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Research Article

Strengthening Adolescent Health and Nutrition Education in Handling Stunting with an Integrative Holistic Approach

lin Purnamasari^{1*}, Sugeng Maryanto², Suwarno Widodo³, Nur Cholifah³, Siska Dea Novitasari², Vanes Ufi Safarah², Novia Eka Rahmawati², Ajeng Ayu Nur Fitriyani¹, and Afim Rofkhol Roim¹

¹Magister Elementary Education, University of PGRI Semarang, 50232, Indonesia

²Nutrition Department, Ngudi Waluyo University, 50512, Indonesia

³Pancasila and Citizenship Education, University of PGRI Semarang, 50232, Indonesia

ORCID

lin Purnamasari: <https://orcid.org/0000-0002-1532-9517>

Abstract.

Nutrition education for women, including adolescent girls, pregnant, and lactating women, plays an important role in tackling stunting. Mothers who have knowledge of proper nutrition can ensure adequate nutritional intake during pregnancy and breastfeeding, which is critical for the growth of a child. Lack of understanding of nutrition often leads to unbalanced feeding, which increases the risk of stunting. The main issues faced are low access to nutrition education, especially in rural areas, and the lack of sustainable mentoring programs. In addition, cultural norms and unhealthy eating habits are also a challenge in the implementation of a nutritious diet. Effective education efforts must focus on increasing women's knowledge and understanding of nutrition to reduce stunting rates in the community. Community empowerment is carried out in the fields of education and health. The method used in this study is socialization and mentoring, with a percentage of theory as much as 30% and practice as much as 70%, with the stages of planning, implementation, monitoring and evaluation as well as follow-up. The results of the activities are in the form of downstream appropriate technology in the form of analog rice printing machines, and social engineering in the form of mentoring and training for adolescent counseling, adolescent integrated service posts, and the provision of nutritional lodges. The study concluded that health and nutrition accessibility is very important to be given to the community.

Keywords: health and nutrition education, adolescent, stunting, integrative holistic approach

Corresponding Author: lin Purnamasari; email: iinpurnamasari@upgris.ac.id

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1. Introduction

Stunting is one of the serious nutritional problems that has an impact on children's growth and development, as well as overall health. According to data from the World Health Organization (WHO), stunting is caused by chronic malnutrition, especially in the first 1000 days of life, which includes pregnancy up to two years of age. However, the impact of this problem is not only limited to young children, but also extends to adolescent age groups, which are often overlooked in nutrition intervention programs.

Health and nutrition education for adolescents has an important role in preventing stunting and improving the health of future generations. Adolescence is a transitional period where individuals begin to form diets and lifestyle habits that will shape their health in the future. In this context, knowledge about good nutrition and the importance of a balanced diet are needed to prevent the risk of malnutrition that can continue into adulthood.

In addition, social and cultural factors also affect adolescents' eating behavior. Therefore, health education based on local knowledge and the active participation of adolescents can increase their awareness and understanding of the importance of nutrition, as well as how to apply it in daily life. By increasing adolescents' knowledge about nutrition, it is hoped that they can make healthier choices and reduce the risk of stunting in their children in the future.

The importance of health and nutrition education is also supported by data showing that early intervention can affect long-term health outcomes. Educating teens about healthy eating, clean living habits, and the importance of physical activity can create a healthier and more health-conscious generation. Thus, efforts to deal with stunting through adolescent health and nutrition education are strategic steps that can have a positive impact on public health as a whole.

In certain areas with sub-urban community patterns, the prevention of stunting cases is one of the important concerns. The people of Jatijajar village, Bergas district, Semarang Regency are a reference as a sub-urban area with public health problems that need attention. There is a Tegalrejo area that is dominated by women workers in the entertainment aspect. In addition, the women of Jatijajar village are also dominated by working in the industrial sector, especially factory workers. However, based on the Building Village Index of Bergas District, Semarang Regency, Jatijajar is a village in the developed category with an index value of 0.7506 (Building Village Index in *Bergas*

District in Figures, 2023). This is ironic, when people still have a low understanding of health and nutrition in children. Children who are in the growth period, need good nutrition to help the development of bones, muscles, and other organs of the body [1], [2], [3], [4], [5] Good nutrition can improve cognitive function, including concentration, memory, and learning ability [6] Malnutrition can inhibit physical growth and increase the risk of health problems such as anemia, weakness, stunting, and other diseases [2], [7], [8]

Children who experience stunting have a shorter height than children their age. Stunting, one of the most common forms of malnutrition in children, is defined as a Z-score of height by age that is more than 2 standard deviations below the Growth Standard according to WHO (Sanin et al., 2022). This has an impact on physical appearance and has the potential to lead to discrimination or low self-esteem in the future. Stunted children tend to have lower muscle mass and physical strength, which can affect their ability to participate in physical activity and exercise. Children who experience stunting tend to have lower academic achievement because it is difficult to concentrate and understand lessons at school. This is because stunted children also tend to be more susceptible to infectious diseases so they are at risk of decreasing the quality of learning at school and being absent more often (Komaini & Mardela, 2018). Stunted children face psychosocial problems such as low self-esteem, anxiety, or depression, due to their stunted physical condition and cognitive development (Adeoya et al., 2023; Ali & Alhodieb, 2023; Yang, 2023; Yasin et al., 2024). Children who are shorter than their peers may feel isolated or experience bullying, which can affect their mental well-being.

