



Balanced Nutrition Optimizes the Growth and Development of School Age Children

Wini Hadiyani^{2*}

¹Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat, Indonesia

Correspondence: E-mail: winhad@yahoo.com

ABSTRACTS

Background : Schools, as sites of teaching and learning, are intended to evolve into Health Promotion Schools. **Objective** : This activity aim to provide balanced nutrition health education which can optimize growth and development in school-aged children. **Methods** : The method of activity is community empowerment, which is accomplished through a series of health promotion. **Result** : This activity is useful for increasing students' knowledge, attitudes and behavior who can implement my food plate with a balanced nutritional pattern. Health promotion also plays a vital part in shaping food environments and access to healthy options. Through initiatives like school meal programs, community gardens, and partnerships with local businesses, health promotion efforts can ensure nutritious foods are available and affordable for all children, regardless of socioeconomic status. **Conclusion** : The nurse in charge of the UKS should carry out regular health promotions.

ARTICLE INFO

Article History:

Received 01 Feb 2024

Revised 15 Feb 2024

Accepted 15 March 2024

Available online March 2024

Keyword:

School Health, Nutrition

1. INTRODUCTION

During their growth and development, school-aged children often contract several health problems such as: infectious diseases, chronic infectious diseases, injuries or accidents, and nutritional problems (Allender, Rector, & Warner, 2014). Nutritional problems in children are related to body mass index (BMI) which is less than the average BMI of their peers or more than their peers. BMI can be an important factor that determines a child's physical condition in the future. Most AUS with overweight problems have the same quality of life as their peers, but when they grow up this changes, the quality of life in terms of physical condition, social and school performance becomes lower and can interfere with optimal growth and development processes (Das, 2017).

Overweight and obesity are now a common problem throughout the world, this happens to 1.4 billion people in the world who are overweight and overweight and spread throughout all countries in the world, including Indonesia (WHO, 2013). Data originating from the Organization for Economic Co-operation and Development (OECD) (2014) reports that there has been a growth in cases of overweight in AUS over the last ten years in countries such as Korea (3-4%), Switzerland (7-8 %), Italy (8-9%), Hungary (17-18%) and England (22-23%). The increase in prevalence varies between boys and girls, more than 30% of boys and girls are overweight (including obesity) in Greece, Italy, Slovenia and the United States. In general, the OECD states that one in five AUS worldwide is overweight, including in Indonesia (OECD, 2014).

The increase in the prevalence of overweight and overweight in AUS is due to environmental factors which are the accumulation of unhealthy dietary behavior and a sedentary lifestyle in children (NIH, 2012). Unhealthy behavior by consuming large portions of food (more than needs), foods high in energy, high in fat, high in simple carbohydrates and low in fiber . Apart from that, the habit of consuming foods that contain excessive levels of salt and sugar in fast food is now starting to develop in various regions in Indonesia. Fast food is food that is high in calories, high in fat, but low in fiber, vitamins and minerals. Excessive consumption of fast food twice a week or more can increase the risk of being overweight (Corkin, 2016). Therefore, it is important to hold activities explaining balanced nutrition and demonstrations of food plates in this community service activity.

2. METHODS

The type of implementation of this community service program is a combination of health promotion related to nutrition. This community service is carried out over a period of 1 month starting with situation analysis, determining problems, creating program designs according to the form of intervention, socializing activities to schools, implementing activities, and evaluating. Participants in this activity were students at SD YWKA Bandung from grades 1 and 2.

3. RESULTS AND DISCUSSION

The activity was carried out by explaining the importance of balanced nutrition in maintaining children's health. Next, it explains the dangers of disease that may arise if children's nutritional needs are not met. A balanced nutritional condition certainly affects health, intelligence and high work/activity productivity. Optimal nutrition is very important for normal growth and physical development for all age groups. Based on Riskesdas 2007, 2010 and 2013, it shows that Indonesia still has a problem of malnutrition. This nutritional deficiency is also associated with the risk of chronic diseases in adulthood, namely obesity, heart and blood vessel disease, hypertension, stroke and diabetes.

