

Review Article

Fast-food consumption among Indian adolescents and associated factors

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ABSTRACT

Fast food consumption is on a rise among adolescence in India and this age group is also facing the double burden of malnutrition. Fast foods are an unhealthy food choice and are associated with increasing obesity and related non-communicable diseases at a young age. India has the largest adolescent population and the health and nutrition issues of this group need to be addressed. Ironically children and teenagers who require more healthy nutritious food constitutes the largest population preferring fast foods. There is need to gain a clear insight on the issue in Indian context therefore the current paper was undertaken to study the scale of the problem, along with factors contributing to rising fast-food consumption among adolescent in India. The review primarily focused on existing Indian studies pertaining to the issue. Available studies report high prevalence of fast-food consumption and lower than recommended consumption of fruits, green leafy vegetables and dairy products which is likely to result in higher calorie consumption and lesser intake of protein, vitamins, minerals, dietary fibre and phytochemicals in respondents. Both urban and rural adolescence show rising trends of fast-food consumption. It is higher among the urban counterparts. Studies establishing association between overweight/obesity and junk food/fast food consumption in this age group could be sighted. Studies reported taste, affordability, availability, advertising and marketing, parental influence, nuclear families and working mothers, peer pressure and meal skipping to be the contributory associated factors.

Keywords: Fast food consumption, Adolescents, Calories, Overweight

INTRODUCTION

Fast food consumption is on a rise among adolescence from in India. It has found its place in the diets of adolescents and is popular among the younger generations. Fast foods are an unhealthy food choice, containing high calories while lacking other important nutrients, fiber and phytochemicals. Guidelines have been formulated by the Indian academy of Paediatrics regarding fast food as these foods are associated with increasing obesity and related non-communicable diseases at a young age. The term fast food is used for foods that are prepared and served quickly and typically refers to food sold at restaurants or other outlets with pre-cooked ingredients an served to consumers in Packaged

from to facilitate take away.¹ Fast food is produced in large quantities for profit-oriented sales with much emphasis on quick delivery.

Generally, while making fast food little priority being given to sound food preparation practices and nutrition. Fast foods are energy dense and also contain high amount of fat, salt and sugar. However, these foods generally are poor sources of protein, vitamins and minerals and can also be termed as energy dense low nutrients density foods.² Fast food consumption has positive association with increase in weight and insulin resistance. Obese children are more likely to remain obese adults, and they are also more likely to develop diseases such as diabetes, heart disease and cancer at a younger age.³

Several factors contribute to the rising fast food consumption trend among adolescents in India. Traditionally in different regions of India the diet was based on locally available foods. Almost every Indian state has some unique traditional recipes which were based on the foods that were locally available. Such local food-based recipes added variety to the diet and contributed to enhancing its nutritional value. These home-cooked meals were low in calories and supplied variety of micronutrients and phytochemicals. Also, these meals were more wholesome, and hygienic compared to fast foods. The concept of home cooking was supported by family structure, tradition, and religion. However, as trends of urbanization and westernization continue to rise in the country, a shift is being witnessed in the food consumption pattern of the urban Indian families.⁴

Rising fast food industry and expanding fast food culture is a worldwide phenomenon. In 2019 the global fast food market size was valued at USD 527 billion which is expected to rise to USD 750.08 billion by 2031 with a cumulative average growth rate of four percent for the period of 2024-2030.⁵ The Indian fast-food industry is expanding at the rate of 40% every year and India holds 10th position on per capita fast-food spending. Multinational fast-food companies have rapidly proliferated in the Indian food market.⁶

According to Goyal and Singh a substantial increase has been witnessed in the Indian fast food consumption pattern. The fast-food industry is adapting itself to Indian requirements and taste.⁷ Its gaining acceptance mainly by the younger generation.⁸ Various factors such as taste, ready availability, appealing appearance, peer pressure, targeted marketing and advertisements strategies contribute to increasing fast food trends among the younger generations. Fast food consumption has been implicated as one of the reasons for rising obesity rates among children.

