




ORIGINAL

## Study of the Incidence and Risk Factors for Consuming Junk Food among Adults

### Estudio de la incidencia y los factores de riesgo del consumo de comida basura entre los adultos

Amrita Sarkar<sup>1</sup>  , Krishna Prasanth Baalann<sup>2</sup>  , Gopi M<sup>3</sup>  , Preeti Shukla<sup>4</sup>  , Nipun Setia<sup>5</sup>  , Prathima P<sup>6</sup>  

<sup>1</sup>Tomo Riba Institute Of Health And Medical Sciences (TRIHMS), Department of Community Medicine and Medical Education Unit, Naharlagun, India.

<sup>2</sup>Sree Balaji Medical College and Hospital, Bharath institute of Higher Education and Research, Department of Community Medicine, Chennai, Tamilnadu, India.

<sup>3</sup>Sri Lalithambigai Medical College and hospital, Dr.M.G.R Educational and Research Institute, Department of physiology, Chennai, India.

<sup>4</sup>MMDU, Department of food technology, Mullana, Ambala, Haryana, India.

<sup>5</sup>Centre of Research Impact and Outcome, Chitkara University, Rajpura, Punjab, India.

<sup>6</sup>Sree Vidyanikethan College of Nursing, Department of Obstetric and Gynecology Nursing, Tirupati, Andhra Pradesh, India.

**Cite as:** Sarkar A, Prasanth Baalann K, M G, Shukla P, Setia N, P P. Study of the Incidence and Risk Factors for Consuming Junk Food among Adults. Salud, Ciencia y Tecnología. 2024; 4:.1279. <https://doi.org/10.56294/saludcyt2024.1279>

**Submitted:** 14-05-2024

**Revised:** 12-09-2024

**Accepted:** 15-02-2025

**Published:** 16-02-2025

**Editor:** Prof Dr. William Castillo-González 

**Corresponding author:** Amrita Sarkar 

#### ABSTRACT

Junk food (JF) impacts are evolving into a major health problem on a global scale due to their deteriorating health consequences and growing appeal. Considering the reality that everyone of any age is frequently affected by its adverse health effects, children and adolescents are more at risk. This study investigated the factors associated with undergraduate students for consumption of JF. The study aims to analyze undergraduate students' dietary habits and trends regarding Junk food consuming (JFC). The dataset includes 200 college students (98 men and 102 females) and Spearman's rank correlation (SRC) is used to measure their JFC patterns, allowing specialists to investigate monotonic relationships while making hard descriptive assumptions. In addition, 17 % of students eat fast food while hanging out with friends or family. In addition to there are 13 % of students reported there felt more convenient as a consequence of fast food being accessible everywhere, including at academic canteens. Moreover, 20 % of students turn to fast food as a stress reliever. It is imperative that college students are made conscious of the value of keeping a healthy diet. It is essential to educate college students about the adverse consequences with JF and the advantages while maintaining a balanced diet. The Indian government needs to regulate advertisement standards, as well as inflated medical representations provided by junk food manufacturers. It is recommended to utilize a suitable strategy designed for adolescents to change their eating habits.

**Keywords:** Nutrients; Food Preferences; Adolescents; Non-Communicable Disease; Junk Food Consumption.

#### RESUMEN

Los efectos de la comida basura (JF) se están convirtiendo en un importante problema de salud a escala mundial debido a sus consecuencias perjudiciales para la salud y a su creciente atractivo. Teniendo en cuenta la realidad de que todas las personas de cualquier edad se ven afectadas con frecuencia por sus efectos adversos para la salud, los niños y los adolescentes corren un mayor riesgo. Este estudio investigó los factores asociados a los estudiantes universitarios para el consumo de JF. El estudio pretende analizar

