
RESEARCH ARTICLE

Practice of Fast Food Consumption among University Students and Variables Associated with the Practice

Saurav Pratheepkumar¹ ✉ Laith Hamdan², Isa Khashiev³ and Jayadevan Sreedharan⁴

¹²³⁴*Department of Community Medicine, Gulf Medical University, Ajman, UAE*

Corresponding Author: Saurav Pratheepkumar, **E-mail:** sauravp8@gmail.com

ABSTRACT

Fast food consumption is one of the most well-known aspects practiced among different societies, being especially popular among children and adolescents. The significance of this study is to analyse college students' knowledge about fast food consumption and find determinant factors along with the prevalence of fast-food consumption among the students of Gulf Medical University. A cross-sectional study was carried out among 400 students at Gulf Medical University. Self-administered structured questionnaires were used for data collection. Out of 400 participants included in the research, 89.25% ate fast food; out of those, 77.5% believed that fast food consumption might cause obesity, 20.2% consumed fast food 1-2 times a month, 84.4% participants expected to spend less than 50 AED on fast food meal, 72.6% said they choose fast food because they enjoyed its taste, 87.9% both ate fast food and worked out, and 66.7% stated that proximity of fast food restaurants determined whether they consume fast food instead of proper food. 89.3% of participants were aware that fast food was unhealthy. One of the main reasons for fast food consumption was the influence of friends. With increasing age, participants became concerned about health complications of fast-food consumption, such as stroke or liver disease. Participants heavily favoured fast food during late-night study sessions as it helped them stay awake. Moreover, participants who consumed fast food also packed sugary/salty snacks as lunches, probably to find a suitable substitution.

KEYWORDS

Assessment – students – fast food consumption - Practice – Knowledge - Gulf Medical University

ARTICLE INFORMATION

ACCEPTED: 01 September 2023

PUBLISHED: 07 September 2023

DOI: 10.32996/jmhs.2023.4.5.2

1. Introduction

Consumption of fast food and takeaway is one of the most popular and uprising trends among adolescents and the younger generation. Fast foods are one of the main reasons for obesity in the younger generations (Ganasegeran K et al., 2012; Nelson MC et al., 2008). Another reason for fast food consumption can be traced back to changes in lifestyle as well as the loss in the family tradition where the whole family eats together, thus resulting in a trigger that causes youngsters to turn towards fast food (Sequeira AH et al., 2014; Kremmyda LS et al., 2008). Throughout the development of society, people have less time to organize a healthy diet, and life in a modern city is now impossible to imagine without fast food chains. The urgency of the issue of fast-food consumption as one of the worldwide threats to an individual's health is highlighted by the fact that it is a diet high in calories, saturated fat, sugar, and sodium, leading to an increase in body fat, weight gain and increased body mass index (Dingman D et al., 2014). For instance, a study conducted in China has shown that medical students are at a higher risk of developing chronic diseases due to poor eating habits. This is mainly due to the stress and pressure that occurs in the course (Bahadoran Z et al., 2013).

Frequent consumption of fast-food results in various health problems such as diabetes, stroke, heart disease, etc. (Bahadoran Z et al., 2013). Increased levels of MetS were recorded in adults younger than 30 years of age, who have bigger waist circumference and consumed less vegetables and fruits (Bahadoran Z et al., 2013). Foods rich in phytochemicals (e.g., grains, beans, and

vegetables) are absent in many fast-food chains, being essential components of the nutrition in a healthy diet (Myplate, 2015). Fast food contains more calories and less micronutrients, vitamins, and fiber (Jaworowska A et al., 2013).

People's eating habits also changed, reflecting the rapid development of technology, as people today rely on quickly prepared meals more (Horsu EN & Yeboah ST, 2015; Zafar IM, 2016). While focusing on saving time and effort rather than money, students are more prone to follow more accessible techniques of readily available problem-solving than work on solutions by themselves, leading to food consumption, which is considered unhealthy, i.e., fast food (Shah T et al., 2014). One explanation for the increased fast food intake could be easy access to fast food outlets. We delved further into the literature to determine whether the placement of fast-food outlets caused an increase in fast-food intake in students.

