



A Comparative Study to Assess the Knowledge Regarding Effects of Junk Food Consumption between Urban and Rural Areas, School Children at Tirupati, India

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Abstract: *The aim of the study was 'to compare the knowledge on effects of junk food Consumption between urban and rural school children at, Tirupathi, India*

Objectives *to assess the knowledge and knowledge on practices regarding effects of junk food consumption, and To find the association of knowledge and practice with demographic variables between urban and rural area among school children and self-instructional module on effects of junk food consumption.*

Methodology *A comparative Survey Research Design was adopted. Fifty school children of from urban areas and fifty school children from rural area were selected by using simple random sampling technique.*

Results *The results of the study show type of family was found to be significant in urban school children, and education of the father was found to be significant in rural school children.*

Conclusion *There is a significant difference between urban and rural school children knowledge and knowledge on health practice related to effects of junk food consumption at $p < 0.01$ level*

Keywords: *Effects of junk food consumption, knowledge and practice, urban and rural, school children, self-instructional module*

I. INTRODUCTION

Mantra "JUNK FOOD". Child hood period is a time of steady growth; good nutrition is a high priority. Eating junk food has become a trend. The children hate homemade healthy food. Junk food comprises of anything that is quick tasty, convenient and fashionable [1]. It seems to have engulfed every age i.e., from a 2 year old toddler to a 60 year old grandma, every race seems to be enjoying it every chance they get. And why not? It's delicious, it's filling, is really affordable, and readily available just any time of the day, being only a drive through phone call away "Plenty" fast food is all good tasting, except that it is not nutritionally balanced and therefore, unhealthy in the long run if consumed on a regular basis[2]. According to food standards agency Junk food is the term describing as food that is perceived to be unhealthy or having poor nutritional value. The term is believed to have been coined by Michael Jacobson, director of the center for science in the public interest, in 1972. The term has become common usage since that time. Junk food includes those food items that do not add any value to a person's diet. Here values denote essential nutrients, vitamins and minerals [3].

The vast majority of working mothers with school age children are leading to a situation. Parents are not getting time to spend with their children. Traditional food skills are not passed on automatically from parent to child. Enjoying a meal was sharing experiences with the others. Today family dinners are rare. In many ways, our culture is structured to foster poor eating habits. Television commercials and supermarkets are

propagating a wide variety of enticing junk foods, attractively packaged and often tagged with a tempting sop [1].

In India, the consumer spending rate on processed food had increased at an average rate of 7.6% annually during the year 2008 to 2010 and this was expected to continue as the consumer expense would rise with an average of around 8.6% till the year 2012. 30% of children aged 2-19 years are considered overweight or obese and has been estimated that in 3 children born in the year 2000 will develop diabetes in their life time over the past 3 decades the childhood obesity rate has more doubled for pre-school children aged 2-5 years and adolescents aged, 12-19 years and it has more tripled for children aged 6-11 years [4].

According to John Alm, Former President, Coca-Cola Atlanta Journal Constitution, May 5, 2003 (US) reported that.

- Nine out of 10 schools offer junk food to kids.
- One of every five calories in the American diet is liquid.
- Researchers calculate that for each additional soda consumed, the risk of obesity increases 1.6 times.
- The USDA supplies schools with the same commodity foods as prisons.
- More than 32% of youths are overweight and nearly 74% are unfit.

- About 19,000 public schools, 1 in every 5, sell branded food in the cafeteria.
- Teenagers' milk consumption decreased by 36% between 1965 and 1996, while soda consumption increased by more than 200%.
- Vending machines are in 43% of elementary schools and 97% of high schools.
- Only 29% of adolescents meet the recommended 60 minutes of daily physical activity.
- In 2003, the Centers for Disease Control declared obesity the most important public health issue in the United States [5].

In Delhi the prevalence of overweight obesity in urban children is found to be increasing from 16% in 2002 about 24% in 2006. The overall prevalence of overweight varies from 7% to 24% and obesity from 2% to 8%, while in Chennai; the overall weight was 12% among the children's and 15.5% among the adolescents [6].