los hábitos dietéticos y las tendencias de los estudiantes universitarios en relación con el consumo de comida basura (JFC). El conjunto de datos incluye a 200 estudiantes universitarios (98 hombres y 102 mujeres) y se utiliza la correlación de rangos de Spearman (SRC) para medir sus patrones de JFC, lo que permite a los especialistas investigar las relaciones monótonas al tiempo que se realizan supuestos descriptivos duros. Además, el 17 % de los estudiantes consume comida rápida mientras sale con amigos o familiares. Además, el 13 % de los estudiantes afirma sentirse más cómodo como consecuencia de que la comida rápida sea accesible en todas partes, incluidos los comedores académicos. Por otra parte, el 20 % de los estudiantes recurre a la comida rápida para aliviar el estrés. Es imperativo que los estudiantes universitarios tomen conciencia del valor de mantener una dieta sana. Es esencial educar a los universitarios sobre las consecuencias adversas con JF y las ventajas manteniendo una dieta equilibrada. Es necesario que el gobierno indio regule las normas de publicidad, así como las representaciones médicas infladas que ofrecen los fabricantes de comida basura. Se recomienda utilizar una estrategia adecuada diseñada para que los adolescentes cambien sus hábitos alimentarios.

**Palabras clave:** Nutrientes; Preferencias Alimentarias; Adolescentes; Enfermedades No Transmisibles; Consumo De Comida Basura.

## INTRODUCTION

The foundation for environment and science classifies any food that is high in energy and elements while poor in essential elements as junk food (JF). Since JF contains a lot of fat, sugar, as well as salt and little protein, nutrients and mineral content where it has an elevated energy level.<sup>(1)</sup> Due to its elevated calories quantity and insufficient nutrients, JF is not recommended for consumption as part of a balanced diet, which has led to a negative perception toward food.<sup>(2)</sup> The World Health Organization (WHO) claimed that 39 % of overweight persons and 13 % of obese individuals were in the world in 2014.<sup>(3)</sup> As a major global health concern and task for the twenty-first century, adolescent obesity is growing to become increasingly common.<sup>(4)</sup> In addition to changing eating patterns and declining the levels of physical exercise. Increase in obesity rates.<sup>(5)</sup> The alterations in eating habits, that is referred to the nutrition transition, that requires consuming more processed fats, carbs and sweets in addition to less fiber in the diet.<sup>(6)</sup> A person's dietary habits throughout childhood and adolescence significantly influence their probability of becoming obese.<sup>(7)</sup> JF products are high in calories which makes bad options. Junk food has a high fat content and deficient in several important elements.<sup>(8)</sup> Fast food, chips, candies, gum, sugary desserts and alcoholic drinks are a few popular JF items. Consuming high energy meals increases the risk of cardiovascular disease and type 2 diabetes, especially while combined with sugary beverages such fruit juices, energy drinks and carbonated soft drinks.<sup>(9)</sup> Trends like consuming more fast food and skipping breakfast have become common while individuals mature into maturity.

These eating habits are associated with increased weight gain from teenage years into adulthood.<sup>(10)</sup> The study goal is to investigate undergraduate student's dietary habits and JFC developments. Study<sup>(11)</sup> examined the relationships between college students' categories of anxiousness, stress and depressive symptoms with the amount of JF that consume. The technique of logistic regression was used to calculate the odds ratios (ORs) and confidence intervals of 95 %. The association among university students' JF intake and the intensity of anxiety, stress and depressive symptoms was evaluated using these statistical metrics. Research<sup>(12)</sup> evaluated the relationship between early adult female university students' consumption of JF and their menstrual health. Eating JF has a harmful influence on menstruation health among early adult females enrolled in graduate programs at universities. Study<sup>(13)</sup> investigated the impact of fast-food intake on college bound students' health. For quantitative data analysis, statistical tools for social sciences (SPSS) were employed. Fat, sugar, high blood pressure, cholesterol and heart problems that were the main health effects of fast food on students were headed to college. Research<sup>(14)</sup> determined the impact of educational intervention on engineering students' awareness of the health risks associated with JF intake. The preliminary research group was included a posttest and pretest methodology. The study<sup>(15,16)</sup> investigated the health-related variables, including perceived risk and perceived health consciousness that drive an individual's intention to abstain from JF consumption. Additionally, it explores the impact of excessive emphasis on a person's intentions to abstain from JF consumption. The research<sup>(17,18,19)</sup> determined the level of awareness and quite often teenagers consume JF. Among teenagers enrolled in secondary education, a longitudinal analysis was performed. Study<sup>(20,21)</sup> investigated the consumption of JF and responsibility among gymnasts and non-athletes. The results showed that, as compared to their gymnastic athlete counterparts, non-athletes had a greater attitude towards JF intake. Research<sup>(22)</sup> investigated the factors that affect dietary habits and physical exercise of teenagers residing in the slums of Mumbai, as seen by the teenagers and the people that care for children.

