

A Report  
On  
Evaluation of the Effect of Junk Food on the  
Health of the School Children in Delhi

Project Directors

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## *Preface*

*Children are one of the important demographic segments of any society or country, they not only determine the future trend of the population but also mould the future social, economic and political structure of the country. A decade ago, both the parents and the educational institutions in India made efforts to inculcate cherished values in their children as far as possible, but now to a large extent the television has become the guiding force and guru in this accelerated adulthood. This is mainly due to the changing lifestyles of our society. In a country like India, where the demographic changes of the past decades are showing that it is moving towards a younger population, educating the consumers remains a gigantic task. Young Consumers, particularly between the 6-18 age groups, have a vital role in the economic system of a nation because they are the future of our country and economy. It is also true that children are the most vulnerable members of our community as most of them do not have adequate information about goods and services they are using. They do not understand the unfair, unethical market practices of businesses and the harm of being exposed to junk foods that have become both popular and dangerous. It then becomes an urgent task for parents, society and also for our policy makers to educate our children about consumer protection. They must be aware of the negative impact of junk food on their health, the value of their parent's hard earned money and misleading facts and promises of the advertisements. It is possible only if we educate them about consumer rights.*

*The present study "Evaluation of the effect of Junk Food on the health of the School Children in Delhi" analyses the various fact providing information regarding eating behaviour, availability of junk food, impact of advertisement on junk food consumption and awareness about consequence of junk food on health. Schools serve as a platform for shaping a child's future and creating awareness and providing education for the all round development of the child. But in the present scenario inspite of the clear cut guidelines on banning junk food, children are still into the junk food trap. What further needs to be done is the subject matter of enquiry.*

*We will be happy to receive valuable comments about the report.*

*New Delhi  
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*We have no words to express our gratitude to the Principals of various schools who helped us and provided support in various forms to complete the study. But for their help and support, the study would not have been possible. Apart from the field data, information and literature, useful material has been collected from various sources. We also acknowledge the use of data from various sources for which appropriate references are given.*

*We would also like to place on record our thanks to Dr. T Chatterjee, Director IIPA, New Delhi for his encouragement and guidance. Our thanks are due to other Officers at IIPA for their support in completing the study. We will be failing in our duty if we do not acknowledge the support extended by the Research Officers of the Centre for Consumer Studies, IIPA namely Shri Pankaj Kumar Singh, Shri Virendra Nath Mishra, Shri Ashutosh Dixit and Ms. Priyanka Dwivedi in completing the field work in time inspite of various problems in the field. We would like to thank Shri R.C. Mangla, Consultant, CCS for providing excellent administrative and financial support during the study. We are also thankful to Ms. Deepa, for providing secretarial assistance and to Mr. Anoop for providing support.*

***Project Directors***



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## Executive Summary

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### 1. Background

Concepts, relationships, lifestyles are metamorphosed to accommodate the new jet age and eating habits too is no exception. Healthy nutritious foods have been replaced by the new food mantra – JUNK FOOD. ‘Junk food’ the term, refers to fast foods which are easy to make and quick to consume. They are zero in nutritional value and often high in fat, salt, sugar, and calories. Foods which fall under the umbrella of “junk food” vary, depending on a number of factors. Snack foods like chips, candies, and so forth are generally universally agreed upon as fitting in this category, and some people also lump fast food like hamburgers, pizza, and fries into the group.

In a society that functions at a high speed, fast food has quickly been adopted as the preferred food of choice. Fast food restaurants and their advertisements are permeating our neighborhoods, schools, television, and culture. McDonald’s and Burger King are not the only fast food industries invading our communities, our minds, and our stomachs; Taco Bell, Pizza Hut, Kentucky Fried Chicken are just a few others. It seems to have engulfed every age; every race and the newest entrants on stage are children, school going in particular.

This improper diet has both short-term and long-term ill- effects on the body as consumption of junk foods high in fat, salt and sugar is linked with growing non-communicable diseases such as obesity, diabetes and hypertension among children. On the other hand a healthy diet with a variety of good food directly affects well-being; with nutritious food teens will feel better, look better and perform better in school and in sports.

Junk Food has become a major problem and many countries are taking action – banning junk food advertising in children’s programmes, removing it from schools and even imposing a fat tax. Junk Food is not standardized under Indian regulations. It comes under the category of food which is only expected to declare

their composition or nature of food and comply with general regulations under the Food Safety and Standards Act in India. As there are no reports of nutritional analysis on Junk Food in India, the Pollution Monitoring laboratory undertook a study on the Nutritional analysis of Junk Food.

Some of the key principles behind these guidelines are 'benefits of balanced, fresh and traditional food cannot be replaced, 'schools are not the right places for promoting foods high in fat, salt and sugar' and 'children are not the best judge of their food choices'. The Court has directed that the guidelines be given a form of regulations or directions as per the Food Safety and Standards Act, 2006 within a period of three months to enforce their implementation across the country.

Implementing strong nutrition standards in schools is an important component of comprehensive school health reform. Changes to nutrition standards are often challenging to adopt due to concerns about negative impacts on school profits and fundraising. This report highlights that it is possible for schools and society to improve nutrition standards without experiencing significant financial losses.

## **2. Objectives of the Study**

The main objectives of the study are as follows:

1. To evaluate the changing consumption trends of children;
2. To examine the children's knowledge, attitude, behavior and practices while purchasing fast food products;
3. To study the buying behavior and factors that influences the purchase decisions of the children;
4. To assess the information regarding eating behavior and availability of junk food in and around schools premises;
5. To evaluate the impact of advertisements on children's junk food consumption;
6. To examine the awareness about consequences of junk food consumption on health of children; and

7. To draw conclusions from the study and suggest measures for healthy eating habits and awareness about consequences of junk food consumption on health;

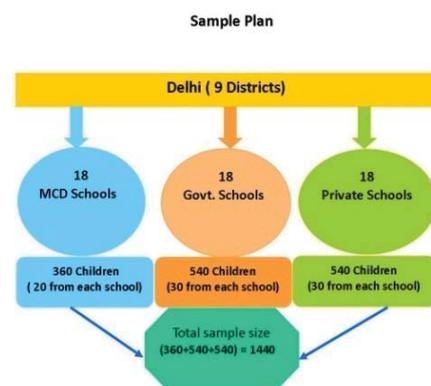
### 3. Methodology

The present study is an empirical research based on both primary and secondary data. It is a blend of both descriptive and analytical methods of study. The secondary data was collected from government publication, books, journals, newspapers and various prominent Voluntary Consumer Organizations working in this area.

The study looked at an area of situation providing information regarding eating behaviour, availability of junk food, impact of advertisement on junk food consumption and awareness about consequence of junk food on health which was gathered through primary surveys by using structured questionnaire among school children. The questionnaire was subjected to reliability by pre-testing the constructed tools by administering it to 100 children randomly. The questionnaire was modified based on the responses from the children.

### 4. Sample Plan

The sample units were selected in a way that they can best represent the respondents' socio-economic background. Three categories of schools were covered (MCD schools, Government schools and Private schools) to get representation of children from different socio-economic background. 18 schools were covered from each category. Total 54 schools were covered under the study. Children from Primary, Upper Primary, Secondary and Higher Secondary levels were interviewed. Since MCD schools are up to Primary level only so total 360



children were interviewed from 18 MCD schools, 20 from each school. While in case of Government and Private schools, children were interviewed from Upper Primary to Higher Secondary levels. 30 children from each school were covered. 1080 children were covered from both Government and Private schools (540 from each category). Total sample of 1440 school children were taken for the investigation from 54 schools of 9 different districts of Delhi.

The data so collected was analyzed and tabulated. Appropriate statistical methods were applied to classify and analyze the data, collected on the subject.

## **5. Tools**

A close ended questionnaire was developed for three type of schools for this study, namely:

- (a.) Government Schools
- (b.) MCD Schools
- (c.) Private Schools

## **6. Analysis**

The Analysis and tabulation of the primary data has been done by using SPSS. Secondary data has been collected from various prominent Voluntary Consumer Organizations working in this area and other sources was analyzed with the help of Ms-excel. Some of the secondary data and information has been collected from the articles; books, journals, newspapers, reports, internet, and government publications.

## **7. Major Findings**

Based on the field data and information collected from various sources, the major findings of the study are as follows:

1. A high percentage (95.9 percent) of the students said they preferred to consume junk food. Out of those who preferred, 93 percent said that junk

food had delicious taste, 85 percent said it was easily available and 66.4 percent said it was very easy and convenient to pack and carry junk food in tiffins and 73.5 percent found the packaging attractive. A combination of all these factors led students to prefer the consumption of junk food.

2. It is noticeable that not only students consumed junk food outside home but also at home. 93.1 percent respondents said that they consumed junk food at home. 11 percent ate junk food at home almost every day, 26.7 percent had it 1-2 times a week and 43.9 percent had a low frequency of consuming junk food at home.
3. Availability of junk food in and around school campus was prominent in public schools. Comparatively, there was less availability of junk food in MCD schools and Government schools. In public schools, 70.8 percent said junk food was available in and around their campus, 14.6 percent and 24.1 percent students of the MCD and government schools respectively said the same.
4. Apart from availability of junk food in and around school campus, it was found that students also carried junk food from home in their lunch boxes. 46 percent students said they carried junk food in their tiffins almost every day and 59 percent said they did so 1-2 times a week.
5. Advertising of junk food via different channels was found to be responsible for influencing students towards junk food consumption. 88.7 percent students said that junk food advertising created a desire in them to try it. Junk food advertisements are ubiquitous and can be found almost everywhere. 54.9 percent students said they regularly came across junk food advertisements. 85.1 percent students said television was the major source of junk food advertising, 78.5 percent said they found a lot of junk food advertisements in magazines they read, 22 percent students said billboards in and around their surrounding were painted with advertisements of junk food and 29.5 percent said internet was the major source of junk food advertisements.

6. Responsible consumer behavior implies that one should surely read the content/ nutrition value of a food product before making the final purchase. It was found that only 24.6 percent students always looked at the content label on the food packet, 46.5 percent checked the same sometimes and 28.8 percent never checked it.
7. The research showed that a high percentage of students had awareness of the ill effects of junk food. 69.2 percent students said junk food had unhealthy effect on health, 22.5 percent said it had healthy effect and 8.3 percent said it had no effect on health.
8. 8 percent of the students complained of a health problem. 19.9 percent associated their health problem with the consumption of junk food at home.
9. Among the students who complained of a health problem, most of them belonged to private schools (12 percent), 8 percent were from government schools and 2.4 percent were from MCD schools.
10. Junk food leads to a variety of health issues. 65.7 percent students said that consumption of junk food leads to obesity/overweight, 37.8 percent students said that it causes diabetes, 26.7 percent said it lead to hypertension and 31.1 percent said it leads to weak memory and heart diseases.
11. Understanding the ill effects of junk food on health, 80.4 percent students said they intended to reduce junk food consumption in the next few months. 79 percent students believed that bright packaging of healthy and nutritious food would attract them to consume healthy food over junk food. 68.2 percent students were of the view that marketing of junk food to young people through advertising campaigns should be denounced and 22.4 percent students said that all the ingredients of junk food should be clearly highlighted in the packages.
12. It was found that schools were taking sound initiatives to educate students about the ill effects of junk food consumption. 84.4 percent students said their schools were taking measures to make them aware. 52.9 percent students

said that health education was a part of their school curriculum, 30 percent students said their schools had workshops/seminars by health specialists, 33.8 percent said they had periodical health checkups at their school, 23 percent students said they had availability of healthy food in their school canteens and mess. These measures had an impact in reducing the consumption of junk food to a great extent in 22.6 percent of the students, 62.1 percent students said that their junk food consumption was reduced to some extent and it remained the same in the case of 15.3 percent of the students.

13. Parents also made an attempt to educate their children about the unhealthy effect of junk food consumption. 65.7 percent students said their parents emphasized on consuming home cooked food, 38.8 percent students said they parents ensured that they carried lunch from home and 28.6 percent students said that they are taught to opt for healthy food alternatives even when they go for an outing or picnics .

14. Majority of students (81.4 percent) shared the view that an order should be issued by the government to ban junk food sale in school campus.

## **8. Recommendations**

Keeping in view the findings of the study, the recommendations are:

- 1. Reduce the number of junk food ads during children's programmes -**  
Food habits are formed at a young age and are difficult to change. For this reason, repetitive exposure to advertisements encouraging overeating and the consumption of foods high in sugar, salt and saturated fat need to be cut down. There should be no advertisements five minutes before, after and during children's television programmes. Children are exceptionally vulnerable to being manipulated by advertisements. For this reason, advertisements for children and use of child actors for junk food promotion needs to be prohibited.

2. **Regulation of advertisement through a framework-** Advertisement and promotion of such foods targeted at children is to be regulated through a framework that includes all type of media, celebrity endorsement and promotional activities. Most importantly, the celebrities and sport stars should not be allowed to promote food and drink products aimed at children unless the advertisement is part of a “public health or education campaign”. Characters or personalities from children’s programmes should also be restricted from endorsing or advertising products or services. Popular cartoon and television characters are often licensed to appear on a vast range of children’s foods- usually aimed at toddlers or primary school children.
3. **Rigorous enforcement of advertising regulations** - The regulating bodies are found to be neither adequate nor effective. Rigorous enforcement of advertising regulations is necessary to ensure compliance and improve the effectiveness of regulatory bodies. Government should play an active role to make and implement rules and regulations against manufacturing promotion and sale of junk food.
4. **Monitor health messages in ads** -Consumer awareness about diet and nutrition has largely improved over the past decade. However, advertisers know how to manipulate consumers and to use the scientific terms to distort the nutritional value of food and drink products. Health messages in advertisements and on packaging need to be monitored to eliminate misleading promotion. Children’s advertising should support messages related to public health and human well-being as endorsed by government policies.
5. **Health messages to be made mandatory for manufacturers who are producing junk food** - It is time for junk food packaging and advertisers to level nutrition advice such as “should be consumed in moderation” or “should not be consumed in place of a balanced meal”. There should also be warnings for parents stating that fast food is addictive and can harm their children’s health, causing problems like high cholesterol and obesity. The

manufacturer should also inform parents that it is inadvisable to let children below five years of age to drink soft drinks. Carbonated drinks and other food items with high sugar content should display health warnings for diabetics and children, that the product may be unhealthy for them, leading to tooth decay, obesity and health problems.

