

## Review Article

# A critical review on fast-food consumption pattern among South Asian and Southeast Asian young adults

Chhavi Arya\*, Neha Dubey

Department of Home Science, Kumaun University, Nainital, Uttarakhand, India

**Received:** 10 April 2023

**Accepted:** 18 May 2023

### \*Correspondence:

Dr. Chhavi Arya,

E-mail: [Chhavi\\_arya@hotmail.com](mailto:Chhavi_arya@hotmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Fast food consumption trend has become very popular worldwide. Globalization has led to rapid rise in the number of fast-food outlets in Asian countries. The present study focuses on reviewing the consumption pattern of fast food among young adults of South Asian and Southeast Asian countries. Here a shift has been witnessed from consumption of traditional homemade food which included healthy nutritious locally available foods toward fast foods and processed foods. An extensive review of existing scientific studies in several South Asian and Southeast Asian countries was carried out to analyse fast food consumption patterns of young adults. Globalization, affluence, busy schedules, increase in number of working female population, mass media, increase in fast food production and delivery outlets are some of the main reasons contributing to increasing fast food consumption trends. Several western fast-food franchises are now well established in developing Asian countries. Dining out culture has increased in the Asian society and is socially acceptable. A rapid nutritional shift in Southeast Asia may be due to increase in food availability and food purchasing power. Consumption of fast-food items is associated with increasing obesity rates among young adults. Such trends are also associated with the increasing prevalence of non-communicable diseases such as indigestion, hypertension, asthma, and other several diseases among South Asian and Southeast Asian adults.

**Keywords:** Fast food consumption, South Asia, Southeast Asia, Young adults, Health hazards

## INTRODUCTION

Nutritious food is necessary for the growth and development of the human body. Nutritious food choices on a routine basis are an integral part of a healthy lifestyle. However fast-food consumption trend is constantly increasing among young adults and children. Food that can be prepared and served very quickly in a very short period is known as fast food.<sup>1</sup> Merriam-Webster dictionary first introduced the term fast food in 1950. In Britain, the first fast-food restaurant began in the year 1960 when fish and chips were served. According to the national institute of health (NIH), fast food is defined as food that is easily accessible, quickly served, and cheap alternatives to home-cooked food.<sup>2</sup>

Restaurants, street vegans, takeaway, online home delivery apps, counter services, drive-through restaurants,

etc are all involved in the fast-food business. Fast food is also known as pre-cooked food which is kept ready for being served to consumers. Fast food items are mostly available at many public places such as colleges, schools, malls, movie theatres, parks, picnic spots, corners of streets, airports, gas stations, local shopping centers and even at hospitals.<sup>3</sup> Fast food has several advantages such as it is easily available within a few minutes and is also affordable. The fast-food industry works speedily to fulfil orders and provide service to customers. Fast food was created as a commercial strategy to meet the needs of the laborers and wage workers as they didn't have much time to wait for a complete meal.<sup>4</sup>

In recent years trend of eating outdoors, the home has witnessed a huge increase. It has been observed that fast food items are preferred by office-going workers and by other people providing their services at various other

institutions and workplaces. Many working people carry fast-food items while returning homes to be consumed as snacks or as dinner items. Fast foods are typically ready-to-eat and the consumer has no control over the portion size and nutritional content of these foods.<sup>5</sup> Fast food consumption has increased because of many factors such as an increase in income, lack of time, rapid urbanization, online home delivery facilities, and attractive advertisements.<sup>6</sup> Fast-food is a main factor which aids in socializing with friends. Most of the study respondents consumed fast food due to peer pressure. The consumption of fast foods gives a feeling of modernization, urbanization, and a sense of belonging to the higher class among all age groups. Some of the participants of the study also admitted that it was a medium to flaunt their wealth.<sup>7</sup>

Fast food is also known as junk food, and it is high in calories and low in nutritive value. It mainly contains refined flour, refined sugars, low-quality oil, trans-fat, and numerous other food additives which are harmful to human health.<sup>8</sup> Junk foods are given an attractive appearance by adding food colours and other food additives such as MSG.<sup>9</sup> Noodles, biscuits, chips, chocolates, cake, ice cream, chowmien, momos, samosa, soft drinks, burgers, pizza, fried potatoes, meat products etc are some of the popular fast-food items.<sup>10</sup>

Increasing trends of fast-food consumption are a matter of serious dietary concern among adolescents and young adults as they are laden with calories and fat and are strongly associated with may obesity and obesity-related chronic diseases.<sup>11</sup>

## REASONS FOR INCREASING FAST FOOD TRENDS

The busy schedule of office work makes fast food popular among adults. Globalization and other economic and social reasons are also responsible for the increase in consumption of fast food among young adults. In an Australian study on young adults by Smith et al it was found that young Australians who consumed takeaway fast food at least twice a week, met fewer dietary recommendations.<sup>12</sup> They also showed a moderately higher prevalence of abdominal obesity than those consuming fast food less frequently.

