Applied Nursing Journal of AIVNEI
Vol. 3, No.2, November 2025
https://e-journal.aipviki.org/

THE RELATIONSHIP BETWEEN DIETARY PATTERNS AND PHYSICAL ACTIVITY WITH THE INCIDENCE OF OBESITY IN SCHOOL CHILDREN AT MI HIDAYATUL MUTAALIMIN

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Article History
Received : August 2025
Revised :
Published : November 2025

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Keywords
Diet, Physical Activity, Obesity

ABSTRACT

Introduction
Obesity is a condition of being overweight due to fat accumulation. Until now, childhood obesity is still a problem, one in ten children in the world who experience obesity and an increase in obesity in school children. One of the main factors that contribute to the increase in obesity in children is diet and physical activity. This study aims to analyze the relationship between diet and physical activity and the incidence of obesity in school children at MI Hidayatul Mutaalimin.

Method
This study was quantitative with a cross sectional approach design.The population in this study was children aged 10-12 years using the Cluster Random Sampling technique. The sample size used in this study was 98 respondents and data analysis used the Chi-Square test.

Result
The results of statistical tests showed that the chi-squre analysis of diet with the incidence of obesity in school children were obtained with a value of p= 0.035 (p<0.05), physical activity with the incidence of obesity in school children obtained a value of p= 0.006 (p<0.05)

Conclusion
So it can be concluded that there is a relationship between diet and the incidence of obesity in school children at MI Hidayatul Mutaalimin and there is a relationship between physical activity and the incidence of obesity in school children at MI Hidayatul Mutaalimin.

INTRODUCTION

School-age children are most vulnerable to nutritional problems because they require adequate nutrition to meet their energy needs, development, and growth. Health problems in children are not solely focused on malnutrition, but also on health problems resulting from overnutrition, which creates a double burden of malnutrition, namely obesity. The World Health Organization (WHO) reports that 1 in 10 children worldwide are overweight (Wansyaputri et al., 2021). According to the World Health Organization (WHO), school-age children are between 7 and 15 years old. At this stage, a person begins to become more easily identifiable, such as their growth and development, activity patterns, nutritional needs, personality development, and food intake (Dungga, 2020).

According to UNICEF (2019), globally, 20.6% of school-age children are overweight (Maaike Arts, 2019). In Asia, the prevalence of childhood obesity is alarming, reaching 48% in some regions. In East Asia, the prevalence of obesity among school-age children is recorded at 24.5%, while in West Asia it reaches 11.9% (Listianasari & Putra, 2023).

Based on SSGI data (2022), the prevalence of obesity in Indonesia among children aged 5-12 years reached 9.2%, with 10.8% being overweight, meaning 1 in 5 children aged 5-12 years is overweight or obese. According to the Ministry of Health (2023), the prevalence of obesity in children increased to 19.7%.

The prevalence of obesity in children in West Java reached 18.8%. In Bekasi City, in 2023, the prevalence of obesity among children aged 6-12 years reached 20.5%. In the Jatiranggon area, this prevalence reached 22%. The main causes of obesity in children include factors such as unhealthy diets and lack of physical activity (Paudpedia, 2023).

Based on the description of the phenomenon above, the authors are interested in conducting research on "The Relationship between Diet and Physical Activity and the Incidence of Obesity in School Children at MI Hidayatul Mutaalimin ".

METHODS

This study employed a quantitative approach with a cross-sectional approach. Data collection used a questionnaire to determine the relationship between dietary patterns and physical activity and the incidence of obesity in children at MI Hidayatul Mutaalimin.

The independent variables in this study were diet and physical activity. The dependent variable was obesity. This study was conducted at MI Hidayatul Mutaalimin School, Jl. Raya Pabuaran, Jatiranggon, Jatisampurna District, Bekasi City, West Java, from March to May 2025.

