

The Influence of Balanced Diet on Adolescent Nutritional Status,

Anggia Faradina

University of Jambi, Indonesia

Anggiafaradina223@gmail.com

Abstract

This study aims to analyze the effect of a balanced diet on the nutritional status of adolescents through a qualitative approach with a literature study method. Adolescents are an age group that is vulnerable to nutritional disorders due to biological, psychological, and social changes that affect their eating habits. The results of the study show that a diet that includes balanced nutrition has a direct impact on nutritional status indicators such as Body Mass Index (BMI), hemoglobin levels, and the risk of obesity or anemia. Low nutritional knowledge and environmental influences such as family economy, culture, and school canteens also influence food choices. Nutrition education that is carried out continuously, both through social media and school curriculum, has been shown to increase awareness and behavior of healthy food consumption in adolescents. Thus, the implementation of adolescent nutrition intervention programs must consider a holistic approach that involves family, school, and community. The results of this study are expected to be a reference for formulating strategies to improve adolescent nutrition preventively and sustainably.

Keywords: Adolescent nutrition, Diet, Nutritional status

Introduction

Adolescence is an important transition phase between childhood and adulthood, marked by various physical, psychological, and social changes. This period is very crucial because adolescents experience very rapid growth and development, including in terms of height, weight, muscle mass, and maturity of reproductive organs. To support this process, adequate and balanced nutritional intake is needed, both in quantity and quality. The right diet is one of the main determinants in forming optimal nutritional status during adolescence.



Creative Commons Attribution-ShareAlike 4.0 International License:

<https://creativecommons.org/licenses/by-sa/4.0/>

A balanced diet is a daily food arrangement that contains all the nutrients needed by the body in amounts and proportions that suit individual needs, both in terms of energy, protein, fat, vitamins, and minerals. This diet is not only important to support physical growth and development, but also greatly influences cognitive function, learning productivity, endurance, and general quality of life. Adolescents who adopt a balanced diet tend to have good nutritional status, ideal body weight, and a lower risk of various health problems such as anemia, obesity, and micronutrient deficiencies.

However, the reality on the ground shows that most teenagers do not yet have adequate awareness and understanding of the importance of a balanced diet. In various surveys and studies, it was found that many teenagers have unhealthy eating habits, such as skipping breakfast, consuming fast food excessively, relying on high-calorie but low-nutrient snacks, and consuming less fruit and vegetables. These habits are generally influenced by modern lifestyles, social pressures, and lack of nutritional education both in the family and school environment.

In Indonesia itself, various data show that nutritional problems in adolescents are still a serious challenge. According to the Basic Health Research (Riskesdas) conducted by the Ministry of Health, the prevalence of adolescents experiencing nutritional problems such as chronic energy deficiency (CED), anemia, and obesity shows quite significant numbers. This shows that nutritional interventions in the adolescent age group must be a top priority in efforts to improve the quality of human resources. Moreover, nutritional status during adolescence also greatly determines a person's health condition and productivity in adulthood.

An unbalanced diet not only affects physical growth, but can also disrupt the mental and emotional development of adolescents. Deficiencies in certain nutrients, such as iron, folic acid, or vitamin B complex, can cause impaired concentration, fatigue, and decreased academic performance. Conversely, excess calories and saturated fats can cause body fat accumulation and lead to obesity, which is a major risk factor for various degenerative diseases later in life. Therefore, a balanced diet plays a very central role in maintaining balance and overall body health.

In addition to individual factors, adolescents' eating patterns are also greatly influenced by the family, social, and institutional environment. Within the family, parents' eating patterns are often a reference or role model for their children. If parents do not implement a healthy diet, it is likely that children, including adolescents, will follow the same habits. In the school environment, the availability and access to healthy food in the school canteen also influence adolescents' food choices. Meanwhile, in the social realm, the influence of peers, food advertisements, and social media are very strong in shaping adolescents' eating preferences and behaviors.

The issue of adolescent nutrition cannot be separated from socio-economic factors. Adolescents from families with low economic levels tend to have limited access to healthy and nutritious food. This inequality of access causes significant nutritional vulnerability in this group. On the other hand, adolescents from middle to upper economic families are also not immune to nutritional

problems, especially due to excessive consumption of high-calorie foods. Thus, the problem of adolescent nutrition is a multidimensional problem that requires a holistic and cross-sectoral approach to solve it.