## METHOD

The global entire population is facing a major problem due to the increasing incidence of JFC and its detrimental effects on health. The SRC approach was used to evaluate a dataset of 200 college students, 98 of whom were male and 102 of whom were female. Professionals investigate monotonic linkages using this correlation approach without being constrained by strict descriptive assumptions, that leading to a deeper understanding of JFC patterns and their consequences.

### Dataset

The dataset comprises 200 undergraduate students 98 male and 102 of female whose habits regarding the intake of JF are measured for extensive comprehension and analysis.

### Spearman rank correlation

The SRC between the same two variables is equivalent to the Pearson correlation between their rank values; the SRC assesses monotonic correlations, whereas the Pearson correlation assesses linear links. By rating the data using SRC, professionals investigate the direction and size of monotonic correlations rather than relying on the actual numbers. It relieves statisticians of the burden to worrying about data conforming to strict parameterization presumptions that enable for insight into JF intake patterns.

### Junk FoodConsumption (JFC)

The assessment of JFC concentrated on four types of dietary items: beverages, fast food, salty snacks and desserts. The World Health Organization (WHO) emphasizes that consuming unhealthy foods and drinks in excess poses a risk and is a significant contributor to non-communicable diseases (NCDs). The risk of metabolic syndrome is increased by JF, sugar-filled drinks and alcoholic beverages, making them especially concerning in this group of substances. Metabolic syndrome is linked to major health concerns, such as early mortality, when paired with prolonged, imbalanced intake and a sedentary lifestyle.

## RESULT AND DISCUSSION

The study analyzes undergraduate students' consumption of junk food considering their gender, weight, family history, age and frequency of fast-food intake into the consideration. Its purpose is to comprehend the frequency, trends and possible effects of eating junk food. The results have the potential to improve general health by informing public health initiatives and encouraging young adults to adopt healthier eating habits.

### JF intake among different type of age group students

Age has a major role in junk food eating habits, especially for undergraduate students who are usually in their late teens or early twenties. This stage is marked by a rise in the amount of JF consumed by students due to frequent college get-togethers with classmates and increasing pocket money from parents. Students were split into three age groups, as shown in Table 1 and Figure 1. The part analyzed the intake of junk food among the students with various ages; approximately 48 % are between the ages of 18 to 21. In close succession, 41,5 % of students are between the ages of 22 to 25, while the remainder of 10,5 % is between 26 to 31.

Table 1. Metrics outcomes with student age		
Number of students (n=200)	Age category (year)	Percentage (%)
96	18 to 21	48
83	22 to 25	41,5
21	26 to31	10,5

### Students are categorized based on gender for CJF

Approximately 53,5 % of the student population was female and 46,5 % was male, as seen in table 2 and figure 2. Males consume more fast food than females, according to multiple analyses. Male students' regular participation in social events, parties, and athletic activities with friends, coworkers, or classmates leads to a tendency to eat food from outside sources.

### Student's intake JF across different weight categories

Junk food intake has a direct effect on an individual's weight. This is mostly owing to the high salt level, which causes water retention and the high fat content, which the body is not completely use and instead stores as fat in adipose tissues, which causes weight gain. Table 3 and figure 3 shows the 34 % of students were considered normal weight, 28 % were considered overweight, 27 % were considered obese, and 11 % were considered underweight.