Over the years the trends of fast-food consumption have spread out globally and mainly so in urban areas. A dietary shift has been witnessed in many countries as they

are consuming less local and traditional diets while increasingly consuming more fast foods, and processed and packaged foods.<sup>13</sup> According to a report by research and market.com it is anticipated that the world fast food market will exhibit significant growth from 2020 to 2027 because for several reasons such as an increasing number of fast-food restaurants, an increase in the working female population, availability of online ordering options and changing consumers preferences.<sup>14</sup> The global market for fast foods is expected to reach \$931.7 billion by 2027. According to Deepthi and Ashakiran India's fast-food industry is expanding by forty percent every year.<sup>15</sup>

Mass media plays an important role to popularized fast foods. Other media like posters, magazines, billboards, radio, and cinemas are also used to promote fast food consumption.<sup>1</sup> Morning hurries and work pressure make young adults to skip breakfast in the morning and is also one of the main reasons for consuming fast food among them. Availability of a great variety of quickly prepared fast foods, its affordability, and readiness are also reason for consuming fast foods.<sup>7</sup> Working parents with nuclear families have less time for meal preparation at home. They are exhausted at the end of the day from work, other household activities, and stress and they had very little energy to prepare a full dinner.<sup>16</sup>

Fast foods are prepared with unhealthy ingredients which contain few nutrients. They contain a high amount of saturated fat, sugar, salts, and calories. Fast-food consumption is associated with several adverse health outcomes such as increases in the prevalence of obesity, arthritis, heart diseases, blood pressure, diabetes, metabolic syndrome, loss of muscle mass, liver disease, sexual dysfunction, indigestion problems, asthma, and cancer (kidney, uterine, colon, breast, oesophagus). It is also associated with the development of several mental deficiencies like anxiety, insomnia, depression, sleep apnoea, panic attacks, and other anxiety syndromes.<sup>17</sup>

Fast-food consumption with a lack of physical activity leads to obesity. Fast food consumption among young adults contributes to an increase in obesity rates and is a global concern.<sup>18</sup> Junk food consumption is rising in developing countries as well as in South Asian countries. The global junk food consumption among young adults is approximately 70 percent. According to the world health organization (WHO) Southeast Asian region is facing high prevalence of obesity-related diseases such as diabetes and CVD.<sup>10</sup> Popular fast-food items and their caloric values has been presented in the table one.

**Table 1: Nutritive value of popular fast-food items.**

Popular fast-food items (amount per 100 gm)	Calories (Kcal)	Carbohydrates (gm)	Protein (gm)	Fat (gm)	Cholesterol (mg)	Sodium (mg)	Potassium (mg)	References
<b>Pizza</b>	266	33	11	10	17	592	172	1
<b>Pasta</b>	131	25	5	1.1	33	6	24	1
<b>Chow mein</b>	459	67	11	18	0	847	120	1
<b>Momo (1 piece)</b>	70	6.58	4.24	2.83	29	138	75	2

Continued.

Popular fast-food items (amount per 100 gm)	Calories (Kcal)	Carbohydrates (gm)	Protein (gm)	Fat (gm)	Cholesterol (mg)	Sodium (mg)	Potassium (mg)	References
<b>Burger</b>	295	24	17	14	47	414	226	2
<b>Hot dog</b>	290	4.2	10	26	77	1090	152	1
<b>French fries</b>	312	41	3.4	15	0	210	579	1
<b>Aloo chaat</b>	212	32.2	2.5	7.7	0	155.1	376.1	3
<b>Samosa</b>	308	32.31	4.67	17.86	9	816	185	3
<b>Pakora</b>	315	25.1	7.3	20.6	0	27.4	256.9	4
<b>Bread rolls</b>	310	52	11	6	4	467	139	1
<b>Veg cutlets</b>	165	17.8	2.2	9.5	0	9.9	128.1	1
<b>Medu vada (1 piece)</b>	185	25.3	8.25	6.01	0	196	333	3
<b>Deep fried rice</b>	163	21.06	6.3	6.23	52	415	102	2
<b>Beef, ground</b>	270	0	14	30	78	67	218	1

1. U. S. department of agriculture (USDA) (2019) <http://www.fdc.nal.usda.gov>, 2. Fat secretes, United States (2020) retrieved from <http://www.fatsecret.com>, 3. Tarla Dalal retrieved from <http://www.tarladalal.com>. 4. Nutrition value retrieved from <http://www.nutritivevalue.org>.

Globally traditional dietary pattern is being replaced with fast food items. Locally available nutritious recipes and dietary patterns have now been replaced by fast food items. Even though fast-food consumption negatively affects the health of people. It is still popular among young adults. This study focussed on fast food consumption trends in South Asian and Southeast Asian countries. South Asia is a sub-region of the Asian continent. It includes eight countries namely Bangladesh, Pakistan, India, Maldives, Sri Lanka, Afghanistan, Nepal, and Bhutan. Southeast Asia concludes eleven countries namely Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. Fast foods are very popular among young adults. Limited studies have attempted to identify the magnitude of the fast-food consumption trends among young adults in South Asian region. Factors associated with fast food consumption will also be covered in the same study.

## FAST FOOD CONSUMPTION PATTERN-GLOBAL TRENDS

Fast food is very popular among young American adults. The fast-food industry first expanded in California in 1940. The consumption of out-of-home food and fast food is a global concern fast food consumption is highest in countries such as Australia, USA, and UK however, it is equally a concern in urban cities of developing Asian, African, Middle Eastern and Latin American countries.<sup>19</sup> According to a report from the national health and nutrition examination survey (NHANES, 2018) in USA in between 2013 to 2016 36.6 per cent of American adults consumed fast food on a single day. The study showed that fast-food consumption was highest (44.9%) among young American adults. The percentage of adults consuming fast-food decrease with age. A higher percentage of non-Hispanic black adults consume fast food than other population groups. In the US with the increase in income, the percentage of adults consuming fast food also increased. Men mostly consumed fast food for lunch however women reported eating fast food as a

snack.<sup>20</sup> Another study revealed that US adults consumed 4.8 per cent of junk food items daily.<sup>21</sup> Kant et al revealed that more than fifty per cent of the US adults consumed food outside the home three /or more times per week while 35 percent consumed it two or more times a week.<sup>19,22</sup>