Adolescence is a transition phase in life leading to maturity. The period ranges from puberty to early adulthood. It is a growth spurt period where foundations of several behaviour and aspects of human developments are laid down. Several physical, mental, emotional and social changes occur during this period. Adolescence is an important stage for inculcating proper dietary habits. Food habits inculcated in childhood and adolescence go a long way in shaping the nutritional status and health of an individual later in life. So, it is extremely important to foster appropriate dietary habits and make to children aware about healthy food choices and health hazards associated with fast food consumption.⁹

India was home to 268 million adolescents (in 2019) in the age group of 10-19 years. India has the largest adolescent population.¹⁰ This age group constitutes 21 percent of the Indian population. Health and nutrition issues of this important group need to be addressed for meeting their growth and development needs.

Adolescence in India face nutritional disorders such as malnutrition, obesity, anaemia etc. There is lack of data with respect to the nutritional needs of 10–14-year-old adolescence. available Studies focus more on adolescent girls than on boys of this age group. Globalization and Westernization in developing countries, has led to drastic change in adolescents eating patterns.¹¹ Adolescence also offers an opportunity to be establish the right eating habits. Ironically children and teenagers who require more healthy nutritious food constitutes the largest population preferring fast foods. The problem of rising prevalence of childhood obesity has been witnessed globally including the low-and middle-income countries.¹² Adolescents in their busy hurried lifestyles might easily opt for fast food as a dietary choice than a home cooked meal. In the current scenario India faces the double burden of malnutrition. UNICEF's World Obesity Atlas predicts that India will have over 27 million obese children by 2030. According to World Obesity Atlas during 2020-2035 an annual increase of 9.1 percent will be witnessed in India in childhood obesity.^{13,14}

As fast-food culture continues to rise in the developing countries such as India there is need to gain a clear insight on the issue therefore the current paper was undertaken to study the scale of the problem, along with factors contributing to rising fast-food consumption pattern among adolescent in India.

FAST FOOD CONSUMPTION AMONG ADOLESCENTS GLOBALLY

Secondary analysis of a multi-country cross-sectional study found that fast food consumption was high in childhood and increased in adolescence. Half of the adolescents included in the study showed frequent and very frequent fast-food consumption. This pattern of fast-food consumption was associated with higher BMI in children.¹⁵

Beal et al, attempted to get an insight on adolescent diets globally and found that adolescents generally consumed unhealthy diets, which were low in fruits and vegetables and were high in carbonated soft drinks.¹⁶ Adolescents from different countries varied substantially in their consumption of soft drinks and fast foods. Adolescents from South and east Asia was particularly infrequent in fruit consumption. The study revealed a clear trend of increasing frequency of soft drink consumption with increasing in income. In a more recent study on a large sample of children and adolescents from sixty-eight countries it was concluded that food insecurity was associated with fast food consumption in low- and middle-income countries but not in high income countries.

Fryer et al, reported that 36.3% of children and adolescents in United States consumed fast food on a given day during 2015-2018 and they derived 13.8% of their daily calories from fast food on a single day.¹⁷ In

another study on junk food intake of children and adolescents belonging to the United States it was reported that between 2003-2006 and 2013-2016 a decrease of almost 10 percentage point was observed in the consumption of junk food. However, they were still deriving >70 per cent of the total calories and >90 per cent of total sugars from junk food during 2013-2016.³ A German study by Moosburger et al, reported relatively high fast-food consumption along adolescent boys and girls.¹⁸ On an average girls consumed 400 grams and boys 600 grams of fast food per week. Almost 23 per cent of the respondents (12-17 years) derived at least 10 per cent of their daily calories through fast food. The consumption of energy drink among Norwegian adolescent was high and respondents consuming it were 52.3 percent. Compared to girls, boys consumed twice as much energy drink and male consumers were 3.7 times higher.¹⁹