The population was students aged 10 to 12 years old in grades 4 to 6 at MI Hidayatul Mutaalimin. The sample size, calculated using the S. Lemeshow formula, was 89 respondents. A 10% dropout rate resulted in 98 respondents.

RESULTS

Table 1. Frequency Distribution Based on Characteristics

Sex	f	%
Male	48	49.0%
Female	50	51.0%

Based on Table 4.3, the results of the univariate analysis of 98 child respondents at MI Hidayatul Mutaalimin show that the gender distribution of the children was predominantly female, with 50 respondents (51.0%).

Table 2. The Relationship between Child Characteristics and the Incidence of Obesity in School Children at MI Hidayatul Mutaalimin

Sex	Weight				p-velue	OR
	Normal		Obesity			
	f	%	f	%	f	%
Male	40	83,3	8	16,7	0,033	3,065 (1,185-7,923)
Female	31	62,0	19	38,0		

The analysis of Table 2, shows a relationship between gender and obesity. Forty (83.3%) male respondents were of normal weight. Meanwhile, 19 (38.0%) female respondents were obese.

The statistical test yielded a p-value of 0.033. Therefore, it can be concluded that there is a significant relationship between gender and obesity. The analysis yielded an OR of 3.065, meaning that women are 3.065 times more likely to be obese than men.

Table 3. The Relationship Between Diet and Obesity In School Children at MI Hidayatul Mutaalimin

Diet	Weight				p-velue	OR
	Normal		Obesity			
	f	%	f	%		
Good	14	42,4	19	57,6	0,035	2,947 (1,175-7,394)
Poor	13	20,0	52	80,0		

The analysis of Table 3 shows that there is a relationship between dietary patterns and obesity. 19 respondents (57.6%) with a good diet (>38) were obese. Meanwhile, with a poor diet (<38), 52 respondents (80.0%) were obese. The statistical test yielded a p-value of 0.035.

Therefore, it can be concluded that there is a significant relationship between dietary patterns and obesity. The analysis yielded an OR of 2.947, meaning that those with a poor diet are 2.947 times more likely to develop obesity than those with a good diet.

Table 4. Mother's Characteristics based on Knowledge

Knowledge	Frequency	%
Good	2	5,26%
Fair	14	36,8%
Less	22	57,8%
Total	38	100%

From 38 respondents that the majority of mothers' knowledge is less, namely as many as 22 respondents (57.8%).

DISCUSSIONS

Age

The results of this study indicate that most of the respondents are aged 25-29 years (44.7%). This is not in line with the theory of knowledge according to Notoatmodjo (2007) which says that as a person ages, the more experience and knowledge a person gains, because age can affect mindsets and capture power. If the mother is in the young and productive age group of 25-29, it is easier for her to absorb the information and knowledge given because she is still young.

According to Fujiyanto (2016), the memory experienced by a person can be influenced by one of the factors, namely age, as the ability to understand and think ability of a person is more perfect in line with age development which causes more knowledge. Based on the results of this study, it is in line with the results of research conducted by Rahmandiani (2019) which shows that the frequency of respondents based on age is mostly in the age range of 20-35 years with a percentage (75.6%) and has poor knowledge.

According to Jannah (2021) who said that the age of 20-40 years is the age where entering early adulthood where it is a period of adjustment to new patterns of life. Sometimes there are impassable stumbling blocks that result in unpreparedness or immaturity in dealing with problems such as raising, educating and nurturing children and families.

Occupancy

The results of the research conducted in the working area of the Arga Makmur Health Center showed that most of them did not work, namely 20 respondents (52.6%) and those who worked were 18 respondents (47.4%). According to Muzayyaroh (2021) a person who works has broader knowledge than someone who does not work, because people who work get more information because they meet many people and share experiences so they can learn from what they have experienced so they can be more alert for the future. The work environment can make a person gain experience and knowledge either directly or indirectly. Work also has an important role in determining the quality of human life.