The situation is worse in case of children who from a very young age get hooked on fast food. The commonest scenario is a child who returns from school and plunks himself. In front of television, accompanied by a bowl of wafers or any other junk food. Making them change their food habits from fatty and sweet foods and develop taste for health promoting fruits and vegetables is a task easier said than done. Such children would grow up to be obese adults who have never felt the advantages of being a healthy weight to sum up, consuming fast food on a regular basis leads to many health hazards. But bringing about changes in eating habits is not easy [2].

Consuming too much fast food not only turns a hand some guy into an unsightly obese man, but as Eric Schlosser points out in his book it is a big health hazard too. And being physically inactive only adds to the problem obesity. Not many people who love fast food are ready to acknowledge that obesity is not simply an eye sore "It is a major risk factor for a large number of deadly diseases like hypertension, diabetes, high cholesterol, heart disease, and even many types of cancer [7].

Recent scientific studies have shown that high calorie foods; rich in fats, refined sugar and salt could reconfigure the hormones in the body in such a way that they make you crave for such foods and always leave you asking for more. In other words, fast food is kind of addictive, you get hooked on to it and continue consuming it is an uncontrolled way inspire of knowing that it is unhealthy. The more you consume, the more difficult it is for you to opt for healthy foods [2].

In India even Chinese food sold in road side stalls is junk food, because they contain high amount of monosodium Glutamate (MSG) which is a flavor enhancer and this MSG is recognized as a health hazard if taken in large quantities. The evidence for this is described below.

Children who have less vision of the health there is a chance of getting heart disease, cancer, high blood pressure or

diabetes that might be fall them decades later, the tentacles of a junk food environment are virtually in escapable, studies reveal that early as the age of 30, arteries could beginning clogging and lay the ground work for future heart attacks. Osteoporosis and hypertension are other diseases that appear to have their earliest roots in child hood when lifelong Eating habits are being formed. Children are especially vulnerable. Poor diets can slow growth, delay new teeth, promote obesity and slow the seeds of infirmity and debilitating disease that ultimately lead to incurable disease and death or worse make life in sufferable [8]

Most of the times these junk foods contains. Colors that are laced with colors, those were often inedible, carcinogenic and harmful to the body. These foods and their colors can affect digestive systems, the effects of it emerging after many years. Studies have been found that food coloring can cause hyperactivity and lapses of concentration in children. Children suffering from learning disabilities are often advised against eating food with artificial coloring. Chocolates, colas, flavored drinks and snack tit bits are full of artificial coloring [8].

Junk foods are lollies, soft drinks and carbonated beverages, potato chips, hot chips, ice creams and hamburgers, fried fast foods, chocolate, ice candy and chewing gums and Noodles, pizza, pasta.

Coming to Indian junk food, locally called 'Chat', these mostly include the Samos's, kachoris, panipuris/ golgappas are fried items with various filing with in an outer layer made of refined flour

Street food and fast food are also taken in the same context as junk. When we speak of street food, the fact that it's cooked in unhealthy conditions makes it more un healthy than the same food made at home. Children are experiencing so much growth they may always feel hungry [3].

To start with, a simple change that one could make is to successively reduce the frequency of eating fast food and eat more frequently home-cooked food, with plenty of fresh food and vegetables. Junk food pose health risks both because of what they contain and what they replace in diet. "Say no to junk foods! Go Healthy." So everybody musk keeps certain amount of awareness about food nutrition so that healthy choices can be made.

NGO's and ministries have come up with policy suggestions for action against the sale of unhealthy foods in and around the schools. The sale and consumption of the cold drinks such as peps and coke have been prohibited in all the secondary and higher secondary schools of Gujarat". A petition has been field in the high court in December, 2010, by Uday Foundation, for a ban on junk food in schools [9].

