FAMILY NURSING CARE USING NUTRITION EDUCATION INTERVENTION ON THE BODY MASS INDEX (BMI) IN SCHOOL-AGE CHILDREN WITH OBESITY IN RT 02 RW 07 KELURAHAN GROGOL KECAMATAN LIMO DEPOK CITY

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ABSTRACT

Introduction: The incidence of obesity is continually increasing worldwide, including in both developed and developing countries. This condition can jeopardize health and increase the risk of disabilities in adults. Health education is defined as an effort to provide or improve the understanding, attitude, and actions taken by society in maintaining and improving their health. The purpose of this writing is to evaluate the effectiveness of health education interventions in reducing body mass index (BMI) in school-age children.

Method: The implementation method of the intervention is in the form of providing health education to school-age children. In providing health education about obesity in children by eating a diet and consuming healthy foods.

Results: The results of the two-week implementation showed that treated patients experienced a decrease in BMI of 0.60 SD, while discharged patients experienced a decrease in BMI of 0.59. It can be concluded that providing health education intervention to school-age children who are obese is an effective measure to reduce their body mass index

Conclusion: Therefore, as part of the management of obesity and overweight in school-age children, community nurses are expected to be able to implement health education.

Keywords: *School Age Children, Obesity, Health Education*

INTRODUCTION

Overweight is a condition of weight exceeding normal and obesity is a condition that is considered more severe due to the process of accumulating fat tissue in the body that exceeds normal (Fikawati et all., 2017). According to a report from the World Health Organization (2014), there are several types of non-communicable diseases that are commonly found such as coronary heart disease, cancer, diabetes, high blood pressure, and chronic lung disease. Certain habits such as smoking, eating less vegetables and fruits, drinking alcohol excessively, lack of physical activity, and being overweight or obesity can cause these diseases (Masi, G., &; Oroh, 2018).

Obesity is the main risk factor that is considered to provide danger and result in NCDs, especially in children who have excess weight in the form of fat deposits, as well as disorders of heart disease and have a risk for hypertension (Ministry of Health RI. 2012). Organisation for Economic Cooperation and Development (OECD) (2017). It suggests that around 1 in six children globally have suffered from overweight or obesity. This data is also in accordance with the data from WHO, namely that overweight and obesity are the causes of death in fifth place. It is estimated that more than 2.8 million people die each year due to obesity, even obesity resulting in deaths with a much higher rate globally when compared to underweight cases. Not only that, based on data it is shown that the number of

overweight children with an age range of more than 5 years is known to reach more than 42 million cases.

According to information from the national Riskesdas in 2018, the issue of obesity in children who attend school is a concern with an age range of 5-12 years is quite high with a percentage reaching more than 18%, with the category of fat 10.7%, and very obese reaching 9.2%, then the lowest obese cases in the East Nusa Tenggara region (8.7%) and the highest in the Papua region (13.2%). This situation indicates that obesity is the most important focus, especially to pay attention to nutritional intake in children at school age.

Indications of overweight in children can be seen from the value of Body Mass Index (BMI) which exceeds the average BMI of peers on a scale of 1 or 2 standard deviations. Therefore, if a child's BMI value exceeds these standards, then the child can be considered to have overweight problems (Pemenkes RI, 2020). This value shows that in school-age children there is an increase in values that exceed normal values, with variations in the increase in Body Mass Index (BMI) that vary in each child. BMI is calculated by dividing body weight in kilograms by the square of height. (Nuttall, 2015).

Research conducted by (Hasniyati &; Ismanilda, 2021) shows that the influence of body mass index education on overwirght or obese children, shows that the percentage of children with the male sex is higher when compared to women, which is 51.9% while the percentage of women is 48.1%. In the study, it was found that there was no significant difference between body mass index (BMI) before and after nutritional counseling, which showed the same results. In addition, the findings of the study showed that there was no significant difference between body mass index before and after in the absence of nutritional counseling, because the p value of 0.061 was greater than 0.05.

Based on the results of a preliminary study at Rt 02 Rw 07, Grogol Village, Limo District, Depok City to measure the weight of school-age children. By using a weight scale, the measurement results are processed using the BMI / U formula. From the measurement results, there are 5 school-age children measured, where 1 child has overweight problems, and 1 other child is obese. This condition indicates the need for intervention for children with overweight problems so that BMI can be reduced. After conducting preliminary studies, the author has selected one family as the family to be managed and one family as the control family. Based on the results of previous explanations regarding the problem of overweight in school-age children and educational efforts related to obesity in school-age children, the author decided to implement "Family Nursing Care with Nutrition Education Intervention to Increase Body Mass Index (BMI) in School-Age Children with Obesity in RT 02 RW 07 Grogol Village, Limo District, Depok City."