6. **Prohibition of Advertisements that target parents or caretakers-** No indirect advertising to parents or other adults caring for children such as other family members, child carers, teachers, health workers should be prohibited. This includes suggesting a parent or adult who purchases such a food or beverage for a child is a better, more intelligent or a more generous parent or adult than one who does not do so, or that their child when fed with these products will be more intelligent and gifted.
7. **Schools need to organize workshops and sessions focusing on ill-effect of consuming junk food** - The survey results clearly show that students preferred eating junk food for end number of reasons may it be the attractive packing, easy accessibility, tastier and easy to carry, etc. Therefore, there is an urgent need to organize orientation workshops and sessions focusing on the ill- effects of consuming junk food and parents can also be invited to attend the same along with children. This is all the more important because even the parents prefer sending/packing junk food in tiffins for children.
8. **Competitions should be organized by schools to create awareness among students on Junking the junk food** - Children to be encouraged to be a part of the healthy diet movement by regularly organizing campaigns, competition and activities in the school where children be encouraged to make and learn healthy menus for a healthier life. Competitions should be organized in the school on “Junking the junk food” to spread awareness of its ill-effects.
9. **Awareness on Health Education at Primary Schools** – Health education should be made a part of the school curriculum. Regular workshops and

seminars from health specialists/experts would have a great impact in reducing the consumption of junk food to great extent. Establishing early awareness educational programmes aimed at children between the ages of 2 – 14 will educate about the adverse medical effects and complications associated with fast food induced obesity, and promote active physical activity that is supported by the government for a longer duration.

10. **Parents need to be more conscious toward eating behaviour of their children** - The survey results clearly showed that students inspite of consuming junk food regularly were aware of the ill-effects of junk food consumption. There is a dire need to understand the psychology behind this consumption behaviour. The parents need to be more sensitive and understanding because most of the children who consumed more of junk food were from private schools. The scarcity of time which parents have due to both parents earning leads to children adapting to more consumption of junk food. Parents should think of ways to spend more and more time with their children and make them understand the benefits of healthy eating. Parents and caretakers at home should be more conscious on what is being served to the children both through home tiffins and at school so that regular consumption of junk food to children can be stopped.
11. **Easier Access to Healthier Food Choices** – There is a need to introduce subsidized healthy food choices for families that occupy family members between the ages of 2 – 14. Healthier food choices that are listed within the nutritional chart should be accessible without difficulty to all.
12. **Enforce the highest standards for the marketing of foods-** The food, beverage, restaurant, and marketing industries should work with government, scientific, public health, and consumer groups to establish and enforce the highest standards for the marketing of foods, beverages, and meals to children and youth. The media and entertainment industry should direct its extensive power to promote healthy foods and beverages for all.

13. **Financially sustained social marketing programme in promoting healthy diets for all-** Government, in partnership with the private sector, should create a long-term, multifaceted, and financially sustained social marketing programme supporting parents, caretakers, and families in promoting healthy diets for all.
14. **Educate and promote healthy diets for children and youth-** State and local educational authorities, with support from parents, health authorities, and other stakeholders, should educate and promote healthy diets for children and youth in all aspects of the school environment (e.g., commercial sponsorships, meals and snacks, curriculum). A well structured curriculum on balanced diet and its health impacts should be introduced in the schools.
15. **Developing Canteens to provide Nutritious, Wholesome and Healthy Food in Schools-** Canteens in the schools should not be treated as commercial outlets. They carry a social responsibility towards inculcating healthy eating behaviors. They can be used to motivate children to consume healthy and hygienic food.
16. **Enforcement and monitoring-** The Rules and notifications already in place for the ban on junk food need to be enforced and monitored in letter and spirit as the survey clearly shows that still in many schools the junk food is easily accessible in and around the school premises.
17. **Food Safety and Standards Authority of India should review the Labeling Regulations to make Relevant Information available for all-** In India, the labeling regulations mandate packaged food manufacturers to declare nutritional information on product labels which indicates the energy value and the amount of nutrients present. However, it needs to be made more informative and understandable for common people especially children.
18. **Curbing the influence of misleading advertisements-** Junk food advertisements are ubiquitous and can be found usually everywhere. Continuous check on the hoardings, advertisements especially in and around

school premises and even at other public places should be done so that the children don't get influenced by misleading advertisements.

19. **Benefits of physical Activity-** Physical activities at school and after school are also very important. Children should be sensitized about the benefits of physical activity, yoga and outdoor games in staying fit and healthy. Watching TV, video games, console games, play stations should be reduced instead more stress should be given on outdoor games like cricket, football, basketball, etc.
20. **Content/nutrition value of the food products-** Developing habit of reading the content/nutrition value of the food products before purchasing them should be adhered to. This would help to know the facts related to the food being consumed.
21. **Inculcating healthy eating habits in children-** It is a saying that habits die hard and especially those which are formed in early years of life so children should be encouraged to eat leafy green vegetables and home cooked healthy diets/food rather than frequent consumption of junk food.

## Chapter I

### INTRODUCTION

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Concepts, relationships, lifestyles are metamorphosed to accommodate the newjet age and eating habits too is no exception. Healthy nutritious foods have been replaced by the new food mantra – JUNK FOOD. In the context of world economy, junk food is a global phenomenon. The availability of junk food and snacks at low prices and marketing strategies adapted by manufacturers of such foods has triggered an evolution wherein, consumption of foods that require neither the structure nor the preparation of a formal meal. It seems to have engulfed every age; every race and the newest entrants on stage are children, school going in particular.

Kids represent an important demographic to marketers because they have more autonomy and decision-making power within the family than in previous generations, they have their own purchasing power, they influence their parents' buying decisions through 'Pester power' and they're the adult consumers of the future. Fast food advertising has a host of techniques at their disposal. Marketing venues include television, radio, comic books and magazines. Fast food company logos appear on toys, in movies, on clothing and in video games. With the help of well-paid researchers and psychologists, advertisers now have access to in-depth knowledge about children's developmental, emotional and social needs at different ages. Using research that analyzes children's behavior, fantasy lives, art work, even their dreams, companies are able to craft sophisticated marketing strategies to reach young people.

The focus on marketing to children creates a conflict between the fast food industry, which encourages the eating of junk food, and parents, who want to guide their children towards healthier eating habits. Many parents would say it's an uneven struggle, with the balance of power squarely on the side of junk food advertising. Parents today are willing to buy more for their kids because trends such as smaller family size, dual incomes and postponing children until later in life mean that families

have more disposable income. As well, guilt can play a role in spending decisions as time-stressed parents substitute material goods for time spent with their kids.

There were times when school used to be a place where children were protected from the advertising and consumer messages that permeated their world but not anymore. Budget shortfalls are forcing school boards to allow corporation's access to students in exchange for badly needed cash, computers and educational materials. A school setting delivers a captive youth audience and implies the endorsement of teachers and the educational system. Marketers are eagerly exploiting this medium in a number of ways, for example, the Pizza Hut reading incentives program in which children receive certificates for free pizza if they achieve a monthly reading goal; or Campbell's Labels for Education project, in which Campbell provides educational resources for schools in exchange for soup labels collected by students.



Implementing strong nutrition standards in schools is an important component of comprehensive school health reform. Changes to nutrition standards are often challenging to adopt due to concerns about negative impacts on school profits and fundraising.

The term “junk food” is used to describe food that is low in nutritional value, with a comparatively high caloric value. Many people try to avoid or limit such food in their diets, out of concerns that it is not healthy, despite the fact that numerous food manufacturers produce a range of products which could be considered junk. Nutritionists, doctors, and other health advocates often work to educate people about junk food, encouraging them to eat well balanced diets which contain a high proportion of healthy foods.

This term was coined in 1972 by advocates at the Center for Science in the Public Interest who wanted to raise public attention about the issue of foods with a high

caloric value and a low nutritional value. For manufacturers, producing such foods has great appeal, as they tend to be cheap to make and easy to handle. They also have an extended shelf life, making them easy for stores to stock and sell.

Foods which fall under the umbrella of “junk food” vary, depending on a number of factors. Snack foods like chips, candies, and so forth are generally universally agreed upon as fitting in this category, and some people also lump fast food like hamburgers, pizza, and fries into the group. In some communities, ethnic takeaway food like gyros, Indian curries, tacos, fish and chips, and so on is also considered to be junk food.

Definitions tend to hinge on someone's class and social status. People with more money tend to have a broader definition, causing some people to accuse them of class snobbery, while lower-income individuals may recognize fewer foods as junk food. Especially in the case of ethnic foods, a classification as “junk food” could be perceived as rather offensive, given that such foods have been prepared and consumed for centuries, and many are actually quite healthy.

As a general rule, no matter what one classifies as junk food, such foods are perfectly safe to eat, as long as they are integrated into a well balanced diet. There's nothing wrong with having some potato chips now and then, but consuming a diet based primarily on such food is a cause for concern. Because junk food often lacks useful vitamins and minerals, people who eat it exclusively may suffer from nutritional deficiencies that could cause health problems, and they may experience other physical issues like indigestion as a consequence.

In some regions of the world, advertising of junk food is carefully controlled and monitored, out of the concern that such foods often appeal to children. Advertisers may be specifically prohibited from making advertising which targets children, for example, any claims made about the nutritional benefit of foods are typically closely evaluated to determine how factual they are.

When a teenager's diet consists of junk food and fast foods, it has more fat, sugar and salt than nutrients. This improper diet has both short-term and long-term ill-effects on the body.

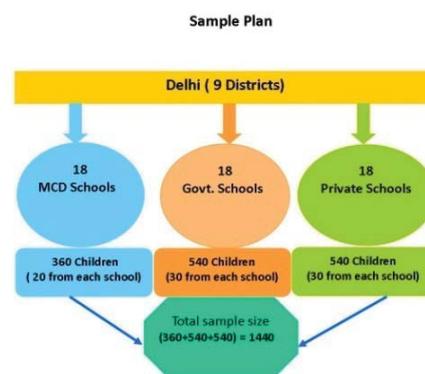
## Methodology

The present study is an empirical research based on both primary and secondary data. It is a blend of both descriptive and analytical methods of study. The secondary data was collected from government publication, books, journals, newspapers and various prominent Voluntary Consumer Organizations working in this area.

The study looked at an area of situation providing information regarding eating behaviour, availability of junk food, impact of advertisement on junk food consumption and awareness about consequence of junk food on health which was gathered through primary surveys by using structured questionnaire among school children. The questionnaire was subjected to reliability by pre-testing the constructed tools by administering it to 100 children randomly. The questionnaire was modified based on the responses from the children.

## Sample Plan

The sample units were selected in a way that they can best represent the respondents' socio-economic background. Three categories of schools were covered (MCD schools, Government schools and Private schools) to get representation of children from different socio-economic background. 18 schools were covered from each category. Total 54 schools were covered under the study. Children from Primary, Upper Primary, Secondary and Higher Secondary levels were interviewed. Since MCD schools are up to Primary level only so total 360 children were interviewed from 18 MCD schools, 20 from each school. While in case of Government



and Private schools, children were interviewed from Upper Primary to Higher Secondary levels. 30 children from each school were covered. 1080 children were covered from both Government and Private schools (540 from each category). Total sample of 1440 school children were taken for the investigation from 54 schools of 9 different districts of Delhi.

The data so collected was analyzed and tabulated. Appropriate statistical methods were applied to classify and analyze the data, collected on the subject.

### Work plan and its phasing

| Work Plan   | Months |   |   |   |   |   |
|---|--------|---|---|---|---|---|
|   | 1      | 2 | 3 | 4 | 5 | 6 |
| <b>Phase 1-</b> Identification of Districts and Resource Planning |        |   |   |   |   |   |
| <b>Phase 2-</b> Collection of Primary and Secondary Data          |        |   |   |   |   |   |
| <b>Phase 3-</b> Data Analysis and Report writing                  |        |   |   |   |   |   |
| <b>Phase 4-</b> Final Report Preparation and Plan formulation     |        |   |   |   |   |   |



## Chapter II

### Unveiling the Junk Food Trap

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'Junk food' the term, refers to fast foods which are easy to make and quick to consume. They are zero in nutritional value and often high in fat, salt, sugar, and calories. Common junk foods include salted snack foods, fried fast food, and carbonated drinks. Junk Food has become a major problem and many countries are taking action – banning junk food advertising in children's programmes, removing it from schools and even imposing a fat tax. Many junk foods also have trans fats which behave like saturated fats when they get in the body. They clog up the human arteries and cause plaque to build up contributing to heart disease and stroke symptoms. A 2008 report suggests that mothers who eat junk food while pregnant or breast-feeding have children who are more prone to obesity. These children are also more prone to diabetes, raised cholesterol, and high blood fat.



A recent report suggests that pregnant mothers who eat high sugar and high fat diets have babies who are likely to become junk food junkies themselves, this happens because the high fat and high sugar diet leads to changes in the fetal brain's reward pathway, altering food preferences. Salt, sugar and fat are items that need to be regulated. Junk Food is not standardized under Indian regulations. It comes under the category of food which is only expected to declare their composition or nature of food and comply with general regulations under the Food Safety and Standards Act in India. As there are no reports of nutritional analysis on Junk Food in India, the Pollution Monitoring laboratory undertook a study on the Nutritional analysis of Junk Food. A total of 23 junk food samples 4 from seven different food categories like potato chips (4), snacks (2), instant noodles (2), burgers (6), pizzas (3), french fries (2) and carbonated drinks (2) were collected from Delhi Outlets and analyzed for salt content, total

carbohydrate, total fat and trans fat with a widely and internationally used methodology of Association of Official Analytical Chemists (AOAC).

### **Major Nutrients in diet and recommended dietary guidelines**

Carbohydrate, protein, and fat are the main sources of calories in the diet. The nutrient requirements vary with age, gender, physical activity and physiological status. It can be easily achieved through a blend of the basic food groups. Most foods and beverages contain combinations of these macronutrients in varying amounts. According to the Dietary Guidelines for Indians (National Institute for Nutrition, 2011) a balanced diet should provide 50-60 percent of calories from carbohydrates, 10-12 percent from proteins and 20-25 percent from fats. Though NIN recommends a maximum of two per cent of total calories to come from trans- fats, the recommendations of WHO is one per cent. Balanced diet should provide other non nutrients such as dietary fiber, antioxidants and phytochemicals which bestow positive health benefits. Antioxidants such as vitamin C and E, beta carotene, riboflavin and selenium protect the human body from free radical damage while other phytochemicals such as polyphenols, flavones etc. also afford protection against oxidant damage.

**Table 2.1**  
**Recommended Dietary Guidelines for Indians**

| <b>Carbohydrate</b> | <b>Free Sugars</b> | <b>Protein</b> | <b>Salt</b> | <b>Fat</b> |
|---------------------|--------------------|----------------|-------------|------------|
| 50-60%              | <10%               | 10-15%         | 6 g per day | 20-30%     |

Source: National Institute for Nutrition (2011)

### **Junk Food**

Junk Food is defined as “any food, which is low in essential nutrients and high in everything else—in particular calories and sodium. Junk foods contain little or no proteins, vitamins or minerals but are rich in salt, sugar, fats and are high in energy (calories). Highly salted like chips, high in refined carbohydrates (empty calories) like candy, soft drinks and high in saturated fats like cake and chocolates.

## **Major Contents in Junk Food**

### **Carbohydrates**

The free sugar content has generally been found to be high in carbonated beverages and desserts offered by the fast food chains. The desserts and shakes offered by KFC and McDonalds invariably contain very high sugar content (Official websites' information).