A study among young Australian adults about their consumption of takeaway fast foods showed that Australian men consumed more takeaway foods than women. In this study, 37.9 percent of Australian men reported that they consumed takeaway food twice a week or more in the comparison to 17.7 percent of the women.<sup>12</sup>

Various European studies showed that fast food consumption and takeaway food culture are increasing day by day. A government report in the United Kingdom found that 22 per cent of residents purchase takeaway foods at least once a week and 58 per cent purchased them a few times in one month.<sup>23</sup> A cross-sectional study in the UK conducted by the government reported that 22 percent of residents consumed takeaway fast food at least once per week and 58 per cent consumed it a few times a month. Another study among UK adults found that 27 per cent of adults and 19 per cent of children consumed meals outside the home food once per week.<sup>19</sup>

In a study in Romania among young adults, it was found that this age group (18-24 years) consumed more fast-food products. The price of fast-food items and convenience were the factors that influenced their decision to consume fast food.<sup>24</sup>

A German study reported that Pizza was the most consumed fast-food item among adolescents. In the same study, it was reported that girls derived 6.5 per cent of their daily energy from fast food however boys received 7.8 per cent of daily energy from fast food. Boys consumed 600 grams of fast food per week while girls consume 400 grams per week.<sup>25</sup>

Melkadze et al reported that most of the fast-food consumers in Russia were working adults and one of the reasons for their fast-food consumption was having more than one job.<sup>26</sup> Working full-time increases the probability of consuming fast food. It also increases the frequency of fast-food consumption.<sup>27</sup>

Jun et al revealed that in the past three decades most Chinese people shifted to urban areas from rural areas.<sup>28</sup> A study by Zhao et al in China reported that fast-food consumption, obesity, and hypertension are high among children in urban cities of China.<sup>29</sup> Half of the respondents consumed western (51.9%) and Chinese fast-food items (43.6%) respectively. Among these Chinese children, 11.1 per cent were obese, 19.7 per cent were centrally obese, and 9 per cent had hypertension. It was also found that the Chinese fast food consumption rate increased by 12 per cent every year.

### **GENERAL FAST FOOD CONSUMPTION TRENDS AMONG SOUTH ASIAN AND SOUTHEAST ASIAN YOUNG ADULTS**

Fast food is very popular among teens and young adults in several South Asian countries. Asian developing countries considered attractive segment for its market.<sup>3</sup>

#### ***Trends in South Asia***

The United nations economic and social commission for Asia predicted that by 2020 fifty percent of the total population would be urban and half of that population would be from Asia. Asian developing countries are potential markets for the growing fast-food industries. According to Baig and Saeed Pakistani college students and employed people were fond of fast food and preferred it as they had limited time and fast food was an easily available convenient option for them.<sup>3</sup> College students and other people did not blame fast food and fast-food centers for increasing obesity rates. In Pakistan, people normally bought and ate fast food between 6 pm to 9 pm and both nuclear and joint families consumed fast food as they liked its taste. Working people prefer fast food at their workplaces.<sup>30</sup>

Fast food culture started in Bangladesh in the early nineties. International fast-food brands like Pizza hut and KFC started their franchises in Bangladesh in 2000.<sup>23</sup> A study by Bipasha and Goon revealed that 98% of university students were greatly fond of fast foods and among them, male respondents were more addicted to fast foods than female respondents.<sup>31</sup>

A study by Bohara et al in Nepal revealed that half of the respondents consume fast food as a replacement for breakfast.<sup>10</sup> Respondents who preferred and consumed junk food was 38.9 percent. The study also revealed that peer pressure was a major factor influencing the consumption of junk foods.

Fast foods are very popular among Sri Lankan youth and especially among those people who have the busiest lifestyle. In South Asian countries such as Sri Lanka, Rolls (fish/vegetable), cutlets, wade, pastries, patties, and buns were popular fast-food items and fast food was becoming a part of the daily Sri Lankan diet. Further, the study showed that 54 percent of the respondent consumed fast food daily and 21 percent consumed fast food more than once per week.<sup>32</sup>

Junk foods and fast foods are very popular in Bhutan and 99 per cent of boarding schools in Bhutan served fried rice for breakfast. Overconsumption of fried rice is associated with heart disease in long term. Thursday is a junk food-free day in schools in Bhutan. Education ministry 2018 reported that no decline was being observed in junk food consumption among high school students of Bhutan.<sup>33</sup>

The dining out culture is witnessing an increase in the Indian society. there is steady growth in the fast-food sector in India as the number of people eating out has increased. Various international brands are also catering to this increased demand.<sup>34</sup> Big brands of fast-food chains such as McDonald's entered India in 1996. They were followed by the entry of other big fast-food companies such as Domino's, Pizza Hut, KFC, etc.<sup>4</sup> The fast-food market is growing rapidly in India. In the present scenario, the fast-food industry is adapting itself to Indian food requirements and tastes. Fast food is very popular among Indian urban youth and is becoming a part of their lifestyle. Indian eating habits are changing and the preference for fast-food items is increasing. The Indian youth consume fast food for fun and change. The fast-food industry is steadily growing in India, especially in urban areas. In India, people are shifting their food preferences from home-cooked chapatis and dal to Momo's and burgers.<sup>35</sup>

