

Correlation Between Consumption Patterns and Knowledge with Incident of Anemia on Teenagers in State Junior High School Tigo Lurah, Solok Regency

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ABSTRACT

One of the health problems that often occurs in teenagers, especially teenage girls, is anemia. Anemia is a condition where the number of red blood cells or haemoglobin (Hb) of a person is less than normal. Anemia is one of the common blood disorders that occurs when the level of blood cells (erythrocytes) in the blood is too low. The data from RISKESDAS in 2018 showed that the prevalence of anemia among teenage girls aged 13-18 years in West Sumatra was 26.4%, exceeding the national average prevalence of anemia of 21.7%. Some areas in Solok Regency are remote areas, one of which is Tigo Lurah District. Sekolah Menengah Pertama Negeri (SMPN) 1 Tigo Lurah, precisely located in Batu Bajanjang village, is a school located in a remote area and needs attention in health services. This research aims to determine the correlation between consumption patterns and knowledge with the incidence of anemia in teenage girls at SMPN 1 Tigo Lurah, Solok Regency. This research is an observational study with a *cross-sectional* design with a *Purposive Sampling* technique. Data collection was divided into primary and secondary data. Primary data includes consumption patterns, nutritional knowledge, and health status (Hemoglobin Level) of female students. The results of the research can be concluded that more than one-third (36.7%) of girl teenage girls suffer from anemia, 73.5% of teenage girls' nutritional knowledge level is less, a high proportion of teenage girls who have less energy consumption 38.8% and less protein is 67.3%. It can be concluded that there is a significant correlation between energy and protein consumption and the incidence of anemia.

Keywords: *Anemia, Remaja, Status Gizi*

INTRODUCTION

The main health problems during teenage girls are malnutrition including anemia, chronic diseases, reproductive health problems related to normal physiological development and the onset of sexual intercourse, and mental health problems. (Bahasa et al., 2014) (Rostania, 2013) Iron deficiency anemia is the most common anemia in teenage girls, due to the high demand for growth. (Khomsan, 2003) teenage girls tend to diet so that it can cause reduced nutrient intake including iron. In addition, the menstrual cycle every month is one of the factors that cause teenage girls to be easily affected by iron deficiency anemia. (Eicher-miller et al., 2009) (Gibney & Barrie, 2005)

The prevalence of anemia in Indonesia is still quite high, where data from the Ministry of Health in 2009 showed that the incidence of anemia in teenage girls reached a presentation of 33.7%. (Rah et al., 2021) The 2018 Basic Health Research (RISKESDAS) report shows that the prevalence of anemia among teenage girls aged 13-18 years in West Sumatra is 26.4% and this figure exceeds the national average prevalence of anemia which reaches

21.7%.(Kementerian Kesehatan, 2018)

METHODS

This study is an observational study with a cross sectional design. The study population was all female students of SMPN 1 Tigo Lurah Solok Regency with a sample size of 49 people. The criteria of this research sample are female students who have been registered from class VII, have experienced menstruation and are willing to be sampled. The sampling technique was carried out using Purposive Sampling technique. Data collection is divided into primary and secondary data. Primary data includes data on characteristics, hemoglobin levels, consumption patterns and nutritional knowledge of female students. Data on the characteristics of female students collected through interviews and direct measurements include name, age, weight and height and hemoglobin levels. Weight measurements used digital scales with an accuracy level of 0.01 kg and height using a microtoice with an accuracy level of 0.1 cm.(Hafiza et al., 2021) Measurements of body weight and height were carried out by 2 officers to obtain accurate results in accordance with measurement procedures. Meanwhile, hemoglobin measurement was carried out using the Cyanmethemoglobin method by experienced chemical analysts. Data analysis was performed using the SPSS version 15.0 program. Data processing was performed univariately and bivariately using the Chi Square test.(Taylor et al., 2013)

RESULTS AND DISCUSSIONS

1. Univariat

Distribution of nutritional status, consumption patterns, and level of nutritional knowledge of students of SMPN 1 Tigo Lurah, Solok Regency

a. Anemia Status And Nutrition and Health Knowledge

Distribution of student according to anemia status and according to the level of and health nutrition knowledge of students of SMPN 1 Tigo Lurah, Solok Regency can be seen in Table 1 below:

Table 1. Distribution of Student According to Anemia Status and According to The Level of and Health Nutrition Knowledge of Students of SMPN 1 Tigo Lurah, Solok

Anemia Status	n	%
Severe Anemia	1	2,0
Mild Anemia	17	34,7
No Anemia	31	63,3
Knowledge Level		
Less	36	73,5
Good	13	26,5

Based on Table 1. it is known that 2,0 % of students have severe anemia, 34,7 % have mild anemia and 63,3 % have no anemia. And it is known that 73,5 % of female students have a poor level of nutrition and health knowledge and 26.5% are good.

b. Consumption Pattern

Consumption pattern of female students are seen from the frequency distribution of food consumption and the amount of food consumption (energy, protein, vitamin C and iron).

1) Frequency of Food Consumption

The frequency distribution of food consumption of female students can be seen in Table 2 below:

Table 2. Frequency Distribution of Food Consumption of Middle School Students of SMPN1 Tigo Lurah Solok Regency

Frequency of Food Consumption	N	%
Less	49	100
Sufficient	0	0
Total	49	100

Based on table 2, it is known that the frequency of food consumption of female students is less than 100%. The frequency distribution of food consumption (staple food, animal protein, plant-based protein, vegetable, and fruit) of female students can be seen in table below:

Table 3. Frequency Distribution of Food Consumption Food Consumption (Staple Food, Animal Protein, Plant-Based Protein, Vegetable, And Fruit) Students of SMPN 1 Tigo Lurah Solok Regency

Frequency of Food Consumption	Less		Sufficient	
	n	%	n	%
Staple Food	13	26,5	36	73,5
Animal Protein	42	85,7	7	14,3
Plant-Based Protein	47	95,9	2	4,1
Vegetable	43	87,8	6	12,2
Fruit	47	95,9	2	4,1

Based on table 3, it is known that the frequency of consumption of plant-based protein foods and fruit for female students is the least frequency at 95,9 %.

2) Total Food Consumption (Energy, Protein, Vitamin C and Iron)

a) Total Energy Consumption

The distribution of Total Food Consumption of female student can be seen in Table 4 below:

Table 4. The Distribution of Total Food Consumption Of Students of SMPN 1 Tigo Lurah, Solok Regency

Total Consumption Energy	n	%
Less	19	38,8
Sufficient	30	61,2
Total Consumption of Protein		
Less	33	67,3
Sufficient	16	32,7
Total vitamin C consumption		
Less	38	77,6
Sufficient	11	22,4
Total Consumption Iron		
Less	44	89,8
Sufficient	5	10,2

Based on table 4, it is known that almost half (38.8%) of female students have the amount of energy consumption less than the AKG. it is known that more than half (67.3%) of female students consume protein in amounts that are less than the AKG. it is known that more than half (77,6 %) of female students have vitamin C consumption less than the AKG. And it is known that most of the most of the students (89.8%) have an amount of iron consumption that is less than the AKG.

CONCLUSION

Based on the data and analysis that has been presented, it can be concluded that more than a third (36.7%) of students suffer from anemia, more than half (73.5%) of students' nutritional knowledge level is lacking, a high proportion of students who have less energy consumption is 38.8% and less protein is 67.3%, and there is a significant relationship between energy and protein consumption with the incidence of anemia.

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