

## Fast Food Consumption Pattern and its Influencing Factors: A Cross Sectional Study Among Rural Children in Managloru, Karntaka

Saba M Mansoor<sup>1</sup>

Hemant Kumar<sup>2</sup>

Heena Lalwani<sup>3</sup>

<sup>1</sup>Assistant Professor, Community Medicine, KIMS, <sup>2</sup>Prof. and HOD, Community Medicine, <sup>3</sup>Clinical Tutor, Medicine, AJIMS and RC, Mangalore, India.

**Corresponding Author:** Hemant Kumar, Prof. and HOD, Community Medicine, AJIMS and RC, Mangalore, India.

**E-mail:** doctorhemantkumar@gmail.com

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### Abstract

Fast food culture is an emerging trend especially among younger generation all over the world. Globalization of fast food which has little nutritional value, but high calorie content, has led to multiple health problems among them primarily, overweight and obesity. Several studies suggest that inappropriate dietary practices, low physical activity and family history of obesity are risk factors for childhood overweight and obesity. *Objectives:* To assess fast food consumption pattern and its association with overweight and obesity among rural children between 6–18 years of age. *Method:* Present study was a community based cross sectional study conducted over a period of one month from 01 May to 31 May 2018, among children aged 6–18 years, in the rural area of, Mangalore. Convenience method of sampling was used and a total of 100 children were selected using random sampling method. *Results:* Majority of the participants (54.3%) consumed fast food every day. Further, 23.7% of the study children were found to be overweight while 12.6% were obese. Majority of participants (87. %), were influenced through television commercials, while the most common reason (74%) for fast food consumption was its great taste. The prevalence of fast food consumption was found to be significantly less (3%) among children from families with higher levels of education, and the same as found to be statistically significant ( $p < 0.001$ ). *Conclusion:* Fast food consumption is a growing menace in India leading to life style disorders among children. Needless to say that there is an urgent requirement for bringing out behavioral changes in this regard, especially among our children and adolescents. As children are the assets of the nation, nutrition rich food habits should be established among them to build a healthy nation.

**Keywords:** Fast food; globalization; rural; obesity.

### Introduction

Fast foods are defined as an energy dense diet that are rich in energy content, fat, sugar and low in nutrients.<sup>1</sup> Its consumption is an emerging trend among younger generation all over the world. Initially, developed countries were the culprit but now the scenario became common in developing countries as well. According to a study conducted in India it was observed that 95.9% of the students preferred to consume junk food.<sup>2</sup>

There are many factors that influenced people to adopt the changing unhealthy dietary pattern which includes ready availability, delicious taste, peer pressure and television advertisements. Students spend most of their time in educational institutions and easy availability of fast food in school canteens lead to junk food consumption. It is also gaining popularity among nuclear families as working parents do not get enough time to prepare meal at home; they tend to follow unhealthy diets.

Several studies have brought out that that economic development pushes populations through a “nutrition transition” while children from high socio-economic status prefer fast food over their traditional food. A positive correlation of increased fast food consumption, skipped breakfast and increased body mass index was found among adolescents. Further, consumption of fast food has both short and long term ill effects on health and is often associated with childhood obesity. Other health problems include hypertension, diabetes, cardiovascular disease and cancer which show up later in life.<sup>3-8</sup>

With this background, a study was undertaken in rural part of Mangalore to assess the pattern of consumption of junk food among children aged 6–8 years and its correlation with some selected demographic variables.

**Methods**

Present study was a community based cross sectional study undertaken during a period of one month from 01 May – 31 May 2018. Convenience sampling method was adopted and a sample size of 100 was selected. Children between 6 to 18 years of age who are residents of that area were enrolled while those unwilling and suffering from acute illnesses were excluded from the study.

**Results**

Total of 100 children were included in the study. Various criteria like socio-demographic profile, education status, religion, family profile, reason for liking junk food by the participants, junk food consumption pattern of study population, source of misinformation about junk food, awareness about consequences of junk food consumption by the study population, parents occupational status, emotional status of study population when eating junk food, nutritional assessment of children.