In an Australian study by Savige et al, it was reported that 22 percent of the selected adolescent children reported that they consumed fast foods every day.²⁰ Food intake of significant proportion of adolescents fell short of the recommendations of the Australian guide to healthy eating. Daily fast-food consumption and exclusion of healthy foods were the implicated reasons for increasing obesity among adolescents. Scully et al, in their study on Australian secondary school students found that male gender, living in areas of low socio-economic status and metropolitan locations, having more weekly spending money and working at a fast-food joint were independently associated with consuming fast food once a week or more frequently.²¹

In a cross-sectional study by Alfari et al on adolescents' girl (13-18 years) belongings to Saudi Arabia, a high prevalence of fast-food consumption was reported.²² It was found that 79.1 percent respondents ate fast food at least once a week and most of the respondents had a lower intake of Protein, Riboflavin, Iron, and Sodium. Mumena et al, in their study on adolescents from Saudi Arabia found that approximately one third of the adolescents reported frequent fast-food consumption (> two times a week).²³ Compared to female adolescents' male adolescents frequently consumed fast food and adolescent with higher monthly family income also had higher frequency of fast-food consumption.

Akinola, in a study conducted in Idadan among adolescents found that fast food and carbonated drinks were always available for snacking at the homes of 55.6 percent respondents and about 13.3 percent of them had not consumed fresh fruits and vegetables for the past seven days.²⁴ Additionally, 12 percent and 20.1 percent of the respondents reported that fruits and vegetables were never or rarely available to snack on. These sub optimal dietary habits could be determinants of obesity and other chronic diseases in adulthood.

According to Li et al, most low- and middle-income countries are encountering a rising prevalence of fast-

food consumption and several malnutrition-related problems among adolescents.²⁵ The study pointed out the urgent need to implement healthy diet promotion programs for health improvement in this age group. Onyiriuka et al, in a study conducted on urban adolescent schoolgirls from Nigeria and reported that 60.2 per cent of the respondents consumed fast food at least once a week and 76.4 per cent of these respondents ate fast food along with soft drink.²⁶ The study also revealed that the prevalence of both overweight and obesity was higher among adolescents' girls who skipped meals compared to peers not skipping meals.

Studies clearly indicates a rising trend in fast food consumption among adolescents globally. The fast-food consumption trends are also on the rise in most low- and middle-income countries. Studies also indicate that such trends are associated with several metabolic risk in adolescents.

PREVALENCE AND TRENDS OF FAST-FOOD CONSUMPTION AMONG INDIAN ADOLESCENTS

Fast food is gaining popularity among the children and adolescents in India and this age group is also facing the double burden of malnutrition. Fast food consumption adversely effects the physical and mental health of adolescents. Lack of physical activity along with frequent consumption of fast food and junk food are reasons leading to the development of obesity. Singh et al, in their study on adolescent children (12-18 years) belonging to New Delhi reported inappropriate dietary habits such as fast-food consumption and low fruit intake among them.

These urban adolescents showed higher level of experimentation with alcohol and a lesser extent with smoking.²⁷ Kanjilal et al, in their study on 1600 adolescent school children from Delhi reported that late adolescents had a higher tendency to develop incorrect dietary habits. Consumption of milk and milk products, green leafy vegetables and fruits was found to be lower among these adolescents. Amin et al, in an Indian study on 16-20-year-old respondent it was revealed that 54.90 percent respondents consumed fast food twice a week and having junk food was associated with pleasure, company of friends, independence, affordability and convenience.⁴ The respondents had reached borderline BMI and were nearing obesity.

In a study conducted by Sukhwal and Verma on fast food consumption among adolescent girls from urban and semi urban area (Jaipur and Bhunas) it was reported that compared to semi urban respondents (20 %) more urban respondents (45%) were eating outside in a week. In a study conducted in Jaipur on 180 school going adolescent children (10-18 years) the prevalence of overweight and obesity in male and female children was found to be 32.65 and 34.15 percent respectively. It was observed that