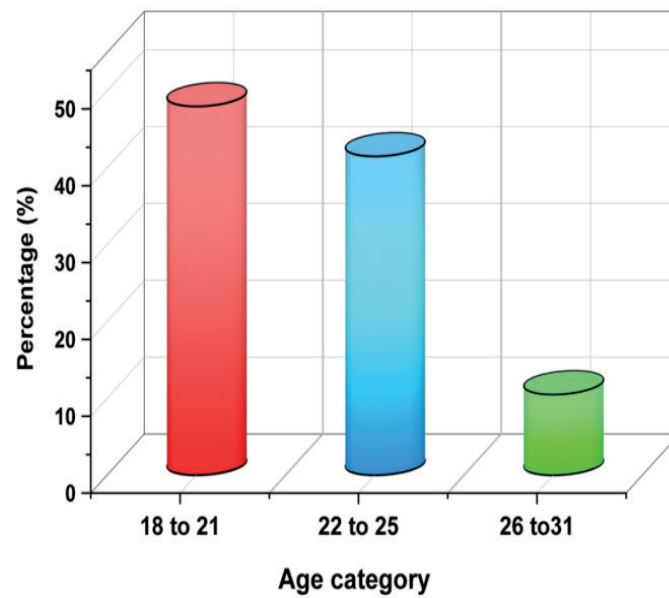


Figure 1. Visual depiction with student age

Table 2. Metrics outcomes with student gender		
Number of students (n=200)	Gender category	Percentage (%)
107	Female	53,5
93	Male	46,5

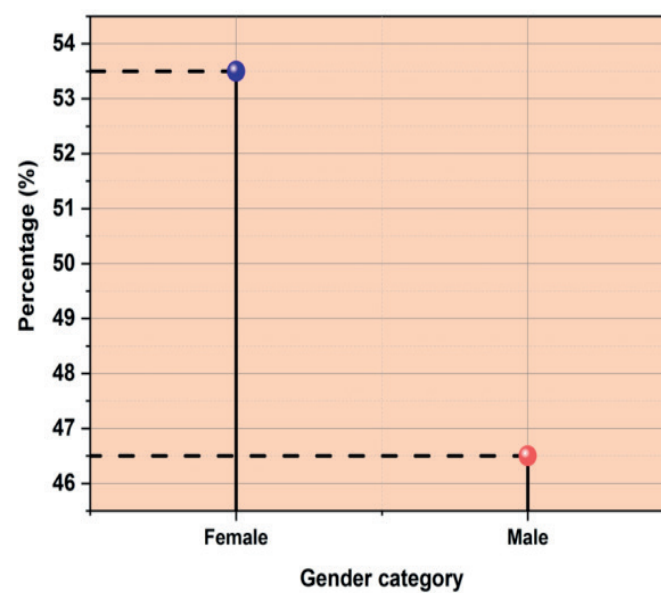


Figure 2. Visual depiction with student gender

Table 3. Metrics outcomes with student weight		
Number of students (n=200)	Weight	Percentage (%)
54	Obese	27
67	Normal	34
23	Underweight	11
56	Overweight	28



Figure 3. Visual depiction with student weight

**Student’s family history for CJF**

Almost 56 % of the student population indicated a family history of no communicable illnesses. Diabetes and heart disease are two common illnesses. In contrast, 44 % of students said that their families had no history of such disorders presented in Table 4 and Figure 4. Students with a family history of certain illnesses were found to be aware of the negative effects of poor eating habits and made efforts to reduce their fast food consumption.

