

CHAPTER I

INTRODUCTION

1.1 Background of research

The main nutritional problems suffered by adolescents of school age are micronutrient deficiencies and malnutrition in Indonesia. Both malnutrition and stunting as well as overnutrition to obesity with morbidity associated with bad eating behavior (Indonesian Pediatric Society, 2013). Nutritional status is a problem in East Java Province (2015), the prevalence of malnutrition in East Java during the last two years increased in 2010 achieve 7.760 cases (0.33%), 8.410 cases (0.34%) in 2011 and 11.056 cases (0.35%) in 2012. The largest population in East Java was individual aged 10-19 years with a prevalence of 8.02% (Health Office of East Java, 2015). Magetan Regency is one of cities that contributed malnutrition for East Java province (Health Office of Magetan, 2014). Nutritional cases that occurred in Magetan have been 232 cases (Health Office of Magetan, 2017).

Nutritional status is an assessment of body condition person which can be monitored by food consumption (Almatsir, 2010). Based on Ministry of Health of Republic Indonesia (2013), the prevalence of underweight nutrition in male was 13.1%, and female were 5.7%, while the prevalence of overnutrition in male was 6.6% and female was 8.1 % (Supariasa, 2012). Health is one element of human welfare. Therefore, health must be realized in order to have the ideals and dignity of humans (Thamaria, 2017).

The adolescent has the challenge of negative problems regarding their health and nutrition because they are included vulnerable groups experiencing nutritional problems, especially young female (Syahfitri et al., 2016). According to WHO the age limit of adolescents is 17-19 years with increased nutritional requirements which is equal to 2675 kcal for male and 2125 kcal for female. The adolescent needs high nutrition because it is useful for physical growth and significant body development (World

Health Organization, 2014). The growth of adolescents is also very rapid then physical activities including sports are also at its peak. Therefore, if food consumption is not balanced with caloric needs for growth and activities, there will be deficiencies which can eventually impede its growth. Nutritional problems in adolescents will hurt the level of public health, for example, decreasing in the concentration of learning, the risk of giving birth to babies with low birth weight, and decreasing in physical fitness (Ana, 2015).

One of factors that cause nutritional problems in an adolescent is a lack of balanced nutritional knowledge; this knowledge covers the cognitive processes needed to combine nutritional information with eating behavior, good knowledge about balanced nutrition and health. Low-level nutrition knowledge among adolescent female is reflected in a bad habit of choosing food. Knowledge about nutrition can determine individual behavior in consumption food (Damayanti, 2016).

Nutritional status is a condition of the body that is influenced by certain nutrients as a result of food consumption. Three factors that play a significant role in influencing the condition of malnutrition are, children do not get enough balanced and adequate nutritional intake, parents who do not know to provide adequate nutritional food intake and children who are suffering from infectious diseases (Syahfitri. et al., 2016).

One of the factors which can affect nutritional status is physical activity. Excessive energy intake and less physical activity will cause weight gain. Lifestyle can lead to alteration of people's eating patterns that tend to be high calories, fat, and cholesterol. Moreover, physical activity can cause more nutritional problems. Various facilities and technology may confine activity and lead people to have a sedentary lifestyle more relaxed because everything is already available (Khasanah, 2016).

The general chair of Indonesian food nutrition, Professor Hardinsyah stated that both low and high-income community in Indonesia have low knowledge of balanced nutrition so that when fulfilling balanced nutrition,

high-income people can also suffers malnutrition (Windhi, 2016). It is important for every individual to maintain body weight in order to remain ideal. This monitoring is one of the preventive measures against obesity and CED (Chronic Energy Deficiency). However, it should be noted how to control weight and have healthy consumption patterns, which can support the ideal nutritional status (Nurhaedar, 2012). Along with the increasing adolescent population in Indonesia, their nutrition problems need special attention because it affects the growth and development of the body and has an impact on adult nutritional problems. Good nutrition will support quality of human resources to be healthy, intelligent, and productive (Florance, 2017).

Previous research stated that there was no correlation between nutritional knowledge, level of nutritional adequacy and physical activity with nutritional status in junior high school teachers, had no significant correlation $p > 0.05$ (Soraya. *et., al.*, 2017) So it is necessary for researchers to conduct research by using different subject and data analysis.

1.2 Formulation of the problem

Based on the description of problem identification, several problems can be formulated, among others:

1. Is there a correlation between nutritional knowledge and adolescent nutritional status?
2. Is there a correlation between food intake and adolescent nutritional status?
3. Is there a correlation between physical activity and adolescent nutritional status?

1.3 Research objectives

a. General objectives

General objectives of this research are to analyze the correlation nutritional knowledge, food intake and physical activity with adolescent nutritional status.

b. Specific objectives

The specific objectives of this research is to:

1. Identify the characteristics of respondents.
2. Identify respondents' nutritional knowledge
3. Identify respondent's food intake
4. Identify respondent's physical activity
5. Identify respondent's nutritional status
6. Analyze the correlation between nutritional knowledge and nutritional status
7. Analyze the correlation between food intake and nutrition status
8. Analyze the correlation between physical activity and nutrition status

1.4 Benefits of research

1. For academic

Provide information and references about assessing nutritional status

2. For practical

- a. Provide an overview of the correlation nutritional status, food intake and physical activity with adolescent nutritional status
- b. Increase knowledge and understanding of public health problems, especially those related to the nutritional status.

1.5 Authenticity of research

Table 1 Authenticity of Research

Researcher	Title Research	Method	Result	Differences
Abdul Muhammad Karim, 2017	The relationship between food intake, physical activity and nutritional status of class VII students of AMP Negri 5 Sleman	The method used in this research was purposive sampling with a chi-square test.	There was no correlation between nutritional intake and nutritional status with a p value 0.350, and there is no correlation between physical activity and nutritional status with a p value of 0.260.	Research conducted by Muhammad did not use variables about knowledge of nutrition.
Dwi Dhayu Erpridawati, 2012	The relationship between knowledge about nutrition and nutritional status of middle school students in Kerjo sub-district, Karanganyar	The method used in this research was purposive sampling with Fisher's exact test.	There was no correlation between nutritional knowledge and nutritional status with a p value 0.583.	Research conducted by dhayu was stated not to use physical activity variables
Ayu Retno widya, et.,all 2016	The relationship between nutrition knowledge, food consumption, physical activity and nutritional status in Tanjung Balai Middle School 2 students in 2016	The method used in this research was proportional random sampling with a chi-square test.	There is no correlation between eating arrangements and nutritional status $p = 0.161 > 0.05$.	The research conducted by Retno used an additional variable that was not used in this study, there are food consumption

Khasanah Daimatul, 2016	Relationship of physical activity with the nutritional status of young female in a boarding school, Islamic Surakarta.	The method used in this research was convenience sampling with the Spearman rank test.	There was a relationship between physical activity and nutritional status of adolescents with a value ($p = 0.005$)	The research conducted by Daimaou did not use the same variable as this study; there is variable nutritional knowledge.
Grace Agnes florance, 2017	Relationship of nutrition knowledge and consumption patterns with nutritional status of TPB students in the business school and managemalet of ITB.	The method used in this research was simple random sampling with a chi-square test.	There was a significant relationship between knowledge of nutrition with nutritional status based on the results of statistical analysis tests Pearson correlation ($p < 0.05$).	Research conducted by Grace was stated without physical activity variables