### **Fats**

Junk foods like potato chips, burgers, pizza, fried chicken etc. have high fat content. The link between saturated fat and trans-fat and increased risk of heart disease is well established. There is Carbohydrate free Sugars Protein Salt Fat 50-60 percent.

### **Trans Fat**

It is the common name for unsaturated fat with trans-isomer (E-isomer) fatty acid(s). Trans fatty acids (TFA) are the geometrical isomers of monounsaturated (MUFA) and polyunsaturated (PUFA) fatty acids having at least one non-conjugated, (interrupted by at least one methylene group), carbon-carbon double bond in the trans configuration rather than the more common cis configuration. The trans configuration has an effect on the functional and physiochemical properties of these fatty acids which in turn effects their metabolism in humans. High levels of TFA are a public health concern due to some evidence associating TFA with coronary heart disease 4. There is also evidence that the risk of type 2 diabetes is directly associated with consumption of saturated fat and trans-fat and inversely associated with polyunsaturated fat from vegetable sources.

### **Salt**

The amount of dietary salt consumed is an important determinant of blood pressure levels and overall cardiovascular risk. Salt intake should not be more than 6 g per person per day. WHO recommends salt intake of less than 5 grams per person per

day for the prevention of cardiovascular disease. WHO estimates that decreasing dietary salt intake from the current 9-12 grams per day to the recommended level of 5 grams per day would have a “major impact on reducing blood pressure and cardiovascular disease.

### **Junk Food Market in India**

According to the National Restaurant Association of India (NRAI) 2010 report, the fast food industry in India is currently estimated to be between Rs 6750- Rs 8000 crore, growing at a compound annual growth rate of 35-40 per cent. A major chunk of these markets is ruled by global players like McDonald's, Yum Brands (Kentucky Fried Chicken, Pizza Hut), Domino's, Subway, Taco Bell, Coca Cola and Barista but domestic players are not lagging behind. Nirula's, Pizza Corner, Coffee Day Group, Hadrian's, Bikanerwala capture a fair share of the fast food segment. Junk foods are high visibility products: easily available almost everywhere, extensively advertised through every media, these foods find a key target group among children. Their manufacturers and sellers also take recourse to attractive packaging and addition of food additives and colors to enhance flavor, texture, appearance and shelf life. The Integrated Disease Surveillance Report, which found that rural India was fast catching up with modern diseases, also noted that people were eating less fruits and vegetables and more fast food.

### **Regulations on Junk Food**

**WHO:** On January 21, 2011, WHO formally issued a recommendation asking for a ban on junk food in schools and playgrounds in order to promote healthy diet and tackle child obesity. “Settings where children gather should be free from all forms of marketing of foods high in saturated fats, trans-fatty acids, free sugars or salt” said WHO. "Such settings include, but are not limited to, nurseries, schools, school grounds and pre-school centers, playgrounds, family and child clinics and pediatric services and during any sporting and cultural activities that are held on these premises," it added.

**Britain:** Has the biggest obesity problem in Europe with nearly 26 per cent of the population being obese. The country banned junk food in schools in 2005-13. A ban on junk food ads during television programmes aimed at children below 16 years came into force in August 2008.

UK consumer advocates are now calling for their government to explore provisions allowed under the new EU regulation on food information to make sure that the 'traffic light labeling' is used on all food products.

**Scotland:** In March 2012, it was proposed to ban advertisements of junk foods in television shows aired before 9 pm.

**US:** In 2010, the US government proposed a law to ban junk food in schools; a decision that still remains to be taken. Meanwhile elementary schools in Arizona, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Nebraska, New Jersey, New York, and West Virginia has already banned the sale of junk food in schools until at least after lunch.

**Mexico:** Has banned junk food in all of its public, private and elementary schools since May 2010. This was a part of their nationwide anti-obesity campaign.

**United Arab Emirates:** Banned junk food and soft drinks in all its schools in Abu Dhabi in 2010.

**Canada:** The Ontario State Government banned candy, chocolate, fries, pop and energy drinks in school premises in September 2010.

**Denmark:** Imposed a fat tax on junk food in October 2011. The surcharge will be levied on food items like butter, milk, cheese, pizza, meat, bacon, ice cream and processed food if they contain more than 82.3 per cent saturated fat. According to the new taxes imposed, the consumers will have to shell out about 20 per cent more for a packet of butter and a little more than half a Krone (1 Krone = 01.7 US \$) for a packet of chips. The government hopes that by imposing such taxes on junk food they will be able to

fund the increased health care costs of treating the obese population. Also, high prices will dissuade people from eating food high on saturated fat.

**Hungary:** In September 2011, Hungary imposed tax on food that was high in sugar, fat, carbohydrates and salt. A tax was also imposed on carbonated beverages, alcohol and drinks with high caffeine levels such as energy drinks. Other countries in Europe too have experimented with similar taxes. Switzerland and Austria, along with Denmark have already banned trans-fats, while Finland and Romania are considering fat taxes. Brazil, Mexico and Taiwan too are working towards getting a fat tax in place.

**India:** A Public interest litigation was filed in the Delhi High Court in 2010 on the availability of junk foods to school children. In response, the Court has directed the Food Safety and Standards Authority of India (FSSAI) to implement the 'Guidelines for making available wholesome, nutritious, safe and hygienic food to school children in India'. These guidelines were developed by a committee constituted by the FSSAI as directed by the Court. <sup>1</sup>

### **What do the guidelines recommend?**

- Most common junk foods that are high in fat, salt and sugar such as chips, fried foods, and sugar sweetened carbonated beverages, sugar sweetened non-carbonated beverages, ready-to-eat noodles, pizzas, burgers, potato fries and confectionery items should be restricted in schools and 50 meters nearby.
- Advertisement and promotion of such foods targeted at children is to be regulated through a framework that includes all types of media, celebrity endorsements and promotional activities.
- A canteen policy should be implemented based on color coding. Green category foods -- the healthy food options -- should constitute about 80 per cent of available foods. Red category of select most common junk foods that are high in fat, salt and sugar should not be sold or served in schools. Suggested, healthy

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<sup>1</sup> Guidelines for making available wholesome, nutritious, safe and hygienic food to school children in India ,FSSAI ,[http://www.fssai.gov.in/Portals/0/pdf/Order\\_Draft\\_Guidelines\\_School\\_Children.pdf](http://www.fssai.gov.in/Portals/0/pdf/Order_Draft_Guidelines_School_Children.pdf)

menu options should include fruit salad, fruits, paneer / vegetable cutlets, khandvi, poha, utthapam, upma, idlis and kathi rolls, low fat milk shakes with seasonal fruits and no added sugar, fresh fruit juice and smoothies with fruits, fresh lime soda, badam milk, lassi etc.

- The FSSAI should fix limits of unhealthy ingredients such as trans fats to 5 per cent at the earliest.
- Schools should promote nutrition education and awareness for children. A well-structured curriculum on balanced diet and its health impacts should be introduced.
- Labeling regulations must be strengthened by the FSSAI to enable complete and transparent information on the amount of fat, salt and sugar with reference to recommended daily allowed limits.

The guidelines provide a scientific background on how consumption of junk foods high in fat, salt and sugar is linked with growing non-communicable diseases such as obesity, diabetes and hypertension among children. Some of the key principles behind these guidelines are 'benefits of balanced, fresh and traditional food cannot be replaced, 'schools are not the right places for promoting foods high in fat, salt and sugar' and 'children are not the best judge of their food choices'. The Court has directed that the guidelines be given a form of regulations or directions as per the Food Safety and Standards Act, 2006 within a period of three months to enforce their implementation across the country.

### **Health Implications of Consumption of Junk Food**

In a society that functions at a high speed, fast food has quickly been adopted as the preferred food of choice. Fast food restaurants and their advertisements are permeating our neighborhoods, schools, television, and culture. Burger King and Big Mac burgers have become defining foods of the typical American diet. Corporate goals aim to make these chains more geographically accessible, adding more and more chains to our neighborhood streets. McDonald's and Burger King are not the only fast food industries invading our communities, our minds, and our stomachs; Taco Bell,

Pizza Hut, Kentucky Fried Chicken are just a few others. These industries are successful because they offer consumers a quick, cheap, convenient and tasty meal that is all too often high in fat and salt content and low in fiber and calcium. Creative marketing strategies that offer super-value meals or super-size perks result in further promotion of these industries. Unhealthy processed foods such as these are a potential health threat since they contribute to the increased prevalence of obesity and chronic disease among people obesity is becoming the largest public health concern as we enter the new millennium, especially among children. Obesity increases the risk for high cholesterol and fatty streak development which translates into greater risk for cardiovascular disease. One meal at a fast food restaurant may contribute a significant amount of fat and sodium for the day. For example, McDonald's new Spanish omelet bagel contains 710 calories, 40 grams of fat, 275 mg of cholesterol and 1,520 mg of sodium. High fat diets and bigger portions in combination with decreased physical activity play major roles in the obesity epidemic. Technology has its drawbacks since fewer children are playing basketball and the majority of them "surf the net" instead. Children consuming diets high in fat often displace nutrient dense foods such as whole grains, fruits and vegetables. Diets high in fat are also typically low in fiber because of the lack of complex carbohydrates. Complex carbohydrates are often high in fiber which is associated with lower cholesterol levels, improved digestive function, and decreased risk of cardiovascular disease and some forms of cancer.



Some studies have shown that increasing dietary fiber among children may be preventative in the development of childhood obesity. Unfortunately fast foods are more palatable, more filling and more caloric per bite, resulting in greater demand and increased consumption. Fast food also has many social implications, often acceptable in peer environments or associated as rewards or celebratory meals. The high salt content of fast foods also pose many threats to the health of people both young and old.

Salt consumption is associated with high blood pressure, strokes, and kidney function. In addition, some studies have shown that calcium competes with sodium. In other words, as the intake of sodium increases, there is an increase in the urinary excretion of calcium. This increased excretion of calcium may be responsible for reduced peak bone mass and increased bone demineralization which, in turn, increases the risk for osteoporosis and bone fractures among women. This concept is extremely important when thinking in terms of children who are in the critical stage of developing bone density. The recommended limit for sodium is 2,200 mg. On average, however, women consume 3,200 mg per day. Exceeding these recommendations is often easy since a Burger King Whopper contains 870 mg of sodium and a large order of McDonald's fries contains 290 mg, making it possible for individuals to reach more than half the limit in one meal.



On the other hand, the RDA for calcium is 800 mg per day but the average intake among women is less than 600 mg. This information illustrates the need for healthy food alternatives. Incorporating nutrient dense food choices and healthy snacks into an active lifestyle may help improve health of the general population and prevent the onset of disease. It is apparent that fast foods are always a temptation because they are widely available, convenient and cheap, but as parents and educators it is important to set examples for children to emulate. Parents and educators can be more involved in increasing awareness regarding the negative effects of fast foods and discourage children from consuming them. Since many food patterns begin during childhood, parents and teachers should avoid using fast foods as rewarding meals and attempt to educate children on healthy food choices. Super-sizing meals to get more for your dollar may contribute to unnecessary calories and fat. Encouraging the consumption of a balanced diet, high in complex carbohydrates such as legumes, fruits, vegetables, and whole grains may result in many health benefits. In addition, promoting a diet rich in calcium which is found in dairy sources such as low-fat milk and cheese or in other

sources such as broccoli or kale promotes peak bone mass and decreased risk for osteoporosis and bone fractures later in life. In general, a diet low in fat, especially saturated fat, low in salt and high in fiber and calcium can prevent obesity and disease. Advocating nutrient dense diets, rich in whole grains, fresh fruits, and vegetables and increased physical activity may serve as the greatest investment of society, the health of our youth.

Parents and teachers can educate and empower children by involving them in creating simple, fun, and creative homemade alternatives. Teaching children skills such as grating cheese, washing and cutting vegetables may make them more apt to preparing meals themselves, and less likely to purchase fast foods. Some ideas are baked potatoes, which are a good source of potassium, iron and vitamin C. They can be topped with low-fat sour cream, reduced fat cheese and steamed vegetables such as broccoli. Another idea is homemade pizza made with pita bread, tomato sauce, grated low fat cheese, and fresh vegetables. Other ideas are turkey burgers made with lettuce, low fat cheese and mayonnaise or burritos made with baked beans, low-fat cheese, and vegetables. The ultimate message is that nutritious meals can be fun and can be incorporated into everyday life. Showing children how to prepare low fat snacks and meals may deter them from developing unhealthy eating patterns and prevent the onset of obesity and disease.



Junk food is popular because it is tasty. But it is unhealthy. It is low in fiber, it is high in fat, high in sugar in liquid form. Studies have shown that despite being unhealthy, junk food induces gorging that leads to obesity. The study published in 2009 in The Journal of Clinical Investigation, showed that the fat from fatty acids affected the brain. The study by Deborah Clegg, Assistant Professor of Internal Medicine at UT Southwestern, suggested that when we eat something high in fat, the brain gets 'hit' with the fatty acids, and the fat molecules cause the brain to send messages to the

body's cells, warning them to ignore the appetite-suppressing signals from leptin and insulin, hormones that are involved in weight regulation. Since the body does not get the signal that it is satiated it leads to over eating.

Another study published in Neurology shows that eating too much junk food or food rich in trans fats can shrink the brain similar to that associated with the Alzheimer's disease. The study also showed that if the diet was rich in vitamin B, C, D and E and high in omega-3 fatty acids, the brain benefitted from it. Though this study was done on a set of people above 65 years, the impact of trans fatty acids begins to take place at the fetal stage.

Adverse fatty acid supplies during fetal and child development can alter fatty acid composition of membrane phospholipids (these are the lipid/ fatty cells in the membrane and has an impact on the fattiness of the child) and storage triglycerides (they store unused calories in humans, they are an important measure for the health of the heart, the lower the better). This can lead to disruption in cellular environments, structure and function.

Avoiding hydrogenated fats is also important for the growing brains of children as it can lead to attention deficit hyperactive disorder (this is a psychiatric disorder mainly in children where in there is a co existence of both attention problem and hyperactivity). Studies also show that too much of junk food alters the chemistry of the brain and are addictive like cocaine. High-fructose corn syrup (HFCS), monosodium glutamate (MSG), hydrogenated oils, refined salt, and various other chemical preservatives found in processed junk food do the same thing to a person's brain as cocaine does.

Another study conducted by researchers at both the University of Texas in Austin (UT) and the Oregon Research Institute found that prolonged consumption of junk foods results in reduced activity in the striatum, a section of the forebrain that registers reward. In other words, just like with drugs, those addicted to junk food require ever-increasing amounts of it to get the same "high." In a correlative study, researchers

identified a similarity in dopamine production levels between drug addicts and junk food addicts. Addiction to either one essentially causes the brain receptors that receive dopamine signals to lose their responsiveness. As a result, addicts require increasing amounts of the addictive substance to receive the same level of satisfaction. Studies have also shown that as early as the age of 30, arteries could begin clogging and lay the groundwork for future heart attacks. What children eat from puberty affects their risks of prostate and breast cancer. Osteoporosis and hypertension are other diseases that appear to have their earliest roots in childhood when lifelong eating habits are being formed.

