

The Relationship Between Nutritional Status (BMI) And Stress Levels on Physical Fitness of Extracurricular Sports Students

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Abstract: This study aimed at analyzing the relationship between nutritional status (BMI) and stress levels on the physical fitness of extracurricular students of SMAN 1 OKU. This research was conducted on extracurricular sports students at SMAN 1 OKU. The research used in this study is quantitative. The research method uses path analysis techniques. The population of this study was all sports extracurricular students at SMAN 1 OKU. The number of samples in this study amounted to 112 people aged 15-17 years. The instruments in this study were to measure BMI through weight and height measurements, physical fitness using the VO2Max test and to measure stress levels using questionnaires. The data analysis technique used is a path analysis technique. The results of the analysis of the relationship between BMI and stress level using the chi-square test showed a p-value = 0.737. Based on the results of the analysis, it can be seen that the $p\text{-value} \geq 0.05$ which means there is no relationship between nutritional status BMI and stress levels in extracurricular students at SMAN 1 OKU. The results of the analysis of the relationship between BMI and physical fitness of extracurricular students obtained a value of 0.039 or $p < 0.05$ which means that there is a significant relationship between BMI and physical fitness. The conclusion is that there is no relationship between nutritional status BMI and stress levels, but there is a significant relationship between BMI and the physical fitness of extracurricular students of SMAN 1 OKU.

Keywords: Nutritional Status (BMI), Physical Fitness, Stress Level.

A. Introduction

Law number 3 of 2005 concerning the National Sports System stipulates those national sports aim to maintain and improve health, fitness, achievement, human quality, instill moral values and noble morals, sportsmanship, discipline, strengthen and foster national unity and unity to strengthen national resilience and raise the dignity, dignity, and honor of the nation. While the scope of sports itself includes three pillars, namely educational sports, recreational sports, and achievement sports. Extracurricular is an educational activity carried out by students as an extension of curriculum activities and is carried out under school guidance to develop the

personality, talents, interests, and abilities of students that are broader or beyond the interests developed by the curriculum (Bartkus et al, 2012).

The objectives of the implementation of extracurricular activities are; (1) Sports extracurricular activities must be able to improve the cognitive, affective, and psychomotor abilities of students, (2) Extracurricular activities must be able to develop the talents and interests of students in personal coaching efforts towards full human coaching. Seeing so many benefits of extracurricular activities for the development of student talents and interests, each educational unit is expected to carry out these activities. Each educational unit must create programs and guidelines for extracurricular activities that apply to the educational unit (Bakhronova, & Sadirova, 2021; Haensly et al, 1985).

Physical fitness is one of the main capitals that must be owned by humans, because by having a good level of physical fitness, humans will be easier to carry out their activities or work, on the contrary, with a low level of physical fitness, humans will have difficulty in carrying out all daily activities because physical fitness has a very important role in human life (Folkins & Sime, 1981). Physical fitness is a state that is highly desired by everyone. With physical fitness, people will be able to appear more dynamic/enthusiastic and create work productivity. The benefits of physical fitness at this time have been greatly realized by the community, as evidenced by the development of fitness centers and sports activities that are widely held, it all stems from the search for physical fitness. The education curriculum in Indonesia has also changed related to the added hours of PE subjects, from previously two hours per week to 3 hours per week. The statement above shows that physical fitness is very important for every human being to be able to carry out his daily activities. Physical fitness indicates a person's ability to physically perform tasks at a moderate level without excessive fatigue (Chaput et al, 2011; Roy et al, 2010).

According to Mikdar (2006), physical fitness is the ability of a person's body to perform daily tasks and work without causing significant fatigue, so that the body still has energy stores to cope with additional workloads. Meanwhile, according to Corbin & Le Masurier (2014), physical fitness is a state of physical ability that can adjust the function of body tools to certain physical tasks and/or to environmental conditions that must be overcome efficiently without fatigue. Overkill and recovered completely before coming to the same task the next day. The dynamic healthy degree referred to above is the normal function of human body tools in a state of activity or exercise. Therefore, someone who has a dynamic healthy degree will have good physical fitness or not easily tired when doing activities, can even do other activities, and may be more strenuous the next day. Then also explained the notion of physical fitness is the body's ability to do a physical job that is done daily without causing significant fatigue. Without fatigue which means that after someone does his

job, the person still has enough enthusiasm and energy to enjoy his free time and for other sudden needs.