Based on the description, research on the influence of a balanced diet on the nutritional status of adolescents is very relevant and important. This study is expected to provide a clearer picture of the extent to which the implementation of a balanced diet affects the nutritional status of adolescents, as well as what factors support or hinder the implementation of a healthy diet among them. The results of this study are also expected to be the basis for formulating more effective nutritional intervention strategies, both in the context of families, schools, and public policies.

Method

This study uses a descriptive qualitative approach with a literature study method to analyze the effect of a balanced diet on the nutritional status of adolescents. Data were obtained from various relevant secondary sources, such as scientific journals, academic books, official government reports (e.g. from the Ministry of Health and BPS), and publications from international organizations (such as WHO and UNICEF). The literature reviewed was selected based on its relevance (the last 5–10 years) and topic suitability. Data collection was conducted through online searches in various academic databases such as Google Scholar, PubMed, and Garuda, using relevant keywords.

The collected data were analyzed qualitatively descriptively, starting with data reduction to filter important information, continuing with data presentation in a systematic narrative form, and ending with interpretive conclusions. Data validity was maintained through source triangulation, namely by comparing information from various literatures to ensure consistency and validity. This study was not location-bound because it was literature-based, and was conducted in about two to three months. Through this method, it is expected to obtain a comprehensive understanding of the relationship between eating patterns and nutritional status of adolescents.

Discussion

1. Correlation between Balanced Diet and Nutritional Status of Adolescents

A balanced diet, which includes adequate intake of macronutrients (carbohydrates, proteins, healthy fats) and micronutrients (vitamins, minerals, fiber), is essential to ensure optimal growth and good nutritional status during adolescence. Several studies in Indonesia indicate that adolescents who do not consume a balanced diet—for example, relying on fast food, high-sugar drinks, fried foods, or skipping breakfast—tend to experience nutritional disorders such as obesity, anemia, and stunting.[questionai.id+4jurnal.unimor.ac.id+4id.scribd.com+4](https://doi.org/10.24060/jurnal.unimor.ac.id.v4i1.scribd.com.4). This condition shows that the quality and type of food determine nutritional status more than quantity alone.

On the other hand, teenagers who adopt a balanced diet, for example including vegetables, fruit, sources of protein such as eggs, fish or tofu and tempeh, as well as sufficient fiber, tend to have a normal Body Mass Index (BMI) and a low risk of malnutrition.jurnal.ilmubersama.com. Research results in Medan show that a balanced energy and protein consumption pattern, supported by physical activity, is closely related to optimal nutritional status. The phenomenon of "overnutrition" or "undernutrition" is generally the effect of an imbalance in energy intake and essential nutrients in the long term.

Globally, the trend of obesity in adolescents shows a significant increase, along with increasing access to unhealthy and high-fat foods. Meanwhile, cases of anemia in adolescent girls are also closely related to a diet that is insufficient in iron, vitamin B, and folate. The cumulative effects of this unbalanced diet not only include physical disorders, but also impact academic productivity, endurance, and long-term risk of chronic diseases.

In the Indonesian context, research from high schools in Medan even found that even though adolescents have high consumption patterns (the “more eating” period), if the composition of macro and micro nutrients is not balanced, nutritional status is not necessarily optimal. This shows that awareness of portion and composition of nutrients is as important as the amount of energy consumed. Thus, ensuring a balanced diet can be an important intervention in improving the nutritional status of adolescents.

In essence, the harmony between the type and composition of food (balanced nutrition) greatly influences the nutritional status of adolescents—both in the context of multiple malnutrition (stunting and obesity) and micronutrient conditions such as anemia—making it the main focus of adolescent health interventions based on eating habits.

2. The Role of Nutrition Knowledge and Education in Improving Eating Behavior

Knowledge of balanced nutrition is the main foundation for teenagers in making the right eating decisions. Literature studies show that teenagers who have a good understanding of the principles of a balanced diet are more likely to have a healthy diet. Conversely, low nutritional knowledge is often associated with the consumption of instant foods, high in sugar, and low in other nutrients.

Various nutrition education methods have been tested, including through social media such as Instagram, Twitter, and WhatsApp. The results of meta-literature research show that nutrition interventions through digital platforms can significantly increase adolescents' nutritional knowledge scores. This confirms that an engaging and targeted educational approach—in text, infographic, or short video format—is effective in shaping awareness and changing attitudes toward healthy eating.