Children are especially vulnerable. Poor diets can slow growth, decay new teeth, promote obesity and sow the seeds of infirmity and debilitating disease that ultimately lead to incurable disease. Food containing low nutrition value tends to reduce the IQ level of children.

A Study by Deakin University has found for the first time that a clear relationship exists between mums' diets during pregnancy, as well as children's diets during the first years of life, and children's mental health. This is the first study indicating that diet is also important to mental health outcomes in children. This latest study, funded by the Brain & Behavior Research Foundation, involved more than 23,000 mothers and their children participating in the large, ongoing Norwegian Mother and Child Cohort Study (MoBa). The study gathered detailed information on mothers' diets during pregnancy and their children's diets at 18 months and three years.

Depression and anxiety disorders account for some of the leading causes of disability worldwide. Recent research has established that diet and nutrition are related to the risk for these common mental disorders in adults and adolescents. However, no studies have examined the impact of very early life nutrition and its relationship to mental health in children, until now.

Children's symptoms of depression, anxiety, conduct disorder and attention-deficit hyperactivity disorder at 18 months, three years and five years of age were

reported by parents using well-established questionnaire methods. The relationship of mothers' diets, and the diets of the children, to the mental health symptoms and behaviors in children over the ages 18 months to five years was then examined, taking into account many other factors that may have explained these relationships.

The results of the study, published in the Journal of the American Academy of Child and Adolescent Psychiatry, suggest that mums who eat more unhealthy foods, such as refined cereals, sweet drinks, and salty snacks, during pregnancy have children with more behavioral problems, such as tantrums and aggression. It also shows that children who eat more unhealthy foods during the first years of their life, or who do not eat enough nutrient-rich foods, such as vegetables, exhibit more of these 'externalizing' behaviors, as well as increased 'internalizing' behaviors indicative of depression and anxiety. These relationships were independent of other factors that may explain these links, such as the socioeconomic circumstances or mental health of the parents.

It is becoming even clearer that diet matters to mental health right across the age spectrum. These new findings suggest that unhealthy and 'junk' foods may have an impact on the risk for mental health problems in children and they add to the growing body of evidence on the impact of unhealthy diets on the risk for depression, anxiety and even dementia. The changes to our food systems, including the shift to more high-energy, low nutrition foods developed and marketed by the processed food industry, have led to a massive increase in obesity-related illnesses right across the globe.

A study by School of Business Management, Indore to gauge the parents perception towards fast food advertisements targeted at children, to study the impact of kids-targeted marketing and advertising of food products on children's food behaviors and to study Age effect of parents on their perception towards fast food advertising targeted at children. This study was a descriptive research and sample size for data collection was from 120 respondent's age group of 5 to 12 years & includes other elder persons in the family who watched television advertisements.

The World Health Organization (WHO) estimates that 2.3 billion people, almost one third of the global population will be overweight by 2015. While every continent has to face up to the health consequences and economic repercussions of this preventable catastrophe, Asia is arguably facing the greatest challenge. Overweight and obesity rates are rising faster in South East Asia than anywhere else in the world. The major factor of this study is obesity comparing with few countries like India, Malaysia, Philippines, Vietnam, Fiji, China, Thailand and Nepal. The study concluded with more people affected from obesity in Fiji country. And the role of food marketing & advertisements are main key of children's health matter and many factors contributes to the risk of developing obesity one that has been indentified is the way that unhealthy food or products that are energy dense and nutrient poor are marketed to children. The world health organization concluded that advertising has an adverse effect on children's understanding of food knowledge, attitude, purchasing behavior and consumption of junk food.

Junk foods have certainly carved up the 'Third World' due to globalization. It is an integral part of life in the developed and also the developing world, and coming with it is a massive increase in obesity and associated problems. It must be remembered that the addiction to junk is great for business. It is all in our hands to choose junk food or health. India is no exception to this changing fast-food trend. India's fast-food industry is growing by 40 percent a year. Statistics place India in 10<sup>th</sup> place in fast food per capita spending figures with 2.1 percent of expenditure of annual total spending. According to the National Sample Survey Organization (NSSO) survey in the year 2005 released by the Delhi government, people living in Delhi spend Rs. 371, on an average, on processed food and beverages per month. They spend Rs. 290 on vegetables and around one-third of it on fruits. The total value of junk food consumed in India in 2003 was about Rs.41,000 crore; of which, rural areas accounted for a little over Rs. 22,000 crore, as published in an article in news paper by Sudhanshu Ranade in Business Line on July 13th 2005.

A short-term adverse effect as a result of eating junk foods is 'lack of energy' which occurs because junk foods do not provide essential nutrients, even though they can be very much sufficing, due to which one feels weakened. Unfortunately, meals consisting of junk food don't fill up for long. As they are lacking in fibre, and are made of processed foods, they are rated high on the glycaemic index, which means they provide a quick rise in blood sugar, but this also falls quickly, and giving rise to hunger.

The need of the hour is to get to cautious and alert in our food intake and keep a check on ourselves to control the consumption of junk food. A combined action on both the demand as well as the supply side is needed by the involvement of different stakeholders.



## Chapter III

### Perception of School Children on Effect of Junk Food Consumption

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#### Introduction

Children are one of the important demographic segments of any society or country; they not only determine the future trend of population but also mould the future social, economic and political structure of the country. A decade ago, both the parents and the educational institutions in India made efforts to inculcate cherished values in their children as far as possible, but now to a large extent the television has become the guiding force and guru in this accelerated adulthood. This is mainly due to the changing lifestyles of our society. Modern days parents want their children to have the best and be the best and in the course they do not hesitate to equip their children with all kinds of modern gadgets and facilities unmindful of the negative effects of many of these products. As a result children are emotionally exposed to a variety of artificial situations on television, mobile and internet. They aspire to have western hip-hop lifestyles and try to copy the fashion of glitzy pop artists and movie stars. They are no longer happy being cute, they want a groomed and fitter look, apparel brands, salons, etc. The growing conspicuous consumption in children as well as in their parents presents an opportunity for the manufacturers, distributors and retailers to exploit their aspirations through unscrupulous market practices which is a matter of concern as well.



The technological revolution and the expansion of electronic media in the 21<sup>st</sup> century along with globalisation and liberalisation have completely changed the range of products and services for the children in the retail market. The globalization of values

and culture has a tremendous impact on the way people live, eat and consume goods and services. The expansion of fast food outlets targeting especially the children have resulted in many health hazards among the children. Through attractive, aggressive and fascinating advertisements, MNCs and businesses are manipulating the needs and aspirations of the young generation. At present most of the companies see children as future as well as current market; especially those engaged in food products, beverages and cosmetics (toothpaste, fairness creams, etc.). If we look at the advertisements of electronic media, we can find that more than half of them have marketing messages for very specific age group who are very young.



They are being presented in such a way that it appeals more specifically to the children. Importantly, they create far-reaching effect on children; their lifestyles, attitudes, behaviour patterns and expectations, they all are being remodeled by the market forces. Now, high calories soda, fast foods and snacks have become their regular diet. Wearing branded clothes and shoes, watching movies, playing video games and keeping electronic gadgets like mobiles is very common among the children.

Many consumer good firms are specially marketing and seeking attention of children who are at home alone after school, while their parents are on work. These children receive special attention from many big companies. If we see the advertisements of Whirlpool, Maruti Suzuki, Samsung, LG, Vodaphone and others, they are using kids very frequently in their product's promotion to catch the young generation's attention. Marketers are attracted to these young consumers because they realize that consumer loyalties established at such a young age have the potential to last long time. Together with that, now more and more people prefer small families. Therefore, today's children have more autonomy and decision-making power within the family than in previous generations. They are not only influence their parents' buying decision but they are also very clear on their preferences. They like to buy the products

themselves. According to a study, by the age of eight, children make most of their own buying decisions. Children nowadays can often recognize brands and status items by the age of 3 or 4, before they can even read. One study found that 52 percent of 3 year olds and 73% of 4 year olds "often or almost always" asked their parents for specific brands.

When a teenager's diet consists of junk food and fast foods, it has more fat, sugar and salt than nutrients. This improper diet has both short-term and long-term ill-effects on the body. A healthy diet with a variety of good food directly affects well-being; with nutritious food teens will feel better, look better and perform better in school and in sports. Nutritious food leads to good health, shiny hair, strong teeth, good muscle tone and clear skin. A properly nourished body is full of energy and is bright and alert; a healthy body sleeps well, maintains the right amount of weight and sustains a good disposition without extreme high or low moods.



Implementing strong nutrition standards in schools is an important component of comprehensive school health reform. Changes to nutrition standards are often challenging to adopt due to concerns about negative impacts on school profits and fundraising. This report highlights that it is possible for schools to improve nutrition standards without experiencing significant financial losses.

In the present study three categories of schools were covered (MCD schools, Government schools and Private schools) to get representation of children from different socio-economic background. The survey results are tabulated below.

**Table: 3.1  
Students' Profile**

| School         | Gender      |             | Age Group      |             |             |
|----------------|-------------|-------------|----------------|-------------|-------------|
|                | Male        | Female      | Up to 10 Years | 11-15 years | 16-20 Years |
| Govt. School   | 59.5        | 40.5        | 0.0            | 34.2        | 65.8        |
| MCD School     | 50.2        | 49.8        | 100.0          | 0.0         | 0.0         |
| Public School  | 50.0        | 50.0        | 0.0            | 38.8        | 61.2        |
| <b>G.Total</b> | <b>55.8</b> | <b>44.2</b> | <b>20.7</b>    | <b>28.0</b> | <b>51.3</b> |

Source: Field Survey, CCS

The students of Government, MCD as well as Public schools were interviewed for the survey. Overall, 55.8 percent of the respondents (Table 3.1) were male and 44.2 percent were female. Majority of the respondents (51.3 percent) were in the age group of 16-20 years, 28 percent were in the age group of 11-15 years and 20.7 percent were in the age group of 5-10 years.

**Table: 3.2  
Household Annual Income**

| School         | Annual Income   |                 |                  |                  |              |
|----------------|-----------------|-----------------|------------------|------------------|--------------|
|                | Less than 50000 | 50000 to 100000 | 100000 to 250000 | 250000 to 500000 | Above 500000 |
| Govt. School   | 41.6            | 46.2            | 8.7              | 2.6              | 0.9          |
| MCD School     | 54.3            | 31.1            | 11.6             | 3.0              | 0.0          |
| Public School  | 2.8             | 15.6            | 24.8             | 28.8             | 28.0         |
| <b>G.Total</b> | <b>36.8</b>     | <b>37.2</b>     | <b>12.4</b>      | <b>7.7</b>       | <b>5.9</b>   |

Source: Field Survey, CCS

The household annual income of the respondents was classified into five categories. 36.8 percent belonged to households with annual income less than 50,000. 37.2 percent had household annual income in the range of 50,000-100,000; 12.4 had household annual income in the range of 100000-250000 and 7.7 percent had household annual income in the range of 25000-500000. Only 5.9percent of the respondents belonged to households which had annual income above 500000.(Table 3.2)

**Table: 3.3**  
**Parents' Education**

| Education        | Father's Education |            |               |          | Mother's Education |            |               |          |
|------------------|--------------------|------------|---------------|----------|--------------------|------------|---------------|----------|
|                  | Govt. School       | MCD School | Public School | G. Total | Govt. School       | MCD School | Public School | G. Total |
| No Schooling     | 10.0               | 24.3       | 0.4           | 11.1     | 26.8               | 49.8       | 2.0           | 26.8     |
| Primary          | 11.4               | 20.2       | 0.0           | 11.0     | 15.2               | 24.7       | 0.4           | 14.3     |
| Upper Primary    | 14.6               | 19.5       | 0.8           | 12.9     | 16.5               | 10.9       | 3.6           | 12.8     |
| Secondary        | 22.7               | 12.4       | 8.4           | 17.8     | 19.9               | 5.6        | 8.4           | 14.8     |
| Higher Secondary | 26.8               | 19.9       | 23.2          | 24.7     | 15.1               | 8.2        | 28.4          | 16.2     |
| Under Graduate   | 9.8                | 2.2        | 20.8          | 10.4     | 4.0                | 0.4        | 21.2          | 6.5      |
| Post Graduate    | 3.2                | 1.1        | 39.6          | 9.8      | 1.3                | 0.0        | 30.8          | 6.7      |
| Ph.D             | 1.5                | 0.4        | 6.8           | 2.3      | 1.3                | 0.4        | 5.2           | 1.8      |

*Source: Field Survey, CCS*

Most of the students had fathers who had education up to Higher Secondary. Most of the children had mothers who had no schooling. Students studying in Public schools had well educated parents as compared to MCD and Govt. schools.(Table 3.3)

**Table: 3.4**  
**Parents' Occupation**

| Occupation            | Father's Occupation |            |               |       | Mother's Occupation |            |               |             |
|-----------------------|---------------------|------------|---------------|-------|---------------------|------------|---------------|-------------|
|                       | Govt. School        | MCD School | Public School | Total | Govt. School        | MCD School | Public School | Total       |
| Tenant/Share Croppers | 1.9                 | 1.1        | 1.2           | 1.6   | 0.8                 | 0.7        | 0.0           | <b>0.6</b>  |
| Traders/Shopkeeper    | 19.2                | 3.7        | 17.2          | 15.6  | 1.1                 | 1.1        | 0.4           | <b>1.0</b>  |
| Self employed         | 36.4                | 77.5       | 35.6          | 44.7  | 2.4                 | 17.2       | 5.2           | <b>6.0</b>  |
| Govt. Employee        | 10.9                | 3.4        | 15.6          | 10.2  | 0.5                 | 0.4        | 6.8           | <b>1.7</b>  |
| Teacher               | 1.1                 | 0.0        | 1.2           | 0.9   | 0.6                 | 0.0        | 8.4           | <b>2.0</b>  |
| Doctor                | 0.8                 | 0.0        | 1.2           | 0.7   | 0.0                 | 0.4        | 0.4           | <b>0.2</b>  |
| Engineer              | 1.1                 | 0.7        | 6.4           | 2.1   | 0.4                 | 0.0        | 1.2           | <b>0.5</b>  |
| Craft Man             | 0.4                 | 1.5        | 0.0           | 0.5   | 0.0                 | 0.0        | 0.0           | <b>0.0</b>  |
| Unemployed            | 1.4                 | 1.1        | 0.4           | 1.2   | 1.0                 | 0.0        | 0.0           | <b>0.6</b>  |
| Housewife             | 0.0                 | 0.0        | 0.0           | 0.0   | 87.2                | 71.5       | 73.2          | <b>81.3</b> |
| Laborer               | 13.0                | 7.5        | 2.0           | 9.8   | 2.4                 | 7.1        | 0.4           | <b>3.0</b>  |
| Others                | 13.8                | 3.4        | 19.2          | 12.7  | 3.4                 | 1.5        | 4.0           | <b>3.2</b>  |

*Source: Field Survey, CCS*

The occupations of the parents of the students were varied as represented in table 3.4. 44.7 percent students had fathers who were occupationally self-employed.