Indian fast-food market was growing by 18 percent annually till 2020. Ready-to-eat packaged food has grown at a very fast rate in India with a compound average growth rate of eighteen percent to twenty-five per cent. Almost 45 per cent of people going to the restaurants Goers in India were found to be below the age of 28 years.<sup>36</sup> India's quick service restaurant (QSR) market is expected to 23 per cent between the 2021 to 2025 fiscal years. COVID-19 pandemic proves to be a booster for quick-service restaurants. The net worth of these quick service restaurants in the year 2020 was 348 billion. Online food delivery services have further expanded the reach of these quick-service restaurants.<sup>37</sup>

India is a leading country in the Asia Pacific region. Several research shows that 70 per cent of the urban consumers in India consume takeaway fast food once a week.<sup>4</sup> A cross-sectional study conducted among young adults of Tamil Nadu and Pondicherry revealed that male respondents were more habituated to consuming fast foods than female respondents.<sup>7</sup> According to a survey,

conducted in 2021, fifty per cent of Indians visited fast food restaurants during past three months.<sup>38</sup>

In the past Indian families traditionally consumed home-cooked meals and snack items. However, a drastic shift has been witnessed in the Indian food consumption pattern, especially in urban India. Reasons responsible for such a drastic change in the Indian food consumption pattern are the influence of western culture, changing consumer lifestyle, convenience and increase in disposable income.

### **Trends in Southeast Asia**

According to Lipoeto et al rapid nutritional shift in Southeast Asia (Philippines, Malaysia, and Indonesia) may be due to increasing food availability and food purchasing power in these countries.<sup>39</sup>

A study conducted on Singaporean young adults found that 70.8 percent of young adults consumed western fast foods every week as compared to only 3 percent of the older age group (60 and over).<sup>23</sup> Naidoo et al attempted to study the determinants of eating out behaviour of urban Singaporeans and reported high frequency of eating out among the participants.<sup>40</sup> The main venues for eating out were hawkers' centres (61.1 percent) and school/workplace canteen (20.4 per cent). Young people belonging to Chinese and Malay ethnicity were more likely to eat at western fast-food restaurants in comparison to Indians. The study recommended the need for interventions to improve food quality at eating venues in urban Asian populations.

Fast food consumption has increased, and it is socially acceptable in Cambodian society however, little is known about fast-food consumption behaviours and its association with overweight and obesity among working-age Cambodians.<sup>41</sup>

In one of the cross-sectional studies conducted among 303 university students of Brunei Darussalam, it was found that frequent snacking and consumption of fried fast food were common among university students. They also had a low intake of daily fruits and vegetables. The frequency of visiting fast food outlets was significantly higher in overweight/ obese students. In this study, it was also found that most university students had good nutrition knowledge however they frequently consumed fast food.<sup>42</sup>

In a cross-sectional study conducted among sedentary staff in Nay Pyi Taw Union Territory, Myanmar, it was found that sedentary staff consuming ready-to-eat food once or four times per month and they were five times more likely to be obese. Factors such as age (being older than 32 years) preference for RTE food, less physical exercise, sedentary leisure activity, and smoking were found to be positively associated with overweight and obesity among the sedentary staff. This study stressed the

urgent need to raise awareness about healthy lifestyle behaviours and the need for sedentary workers to be aware of food-based dietary guidelines.<sup>43</sup>

An observational study among Indonesian children and adults concluded that Indonesia was going through a nutrition transition phase as was evident by the increased prevalence of overweight. The consumption of ultra-processed food was ubiquitous among children and adults, and the level of physical activity had decreased among them. In urban areas, higher consumption of ultra-processed food was associated with higher odds of being overweight among adults.<sup>44</sup>

Vietnam is the 14<sup>th</sup> most populous country in the world, with more than 94 million people. Quantitative research on Ho Chi Minh City, Viet Nam found that youth here generally had a high start-up spirit, a busy lifestyle, and needed convenience. They wanted to save time to study and working. So, fast food has become their need. The fast-food industry in Vietnam for this reason showed great potential for development.<sup>45</sup>

Malaysia is a country that is rapidly undergoing the urbanization process. According to Habib et al 84 per cent of Malaysian university students consume fast foods which was very alarming.<sup>46</sup> In a study by Abdullah et al among 1173 Malaysian adults it was found that fast food consumption was higher among young Malaysian, and it was significantly associated with age ethnicity, and number of children in the house.<sup>47</sup> The participants of the study reported that sociability was the main reason for consuming fast food. The participants also regularly ordered meal packages. The percentage of respondents who consumed fast food at least once a week was 17 per cent as well as the younger participants significantly consumed fast food more frequently. The study expressed concern over the high prevalence of the fast-food consumption and stressed on the need to educate the community.<sup>47</sup>

In one of the studies on youth belonging to north-eastern Thailand it was found that approximately three quarters of the sampled youth were aware that fast food consumption led to obesity and half of the respondents were also aware about its association with heart disease. However, still half of the respondents consumed fast food regularly. Since fast food is considered a part of modern lifestyle, a means to socialize. Interestingly 2/3<sup>rd</sup> of the children from educated urban families thought that local foods be more popular.<sup>48</sup>

A study on Philippines showed that Jollibee and Mc Donald were the most preferred fast-food outlets among university students at polytechnic university.<sup>49</sup>

Some of the popular fast-food items in South Asian and Southeast Asian countries are presented in the Table two below.