Table 4. Metrics outcomes of student family history		
Number of students (n=200)	Family history	Percentage (%)
88	No	44
112	Yes	56

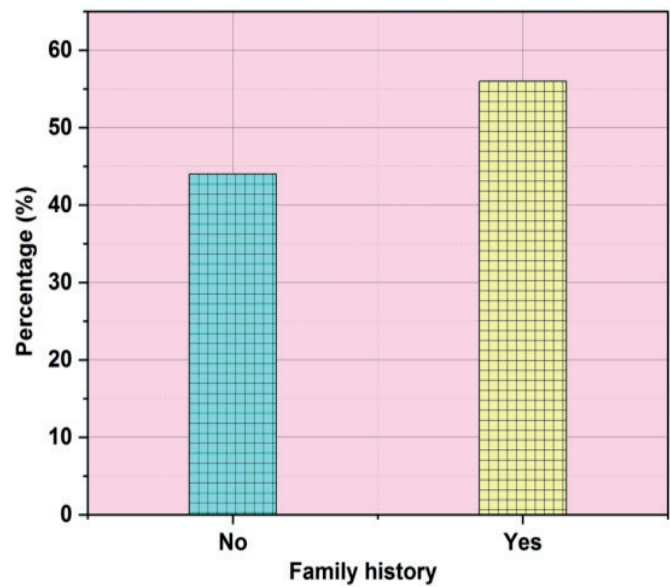


Figure 4. Visual depiction with student family history

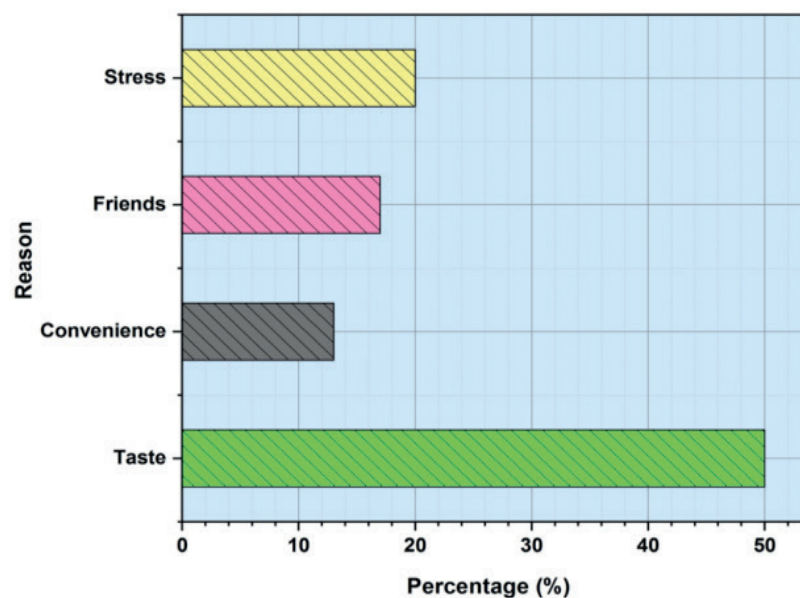
**Reason for consuming fast food**

The CJF data shown in figure 5 and table 5, 50 % of students choose fast food because of its pleasant flavor.

Furthermore, 17 % of students eat fast food when socializing with family or friends. Furthermore, 13 % of students reported that the ubiquitous availability of fast food in venues such as canteens reduces the need to bring meals from home, giving them a sense of ease. Furthermore, 20 % of students reported using fast food to cope with stress.

**Table 5.** Matrices outcomes of fast-food consuming

Reason	Percentage (%)
Taste	50
Convenience	13
Friend's parties	17
Stress	20



**Figure 5.** Visual depiction of fast-food consuming

## DISCUSSION

Experts warn of growing food addiction risks, particularly in ultra-processed foods, leading to increased metabolic illnesses and obesity rates, especially among younger people. Intervention methods and public awareness are crucial. A troubling pattern that has been shown by several scientific research of young people is eating less fruits and vegetables, which spoils their health.<sup>(23)</sup> The body would not have received sufficient essential fiber and antioxidants for detoxification due to these other activities. To ensure youngsters have the essential nutrients essential to their general health. This means making certain that they obtain all the necessary vitamins, minerals, and other key elements that are required for their best possible health and growth. The use of sweetened drinks, smoking, alcohol and fewer vegetables is linked to the consumption of junk food products. These other activities would have prevented the body from getting enough essential fiber and antioxidants for detoxification. Thus, micronutrient deficiency is a long-term consequence of poor and imbalanced dietary connections, which significantly change one's state of health.<sup>(20)</sup> The study finds that educating college students about the adverse consequences of JF and the advantages of maintaining a balanced diet is essential.