15.7 percent students said their fathers worked as traders/shopkeepers and 10.2 percent of the students said their father was a government employee. The rest of the students had their father working in different professions. 1.2 percent of the students said their father was unemployed. A large number of students (81.3 percent) had mothers who were housewives, 6 percent had mothers who were self-employed and a very small percent had mothers working as professionals.

**Table: 3.5**  
**Preference to Consume Junk Food**

| School        | Response |     |
|---------------|----------|-----|
|               | Yes      | No  |
| Govt. School  | 96.0     | 4.0 |
| MCD School    | 97.4     | 2.6 |
| Public School | 94.0     | 6.0 |
| G. Total      | 95.9     | 4.1 |

Source: Field Survey, CCS

Students were asked whether they preferred to consume junk food over healthy and nutritious/ homemade food. 95.9 percent of the respondents said they preferred junk food. Only 4.1 percent said they did not prefer to consumer junk food.(Table 3.5)

**Table: 3.6 A**  
**Eating Behavior of the Students**

| Food items                   | Eating frequency            | Govt. | MCD  | Public | Total       |
|------------------------------|-----------------------------|-------|------|--------|-------------|
| <b>Soft drink</b>            | Everyday or Nearly everyday | 6.4   | 3.2  | 8.8    | <b>4.9</b>  |
|                              | 3-4 times/week              | 8.4   | 9    | 13.6   | <b>9.5</b>  |
|                              | 1-2 time/week               | 21.1  | 35.2 | 32.0   | <b>26.1</b> |
|                              | Rarely                      | 60.3  | 46.2 | 42.0   | <b>55.2</b> |
|                              | Never                       | 3.8   | 6.4  | 3.6    | <b>4.3</b>  |
| <b>Fruit flavored drinks</b> | Everyday or Nearly everyday | 4.0   | 5.6  | 8.0    | <b>5.1</b>  |
|                              | 3-4 times/week              | 15.5  | 6.7  | 16.8   | <b>13.9</b> |
|                              | 1-2 time/week               | 26.2  | 23.2 | 32.0   | <b>26.7</b> |
|                              | Rarely                      | 48.7  | 46.1 | 36.0   | <b>45.7</b> |
|                              | Never                       | 5.7   | 18.4 | 7.2    | <b>8.6</b>  |

Source: Field Survey, CCS

Continue...

|                     |                             |      |      |      |             |
|---------------------|-----------------------------|------|------|------|-------------|
| <b>Energy drink</b> | Everyday or Nearly everyday | 10.5 | 3.7  | 15.2 | <b>8.1</b>  |
|                     | 3-4 times/week              | 12.4 | 5.6  | 14.4 | <b>11.4</b> |
|                     | 1-2 time/week               | 17.4 | 12.0 | 16.4 | <b>16.1</b> |
|                     | Rarely                      | 37.7 | 29.6 | 30.0 | <b>36.5</b> |
|                     | Never                       | 22.1 | 49.1 | 24.0 | <b>28.0</b> |
| <b>Fried foods</b>  | Everyday or Nearly everyday | 6.8  | 9.0  | 2.8  | <b>6.5</b>  |
|                     | 3-4 times/week              | 17.5 | 25.5 | 14.8 | <b>18.6</b> |
|                     | 1-2 time/week               | 33.2 | 36.0 | 50.4 | <b>37.1</b> |
|                     | Rarely                      | 36.3 | 23.6 | 28.0 | <b>32.1</b> |
|                     | Never                       | 6.3  | 6.0  | 4.0  | <b>5.8</b>  |
| <b>Sweet snacks</b> | Everyday or Nearly everyday | 14.7 | 28.8 | 12.4 | <b>17.2</b> |
|                     | 3-4 times/week              | 22.9 | 18.0 | 31.2 | <b>23.5</b> |
|                     | 1-2 time/week               | 24.5 | 28.5 | 33.6 | <b>27.1</b> |
|                     | Rarely                      | 30.8 | 22.8 | 20.4 | <b>27.2</b> |
|                     | Never                       | 7.2  | 1.9  | 2.4  | <b>5.2</b>  |
| <b>Salty snacks</b> | Everyday or Nearly everyday | 16.2 | 16.1 | 10.4 | <b>15.1</b> |
|                     | 3-4 times/week              | 22.3 | 12.7 | 30.0 | <b>21.8</b> |
|                     | 1-2 time/week               | 25.9 | 19.5 | 37.2 | <b>26.8</b> |
|                     | Rarely                      | 30.3 | 46.1 | 17.2 | <b>31.0</b> |
|                     | Never                       | 5.2  | 5.6  | 5.2  | <b>5.3</b>  |

The eating behavior of the students showed that they had a high frequency of consuming fried foods, salty and sweet snacks, noodles and fast food from Pizza Hut and McDonalds. It was found that the frequency of consuming such food was the highest in students of public schools as compared to students of government and MCD schools. Most of the students consumed fresh fruits, vegetables, cereals and pulses on a daily basis. It is noticeable that students of MCD, Govt. as well as Public Schools consumed such food everyday or nearly every day (Table 3.6 A & 3.6 B).

| <b>Food Items</b>                       | <b>Eating Frequency</b>      | <b>Government</b> | <b>MCD S</b> | <b>Public</b> | <b>Total</b> |
|---|------------------------------|-------------------|--------------|---------------|--------------|
| <b>Fast food meals (Pizza Hut, KFC)</b> | Everyday or Nearly everyday  | 5.5               | 3.0          | 2.4           | 4.4          |
|   | 3-4 times/week               | 10.6              | 4.1          | 12.0          | 9.5          |
|   | 1-2 time/week                | 18.4              | 10.9         | 33.6          | 19.8         |
|   | Rarely                       | 47.6              | 41.2         | 48.0          | 46.4         |
|   | Never                        | 17.9              | 40.8         | 4.0           | 19.9         |
| <b>Noodles (Maggi, Chowmein)</b>        | Every day or Nearly everyday | 9.7               | 8.6          | 9.2           | 9.4          |
|   | 3-4 times/week               | 20.2              | 16.5         | 17.2          | 18.8         |
|   | 1-2 time/week                | 28.0              | 21.3         | 36.4          | 28.2         |
|   | Rarely                       | 36.4              | 42.7         | 34.0          | 37.2         |
|   | Never                        | 5.7               | 10.9         | 3.2           | 6.3          |
| <b>Fresh fruits</b>                     | Everyday or Nearly everyday  | 45.3              | 35.5         | 61.2          | 47.3         |
|   | 3-4 times/week               | 25.8              | 13.9         | 24.4          | 21.4         |
|   | 1-2 time/week                | 17.1              | 9.9          | 10.8          | 12.6         |
|   | Rarely                       | 10.3              | 30.0         | 2.0           | 14.1         |
|   | Never                        | 1.5               | 10.7         | 1.6           | 4.6          |
| <b>Vegetables</b>                       | Everyday or Nearly everyday  | 83.3              | 82.4         | 80.0          | 82.5         |
|   | 3-4 times/week               | 10.1              | 16.1         | 13.6          | 12.0         |
|   | 1-2 time/week                | 3.4               | 0.7          | 3.2           | 2.8          |
|   | Rarely                       | 2.6               | 0.7          | 2.8           | 2.2          |
|   | Never                        | 0.6               | 0.0          | 0.4           | 0.5          |
| <b>Cereals</b>                          | Everyday or Nearly everyday  | 83.5              | 88.8         | 61.6          | 80.4         |
|   | 3-4 times/week               | 6.5               | 7.5          | 18.0          | 8.9          |
|   | 1-2 time/week                | 5.7               | 3.0          | 10.0          | 6.0          |
|   | Rarely                       | 2.9               | 0.7          | 7.2           | 3.3          |
|   | Never                        | 1.3               | 0.0          | 3.2           | 1.4          |
| <b>Pulses</b>                           | Everyday or Nearly everyday  | 64.4              | 50.2         | 69.2          | 62.4         |
|   | 3-4 times/week               | 19.3              | 21.0         | 16.4          | 19.1         |
|   | 1-2 time/week                | 10.3              | 20.6         | 9.6           | 12.3         |
|   | Rarely                       | 4.7               | 7.5          | 2.4           | 4.8          |
|   | Never                        | 1.3               | 0.7          | 2.4           | 1.4          |

Students were asked to state their agreement /disagreement to the factors /reasons that lead to the preference of junk food over other foods. 66.4 percent students agreed that junk was convenient and fast. 55.7 percent agreed that junk food items did not cost much.93 percent students agreed that junk food was tasty and 85 percent agreed that it was easily available anywhere. 22.3 percent respondents said junk food was healthy, 80.2 percent said junk food consumption was common in their peer group, 73.5 percent agreed that they found junk food packaging attractive.69.9 percent and

63.1 percent of the students respectively agreed that advertising of junk food and endorsements of junk food brands by celebrities influenced their preference for consumption of junk food. (Table 3.7

**Table: 3.7**

**Reasons for Junk Food Consumption**

| Reasons                    | School        | Preference     |             |             |                   |
|----------------------------|---------------|----------------|-------------|-------------|-------------------|
|                            |               | Strongly Agree | Agree       | Disagree    | Strongly Disagree |
| Convenient and fast        | Govt. School  | 14.2           | 45.1        | 33.4        | 7.3               |
|                            | MCD School    | 27.3           | 58.5        | 12.7        | 1.5               |
|                            | Public School | 16.6           | 52.3        | 27.2        | 3.8               |
|                            | <b>Total</b>  | <b>17.4</b>    | <b>49.2</b> | <b>27.9</b> | <b>5.5</b>        |
| Doesn't cost much          | Govt. School  | 10.0           | 46.3        | 36.4        | 7.3               |
|                            | MCD School    | 18.8           | 44.2        | 32.3        | 4.6               |
|                            | Public School | 8.1            | 37.4        | 46.4        | 8.1               |
|                            | <b>Total</b>  | <b>11.5</b>    | <b>44.2</b> | <b>37.4</b> | <b>6.9</b>        |
| Tasty                      | Govt. School  | 33.5           | 58.5        | 5.9         | 2.1               |
|                            | MCD School    | 57.3           | 35.8        | 6.2         | 0.8               |
|                            | Public School | 48.9           | 47.2        | 2.1         | 1.7               |
|                            | <b>Total</b>  | <b>41.4</b>    | <b>51.6</b> | <b>5.2</b>  | <b>1.8</b>        |
| Easy to find everywhere    | Govt. School  | 29.0           | 58.4        | 9.7         | 2.9               |
|                            | MCD School    | 31.9           | 45.8        | 19.2        | 3.1               |
|                            | Public School | 38.3           | 47.2        | 11.9        | 2.6               |
|                            | <b>Total</b>  | <b>31.4</b>    | <b>53.6</b> | <b>12.1</b> | <b>2.9</b>        |
| Healthy                    | Govt. School  | 4.0            | 12.6        | 49.5        | 33.9              |
|                            | MCD School    | 20.4           | 26.5        | 33.8        | 19.2              |
|                            | Public School | 2.1            | 10.6        | 43.8        | 43.4              |
|                            | <b>Total</b>  | <b>7.1</b>     | <b>15.2</b> | <b>45.1</b> | <b>32.6</b>       |
| Common in peer group       | Govt. School  | 21.4           | 62.9        | 12.2        | 3.5               |
|                            | MCD School    | 46.2           | 30.0        | 17.3        | 6.5               |
|                            | Public School | 19.6           | 51.9        | 23.0        | 5.5               |
|                            | <b>Total</b>  | <b>26.2</b>    | <b>54.0</b> | <b>15.3</b> | <b>4.5</b>        |
| Attractive packaging       | Govt. School  | 20.1           | 54.9        | 19.1        | 5.9               |
|                            | MCD School    | 51.5           | 32.7        | 14.2        | 1.5               |
|                            | Public School | 18.7           | 37.9        | 27.7        | 15.7              |
|                            | <b>Total</b>  | <b>26.4</b>    | <b>47.1</b> | <b>19.7</b> | <b>6.8</b>        |
| Advertisement influence    | Govt. School  | 20.2           | 51.3        | 20.9        | 7.6               |
|                            | MCD School    | 51.2           | 28.8        | 15.4        | 4.6               |
|                            | Public School | 16.2           | 37.4        | 30.6        | 15.7              |
|                            | <b>Total</b>  | <b>25.9</b>    | <b>44.0</b> | <b>21.6</b> | <b>8.5</b>        |
| Endorsement by celebrities | Govt. School  | 20.1           | 46.1        | 24.7        | 9.0               |
|                            | MCD School    | 42.7           | 35.8        | 16.2        | 5.4               |
|                            | Public School | 14.9           | 21.3        | 39.6        | 24.3              |
|                            | <b>Total</b>  | <b>23.8</b>    | <b>39.3</b> | <b>25.7</b> | <b>11.1</b>       |

Source: Field Survey, CCS

**Table: 3.8  
Consumption Junk Food at Home**

| Schools       | Response    |            |
|---------------|-------------|------------|
|               | Yes         | No         |
| Govt. School  | 92.7        | 7.3        |
| MCD School    | 92.1        | 7.9        |
| Public School | 95.2        | 4.8        |
| <b>Total</b>  | <b>93.1</b> | <b>6.9</b> |

*Source: Field Survey, CCS*

Students were asked whether they consumed junk food at home (Table 3.8). 93.1 percent of the students gave an affirmative response and 6.9 percent said they did not consume junk food at home. School category wise also all the respondents said they consumed junk food at home. This is something which clearly shows that the consumption of junk food even if banned in schools or in and around areas the children tend to eat it at homes.

**Table: 3.9  
Frequency of Consuming Junk Food at Home**

| Schools       | Frequency                   |                |                |             |
|---------------|-----------------------------|----------------|----------------|-------------|
|               | Everyday or Nearly everyday | 3-4 times/week | 1-2 times/week | Rarely      |
| Govt. School  | 7.6                         | 16.7           | 27.1           | 48.6        |
| MCD School    | 11.3                        | 16.8           | 32.4           | 39.5        |
| Public School | 20.8                        | 26.7           | 17.9           | 34.6        |
| <b>Total</b>  | <b>11.0</b>                 | <b>18.7</b>    | <b>26.4</b>    | <b>43.9</b> |

*Source: Field Survey, CCS*

The survey also focused on the frequency of consumption of Junk food at home (Table 3.9). 11 percent of the students said they consumed junk food at home almost every day, 18.7 percent said they consumed junk food 3-4 times a week and 26.4 percent said they consumed only 1-2 times in a week. 43.9 percent of the students said they rarely consumed junk food at home.