School Age Children (AUS) are an important stage in the growth and development cycle, because they are an investment in the nation's next generation. The quality of the nation in the future is determined by the quality of today's children, including healthy physical conditions as a determinant of children's growth and development which influences the quality of children's lives. (Kopelman, Caterson, & Dietz, 2010). AUS is a group that is in a golden period of growth and development that is well organized within the school, however if the child's health condition is disturbed it will disrupt the child's learning process at school. A child is said to have an overweight problem if the child has a BMI value according to the child's age that is more than 1 standard deviation to 2 standard deviations (Ministry of Health, 2012). This value shows an increase in BMI values that exceed normal values on AUS, with different variations in BMI increase in each child. The BMI calculation is obtained from the results of calculations by dividing body weight (kg) by the square of body height (meters) (WHO, 2004). The BMI category according to WHO (2004) can show an important relationship with the risk of various diseases that may arise due to weight problems.

Overweight and obesity are now a common problem throughout the world, this happens to 1.4 billion people in the world who are overweight and overweight and spread throughout all countries in the world, including Indonesia (WHO, 2013). Data originating from the Organization for Economic Co-operation and Development (OECD) (2014) reports that there has been a growth in cases of overweight in AUS over the last ten years in countries such as Korea (3-4%), Switzerland (7-8 %), Italy (8-9%), Hungary (17-18%) and England (22-23%). The increase in prevalence varies between boys and girls, more than 30% of boys and girls are overweight (including obesity) in Greece, Italy, Slovenia and the United States. In general, the OECD states that one in five AUS worldwide is overweight, including in Indonesia (OECD, 2014).

From this community service it can be stated that this activity is useful for improving the knowledge, attitudes and behavior of YWKA Elementary School students. The next result is that students can implement my food plate with a balanced nutritional pattern.



Figure 1. Nutrition Education

Nurses can act as nursing care providers, educators and counselors, case finders and researchers (Darmawati, 2017). The nurse acts as a provider of nursing care to the community in the school community. Providing care follows the nursing process starting from assessing problems that arise in the school community, planning nursing actions, implementing nursing actions according to the prepared intervention plans, then evaluating the provision of nursing care to the school community.



Figure 2. Playing Games in Health Promotion

Proper nutrition is vital for children's health and development during the school years. Nutrition plays a key role in providing the energy and nutrients children need to learn, grow, and thrive. First and foremost, good nutrition supports children's physical health and growth (Darmawati, 2016). School-age children are rapidly growing, and they require adequate calories, protein, vitamins, and minerals to fuel this growth and development (King, 2015). Nutritious foods give children the building blocks they need for strong bones, muscles, and organs. Poor nutrition can lead to issues like stunted growth, weakened immune systems, and susceptibility to illness (Gold, 2017).

In addition, good nutrition supports children's cognitive abilities and academic performance. The brain requires certain nutrients like omega-3 fatty acids, iron, and B vitamins to function optimally. Research has shown that children who eat a healthy, balanced diet tend to have better concentration, memory, and problem-solving skills compared to those with poor diets. Adequate nutrition allows the brain to work at its full potential (Rahmi, 2019).

Proper nutrition also plays a role in children's social and emotional development. Nutrients like zinc, vitamin D, and B vitamins have been linked to improved mood and reduced risk of behavioral issues and mental health problems in school-age kids. Well-nourished children are more likely to have the energy, focus, and emotional stability to engage positively with peers and teachers.

Health promotion is a critical component of ensuring proper nutrition for school-age children (Wang, 2015). Through various education and outreach efforts, health promotion

initiatives can empower children and their families to make healthier food choices. One of the key roles of health promotion is increasing nutrition knowledge and awareness. Many children and parents lack a comprehensive understanding of what constitutes a balanced, nutrient-rich diet. Health promotion programs in schools and communities can teach kids about the importance of fruits, vegetables, whole grains, lean proteins, and other healthy foods. This knowledge equips children with the tools to make informed decisions about their food intake.

