
EXPLORING THE PHENOMENON OF OBESITY AMONG TEENAGERS: CULTURAL PERCEPTIONS, CAUSES, AND PREVENTIVE SOLUTIONS

Novina Aryanti ¹⁾

¹⁾Faculty of Medicine, Wijaya Kusuma Surabaya

novina.aryanti.uwks@gmail.com

Abstract

Adolescent obesity is a growing concern in Surabaya, influenced by multiple interconnected factors such as unhealthy eating habits, lack of physical activity, limited nutritional knowledge, family behaviors, peer pressure, and media exposure. This study identifies these factors and examines their impact on adolescent obesity, supported by the energy balance theory and behavioral epidemiology. Findings indicate that family routines and cultural perceptions of food play significant roles in shaping adolescents' eating behaviors. The study also highlights how peer influence and the portrayal of food and body image in social media contribute to unhealthy lifestyle choices. Solutions proposed include the integration of nutrition education in schools, promotion of fun and social physical activities, and stronger family involvement in monitoring eating habits. Furthermore, school policies should support healthy food choices, and healthcare professionals should provide regular guidance and counseling. A collaborative approach involving schools, families, and health professionals is essential for long-term behavior change. This research emphasizes the need for community-wide efforts to create an environment that promotes healthier lifestyles and aligns with local cultural values.

Keywords: Adolescent obesity, Teenagers, Cultural perceptions

INTRODUCTION

In recent years, the prevalence of overweight among teenagers has risen significantly on a global scale, and Indonesia is no exception. According to data from the World Health Organization (WHO), the number of overweight individuals aged 5–19 worldwide has increased more than tenfold since 1975, reaching approximately 124 million cases in 2016¹. In Indonesia, the 2018 Basic Health Research (Riskesdas) reported

that 16% of children and teenagers were classified as overweight—a figure that continues to grow. This trend is often linked to lifestyle changes brought about by modernization, including decreased physical activity and increased consumption of fast food².

Obesity during the teenage years is concerning not only because it can lead to serious health conditions—such as

cardiovascular disease and diabetes—but also due to its psychological effects. Overweight teenagers may experience low self-esteem, emotional distress, and social withdrawal. Therefore, it is crucial to explore the underlying causes of this issue and seek effective strategies for prevention.

This study takes place in Surabaya, one of Indonesia's major urban centers, where teenagers are particularly exposed to the modern urban lifestyle. In such cities, fast food is widely accessible, and sedentary behavior is increasingly common among youth. Research by Turege et al. highlights that a lack of physical activity is a key contributor to obesity among teenagers living in urban environments³. However, most studies tend to examine the issue in isolation, often neglecting the need for collaboration among families, schools, and health professionals to develop holistic solutions.

Previous research has proposed several preventive measures, such as promoting nutrition education in schools⁴, establishing school policies that encourage physical activity⁵, and guiding parents to support healthier eating habits at home⁶. Nevertheless, much of this literature originates from high-income countries with cultural and social contexts that differ significantly from Indonesia. As a result, there remains a gap in research that examines obesity from a more integrated

perspective within the Indonesian cultural framework.

This study adopts a mixed methods approach to achieve two main objectives: (1) to identify the factors contributing to teenage obesity in Surabaya, and (2) to explore culturally sensitive and collaborative solutions by involving teenagers, families, schools, and health professionals. By considering cultural perceptions alongside causes and solutions, this research aims to contribute meaningful insights that can support efforts to combat obesity among teenagers in Indonesian urban settings.

RESEARCH METHODS

This study employed a mixed-methods approach, integrating both quantitative and qualitative research to obtain a comprehensive understanding of the obesity phenomenon among teenagers in Surabaya. The aim was not only to examine the prevalence and contributing factors of obesity but also to explore cultural perceptions and identify feasible preventive strategies involving multiple stakeholders.

Quantitative Phase

In the quantitative phase, data collection was conducted through a structured survey targeting teenagers at risk of being overweight or obese. A

purposive sampling technique was used to select 50 teenagers aged 14–18 years, all residing in Surabaya. Participation required parental consent, and adolescents with chronic medical conditions unrelated to lifestyle were excluded.

The classification of overweight and obesity was based on BMI-for-age percentiles according to World Health Organization (WHO) standards: teenagers with BMI-for-age above the 85th percentile were considered overweight, and those above the 95th percentile were categorized as obese.