The study brings out that majority (54%) of the study participants consumed junk food more than twice a week. Majority (68%) of the study participants were influenced through television commercials. The most common reason for the consumption of junk food by study population was its great taste (88%). In our study 31% of study population was aware of consequences of junk food.

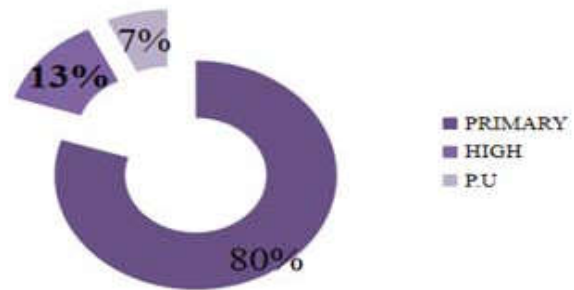
A. *Sociodemographic profile:* The data shown in Table 1 depicts socio-demographic profile of study population where 60% of participants belong to age group 14–18 years. 55% of participants are male and 53% of participants belong to class 3 according to modified B.G. Prasad socioeconomic classification.

**Table 1:** Socio demographic profile of study population (n=100)

| SOCIO DEMOGRAPHIC PROFILE                                 | NO OF CHILDREN | PERCENTAGE |     |
|---|----------------|------------|-----|
| AGE   | 6-9            | 11         | 11% |
|   | 10-13          | 23         | 23% |
|   | 14-18          | 66         | 66% |
| GENDER  | MALE           | 55         | 55% |
|   | FEMALE         | 45         | 45% |
| SOCIO-ECONOMIC STATUS (MODIFIED BG PRASAD CLASSIFICATION) | CLASS-1        | 8          | 8%  |
|   | CLASS-2        | 14         | 14% |
|   | CLASS-3        | 53         | 53% |
|   | CLASS-4        | 14         | 14% |
|   | CLASS-5        | 11         | 11% |

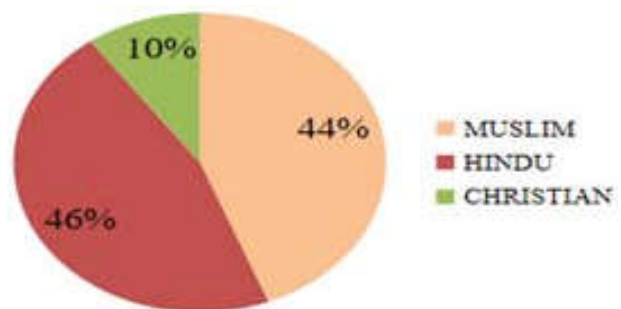
B. *Educational status:* The data regarding education status of study population depicted in Fig. 1 shows that 80% were educated till primary school, 13% were educated till high school and 7% were educated till PU.

**Fig. 1:** Educational Status of study population (N=100).



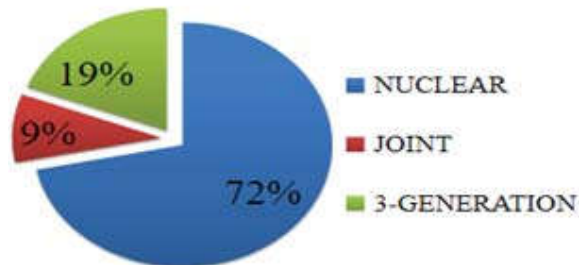
C. *Religion:* The data shown in Fig. 2 depicts that among the 100 study participants, 44% belong to Muslim religion, 46% belong to Hindu religion and 10% belong to Christian religion.

**Fig. 2:** Religion wise distribution of study population (n=100).



D. *Type of family:* Figure depicts the family composition of study population in which 72% belong to nuclear family, 19% belong to joint family and 9% belong to 3-generation family.

Fig. 3: Family profile of study population (n=100).



E. *Reason for liking junk food by the study population:* Data shown in Table 2 depicts the reason for liking junk food by the participants. 88% likes junk food because of delicious taste, 6% because of attractive restaurant, 2% due to peer pressure remaining 1% because of variety of choice.