## CONCLUSION

The JF consumption among undergraduate students has spread widely, affecting restaurants, homes, educational institutions and public transit, among other aspects of everyday life. The significance of connections to relatives and friends, which have played a significant role in encouraging increased spending patterns, is unable to overstate. The most powerful force in the marketing of junk food has been peer influence, which has been aided by media coverage. Even though both teenage and young adult students are aware of the negative health effects linked to these diets, students always consume large amounts of junk food. Its enduring popularity is related to its easy accessibility and practical packaging, highlighting the difficulty in eradicating

harmful eating practices in modern culture. While interacting with friends or family, 17 % of students choose to eat fast food. Additionally, 13 % consider it beneficial that fast food is readily available, especially at canteens, as it eliminates the need for home meal preparation. In addition, 20 % of students use fast food as a coping mechanism for stress. It is imperative that college students are made aware of the drawbacks of fast food and the benefits of eating a balanced diet. JF has an overabundance of calories, sugar, and bad fats and is deficient in important elements including minerals, vitamins, and fibers. To prevent the younger generation from falling prey to JF addiction and subsequently developing non-communicable diseases like obesity, diabetes and cardiovascular ailments, nutrition education programs should be implemented in colleges as well as schools.

## REFERENCES

1. Ertz, Myriam, and Guillaume Le Bouhart. "The other pandemic: a conceptual framework and future research directions of junk food marketing to children and childhood obesity." *Journal of Macromarketing* 42.1 (2022): 30-50.
2. Jensen, Melissa L., and Marlene B. Schwartz. "Junk food consumption trends point to the need for retail policies." *The American Journal of Clinical Nutrition* 114.3 (2021): 837-838.
3. Begum, Rukaiah Fatma, Ankul Singh, and Sumithra Mohan. "Impact of junk food on obesity and polycystic ovarian syndrome: mechanisms and management strategies." *Obesity Medicine* 40 (2023): 100495.
4. Alfayad, Khaldoon, et al. "Population exposure to alcohol and junk food advertising during the 2018 FIFA world cup: implications for public health." *BMC public health* 22.1 (2022): 908.
5. Wijaya, Nadya Videlia, Dahliah Dahliah, and Erni Pancawati. "The Impact of Junk Food Eating Habits on Body Weight." *OPSearch: American Journal of Open Research* 2.7 (2023): 567-573.
6. Soon, Lindsey, Jason Gilliland, and Leia M. Minaker. "Junk Food Accessibility After 10 Years of a Restrictive Food Environment Zoning Policy Around Schools: An Equity-Focused Simulation Study." *Journal of the American Planning Association* 89.2 (2023): 196-209.
7. Manna, Nirmalya, et al. "An epidemiological study on junk food consumption and nutritional status among adolescents attending Medical College and Hospital, Kolkata." *National Journal of Physiology, Pharmacy and Pharmacology* 13.7 (2023): 1554-1558.
8. Sun, Skylar Biyang, and Xiaohang Zhao. "Your Classmates Eat Junk Food and You Become Depressed—the Peer Effects of Junk Food Consumption on Depression." *International Journal of Mental Health and Addiction* (2023): 1-15.
9. Mehar, Priya, et al. "Composition of Common Junk Food Items and Their Contribution to the Dietary Requirement of Children and Adolescents." *Indian Pediatrics* 60.3 (2023): 221-223.
10. Mohamed Ahmed Ayed, Manal, et al. "Effect of designed nursing program regarding junk food on school-age children's awareness and their growth." *Egyptian Journal of Health Care* 14.2 (2023): 26-42.
11. ElBarazi, Amani, and Rajiv Tikamdas. "Association between university student junk food consumption and mental health." *Nutrition and Health* (2023): 02601060231151480.
12. Qureshi, Nimra, Asif Ali, and Faizan Ahmad Qureshi. "Association between Junk Food Consumption and Menstrual Health among Early Adults Female University Students." *Journal of Development and Social Sciences* 4.3 (2023): 261-269.
13. Abbas, Saira, et al. "Analyze the Effects of Fast Food on the Health of College Going Students." *Pakistan Journal of Medical & Health Sciences* 16.02 (2022): 1053-1053.
14. Mishra, Rakhi, et al. "Effect of educational intervention on awareness regarding health hazards of junk food consumption among engineering students." *International Journal of Medical Pediatrics and Oncology* 7.2 (2021): 73-78.
15. Shimul, Anwar Sadat, Isaac Cheah, and Andrew Jerr Lou. "Regulatory focus and junk food avoidance: The