This research is not in line with Picauly & Toy (2013) which says that working mothers have a higher chance of having stunted children than mothers who do not work, this is not in line with the results of the research that I researched, that most mothers who do not work actually have stunted children. This research is in line with research conducted by Amelia (2020) which says that mothers who do not work are at risk of having stunted children 5 times greater than working mothers, because mothers who work outside the home to earn a good living for themselves are often exposed to direct information or indirectly.

Education Level

The results showed that the education of mothers in the working area of the Arga Makmur Health Center mostly had an education level, namely Elementary School (SD) as many as 11 people (28.9%). This study uses a descriptive method which shows that as many as 4 respondents have a high school education, 7 respondents have a high school education, 10 respondents have a junior high

school education, and 6 respondents do not have an education. The results of this study are in line with the theory according to Notoatmodjo (2007) which says that the higher a person's education, the easier it will be to receive information and the more knowledge one has so that it affects a person's behavior, this is due to the lack of sources of information obtained by mothers about stunting.

According to Kristianti (2018) the level of education is very influential on health, one of which is nutritional status. Individuals who have a high level of education have a greater chance of knowing a healthy lifestyle and how to keep the body in shape, which is reflected in the application of a healthy lifestyle such as consuming a nutritious diet, where the education of low caregivers is 2 times more likely to experience stunting. The learning process carried out at the education level will produce understanding and gain something to think critically about Humans (2015).

This study is in line with research conducted by Rahayu & Khairiyati (2014) which found a significant relationship between stunting and maternal education because maternal education level affects health status. Mothers who have a low level of education are 5.1 times more likely to have stunted children. This is related to her role as a mother in forming children's eating habits, because it is the mother who prepares food starting from setting the menu, shopping, cooking and preparing food.

In my opinion, as a researcher, the higher the education level of the mother, the mother's knowledge about stunting in toddlers will improve given that education can affect a person's ability to receive and absorb the information provided compared to someone with low education.

Knowledge

Respondent's knowledge was measured using a questionnaire with 30 questions about stunting. Based on the results of the study, most of the respondents in this study had knowledge in the Less category, namely 22 respondents (57.8%), 14 respondents (36.8%), and 4 respondents (5.26%). Based on the results of interviews from the Arga Makmur Health Center said that the majority of mothers had very little interest in finding out. Many respondents also said that the incidence of stunting suffered by their children was not a serious matter, according to them being short, it was heredity, resulting in mothers not taking any attitude and efforts to prevent stunting from occurring.

According to research by Haines et al (2018) conducted to 2100 mothers in Indonesia, 80% of mothers use Posyandu as a source of knowledge on stunting. Mothers who received information from health workers had a more accurate understanding than mothers who received information on stunting from the internet. However, there was no significant difference between mothers who received stunting information from the internet and health workers. Sources from the internet also cannot be ruled out as a method of communicating health knowledge.

The results of this study are in line with Muzayyorah (2021) who said that the number of stunting cases is nothing but the result of parental knowledge, especially mothers who do not understand what stunting is, mothers have a very important role in the growth and development of a child, especially in fulfilling nutrition to avoid malnutrition. bad and stunting.

CONCLUSIONS

Based on the results of the study entitled "Overview of Mother's Characteristics and Knowledge About Stunting in the Work Area of the Arga Makmur Health Center" shows that of 38 respondents there are 22 (57.8%) mothers who have knowledge in the category of less, most of the respondents with the latest education in Elementary School (SD)) as many as 11 people (28.9%), the average age of the respondents was 25-29 years, and 20 respondents (52.6) who did not work.

Based on the conclusions from the results of research that has been carried out in the work area of the Arga Makmur Health Center, it is suggested that it can be used as input for health worker institutions about the importance of education and mother's knowledge about stunting and as an effort to jointly eradicate stunting events in the work area of the Arga Makmur Health Center. For further researchers, it is hoped that they can examine other factors that cause stunting and can use a larger sample in the working area of the Arga Makmur Health Center.

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