**Table: 3.10**

**Availability of Junk Food available in and around school premises**

| Schools              | Response    |             |
|----------------------|-------------|-------------|
|                      | Yes         | No          |
| <b>Govt. School</b>  | 24.1        | 75.9        |
| <b>MCD School</b>    | 14.6        | 85.4        |
| <b>Public School</b> | 70.8        | 29.2        |
| <b>Total</b>         | <b>31.2</b> | <b>68.8</b> |

*Source: Field Survey, CCS*

Availability of junk food is a factor which clearly depicts the consumption behavior of students opting for junk food. When the respondents were asked about the availability of junk food in and around their school premises, more than half i.e. 68.8 percent of them said it is not available while 31.2 percent of them said it is easily available in and around the school premises. School wise, majority of MCD school students, 85.4 percent said MCD schools students said it is not available outside or inside their school while 75.9 percent government school students said it is not available in and around their school premises. Only 29.2 percent of the public students said it is not available



A clear majority of 70.8 percent of public school students said junk food is available in and around the school premises. This clearly shows that inspite of the ban on junk food in school premises the real picture is quite astonishing where kids are eating junk food especially in public schools. .(Table 3.10)

**Table: 3.11**  
**Carry Junk Food in lunch box from Home**

| School        | Response    |             |
|---------------|-------------|-------------|
|               | Yes         | No          |
| Govt. School  | 30.7        | 69.3        |
| MCD School    | 11.2        | 88.8        |
| Public School | 46.8        | 53.2        |
| <b>Total</b>  | <b>48.0</b> | <b>52.0</b> |

*Source: Field Survey, CCS*

When the respondents (students) were asked whether they carry junk food in lunch box from home (table 3.11), 48 percent of them agreed that they carry it from home while 52 percent said they did not. The percentage of children carrying junk food in lunch box from home were highest for public school children (46.8 percent) followed by govt. schools 30.7 percent and 11.2 percent of MCD school children who said they carry junk food from home. This is irony of the fact that inspite of ban on junk food, if not from schools, children are carrying it from home. The reasons to which may be many – easy to carry, convenient, more attractive and tasty as compared to vegetables and roti which commonly children say and takes less time to cook, etc.



**Table: 3.12**  
**Frequency of having Junk Food in lunch box**

| Schools       | Every day or Nearly everyday | 3-4 times/week | 1-2 times/week | Rarely      |
|---------------|------------------------------|----------------|----------------|-------------|
|               | Govt. School                 | 31.6           | 17.4           | 14.9        |
| MCD School    | 8.9                          | 13.4           | 23.2           | 54.5        |
| Public School | 5.5                          | 6.4            | 20.9           | 67.3        |
| <b>Total</b>  | <b>5.1</b>                   | <b>14.3</b>    | <b>18.6</b>    | <b>62.0</b> |

*Source: Field Survey, CCS*

On being asked on the frequency of having junk food in lunch box, the results were quite different. Out of the total respondents majority 62 percent said they rarely bring junk food in their lunch boxes, 18.6 percent bring it once or twice a week while 14.3 percent said they bring it three – four times a week and nearly 5.1 percent bring it everyday. School category wise, 31.6 percent of government school children said they carry junk food in their tiffin everyday followed by 8.9 percent of MCD school students and 5.5 percent of public school children who bring junk food everyday to school.

For those who carry it 3-4 times in a week, government school children were high as 17.4 percent said so. Percentage of children who carry junk food once or twice to their school was highest amongst MCD school children, 23.2 percent followed by 20.9 percent (Public School) and 14.9 percent for government school children. (Table 3.12)

**Table: 3.13**  
**Prefer Junk Food when out with Parents**

| Schools        | Response    |             |
|----------------|-------------|-------------|
|                | Yes         | No          |
| Govt. School   | 88.0        | 12.0        |
| MCD School     | 89.9        | 10.1        |
| Public School  | 91.6        | 8.4         |
| <b>G.Total</b> | <b>89.1</b> | <b>10.9</b> |

Source: Field Survey, CCS

Preferences were also sought from respondents from the three selected school categories on whether they prefer junk food when they go on outing with parents or not. To which nearly 89.1 percent of the total respondents agreed. School category wise also public schools (91.6 percent), MCD schools (89.9 percent) and 88 percent government school students agreed that they prefer junk food when outing with parents.(Table 3.13)

**Table: 3.14**  
**Frequency of watching Junk Food Advertisement**

| Schools         | Regularly   | Often       | Rarely     | Never      |
|-----------------|-------------|-------------|------------|------------|
| Govt. School    | 57.1        | 30.3        | 8.3        | 4.3        |
| MCD School      | 56.2        | 38.2        | 3.0        | 2.6        |
| Public School   | 46.8        | 31.2        | 16.8       | 5.2        |
| <b>G. Total</b> | <b>54.9</b> | <b>32.1</b> | <b>8.8</b> | <b>4.2</b> |

Source: Field Survey, CCS

Availability and exposure are two important factors affecting the choice of junk food consumption amongst students / children. During the survey, the respondents were asked how frequently they saw junk food advertisements. In answer to which more than half of them ( 54.9 percent) in total said they regularly watch the advertisements on junk food, followed by 32.1 percent who watch it often, 8.8 percent students said who watch rarely. The percentage of respondents never watching the junk food advertisement was very less only 4.2 percent.

The viewership of these advertisements was higher among government school children 57.1 percent, followed by MCD School (56.2) and public schools 46.8 percent watching the advertisements regularly. (Table 3.14)

**Table: 3.15**  
**Source of Junk Food Advertisement**

| Source             | Response | Schools      |            |               | Total       |
|--------------------|----------|--------------|------------|---------------|-------------|
|                    |          | Govt. School | MCD School | Public School |             |
| Television         | Yes      | 83.0         | 89.9       | 86.4          | <b>85.1</b> |
|                    | No       | 17.0         | 10.1       | 13.6          | <b>14.9</b> |
| Radio              | Yes      | 20.2         | 10.9       | 16.8          | <b>17.6</b> |
|                    | No       | 79.8         | 89.1       | 83.2          | <b>82.4</b> |
| Internet           | Yes      | 32.2         | 12.4       | 39.2          | <b>29.5</b> |
|                    | No       | 67.8         | 87.6       | 60.8          | <b>70.5</b> |
| Newspaper          | Yes      | 39.2         | 13.1       | 39.6          | <b>33.9</b> |
|                    | No       | 60.8         | 86.9       | 60.4          | <b>66.1</b> |
| Magazines          | Yes      | 23.5         | 9.0        | 28.4          | <b>21.5</b> |
|                    | No       | 76.5         | 91.0       | 71.6          | <b>78.5</b> |
| Outdoor billboards | Yes      | 17.9         | 31.8       | 24.4          | <b>22.0</b> |
|                    | No       | 82.1         | 68.2       | 75.6          | <b>78.0</b> |
| Public places      | Yes      | 32.8         | 26.2       | 45.6          | <b>33.9</b> |
|                    | No       | 67.2         | 73.8       | 54.4          | <b>66.1</b> |

Source: Field Survey, CCS

After knowing the frequency of watching “Junk Food Advertisements”, the next question of enquiry was the source of the advertisements. In answer to this question, majority of the respondents quoted television (85.1 percent) as the source of junk food advertisements, outdoor billboards 22 percent and magazines accounted for 21.5

percent) newspaper and public places both 33.9 percent each, internet as source of advertisement was quoted by 29.5 percent of the respondents.

Responses, school category- wise also all the three types of school respondents quoted television as the source of junk food advertisements. MCD school (89.9 percent), Public school (86.4 percent) and government school (83 percent) respondents agreed on television as the source of advertisement.(Table 3.15)

**Table: 3.16**

**Opinion on the role of Advertising in promoting Junk Food Advertising**

| <b>Role of advertisement in promoting junk food</b> | <b>Response</b> | <b>Govt. School</b> | <b>MCD School</b> | <b>Public School</b> | <b>Total</b> |
|---|-----------------|---------------------|-------------------|----------------------|--------------|
| Provide information to consumers                    | Yes             | 18.6                | 23.2              | 44.0                 | <b>24.5</b>  |
|   | No              | 81.4                | 76.8              | 56.0                 | <b>75.5</b>  |
| Introduce new product                               | Yes             | 22.1                | 22.5              | 48.8                 | <b>27.3</b>  |
|   | No              | 77.9                | 77.5              | 51.2                 | <b>72.7</b>  |
| Convinced to purchase a product                     | Yes             | 42.8                | 71.2              | 32.4                 | <b>46.6</b>  |
|   | No              | 57.2                | 28.8              | 67.6                 | <b>53.4</b>  |
| Reinforce familiarity of the product                | Yes             | 10.3                | 8.6               | 27.6                 | <b>13.3</b>  |
|   | No              | 89.7                | 91.4              | 72.4                 | <b>86.7</b>  |

*Source: Field Survey, CCS*

Advertisements play an important role in shaping the decision making of individuals. The audio-visual aids influence the consumers and lure them to buy products. Opinion on the role of advertisements in promoting junk food advertising was also sought from the respondents from the three category schools.



In answer to this, 46.6 percent of the respondents were of the opinion that the advertisements convince the consumers to purchase products, followed by 24.5 percent said that the advertisements provide

information to consumers and 27.3 said they introduce new product to the consumers, whereas 13.3 were of the opinion that it reinforces familiarity of the product.(Table 3.16)

**Table : 3.17**

**Junk Food advertising creates a desire to try them**

| schools         | Always      | Some Time   | Never      | Don't know |
|-----------------|-------------|-------------|------------|------------|
| Govt. School    | 26.6        | 59.0        | 8.0        | 6.4        |
| MCD School      | 68.9        | 28.1        | 1.9        | 1.1        |
| Public School   | 18.8        | 70.8        | 5.2        | 5.2        |
| <b>G. Total</b> | <b>33.8</b> | <b>54.9</b> | <b>6.2</b> | <b>5.1</b> |

Source: Field Survey, CCS

In answer to the question that whether junk food advertisements create a desire to try them, more than half of the respondents said (54.9 percent) that it sometimes creates a desire to buy and try the junk foods advertised while 33.8 percent of them said that the advertisements always creates a desire and influence them to buy junk food. School category wise, MCD school children, 68.9 percent of children were always influenced to try the junk food which is advertised, followed by 26.6 percent of Govt. school children and 18.8 percent of public school who have desired from advertisements. The data clearly proves that the advertisements influence the consumers and create a desire in individuals to try them at least once. (Table 3.17)

**Table: 3.18**

**Do you look at the contents / nutrition value labeled on Packaging?**

| Schools       | Always      | Sometime    | Never       |
|---------------|-------------|-------------|-------------|
| Govt. School  | 28.0        | 51.0        | 21.1        |
| MCD School    | 10.5        | 22.1        | 67.4        |
| Public School | 29.2        | 58.8        | 12.0        |
| <b>Total</b>  | <b>24.6</b> | <b>46.5</b> | <b>28.8</b> |

Source: Field Survey, CCS

The false claims made in the advertisements are acting as a influencing factor in consumers being lured to get attracted towards products with consumers ending up buying them without reading the contents / nutrition value labeled on the packaging.

When the respondents were asked whether they look at the contents / nutrition value labeled on the packaging of the food products, 28.8 percent of the respondents never look at the labeling, 46.5 percent sometimes pay heed to the contents, etc. while only 24.6 percent said they always look at the labels before buying products. This clearly depicts the influence created by the advertisements which claim maximum times as products, boosting energy, height, growth, etc.



School category wise, 67.4 percent respondents of MCD schools never look at the contents / nutrition value followed by 21.1 percent of government schools and 12 percent of Public school respondents.

Thus, awareness needs to be increased especially in schools relating to the ill-effect of eating junk foods regularly and also about the contents and ingredients being used in these products. (Table 3.18)

**Table: 3. 19**  
**Effect of Junk Food Consumption on Health**

| <b>Schools</b>  | <b>No Effect</b> | <b>Healthy</b> | <b>Unhealthy</b> |
|-----------------|------------------|----------------|------------------|
| Govt. School    | 6.3              | 23.4           | 70.4             |
| MCD School      | 15.2             | 33.5           | 51.4             |
| Public School   | 7.6              | 8.4            | 84.0             |
| <b>G. Total</b> | <b>8.3</b>       | <b>22.5</b>    | <b>69.2</b>      |

*Source: Field Survey, CCS*

The above question clearly depicts that consumers are least concerned about the contents / nutrition value of the products they are consuming. When asked about the effect of junk food consumption on health, more than half of the respondents in total 69.2 percent said that junk food consumption is unhealthy followed by 22.5 percent saying it is healthy and 8.3 percent said it had no effect on their health.

School category wise, public school (84 percent) of them said that junk food is unhealthy followed by 70.4 percent of government school children agreeing to it and 51.4 percent of MCD school children. (Table 3.19)

The clear picture which one gets from the survey is that majority of the respondents know that junk food consumption is unhealthy but still the consumption levels of junk food is on higher side.

**Table: 3.20**  
**Health Problem associated with Junk Food Consumption**

| Health Problems            |     | Govt. School | MCD School | Public School | G. Total    |
|----------------------------|-----|--------------|------------|---------------|-------------|
| <b>Obesity/Over weight</b> | Yes | 65.4         | 63.3       | 69.2          | <b>65.7</b> |
|                            | No  | 34.6         | 36.7       | 30.8          | <b>34.3</b> |
| <b>Diabetes/Sugar</b>      | Yes | 35.8         | 53.6       | 27.6          | <b>37.8</b> |
|                            | No  | 64.2         | 46.4       | 72.4          | <b>62.2</b> |
| <b>Hypertension</b>        | Yes | 24.1         | 49.1       | 10.8          | <b>26.7</b> |
|                            | No  | 75.9         | 50.9       | 89.2          | <b>73.3</b> |
| <b>Weak memory</b>         | Yes | 28.2         | 52.1       | 17.6          | <b>31.1</b> |
|                            | No  | 71.8         | 47.9       | 82.4          | <b>68.9</b> |
| <b>Heart diseases</b>      | Yes | 28.2         | 52.1       | 17.6          | <b>31.1</b> |
|                            | No  | 71.8         | 47.9       | 82.4          | <b>68.9</b> |
| <b>Others</b>              | Yes | 24.6         | 48.7       | 20.0          | <b>28.7</b> |
|                            | No  | 75.4         | 51.3       | 80.0          | <b>71.3</b> |

Source: Field Survey, CCS

The above table 3.20 describes students' opinion on how health problems are associated with the consumption of junk food. Majority of students (65.7 percent) says obesity/ over weight is highly associated with junk food consumption.

While in opinion of 37.8 percent students diabetes/sugar, 26.7 percent hypertension, 31.1 percent weak memory, 31.1 percent heart disease and 28.7 percent others problem are associated with junk food consumption.