98.33 percent of overweight and 85 percent of obese adolescents consumed fast food. Fast food consumption and hours of physical activity were significantly associated with BMI.³⁰ Meena and Verma evaluated fast food consumption of school going adolescents' girls in Jaipur city and reported that most of the respondent belonged to upper income group and maximum respondent spent money on fast foods. Burger, Pizza, carbonated beverages, ice-creams, shakes, chowmin, pasta etc. were some of fast-food items offered by the school canteen.³¹ It was also revealed that 25 per cent of the respondents missed breakfast every day and 21 per cent consumed canteen snacks every day and these respondents also had higher BMI than the others. Kotecha et al, in their study on school going urban adolescents from Baroda reported fast food consumption by nearly one third of the respondents.³² Although most of the adolescent respondents were aware of the harmful effects of fast foods. They accepted that they ate such foods when they were out with friends.

A study conducted by Rathi et al, on 1026 urban adolescents (14-16 years) attending private English medium schools in Kolkata reported frequent consumption of energy rich, nutrient lacking foods and less consumption of pulses (59%), Fruits (45%), vegetables (30%), and non-vegetarian foods (52%) by the respondents.⁶ These adolescents frequently consumed sugar- sweetened beverages however, they excluded variety of healthy foods from their diet. Such poor dietary habits increased the risk of developing chronic degenerative diseases among them.

An epidemiological study was carried out by Manna et al at an adolescent clinic in Kolkata and 178 adolescents were included in the study.⁶ It was found that 82 percent of the respondents has consumed junk food in the past week. More than 49 percent respondents consumed junk food with their family and 22.47 percent were overweight. An association of overweight and obesity with junk food was established in the study and awareness on ill effects of junk food consumption was comparatively less.

Rathi et al, in their study evaluated the attitude of parents and nutrition educators on food habits of adolescents studying in English-speaking schools of Kolkata and reported that 75 per cent of the respondents were not satisfied with ubiquitous consumption of calorie-dense, nutrient poor foods and sweetened beverages. They were also concerned about lower intakes of fruits and vegetables among urban adolescents.³⁴

In urban and semi-urban adolescent students belonging to Guwahati it was found that 56 per cent of the respondents did not carry packed lunch with them and ate fast food items for lunch. The study also reported that 94 per cent of the respondents replaced at least one of their meals with fast food and 6 per cent replaced more than two meals with fast food. The study stressed on the need for

nutritional counselling to promote healthy eating behaviour.³⁵

Mahajan et al, in their study on urban and rural adolescent boys (16-18 years) found that majority of the urban adolescent boys (96%) had in-between meals in comparison to rural adolescent boys (61%). Mean frequency scores of consumptions of fast food was also higher among urban subjects.³⁶

Differences have been observed in urban and rural consumption of processed and fast foods, with urban households consuming more processed foods and foods away from home than rural households. Families in the greater metropolitan areas consumed more such foods in comparison to families in smaller non- metro urban areas. Urbanization was implicated as one of the factors that affected food consumption and urban fast food consumption is a challenge to nutrition security.³⁷

FACTOR ASSOCIATED WITH RISING FAST-FOOD CONSUMPTION AMONG ADOLESCENTS IN INDIA

Some of the major factors contributing to rising fast food consumption among Indian adolescents are as follows.

Taste

Adolescents are fascinated by the taste of fast food which includes fried and roasted food items. Good taste and easy availability were the reasons for preferring fast food over home cooked food.³⁸ According to Joseph et al, most of the respondents choose fast food because they were bored with home-cooked food.

Though fast-food tastes good it is poor dietary choice in terms of nutritive value. Association of Adolescent and Child Care India conducted a cross-sectional study in a Co-ed school in Delhi and concluded that the first and foremost reason for choosing fast food was taste as reported by 78.8 percent boys and 72.3 percent girls. However, differences were seen in the food choices with girls consuming more sweets while boys consuming high salt foods.³⁹