**Table 2: Popular fast-food items in South Asian and Southeast Asian countries**

South Asian and Southeast Asian countries	Popular fast-food items (locally available)	Western fast-food items
<b>Bangladesh</b>	Chicken hot, mutton /chop, beef steak, chicken tikka, grill chicken, role, patties, pakora, Tandoor, chaat, fuska <sup>1</sup>	Burger, sandwich, hotdog, pizza, patties, rolls, roasted chicken, French fries <sup>1</sup>
<b>Pakistan</b>	Fried chicken, Shawarma <sup>50</sup>	Fries, burgers, rolls, Pizza <sup>30</sup>
<b>India</b>	Samosa, medu vada, chaat pakora, vadapav, bhelpuri, golgappa <sup>17</sup>	Pizza, burger, sandwich, French fries, rolls, roasted chicken, fried chicken, soft drinks <sup>51</sup>
<b>Nepal</b>	Instant noodles, biscuits, cookies, Chowmein, MoMo, Samosa, fried potatoes <sup>10</sup>	Pizza, Burger, Canned food <sup>10</sup>
<b>Bhutan</b>	Fried rice <sup>33</sup>	
<b>Sri Lanka</b>	Rolls, cutlets, wade, buns <sup>32</sup>	Burger, fried chicken, pizza, sandwich <sup>52</sup>
<b>Maldives</b>	Mamee Express cup, Berruto Pasta cup (fusilli), Kawan plain Parata, Amexicana flour tortillas, Mamee instant noodles (curry avor) <sup>53</sup>	Hamburger, cheese balls, burgers, French fries, Pizza, biscuits <sup>53</sup>
<b>Cambodia</b>	Soft drinks, meat, meat with bread <sup>41</sup>	Pizza, pasta, spaghetti, bakery <sup>41</sup>
<b>Myanmar</b>	Instant mixes, non-alcoholic beverage <sup>43</sup>	Instant noodles <sup>43</sup>
<b>Indonesia</b>	Fried chicken, fritter, chips and ice cream <sup>54</sup>	Chicken noodles and meat balls <sup>54</sup>
<b>Brunei</b>	Nasi Katok, Honey Garlic Chicken and Tuna Delight, Chicken and Beef, Rendang Pizza <sup>55</sup>	Fried food <sup>56</sup>
<b>Philippines</b>	Chowking, Mang Inasal, Greenwich (local pizza chain), meat-sweet diet <sup>57</sup>	Julibee and Mc Donald's <sup>49</sup>
<b>Singapore</b>	mixed rice dishes such as fried rice, coconut-rice ("nasi lemak") and biryani, noodle dishes, stir-fried vegetables, legumes, soy, poultry, meat and fish dishes <sup>40</sup>	McDonalds and Kentucky Fried Chicken <sup>40</sup>
<b>Thailand</b>	Kuai-Tiew (rice noodles) and Ba-Mee (wheat noodles), chilled food and frozen foods <sup>58</sup>	Mc Donald, KFC, Mister donuts and Chester's grill <sup>58</sup>

## HEALTH HAZARDS OF FAST-FOOD CONSUMPTION AMONG ADULTS

Fast foods contain a very high amount of salt, empty calories saturated fat and trans fats which are very harmful to our body. Fast food is high in calories and lacks many essential nutrients such as vitamins, minerals, dietary fibers, essential amino acids, phytochemicals, and antioxidants.<sup>15</sup> Frequent consumption of such food may lead to the development of deficiencies of many important nutrients. Fast-food sellers mostly used hydrogenated oil for preparing fast food items and thus fast food is rich in trans-fats. Indian fast-food items such as bhatura contain 9.5 percent trans fats, paratha 7.8 percent, and puris contain 7.6% trans-fat. However French fries contain 4.2 percent trans-fat. Fast food sellers don't care for hygiene during the preparation, storage, and handling of food items. Poor hygiene invites microbiological contamination and causes a risk for many diseases.<sup>1,59</sup>

Regular consumption of fast-food items was associated with an increase in energy intake among adults and children.<sup>23</sup> Past research also revealed that fast food is energy dense and provided 158 to 163 calories per 100-

gram. Fast food is also very poor in vitamin A, carotenes, and vitamin C which are good for health and have a role in prevention of prevents of cancer.<sup>30,60</sup>

**Obesity:** Obesity is the major problem among adults who consumed fast food frequently. Fast foods are high in added fats, refined cereals, sodium, added sugars, and sweeteners which increases the risk of obesity. Obesity is the main reason for several other health diseases in human beings that impact their quality of life.<sup>9</sup> The study by Anderson et al evaluated the prevalence of fast-food consumption among Michigan, adults and found a very strong association between fast food consumption and obesity.<sup>61</sup> Frequent consumption of takes away fast food twice a week or more than twice a week resulted in poorer diet quality and a higher prevalence of moderate abdominal obesity in young men and women.<sup>12</sup> Consumption of fast foods two or more times a week is associated with a 31 percent higher prevalence of moderate abdominal obesity in men and 25 percent in women.<sup>23</sup>

**Heart disease:** Obesity is the main reason of heart disease and other non-communicable diseases (NCDs). NCDs have become a major public health concern all over the

world. Unhealthy eating habits, less physical activities, and smoking are all country's NCDs prevented by consuming nutritive foods.<sup>6</sup> Obesity is associated with respiratory problems. Obesity causes shortness of breath or wheezing with exertion. It is also caused by sleep apnea, which is a condition in which sleeping is continuously disrupted by shallow breathing.<sup>23</sup>

A study done by Duffey et al among young adults found that fast food consumption is associated with higher BMI.<sup>62</sup> A descriptive cross-sectional study among Jamaican workers consuming fast foods revealed that 34.1 percent of participants were pre-hypertensive (120-139/80-89 mmHg), 13.1% had stage I hypertension (140-159/90-99 mmHg) and 2.3 percent had stage II hypertension (>160/>100 mmHg). In this study, most of the participants (55.1%) reported excessive consumption of Fast food in the last week.<sup>63</sup>

*Asthma:* Fast food consumption is also the main reason for the prevalence of asthma, rhin conjunctivitis, and eczema, especially in children and the young generation.<sup>13</sup> Another study published in the journal Thorax revealed that children who consume fast foods at least three times a week are at an increased risk of asthma and rhinitis which includes having a congested and drippy nose.<sup>23</sup> A study by Chandran et al found that frequently consuming fast food was positively associated with the risk of breast cancer.<sup>64</sup> This study was conducted among women in the aged 20-75 years.