**Table: 3.21**  
**Health Problem associated with junk food Consumption**

|                            |     | <b>Govt. School</b> | <b>MCD School</b> | <b>Public School</b> | <b>G. Total</b> |
|----------------------------|-----|---------------------|-------------------|----------------------|-----------------|
| <b>Obesity/Over weight</b> | Yes | 65.4                | 63.3              | 69.2                 | 65.7            |
|                            | No  | 34.6                | 36.7              | 30.8                 | 34.3            |
| <b>Diabetes/Sugar</b>      | Yes | 35.8                | 53.6              | 27.6                 | 37.8            |
|                            | No  | 64.2                | 46.4              | 72.4                 | 62.2            |
| <b>Hypertension</b>        | Yes | 24.1                | 49.1              | 10.8                 | 26.7            |
|                            | No  | 75.9                | 50.9              | 89.2                 | 73.3            |
| <b>Weak memory</b>         | Yes | 28.2                | 52.1              | 17.6                 | 31.1            |
|                            | No  | 71.8                | 47.9              | 82.4                 | 68.9            |
| <b>Heart diseases</b>      | Yes | 28.2                | 52.1              | 17.6                 | 31.1            |
|                            | No  | 71.8                | 47.9              | 82.4                 | 68.9            |
| <b>Others</b>              | Yes | 24.6                | 48.7              | 20.0                 | 28.7            |
|                            | No  | 75.4                | 51.3              | 80.0                 | 71.3            |

Source: Field Survey, CCS

While in the opinion of 65.7 percent students obesity/Over weight, 37.8 percent diabetes/sugar, 26.7 percent hypertension, 31.1 percent weak memory, 31.1 percent heart disease and 28.7 percent other problem are associated with junk food consumption.(Table 3.21)

**Table:3.22**  
**Are you facing any health problem**

| <b>School</b>   | <b>Facing Health problem</b> |             | <b>Health problem associated with junk food</b> |             |                   |
|-----------------|------------------------------|-------------|---|-------------|-------------------|
|                 | <b>Yes</b>                   | <b>No</b>   | <b>Yes</b>                                      | <b>No</b>   | <b>Don't know</b> |
| Govt. School    | 8.4                          | 91.6        | 20.9  | 43.2        | 35.9              |
| MCD School      | 2.4                          | 97.6        | 12.7  | 22.5        | 64.8              |
| Public School   | 12.0                         | 88.0        | 24.4  | 31.6        | 44.0              |
| <b>G. Total</b> | <b>8.0</b>                   | <b>92.0</b> | <b>19.9</b>                                     | <b>36.7</b> | <b>43.4</b>       |

Source: Field Survey, CCS

The question was asked to the students about their health condition. 8 percent said they are facing some health problem. Among them 19.9 percent responded that their problem is associated with junk food, 36.7 percent responded no while 43.4 percent don't know about the cause of their health problem.

In case of school wise response regarding facing health problem 12 percent students from private schools, 8.4 percent from government schools and 2.4 percent from MCD schools revealed that they are facing health problem.(Table 3.22)

**Table: 3.23**  
**Intention to reduce Junk Food Consumption**

| Schools         | Intend to reduce junk food |             | Intend to change junk food consumption in next few months |             |
|-----------------|----------------------------|-------------|---|-------------|
|                 | Yes                        | No          | Yes   | No          |
| Govt. School    | 82.6                       | 17.4        | 83.7  | 16.3        |
| MCD School      | 81.3                       | 18.7        | 80.9  | 19.1        |
| Public School   | 78.4                       | 21.6        | 69.6  | 30.4        |
| <b>G. Total</b> | <b>81.5</b>                | <b>18.5</b> | <b>80.4</b>   | <b>19.6</b> |

Source: Field Survey, CCS

The question was asked to the students table 3.23 to know their intension about reducing junk food consumption. 81.5 percent students responded that they are indented to reduce consuming junk food. 80.4 percent students expressed that they are indented to change junk food consumption in next few months.

**Table: 3.24**  
**Measures that can reduce Junk Food consumption**

| Measures  |            | Govt. | MCD  | Public | G. Total    |
|---|------------|-------|------|--------|-------------|
| Reduce advertising  | <b>Yes</b> | 36.3  | 65.5 | 42.0   | <b>43.4</b> |
|   | <b>No</b>  | 63.7  | 34.5 | 58.0   | <b>56.6</b> |
| Higher tax on junk food   | <b>Yes</b> | 32.3  | 37.5 | 29.6   | <b>32.8</b> |
|   | <b>No</b>  | 67.7  | 62.5 | 70.4   | <b>67.2</b> |
| Outlaw the sale of energy drinks to those under 18 years old                              | <b>Yes</b> | 19.2  | 39.3 | 22.4   | <b>23.9</b> |
|   | <b>No</b>  | 80.8  | 60.7 | 77.6   | <b>76.1</b> |
| Offer better food products in convenience stores, at cinema etc.                          | <b>Yes</b> | 20.6  | 40.8 | 40.4   | <b>28.5</b> |
|   | <b>No</b>  | 79.4  | 59.2 | 59.6   | <b>71.5</b> |
| Show all the ingredients in junk food products more clearly                               | <b>Yes</b> | 15.6  | 31.5 | 34.0   | <b>22.4</b> |
|   | <b>No</b>  | 84.4  | 68.5 | 66.0   | <b>77.6</b> |
| Make attractive packaging for healthy foods   | <b>Yes</b> | 18.8  | 29.2 | 19.2   | <b>21.0</b> |
|   | <b>No</b>  | 81.2  | 70.8 | 80.8   | <b>79.0</b> |
| Denounce marketing of junk food to young people through reporting or advertising campaign | <b>Yes</b> | 33.1  | 34.1 | 25.2   | <b>31.8</b> |
|   | <b>No</b>  | 66.9  | 65.9 | 74.8   | <b>68.2</b> |

Source: Field Survey, CCS

The question was asked to students that what measures can be taken to reduce junk food consumption. Table 3.24 in response to this, 43.4 percent of students said reducing advertisement, 32.8 percent believe by imposing higher tax on junk food, 23.9 percent said outlaw the sale of energy drinks to those under 18 years old, 28.5 percent believe offer better food products in convenience stores, at cinema, etc, 22.4 percent believe show all the ingredients in junk food products more clearly, 79 percent believe make attractive packing for healthy foods and 68.2 percent believe denounce marketing of junk food to young people through reporting or advertising campaign can be the measures to reduce the junk food consumption.



To make children aware about consequences of junk food consumption, schools are expected to take various initiatives.

**Table: 3.25**  
**Measures taken by School to educate about effect of Junk Food**

| <b>School</b>   | <b>Yes</b>  | <b>No</b>   |
|-----------------|-------------|-------------|
| Govt. School    | 86.8        | 13.2        |
| MCD School      | 79.0        | 21.0        |
| Public School   | 82.4        | 17.6        |
| <b>G. Total</b> | <b>84.4</b> | <b>15.6</b> |

*Source: Field Survey, CCS*

It was asked by the students, whether their school educate them about junk food? The above table 3.25 describes response to this 84.4 percent responded 'Yes' while 15.6 percent responded no measures are taken to educate them about the effect of junk food. Now if this is the case, a clear question arises that if schools are educating about the effect of junk food, to what extent that is being adhered to.

**Table: 3.26**  
**Means adopted by the school to educate about the effect of Junk Food consumption on health**

| <b>Particulars</b>                                    | <b>Response</b> | <b>Govt.</b> | <b>MCD</b> | <b>Public</b> | <b>G. Total</b> |
|---|-----------------|--------------|------------|---------------|-----------------|
| Health education is a part of school curriculum       | Yes             | 50.8         | 57.3       | 54.8          | <b>52.9</b>     |
|   | No              | 49.2         | 42.7       | 45.2          | <b>47.1</b>     |
| Workshops/seminar by health specialist                | Yes             | 24.1         | 31.5       | 46.8          | <b>30.0</b>     |
|   | No              | 75.9         | 68.5       | 53.2          | <b>70.0</b>     |
| Periodical health checkup at school                   | Yes             | 28.9         | 46.1       | 36.0          | <b>33.8</b>     |
|   | No              | 71.1         | 53.9       | 64.0          | <b>66.2</b>     |
| Banning junk food sale in and around the school       | Yes             | 20.4         | 24.7       | 29.2          | <b>23.0</b>     |
|   | No              | 79.6         | 75.3       | 70.8          | <b>77.0</b>     |
| Availability of healthy food in school canteen / mess | Yes             | 11.7         | 25.8       | 24.4          | <b>17.1</b>     |
|   | No              | 88.3         | 74.2       | 75.6          | <b>82.9</b>     |
| All of these  | Yes             | 17.6         | 23.6       | 20.8          | <b>19.5</b>     |
|   | No              | 82.4         | 76.4       | 79.2          | <b>80.5</b>     |

*Source: Field Survey, CCS*

The above table 3.26 describes the various kinds of initiatives are being taken by the schools to educate their children about the effect of junk food consumption on health. 52.9 percent of students said health education is part of their curriculum, 30 percent students said workshop/seminar by health specialist, 33.8 percent said periodical health checkup at schools, 23 percent said banning junk food sale in and around the school, 17.1 percent said availability of healthy food in school canteen /mess while 19.5 percent said all of these measures has been taken by the schools.

**Table: 3.27**  
**Impact of measures on consumption on Junk food**

| <b>School</b>   | <b>Reduced to great extent</b> | <b>Reduced to some extent</b> | <b>Remained same</b> |
|-----------------|--------------------------------|-------------------------------|----------------------|
| Govt. School    | 27.2                           | 56.4                          | 16.3                 |
| MCD School      | 12.4                           | 71.2                          | 16.5                 |
| Public School   | 19.2                           | 70.0                          | 10.8                 |
| <b>G. Total</b> | <b>22.6</b>                    | <b>62.1</b>                   | <b>15.3</b>          |

*Source: Field Survey, CCS*

The above table 3.27 describes the impact of measures taken by schools to reduce the junk food consumption. 22.6 percent students said junk food consumption

has reduced to the great extent, 62.1 percent said it reduced to some extent while 15.3 percent said junk food consumption remained the same.

**Table: 3. 28**  
**Parent efforts to reduce the Junk food consumption**

| <b>Particulars</b>   | <b>Response</b> | <b>Govt. School</b> | <b>MCD School</b> | <b>Public School</b> | <b>G. Total</b> |
|--|-----------------|---------------------|-------------------|----------------------|-----------------|
| Emphasis on home cooked food                                   | Yes             | 60.4                | 82.4              | 64.4                 | <b>65.7</b>     |
|  | No              | 39.6                | 17.6              | 35.6                 | <b>34.3</b>     |
| Carrying lunch from home                                       | Yes             | 33.1                | 40.4              | 54.8                 | <b>38.8</b>     |
|  | No              | 66.9                | 59.6              | 45.2                 | <b>61.2</b>     |
| Avoiding junk food even when out and going healthy alternative | Yes             | 31.3                | 22.1              | 27.2                 | <b>28.6</b>     |
|  | No              | 68.7                | 77.9              | 72.8                 | <b>71.4</b>     |

*Source: Field Survey, CCS*

The above table 3.28 reveals conscious efforts of parents to reduce the junk food about effect of junk food consumption. 65.7 percent of students said that their parent emphasize on home cooked food, 38.8 percent said they carry lunch from home and 28.6 percent said they avoid junk food consumption even when out of home.

**Table: 3.29**  
**Agree if Govt. issue an order to ban junk food sale in the school campus**

| <b>School</b>        | <b>Strongly Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly Disagree</b> |
|----------------------|-----------------------|--------------|-----------------|--------------------------|
| <b>Govt. School</b>  | 38.8                  | 44.7         | 11.1            | 5.4                      |
| <b>MCD School</b>    | 41.6                  | 47.6         | 6.4             | 4.5                      |
| <b>Public School</b> | 20.8                  | 46.0         | 22.8            | 10.4                     |
| <b>G. Total</b>      | <b>35.9</b>           | <b>45.5</b>  | <b>12.4</b>     | <b>6.2</b>               |

*Source: Field Survey, CCS*

According to the survey when the students were asked that do they agree if Government issue an order to ban junk food sale in the school campus. 35.9 percent said they strongly agree, 45.5 percent of them agree, 12.4 percent disagree and 6.2 percent said they strongly disagree with government orders of banning junk food sale in

the school campus. So majority of the respondents agreed that government should put a ban on the sale of junk food in the school campus.

High frequency of junk food consumption among school children poses grave threat for a healthy future. The rising cases of obesity, hypertension, diabetes and such lifestyle diseases are indicative of the threat posed by junk food consumption combined with lack of physical activity. The need to regulate junk food consumption by including various stakeholders has been recognized by U.S.A ,China ,countries in Europe .This has also caught the attention of the Government in India. It is imperative to involve Ngos, Schools, Parents, Children, doctors and Companies famous for junk food brands to act on the demand as well as supply front to counter the threat of junk food.



## Chapter IV

### Conclusions and Recommendations

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Junk food can be appealing for a variety of reasons, including convenience, price and taste. For children, who do not always understand the health consequences of their eating habits, junk food may appear especially appetizing. However, regularly consuming fattening junk food can be addictive for children and lead to complications like obesity, chronic illness, low self-esteem and even depression, as well as affecting how they perform in school and extracurricular activities. According to the Women's and Children's Health Network, diet has a significant effect on children's study habits. Junk food and foods with high sugar content deplete energy levels and the ability to concentrate for extended periods of time. Energy and focus are especially crucial for school-age children. Children set the foundation for lifelong habits in their youth, making junk food particularly hazardous to their well-rounded development. Physical activity is also essential for children of all ages, and regularly eating junk food does not provide the necessary nutrients children need for sufficient energy to engage in physical activity. A lack of physical activity is harmful to physical and mental well being and may also exclude a child from critical social development.

#### Findings of the Study

1. A high percentage (95.9 percent) of the students said they preferred to consume junk food. Out of those who preferred, 93 percent said that junk food had delicious taste, 85 percent said it was easily available and 66.4 percent said it was very easy and convenient to pack and carry junk food in tiffins and 73.5 percent found the packaging attractive. A combination of all these factors led students to prefer the consumption of junk food.
2. It is noticeable that not only students consumed junk food outside home but also at home. 93.1 percent respondents said that they consumed junk food at home.

11 percent ate junk food at home almost every day, 26.7 percent had it 1-2 times a week and 43.9 percent had a low frequency of consuming junk food at home.

3. Availability of junk food in and around school campus was prominent in public schools. Comparatively, there was less availability of junk food in MCD schools and Government schools. In public schools, 70.8 percent said junk food was available in and around their campus, 14.6 percent and 24.1 percent students of the MCD and Govt. schools respectively said the same.
4. Apart from availability of junk food in and around school campus, it was found that students also carried junk food from home in their lunch boxes. 46 percent students said they carried junk food in their tiffins almost every day and 59 percent said they did so 1-2 times a week.
5. Advertising of junk food via different channels was found to be responsible for influencing students towards junk food consumption. 88.7 percent students said that junk food advertising created a desire in them to try it. Junk food advertisements are ubiquitous and can be found almost everywhere. 54.9 percent students said they regularly came across junk food advertisements. 85.1 percent students said television was the major source of junk food advertising, 78.5 percent said they found a lot of junk food advertisements in magazines they read, 22 percent students said billboards in and around their surrounding were painted with advertisements of junk food and 29.5 percent said internet was the major source of junk food advertisements.
6. Responsible consumer behavior implies that one should surely read the content/nutrition value of a food product before making the final purchase. It was found that only 24.6 percent students always looked at the content label on the food packet, 46.5 percent checked the same sometimes and 28.8 percent never checked it.

