Impact of Knowledge in Concern to Junk Food on Health Status

Danika Manocha[1*]; Priya Singla[2]

[*1]Research Scholar, Faculty of Engineering and Applied Sciences, Desh Bhagat University, Mandi Gobindgarh, Punjab, India

[2]Assistant Professor, Faculty of Engineering and Applied Sciences, Desh Bhagat University, Mandi Gobindgarh, Punjab, India

*Corresponding Author

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Abstract— *Adolescence, spanning ages 10–19, is a critical developmental stage marked by rapid physical, cognitive, and emotional changes. Nutritional choices during this period lay the foundation for lifelong health. However, the rising consumption of junk food—characterized by high energy density and low nutrient content—poses significant health risks, including obesity, cardiovascular diseases, diabetes, and mental health disorders. This review synthesizes evidence on the prevalence, determinants, and consequences of junk food consumption among Indian adolescents. Key influences include taste preferences, peer pressure, convenience, socioeconomic factors, and aggressive marketing via traditional and social media. Despite widespread awareness of the risks, a substantial knowledge-behavior gap persists, with many adolescents continuing to consume unhealthy foods regularly. Intervention studies demonstrate that structured nutrition education and counselling—particularly when integrated into schools and supported by families—effectively improve knowledge, attitudes, and dietary practices. By addressing both informational and behavioral determinants, targeted interventions can reduce junk food intake, promote balanced diets, and mitigate long-term health risks. This review highlights the urgent need for evidence-based strategies to transform adolescent dietary behaviors in India.*

Keywords— Junk food, Ultra-processed food, Dietary habits, Adolescence, Nutrition education, Obesity, Adolescents, India, Nutrition knowledge, Dietary behavior.

I. INTRODUCTION

Adolescence, spanning ages 10 to 19 years, is the transitional period between childhood and adulthood. It is a critical stage of development, during which the foundation for lifelong health is established. Rapid physical, mental, and emotional changes during this period influence adolescents' thinking, feelings, and choices, as well as their interactions with the environment (World Health Organization, 2025). Globalization and Western influence have shifted eating habits, prompting adolescents to favor fast foods over nutritious meals. Busy lifestyles often push youth toward convenient options. According to UNICEF's World Obesity Atlas, over 27 million children in India are projected to be obese by 2030, with a 9.1% annual rise in childhood obesity from 2020 to 2035 (Arya & Dubey, 2024).

Junk food refers to foods that are energy-dense but low in essential nutrients such as vitamins, minerals, fiber, and amino acids. Young people consume fast foods, resulting in nutrient deficiencies (Arya & Dubey, 2024). Regular consumption increases the risk of health problems, including obesity and chronic diseases (diabetes, cardiovascular disorders, cancer, and mental health issues). Sugar-sweetened beverages and diets high in trans fats are major contributors to these risks, as highlighted by disease reports (WHO Global Burden; Gauthaman, 2023).

Fast-food consumption has risen sharply across India, with the industry increasingly adapting products to local tastes and preferences. This trend is particularly evident among younger populations. Factors such as appealing taste, easy availability, attractive presentation, peer influence, and persuasive marketing have fueled the rise. Such shifts in eating habits are considered significant contributors to the increasing rates of childhood obesity (Arya & Dubey, 2024). Individuals who regularly consume these foods often have lower intakes of nutritious foods such as fruits, vegetables, and dairy products. Research from the Scripps Research Institute also indicates that eating junk food can trigger brain responses similar to those caused by addictive substances like cocaine and heroin (Singh & Pandey, 2022).

Nutrition counselling plays a key role in promoting lasting healthy dietary behaviors. Many adolescents remain unaware of the health risks linked to poor eating habits and may not consider changing their diets. Nutrition counselling aims to increase their understanding of these risks, educate them on maintaining a balanced and varied diet, and empower them to make informed, independent food choices (Mini & Malik, 2022). This paper reviews literature on adolescent junk food trends, nutritional knowledge, attitudes, and practices, highlighting gender differences and the impact of school-based nutrition education.