Fast foods generally contain a high amount of trans fatty acids (TFAs) which are associated with higher production of proinflammatory molecules, especially in diabetic people. TFAs are also associated with the risk of obesity, asthma, and lung inflammation.<sup>65</sup> According to Mosquera et al fast food items hurt gut microbiome composition.<sup>66</sup>

## CONCLUSION

The present study revealed an increasing trend of fast-food consumption in most of the South Asian and Southeast Asian countries. Asian countries are potential markets for rapidly increasing fast food industries. A busy office schedule, skipping breakfast in the morning and an increasing the number of working females are some of the main reasons which is responsible for fast foods consumption. Fast food companies are targeting their customers through lavish promotion strategies and attractive advertisements. In South Asian countries Pakistan college students and other consumers of fast food did not blame it for increasing obesity rates. A study on Bangladeshi respondents found that male respondents were more habitual to fast foods than females. In Nepal most of the respondents consume fast foods as breakfast. Fast foods are a part of daily Sri Lankan diet. Most of the Sri Lankan consumed fast foods on a daily basis. Fried rice is most preferred fast food in Bhutan. Dining out culture has become more popular in the Indian society. Fast food is growing rapidly in India. young Singaporean

adults reported high frequency of consuming fast foods. Fast food consumption is socially acceptable among working-age Cambodians. Snacking and consumption of fried fast food is very popular fast-food items in Brunei Darussalam university students. Factors such as preference for RTE food, less physical exercise and smoking were found to be positively associated with overweight of sedentary staff in Myanmar. The consumption of ultra-processed food was associated with overweight among Indonesian adults. A study by Li et al. showed that Thailand has the highest consumption of fast food in Southeast Asian region, and it is lowest in Pakistan. High consumption of fast-food leads to many serious health problems. Various studies suggest a need for awareness programme regarding hazards of fast-food consumption. Young Asian adults need to be educated about the adverse health effects of fast-food consumption. Nutrition counselling regarding healthy food item might help them make healthier and nutritious food choices and also motivate them to bring about positive behavioural changes.

*Funding:* No funding sources

*Conflict of interest:* None declared

*Ethical approval:* Not required

## REFERENCES

1. Das JC. Fast food Consumption in Children: A Review. *Med Clin Rev*. 2015;1.
2. Hellesvig-Gaskell K. Definition of Fast Food. *Livestrong*. 2016.
3. Baig AK, Saeed M. Review of Trends in Fast Food Consumption. *Eur J Economics Finance Administrative Sci*. 2012;48:1450-2275.
4. Choudhury SR. Fact Finding on Fast Food A Review. 2022;1.
5. French SA. Pricing Effect on Food Choices. *J Nutr*. 2003;133:841.
6. Mandoura N, Al-Raddadi R, Abdulrasid O, Shah HBU, Kassar SM, Hawari ARA et al. Factors Associated with Consuming Junk Food among Saudi Adults in Jeddah City. *Cureus*. 2017;9(12).
7. Rajini S, Kannan K, Selvi T. Factor Influencing the Consumption of Fast Food Among Young Adults. *J Pharmaceutical Res Int*. 2021;33(44A):430-40.
8. Sason R, Sharma M. A Review Article on Effects of Incompatible Food W.S.R. to Junk Food on Health and Its Ayurvedic Aspects. *Int J Heal Sci Res*. 2019;9.
9. Subhlakshmi K, Dhansekar M. A Study on Fast Food Culture Among Teenagers in Urban India. *Int J Pure Applied Mathematics*. 2018;120:215-38.
10. Bohara SS, Thapa K, Bhatt LD, Dhani SS, Wagle S. Determinants in Pokhara Valley Nepal. *Frontier in Nutrition*. 2021;8.
11. Mohiuddin AK, Nasirullah M. Fast Food Addiction: A Major Public Health Issues. *Indian J Nutrition*. 2019;6(3):208.