7. The research showed that a high percentage of students had awareness of the ill effects of junk food. 69.2 percent students said junk food had unhealthy effect on health, 22.5 percent said it had healthy effect and 8.3 percent said it had no effect on health.
8. 8 percent of the students complained of a health problem. 19.9 percent associated their health problem with the consumption of junk food at home.
9. Among the students who complained of a health problem, most of them belonged to private schools (12%), 8 percent were from government schools and 2.4 percent were from MCD schools.
10. Junk food leads to a variety of health issues. 65.7 percent students said that consumption of junk food leads to obesity/overweight, 37.8 percent students said that it causes diabetes, 26.7 percent said it lead to hypertension and 31.1 percent said it leads to weak memory and heart diseases.
11. Understanding the ill effects of junk food on health, 80.4 percent students said they intended to reduce junk food consumption in the next few months. 79 percent students believed that bright packaging of healthy and nutritious food would attract them to consume healthy food over junk food. 68.2 percent students were of the view that marketing of junk food to young people through advertising campaigns should be denounced and 22.4 percent students said that all the ingredients of junk food should be clearly highlighted in the packages.
12. It was found that schools were taking sound initiatives to educate students about the ill effects of junk food consumption. 84.4 percent students said their schools were taking measures to make them aware. 52.9 percent students said that health education was a part of their school curriculum, 30 percent students said their schools had workshops/seminars by health specialists, 33.8 percent said they had periodical health checkups at their school, 23 percent students said they had availability of healthy food in their school canteens and mess. These measures had an impact in reducing the consumption of junk food to a great

extent in 22.6 percent of the students, 62.1 percent students said that their junk food consumption was reduced to some extent and it remained the same in the case of 15.3 percent of the students.

13. Parents also made an attempt to educate their children about the unhealthy effect of junk food consumption. 65.7 percent students said their parents emphasized on consuming home cooked food, 38.8 percent students said they parents ensured that they carried lunch from home and 28.6 percent students said that they are taught to opt for healthy food alternatives even when they go for an outing or picnics .

14. Majority of students (81.4 percent) shared the view that an order should be issued by the government to ban junk food sale in school campus.

## **Recommendations**

Keeping in view the findings of the study the recommendations are:

- 1. Reduce the number of junk food ads during children's programmes -** Food habits are formed at a young age and are difficult to change. For this reason, repetitive exposure to advertisements encouraging overeating and the consumption of foods high in sugar, salt and saturated fat need to be cut down. There should be no advertisements five minutes before, after and during children's television programmes. Children are exceptionally vulnerable to being manipulated by advertisements. For this reason, advertisements for children and use of child actors for junk food promotion needs to be prohibited.
- 2. Regulation of advertisement through a framework-** Advertisement and promotion of such foods targeted at children is to be regulated through a framework that includes all type of media, celebrity endorsement and promotional activities. Most importantly, the celebrities and sport stars should not be allowed to promote food and drink products aimed at children unless the advertisement is part of a "public health or education campaign". Characters or personalities from

children's programmes should also be restricted from endorsing or advertising products or services. Popular cartoon and television characters are often licensed to appear on a vast range of children's foods- usually aimed at toddlers or primary school children.

3. **Rigorous enforcement of advertising regulations** - The regulating bodies are found to be neither adequate nor effective. Rigorous enforcement of advertising regulations is necessary to ensure compliance and improve the effectiveness of regulatory bodies. Government should play an active role to make and implement rules and regulations against manufacturing promotion and sale of junk food.
4. **Monitor health messages in ads** -Consumer awareness about diet and nutrition has largely improved over the past decade. However, advertisers know how to manipulate consumers and to use the scientific terms to distort the nutritional value of food and drink products. Health messages in advertisements and on packaging need to be monitored to eliminate misleading promotion. Children's advertising should support messages related to public health and human well-being as endorsed by government policies.
5. **Health messages to be made mandatory for manufacturers who are producing junk food** - It is time for junk food packaging and advertisers to level nutrition advice such as "should be consumed in moderation" or "should not be consumed in place of a balanced meal". There should also be warnings for parents stating that fast food is addictive and can harm their children's health, causing problems like high cholesterol and obesity. The manufacturer should also inform parents that it is inadvisable to let children below five years of age to drink soft drinks. Carbonated drinks and other food items with high sugar content should display health warnings for diabetics and children, that the product may be unhealthy for them, leading to tooth decay, obesity and health problems.
6. **Prohibition of Advertisements that target parents or caretakers**- No indirect advertising to parents or other adults caring for children such as other family

members, child carers, teachers, health workers should be prohibited. This includes suggesting a parent or adult who purchases such a food or beverage for a child is a better, more intelligent or a more generous parent or adult than one who does not do so, or that their child when fed with these products will be more intelligent and gifted.

7. **Schools need to organize workshops and sessions focusing on ill-effect of consuming junk food** - The survey results clearly show that students preferred eating junk food for end number of reasons may it be the attractive packing, easy accessibility, tastier and easy to carry, etc. Therefore, there is an urgent need to organize orientation workshops and sessions focusing on the ill- effects of consuming junk food and parents can also be invited to attend the same along with children. This is all the more important because even the parents prefer sending/packing junk food in tiffins for children.
8. **Competitions should be organized by schools to create awareness among students on Junking the junk food** - Children to be encouraged to be a part of the healthy diet movement by regularly organizing campaigns, competition and activities in the school where children be encouraged to make and learn healthy menus for a healthier life. Competitions should be organized in the school on “Junking the junk food” to spread awareness of its ill-effects.
9. **Awareness on Health Education at Primary Schools** – Health education should be made a part of the school curriculum. Regular workshops and seminars from health specialists/experts would have a great impact in reducing the consumption of junk food to great extent. Establishing early awareness educational programmes aimed at children between the ages of 2 – 14 will educate about the adverse medical effects and complications associated with fast food induced obesity, and promote active physical activity that is supported by the government for a longer duration.

**10. Parents need to be more conscious toward eating behaviour of their children**

- The survey results clearly showed that students inspite of consuming junk food regularly were aware of the ill-effects of junk food consumption. There is a dire need to understand the psychology behind this consumption behaviour. The parents need to be more sensitive and understanding because most of the children who consumed more of junk food were from private schools. The scarcity of time which parents have due to both parents earning leads to children adapting to more consumption of junk food. Parents should think of ways to spend more and more time with their children and make them understand the benefits of healthy eating. Parents and caretakers at home should be more conscious on what is being served to the children both through home tiffins and at school so that regular consumption of junk food to children can be stopped.

**11. Easier Access to Healthier Food Choices** – There is a need to introduce subsidized healthy food choices for families that occupy family members between the ages of 2 – 14. Healthier food choices that are listed within the nutritional chart should be accessible without difficulty to all.

**12. Enforce the highest standards for the marketing of foods-** The food, beverage, restaurant, and marketing industries should work with government, scientific, public health, and consumer groups to establish and enforce the highest standards for the marketing of foods, beverages, and meals to children and youth. The media and entertainment industry should direct its extensive power to promote healthy foods and beverages for all.

**13. Financially sustained social marketing programme in promoting healthy diets for all-** Government, in partnership with the private sector, should create a long-term, multifaceted, and financially sustained social marketing programme supporting parents, caretakers, and families in promoting healthy diets for all.

**14. Educate and promote healthy diets for children and youth-** State and local educational authorities, with support from parents, health authorities, and other

stakeholders, should educate and promote healthy diets for children and youth in all aspects of the school environment (e.g., commercial sponsorships, meals and snacks, curriculum). A well structured curriculum on balanced diet and its health impacts should be introduced in the schools.

15. **Developing Canteens to provide Nutritious, Wholesome and Healthy Food in Schools-** Canteens in the schools should not be treated as commercial outlets. They carry a social responsibility towards inculcating healthy eating behaviors. They can be used to motivate children to consume healthy and hygienic food.
16. **Enforcement and monitoring-** The Rules and notifications already in place for the ban on junk food need to be enforced and monitored in letter and spirit as the survey clearly shows that still in many schools the junk food is easily accessible in and around the school premises.
17. **Food Safety and Standards Authority of India should review the Labeling Regulations to make Relevant Information available for all-** In India, the labeling regulations mandate packaged food manufacturers to declare nutritional information on product labels which indicates the energy value and the amount of nutrients present. However, it needs to be made more informative and understandable for common people especially children.
18. **Curbing the influence of misleading advertisements-** Junk food advertisements are ubiquitous and can be found usually everywhere. Continuous check on the hoardings, advertisements especially in and around school premises and even at other public places should be done so that the children don't get influenced by misleading advertisements.
19. **Benefits of physical Activity-** Physical activities at school and after school is also very important. Children should be sensitized about the benefits of physical activity, yoga and outdoor games in staying fit and healthy. Watching TV, video

games, console games ,play stations should be reduced instead more stress should be given on outdoor games like cricket, football, basketball, etc.

20. **Content/nutrition value of the food products-** Developing habit of reading the content/nutrition value of the food products before purchasing them should be adhered to. This would help to know the facts related to the food being consumed.

21. **Inculcating healthy eating habits in children-** It is a saying that habits die hard and especially those which are formed in early years of life so children should be encouraged to eat leafy green vegetables and home cooked healthy diets/food rather than frequent consumption of junk food.



## References

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1. Junk Food Trap, Consumer International, [ISBN 978-0-9560297-0-6], 2008 ([http://www.consumersinternational.org/media/540310/junk\\_food\\_trap.pdf](http://www.consumersinternational.org/media/540310/junk_food_trap.pdf))
2. Fast Food Impact on health, Deptt of Community Medicine, Sri Devraj Urs Medical College, [ISSN 2231-4261], 2012  
<http://www.jkimsu.com/jkimsu-vol1no2/jkimsu-vol1no2-RA-1-7-15.pdf>
3. The Junk food Generation, Consumer International, [ISBN 983- 41805-0-0], 2004 (<http://www.consumersinternational.org/media/307373/the%20junk%20food%20generation-%20a%20multi-country%20survey%20of%20the%20influence%20of%20television%20advertisements%20on%20children.pdf>)
4. Junk Food may lead to mental health problems in childrens, Deakin University,2013  
<http://www.deakin.edu.au/news/media-archives/2013-media-releases-archives/junk-food-may-lead-to-mental-health-problems-in-children>
5. Effect of Fast food advertising on children: Parents' perceptions, Vaishnav Institute of Technology & Science, Prestige Institute of Management and Research, Capital Via, [Volume 4, No. -1, Jan.-Dec. 2014]  
[http://afmr.ac.in/sites/afmr.ac.in/files/files\\_content/4-%20Shukla,%20Upadhyay,%20Thakur.pdf](http://afmr.ac.in/sites/afmr.ac.in/files/files_content/4-%20Shukla,%20Upadhyay,%20Thakur.pdf)
6. Studies show junk foods change brain chemistry and are addictive like cocaine, Ethan A. Huff, staff writer, 2011  
[http://www.naturalnews.com/034478\\_junk\\_foods\\_addictive\\_brain\\_chemistry.html#](http://www.naturalnews.com/034478_junk_foods_addictive_brain_chemistry.html#)

7. Nutritional Analysis of Junk Food, Centre for Science & Environment, [CSE/PML/PR-41/2012]  
([http://www.cseindia.org/userfiles/Nutritional\\_Analysis\\_Junk\\_Food.pdf](http://www.cseindia.org/userfiles/Nutritional_Analysis_Junk_Food.pdf))
8. Food Safety Watch, Centre for Science & Environment, 2011  
([http://www.cseindia.org/userfiles/Factsheet-Junk\\_food.pdf](http://www.cseindia.org/userfiles/Factsheet-Junk_food.pdf))
9. The heart links project, University of Stony Brook / Dept of Family Medicine, Stony Brook, NY 11794-8461.  
(<http://www.stonybrook.edu/heartlinks/fastfood dangers.pdf>)
10. Nutrition and its effects on academic performance, Northern Michigan University, 2010  
([https://www.nmu.edu/sites/DrupalEducation/files/UserFiles/Files/PreDrupal/SiteSections/Students/GradPapers/Projects/Ross\\_Amy\\_MP.pdf](https://www.nmu.edu/sites/DrupalEducation/files/UserFiles/Files/PreDrupal/SiteSections/Students/GradPapers/Projects/Ross_Amy_MP.pdf))
11. Junk Food in Schools and Childhood Obesity, Health and Labor and Population, WR-672, 2009  
([http://www.rand.org/content/dam/rand/pubs/working\\_papers/2009/RAND\\_WR672.pdf](http://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR672.pdf))
12. Controlling Junk Food and the Bottom Line, University of ILLINOIS at Chicago, 2013  
([http://iphionline.org/pdf/IPHI\\_Controlling\\_Junk\\_Food\\_Report\\_32113.pdf](http://iphionline.org/pdf/IPHI_Controlling_Junk_Food_Report_32113.pdf))
13. Influence of Competitive Food and Beverage Policies on Children's Diets and Childhood Obesity, Robert Wood Johnson Foundation, 2012  
[http://healthyeatingresearch.org/wpcontent/uploads/2013/12/Competitive\\_Foods\\_Issue\\_Brief\\_HER\\_BTG\\_7-2012-WEB.pdf](http://healthyeatingresearch.org/wpcontent/uploads/2013/12/Competitive_Foods_Issue_Brief_HER_BTG_7-2012-WEB.pdf)

14. Junk Food Targeted at Children, Centre for Science & Environment, 2014  
([http://www.cseindia.org/userfiles/junk\\_food\\_targeted\\_children.pdf](http://www.cseindia.org/userfiles/junk_food_targeted_children.pdf))
  
15. A case study on the impact of advertisements on Junk foods in Children, IOSR Journal of Business and Management (IOSR-JBM) e-ISSN : 2278-487X, p-ISSN: 2319-7668, PP 52-56.  
  
(<http://iosrjournals.org/iosr-jbm/papers/ncibppte-volume-2/1074.pdf>)
  
16. Fast Food Consumption in Children, Department of Pediatrics, University College of Medical Sciences & Guru Teg Bahadur Hospital.  
  
<http://medind.nic.in/ibv/t11/i2/ibvt11i2p97.pdf>
  
17. Competitive Food Sales in Schools and Childhood Obesity, American Sociological Association, [DOI: 10.1177/0038040711417011], 2012.  
  
<http://www.asanet.org/images/journals/docs/pdf/soe/Jan12SOEFeature.pdf>