RELATIONSHIP OF ANEMIA INCIDENCE WITH NUTRITIONAL STATUS EXPERIENCED IN ADOLESCENTS IN YOGYAKARTA AREA

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ABSTRACT

Background: Fulfillment of nutrition is very important so that growth and development take place perfectly. Adolescent girls are among the vulnerable groups suffering from anemia because teenage girls experience menstruation each month which causes iron loss.

Objective: To determine the relationship of nutritional status with the incidence of anemia in adolescent girls at Junior high school in Yogyakarta.

Research Methods: The purpose of this research is to determine the relationship between nutritional status and anemia in adolescents. Population in this research are 235 students. To measure the health status used HB, measurement of body weight using a bathroom scales and microtise. The sample used in this study was 70 people using purposive random sampling in junior high school. Univarat data analysis and bivariate analysis using chi square.

Results: The test results with Chi Square test resulted in a calculated Chi Square value of 1.322 with a significance value of p = 0.516. Because the value of p> 0.05 it can be concluded that there is no significant relationship between nutritional status with the incidence of anemia in young women.

Conclusion: There is no correlation between nutritional status and the incidence of anemia in adolescent girls

Keywords: level of HB, Body Mass Index (BMI), Anemia Occurrence

INTRODUCTION

In the adolescent phase a person will continue to develop both social and psychological aspects. This change makes adolescents experience a great variety of lifestyles including the experience in determining the food to be consumed. The food selection is no longer based on the nutrient content but merely for the pleasure of socializing that could adversely affect adolescent health nutrition.

Fulfilment of nutrition is very important so that the body growth and development takes place perfectly. The growth of adolescents can affect physical activity so that it also affects the nutritional intake needed. For this reason, nutritional status must be assessed individually, both clinically, anthropometry, and psychosocial.

Adolescent girls need iron twice that of male adolescents. Adequate nutritional needs in adolescents are obtained from the match between the amount and type of food consumed, with the needs of bodily functions so that it is beneficial
to maintain optimal bodily function. Deficiency in consuming food both in quantity and quality can cause nutritional deficiencies such as chronic energy deficiency, anemia, vitamin A deficiency, and disorders due to iodine deficiency4.

Adolescent girls are prone to suffer from anemia because adolescent girls are in their infancy and every month they experience menstruation which causes iron loss2. The reason for the low levels of hemoglobin in the blood one of which is inadequate intake of nutrients that are inadequate in daily food consumption. Adolescent girls generally experience a deficiency of iron, calcium, and vitamin A. In addition, there is also a deficiency of vitamin B6, zinc, folic acid, iodine, vitamin D, and magnesium. Daily nutritional intake is strongly influenced by eating habits. Meanwhile, one of the factors influencing adolescent eating habits is knowledge8.

Anemia in adolescents can affect the process of growth and development of brain cells so that it can cause decreased body endurance, easy weakness and hunger, impaired concentration of learning, decreased learning achievement and can result in low work productivity10. Prior to the study, the researchers conducted preliminary studies conducted on ten young women by means of BMI (Body Mass Index) measures. Preliminary research shows that about four female students are under-overweight, six while others are anaemic.

RESEARCH METHODOLOGY
This type of research is descriptive-analytic, with cross-sectional approach. The study was conducted in Yogyakarta. The sample of this research is students of Yogyakarta Public Middle School who meet the inclusion and exclusion criteria, amounting to 70 students. inclusion criteria were all students enrolled in education and no history of chronic pain. Samples were taken using purposive sampling technique. The independent variable is nutritional status. The dependent variable is the incidence of anemia. The research instrument was hemoglobin level measured using digital Hb, weight measurement using stepping scale and height using microtoar. Univariate data analysis uses percentages and bivariate analysis uses Chi-Square test.

RESULTS AND DISCUSSION
Table 1 Univariate analysis nutritional (BMI) status and anemia incidence

<table>
<thead>
<tr>
<th>Variabel</th>
<th>F</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thin</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Normal</td>
<td>58</td>
<td>82,9</td>
</tr>
<tr>
<td>Fatty</td>
<td>5</td>
<td>7,1</td>
</tr>
<tr>
<td>Sub total</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>Anemia incident</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td>31</td>
<td>44,3</td>
</tr>
<tr>
<td>No anemia</td>
<td>39</td>
<td>55,7</td>
</tr>
<tr>
<td>Sub total</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>
Most of the subjects studied, 58 (82.9%) had normal body mass index status, 7 (10.0%) were in the thin category, and the remaining 5 (7.1%) were in the fat category. A total of 31 (44.3%) subjects were studied with anemia, and 39 (55.7%) showed normal conditions without anemia.

Table 2 Cross tabulation between Nutritional Status and Anemia Occurrence in adolescents

<table>
<thead>
<tr>
<th>Nutritional status</th>
<th>Status of Anemia</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>%</td>
</tr>
<tr>
<td>Thin</td>
<td>3</td>
<td>4,1</td>
</tr>
<tr>
<td>Normal</td>
<td>27</td>
<td>38,5</td>
</tr>
<tr>
<td>Fatty</td>
<td>1</td>
<td>1,4</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>44,0</td>
</tr>
</tbody>
</table>

In the thin IMT category, there were 3 (4.1%) who experienced anemia, compared to 4 (5.7%) who did not experience anemia. Next, of the 58 subjects included in the normal BMI category, there were 27 (38.5%) who experienced anemia, compared to 31 (44.6%) who did not experience anemia. Then, out of 5 (7.2%) students who were categorized as obese BMI, there were 1 (1.4%) who experienced anemia, while the remaining 4 (5.7%) did not experience anemia.