METHOD

This research has been conducted on obese and overweight school-age children in RT 02 RW 07 Grogol Village, Limo, Depok The implementation method of the intervention is in the form of providing health education to school-age children. In providing health education about obesity in children by eating a diet and consuming healthy foods. To make it easier for children to go on a diet and consume healthy foods, it is also necessary to help from the family so that the child is also enthusiastic in running the diet and the family must also be able to guide the child to routinely do the diet so as not to harm each other.

RESULTS

The results of the study showed nutritional status data through anthropometric standards in school-age children calculated by BMI / you and Z-Score in children aged 5-18 years (Permenkes RI No 2., 2020). Based on the results of the assessment on patients managed by An. N of Mr. T's family is known to weigh An.N = 65 kg and height An.N = 152 cm can be calculated BMI according to anthropometric measurements BMI / U An.N = + 4.57 SD (> + 2 SD) meaning An. N belongs to the category of obesity. While the results of the study on resume patients, namely An. F of Mr. W's family is known to weigh = 47 kg and height = 150 cm. BMI can be calculated according to anthropometric measurements BMI / U An.F = +1.71 SD (BMI / U > + 1 SD to +2 SD) means An. F belongs to the overweight category).

The intervention that has been given to Mr. T's family and Mr. W's family is to conduct health education to Mr. T's family and Mr. W's family regarding obeistas in children. It can be known that before intervening with patients managed by An. N of Mr. T's family is known to weigh An.N = 65 kg and height An.N = 152 cm can be calculated BMI according to anthropometric measurements BMI / U An.N = + 4.57 SD (> + 2 SD) meaning An. N belongs to the category of obesity. While the results of the study on resume patients, namely An. F of Mr. W's family is known to weigh = 47 kg and height = 150 cm. BMI can be calculated according to anthropometric measurements BMI / U An.F = +1.71 SD (BMI / U > + 1 SD to +2 SD) means An. F belongs to the overweight category).

Based on WHO, obesity that occurs in children is a global problem that must be the main focus to be immediately addressed and intervened. Obesity can basically be caused by environmental factors, heredity, nutritional or energy intake, lifestyle, physical activity and lifestyle changes that are now increasingly modern and consumptive, Where this barbarity ends in a change in diet to like to eat foods that are higher in calories, high in fat, high in salt content so that it can lead to various diseases not only obesity and also other diseases due to the consumption of unhealthy foods. (Rizona &; Yuliana, 2018).

The families of Mr.T and Mr.W, especially An.N and An.F, were also given interventions in health education exercises on obesity in children to help lose weight and BMI in An.N and An.F. The implementation results showed that An.N and An.F were able to explain again the understanding of overweight and obesity, the causes and signs of overweight and obesity as well as how to assess the BMI of school-age children, how to overcome overweight and obesity and the impact of obesity on health. Education is carried out as many as two weeks four meetings.

Table 1

Frequency Distribution of Evaluation of Childhood Obesity Education Interventions in Patient Management and Patient Resume

An. N Patient Management		
Week	1	2
TB,BB and IMT before intervention	TB=152 cm BB =65 kg IMT=.+4,37	TB= 152 cm BB = 63,8 IMT=.+4,33 SD
TB, BB and IMT after intervention	TB= 152 cm BB= 64,8 IMT= +4,35 SD	TB= 152 cm BB = 63,4cm IMT=.+4,25 SD
Total decline BB and IMT		BB= 1,7 kg IMT= 0,60 SD
An. F Patient Resume		
Week	1	2
TB,BB and IMT before intervention	TB= 150 cm BB= 47 kg IMT= +1,71 SD	TB= 150 cm BB= 46,6 kg IMT= +1,53 SD
TB, BB and IMT after intervention	TB= 150 cm BB= 46,6 kg IMT= +1,64 SD	TB= 151 cm BB= 45 kg IMT= +1,39 SD
Total decline BB and IMT		BB= 2 kg IMT= 0,59 SD

Health Education in obese children, weight and Body Mass Index (BMI) An.N and An.F decreased. An.N's weight before the intervention was 65 kg and after the intervention was 63.4 kg, then the body mass index also decreased by 0.60 SD so it can be concluded that An.N managed to lose weight as much as 1.7 kg.