On September 15, 2005, California Governor Arnold Schwarzenegger signed to law two bills establishing nutritional standard for the food and beverages sold in the State Public Schools. The first banned the sale of junk food – candy, cookies, chips etc., the second, banned the sale of soft drinks – coke, Pepsi, fruit drinks, sugared waters and similar products. The governor also signed a third bill that provided

funding for fruits and vegetables in school breakfast programmes [10].

In a Woolcott (2009) AAP, The American Academy of Pediatrics stated that Govt. Should pass legislation banning junk food commercials on TV shows that target children, and pediatricians should support a ban, or severe restrictions on unhealthy food ads appearing in schools [11].

Nutritionist, doctors and other health advocates often work together educate the people about health hazards of junk food consumption: encouraging them to eat balanced diet which contain a high proportion healthy food.

II. BACKGROUND

Helping our little ones develop a broad palate and accept new foods is a necessary part of getting nutrients from a variety of food source in to them [12]

Changes in our society have intensified the need for food skills to the extent that they need to become a part of child's basic education for good health and survival. Most people have forgotten that the primary reason for eating is nourishment. Good nutrition is a high priority children must know what they eat effects, how they grow, feel and behave [13].

The food habitats in India have changed due to the western influence and the usage of foods is also on the rise and has been a part of everyday life

The studies reported that junk foods do not contain any nutrients that are beneficial to the human body. In most cases, these foods are filled with rich carbohydrates, fats and cholesterol that do not provide any useful energy. As a result, somebody consuming junk food has reduced level of essential nutrients thereby causing weakness in the body. One disadvantage of consuming junk food is that it contains high amount of oil and fat. As a result, human body finds this food difficult to digest and need to spend high amount of blood in the blood in the body is diverted to the intestine. As a result the person feels drowsy and suffers with reduced concentration [14].

A study conducted on 2004 on street food among children. The sample were selected from the age 6 to 15. Three quarters of the children used more than 75% of their pocket money to buy street food. The item brought most frequently were candy (27.2%); sandwiches (23.9%) ,pastries(23.9%),sunflower seeds pizza ,chocolates or cheese(20.3%). They concluded that important role of street food in the daily diet of school children an need for appropriate nutrition education [15].

According to a national survey of India (2005) at least 30% of adolescents have dental caries, 17% are overweight the problem is growing literally. Overweight teenagers are now a very visible urban phenomenon. In Delhi and Chandigarh, one in every four teenagers are obese while the study of school children in Chennai shows 18% boys and 16% girls are overweight because of eating habits of unhealthy food items [16].

A prospective, observational study was conducted in Karnataka (2003) a prospective, observational analysis on relationship between consumption of sugar sweetened drinks and childhood obesity showed that 30% of children aged 13-16 years are overweight or in the risk of overweight. This study focuses on the trends in childhood nutrition over the past few years, such as changes in fast food and soft drink consumption. This way the study explains the increasing prevalence of overweight in children and critically addresses the issues contributing to these changes in nutrient intake and rural children. Weekly frequency of consumption of junk food was high than major food items such as meat and eggs. This study indicated that replacement of conventional snacks with industrial and processed products is attributable to industrialization and urbanization, increased media coverage and lifestyle changes in both urban and rural regions. It is recommended that education of the parents on making wiser choices for children's snacks as this is a major component of their diet [17].

Sonica, Tucunduva Philippine (2010) conducted to evaluate the consumption of beverages and soft drinks by school children .The study has been selected from the age of 14 to 17 years. The results revealed that most frequently consumed soft drinks (28.6%) and fruit juices (22.2%) and main places were home (38.2%) schools (22.1%). The study concluded that sweet beverages intake was frequently among children .The nutrition education program should aim to stimulate the intake of healthier beverages [18].

Manpreet Kaur (2008) conducted a study to determine the prevalence of consumption of fast food among school children and their knowledge regarding the food they eat. Study was conducted on 10 different schools comprising of 2636 children the data was obtained by questionnaire. The result revealed that 50% of the children watched fast food being advertised on television and 70% were not aware of the nutritional context of this food consumed by them. The study concluded that children in urban schools liked Junk food but they preferred to have these in between meals and believed that food advertised was healthy [19].