Furthermore, health promotion strategies often incorporate behavioral and lifestyle components to encourage sustainable healthy eating habits. Programs that teach cooking skills, promote mindful eating, and incentivize physical activity can help children develop long-term positive relationships with food (Utter, 2016) . Instilling these habits at a young age sets children up for lifelong nutritional wellbeing. Health promotion is a vital force in supporting proper childhood nutrition. From education to environment to behavior change, comprehensive health promotion initiatives empower children and families to prioritize nutritious foods. By making healthy eating accessible and enjoyable, these programs lay a foundation for children to thrive academically, physically, and socially throughout the school years and beyond.

4. CONCLUSION

Nutrition is a cornerstone of healthy child development. By ensuring children have access to nutritious foods at school and at home, we can support their physical growth, cognitive abilities, and social-emotional wellbeing - equipping them for success both inside and outside the classroom. Prioritizing good nutrition should be a key component of every child's education.

5. REFERENCES

- Corkins, M. R., Daniels, S. R., de Ferranti, S. D., Golden, N. H., Kim, J. H., Magge, S. N., & Schwarzenberg, S. J. (2016). Nutrition in children and adolescents. *Medical Clinics, 100*(6), 1217-1235.
- Das, J. K., Salam, R. A., Thornburg, K. L., Prentice, A. M., Campisi, S., Lassi, Z. S., ... & Bhutta, Z. A. (2017). Nutrition in adolescents: physiology, metabolism, and nutritional needs. *Annals of the New York Academy of Sciences, 1393*(1), 21-33.

- Darmawati, I. (2016). Integration Coordinated School Health Model (CSH) And Family Centered Nursing (FCN) To Reduce And Prevent Childhood Obesity. *Jurnal Pendidikan Keperawatan Indonesia*, 2(2), 122-129.
- Darmawati, I. (2017). Literatur Review: Aplikasi Terapi Han (Hipnotis, Aktifitas Fisik, Nutrisi) Pada Keluarga Anak Usia Sekolah Dengan Obesitas. *Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)*, 3(2), 86-93.
- Hastuti, A. P., & Mufarokhah, H. (2018). Pengaruh Family Empowerment Modified Model Terhadap Tingkat Family Empowerment Pola Makan Dan Status Nutrisi Pada Anak Usia Sekolah. *Kesehatan Hesti Wira Sakti*, 6(2), 37-42.
- Indicators, O. E. C. D. (2013). Education at a Glance 2016 OECD INDICATORS.
- Gold, A., Larson, M., Tucker, J., & Strang, M. (2017). Classroom nutrition education combined with fruit and vegetable taste testing improves children's dietary intake. *Journal of School Health*, 87(2), 106-113.
- King, F. S., Burgess, A., Quinn, V. J., & Osei, A. K. (Eds.). (2015). *Nutrition for developing countries*. Oxford University Press.
- Lundborg, P., Rooth, D. O., & Alex-Petersen, J. (2022). Long-term effects of childhood nutrition: evidence from a school lunch reform. *The Review of Economic Studies*, 89(2), 876-908.
- National Institutes of Health. (2012). Stresses of poverty may impair learning ability in young children. *NIH News*.
- Rahmi, P. (2019). Peran nutrisi bagi tumbuh dan kembang anak usia dini. *Jurnal Pendidikan Anak Bunayya*, 5(1), 1-13.
- Utter, J., Denny, S., Lucassen, M., & Dyson, B. (2016). Adolescent cooking abilities and behaviors: Associations with nutrition and emotional well-being. *Journal of nutrition education and behavior*, 48(1), 35-41.
- Wang, D., Stewart, D., Chang, C., & Shi, Y. (2015). Effect of a school-based nutrition education program on adolescents' nutrition-related knowledge, attitudes and behaviour in rural areas of China. *Environmental health and preventive medicine*, 20, 271-278.