The rapidly growing multinational fast-food industry in India in an effort to well establish itself has modified its menu and adapted to suit the Indian taste. Multinational food companies are focusing on Indianizing their menu options and are concentrating on local taste to gain acceptance by Indian consumers. On the other hand, several Indian restaurants are incorporating international cuisines to their menu to satisfy the demand for western cuisine.⁴⁰ The MNC McDonald skillfully modified its menu offerings which are appealing to the Indian taste and this has favored McDonald's in successfully establishing itself.⁴¹ A comparative study evaluated the consumption of Indian fast foods and western Fast foods among teenagers reported that a high majority of girls

(87.6 %) and boys (86.8 %) liked fast foods almost equally.⁴²

Affordability

Fast foods are preferred partly because of their low price and consumers are price sensitive.⁶ Most of the respondents preferred fast food because it was economical. Some fast food is available at a very low cost. Higher cost of fast foods discourages the intentions to purchase it, and higher price is more effective than health education in reducing its consumption.⁴³

Availability of fast food and location of fast-food restaurants

Fast food is widely available to adolescent in India, and its consumption has been increasing significantly. The food environments to which the child is exposed significantly affect the child's nutritional status. It is known that adolescents residing urban areas have higher consumption of fast-food due to easy availability and accessibility. Fast-foods are also available in semi urban areas though quality and brand may differ. Urban adolescents might be consuming fast foods of international brands whereas lesser brands and locally prepared items are available in semi urban areas.³⁵

The proximity of fast-food joints is another reason for rising fast-food consumption among adolescents. Davis et al⁴⁴ in their study found that children studying in schools with fast-food restaurants located nearby, consumed fewer servings of fruits and vegetables, however, they consumed more soda. Canteens situated within schools also offer several fast-food options to children and adolescents. Fast foods are widely available in school canteens which offer sodas, cold drinks, chips, and many other foods of low nutritional value. Libuy et al, in their study on school age children of UK found that more exposure to fast-food restaurants near homes and schools increases BMI during childhood and adolescence, the association was significant among children with maternal education below degree level.

Several fast-food joints situated within or nearby the school premises directly increase the fast-food availability to students. High exposure to fast food restaurant near home and school increased BMI during childhood and adolescence.⁴⁵ The sale of fast foods in school cafeterias often competes with more nutritious school lunch schemes. In India FSSAI has restricted the sale of junk and other unhealthy foods within 50 meters of school premises with the objective to provide safe and wholesome food to school children.⁴⁶

Advertisement and marketing strategies

Television advertisements related to food have a major influence of food habits of adolescents. The majority of food advertising on TV is watched by children and

adolescents and is related to fast and junk food. Apart from TV advertising fast food companies are also promoting their product through in-school marketing, product placement, summer school campaigns, the internet and toys with brand logos.⁴⁷

Rigorous fast-food marketing impacts the eating habits of children and adolescence. Marketers today are targeting the children as their prime consumers because of two main reasons: first, both the discretionary income of children and their power to influence parent purchases have increased overtime. Second, increase in the number of available television channels has led to smaller audience for each channel, thereby creating a growing space just for children and children's products and then doing the advertisements. Children have a huge influence on their parents' purchasing decisions and they also often determine what to buy on their own. This trend has been supported by changes in the traditional family structure.⁴⁸

Availability of food delivery apps

Nowadays consumers are getting more attracted towards online food ordering and delivery apps. The online food delivery Indian market in 2020 was valued at US\$ 4.35 billion and it is likely to show a compound annual growth rate of 30.11 percent from 2021 to 2026. Internet access and smart phone usage has facilitated in online food ordering and young adults (15-30 years) are mainly affected by this.⁴⁹ Food delivery apps in India focus on children and their family and are also focusing on rural areas apart from urban areas.

Majority of young people use online food delivery apps due to ease, customer control, attractive market and a desire to use technology.⁵⁰ These apps can be directly downloaded to smartphone which give them more accessibility. Zomato, Swiggy, food panda and just eat are some main players in this segment. Few big restaurant brands own their own delivery chain like Dominos, Pizza hut, KFC etc.⁵¹ Scientific literature pertaining to use of food delivery apps in India by adolescence and its implications are scanty.