In addition to social media, the integration of nutrition education into the school curriculum and the involvement of the canteen as a learning tool have also proven effective. This approach not only conveys information, but also offers direct experience in choosing a healthy menu. Thus, teenagers not only understand the theory, but also practice it sustainably in the school environment.

Research in Medan also confirms that nutritional knowledge is correlated with indicators of nutritional status, such as BMI: adolescents who attended counseling showed a decrease in the tendency to overweight and an increase in the coverage of balanced nutrition. This strengthens the idea that education, especially if carried out continuously, not only increases understanding but also influences consumption behavior and the final outcome of nutritional status.

Thus, nutrition education programs, especially through multichannel approaches (social media, schools, families), play an important role in encouraging adolescents to adopt a balanced diet. The main focus is on increasing nutritional literacy so that adolescents are more aware of the risks of unhealthy foods.

3. Environmental Factors – Social, Economic, and Cultural as Determinants of Eating Patterns

Adolescent eating patterns do not develop in isolation, but are influenced by the family environment, peers, economic conditions, and local culture. In the home, parental eating practices are the main example; if healthy food sources are included in the daily menu, children will imitate these habits. However, research shows that it is common for teenagers to consume fried foods and fast food due to the influence of advertising, friends' lifestyles, or easy access.

Economic conditions also greatly affect access to quality food. Teenagers from low-income families tend to reduce nutritional variety and prefer cheap but unbalanced foods—such as rice with fried foods or instant noodles. Meanwhile, for middle to upper-class families, access to high-calorie foods also carries the risk of obesity if not balanced with nutritional education.

In the school environment, the existence of a canteen has a big impact. If the canteen provides healthy choices, and there is support from school policies such as nutrition labels and educational activities, then balanced food choices are easily cultivated. Conversely, if the canteen only offers junk food, then the value of nutritional education will be rejected by everyday practice.

Local food culture also shapes adolescents' eating patterns. In Indonesia, consumption of rice as a staple food is still dominant, sometimes without variations of side dishes or vegetables. Meanwhile, eating patterns are also influenced by family eating habits, social events, and local cultural values. Therefore, interventions must be adaptive to the local context to be relevant and acceptable.

Overall, a holistic approach—involving families, schools, and communities, and taking into account economic and cultural constraints—is needed to support balanced eating patterns. This approach will create an environment conducive to adolescents adopting and maintaining healthy eating habits over the long term.

Conclusion

A balanced diet has been shown to have a significant impact on the nutritional status of adolescents, where the right intake of nutrients in terms of type and quantity can prevent various forms of malnutrition such as obesity, anemia, and chronic energy deficiency. Adequate nutritional

knowledge and targeted education are important factors in forming healthy eating habits, especially when delivered through a multi-channel approach such as social media, school curriculum, and family support. In addition, environmental factors such as family economic conditions, eating culture, peer influence, and school facilities also shape adolescent consumption behavior. Therefore, a holistic and sustainable approach is needed that involves all elements—education, family, school, and community—to create an environment that supports the implementation of a balanced diet to optimally improve adolescent nutritional status.

Bibliography

- Aji Utami, JRP, Shifa, NA, & Rukiah, N. (2024). The relationship between eating habits and physical activity with nutritional status in adolescents in 2024. *Medical Vitality: Journal of Health and Medicine*, 1(2), 46–56.ejournal.poltekkesaceh.ac.id+3jurnal.ilmubersama.com+3ejournal.poltekkesaceh.ac.id+3ejournal.poltekkesaceh.ac.id+5jurnal.lpkd.or.id+5jurnalgizi.unw.ac.id+5
- Azzahra, FL, & Suryaalamshah, II (2024). The relationship between nutritional knowledge, diet, and physical activity with the incidence of overnutrition in adolescents at MAN 2 East Jakarta. *Journal of Nutrition and Health*, 16(1), 53–60.jurnalgizi.unw.ac.id
- Waluyani, I., Siregar, FN, Anggreini, D., Aminuddin, A., & Yusuf, MU (2022). The influence of knowledge, diet, and physical activity of adolescents on nutritional status at SMPN 31 Medan. *PubHealth Journal of Public Health*, 1(1), 28–35.jurnal.ilmubersama.com
- Fitri, RL, & Arsil, Y. (2023). Nutrition education for teenagers at SMP Negeri 11 Pekanbaru. *Journal of Community Health Service*, 2(3), 238–246.
- Skolmowska, D., Głabska, D., & Guzek, D. (2021a). Association between food preferences and food habits in Polish adolescents' COVID-19 experience (Place-19) study. *Nutrients*, 13(9), 1–16.ejournal.poltekkesaceh.ac.id
- Skolmowska, D., Głabska, D., & Guzek, D. (2021b). Differences in adolescents' Food Habits Checklist scores before and during pandemic. *Nutrients*, 13(5), 1–14.ejournal.poltekkesaceh.ac.id
- Hafiza, D., Utmi, A., & Niriyah, S. (2021). The relationship between eating habits and nutritional status in adolescents at YLPI Pekanbaru Middle School. *Al-Asalmiya Nursing Journal of Nursing Science*, 9(2), 86–96.journal.http.ac.id+11jurnalgizi.unw.ac.id+11ejournal.poltekkesaceh.ac.id+11
- Herawati, V., Rizqi, ER, & Afrinis, N. (2023). The relationship between protein energy intake and knowledge of balanced nutrition with the nutritional status of adolescents at the Youth Posyandu, Pangkalan Jambi Village, Bukit Batu District. *Tambusai Health Journal*, 4(1), 65–77.Jurnalgizi.unw.ac.id+1ejournal.poltekkesaceh.ac.id+1