Shah et al. conducted a study in 2014 among medical students regarding their fast-food consumption, where the vast majority consumed fast food regularly (Shah T et al., 2014). Another detrimental association was the addition of soft drinks along with fast food meals, which was a common practice for more than half the subjects (more common in overweight and obese subjects) (Shah T et al., 2014). Al-Rethaiaa et al. and Yahia et al. reported that 30-50% of the subjects were overweight or obese due to this transition of food habits, creating tremendous health risks (Al-Rethaiaa AS et al., 2010; Yahia N et al., 2008). Daily snacks were more common among Lebanese students (50-55%) than Saudi students (32%) (Al-Rethaiaa AS et al., 2010; Yahia N et al., 2008). Another study conducted by Ganasegeran et al. in Malaysia among university students has shown that social and psychological factors significantly influenced eating habits among medical students (Ganasegeran K et al., 2012). Due to the easy availability of fast food, it is important to understand why and how college students choose their food, belonging to one of the most targeted groups among fast food consumers (Vidya B et al., 2015).

2. Materials and Methods

A cross-sectional study was conducted among students of Gulf Medical University. Participants were males and females, 18 years of age and above, students of years 1-3 of programs MBBS, DMD, Pharmacy, BPT, BBMS, BHS, and ADCPS. Based on the statistics obtained from the review of the literature (Al-Rethaiaa AS et al., 2010; Yahia N et al., 2008), we assumed the size of the sample population was equal to 400.

Data were collected using a self-administered questionnaire with structured, open-ended, and close-ended questions. Three public health experts validated the questionnaire. Their suggestions were incorporated, and final approval was obtained from our supervisor. Approval of the study was obtained from the Gulf Medical University Ethics Committee before the start of the study. Afterwards, a pilot study was conducted on five GMU participants that assessed the feasibility of the questionnaire. Subsequently, the questionnaire was modified based on the feedback provided by the participants and finalized. Before the administration of the questionnaires, written consent was obtained from the participants. Participation was completely voluntary, and the participants had the right to withdraw from the study at any time. Participants were recruited conveniently till the required sample size was achieved.

Data were analysed using SPSS version 26. The Chi-square test was used to determine the factors associated with consuming fast food. Simple and binary logistic regression models were used to determine the factors influencing the consumption of fast food.

3. Results

Of the 400 participants included in the research, 357 (89.25%) ate fast food. Out of those 357, 72 (20.2%) participants consumed fast food 1-2 times a month, and 73 (20.4%) participants consumed fast food 5-6 times a month (Figure 2).

Ninety-one participants (22.8%) believed that fast food consumption might cause liver disease; out of those, 48 participants were from the age group 18-19 (19.0%). There was a significant association (<0.05) between the age of the participant and one's opinion on whether fast-food consumption can cause liver disease (Table 1).

189 (94.0%) participants in the age group between 18 and 19 years admitted that they prefer eating fast food in the company of friends. There was a significant association (<0.05) (Table 2).