The survey gathered data on eating habits, physical activity levels, and smoking behavior to explore their correlation with overweight or obesity. The instrument was pre-tested on a small group of teenagers to ensure clarity and appropriateness within the cultural and linguistic context of Surabaya.

Qualitative Phase

The qualitative phase aimed to gain deeper insights into the cultural and contextual dimensions of teenage obesity. Using a purposive sampling strategy, the study involved 15 parents, 10 schoolteachers, and 10 healthcare professionals. These informants were selected based on their active roles in guiding adolescents and their capacity to reflect on lifestyle, family culture, and community-based health practices.

Semi-structured interviews were conducted to explore individual perspectives on teenage lifestyles, family routines, food culture, perceptions of body image, and the role of schools and healthcare systems in managing obesity. Particular attention was paid to how cultural values and norms influence health behaviors and responses to weight-related issues.

In addition, a Focus Group Discussion (FGD) was held involving a combination of parents, teachers, and healthcare workers. The FGD was designed to foster dialogue and collective reflection on culturally appropriate and practical interventions, allowing participants to propose preventive solutions that are sensitive to local beliefs, behaviors, and resources.

Data Analysis

Quantitative data were analyzed using descriptive statistics to determine the prevalence and distribution of overweight and obesity among participants. Meanwhile, qualitative data from interviews and FGDs were subjected to thematic analysis, identifying key themes related to cultural perceptions, environmental influences, and social dynamics contributing to obesity, as well as community-driven strategies for prevention.

Instrument Validation

To ensure the validity and cultural relevance of the instruments, both the survey and interview guides were adapted from established tools and then validated through pilot testing. The survey instrument was reviewed by public health experts focusing on adolescent nutrition, while the interview guide was examined by a panel consisting of professionals in education, psychology, and health. Feedback from these experts helped refine the tools to suit the cultural context and complexity of the issues studied.

Ethical Considerations

This research was reviewed and approved by the Ethics Committee of Universitas Wijaya Kusuma Surabaya, under the approval number No. 16/SLE/FK/UWKS/2024. The study adhered to ethical standards for research involving human participants, including informed consent, voluntary participation, and confidentiality.

RESULTS

The following table presents the main factors that contribute to obesity among adolescents in Surabaya, based on the results of a survey involving 50 teenagers, and supported by insights from interviews and focus group discussions (FGDs) with parents, teachers, and healthcare professionals. The findings suggest that

adolescent obesity in Surabaya is a multifactorial issue influenced by personal habits, family environments, school systems, cultural values, and social influences. These factors are summarized in Table 1.

Table 1. Factors Contributing to Obesity Among Adolescents in Surabaya

No.	Contributing Factor	Survey Results	Interview and FGD Results
1	Unhealthy eating habits	40 teens eat fast food >3 times/week.	Fast food is easy and tasty, making it popular among teens.
2	Lack of physical activity	33 teens exercise less than twice a week.	Teens sit too much, often using phones or playing games.
3	Lack of nutrition knowledge	30 teens don't understand healthy eating.	Schools lack sufficient nutrition education.
4	Family factors	27 have overweight family members.	Family diet habits strongly influence teen eating behavior.
5	Social environment influence	23 eat similar to their friends.	Peer influence encourages junk food consumption.

1. Unhealthy Eating Habits

A significant majority (40 out of 50 respondents) reported consuming fast food

more than three times per week. This preference is often reinforced by urban cultural norms that associate fast food with modernity, convenience, and social status. In Surabaya's urban setting, fast food chains are accessible and widely marketed, often perceived as a treat or even a sign of economic progress. Interviews with parents indicate that adolescents favor fast food because it is palatable and convenient. Health professionals noted that this pattern often involves skipping traditional meals, such as breakfast, in favor of calorie-dense snacks and sugary drinks. Cultural perceptions also play a role here: traditional home-cooked meals, often perceived as time-consuming or outdated, are gradually being replaced in favor of more "modern" eating patterns.

