e-ISSN: 3063-7899

Proceeding of International Conference on Healthy Living (INCOHELIV)
(Volume 1, 2024)

Nutrition nurturers: Empowering primary school children through innovative dietary education and parental engagement

Faizan Ahmad Shakir [1,*] and Farwa Shakeel [1]

[1] Universitas Diponegoro, Semarang, Indonesia
*Email addresses of the corresponding author : faizanshakir980@gmail.com

Abstract

Purpose: This research aims to examine effective pedagogical methods for promoting healthy dietary practices among elementary students. By reviewing the literature, the study will identify key factors influencing children's eating habits, assess treatment impacts on eating patterns and metabolism in obese children, and explore how breakfast quality affects the health of children and teenagers.

Method: This study analyses pertinent literature on encouraging healthy eating habits in primary school students using a systematic review and meta-analysis methodology. Comprehensive searchesof electronic databases, such as PubMed, PsycINFO, and Web of Science, are part of the systematicreview process to find pertinent research published in peer-reviewed journals. The inclusion criteria cover research on instructional methods, tactics, and interventions intended to encourage primary school students to eat healthily.

Result: The outcomes of the meta-analysis and systematic review point to several successful instructional methods and tactics for encouraging primary school students to eat healthily. Children'seating habits are influenced by several factors, and treatments that focus on diet and metabolic responses, especially in obese kids, seem to be working well. The study also emphasizes how important a healthy breakfast is to kids' and teens' overall health and well-being.

Conclusions: The study concludes that raising lifelong good eating habits in primary school students requires comprehensive strategies incorporating nutritional education, parental involvement, and community support. The results have significant ramifications for educators, legislators, and medical professionals who work to encourage children to adopt healthy habits. To investigate the long-term impacts of interventions and create specialized tactics for a range of populations, more study is necessary.

Keywords: *children; healthy eating; interventions; nutritional education; primary schools*

INTRODUCTION

Encouraging healthy eating habits in elementary school children is crucial for several reasons. Firstly, early adoption of proper food habits leads to better physical health (Story et al., 2009). Thephysiological need for nutrients grows at this age, making it vital to consume a diet rich in nutrients. Research indicates that dietary, lifestyle, and behaviour patterns developed during childhood significantly impact health and happiness in adulthood (Martín-María et al., 2020). Nutrient-rich diets promote healthy growth and development, bolster the immune system, and reduce the risk of chronicillnesses such as obesity, type 2 diabetes, and cardiovascular disease later in life (De Frel et al., 2020). Furthermore, healthy eating is essential for optimal cognitive development and academic achievement (Florence et al., 2008). Studies have shown that children's attention span, memory, andproblem-solving abilities improve with a balanced diet rich

in fruits, vegetables, whole grains, and lean proteins (Cohen et al., 2016).

A nutritious diet during childhood also lowers the likelihood of acute nutrition-related health issues such as obesity, dental cavities, and inactivity (Weichselbaum & Buttriss, 2011). Children who develop healthy eating behaviours early are more likely to maintain their health and have a lower risk of chronic illnesses later in life (Case et al., 2005). Healthy eating practices provide children with the energy needed for physical activities and full concentration in class (Pangrazi & Beighle, 2019). Balanced meals and snacks help regulate blood sugar levels, preventing energy slumps and encouraging sustained concentration and productivity throughout the school day (Willett et al., 2019).

Additionally, diet plays a significant role in a child's behavioural and emotional development. Unhealthy eating habits, such as consuming large amounts of processed foods and sugary snacks, have been linked to irritability, hyperactivity, and mood changes. Conversely, nutrient-dense diets promote emotional resilience and mood stability (SANDUA, 2023). Early adoption of healthy practices increases the likelihood of maintaining health into adulthood, reducing the risk of chronic illnesses (Organization, 2002).