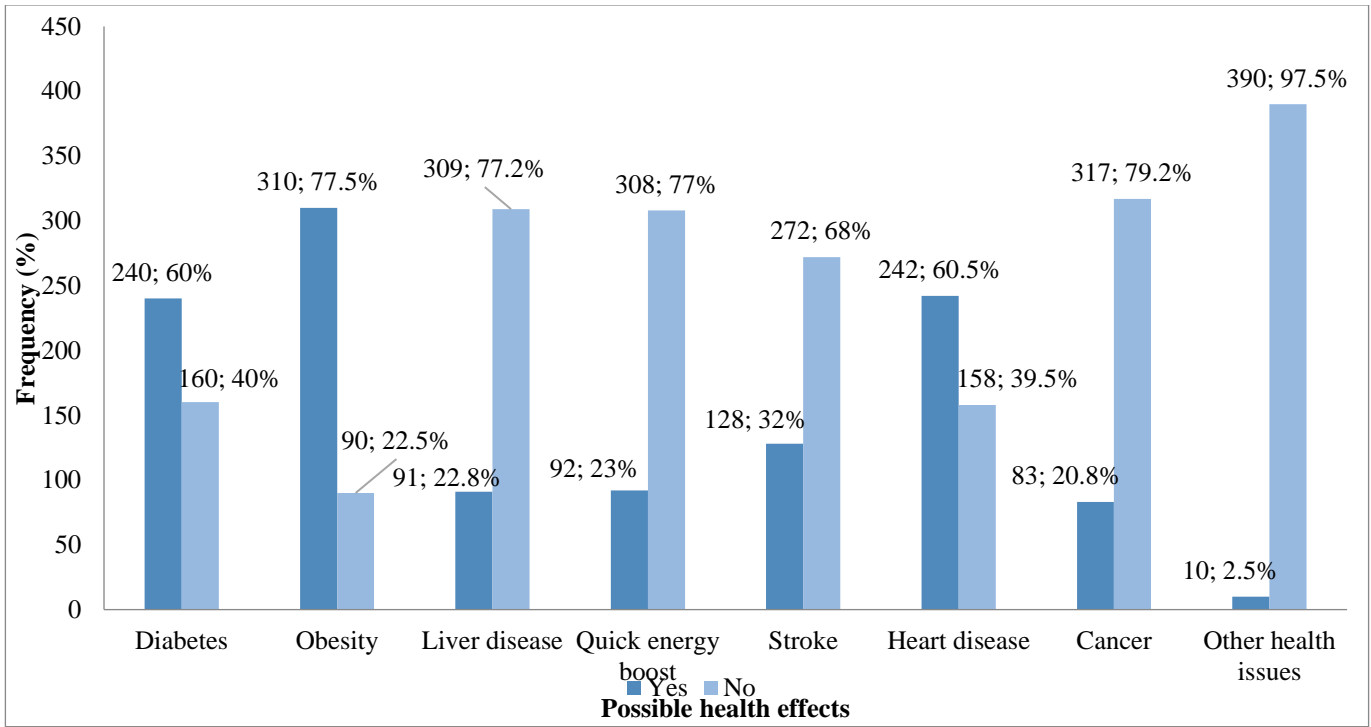


Figure 1

Frequency distribution of possible health effects caused by fast food consumption according to participants' knowledge of it

