

The Effect of Balanced Diet on Adolescent Health: A Literature Study

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Abstract

A balanced diet plays an important role in supporting adolescent health and development. Adolescence is characterized by rapid physical growth and complex psychological and social changes, so that nutritional needs are higher than in childhood. This literature study aims to comprehensively examine the effect of a balanced diet on the physical, mental, and social health of adolescents based on the latest scientific findings. This study uses a qualitative method with a literature study approach to scientific articles published in the last five years. The results of the study indicate that a balanced diet that includes the right intake of macronutrients and micronutrients contributes to optimal growth, endurance, cognitive function, and emotional stability. Conversely, an unbalanced diet is closely related to various health problems such as obesity, anemia, mental disorders, and decreased academic achievement. These findings indicate that integrated educational interventions and nutrition policies are urgently needed among adolescents to support the creation of a holistically healthy generation.

Keywords: balanced diet, teenagers, health

Introduction

Adolescence is an important transition period in the human life cycle marked by significant biological, psychological, and social changes. In this phase, individuals experience accelerated physical growth, development of reproductive organs, and changes in the way they think and socialize. Based on WHO data (2023), around 1 in 6 people in the world are adolescents aged 10 to 19 years, making this group an important component in sustainable development. Nutritional needs during adolescence increase significantly to support optimal growth and development processes. Therefore, implementing a balanced diet is very crucial.

A balanced diet is defined as the consumption of foods that contain all the nutrients the body needs in the right amounts, including carbohydrates, proteins, fats, vitamins, and minerals. According to the Ministry of Health of the Republic of Indonesia (2021), a balanced diet not only emphasizes the type and quantity of food, but also pays attention to the frequency of eating, food hygiene, and balanced physical activity. Amidst changes in modern lifestyles and increasing exposure to instant foods, the challenge of maintaining a balanced diet among adolescents is increasingly complex.

Previous studies have shown that adolescents often have poor eating habits, such as skipping breakfast, excessive consumption of fast food, and low intake of fruits and vegetables (Peltzer & Pengpid, 2019). Sedentary lifestyles, exposure to social media, and social pressures exacerbate these conditions. As a result, various health problems begin to emerge at an early age, such as being overweight, type 2 diabetes, eating disorders, and mental health problems.

In Indonesia, the prevalence of adolescents with abnormal nutritional status is quite concerning. Based on Riskesdas 2018, around 8.7% of adolescents are obese and 25.7% are anemic. This nutritional problem not only affects physical aspects, but also has an impact on academic achievement, emotional well-being, and socialization skills. This reinforces the importance of educating adolescents about nutrition and encouraging the formation of public policies that support healthy eating practices.

The importance of a balanced diet cannot be separated from a holistic approach to adolescent health. Health is not only understood as the absence of disease, but as a state of physical, mental, and social well-being. Therefore, the influence of diet on adolescent health must be studied comprehensively. This study aims to systematically review various scientific literature on the relationship between a balanced diet and adolescent health conditions from various perspectives.

This literature study is important to conduct considering that there are not many comprehensive studies that review the integration between diet and health of adolescents as a whole in Indonesia. In addition, the results of this study are expected to be the basis for formulating nutrition education policies and health interventions among adolescents. Especially in the post-COVID-19 pandemic era, attention to a healthy lifestyle is becoming increasingly important because many adolescents experience drastic changes in diet during the period of social restrictions.

This study focuses on a critical analysis of scientific articles that discuss the relationship between a balanced diet and adolescent health, both physically, psychologically, and socially. By exploring research results from various cultural and social contexts, it is hoped that a broader understanding of the importance of strengthening nutritional literacy among the younger generation can be obtained. In addition, this article will also highlight the role of family, school, and social environment in shaping adolescent eating patterns.

In general, the main research question in this study is: How does a balanced diet affect adolescent health based on a review of scientific literature? This question will be answered by reviewing various relevant scientific publications in the last five years from national and international journals. The main focus of this study is to identify scientific evidence that supports the importance of a balanced diet, the factors that influence it, and the consequences of unhealthy diets in adolescents.

Method

This research method uses a qualitative approach with a literature study method, which aims to analyze in depth various scientific research results related to the effect of a balanced diet on

adolescent health. The selection of this method is based on the need to understand the phenomenon comprehensively through a study of various relevant scientific publications. Data were collected through searching for articles from accredited national and international journals, such as those indexed in Google Scholar, Scopus, PubMed, and Sinta, with a publication period between 2019 and 2024. The selected articles are those that directly discuss the relationship between a balanced diet and adolescent health from physical, mental, and social aspects. The selection process is carried out through the stages of identifying titles and abstracts, reading full texts, and evaluating the relevance of the content to the focus of the research. The analysis technique used is thematic content analysis, namely by identifying, grouping, and synthesizing findings based on the main themes that appear in the literature. The research steps include formulating the problem, determining literature criteria, searching for sources, classifying findings, and compiling discussions and conclusions based on the synthesis of the collected data. This approach allows researchers to summarize and interpret general trends and existing research gaps regarding the role of a balanced diet in supporting adolescent health.