2. Lack of Physical Activity

The survey indicated that 33 teenagers engaged in physical activity less than twice a week. Teachers observed that most adolescents rely heavily on digital entertainment, spending long hours on gadgets. In addition, parents highlighted a lack of public recreational facilities and the discomfort of Surabaya's hot climate as barriers to outdoor activity. Cultural perceptions surrounding gender roles also emerged: girls are often discouraged from participating in vigorous physical activities due to societal expectations about femininity and behavior. Furthermore,

physical activity is still not widely embedded into the daily lifestyle of urban families, where academic success is often prioritized over physical wellness.

3. Lack of Nutritional Knowledge

Thirty teenagers reported not understanding basic nutrition principles. The interviews revealed that many parents lack sufficient knowledge about balanced diets themselves, and nutrition is rarely taught as a practical subject in schools. This is compounded by cultural beliefs that equate "more food" or "plumpness" with health and prosperity—especially among older generations—creating confusion about what healthy eating entails. Teachers stated that school curricula often include nutrition topics only superficially. Without culturally relevant and engaging materials, adolescents struggle to connect nutritional theory with daily practice.

4. Family Factors

Family environment emerged as a key determinant of adolescent obesity. Twenty-seven respondents came from families with overweight members, and interviews revealed that many households regularly consume high-calorie meals with little dietary regulation. Working parents often opt for takeout or instant meals, setting behavioral patterns that adolescents replicate. In Surabaya, cultural practices that emphasize communal eating and hospitality may also contribute to overeating, as food is

used to express affection and togetherness. Moreover, the low prioritization of physical activity within family routines reinforces sedentary lifestyles among teenagers.

5. Social Environment Influence

The survey found that 23 adolescents tend to eat what their friends eat. Social eating habits—shaped by peer groups and media exposure—play a powerful role. Interviews revealed that teenagers often follow food trends seen on platforms like TikTok or Instagram. The cultural aspiration to appear modern or cosmopolitan is frequently tied to food choices, particularly the consumption of popular or viral snacks. Teachers noted that students are more influenced by influencers or online personalities than by educational campaigns. Thus, peer conformity and digital culture are significant contributors to unhealthy eating patterns.

6. Cultural Perceptions and Their Role in Adolescent Obesity

Across all categories, cultural perceptions significantly influence adolescent behaviors related to food and health in Surabaya. The normalization of fast food, sedentary leisure, and limited physical exertion is reinforced by media, urban lifestyle, and socioeconomic aspirations. In many families, especially those with increasing economic means, consuming fast food is seen as a symbol of upward mobility. Conversely, traditional

foods and physically active lifestyles are sometimes associated with rural or “less modern” identities, leading to their neglect.

Furthermore, the ideal body image among adolescents in some communities does not necessarily align with medical definitions of healthy weight. Some parents do not perceive their overweight children as having a problem, believing that a fuller body signifies good health. These cultural beliefs hinder early intervention and the adoption of healthier behaviors.

To effectively address adolescent obesity in Surabaya, strategies must therefore go beyond education and infrastructure—they must also confront and reshape the cultural narratives that frame food, body image, and health behaviors.

DISCUSSION

This study found that obesity among adolescents in Surabaya is influenced by several main factors: unhealthy eating habits, lack of physical activity, low nutrition knowledge, family behaviors, the social environment—including peer influence and media exposure—as well as cultural perceptions related to food, body image, and lifestyle. These findings reflect both individual choices and broader social and cultural influences, requiring a comprehensive understanding.

Unhealthy Eating Habits and Nutrition Knowledge. Survey data showed that a majority of teenagers frequently consume fast food and sugary snacks. This is in line with previous research [7], which confirmed that high consumption of fat and sugar contributes significantly to obesity, especially in urban areas. Additionally, 37 out of 50 adolescents reported lacking basic knowledge about healthy food. This reflects the gap in school-based nutrition education, as also highlighted by Hamułka et al. [4], who emphasized the role of structured educational programs in improving students' eating habits. Teachers and healthcare workers in this study supported the integration of nutrition education into the school curriculum as a long-term solution.

Physical Inactivity and Sedentary Behavior. One significant contributor is the lack of regular physical activity. Most adolescents reported preferring screen-based activities such as playing games or browsing social media. This is supported by Al Rahmad [8] and Megawati et al. [9], who showed that sedentary lifestyles—marked by long periods of sitting—are major factors in adolescent weight gain. In this study, both teachers and parents acknowledged that schools and neighborhoods lack engaging sports facilities and structured physical activities. This supports the need for more active

school environments as suggested by Micha et al. [5], including school policies that promote physical activity.