Table 2: The reason for liking junk food by the study population(n=100).

| Reason                   | Frequency | Percentage |
|--------------------------|-----------|------------|
| Delicious taste          | 88        | 88%        |
| Attractive advertisement | 1         | 1%         |
| Attractive restaurant    | 6         | 6%         |
| Variety of fast food     | 1         | 1%         |
| peer pressure            | 2         | 2%         |

F. *Junk food consumption pattern:* The data shown in Fig. 4 depicts junk food consumption pattern of study population. In which 54% of study population consumed junk food more than twice a week, 25% of study population consumed junk food twice a week and 21% of study population consumed junk food once a week.

Fig. 4: Junk food consumption pattern of study population(100).



F. *Sources of misinformation about junk food:* The data shown in Table 3 depicts the source of misinformation about junk food, 68% of study

population get misinformation from T.V, 11% get misinformation from news paper, 8% get misinformation from internet and 13% from other sources.

Table 3: Sources of misinformation about junk food for the study population(n=100).

| SOURCES               | NO OF CHILDREN | PERCENTAGE |
|-----------------------|----------------|------------|
| TV                    | 68             | 68%        |
| NEWS PAPER & MAGAZINE | 11             | 11%        |
| INTERNET              | 8              | 8%         |
| OTHER                 | 13             | 13%        |

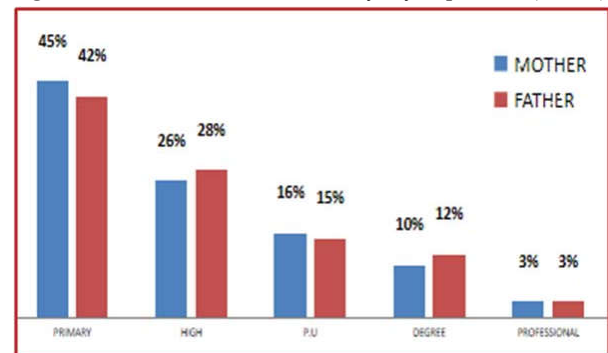
G. *Awareness about consequences of junk food consumption:* The data shown in table 4 depicts the awareness about consequences of junk food consumption by the study population in which 31% were aware about the consequences of junk food consumption and 69% were completely aware of the consequences of junk food consumption.

Table 4: Awareness about consequences of junk food consumption (n=100).

| knowledge          | Number of children | Percentage |
|--------------------|--------------------|------------|
| Aware              | 31                 | 31%        |
| Completely Unaware | 69                 | 69%        |

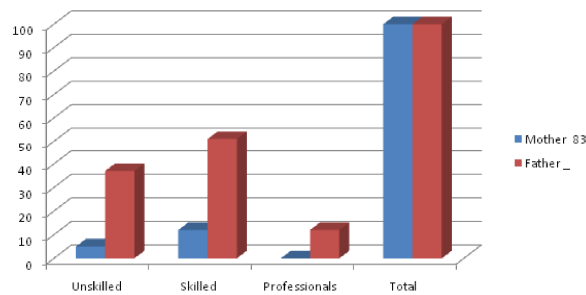
H. *Parents educational status:* The data shown in Fig. 5 depicts the frequency of fast food consumption was the least in children whose parents had professional education (3%). It is statistically significant.(p<0.01).

Fig. 5: Parents Educational Status of Syudy Population (N=100).



I. *Parents occupational status:* The data shown in Fig. 6 depicts that 83% of mothers are homemakers, 5% of mothers and 37% of fathers are unskilled laborers, 12% of mothers and 51% of fathers are skilled labourers, 12% of fathers are professionals.

Fig. 6: Parents occupational status of study population (n=100).



J. *Emotional status of the study population when consuming junk food:* The data shown in Table 5 depicts emotional status of study population when eating junk food, where 45% consume junk food when they are bored, 29% consume junk food when they are depressed, 20% consume junk food when they are hungry and 6% consume junk food when they are worried.

