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The relationship between body image and nutritional status in adolescent girls

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Abstract

Background: Nutritional problems in adolescents have serious impacts on the health of young people, impacting the welfare of current and future generations, and affecting the economy and health of the country. Nutritional problems that arise in adolescents are influenced by various factors, one of which is eating behavior and perceptions about body image will affect the nutritional status of adolescents.

Purpose: To determine the relationship between body image and nutritional status in adolescent girls.

Method: The research method used a quantitative method with a cross-sectional study approach. The sample in this study were female students of Elim High School Makassar who were obtained using a simple random sampling method. The statistical test used was the chi-square test.

Results: Based on the results of the Chi-square analysis, the p value = 0.002 was obtained, which means H_a was accepted.

Conclusion: Thus, there is a relationship between body image and nutritional status in adolescents.

Keywords: Adolescent Girls; Body Image; Eating Behavior; Health Problems; Nutritional Status.

INTRODUCTION

Nutritional status is the result of the balance between nutrient intake and the body's nutritional needs. Nutritional problems in adolescents have serious implications for their health, impacting the well-being of current and future generations, and affecting the economy and health of the nation. In particular, the nutritional status of adolescent girls is closely linked to pregnancy outcomes and the future health and survival of both mother and child (Damayanti, Koerniawati, & Siregar, 2023).

There are various factors that cause nutritional problems in today's adolescents, such as unhealthy eating patterns that occur due to a lack of nutritional knowledge resulting from the delivery of health information that is given incorrectly and inappropriately. According to the World Health Organization (WHO), in 2021, the prevalence of obesity nutritional status in adolescents based on BMI

was 4.2% and increased in 2022 to 6.7% and in 2023 increased to 7.4% (World Health Organization, 2024).

Meanwhile, in Indonesia, the 2023 National Health Research report showed that the prevalence of underweight and severely underweight among adolescents aged 13-15 years was 8.7% and 8.1% among adolescents aged 16-18 years. The prevalence of overweight and obesity was 16.0% among adolescents aged 13-15 years and 13.5% among adolescents aged 16-18 years (Ministry of Health of the Republic of Indonesia, 2024).

Data obtained from the South Sulawesi Provincial Health Office in 2022 showed that the prevalence of underweight and very underweight among adolescents aged 13-15 years was 9.2% and 8.9% among 16-18 years old. Meanwhile, the prevalence of overweight and obesity was 16.4% among adolescents aged 13-15 years and 14.2% among adolescents aged 16-18 years. In 2023, the

prevalence of underweight and very underweight among adolescents aged 13-15 years was 9.6% and 9.3% among adolescents aged 16-18 years. Meanwhile, the prevalence of overweight and obesity was 17.2% among adolescents aged 13-15 years and 15.0% among adolescents aged 16-18 years (Ministry of Health of the Republic of Indonesia, 2024).

Data obtained from the Makassar City Health Office in 2022 showed that the prevalence of underweight and very underweight adolescents aged 13-15 years was 4.6% and 5.1% for 16-18 years old, respectively. The prevalence of overweight and obesity was 11.2% for 13-15 years old and 10.2% for 16-18 years old. In 2023, the prevalence of underweight and very underweight adolescents aged 13-15 years was 8.3% and 7.3% for 16-18 years old. The prevalence of overweight and obesity was 16.2% for 13-15 years old and 13.3% for 16-18 years old (Ministry of Health of the Republic of Indonesia, 2024).

Adolescents are a population group between the ages of 10 and 19. Data from the Central Statistics Agency shows that the population aged 10 and 19 is 44.3 million, with 21.47 million females and 22.83 million males. Adolescence is often referred to as a period of "nutritional vulnerability" because it is during this period that adolescents are susceptible to nutritional problems, both due to nutritional deficiencies and excess nutrient intake. Nutritional problems that arise in adolescents are influenced by various factors (Teji, Dessie, Assebe, & Abdo, 2016).