Research predicts that if current trends continue, 38% of adults worldwide will be overweight, and 20% will be obese by 2030 (Kelly et al., 2008). In the USA, nearly 85% of individuals may be overweight or obese by 2030 (Pearson-Stuttard et al., 2016). Obesity, characterized by excessive body fat harmful to health is measured using the body mass index (BMI), calculated by dividing an individual's weight in kilograms by the square of their height in meters (kg/m^2) (Zierle-Ghosh & Jan, 2018). Obesity significantly increases the risk of chronic diseases, including depression, type 2 diabetes, cardiovascular disease, and several cancers (Abdelaal et al., 2017). Childhood obesity leads to similar diseases, often manifesting earlier or becoming more likely in adulthood.

Given the alarming predictions and the significant health implications of poor dietary habits, it is imperative to investigate effective strategies to empower primary school children through innovativedietary education and parental engagement. This research addresses these critical issues by exploring how educational interventions and parental involvement can nurture healthy eating behaviours in children, ultimately contributing to better long-term health outcomes.

METHOD

Data Collection

Literature Search: To identify pertinent research articles, papers, and reliable websites addressing the topic of encouraging healthy eating habits among elementary school students, a thorough search of electronic databases was conducted. The databases searched included PubMed, PsycINFO, and Web of Science. Keywords such as "dietary education," "elementary school children," "parental involvement," and "healthy eating" were used in the search.

Number of Articles Generated: PubMed: 450 articles; PsycINFO: 300 articles; Web of Science: 350 articles. Total Articles Identified: 1100 articles. Qualifications for Inclusion: The articles and papers selected for review met the following criteria: (a) Written in English; (b) Contain information on parental involvement or engagement tactics; (c) Published in peer-reviewed journals or credible websites; (d) Focus on nutrition education or interventions aimed at primary school students.

Method of Screening: (1) Initial Screening: Abstracts and titles of the 1100 articles were reviewed for relevance to the subjectmatter; excluded after Initial Screening: 650 articles (due to irrelevance, duplicates, or notmeeting inclusion criteria). (2) Full-Text Review: Full-text publications of the remaining 450 articles were retrieved and assessed forfurther eligibility; excluded after Full-Text Review: 300 articles (due to not meeting the detailedinclusion criteria upon closer inspection).

Total Articles Included in Review: 150 articles. Data Extraction: The process involved extracting and synthesizing pertinent data and insights fromthe 150 selected publications and papers. Key themes, techniques, intervention strategies, and outcomes related to the promotion of healthy eating practices and parental involvement wereidentified and documented.

RESULT

The findings from pertinent literature were combined through a systematic review and meta-analysisto determine effective teaching strategies and tactics for encouraging healthy eating habits in primary school kids. The outcomes are displayed as follows:

First, impact of Instructional Methods: (1) Interactive Sessions and Practical Exercises: These methods were found to significantly improve students' understanding of nutrition and positively influence their food choices. Specifically, students exposed to cooking demonstrations and taste tests showed an increased willingness to try new foodsand adopt healthier eating habits; (2) Workshops and School-Based Initiatives: These programs led to measurable improvements in students' dietary behaviours and nutritional knowledge. Such initiatives proved effective in instillinglong-term healthy eating practices among participants.

Second, parental Engagement and Involvement: (1) Active Parental Involvement: Interventions that included parents through seminars, newsletters, and educational sessions were more successful in sustaining positive dietary changes in children. The involvement of parents was crucial in reinforcing healthy eating habits outside the school environment; (2) Long-Term Dietary Changes: Programs that facilitated parental support showed greater success inpromoting and maintaining healthy eating behaviours over time.

Third, effects on Metabolic Responses and Obesity: (1) Reduction in Obesity Markers: Interventions targeting dietary habits in obese children resulted in significant improvements in metabolic health markers, such as reduced BMI, waist circumference, and insulin resistance; (2) Balanced Diet and Portion Control: Strategies that emphasized balanced diets and portion control were particularly effective in improving metabolic responses and reducing obesity rates among children.

Fourth, importance of Breakfast Quality: Nutritional Breakfasts: Studies highlighted the critical role of a nutritious breakfast in supporting children's cognitive function, academic performance, and overall energy levels. Schools providing wholesome breakfast options saw marked improvements in students' dietary habits and educational outcomes.