Table 5: Emotional status of the study population when consuming junk food(n+100).

| Emotional status | Frequency | Percentage |
|------------------|-----------|------------|
| Bored            | 45        | 45%        |
| Feel depressed   | 29        | 29%        |
| worried          | 6         | 6%         |
| hungry           | 20        | 20%        |

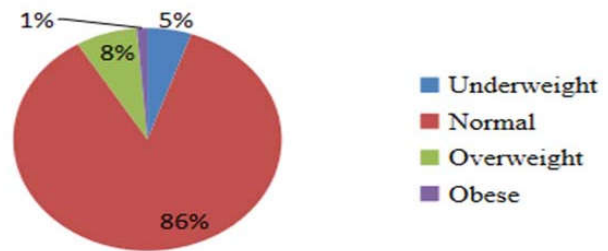
K. *Places where the study population eats junk food:* The data shown in Table 2 depicts places where students popularly have junk food 38% of subjects prefer home. 43% subjects prefer restaurants. 15% prefer roadside stalls and 4% consume junk food at parties.

Table 6: Places where the study population eats junk food (n=100).

| Place of eating junk food | Frequency | Percentage |
|---------------------------|-----------|------------|
| Home                      | 38        | 38%        |
| Restaurants               | 43        | 43%        |
| Parties                   | 4         | 4%         |
| Road side stands          | 15        | 15%        |

L. *Nutritional status:* The data shown in Fig. 7 depicts the nutritional assessment of children according to BMI according to revised IAP classification of 2015 children BMI (2–20), were 86% of study.

Fig. 7: Nutritional status of study population (n=100).



M. *Steps to curb junk food consumption:* The data shown in Table 7 depicts parents opinion to reduce junk food consumption where, 67 % is of the opinion to prohibit advertisements regarding junk food, 13% is of the opinion that to charge extra tax on junk foods, 10% is of opinion that outlaw sale of energy drink for < 18 yrs and 10% is of the opinion that show all ingredients accurately on the pack.

Table 7: Steps to curb junk food consumption according to parents opinion (n=100).

| Activities to reduce junk food consumption | Frequency | Percentage |
|--|-----------|------------|
| Prohibit Advertisements                    | 67        | 67         |
| Higher Tax on Junk food                    | 13        | 13         |
| Ban on Sale under 18 children              | 10        | 10         |
| Display of ingredients accurately          | 10        | 10         |

N. *Opinion of study participants to selected questions:* In our study 8% of participants said they are provided with midday meal at school, while the rest 82% are not provided with the same, 20% of the participants used to have junk food from school canteen, while the rest 80% do not, 73% of participants report junk food as being addictive while the rest 27% were not aware of this, 69% were not aware of the fact that frequent consumption of junk food may cause obesity, only 38% of participants were willing to change their eating habits, 74% of participants skipped breakfast twice per week, 100% of participants used to watch TV while having food out of which 68% spends one hour on TV while having food, 54% of participants used to have food with family members once daily.

Discussion

In our study among fast food consumers 8% belongs to class I, 14% belongs to class II, 58% belongs to class III, 14% to class IV, 11% to class V according to modified BG Prasad socioeconomic classification. In a study done by SINGH et al in 2010 at Santa Monica, on the topic correlation between



family socioeconomic status and consumption of fast food in north America, 20% of children in high socioeconomic status were consuming fast food compared to 14.75% of children in low socioeconomic status.<sup>9</sup> However it is not significant in our study (p value=0.2264).

According to our study 83% of mothers are homemakers, 5% of mothers & 37% of fathers are unskilled labourers, 12% of mothers and 51% of fathers are skilled labourers, 12% of fathers are professionals. In a study conducted by Sonia A Grier et Al in 2008 Washington, U.S.A; showed that 68% of them had professional degree 41.7% had high school degree and 26% had qualification less than high school degree<sup>10</sup>. However it is not significant in our study (p value=0.26).