Next, to test the significance of the relationship between BMI status and the incidence of anemia, a Chi-square test was performed. The test results give the value of Chi-square calculated at 1,322 with a significance value of p = 0.516. Because the value of p > 0.05 can be concluded that there is no significant relationship between BMI status and the incidence of anemia in 70 student samples.

DISCUSSION

The results showed that 58 (82.8%) had normal body mass index status, 7 (10.0%) were in the thin category, and 5 others (7.2%) were in the fat category. Several factors affect the nutritional status of adolescent needs such as: wrong lifestyle like adolescents who are afraid of being fat so they have lunch or one meal a day, fast food (fast food) whose nutritional content is not balanced too high in calories so it is easy to get fat apart from snacking habits that are low in nutrients (calories, protein, vitamins, and minerals “such as snacks that are currently sold in stores. These snacks can reduce your appetite”.

In addition there are other factors that affect nutritional status associated with the incidence of anemia in young women, namely energy intake, protein intake, iron intake, vitamin C intake, tea or coffee drinking habits, worm investment, investment, knowledge, education and occupation type, age, family income and menstrual patterns.
The results of this study by the authors are in line with previous research by Arumsari (2008), which states there is no relationship between nutritional status and the incidence of anemia (p = 0.756). Also supported by the results of study 9 which states there is no relationship between nutritional status and the incidence of anemia in adolescent girls (p = 0.089). This is because some factors can affect the nutritional status of adolescents, among others cultural factors where some areas there are more nutritional priorities in boys, habits after eating tea, where tea can inhibit the absorption of nutrients in the body.

A total of 31 people (44.6%) of the subjects studied by students experienced an incidence of anemia, and 39 people (56%) showed normal conditions (no incidence of anemia). Most respondents in the study at junior high school did not experience anemia, because most respondents had normal nutritional status. This is in accordance with Wibowo (2013), "where someone who has normal nutrition and is not anemic is caused because the food consumed by the respondent already contains all the nutrients needed by one's body". So there is a balance between the nutrients consumed by the respondent and the nutrients needed by the body1.

Young women have a higher risk of developing anemia than young men. First because every month in young women experience menstruation. A woman who experiences heavy periods for more than five days is afraid of losing iron, so she needs more iron replacements than women who only have three days and few periods. Second is because young women often maintain appearance, the desire to stay slim or thin so that dieting and eating less2.

Iron deficiency anemia is influenced by several factors, namely lack of animal consumption - as one source of iron that is easily absorbed while iron vegetables are a good source of iron but are high to be absorbed so it requires large portions to meet daily iron needs1. Various factors can also cause iron anemia such as menstrual patterns, knowledge about anemia, and nutritional status. Vitamin B12 anemia and folate deficiency are also common in adolescents due to lack of nutritional fulfillment7.

The results of the study are in line with other studies of previous authors that there is no relationship with the nutritional status of anemia in adolescent girls at the Semarang City Government Vocational School in 2013 (p = 0.089)12. The body needs iron, folic acid to be the basis of high levels of hemoglobin in the body, the above source of substances in our daily, animal protein sources will be able to increase hemoglobin and good the risk of anemia. But there are other factors that can lower hemoglobin levels in women such as fast menstrual cycles, long menstruation and other things for example in certain areas of women's culture work harder because it is considered to be able to help parents in homework.

The test results produce a Chi Square value of 1.322 with a significance value of p = 0.516. Because the value of p> 0, 05, it can be concluded that there is no significant relationship between nutritional status and anemia in adolescents. The results of this study indicate that there is no significant relationship between nutritional status and the incidence of anemia in adolescent girls.
Anemia in young women due to dislike of consuming food sources including vegetables and fruits and prefers fast food that contains calories, high fat and low sugar, iron, vitamin A, vitamin B12, folic acid and calcium, even though they know one of the causes of anemia is due to intake of iron in the body. Even some young women think fast food or food such as western culture is considered to have the advantage of taste factor and more modern.

Nutrition source in fulfilling nutrition status is one of the determining factors in the quality of human resources. Adequacy of nutrition needed by each individual starts from the womb, infants, children, adolescents, to old age. Adequacy of nutrition can affect by age, sex, activity, weight and height. A person's nutritional status is a picture of what they consume for a long time and changes in nutritional status.

There are three factors that influence anemia: the first direct cause is a lack of substances in the body due to lack of food intake containing substances, adequate food, and foods that inhibit the use of iron. Some infectious diseases can increase the risk of anemia, including worms and malaria. Second, indirect causes that cause anemia, namely low family attention towards women, increased activity of women, patterns of food distribution in families where mothers are considered not a priority because they are not breadwinners, third is economic problems, among others, lack of education, income lower, lower social status and geographic location that is difficult to produce or obtain quality food sources.

CONCLUSION

Based on the results of the study it can be concluded that, Most of the nutritional status of adolescent girls have normal body mass index status and it is estimated that some adolescent girls show normal conditions do not occur anemia. Related to the relationship between nutritional status in adolescent girls with the incidence of anemia, there was no relationship. The results of this study are suggested to be able to provide understanding and education to the public about the incidence of anemia in adolescent girls so that it becomes a material for literature related to the topic of nutrition in adolescents and a reference material for further research.

SUGGESTION

The results of this study are suggested to be able to provide understanding and education to the public regarding the incidence of anemia in young women can provide literature related to this research topic so that the need for references can be met so as to maximize the study for further research.

The results of this study are suggested to be able to provide understanding and education to the public regarding the incidence of anemia in adolescent girls so that it becomes a material for literature related to nutrition topics in adolescents.
REFERENCES