Family Influence. Family lifestyle plays a central role. Parents in this study admitted that busy schedules often lead them to choose fast food for their children. Many also do not actively monitor their children's diets. According to Golan & Crow [10], targeting parents in health interventions is essential, as family routines strongly influence adolescent behaviors. In this study, 27 out of 50 adolescents reported having family members who are also overweight, which suggests that eating habits may be learned at home and passed down.

Peer and Social Media Influence. Peer influence emerged as a strong factor in food choice. Adolescents tend to follow their friends' eating habits, especially in social settings. This supports the work of Pedersen et al. [11] and Chung et al. [12], who found that adolescents often adopt the dietary norms of their peer groups for social acceptance. Teachers in this study confirmed that students are more influenced by friends than by adult guidance.

The role of media, especially social media, also cannot be ignored. Platforms like TikTok and Instagram often promote fast food through viral content and influencer marketing, making it appealing to adolescents. Tsochantaridou et al. [13] and

Wang et al. [14] reported similar findings, showing that adolescents are heavily influenced by visual advertisements and food trends shared online. In Surabaya, this influence leads to greater consumption of unhealthy food, as teenagers try to follow what they see online.

Cultural Perceptions. Cultural attitudes also shape adolescent behaviors regarding food and body image. In many urban Indonesian settings, including Surabaya, eating out—especially in fast-food chains—is seen as modern, trendy, and even prestigious among teenagers. Sharing food photos on social media reinforces this perception. Moreover, a larger body size is not always viewed negatively; in some families, being chubby is associated with health or affluence, which may reduce concern about overweight status. This aligns with studies on cultural perceptions of obesity in Southeast Asia, where traditional views on beauty and health may not align with biomedical definitions of overweight. Consequently, efforts to reduce obesity must also address cultural norms and perceptions, ensuring that messages about health and nutrition resonate with local values and identities.

Theoretical Framework Connection. These findings support the energy balance theory, which states that obesity results from consuming more

calories than the body uses [15]. Many adolescents in Surabaya consume high-calorie foods and do not burn enough energy through exercise. This imbalance is made worse by family routines and digital habits. From a behavioral epidemiology perspective, adolescent obesity is shaped by environmental and behavioral factors [9]. In this case, the home, school, peer group, cultural norms, and media environment all contribute to shaping an adolescent's lifestyle choices, confirming the need for multi-level interventions.

CONCLUSION

This study concludes that adolescent obesity in Surabaya is caused by several interconnected factors, such as unhealthy eating habits, lack of physical activity, limited knowledge about nutrition, family influences, peer and media pressures, as well as cultural perceptions surrounding food and body image. Cultural attitudes play a crucial role, as the preference for fast food and larger body sizes are often linked to social status or health in certain cultural contexts, which can reduce concerns about obesity. These findings support the theories of energy balance and behavioral epidemiology, which explain that obesity occurs when there is an imbalance between the calories consumed and the energy used, especially in sedentary lifestyles.

The role of family is critical, as the eating patterns and daily habits at home strongly shape teenagers' food choices. Additionally, peer influence and exposure to social media trends significantly affect how adolescents eat and live. In Surabaya, food choices are also influenced by cultural norms that associate eating out and indulgence in unhealthy foods with modernity or status, making it harder to change behaviors.

To address this issue, the study suggests a variety of strategies. These include providing nutrition education in schools, promoting physical activities that are fun and social, encouraging families to monitor eating habits at home, and creating school policies that support healthy behaviors. Furthermore, involving parents and gaining support from healthcare professionals—such as doctors, nutritionists, and psychologists—is essential for helping teenagers build and maintain healthy habits.

A combined approach that involves schools, families, healthcare professionals, and attention to cultural perceptions can make a lasting difference in preventing and reducing obesity among adolescents in Surabaya. These findings also underscore the importance of community collaboration to create an environment where healthy lifestyles are not only promoted but are also

aligned with the cultural values and social practices of the local context.