In our study 42% of fathers had education till primary, 28% had education till high school, 15% had education till PU, 12% had a graduation and only 3% had post graduation. In our study 45% of mothers had education till primary 26% had education till high school, 16% till PU, 10% of them were graduated and 3% of them were post graduates. In a study conducted by Sonya. A. Grier et al in 2008; 68% of parents had professional degree, 41.7% had high school degree and 26% of them had qualification less than high school degree.<sup>11</sup> However it is not significant in our study (p value=0.626). In our study 5% children are underweight, 81% are normal, 7% are overweight and 7% are obese according to revised IAP classification of 2015 for BMI of children (2 year-20 years). In a study conducted by Avula Laxmaiah et al 2012 at Hyderabad the overall prevalence of obesity was 6.8%, overweight 33.5% among boys and girls respectively.<sup>12</sup> However it is not significant (p value=0.2357).

In our study 69% of children are not aware of consequences of junk food and 31% are aware of consequences. In a study conducted by Ashlesha Datar, et al, in 2012 at Santa Monica USA, 30% students said they are completely aware of consequences of junk food 54% of them were partially aware, 16% of them were completely unaware of chemicals present in junk food<sup>13</sup>.

In our study when we asked students about the factor that influence them in fast food intake, 88% opted for taste, 1% for lack of cooking skills, 10% for easy availability, 1% eat with their friends. In a study conducted by Kanika Arora et al in 2014 at Delhi, when students were asked to select the factor that influence them in selecting fast food 41% opted for taste, 35% due to ease in availability and less time consuming.<sup>5</sup>

In our study 73% of participants report junk food as being addictive while the rest 27% were not aware of this. In a study conducted by Kanika Arora et al in 2014 at Delhi, 44% children consider junk food as addictive, 29% considered as non addictive and 29% were not able to answer.<sup>5</sup>

In our study 54% consume fast food more than twice a week, 25% thrice a week, 21% once a week. In a study conducted by Nora A. Al Faris, Riyadh, Saudi Arabia in 2012 in Riyadh, 26% of them opted for fast food for more than one time a week, 45% of the students opted for twice a week and 29% of them for once a week.<sup>6</sup>

In our study 68% watch junk food advertisement in television, 11% newspaper and magazine, 8% in internet and 13% in public. In a study conducted by Naheed Vaida in 2013 at Srinagar, Jammu Kashmir, 67.9% watch advertisement on TV, 6.7% on newspaper or magazine and 9.02% on other sources<sup>14</sup>.

In our study 6% consume junk food when they are worried, 45% when they are bored, 29% of them consume when they are lonely, 20% of them consume when they are hungry. In a study conducted by Asha Kiran et Al in 2018 at Karnataka, India, 56.2% ate fast food when they are bored, 28.8% ate when they feel depressed and 22.7% ate when they are worried.<sup>17</sup>

In our study among the fast food consumers 46% were Hindus, 44% were Muslims and 10% of them were Christians In a study done by N. Amidu in 2013 at Ghana, among the fast food consumers 54% were Muslims, 35% were Christians and 11% were Hindus.<sup>15</sup>

In our study 55% of fast food consumers were male and 45% were female. In a study done by Ghazi Daradkeh in 2018, on the topic of gender variation in the consumption of fast food in the state of Qatar showed that 63% males and 36% females consumed fast food.<sup>7</sup>

In our study 38% of them consumed fast food at home, 43% at restaurants, 4% at parties and 15% at road side. In a study conducted by Bowman in 2008 at United states, 88.2% ate fast food at restaurants and 10% ate fast food at home and less than 2% ate fast-food from road side.<sup>16</sup>

## Conclusion

The junk food consumption in rural area have been increased a lot. People prefer junk food over fruits. The taste, color, easy availability, cheap

price of junk food have influenced people a lot. Children are less aware about the consequences of junk food. However most of parents are aware of consequences of junk food and they expressed their interest in implementing activities against junk food intake. They feel TV advertisements have a great role in increasing junk food intake. They expressed their interest in changing their food habits. Most of them were of the opinion that by prohibiting junk food advertisements during child programmes may create a great impact in decreasing junk food intake.