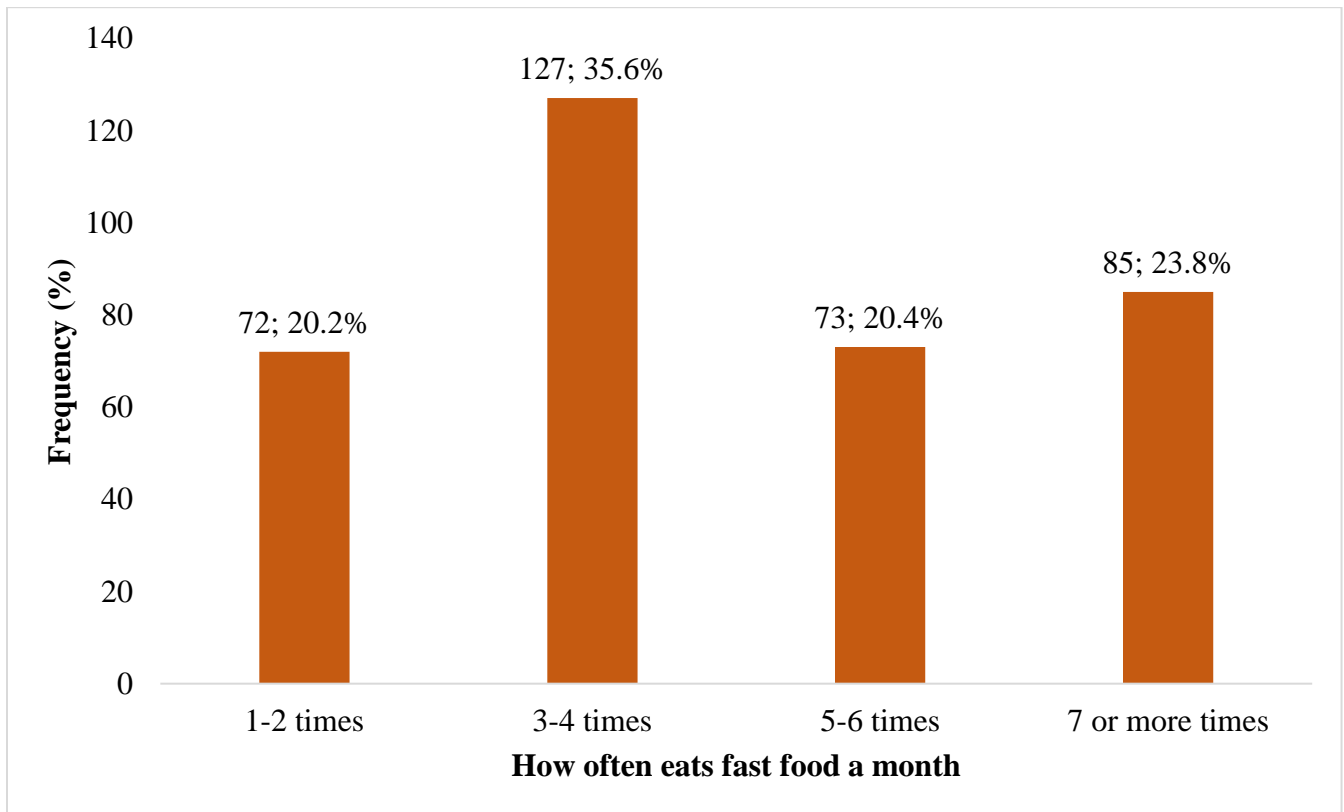


Figure 2

Frequency of fast-food consumption among participants

Table 1*Association between knowledge about possible health effects of fast-food consumption and age of participants*

Variable	Options	Age in years				Total	P
		18-19		>=20			
		No.	%	No.	%		
Diabetes	No	107	42.3	53	36.1	160	NS
	Yes	146	57.7	94	63.9	240	
Obesity	No	57	22.5	33	22.4	90	NS
	Yes	196	77.5	114	77.6	310	
Liver disease	No	205	81.0	104	70.7	309	<0.05
	Yes	48	19.0	43	29.3	91	
Quick energy boost	No	200	79.1	108	73.5	308	NS
	Yes	53	20.9	39	26.5	92	
Stroke	No	182	71.9	90	61.2	272	<0.05
	Yes	71	28.1	57	38.8	128	
Heart disease	No	104	41.1	54	36.7	158	NS
	Yes	149	58.9	93	63.3	242	
Cancer	No	208	82.2	109	74.1	317	NS
	Yes	45	17.8	38	25.9	83	
Others	No	247	97.6	143	97.3	390	NS
	Yes	6	2.4	4	2.7	10	

Table 2*Association between the factors influencing fast-food consumption and its subsequent effects on fast-food consumption*

Variable	Group	Fast food consumption				P
		Yes		No		
		No.	%	No.	%	
Age	18-19	230	90.9	23	9.1	NS
	>=20	127	86.4	20	13.6	
Gender	Male	98	86.0	16	14.0	NS
	Female	259	90.6	27	9.4	
Stress	Yes	133	89.9	15	10.1	NS

	No	224	88.9	28	11.1	
Fast food is Unhealthy	Yes	15	93.8	1	6.3	NS
	No	293	89.3	35	10.7	
Will cause obesity	Yes	8	100.0	--	--	NS
	No	332	89.0	41	11.0	

Table 3

Association between fast food consumption and its patterns among participants of different age groups

Variable	Options	Age in years				Total	P
		18-19		>=20			
		No.	%	No.	%		
Late-night consumption study	No	97	61.0	52	50.0	149	NS
	Yes	62	39.0	52	50.0	114	
Fast food/friends	No	12	6.0	15	13.3	27	<0.05
	Yes	189	94.0	98	86.7	287	
Fast food as a snack	No	64	40.0	45	45.5	109	NS
	Yes	96	60.0	54	54.5	150	
Fast food at events	No	56	38.4	32	41.0	88	NS
	Yes	90	61.6	46	59.0	136	
Fast food/emotions	No	116	65.5	63	60.0	179	NS
	Yes	61	34.5	42	40.0	103	
Fast food/traveling	No	52	32.5	33	34.7	85	NS
	Yes	108	67.5	62	65.3	170	

4. Discussion

Overall, our study participants had a proper understanding of the adverse effects of fast food consumption. This may, in part, be due to the population selected, as the study took place in a medical university. A study conducted by Rasul et al. in 2013 showed that almost 98% of the students have a good knowledge of the adverse effects that fast food can have on them, while Vidya et al. concluded in 2015 that more than 69% of the students had a moderate amount of knowledge regarding effects of fast food consumption on health (Vidya B et al., 2015; Rasul FB et al., 2013). According to another study by Sharma in 2013, 81.67% of the students had below average knowledge regarding fast food consumption and its ill effects, followed by 18.33% of students with moderate knowledge regarding the same (Sharma V, 2013).

Another study on the assessment of knowledge of university students towards fast food consumption, conducted by Khongrangjem et al. in 2017, showed that 31.87% of the participants had poor knowledge, 41.88% had moderate knowledge, and 26.25% had enough knowledge about the various effects of consumption of fast food (Khongrangjem T et al.,2018).