Eating behavior and perceptions about body image will influence adolescents' nutritional status. Body image is a person's perception of the ideal body they desire, both in terms of weight and shape, based on the perceptions of others and how much they need to adjust to those perceptions (Faiqah, Ristrini, & Irmayani, 2020). Body image is divided into 2 types, namely positive body image and negative body image. Positive body image is the opinion/perception of individuals who feel satisfied with their body shape, while negative body image is the opinion/perception of individuals who feel dissatisfied with their body shape and try to compare their body with others, are not confident and feel ashamed of their body shape so that teenagers have difficulty in accepting themselves as they are, when criticized by others they are easily offended, and become pessimistic to the

point of being willing to practice a strict diet just to get a body with the ideal shape they desire (Yusinta, Pradigdo, & Rahfiluddin, 2019).

The body image of teenage students is not free from their attention through media influences through advertisements on TV, magazines and the internet which show icons of muscular men, strong and well-built bodies and icons of women who have tall, white, smooth, thin bodies so that it is not uncommon for a number of teenagers to do various ways to achieve the ideal body they want, such as through strict diets, excessive exercise and liposuction (Apriyani, Aulawi, & Syuryadi, 2024).

Nutritional problems that arise during adolescence are caused by unhealthy consumption patterns, namely an imbalance between consumption (intake) and the recommended nutritional adequacy. Not meeting nutritional needs during this period can result in delayed sexual maturation and linear growth retardation. During this period, nutrition is also important to prevent the occurrence of chronic diseases related to nutrition in adulthood, such as cardiovascular disease, diabetes, cancer and osteoporosis. Nutritional problems that often occur in adolescent girls are malnutrition (underweight), overnutrition (overweight) and anemia. Malnutrition occurs because the amount of energy and other nutrients consumed does not meet the body's needs. However, in adolescent girls, the occurrence of malnutrition is generally because adolescent girls limit the amount of food they eat (Margiyanti, 2021).

Teenagers who experience malnutrition and inadequate nutrition will experience a gradual adaptation process. Tissue wasting will occur, metabolism will slow, energy and oxygen needs will decrease, and the red blood cells needed to transport oxygen will also decrease (Handayani, Pratiwi, & Ariendha, 2023).

RESEARCH METHOD

The research method used was a quantitative observational cross-sectional design, which measured the independent and dependent variables simultaneously to determine the relationship between body image and nutritional status in female adolescents at Elim High School in Makassar. The sample in this study was 51 female adolescents in grades 10 and 11. The sampling technique used was random sampling. The chi-square test was used.

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A positive body image is defined as having a correct perception of one's body shape and feeling comfortable with it. A negative body image, on the other hand, is a distorted perception of one's body shape, leading to feelings of shame and an inability to accept one's condition. Undernutrition: Adolescents who experience insufficient nutritional intake, which can result in stunted growth and other health

problems. Well-Nutrition: This category indicates that adolescents have a balanced and adequate nutritional intake to support optimal growth and development. Overnutrition: Adolescents in this category have excess nutritional intake, which can lead to health problems such as obesity and related diseases.

RESEARCH RESULTS

Table 1. Distribution Characteristics of Respondents (N=51)

Variable	Results	P-value
Body Image (n/%)		0.002
Positif	41/80.4	
Negatif	10/19.6	
Nutritional Status of Adolescents (n/%)		
Obesity	9/17.6	
Overweight	10/19.6	
Normal	25/49.0	
Underweight	7/13.7	

The results of the study showed that out of 51 samples, respondents with positive body image and obesity were 8 people (19.5%), overweight were 8 people (19.5%), and 23 people (56.1%) experienced good nutrition and 2 people (4.9%) experienced malnutrition. Meanwhile, respondents with negative body image and obesity were 1 person (10.0%), overweight were 2 people (20.0%), and 2 people (20.0%) experienced good nutrition and 5 people (50.0%) experienced malnutrition. Based on the results of the Chi-square analysis, a p-value of 0.002 was obtained, meaning H_a was accepted. Thus, there is a relationship between body image and nutritional status in adolescents.

DISCUSSION

Based on the research results, there are positive body images consisting of 8 people who are obese, 8 people who are overweight, 23 people who are normal, and 2 people who are underweight. This shows that the perception of adolescents who feel satisfied by appreciating their body shape and understanding that no one's physical appearance is perfect. Positive body images tend to have a higher level of life satisfaction and can affect the quality of one's relationships, indicating that individuals feel comfortable with their physical appearance. Positive body image also affects physical health. Individuals with a positive body image are more likely to live a healthy lifestyle, including eating well and exercising regularly. From the results of the research that has

been conducted, several adolescents with positive body images are even obese, this is a concern because it can have a negative impact on health. Health problems caused by obesity vary, more severe ones can cause heart disease that can lead to sudden death (Hanum, 2023).