REFERENCES

1. WHO. Obesity and overweight [Internet]. 2021 [cited 2024 May 13]. Available from: <https://www.who.int/>
2. Kementerian Kesehatan Republik Indonesia. Cegah Stunting dengan Perbaikan Pola Makan, Pola Asuh dan Sanitasi. Jakarta: KEMENKES RI; 2018 [cited 2024 May 13]. Available from: <http://www.depkes.go.id/>
3. Turege JN, Kinasih A, Kurniasari MD. Hubungan antara aktivitas fisik dengan obesitas di Puskesmas Tegalrejo, Kota Salatiga. *J Ilmu Keperawatan Dan Kebidanan*. 2019;10(1):256–63.
4. Hamułka J, Wądołowska L, Hoffmann M, Kowalkowska J, Gutkowska K. Effect of an education program on nutrition knowledge, attitudes toward nutrition, diet quality, lifestyle, and body composition in Polish teenagers. *Nutrients*. 2018;10:1439.
5. Micha R, Karageorgou D, Bakogianni I, Trichia E, Whitsel LP, Story M, et al. Effectiveness of school food environment policies on children's dietary behaviors: A systematic review and meta-analysis. *PLoS One*. 2018;13(3):e0194555.
6. Scaglioni S, De Cosmi V, Ciappolino V, Parazzini F, Brambilla P, Agostoni

- C. Factors influencing children's eating behaviours. *Nutrients*. 2018;10(6):706.
7. Okfiani L, Ambarwati R, Susiloretni KA. Aktivitas, konsumsi makanan, faktor fisiologis, dan riwayat obesitas keluarga kaitannya dengan obesitas pada pegawai: Studi kasus-kontrol. *Amerta Nutr*. 2022;6(3):245–55.
8. Al Rahmad AH. Sedentari sebagai faktor kelebihan berat badan remaja. *J Vokasi Kesehatan*. 2019;5(1).
9. Megawati, Norazizah R, Norlaila Sofia M. Pengaruh sedentary behavior terhadap obesitas pada anak sekolah. *J Kebidanan*. 2021;11(2).
10. Golan M, Crow S. Targeting parents exclusively in the treatment of childhood obesity: Long-term results. *Obes Res*. 2004;12(2):357–61.
11. Pedersen S, Grønhøj A, Thøgersen J. Following family or friends? Social norms in adolescent healthy eating. *Appetite*. 2015;86:54–60.
12. Chung SJ, Ersig AL, McCarthy AM. The influence of peers on diet and exercise among adolescents: A systematic review. *J Pediatr Nurs*. 2017;36:44–56.
13. Tsochantaridou A, Sergentanis TN, Grammatikopoulou MG, Merakou K, Vassilakou T, Kornarou E. Food advertisement and dietary choices in adolescents: An overview of recent studies. *Children*. 2023;10.
14. Wang CHA, Sher STH, Chung CF. From viral content to real-life cuisine and beyond: Examining teenagers' interactions with TikTok food videos and the influence on their food practices. *Proc ACM Hum Comput Interact*. 2024;8(CSCW2):1–30.
15. Hall KD, Heymsfield SB, Kemnitz JW, Klein S, Schoeller DA, Speakman JR. Energy balance and its components: Implications for body weight regulation. *Am J Clin Nutr*. 2012;95(4):989–94.
16. Green EC, Murphy EM. The Health Belief Model. In: *The Wiley Encyclopedia of Health Psychology*. 2014.
<https://doi.org/10.1002/9781119057840.ch68>
17. Schunk DH, DiBenedetto MK. Motivation and social cognitive theory. *Contemp Educ Psychol*. 2020;60:101832.
18. Setiawati FS, Mahmudiono T, Ramadhani N, Hidayati KF. Intensitas penggunaan media sosial, kebiasaan olahraga, dan obesitas pada remaja di SMA Negeri 6 Surabaya tahun 2019. *Amerta Nutr*. 2019;3(3):142–8.
19. Ickovics JR, et al. Implementing school-based policies to prevent

- obesity: Cluster randomized trial. *Am J Prev Med.* 2019;56(1):e1–11.
20. Partridge SR, Redfern J. Strategies to engage adolescents in digital health interventions for obesity prevention and management. *Healthcare.* 2018;6:70.
21. Drewnowski A. Obesity and the food environment: Dietary patterns and health outcomes. *Nutr Rev.* 2004;27(3).
22. Aqtam I, Darawwad M. Health promotion model: An integrative literature review. *Open J Nurs.* 2018;8(07):485.