II. GENDER DIFFERENCES IN JUNK FOOD CONSUMPTION

Nancy et al. (2022) found that 60% of male adolescents preferred unhealthy foods, whereas 65% of female adolescents were more likely to be physically inactive. This indicated that boys tend to consume more junk food, while girls exhibit higher levels of sedentary behavior, highlighting the need for gender-specific strategies in promoting healthier lifestyles among adolescents.

Boys generally consumed more food overall, with a preference for meat and fast food. Girls favored fruits, vegetables, and healthier options. The differences became more pronounced from early to late adolescence, with girls' meal sizes decreasing over time, whereas boys' intake remained stable or increased. These patterns are attributed to gender-specific energy requirements and culturally influenced beauty ideals, with girls also more likely to engage in dieting and weight control practices to manage body image (Askovic & Kirchengast, 2012).

III. SOCIOECONOMIC AND CULTURAL INFLUENCES

Adolescents from lower socioeconomic backgrounds (60%) had limited knowledge of obesity and diabetes, leading to unhealthy dietary choices. Parental education and family income shape nutrition, while cultural norms often favor high-calorie and low-nutrient foods. These combined influences highlight the need for targeted nutritional education and culturally sensitive interventions (Panuganti et al., 2017).

Rathi et al. (2025) found that urban Indian adolescents often engaged in unhealthy snacking behaviors, such as consuming high-energy, low-nutrient foods and skipping meals. A qualitative study of 62 adolescents in Varanasi (mean age 15.3 years; 50% female; 76% private school) identified multiple influences on snacking, including taste preferences, parental rules, peer influence, cost, school and neighborhood food environments, and marketing. These findings highlighted that both socioeconomic and cultural factors shape adolescents' eating behaviors, suggesting interventions should target individual, household, and societal levels.

Moitra and Madan (2022) analyzed adolescents (10–12 years) from India and found that maternal education, family income, and availability of unhealthy snacks at home were significantly ($p < 0.05$) associated with unhealthy snack consumption. Higher family income and the presence of unhealthy snacks increased the odds of consumption, while maternal education and family meals together were linked to healthier eating habits.

Kumar et al. (2006) explored socio-cultural and nutritional aspects of fast-food consumption among teenagers and youth in Allahabad City. Cultural norms, peer influence, and availability of fast-food outlets significantly influenced adolescents' consumption patterns, contributing to the growing trend of fast-food consumption in India.

IV. INFLUENCE OF MEDIA AND MARKETING

Adolescents were more likely to recall unhealthy food ads. Strategies such as influencer promotions, visually appealing packaging, interactive games, targeted ads, and pandemic-themed campaigns make unhealthy food products more attractive. Children and adolescents could be exposed to nearly 200 junk food ads per week on platforms like Instagram, TikTok, and YouTube. Despite strong impacts, voluntary advertising rules remain largely ineffective, emphasizing the need for stricter regulations. Food and beverage companies use social media to promote unhealthy products, and healthcare professionals should educate adolescents, parents, and families while advocating for policies to limit exposure (Kucharczuk et al., 2021; Dhoke & Suraj, 2023; Lafontaine et al., 2025).

V. NUTRITIONAL CONSEQUENCES OF JUNK FOOD INTAKE

Common junk foods and beverages in India include a wide variety of fast foods and snacks from different cuisines. These include Chinese dishes such as noodles, *momos*, spring rolls, and Manchurian; Italian items like pizza, pasta, macaroni, and garlic bread; South Indian snacks such as *vada* and *bonda*; fried foods including *samosas, puris, bhature, aloo tikki*, and cutlets; sweets like chocolates, candies, ice cream, *halwa*, *kheer*, and puddings; and bakery products such as muffins, pastries, biscuits, puffs, and cream rolls. Popular beverages include milkshakes, fruit juices, carbonated drinks, diet colas, tea, coffee, energy

drinks, flavored water, ice cream shakes, pre-packed smoothies, sweetened iced teas, sugarcane juice, and soft drink mixes like Red Bull and squashes.

Kumar et al. (2017) conducted a survey of urban adolescents in Kolkata revealing that 55% regularly skipped meals, 90% frequently consumed street foods, and 54% demonstrated overall unhealthy dietary practices. Students from higher socioeconomic backgrounds were less likely to follow good eating habits. Interestingly, even students with good knowledge about health risks often maintained poor dietary practices, highlighting a gap between knowledge and behavior. These findings indicate the need for educational interventions that not only improve nutrition knowledge but also encourage healthier eating behaviors among adolescents.