Also, in the current research, 97.9% of participants believed that fast food consumption might cause obesity. In a study conducted in 2009 by Bauer et al. regarding the factors influencing fast food consumption, it was observed that consumption of fast-food

causes obesity as well as diabetes in many cases due to an increased glycemic load (Bauer KW et al., 2009). A study by Abraham et al. reported that most students agreed that obesity is linked to increased fast food consumption and strongly disagreed that it does not affect health (Abraham S et al., 2018).

We also found out that out of 357 participants who ate fast food, 53.5% of participants preferred burgers, 20.7% of participants preferred pizza, and 2.8% preferred fried chicken. A study conducted by Bipasha et al. in 2013 showed that fast foods preferred by the participant students ranged from fried chicken and noodles to pizza and burgers, with about 1/4th of them consuming fast food on an average of 2-4 times per week (Bipasha MS & Goon S, 2011). Based on another study conducted by Vidya et al. in 2015, the following order of preferences of food items (in ascending manner) was stated: noodles (16%), fast foods (19%), pizza (23%), and chat items (42%) (Vidya B et al., 2015).

The present study did not observe any significant association between food price and consumption. However, a study by Steenhuis et al. in 2011 has shown that the price of food is a valuable factor in affecting the consumption of fast food (Steenhuis IH et al., 2011).

This study observed that the reasons for using fast food were 20.5% because of cheaper cost, 72.6% for enjoying its taste, and 41.7% for enjoying being surrounded by people they know. Factors considered by the participants as "absolutely important" in choosing their fast-food restaurant preferences were ranked in the following ascending order: product quality (63.3%), cleanliness and hygiene (70.8%), and taste (72.1%) (Ozdogan Y et al., 2012). These results were strongly supported by the results of the study conducted by Ozdogan et al. in Turkey in 2012, in which factors influencing participants' fast-food consumption were ranked in the following ascending order: taste (22.9%), university life (26.2%), and easy access (28.5%) (Bahadoran Z et al., 2015).

In the current research, 22.8% and 32% of participants believed that fast food consumption might cause liver disease or stroke, respectively. This may suggest that the participants became more mature and health conscious with increasing age, thus becoming more aware of health complications caused by fast food consumption. These findings were partially supported by an intervention study conducted by Bahadoran et al. in 2015, which showed that fast food consumption is associated with non-alcoholic fatty liver disease (NAFLD) (Bahadoran Z et al., 2015).

Out of the 89.25% of participants who consumed fast food, 20.4% consumed fast food 5-6 times a month, and 23.8% consumed fast food seven or more times a month. These results reflect a cross-sectional study conducted by Bipasha et al. in 2013. It demonstrated that out of 200 students who participated, 98.5% of students reported that they enjoy eating fast food, 22% of students reported that they consumed fast food four times per week, and 21.3% stated that they consumed fast food daily (Bipasha MS et al., 2013).

In our study, 314 study subjects expressed their opinion regarding the consumption of fast food with friends; out of those subjects, 94.0% in the age group between 18 and 19 admitted that they preferred eating fast food with the company of friends. There was a significant association regarding this that was found in our study. This helped to suggest that, regardless of age, our study participants preferred to eat fast food with their friends. A study by Ozelik et al. in Turkey in 2007 also showed that 63.5% of their study subjects go to fast food restaurants with their friends (Ng SW et al., 2011), which further supports our association.

Out of the 357 participants who consumed fast food, 7.0% had BMIs over 30, indicating obesity. Furthermore, 23.0% of fast-food-consuming participants had BMIs between 25.0 and 29.9, which indicated being overweight. Despite these results, we could not find an association between the participants' BMIs and fast-food consumption. Be that as it may, the study conducted by Shah et al. in India in 2014 showed a large amount of evidence linking obesity to fast food. This mainly included energy-dense foods such as burgers. According to the study, this leads to passive overconsumption of fast food, which leads to unhealthy weight gain and, eventually, obesity (Shah T et al., 2014). Our study has also shown that out of 357 participants who ate fast food, 87.9% of participants both ate fast food and worked out, while 92.5% ate fast food but did not work out. Cross analysis did not show any significant association. Nonetheless, the study by Ng et al. in 2011 found that due to fast food consumption, moderate to high levels of physical activity were generally higher in adolescent males compared to their female counterparts in Emirati households (Lazarevich I et al., 2018).