influence of health consciousness, perceived risk and message framing.” *Appetite* 166 (2021): 105428.

16. Machaca MH. Relationship between physical activity and quality of work life in accountancy professionals: A literature review. *Edu - Tech Enterprise* 2024;2:13-13. <https://doi.org/10.71459/edutech202413>.

17. Paudel, Radha, and Sarita Shrestha. “Awareness and practice of junk foods among adolescents in secondary level students.” *Medical Journal of Shree Birendra Hospital* 20.2 (2021): 104-109.

18. Romero-Carazas R. Collection Management Model for Late Payment Control in the Basic Education Institutions. *Edu - Tech Enterprise* 2024;2:12-12. <https://doi.org/10.71459/edutech202412>.

19. Sohail, Muhammad, Asif Ali, and Fariq Ahmed. “Junk Food Consumption and Self-Control among Gymnastics Athletes and Non-Athletes.” *Pakistan Languages and Humanities Review* 7.3 (2023): 362-373.

20. Carrasco MÁA, Apaza VTT. Budget execution of public expenditure of the municipalities. *Edu - Tech Enterprise* 2024;2:10-10. <https://doi.org/10.71459/edutech202410>.

21. Fidel WWS, Cuicapusa EEM, Espilco POV. Managerial Accounting and its Impact on Decision Making in a small company in the food sector in West Lima. *Edu - Tech Enterprise* 2024;2:8-8. <https://doi.org/10.71459/edutech20248>.

22. Chopra, Harsha Vipin, et al. “Conflicts between adolescents and their caregivers living in slums of Mumbai, India in relation to junk food consumption and physical activity.” *Public health nutrition* 24.16 (2021): 5207-5217.

23. Jia, Peng, et al. “Fast-food restaurant, unhealthy eating, and childhood obesity: a systematic review and meta-analysis.” *Obesity Reviews* 22 (2021): e12944.

24. Reshi, Irshad Ahmad, Shabir Ahmad Dar, and Shaikh Sobiya Ansar. “An empirical study on the factors affecting consumer behavior in the fast-food industry.” *Journal of Accounting Research, Utility Finance and Digital Assets* 1.4 (2023): 376-381.

#### FINANCING

None.

#### CONFLICT OF INTEREST

None.

#### AUTHORSHIP CONTRIBUTION

*Conceptualization:* Amrita Sarkar, Krishna Prasanth Baalann, Gopi M, Preeti Shukla, Nipun Setia, Prathima P.

*Formal analysis:* Amrita Sarkar, Krishna Prasanth Baalann, Gopi M, Preeti Shukla, Nipun Setia, Prathima P.

*Drafting - original draft:* Amrita Sarkar, Krishna Prasanth Baalann, Gopi M, Preeti Shukla, Nipun Setia, Prathima P.

*Writing - proofreading and editing:* Amrita Sarkar, Krishna Prasanth Baalann, Gopi M, Preeti Shukla, Nipun Setia, Prathima P.