Negative body image consisting of 1 obese, 2 overweight, 2 normal and 5 undernourished, has a perception of dissatisfaction with their body shape so that it encourages them to improve their desired appearance, perhaps by trying a strict diet or overeating to change their body shape according to the desired perception, which in the end can cause nutritional problems. Body image is divided into 2 types, namely positive body image and negative body

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image. Positive body image is the opinion/perception of an individual who feels satisfied with the shape of his body, while negative body image is the opinion/perception of an individual who feels dissatisfied with the shape of his body and tries to compare his body with others, lacks self-confidence and feels ashamed of his body shape so that teenagers have difficulty in accepting themselves as they are (Yusinta et al., 2019).

The results of this study are in line other research which showed that the majority of respondents had a positive body image (60%), poor energy intake (51.6%), most had sufficient protein intake (53.3%), most had sufficient fat intake (55%), and most had insufficient carbohydrate intake (60%). The conclusion of this study is that there is a relationship between body image, energy intake, fat intake, and carbohydrate intake with nutritional status ($p < 0.05$) and there is no relationship between protein intake and nutritional status ($p > 0.05$) (Damayanti et al., 2023).

The same thing was done which showed that of the 30 respondents with poor nutritional status, 67.7% of respondents had more negative body image perceptions compared to respondents who had positive body image perceptions, amounting to 33.3% of respondents (Yulisma, Juleka, & Pratiwi, 2022).

Similarly, other research found that 29 subjects (40.3%) were dissatisfied with their body shape, while 43 subjects (59.7%) were satisfied with their body shape. Most (56.9%) of the subjects had not yet adopted good eating habits, while 31 subjects (43.1%) had adopted good eating habits. There was a significant relationship between body image and nutritional status ($r = 0.482$ $p = 0.001$) and eating behavior and nutritional status ($r = 0.507$ $p = 0.001$) (Widianti & Candra, 2012). Previous researchers revealed that adolescents who have a positive body image and good eating habits have better nutritional status compared to respondents who have a negative body image and poor eating habits (Sholikhah, 2019).

The impact of dissatisfaction with body shape is a driving factor for going on a weight loss diet. If it is not balanced with sufficient knowledge, teenagers can get caught up in the wrong diet, causing a decline in nutritional status, iron deficiency, etc (Marlina & Ernalina, 2020). Adolescents' nutritional status can be influenced by various factors, one of which is body image. Body image can be affected by the perception

that one's body size is larger than it actually is (Ripta, Siagian, Wau, & Manalu, 2023). Meanwhile, other researchers stated that 8.9% of female students had a good body image and 91.1% had a poor body image. 55.4% of female students at SMA Batik 1 Surakarta had normal nutritional status, 17.9% had undernutrition, and 26.8% had overnutrition. Spearman's Rank Statistical Analysis showed a p -value > 0.05 , indicating no relationship between body image and nutritional status in female adolescents (Cahyaningrum & Widyaningsih, 2013).

Body image is generally experienced by those who consider appearance to be the most important factor in life (Alidia, 2018). This is especially true among adolescents. They assume that a thin and slender body is ideal for women, while a muscular and stocky body is ideal for men (Ramanda, Akbar, & Wirasti, 2019). The component of body image that is assessed is perception, which relates to the accuracy of an individual in perceiving or estimating their body size (Astini & Gozali, 2021).

Body image will impact the nutritional status of adolescents because it is a crucial factor related to a person's nutritional status. Furthermore, a common nutritional problem is excess nutrient intake, which can lead to obesity. Obesity is a serious health threat and can lead to several consequences, such as discrimination from peers, negative self-image, poor social skills, and depression. The process of accelerated growth and development leads to changes in nutritional needs, lifestyle changes that can also influence food choices in adolescents, and changes in physical activity, both in terms of increased physical activity and decreased physical activity. Nutritional problems in humans can be identified through, among other things, their nutritional status.

CONCLUSION

The most common nutritional problem in adolescents is inadequate nutritional intake, which results in malnutrition, which is being too thin and can lead to iron-deficiency anemia. Adolescents are encouraged to avoid unhealthy diets so they can maintain a healthy nutritional status.

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