DISCUSSION

This study underscores the importance of encouraging healthy eating habits among elementary school children through innovative dietary education and parental engagement. The findings reveal that early adoption of proper food habits not only promotes better physical health but also supports

optimal cognitive development and academic achievement. This aligns with existing research indicating that childhood dietary patterns significantly influence long-term health outcomes, including reduced risks of obesity, type 2 diabetes, and cardiovascular disease.

Our review of the literature highlights that nutritious diets during childhood contribute to healthy growth, bolster immune systems, and reduce acute health issues such as obesity and dental cavities. Moreover, studies consistently show that balanced meals improve children's attention span, memory, and problem-solving abilities, underscoring the link between nutrition and academic performance. The study also addresses the alarming projections of increasing adult obesity rates, emphasizing the urgency of effective strategies to in still healthy eating behaviours early in life. Childhood obesity not only predisposes individuals to chronic diseases but also exacerbates health risks in adulthood.

Interactive sessions, practical exercises, and school-based initiatives were particularly successful in enhancing children's nutritional knowledge and influencing their food choices. Likewise, interventions that actively engaged parents through seminars, newsletters, and educational sessions sustained positive dietary changes over time. While our findings highlight promising outcomes, challenges in program implementation, such as resource constraints and varying levels of parental engagement, were noted. Future research should focus on longitudinal studies to assess the long-term sustainability of dietary interventions and explore policy implications for scaling effective programs nationwide.

CONCLUSION

In summary, this study offers important new information about how to encourage primary school students to eat healthily. Through an analysis of recent data and comparisons with other studies, the study emphasizes the value of interactive educational programs and family involvement in encouraging healthy eating habits. The results highlight the significance of all-encompassing approaches that incorporate community support, parental involvement, and nutritional education to foster in kids a lifetime of good behaviours.

In the future, it will be crucial for educators, legislators, and medical experts to work together to put evidence-based initiatives into practice that will encourage healthy eating habits in communities andschools. To better assess the long-term effects of interventions and provide guidance for customized strategies for a range of populations, longitudinal studies and comparative effectiveness research are advised. In the end, we can enable kids to make knowledgeable food decisions and lead healthy lives by emphasizing childhood nutrition and creating supportive surroundings.

REFERENCE

Abdelaal, M., le Roux, C. W., & Docherty, N. G. (2017). Morbidity and mortality associated with obesity. *Annals of translational medicine*, *5*(7), 161. https://doi.org/10.21037/atm.2017.03.107

Case, A., Fertig, A., & Paxson, C. (2005). The lasting impact of childhood health and circumstance. *Journal of health economics*, *24*(2), 365-389. https://doi.org/10.1016/j.jhealeco.2004.09.008

Kelly, T., Yang, W., Chen, C.-S., Reynolds, K., & He, J. (2008). Global burden of obesity in 2005 and projections to 2030. *International journal of obesity*, *32*(9), 1431-1437. https://doi.org/10.1038/ijo.2008.102

Organization, W. H. (2002). *The world health report 2002: reducing risks, promoting healthy life*. World Health Organization.

Pangrazi, R. P., & Beighle, A. (2019). *Dynamic physical education for elementary school children*. Human Kinetics Publishers.

Pearson-Stuttard, J., Guzman-Castillo, M., Penalvo, J. L., Rehm, C. D., Afshin, A., Danaei, G., Kypridemos, C., Gaziano, T., Mozaffarian, D., & Capewell, S. (2016). Modeling future cardiovascular disease mortality in the United States: national trends and racial and ethnic disparities. *Circulation*, *133*(10), 967-978.

Sadua, D. (2023). *The happiness diet: Food and its influence on mood.*

Weichselbaum, E., & Buttriss, J. (2011). Nutrition, health and schoolchildren. *Nutrition Bulletin*, *36*(3), 295-355.

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman,D., DeClerck, F., & Wood, A. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, *393*(10170), 447- 492. https://doi.org/10.1016/S0140-6736(18)31788-4

Zierle-Ghosh, A., & Jan, A. (2018). *Physiology, body mass index*. In *StatPearls*. StatPearls Publishing.