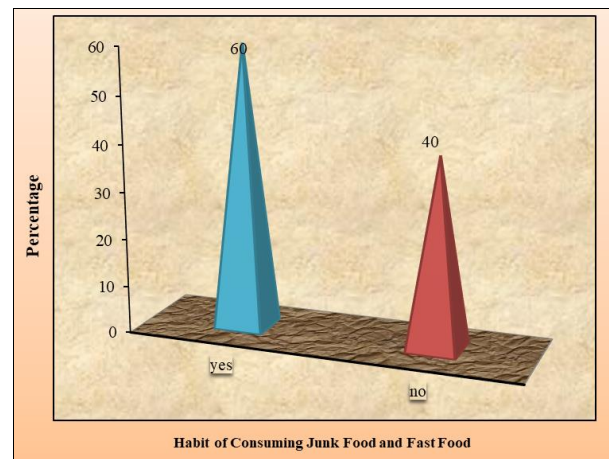

Fig 8: Pyramid diagram showing the percentage distribution of the high school students according to their habit of consuming junk food and fast food.

The findings in figure 8 revealed that most (60%) of the high school students had the habit of consuming junk food and fast food.

Effectiveness of awareness program in terms of gain in knowledge score regarding the ill effects of junk food and fast food.

Table 1: Distribution of high school students according to the grading of pre and post- test knowledge score regarding the ill effects of junk food and fast food. n=100

Grading	Score	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
Poor	0-12	5	5	0	0
Average	13-18	51	51	0	0
Good	19-24	44	44	38	38
Very good	25-30	0	0	62	62

The data in table 1 showed that in the pre-test more than half (51%) of the high school students fell in the category of average, less than half (44%) in the category of good and only 5% of the high school students in the category of poor. None of the students were in very good category. In the post-test most (62%) of the high school students fell in the category of very good, and the remaining (38%) were in the category of good. None of the students were in poor and average category.

Thus post-test results revealed that awareness program was effective in terms of gain in knowledge score.

Table 2: Mean, mean difference and 't' value of pre-test and post-test knowledge score. n=100

Group	Mean knowledge score		Mean difference	df	't' value
	Pre-test	Post-test			
High school students	17.99	24.04	6.05	99	15.198*

t_{99}=1.66, p<0.05 *= Significant

It was evident from the data in table 2 that the mean post-test knowledge score (24.04) was higher than the mean pre-test knowledge score (17.99). The computed 't' value (t_{99}=15.198) was higher than the table value (t_{99}=1.66) at 0.05 level of significance. Hence, the null hypothesis was rejected and research hypothesis was accepted and it was inferred that the mean pre-test knowledge score of the high school students regarding the ill effects of junk food and fast food is significantly higher than the mean post-test knowledge score. This indicated that the awareness program was effective in improving the knowledge levels of the high school students regarding the ill effects of junk food and fast food.

Effectiveness of awareness programme in terms of change in attitude score.

Table 3: Frequency and percentage distribution of high school students according to the grading of their attitude score. n=100

Attitude score	Grading	Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
10-20	Highly unfavourable	0	0	0	0
21-30	Unfavourable	53	53	0	0
31-40	Favourable	47	47	64	64
41-50	Highly favourable	0	0	36	36

Data in table 3 showed that in the pre-test more than half (53%) of the high school students had attitude score between 21-30, less than half (47%) of the high school students had attitude score between 31-40 and none of them had attitude score between 10-20 and 41-50. In the post-test most (64%) of the high school students had attitude score between 31- 40, 36% of them had attitude score between 41-50 and none of them had attitude score between 10-20 and 21-30.

Therefore the result revealed that more than half (53%) of the high school students had unfavourable attitude towards junk food and fast food in the pre-test and in the post-test most (64%) of the high school students had favourable attitude towards junk food and fast food.

Table 4: Mean, mean difference and 't' value of pre-test and post-test attitude score. n=100

Group	Mean attitude score		Mean difference	df	't' value
	Pre-test	Post-test			
High school students	29.86	39.70	9.84	99	23.489*

t_{99}=1.66, p<0.05 *= Significant

It was evident from the data in table 4 that the mean post-test attitude score (39.70) was higher than the mean pre-test attitude score (29.86). The Computed 't' value (t_{99} = 23.486) was higher than the table value (t_{99} = 1.66) at 0.05 level of significance. Hence, the null hypothesis was rejected and research hypothesis was accepted.

From the above results the mean difference between the pre-test and post-test attitude score was a true difference and not a chance of difference. This indicated that the awareness program was effective in changing the attitude of high school students towards the ill effects of junk food and fast food.

Relationship between the mean pre-test knowledge and attitude score of high school students regarding the ill effects of junk food and fast food.

Table 5: Mean, relationship 'r' value between the mean pre-test knowledge and attitude score of high school students. n=100

Group	Area	Mean knowledge score	Mean attitude score	'r' value
High school students	Pre-test	17.99	29.86	0.142

'r'$_{(98)}$= 0.193, p<0.05

Data in table 5 showed that the computed 'r' value (r_{98} = 0.142) was smaller than the table value (r_{98} = 0.193, p<0.05). Therefore there was no significant relationship between the mean pre-test knowledge and attitude score of high school students regarding the ill effects of junk food and fast food. Hence the null hypothesis was accepted and research hypothesis was rejected.

Conclusion

Findings of the study showed that the knowledge and attitude scores of high school students regarding the ill effects of junk food and fast food were inadequate before the introduction of awareness programme. This awareness programme facilitated them to improve knowledge and develop favourable attitude towards health aspects of junk food and fast food. Post-test knowledge and attitude scores were significantly increased in high school students. Hence the awareness programme was an effective teaching strategy to improve knowledge and develop right attitude.

References.
1. Sorgam. Junk foods (growing health hazards). Health Action J. 2004; 40:4-39.
2. Adolescent Eating Habit (online), 2011. Available from URL:http://www.uptodate.com/contents/adolescent-eating-habits
3. Childhood Obesity (online), 2010. Available from URL:http://en.wikipedia.org/wiki/Childhood_obesity.
4. Hazards of junk food. [Online]. Available from: URL:http://healthfood-guide.com/fastfood

5. Rhythma K. Burger kids putting India to obesity. Hindustan Times, 2009.

6. Ghai OP, Gupta P, Paul VK. Ghai Essential Pediatrics. 6th Ed. New Delhi: CSB Publishers and Distributrs, 2006.

7. Allison DB, Fontaine KL, Memon JE, Steven J. Effects of Snack foods. AMA Journal. 1999; 282:1580-800.

8. Rajanwalia. Study on 59% schools serve Junk food. (Online). 2011. Available from URL: http://articles. timesofindia.com

9. Traces Cornforth. Consumption of fast food on school children (online), 2009. Available fromURL: http:// bmjopen.bmj.com.\

10. Polit DF, Beck CA. Nursing research: generating and assessing evidence for nursing practice; 8th ed. Wolters Kluwer. Lippincott Williams and Wilkins: New Delhi, 2008, 140.