A cross-sectional study of healthy female students aged 11–28 years in urban Mysore found that 50% were underweight, while overweight was more common in adults. Meal skipping was higher in adolescents (54%), and 69% consumed fast foods daily. Snacks were consumed regularly by 54% of adolescents and 40% of adults. The study highlighted widespread unhealthy eating patterns among young females, providing a baseline for monitoring dietary behaviors and nutritional status (Omidvar, 2016).

Manna et al. (2023) found that 82% consumed junk food in the past week, with about 11% consuming more than three times weekly. Nearly half of the participants ate junk food with the family, and 39% consumed at home.

Sahu and Das (2018) studied urban school-going adolescents of Jorhat, Assam and concluded that frequent consumption (≥5 days/week) ranged from 6% to 24% and infrequent consumption (1–4 days/week) ranged from 49% to 71% across different food items. Regarding pocket money, 33% was spent on transport, 16% on chips, 14% on ice cream, and 7% on chocolate. While 52% of participants recognized stomach problems and 17% identified obesity as effects of junk food, 22% were unaware of its harmful impacts. The study highlighted the high prevalence of junk food consumption and the need for greater awareness of its health risks.

Baroda-based school-going urban adolescents (80%) regularly consumed staple foods like *dal*, rice, *chapati*, and vegetables, including leafy greens. It was observed that about 50% ate chocolates and over one-third consumed fast foods. Around 60% had breakfast daily, while the rest skipped it, and nearly one-third missed a meal once or twice a week. The findings indicated that although most adolescents eat regular meals, consumption of chocolates, soft drinks, and fast foods is widespread, reflecting mixed dietary practices (Kotecha et al., 2014).

Of the participants from Madhya Pradesh, 97% were boys, with around 42% in early adolescence and the remainder in late adolescence. While most students regularly consumed staple meals such as *chapati* (84%), rice (79%), and *dal* (74%), intake of green leafy vegetables was lower (60%). Over 20% of adolescents frequently consumed fried foods, pizza, burgers, or other fast foods more than four days a week. Additionally, more than half regularly consumed energy-dense, low-nutrient foods such as chocolates, pastries, cakes, cookies, soft drinks, potato chips, and other snacks (Sethia et al., 2022).

Bhave (2023) conducted a study of school-going adolescents in central Delhi. Junk food was found to be a regular part of their diet, primarily chosen for its taste, with 79% of boys and 72% of girls citing this reason. While the overall frequency of consumption was similar between genders, girls preferred sweets, whereas boys consumed more high-salt foods. Only 35% of participants had a normal BMI. The study underscores the high prevalence of junk food intake among adolescents and emphasizes the need for nutrition education, regulatory measures, and promotion of healthier dietary habits.

Rathi et al. (2017) researched urban adolescents aged 14–16 years from private schools in Kolkata and found their dietary patterns were generally poor. About 30% did not consume any vegetables, and 45% skipped fruit, while 70% ate three or more servings of energy-dense snacks and 47% consumed three or more servings of energy-dense beverages in a single day. Average daily intake ranged from 0.88 servings for pulses and legumes to 6.25 servings for energy-dense snacks, with girls generally having slightly healthier diets than boys. The findings emphasized the need for targeted nutrition promotion strategies to improve food choices and accessibility for Indian adolescents.

Regular intake of sugary beverages such as colas, containing about 39 grams of sugar per can, increases diabetes risk and contributes to weight gain. Digestive issues affect many adolescents, dental cavities are common due to high sugar content and acidity, and nutrient deficiencies weaken immunity and bone health (Health Trends, 2019).

Jatav et al. (2024) found that 59% of adolescents (10–19 years) from Indore were consuming junk food (especially salty snacks; 66%). While 74% of non-obese students had adequate knowledge of junk food's harmful effects, only 33% of obese students were aware. The findings highlighted the rising prevalence of adolescent obesity and emphasized the need for school- and home-based nutrition education to promote balanced diets and reduce junk food intake.