Influence of parents and family

Dietary habits and food choices of the family influence the eating habits of adolescents. Lindsay et al, reported that during adolescence parental control on food and family dinner frequency acted as a protective factor against rise in fast food consumption.⁵² Involvement of parents in their children's food selection and health interventions can bring about positive changes or decrease in fast food consumption during adolescence. Rathi et al, in their study concluded that Indian fathers played an important role in development of healthy dietary behaviours in adolescence through various practices such as buying nutritious food, enforcing nutrition rules and providing nutrition education to adolescence.⁵³ Bautista et al, in their study concluded that

parent perceived stress, parenting stress and household chaos were each significantly associated with parent fast food consumption and parent fast food consumption was associated with children's fast-food consumption.⁵⁴

Nuclear families and working mothers

Smaller families and working mothers are significant factors generating the demand for more convenience and ready to eat fast foods. Most of working parents with school-going children in nuclear families are exhausted and often do not cook complete meals. In nuclear families where both parents are working, family members have busy and diverse schedules along with exhausting commutes to their workplaces. Adolescents in the family are engaged in school classes and activities along with tuition classes. For such adolescent children, fast food appears to be a tasty and convenient option. Karki et al.⁵⁵ in their analytical cross-sectional study conducted among Nepali adolescent children, found that respondents coming from joint families were less likely to consume junk food than those belonging to nuclear families.

Nuclear families usually lack the basic traditions and traditional foods for their family.⁵⁶ In nuclear families working women is a prominent factor affecting fast food consumption. In their study, Joshi and Chopra, et al concluded that children of working mothers consume more unhealthy fast foods. In nuclear family's home cooking is given less priority, importance is given to comfort and convenience and Fast food is also considered a status symbol. Mothers who work are more reliant on processed foods and fast foods.⁵⁷

Peer pressure

Peer pressure is one of the most common factors which affects youngsters to eat fast foods. Fast food is consumed more by adolescents under peer pressure as eating homemade food is considered to be out of trend. Peer influences impacts of peer groups, their encouragement, involvement facilitation and role models for other friends.⁵⁸ Peer group suggestion regarding choice of fast food was a major influencing factor.³² Children mostly gained knowledge about a newly introduced fast food from television and friends.⁵⁹

Meal skipping

Many children skip their meals at home. When they skip breakfast at home, they consume fast food in school. School cafeterias offer sodas, cold drinks, chips and many other foods of low nutritional value. When teens skip meals, they are more likely to grab fast food from a restaurant, vending machine, or convenience store. Batish et al on adolescence of Amritsar reported that 94.4 percent of the respondents and 58.3 percent were in a habit of skipping breakfast. Their study also revealed that positive correlation of increased fast-food consumption,

skipped breakfast and increased body mass index was found among adolescents in the study by.⁶⁰

CONCLUSION

Fast food consumption is on a rise among adolescence in India and it is popular among the younger generations. Fast foods are an unhealthy food choice, containing high calories while lacking other important nutrients, fibre and phytochemicals. Fast foods are associated with increasing obesity and related non -communicable diseases at a young age. Available studies report high prevalence of fast-food consumption and lower than recommended consumption of fruits, green leafy vegetables and dairy products in many adolescent respondents. Urbanization and westernization have influenced the food consumption pattern of Indian families.

Studies report more fast-food consumption among urban adolescents in comparison to the semi urban and rural counterparts. Depending on availability and affordability both branded and locally available fast foods were being consumed by adolescents. Smaller families and working mothers are significant factors generating the demand for more convenience and ready to eat fast foods.

Approval and acceptance of fast food by family and peers promote its consumption however, higher cost of fast foods discourages the intentions to purchase it. Fast-food joints situated within or nearby the school premises directly increase the fast-food availability to students. Food related advertisements have a major influence of food habits of adolescents and majority of food advertising on TV is watched by children and adolescents and is related to fast and junk food. Online food delivery apps extend the physical food environment. Scientific literature pertaining to use of food delivery apps by adolescence in India and its implications are scanty. Most available studies stress on the need for nutrition education on the issue.

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