

Analysis of Nutritional Status of Adolescent Girls: Challenges, Interventions, and Health Implication (Literature Review)

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Abstract

This study aims to analyze the nutritional status of adolescent girls, focusing on the prevalence of anemia, malnutrition, and obesity, as well as the factors influencing them. Data used were derived from previous research conducted in various regions of Indonesia, including West Java and Depok, as well as a literature review from sources such as the 2021 Basic Health Research (Riskesdas). Additionally, this study examines the effectiveness of nutritional education interventions in improving adolescent knowledge and attitudes toward nutrition and anemia prevention. The results indicate that the prevalence of anemia among adolescent girls reaches 27.3% nationally and 30% in West Java. Nutritional education delivered through social media and interactive methods such as PAKEM (Active, Creative, Effective, and Fun Learning) has proven effective in increasing knowledge. These findings emphasize the importance of educational interventions and increased physical activity to address nutritional issues among adolescent girls.

Keywords: adolescent girls, anemia, nutritional education, nutritional status, obesity.

Introduction

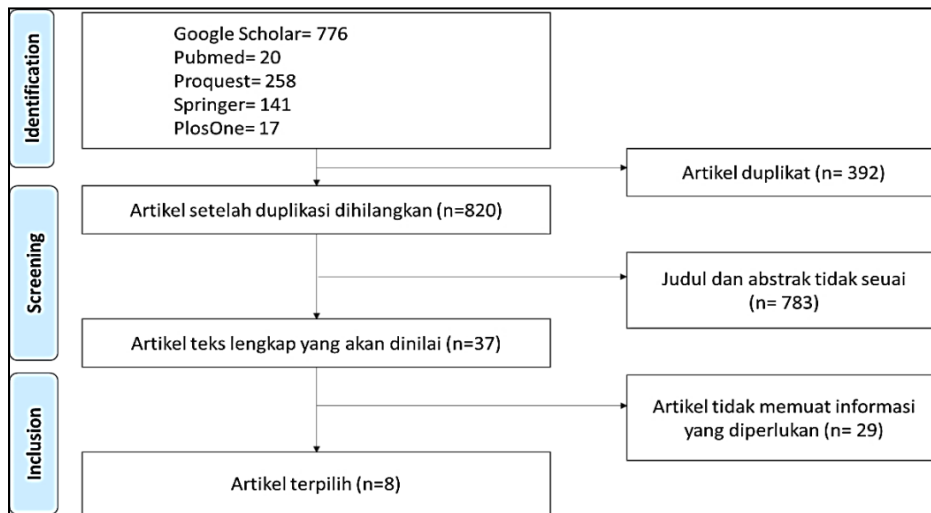
The nutritional status of adolescent girls is a crucial aspect of public health in Indonesia. Adolescent girls are in a critical developmental phase, requiring proper nutrition to support their physical and mental growth. However, various reports indicate that nutritional problems such as anemia, malnutrition, and obesity remain serious challenges in Indonesia. Based on data from the 2021 Basic Health Research

(Riskesdas), around 27.3% of adolescent girls in Indonesia suffer from anemia. Meanwhile, the prevalence of anemia in West Java was reported to reach 30% in 2022, with around 15-20% of adolescents experiencing overweight or obesity (Utami et al., 2022).

This study was conducted, reflecting the nutritional status of adolescent girls in an urban area with various nutritional challenges. Factors such as an unbalanced diet, low physical activity, and lack of knowledge about the importance of nutrition affect the nutritional status of adolescent girls. The objective of this research is to identify the prevalence of nutritional problems among adolescent girls and to examine the effectiveness of nutritional education interventions in improving adolescent knowledge regarding nutrition and anemia prevention.

Method

This study used a descriptive quantitative approach with a pre-test and post-test method to evaluate the effectiveness of nutritional education interventions. The study population consisted of female adolescents aged 15-18 years attending. Data were collected using a questionnaire covering knowledge about nutrition, eating habits, and physical activity. Nutritional status measurements included Body Mass Index (BMI), hemoglobin (HB) levels, and Mid-Upper Arm Circumference (MUAC). Nutritional education was delivered through the PAKEM method (Active, Creative, Effective, and Joyful Learning), utilizing media such as educational videos and leaflets. Articles used in the analysis were selected following PRISMA guidelines (preferred reporting items for systematic reviews and meta-analysis) (Page et al. 2021). The research questions were formulated using the PICO method (Population, Intervention, Comparison, Outcome). Here, the population represents the subjects receiving the intervention, the intervention refers to the treatment provided, the comparison is the control group, and the outcome is the response to the intervention's effect (Cook and West 2012). Literature sources were collected from Google Scholar, PubMed, Proquest, and SpringerLink using keywords such as adolescent nutrition, adolescent body image, adolescent physical activity, anemia, and nutrition knowledge. The literature included studies from 2019 to 2024.



PRISMA Flow Diagram

Results

Results of this study indicate that the prevalence of anemia is 28-30%, aligning with national data that records a rate of 27.3% (Riskesdas 2021). Factors contributing to anemia and other nutritional issues include low nutritional knowledge and unbalanced dietary habits. Research in various regions also found that modern lifestyles characterized by low physical activity and poor dietary habits increase the risk of obesity among adolescent girls.

Nutritional education interventions have shown significant results in improving adolescents' knowledge. For instance, a study by Febrianti et al. (2023) found that the use of the PAKEM method can enhance knowledge about anemia and iron tablet consumption. Additionally, education through social media platforms like TikTok has proven effective in reaching adolescents and raising their awareness of the importance of nutrition (Pasaribu et al., 2023). Other studies, such as those conducted by Bharti et al., (2021), emphasize that school-based nutrition education can improve students' understanding of iron-rich food sources and the importance of food fortification. This increase in knowledge can lead to behavioral changes, such as increased frequency of consuming nutritious food and reduced consumption of fast food.

Discussion

Factors such as parental education, socioeconomic status, and access to nutritious food also play significant roles in adolescents' nutritional status. A study in Ethiopia Fentie et al., (2020) found that maternal education and dietary diversity significantly impact the prevalence of anemia among adolescent girls. This finding is relevant to conditions in Indonesia, where limited access to nutritious food often poses a challenge.

Conclusion

The nutritional status of adolescent girls presents serious challenges with high rates of anemia and obesity. Nutritional education has proven effective in improving adolescent knowledge about nutrition, but more comprehensive interventions are needed to change dietary habits and increase physical activity. The role of schools and families is crucial in creating an environment that supports adolescent health, through both continuous nutrition education programs and increased access to nutritious food. This study recommends the implementation of digital-based nutrition education programs in schools, as well as increased collaboration between schools, health departments, and parents to ensure that adolescents' nutritional needs are met. These steps are expected to reduce the prevalence of anemia and improve the overall well-being of adolescent girls.

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Conflict of Interest

The study was conducted independently, and no external financial or personal influences affected the design, analysis, or interpretation of the research. All funding sources and institutional supports have been properly acknowledged, and the authors have no competing interests that could impact the findings or conclusions presented in this article.

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