#### Recommendations

1. Prohibit advertisements of junk food during children programs.
2. Eating out or watching TV while eating is associated with a high intake of fast food.
3. Government and social policies could also potentially promote healthy feeding policies such as taxing unhealthy food.
4. Availability and repeated exposure to Healthy food is key to develop preference and can overcome dislike of healthy food.
5. Mealtime structure is important with evidence suggesting that families who eat together consume more healthy food.
6. Providing incentives for distribution of inexpensive healthy food (such as Anganwadi's and mid day meal).
7. Investing in convenient recreational facilities or the aesthetic quality of neighborhood (as proposed by national taskforce on obesity).

#### Limitations

Present study had the limitation which are inherent to all cross sectional studies, as no follow up was done of these children. Further no comparison could be done with their urban counter parts as the study was limited to rural area only, sample size was small and recall bias etc cannot be ruled out. Hence the findings of the study cannot be generalized.

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*Institutional Ethical Committee Approval:* Approval of institutional ethical committee was taken before the conduct of the study.

#### References

1. Levitsky DA, Halbmaier CA, Mrdjenovic G: The freshman weight gain: a model for the study of the epidemic of obesity. *Int J Obes.* 2004, 28: 1435-1442.
2. Marwaha RK, Tandon N, Singh Y, Aggarwal R, Grewal K, Mani K. A study of growth parameters and prevalence of overweight and obesity in school children from Delhi. *Indian Pediatric.* 2012;43(11):943-52(2)
3. Nitin Joseph, Matia Neliyanil, Sharada Rai, Shashidhar M, Mansha Singh. Fast food consumption pattern and its association with overweight among high school boys in Mangalore city of south India 2015; 9:154-165.
4. Shatabdi Goon, Munmun Shabnam, Md. Saiful Islam. Fast food consumption and obesity risk students of Bangladesh 2014; 2:99-104.
5. Kanika Arora, Nidhi Talwar and Sudheer. Junk food survey among the students from Shri ram high school, Delhi 2014; 78:96-119.
6. Nora A. AL Faris, Jozaa. Al Tammi, Moneera O. Al-Jobair and Naseem. Trends of fast food consumption among adolescent Saudi girl, *Riyadh* 2015; 59:244-270.
7. Ghazi Daradkeh, Asma Al Muhannadi, Chandra P, Moudi Al Haq. Gender variation in the consumption of fast food leading to obesity in Qatar 2018; 1:6-18.
8. Cheryl Tay, Ian A Myles, Mogre, Marsh S Howard. Junk food consumption in India 2018; 58:614-635
9. Singh, Manish Narang, Ankit Parakh, Pooja R, Ranapratab . Correlation between family socioeconomic status and the consumption of fast food in north America 2010; 5:45-54.
10. Sonya A Grier, Janel Mesinger, Shirley H Huang. Parents influence in fast food marketing. *Journal of public policy and marketing* 2012;26:222-229.
11. Avula Lakshmay, Balakrishna Nagalla, Kamasamudram Vijayaraghavan, Mohanan Nair. Factors affecting prevalence of overweight among 12 to 17 year old urban adolescents in Hyderabad, India 2012; 15:154-160.

12. Ashlesha Datar, Nancy Nicosia. Junk food in school and childhood obesity. *Junk food management* 2012;31:9-13.
  13. Jayashankar Kaushik, Manish Narana, Ankit Parek, Delhi, India. Fast food consumption in children. *Quality assessment of nutrition* 2011;48:96-99.
  14. Dr. Naheed Vaida. Prevalence of fast food intake among urban adolescent girls, *International journal of engineering and science* 2013;2:355-357.
  15. N. Amidu, M. Saaka. Determinants of obesity among school children, *Journal of medical and biomedical science*,2013; 2:26-34.
  16. Bowman, Marshal K, Williams, Helen C. Looker. Study on impact of fast food consumption and increased calorie intake on systemic review of a trajectory towards weight gain and obesity risk in United States 2008; 24:245-260.
  17. Asha Kiran, Dipthi. R. Fast food and their impacts on health, *Journal of Krishna Institute of medical university*,2012;1:9-11.
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