12. Smith KJ, Mc Naughten, Sarah A, Gall SL, Blizzard L, Bwyer T et al. *Int J Behavioural Nutrit Physical Activity*. 2009;6:29.
13. Ellwood P, Ashar IM, Garcia ML, William H, Kill U, Robert C et al. Do Fast Foods Cause Asthma, Rhino conjunctivitis and Eczema? Global Finding Int Study Asthma Allergies in Childhood (ISAAC) Phase Three. *Throx*. 2013;351-60.
14. Fast food Industry Analysis and Forecast 2020-2027.2020. Available at: <http://www.researchandmarket.com>. Accessed on 15 January, 2023.
15. Ashakiran, Deepti R. Fast Foods and Their Impact on Health. *JKIMSU*. 2012;1(2).
16. Kaushik JS, Narang M, Parakh A. Fast food Consumption in Children. *Indian Paediatr*. 2011;48:97-101.
17. Rout HB. A Study on The Demographic Profile of the Fast-Food Consumers in India. *Int J Scientific Technol Res*. 2020;9.
18. Sachithananthan V. Effect of Fast-Food Consumption on the Body Mass Index Status of Adolescent's Girls. *Int J Adv Res Biological Sci*. 2015;2(3):20-4.
19. Janssen H, Davies IG, Richardson L, Stevenson L. Determinants of Takeaway and Fast-Food Consumption: A Narrative Review. *Nutri Res Rev*. 2017;1.
20. Fryar CD, Carroll MD, Ahluwalia N, Ogden CL. Fast Food Intake Among Children and Adolescents in the United States, 2015-2018. U. S. Department of Health Human Services. 2020;350.
21. Dunford EK, Popkin B. Junk Food Intake Among Adults in the United States. *J Nutr*. 2022;152:492-500.
22. Kant AK, Whitley MI, Graubard BI. Away From Home Meals: Associations with Biomarkers of Chronic Disease and Dietary Intake in American adults. NHANES 2005-2010. *Int J Obes*. 2015;39:820-7.
23. Jahan I, Karmakar P, Hossain MM, Jahan N, Islam MZ. Fast food Consumption and Its Impact on Health. *EMCJ*. 2020;5(1).
24. Bilbiie A, Druica E, Aducovschi D, Sakizlian R, Sakizlian M. Determinants of Fast-Food Consumption in Romania: An Application of the Theory of Planned Behavior. *Foods*. 2021;10:1877.
25. Moosburger R, Baebosa CL, Mensink GBM. Fast Food Consumption Among 12 to 17 years-olds in Germany - Results of Eskimo. *J Heal Monitoring*. 2020;5(1).
26. Melkadze A. Market Volume of Fast Food In Russia From 2017 to 2021. 2022. Available at: <http://www.statista.com>. Accessed on 15 January, 2023.
27. Zasimova L. The Association Between Fast-Food Consumption and Job-Related Factors Among Russian Adults. *Economic Human Biol*. 2022;46.
28. Mi YJ, Zhang, Wang HJ, Yan W, Zhao J, Liu DW. Prevalence and Secular Trends in Obesity Among Chinese Adults, 1991-2011. *Amepre*. 2015;5.
29. Zhao Y, Wang L, Xue H, Wang H, Wang Y. Fast Food Consumption and Its Associations with Obesity and Hypertension Among Children: Results From The Base Line Data of Childhood Obesity Study in China Mega Cities. *Bio Med Central Public Heal*. 2017;17:933.
30. Jahan N, Mehjabeen AF, Ghayas S, Yasin H, Sajid M, Zububir QSM et al. Fast Food Consumption Drift in Pakistani Population. *J Food Nutri Sci*. 2014;12(1):13-8.
31. Bipasha MS, Goon S. Food Preference and Food Habits Among Students of Private Universities in Bangladesh. *South East Asia J Public Heal*. 2013;3(1):61-4.
32. Jayasinghe JMJK, Silna LPU. Fast Food Consumption and Health Status Of Students of A University in Sri Lanka. *J Food Agriculture*. 2014;7(1 and 2):38-50.
33. Penjor D, Phuntsho T, Wangchuk K, Tshering D, Wangchuk, S. Dietary Habits of Adolescents in Higher Secondary School in Bhutan: An in -Depth Analysis of Nationally Representative Data. *J Humanities Education Development*. 2021;3.
34. Chitnis SP. A Study on Scenario of Fast-Food Industry in India. *Int J Trend Scientific Res Development*. 2019;88-90.
35. Goyal A, Singh NP. Consumer Perception About Fast Food in India. An Exploratory Study. *Bri Food J*. 2007;109(2):182-95.
36. FICCI. Indian Food Services Industry: Engine for Economic Growth and Employment A Roadmap for Unlocking Growth Opportunities. 2007. Available at: <http://www.ficci.in>. Accessed on 15 January, 2023.
37. Bansal S. Indians Still Hungry for Fast Food: Report. *Mint*. 2021. Available at: <http://www.livemint.com>. Accessed on 15 January, 2023.
38. Kanwal S. Most Popular Restaurants in India as of April 2021. *Statista*. 2021. Available at: <http://www.statista.com>. Accessed on 15 January, 2023.
39. Lipoeto NI, Lin KG, Agdeppa A. Food Consumption Patterns and Nutrition Transition in South-East Asia. *Public Health Nutri*. 2012;16(9):1637-43.
40. Naidoo N, Dam RMV, Sheryl NG, Tan CS, Chen S, Lim JY. Determinants of Eating at Local and Western Fast-Foods Venues in An Urban Asian Population: A Mixed Methods Approach. *Int J Behave Nutr Phys Act*. 2017;14(1):1-12.
41. Sim S, Laohasiriwong W. Fast Food Consumption, Overweight and Obesity Among Working Age Persons in Cambodia. *J Clin Diagnostic Res*. 2019;13(7).
42. Yun TC, Ahmed SR, Quee DKS. Dietary Habits and Lifestyle Practices Among University Students in University Brunei Darussalam. *Malays J Med Sci*. 2018;25(3):56-66.
43. Thike TZ, Saw YM, Chit K, Lin H, Tun AB, Htet H et al. Association Between Body Mass Index and Ready-to-eat Food Consumption Among Sedentary