Results and Discussion

A. Balanced Diet and Physical Health of Adolescents

A balanced diet is an important component in supporting the physical growth of adolescents. Adolescence is marked by accelerated growth in height, weight, and organ development, so that energy and nutrient needs also increase significantly. The studies reviewed show that adolescents who implement a balanced diet—which includes the consumption of complex carbohydrates, animal and vegetable proteins, healthy fats, vitamins, and minerals in the right proportions—tend to have an ideal body mass index (BMI) and better immunity. Adequate nutrition plays an important role in muscle formation, bone density, and normal hormonal development.

Imbalanced nutritional intake, especially deficiencies in iron, calcium, and vitamin D, can cause various physical disorders such as anemia, chronic fatigue, and delayed puberty. The literature also shows that a diet high in sugar and trans fats in adolescents is significantly correlated with an increased risk of obesity, type 2 diabetes, and metabolic disorders. Unfortunately, the trend of consuming fast food and sweet drinks still dominates the diet of most adolescents, especially in urban areas. This is exacerbated by low awareness of the importance of reading nutrition labels or choosing foods based on the body's needs.

In several longitudinal studies, it was found that adolescents who were accustomed to consuming balanced nutritious home meals showed more stable physical conditions until early adulthood. In contrast, adolescents with poor breakfast habits or often skipping main meals are at risk of experiencing weight problems and fatigue that affect daily activities. Dietary patterns have also been shown to affect the body's resistance to infection and recovery after illness. Therefore,

consistent nutrition education in the family and school environment is very important to form nutritional awareness from an early age.

Efforts to improve adolescent physical health through improved diet cannot stand alone. Nutrition interventions need to be integrated with an active lifestyle approach such as regular exercise and reducing sedentary lifestyle. The availability of affordable healthy food, parental supervision, and regulation of high-sugar foods and drinks are important elements in forming a healthier diet. Thus, a balanced diet not only provides short-term benefits in the form of energy and immunity, but also a long-term investment for better health and quality of life in adulthood.

B. Balanced Diet and Adolescent Mental Health

Adolescent mental health is a crucial issue amidst the academic, social, and digital pressures they face. Literature studies show that there is a close relationship between nutritional intake and adolescent psychological conditions, such as anxiety, depression, and mood swings. A balanced diet containing omega-3 fatty acids, vitamin B complex, iron, and magnesium is known to play a role in maintaining the stability of neurotransmitters in the brain, such as serotonin and dopamine, which affect mood and emotional stability. Adolescents with good nutritional intake are reported to be better able to manage stress and show higher mental resilience.

In contrast, a diet dominated by junk food, processed foods high in sugar and sodium, and micronutrient deficiencies has been shown to worsen symptoms of mental disorders. Several studies have shown an increased risk of depression and anxiety in adolescents who frequently consume unhealthy foods over the long term. In addition, irregular eating habits or extreme food restrictions also have an impact on eating disorders such as anorexia and bulimia, which are rooted in social pressures regarding body shape. This shows that diet not only affects the body, but also the self-perception and self-esteem of adolescents.

Family and social environments have a major influence in shaping eating patterns that support mental health. Adolescents who grow up in families with shared eating habits tend to have better communication quality and a lower risk of mental disorders. In addition, the role of teachers and school counselors in providing education about the relationship between nutrition and emotions is important. Nutrition education is not enough to be delivered only as nutritional information, but must also be linked to efforts to shape positive mindsets towards the body and overall mental well-being.

In the context of policy, there needs to be integration between adolescent nutrition programs and mental health promotion at the school and community levels. Providing nutritious food in school canteens, training for parents and educators, and awareness campaigns through social media are strategic steps to build collective awareness. With a holistic approach, a balanced diet is not only a tool for preventing physical illness, but also a foundation for forming a generation of mentally healthy, confident, and productive adolescents.

Conclusion

Based on the results of the literature study that has been reviewed, it can be concluded that a balanced diet has a significant influence on adolescent health, both in terms of physical and mental aspects. In terms of physical aspects, a diet that includes complex carbohydrates, quality protein, healthy fats, and sufficient micronutrient intake has been proven to support growth, maintain ideal body weight, increase endurance, and prevent various metabolic diseases that begin to appear in adolescence. Meanwhile, in terms of mental health, proper nutritional intake also plays a role in maintaining emotional stability, preventing mood disorders, and strengthening adolescent psychological resilience to social and academic pressures.

These findings suggest that diet is not just about food consumption, but also part of a lifestyle that is closely related to the overall well-being of adolescents. Therefore, the role of families, schools, and communities is very important in forming healthy eating habits through nutrition education, providing affordable nutritious food, and promoting an active and positive lifestyle. Multidisciplinary and sustainable interventions are needed so that adolescents' awareness of the importance of a balanced diet can grow from an early age and form the foundation for a healthier life in the future.

With this approach, it is expected to form a young generation that is not only physically strong, but also mentally and emotionally healthy. This literature study confirms that a balanced diet is not just a biological need, but also a strategic element in developing the quality of human resources in the future.

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