Hence the investigator felt the need to conducted the study on effects of junk food consumption among school children and update their level of knowledge by providing information booklet.

III. METHODOLOGY

Non-experimental comparative survey design was selected. A total number of 100 students (50 urban + 50 rural) from government schools and private schools aged between 13 to 15 years were randomly selected. The subjects who fulfilled in the inclusion criteria (Adolescent boys and girls between 13 to 16 years, who were willing to participate in the study and who can understand Telugu and English languages) were selected. Written consent was taken from the subjects and the purpose of the study was explained.

The tools used for the study were categorized into 3 sections.

Section-I

Consists of socio demographic data such as age, education, occupation, family income per month, religion, ordinal position of the child, number of siblings, type of family, place of residence, amount of pocket money.

Section-II

It consists of ten multiple choice questions related to knowledge on meaning, causes, sign and symptoms of junk food.

Section-III

It consists of fifteen checklist questions related to knowledge on practices related to prevention of ill effects of junk foods.

Information Booklet consist of meaning, causes, sign and symptoms, advantages and disadvantages, prevention of ill effects of junk food

The scores were interpreted in the following manner.

< 50% - Inadequate knowledge.

50-75% - Moderately adequate knowledge

> 75% - Adequate knowledge

The pilot study was conducted and the findings of the study revealed that tool was reliable, feasible to conduct the main study. The reliability score 'r'=.82.

The data was analyzed by using descriptive statistics such as frequency and percentage distribution and inferential statistics such as Chi-square test for the strength of the association between two categorical variables and T –test for difference between two variables.

Content validity

Content validity of the questionnaire and information booklet was done by the experts from the departments of pediatrics, S.V.R.R.G.G.H, Tirupati and Department of child health Nursing and Department of Community Medicine, S.V. Medical College, Tirupati, and department of child health nursing, government nursing colleges as well as SVIMS college of nursing.

Reliability

The reliability of knowledge questionnaire was r = .86 and knowledge questionnaire on practices was r = .82.

Reliability of the tool was established by using spearman's brown prophecy formula.

$$R = \frac{2r}{1 + r}$$

Where R = Reliability co-efficient of the whole test

r = correlation co-efficient

(6) students were from single parent family 6% (3) ,with regard to mother education 10% (05) mothers were having illiterate, 14% (7) mothers were having collegeate education. Pertaining to mother occupation 78% (39) were home maker, 16% (8) were employee. Regards to father Education 14% (7) fathers were having illiterate,56%(28) were having collegeate education. Pertaining to father occupation 14 % (7) were laborer, 50% (25) were Employee. Based on family monthly income 28% (14) were earning Rs.5000 below, 24% (12) were earning between 15001 and above, regarding place of residence 100(50) belongs to Urban. Pertaining source of Junk food from 44% (22) were Bakeries, 24(12 from Supermarket, 22% (11) from Roadsides 10% (5) from Restaurants. Pertaining amount of pocket money given by parents per day in rupees 8% (4) were nil; 8% (4) were taking 15 and above. Regarding influenced by 54% (27) Students were34% (17) students were TV, 2% (1) students were peer groups. Pertaining source of information 50% (25) were from friends and relatives, 4% (2) were from mass media.

Among rural students 52% (26) were aged between 13-14 and 48% (24) were aged between 14 -15 years. Among them 98% (49) were males, 2% (1) were females. Regarding religion 90% (45) were belonged to Hindu and4% (2) were Muslim, and 6% (3) were Christian. In case of ordinal position of the child in the family 26% (13) were first child, 16% (8) fourth and above. In accordance to number of siblings 20% (10) were having Nil, 36% (18) were having three and above. As far as the type of family is concerned 82% (41) were from nuclear family and 2% (1) were extended family, with regard to mother education 46% (23) mothers were having illiterate, 6% (3) mothers were having collegeate education. Pertaining to mother occupation 44% (22) were home maker, 42% (21) were labourer. Regards to father education 42%(21) fathers were illiterate, 8%(4) were collegeate education, pertaining to father occupation 80% (40) were laborer; 14% (7) were Employee. Based on family monthly income 70% (35) were earning below 5000 and 4% (2) were 15001 and above. Regarding place of Residence 50%(100) belongs to rural. Pertaining source of junk food from 48% (24) were road sides, 28(14) were Supermarket, 20% (10) were Bakeries, 4% (2) were Restaurants. Pertaining amount of pocket money given by parents per day in rupees. 42% (21) were nil, 4% (2) were taking between 15 and above. Regarding influenced by 52% (26) were parental encouragement, 34% (17) were peer groups, Pertaining to source of information 62% (31) were from family members, 14% (7) were friends and relative,16% (8) were mass media.