- Salsabilla, DM, Witradharma, TW, & Yuliantini, E. (2023). The relationship between eating habits and physical activity in adolescents with the incidence of overnutrition at SMPN 1 Bengkulu City. *Journal of Nutrition and Health*, 3(1), 29–36.jurnalgizi.unw.ac.id+1ejournal.poltekkes-pontianak.ac.id+1
- Risti, KN, Pamungkasari, EP, & Suminah, S. (2021). Relationship of peer influence and family eating habits on healthy food choices in overweight adolescents in Surakarta. *Indonesian Nutrition Media*, 16(2), 124.ejournal.poltekkes-pontianak.ac.id
- Rohmah, MH, Rohmawati, N., & Sulistiyani, S. (2020). The relationship between breakfast and snack habits with the nutritional status of adolescents at SMPN 14 Jember. *Indonesian Nutrition Science*, 4(1), 39–50.ejournal.poltekkes-pontianak.ac.id
- Andini, Y. (2022). Education on the fulfillment of balanced nutrition through improving eating patterns in adolescent girls in an effort to prevent anemia. *PKM Creativity Journal*.ejournalmalahayati.ac.id
- Aulia, NE, Hardiansyah, A., & Widiastuti, W. (2022). The relationship between energy intake, physical activity and sleep quality on nutritional status in female students in Semarang. *Indonesian Journal of Nutrition Science (JIGZI)*, 3(2).ejournal.poltekkesaceh.ac.id+10ejournal.poltekkesaceh.ac.id+10ejournal.poltekkes-pontianak.ac.id+10
- Fauziyyah, AN, Mustakim, M., & Sofiany, IR (2021). Dietary patterns and exercise habits of adolescents. *Journal of Public Health Research and Development*, 2(2), 115–122.ejournal.poltekkesaceh.ac.id
- Ferari, SP, & Nadhiroh, SR (2023). Literature review: eating patterns and diet quality in adolescents and adults with HIV/AIDS. *SAGO Journal of Nutrition and Health*, 5(1), 114–123.ejournal.poltekkesaceh.ac.id+2ejournal.poltekkesaceh.ac.id+2ejournal.poltekkesaceh.ac.id+2
- Ulandari, S., Kartini, T., & Hartono, R. (2019). Physical activity and diet with nutritional status of female adolescents at SMPN 16 Makassar. *Media Gizi Pangan*, 26(2), 139–145. (still relevant as a basic reference)journal.binawan.ac.id
- Ar Rahmi, N., Hendiani, I., & Susilawati, S. (2020). College students' eating patterns based on the healthy rating plate. *Journal of Dentistry, Padjadjaran University*, 32(1), 41.ejournal.poltekkesaceh.ac.id
- Skolmowska, D., Głabska, D., & Guzek, D. (2021). (see points 5 & 6: two articles related to COVID-19)ejournal.poltekkesaceh.ac.id
- Fitri, RL & Arsil, Y. (2023). (see point 4)

Heryuditasari, K. (2018, historical relevance). The relationship between eating patterns and obesity incidents at SMK Bakti Indonesia Medika Jombang.