On An. F also decreased weight, before the intervention was 47 kg and after the intervention was 45 kg, then the body mass index also decreased by 0.59 SD so it can be concluded that An. F managed to lose 2 kg of weight.

DISCUSSION

Anam et al., (2016) Many studies have used body mass index (BMI) as a factor in assessing nutritional status and is considered an effective method for determining obesity in children. The condition of obesity occurs when children experience excessive fat accumulation which is directly related to their high BMI value. . Grouping nutritional status in children can be done using the Anthropometric Index in accordance with The WHO Reference 2007 for ages 5-18 years (Permenkes RI No 2., 2020). Overweight refers to a state in which a person weighs about 10-20% above their normal weight.

The author examines the diet and eating behavior of managed patients, namely An. N and obtained data that An. N likes and often consumes sweet foods and drinks and ready meals, does not like to eat vegetables, does not want to eat breakfast and often snacks, eats heavy more than 3 times a day with a fairly large portion, often snacks. While the patient's diet resumes that is An. F obtained data that An. F likes and often consumes sweet foods and drinks, fatty foods such as eating gorangan, snacking and snacking on foods that contain artificial sweeteners, artificial colors and flavorings. An. F says he doesn't like to eat vegetables but fruit still does. An. F also eats heavy 3 times a day with a fairly large portion.

Consumption of foods that contain ingredients such as artificial sweeteners, fats, and other flavoring ingredients can be snacks that play a role in weight gain. Because fast food generally contains a lot of fat and high calories, eating fast food by children can have an impact on their health (Junaidi, 2016). Obesity is a condition resulting from the results of food energy intake that is more than the energy needed by the body sourced from fast food choices such as foods and drinks that are high in energy, fat, and sugar (Hastoety et al., 2017). Fast food has gone through the cooking process before, so it loses many important nutrients such as vitamins and minerals.

In line with Nurmalina's research (2011) obese children, among others, when using clothes become narrow, weight increases, has excess fat in the abdomen where the waist circumference is larger than normal size, difficult to move, not strong standing too long, tired all the time and feel short of breath. Some signs that indicate that a child is obese include having a round face, chubby cheeks, double chin, neck that tends to be short, protruding chest, distended belly, and other signs (Matthew et al., 2016).

Based on WHO, obesity that occurs in children is a global problem that must be the main focus to be immediately addressed and intervened. Obesity can basically be caused by environmental factors, heredity, nutritional or energy intake, lifestyle, physical activity and the occurrence of lifestyle changes that are now increasingly modern and consumptive, where this barbarity ends in changes in diet to become likes to eat foods that are higher in calories, high in fat, high in salt content so that it can

lead to various diseases not only obesity and also other diseases due to unhealthy food consumption (Rizona &; Yuliana, 2018). The application of healthy living is indeed a very promising effort in order to further prevent obesity and as a form of further obesity control.

If the child feels inadequate, there is no need to force it, but motivation must be given so that the child is motivated to increase vegetable and fruit intake (Darmawati, 2017). It's the same with An. N and An. F where the two of them do not like vegetables but still like fruit but do not consume fruits too often, they prefer to consume fast food. This problem is often underestimated because factors of intake and lack of physical activity seem to be rarely considered both in terms of food content, and food processing methods that are still often ignored, resulting in obesity problems in children as if age. Therefore, efforts are needed to prevent the occurrence of risk factors that cause obesity by providing obesity-related health education to children at school age as early as possible with various methods such as counseling, providing booklets, leaflets, and others. (Machfoedz & Syriac, 2007).

There are other differences regarding An's diet and behavior. N and An. F. Although overall eating behavior between An. N with An F is almost the same, namely likes to eat fast food, sweet foods, often snacks and snacks but after studying the diet An.N is eating heavy more than 3 times a day and does not like to eat vegetables. While the patient's diet resumes that is not like to eat vegetables but often eats fruit and An. F eats heavily 3 times a day. Zulfa Research (2016).

In line with research conducted by Putra, (2017) the results of the research indicate that there is a correlation between diet and overweight cases in SMA Negeri 5 Surabaya students and repsonden who are accustomed to having more eating patterns also have an almost 3x higher risk of being overweight when compared to respondents who have a balanced nutritious diet.

CONCLUSION

For two weeks, two meetings were implemented which resulted in a significant weight loss of 1.7 kg in An. N. Before implementation, the body weight was 65 kg and after implementation it became 63.4 kg. There was a decrease in BMI results of 0.60 SD, where before implementation it reached +4.57 SD, and after implementation it became +3.97 SD.

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