Out of the 400 total participants of our study, 65.8% expressed their opinion on whether emotional state influenced fast food consumption. 77.3% of the participants consumed both fast foods and believed emotions influenced their desire to consume fast food. Cross analysis conducted in our study did not show any significant association in either case. Nevertheless, it has been shown

by a study done by Lazarevich et al. in 2018 that most participants in that study were more likely to have changes in eating habits during periods of stress, which led to increased (11-59%) or decreased intake of food (32-72%) (Davis B & Carpenter C, 2009).

In our study, we found out that, out of the 357 study participants who ate fast food, 66.7% stated that the proximity of fast-food restaurants had influenced their decision to consume fast food instead of properly-cooked food. These results did not show any significant association within our study. However, a study done by Davis et al. in 2009, which included about 500,000 Californian students, demonstrated that there was a decrease in the consumption of healthy foods compared to the increase in the consumption of junk food when fast-food outlets were closer (est. 800 m) to the participating students' schools (Hackett A et al., 2008). Also, the research done by Hackett et al. in 2008 has demonstrated that adolescent students had simple access to junk food as they continued to pass by these outlets on their way to school, thus leading them to make unhealthy food choices (Hackett A. et al., 2008).

5. Conclusions

The study aimed to examine fast food consumption patterns and their effects on university students. The researchers assessed students' knowledge and habits regarding fast food and its physical and psychological impacts. The perception of fast food and its consumption and the relationship between proximity to fast food outlets and consumption were also investigated. Results indicated that as participants' age increased, they became more aware of the health risks associated with fast food, such as stroke or liver disease. Those who consumed fast food were more inclined to enjoy sugary or salty snacks they brought as lunches, possibly substituting these for fast food's sugar or salt content. Regular exercisers saw fast food as a convenient energy replenishment after workouts. Socializing with friends or studying at night increased fast food consumption regardless of age.

Participants predominantly consumed fast food due to its accessibility, social appeal, taste, and affordability despite being conscious of its negative health implications. Study limitations included a confined sample from Gulf Medical University, limiting its representativeness, and incomplete questionnaire data due to participant non-compliance, extending data collection time. Future research suggests enlarging the sample size and involving students from diverse institutions to enhance insights into fast food consumption knowledge and prevalence.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

- [1] Al-Rethaiaa AS, Fahmy AEA, Al-Shwaiyat NM (2010). Obesity and eating habits among college students in Saudi Arabia: a cross sectional study. September; 9(39).
- [2] Abraham S, Martinez M, Salas G, (2018). College student's perception of risk factors related to fast food consumption and their eating habits. *J Nutr Hum Health*. 2(1):18-21.
- [3] Bauer KW, Larson NI, Nelson MC, Story M, Neumark-Sztainer D. (2009). Socio-environmental, personal and behavioral predictors of fast-food intake among adolescents. *Public Health Nutr*. 12(10):1767–74. doi: 10.1017/S1368980008004394. [\[PubMed\]](#) [\[CrossRef\]](#)
- [4] Bipasha MS, Goon S (2013). Fast food preferences and food habits among students of private universities in Bangladesh. *South East Asia J Public Health*. 3(1):61–4.
- [5] Bahadoran Z, Mirmiran P, Azizi F. (2015). Fast Food Pattern and Cardiometabolic Disorders: A Review of Current Studies. *Health Promotion Perspectives* 2015;5:231–40. doi:10.15171/hpp.2015.028.
- [6] Bahadoran Z, Mirmiran P, Hosseini EF (2013). Fast food consumption and the risk of metabolic syndrome after 3 years of follow-up: Tehran lipid and glucose study. *Eur J Clin Nutr*. 2013; 67: 1303-09.
- [7] Dingman D, Schulz M, Wyrick D. (2014). Factors related to the number of fast food meals obtained by college meal plan students. *J Am Coll Health*. 62:562-69.
- [8] Davis B, Carpenter C (2009). Proximity of fast-food restaurants to schools and adolescent obesity. *Am J Public Health* 99. 2009; p. 505-10. 10.2105/AJPH.2008.137638 19106421.
- [9] Ganasegeran K, Al-Dubai SAR, Qureshi AM, Al-Abad A-AAA, Rizal AM, Aljunid SM (2021). Social and psychological factors affecting eating habits among university students in a Malaysian medical school: a cross-sectional study. *Nutr J*.18; 11(1):48.
- [10] Horsu EN, Yeboah ST (2015). Consumer perception and preference of fast food: a study of tertiary students in Ghana. *Sci J Bus Manage*, 3:43–49. 10.11648/j.sjbm.20150301.16 12.
- [11] Hackett A, Boddy L, Boothby J (2008). Mapping dietary habits may provide clues about the factors that determine food choice. *J Hum Nutr Diet* 21. p. 428-37 .10.1111/j.1365-277X.2008.00894.x 18647211.
- [12] Jaworowska A, Blackham I, Davies I (2013). Nutritional challenges and health implications of takeaway and fast food. *Nutr Rev*. 2013; 71: p. 310-18.