IV. EXPERIMENTS AND RESULTS

Among 50, 9th class students selected from Urban 66% (33) were aged between 13-14 and 34% (17) were between 14-15. Among them 46%(2) were males, (27) were females, Regarding religion 86% (43) were Hindu and 4%(2) were muslim,10 (5) belonged to Christian. In case of ordinal position of the child in the family 36 % (18) were first child, 10 % (5) were fourth and above. In accordance to number of siblings 14% (7) were having nil siblings, 6% (3) were having three and above sibling's. As far as the type of family is concerned 60% (30) students were from nuclear family,12%

Table -1 Level of knowledge between Urban & Rural School Children on effects of junk food consumption

| Level of knowledge | urban (N=50) | | Rural (N=50) | |
|--------------------|--------------|-----|--------------|-----|
| | F | % | F | % |
| Inadequate | 7 | 14% | 37 | 74% |
| Moderate | 31 | 62% | 10 | 20% |
| Adequate | 12 | 24% | 3 | 6% |

Table 1 shows that 14% (7) of Urban school children having inadequate knowledge 62% (31) were having moderately, 24% (12) were having adequate knowledge of effects of junk food consumption. Among Rural School children 74% (37) were having inadequate 20% (10) having moderate; 6% (3) were having adequate knowledge on effects of junk food consumption.

| Level of knowledge on practice | urban (N=50) | | Rural (N=50) | |
|--------------------------------|--------------|-----|--------------|-----|
| | F | % | F | % |
| Inadequate | 2 | 4% | 14 | 28% |
| Moderate | 26 | 52% | 34 | 68% |
| Adequate | 22 | 44% | 2 | 4% |

Table 2 shows that 4% (2) of Urban Students were having in inadequate; 52% (26) were having moderate; 44% (22) were having adequate knowledge on practice regarding on effects of junk food consumption. Among Rural Students 28% (14) were having inadequate, 68% (34) were having moderate; 4% (2) were having adequate knowledge on practices on effects of junk food consumption.

| S. N O | variable | Urban | | Rural | | t-value |
|--------|----------------------------------|--------|-------|--------|-------|----------|
| | | Mean | SD | Mean | SD | |
| 1 | knowledge | 6.680 | 1.067 | 4.780 | 1.653 | 8.296** |
| 2 | Practice | 11.200 | 1.442 | 8.720 | 1.844 | 8.305** |
| 3 | Over all Knowledge and Practices | 17.880 | 1.915 | 13.500 | 2.602 | 11.526** |

Significance
 ** = Significant at 0.01 level
 * = Significant at 0.05 level
 NS = Not Significant

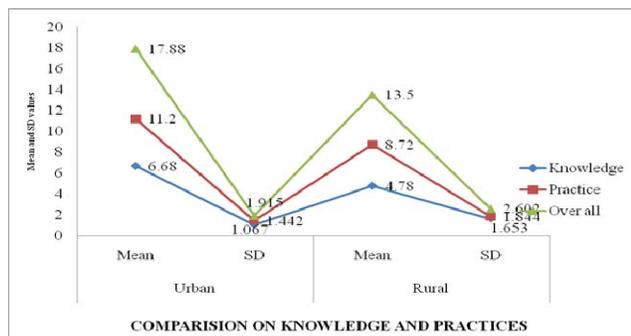


Fig 1: Mean and standard deviation of effects of junk food consumption between urban and rural school children