In terms of long-term economic impacts, due to impaired physical and cognitive development, stunted children tend to have lower working abilities in adulthood [13], [14], [15], [16] This can affect their productivity at work. Thus, intergenerational poverty occurs because stunting can cause the cycle of poverty to continue from one generation to the next. Children who are stunted may have more limited educational and employment opportunities, which ultimately impacts their income and quality of life in the future.

A child as defined in Law Number 35 of 2014 concerning Child Protection, is a person who is not yet 18 (eighteen) years old, including children who are still in the womb. Health conditions and nutritional adequacy are important factors in children's growth and development. The results of previous studies showed that there was a relationship between the status of exclusive breastfeeding, maternal nutritional status and maternal

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education with the incidence of stunting, and even the factor of blood deficiency in adolescents (anemia) to the incidence of stunting [17]

Understanding health accessibility and nutritional adequacy is very important for people in all elements. Children at risk of stunting are influenced by a person's lifestyle in youth and even adolescence. This study needs to be carried out as an effort to describe and analyze the importance of health and nutrition education in adolescents. Furthermore, the problem was formulated, namely how can health and nutrition education be carried out in violence-prone areas?

Therefore, the integration of health and nutrition education programs in school curricula and community campaigns needs to be carried out intensively, so that future generations not only avoid stunting, but also have a better quality of life and higher productivity.

2. Method

This study is part of community service activities with a regional-based empowerment scheme. The method used is socialization and mentoring, with a percentage of theory as much as 30% and practice as much as 70%, with the stages of planning, implementation, monitoring and evaluation as well as follow-up.

3. Result and Discussion

3.1. Result

The results of the activities are in the form of downstream appropriate technology in the form of analog rice printing machines and social engineering in the form of mentoring and training for adolescent counseling, adolescent integrated service posts, and the provision of nutritional lodges. It is concluded that health and nutrition accessibility is very important to be given to the community.

The downstream of appropriate technology for analog rice printing machines is expected to be a capital for women to produce foodstuffs in the form of artificial rice that has a high protein content made from local foods that are easy to find in their area.

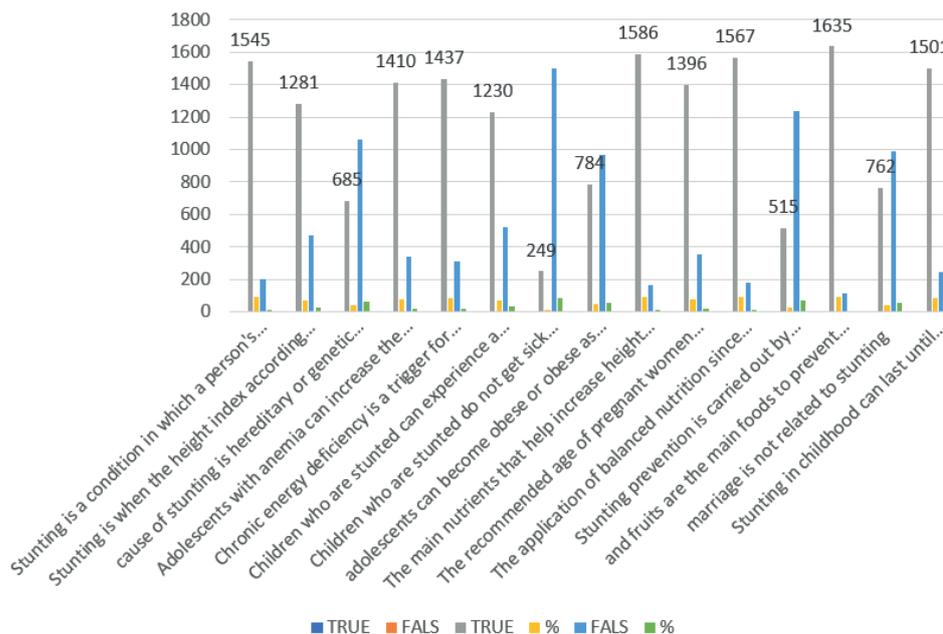


Figure 1: GRAPH OF UNDERSTANDING HEALTH AND NUTRITION IN HANDLING STUNTING.

3.2. Create a Discussion

The accessibility of health and nutrition of adolescents in areas prone to socio-cultural violence, which is supported by the atmosphere of the village as a sub-urban among industrialization, needs special attention. Children who are in the growing period, need good nutrition to help their physical development. This is in line with the opinion, that children who are in the growth period, need good nutrition to help the development of bones, muscles, and other organs of the body. Good nutrition can improve cognitive functions, including concentration, memory, and learning ability, which is in line with the results of the study (Placeholder1). The community and adolescents need to get health and nutrition education because the understanding related to adolescent nutrition problems is still low. It was found in understanding the biggest problem that causes the risk of stunting is that anemia in adolescents is still not optimal. Meanwhile, anemia is one of the triggers for stunting risk. This is in line with Ni et.al., 2024 which states that malnutrition can inhibit physical growth and increase the risk of health problems such as anemia, weakness, stunting, and other diseases. Adolescent health and nutrition accessibility requires a facility/forum that becomes a service center for adolescents that is more private. Pondok Gizi is an option that can accommodate the activities and programs needed. Routine mapping of needs and activities in adolescent advocacy can be used as a habit of a healthy lifestyle since adolescence.

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4. Conclusion

The conclusion section contains a summary of the research findings, which correlate with the research objectives written in the introduction. Then state the main points of the discussion. A conclusion generally concludes with a statement about how the research work contributes to the field of study as a whole (shows how progress from the latest knowledge). A common mistake in this section is to repeat the results of an experiment, abstract, or be presented with a very list. The concluding section must provide clear scientific truths. In addition, the conclusions can also provide suggestions for future experiments.

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