- [13] Kremmyda LS, Papadaki A, Hondros G, Kapsokefalou M, Scott JA. (2008). Differentiating between the effect of rapid dietary acculturation and the effect of living away from home for the first time on the diets of Greek students studying in Glasgow. *Appetite*. 2008; 50: 455-63.
- [14] Khongrangiem T, Dsouza S, Prabhu P, Dhange V, Pari V, Ahirwar S (2017). A study to assess the knowledge and practice of fast food consumption among Pre-University students in Udupi Taluk, Karnataka, India. *Clinical Epidemiology and Global Health* [Internet]. 2017 [cited 30 January 2018]. Available from: [http://www.ceghonline.com/article/S2213-3984\(17\)30106-9/pdf](http://www.ceghonline.com/article/S2213-3984(17)30106-9/pdf)
- [15] Lazarevich I, Camacho MEI, Velázquez-Alva MC (2018). Depression and food consumption in Mexican college students. *Nutrición Hospitalaria* 2018. Epub ahead of print. October 2018. DOI: 10.20960/nh.1500.
- [16] Myplate. Choosemyplate.gov. (2015). United States Department of Agriculture. Retrieved Nov 25, 2015 from <http://www.Choosemyplate.gov/>
- [17] Ng SW, Zaghoul S, Ali H, Harrison G, Yeatts K, Sadig ME, (2011). Nutrition transition in the United Arab Emirates. *Eur J Clin Nutr*. 2011 July; p. 1328-37.
- [18] Nelson MC, Story M, Larson NI, Neumark-Sztainer D, (2008). Lytle LA: Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change. *Obes*. 2008, 16 (10): 2205-2211. 10.1038/oby.2008.365.
- [19] Ozdogan Y, Yardimci H, Ozcelik A, Surucuoglu M (2018). Fast-Food Consumption Habits of University Students: The Sample of Ankara. *Pakistan Journal of Nutrition* [Internet]. [cited 30 January 2018];11(3):265-269. Available from: https://www.researchgate.net/publication/267985368_Fast-Food_Consumption_Habits_of_University_Students_The_Sample_of_Ankara
- [20] Rasul FB, Shawon MSR, Nazneen S, Hossain FB, Malik SS, Islam MT (2013). Do the dietary and lifestyle practices make the private medical students overweight: A cross-sectional study in Bangladesh. *J Biol Agri Health*. ;3(2):130-9.
- [21] Sharma V. (2013). Adolescents Knowledge Regarding Harmful Effects of Junk Food. *JNHS*. PP 01-04.
- [22] Sequeira AH, Sowmya A, Thomas B, Mahajan C, Kumar C. (2014). A Study on Junk Food Consumption Behavior Among College Students. 2014 Sep 26 [cited 2018 Jan 31]; Available from: <https://papers.ssrn.com/abstract=2502101>.
- [23] Shah T, Purohit G, Nair SP, Patel B, Rawal Y, Shah RM (2014). Assessment of Obesity, Overweight and Its Association with the Fast Food Consumption in Medical Students. *J Clin Diagn Res*; p. CC05-07.
- [24] Steenhuis IH, Waterlander WE (2011). Consumer food choices: the role of price and pricing strategies. *Public Health Nutr*. ;14(12):2220-6. doi: 10.1017/S1368980011001637.
- [25] Vidya B, Damayanthi MN, Sharada R. (2015). Manjunatha Shashikala. Junk food consumption pattern and obesity among school going children in an urban field practice area: a cross sectional study. *J Evid Based Med Hlthcare*. 2015;2 (12):1845-51.
- [26] Yahia N, Achkar A, Abdallah A, Rizk S (2008). Eating habits and obesity among Lebanese university students. *Nutr. J*. Oct; 7(32).
- [27] Zafar IM (2016). Consumer Behavior towards Fast Food. *PJFS*. Mar; 4(1): 71-75.