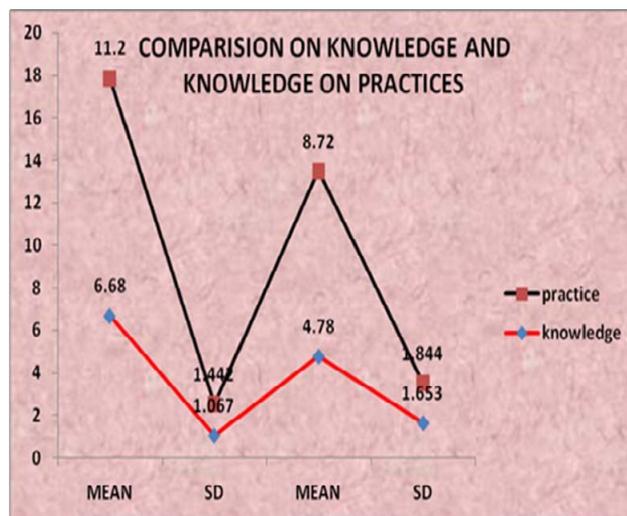


Fig 2: Mean and Standard deviation of effects of junk food consumption between urban & rural school children

Table 3 represents that the knowledge regarding effects of junk food consumption of urban school children the Mean 6.680(58.29%) and SD 1.067 were obtained, where as in rural school children the Mean 4.780(41.71%) and SD 1.653 were obtained respectively. The independent t-value 8.296** statistically significant at 0.01 and 0.05 levels ,which clearly shows that there will be a difference in level of knowledge regarding effects of junk foods consumption between urban and rural school children.

The results shown that knowledge on practices regarding effects of junk food consumption of urban school children the Mean 11.20(56.22%) and SD 1.44 were obtained, where as in rural school children the Mean 8.72(43.77%) and SD 1.84 were obtained respectively. The independent t-value 8.305** statistically significant at 0.01 and 0.05 levels ,which clearly shows that there will be a difference in level of knowledge on practices regarding effects of junk foods consumption between urban and rural school children.

Overall knowledge and practices regarding effects of junk food consumption of urban school children the Mean 17.88(56.97%) and SD 1.915 were obtained, where as in rural school children the Mean 13.50(43.02%) and SD 2.60 were obtained respectively. The independent t-value 11.526** statistically significant at 0.01 and 0.05 levels ,which clearly shows that there will be a difference overall level of knowledge and practices regarding effects of junk foods consumption between urban and rural school children's

V. CONCLUSIONS

The present study aimed at comparing the knowledge regarding effects of junk food consumption between urban and rural areas among school children, Tirupati. A descriptive research method was adapted for the present study with a sample size of 100. present study were supported of earlier study was conducted on intake regarding knowledge and practices of school children between urban and rural in tabriz. A comparative study of 487 students from 16 schools. Data was collected by questionnaire. The results were obtained

knowledge of urban school children the Mean and SD 22.4 &16.49, where as in rural school children the Mean and SD42.6 &25.68 were obtained respectively and practices of urban school children the Mean and SD 87.8&31.95 were obtained where as in rural school children the Mean &SD 104.6 & 28.34 were obtained respectively .There was a significant difference at $P<0.05$ level. The results revealed that nutritional education plays a important role in improving the knowledge and practices on effects of junk food .

This study demonstrated that there was statistical significant difference of knowledge and knowledge on practices regarding effects of junk food consumption between Urban and Rural area school children at level $P< 0.01$.In community, especially in schools as a school health nurse, nurses should take part to improve the nutritional status of the children an prevents from the many diseases, there is a need for the provision of health education programme .The findings of the study have implications in various areas of nursing like nursing service and practice and nursing education, nursing administration and nursing research. Based on the obtained findings, researcher was prepared the information booklet on effects of junk food consumption and suggestion to prevent of ill effects of junk food consumption. Hope it may be useful for their further future also.

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