- Staff in Nay Pyi Taw Union Territory, Myanmar. *BMC Public Health*. 2020;20:206.
44. Oddo VM, Maehara M, Rah JH. Overweight in Indonesia: An Observational Study of Trends and Risk Factors Among Adults and Children. *BMJ Open*. 2019;2.
  45. Giao HNK. Decision to Choose Fast Food Restaurants of the Young People in HCMC, Vietnam. *SSRN Electronics J*. 2018;4(9):471-85.
  46. Habib FQ, Dardak RA, Zakaria S. Consumer Preference and Consumption Towards Fast Food: Evidences from Malaysia. University Publication Centre and Institute of Business Excellence. 2011;2:2180-777.
  47. Abdullah NN. Trends on Fast Food Consumption in Relation to Obesity Among Selangor Urban Community. *Procedia. Social Behavioural Sci*. 2015;505-13.
  48. Seubsman SA, Kelly M, Yuthapornpinit P, Sleign AC. Cultural Resistance to Fast-Food Consumption? A Study of Youth in North Eastern Thailand. *Int J J C*. 2009;33(6):669-75.
  49. Nartea MA, Santos JJM, Goynchea AG. Exploring the Characteristic of Millennials in Online Buying Behavior. *Asia Pacific J Multidisciplinary Res*. 2019;7(4).
  50. Yahya F, Zafar R, Shafiq S. Trend of Fast-Food Consumption and Its Effect on Pakistani Society. *Food Sci Quality Management*. 2013;11.
  51. Parikh MK. Fast Food Consumption Behaviour of Young Generation. *Int J Res All Subjects Multi Languages*. 2020;8(7).
  52. Saraniya D, Kennedy FB. Consumer Attitude Towards Fast Food Consumption. *J Business Studies*. 2020;1(1):40-49.
  53. Muneer A, Zoona F, Naila A. Salt Contain of Processed Food Products Available in Dh. Kudahuvadhoo, Maldives. *Maldives National J Res*. 2020;8(2):66-83.
  54. Sabilla M, Mustakim. Fast food Consumption Among Public Health Students in DKI JAKARTA Province During COVID-19 Pandemic. *AL Insyirah Int Scientific Conference Health*. 2021;2.
  55. Ringim KJ, Ibrahim F, Kura KM. Application of Hill's Strategy Development Framework on Fast Food Restaurant Business in Brunei Darussalam. *Proceedings of the 2<sup>nd</sup> Conference on Technol Operations Management*. 2018;1.
  56. Yun TC, Ahmad SR, Quee DKS. Dietary Habits and Lifestyle Practices Among University Students in Universiti Brunei Darussalam. *Malays J Med Sci*. 2018;25(3):56-66.
  57. Bondoc AF, Florendo HF, Taguiwalo EJ, Eustaquio. Life in the Fast-Food Lane: Understanding the Factors Affecting Fast Food Consumption Among Students in the Philippines. *Philippine Statistician*. 2019;68(1):75-101.
  58. Chavasit V, Photi J, Kriengsinyos W, Ditmetharaj M, Preecha S, Trotsirin K. Overcoming the Trans-Fat Problem in Thailand. *Curr Developments Nutri*. 2019;3(6).
  59. Paeratakul S, Ferdinand DP, Champagne CM, Ryan DH, Bray GA. Fast-Food Consumption Among US Adults and Children: Dietary and Nutrients Intake Profile. *J Am Diet Assoc*. 2003;103:1332-8.
  60. Brown DJ, Goodman J. A Review of Vitamins A, C, and E and their Relationship to Cardiovascular Disease. *Clin Excell Nurse Pract*. 1998;2:10-22.
  61. Anderson B, Rafferty AP, Lyon-Callo S, Fussman C, Imes G. Fast-Food Consumption and Obesity Among Michigan Adults. *Preventing Chronic Dis Publ Heal Res Practice Polity*. 2011;8(4).
  62. Duffey KJ, Gordon-Larsen P Jr DRJ, Williams OD, Popkin BM. Differential Associations of Fast Food and Restaurant Food Consumption with 3-y change in body mass index: the Coronary Artery Risk Development in Young Adults Study. *Am J Clin Nutr*. 2007;85(1):201-8.
  63. Lindo JLM, LaGrende J, Eldemire-Shearer D. The Health of Office-Based Workers in Kingston, Jamaica. *Workplace Heal Safety*. 2017;65(2):74-82.
  64. Chandran U, McCann SE, Zirpoli G, Gong Z, Lin Y, Hong C et al. Intake of Energy-dense Foods, Fast Foods, Sugary Drinks and Breast Cancer Risk in African American and European American women. *Nutrition and Cancer*. 2014;66(7):1187-99.
  65. Bohouli J, Moravejolahkami AR, Dashti MG, Zehi ZB, Kermani MAH, Borzoo-isfahani M et al. COVID-19 and Fast-Food Consumption: A Review. *Int J Food Properties*. 2021;24(1):203-9.
  66. Mosquera MJ, Kim S, Zhou H, Jing TT, Luna M, Guss JD et al. Immunomodulatory Nanogels Overcome Restricted Immunity in A Murine Model of Gut Microbiome-Mediated Metabolic Syndrome. *Sci Advances*. 2019;5(3).
  67. Li L, Sun N, Zhang L, Xu G, Liu J, Hu J et al. Fast Food Consumption Among Young Adolescents Aged 12-15 Years in 54 Low-and Middle-Income Countries. *Global Health Action*. 2020;13.

**Cite this article as:** Arya C, Dubey N. A critical review on fast-food consumption pattern among South Asian and Southeast Asian young adults. *Int J Community Med Public Health* 2023;10:2282-90.