TABLE 1
SUMMARY OF KEY STUDIES ON JUNK FOOD CONSUMPTION AMONG INDIAN ADOLESCENTS

Author(s) (Year)	Sample	Key Findings
Nancy et al. (2022)	School-going adolescents	60% males preferred unhealthy foods; 65% females physically inactive
Rathi et al. (2025)	62 adolescents (mean age 15.3 years)	Multiple influences: taste, parental rules, peer pressure, cost, marketing
Moitra & Madan (2022)	10-12 years	Maternal education, family income, snack availability significantly associated with unhealthy snacking
Kumar et al. (2017)	Urban adolescents	55% skipped meals, 90% consumed street foods, 54% unhealthy practices
Omidvar (2016)	Female students (11-28 years)	50% underweight, 69% fast food daily, 54% regular snacks
Manna et al. (2023)	Adolescents	82% consumed junk food past week; 11% >3 times weekly
Sahu & Das (2018)	School children	Frequent consumption 6-24%; 22% unaware of health risks
Kotecha et al. (2014)	Urban adolescents	80% regular meals; 50% chocolates; >33% fast foods
Sethia et al. (2022)	School-going (97% boys)	>20% fast food >4 days/week; >50% energy-dense snacks
Bhave (2023)	School-going adolescents	Junk food regular (79% boys, 72% girls); only 35% normal BMI
Rathi et al. (2017)	14-16 years (private schools)	30% no vegetables; 45% no fruit; 70% energy-dense snacks
Jatav et al. (2024)	10-19 years	59% junk food consumers (66% salty snacks); 74% non-obese aware vs. 33% obese aware

VI. NUTRITIONAL KNOWLEDGE AND AWARENESS

Rojekar et al. (2021) examined the knowledge, attitude, and practices regarding fast food consumption. Results showed that 79% of children reported daily snacking, 84% were influenced by attractive advertisements, and 61% cited taste as a reason for consumption. The findings highlighted that most children regularly consume fast food, primarily driven by advertising and taste preferences, underscoring the need for targeted strategies to promote awareness and encourage balanced dietary habits.

Nutritional knowledge and practices related to a balanced diet among adolescent girls (ages 10–19) of Lucknow revealed that only 15% demonstrated adequate knowledge about balanced diets. Knowledge levels improved with age, with older adolescents exhibiting better awareness than younger counterparts (Afreen & Paul, 2025).

Sharma (2012) found that a significant majority (82%) of adolescents had below-average knowledge regarding the harmful effects of junk food. Only 18% were aware of the importance of a healthy diet. Rajora et al. (2025) explored the health knowledge of Indian teenagers regarding junk food and sugary drinks. While 68% knew that excessive junk food could cause obesity, only 34% linked sugary beverages to diabetes.

VII. CONCLUSION

Junk food consumption is highly prevalent among Indian adolescents and is associated with unhealthy dietary habits and poor nutritional status. Evidence consistently shows that adolescents often lack adequate knowledge about the health risks of junk food. Dietary behaviors are influenced by taste preferences, peer pressure, advertisements, and convenience.

Structured interventions through schools, parental involvement, and interactive sessions not only increase awareness but also empower adolescents to make informed dietary choices, reduce junk food intake, and adopt balanced and nutrient-rich diets.

Recommendations:

1. **Policy Level:** Implement stricter regulations on junk food advertising targeting adolescents, particularly on social media platforms. Introduce front-of-pack warning labels for ultra-processed foods.
2. **School Level:** Integrate nutrition education into the school curriculum with interactive, age-appropriate content. Regulate school canteens to offer healthier options and restrict the sale of junk foods.
3. **Family Level:** Encourage family meals and parental role modeling of healthy eating. Educate parents about the importance of home food environments and limiting availability of unhealthy snacks.
4. **Community Level:** Conduct awareness campaigns targeting adolescents through schools, community centers, and digital platforms. Engage peer educators to promote healthy eating norms.

In conclusion, integrating nutrition education and counselling into the school curriculum and community programs is crucial for fostering lifelong healthy eating habits, preventing obesity and related non-communicable diseases, and improving overall adolescent health outcomes.

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CONFLICT OF INTEREST

The authors declare that they have no competing financial interests or personal relationships that could have influenced the work presented in this paper.

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