A good level of physical freshness requires good nutritional status. The better the nutritional status, the higher the physical freshness. The factors that affect physical fitness are age, gender, physical activity, energy intake, smoking, nutritional status, genetics, exercise intensity, length of exercise, and frequency of exercise. While the factors that affect physical activity are 1) physiological: maturity and level of aerobic fitness, 2) psychological: personal characteristics such as motivation, 3) socio-cultural: focusing on family support, especially from parents and friends, as well as socio-demographics such as gender, weight, and age, and 4) environmental: the existence of facilities and safety.

Stress is the inability to overcome threats faced mentally, physically, emotionally, and spiritually by humans, which at some point can affect the physical health of these humans (Pargament, & Sweeney, 2011). Stress is caused by the body's instinct to protect itself from emotional stress, physical stress, extreme situations, or threatening dangers. Stress can be divided into several concepts, namely: physiological, psychological, and social stress. Physiological stress can increase cortisol levels, heart rate, and blood pressure and affect inflammatory responses and the immune system. Psychological stress is associated with negative emotions such as fear and anxiety, while stress related to social factors is associated with the work or living environment and negative interpersonal interactions. Sources of stress can change with human development, but stress conditions continue to occur throughout life, including from oneself, family, and the environment.

Coping is a person's process to manage feelings between demands and perceived resources in stressful situations. Coping works to change the problem that causes stress and regulate the emotional response to a problem. Coping is divided into two, namely coping which focuses on emotions, and coping which focuses on problems. Physical activity is one example and coping that focuses on emotions.

Nutritional status is one of the factors that affect a person's physical fitness. The better a person's nutritional status, the better his physical quality. The body's resilience and ability to do work with adequate productivity will be more possessed by individuals with good nutritional status. Body Mass Index (BMI) is a measure used to measure nutritional status by comparing body weight and height. According to a statement from the Indonesian Ministry of Health, nutritional status is categorized among others as underweight with BMI < 17, normal 17-25, overweight 25-27, and obesity >27. Of course, by assessing nutritional status, we can assess how stress affects nutritional status in individuals. This is important because with less nutritional status can be a factor in the onset of infectious diseases while more

nutritional status can be a factor in the onset of degenerative diseases. Measurement of a person's nutritional status can be done by measuring height and weight based on age. Anthropometric measurements aim to determine a person's nutritional status based on one measure according to another.

Based on the author's observations at SMA Negeri 1 OKU located in East Baturaja District, Ogan Komering Ulu Regency, South Sumatra Province. Through extra-curricular sports activities in schools, researchers see that some students cannot participate in activities optimally, this may be influenced by several factors including facilities and infrastructure, teachers/trainers, age, gender, nutritional intake, lack of rest, genetics, diet, lifestyle, stress and fatigue levels of each student.

From the description above, the problem arises whether there is a relationship between nutritional status, body mass index (BMI), and the stress level of students participating in extracurricular sports. This problem prompted researchers to conduct a study entitled "The Relationship between Nutritional Status (BMI) and Stress Level on Physical Fitness of Extracurricular Students of SMAN 1 OKU".

B. Methods

This research was conducted at SMA Negeri 1 OKU located in East Baturaja sub-district, Ogan Komering Ulu Regency, South Sumatra Province. Sugiyono (2007), stated that descriptive research is used to describe or describe the data that has been collected as it is. The type of research used in this study is a type of quantitative research with path analysis techniques or path analysis.

The population referred to in this study is all students who take part in extracurricular sports at SMA Negeri 1 OKU, with a total of 156 students. The sampling technique used in this research is purposive sampling which according to Sugiyono (2018) is sampling using certain considerations according to the desired criteria to be able to determine the number of samples to be studied. So the sample in question is students aged 15-17 years who take part in extracurricular activities are 112 students.

Data collection techniques are carried out by using tests and questionnaires. Research instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense that they are more careful, complete, and systematic so that they are easier to process. The instruments in this study are in the form of tests and questionnaires containing statements about the stress level of students participating in extracurricular activities at SMA Negeri 1 OKU, South Sumatra Province.

Descriptive analysis of data from the results of the study aims to provide an overview of the distribution of data, both in the form of the size of the location of the frequency distribution. Prices are presented after being processed from raw data using descriptive statistics, namely average price, standard deviation, median, frequency distribution, and histogram graphs. Therefore, data processing in this study uses statistical tests with path analysis techniques (path analysis). Then it is necessary to test the requirements of the analysis. The test requirements in question include (1) normality tests using the Lilliefors test; and (2) Linearity tests using regression.

C. Results and Discussion

The relationship between nutritional status (BMI) and stress level on the physical fitness of extracurricular students at SMA Negeri 1 OKU, is as follows; The result of the analysis of the relationship between nutritional status (BMI) and stress level using the *chi-square* test showed a p-value = 0.737. Based on the results of the analysis, it can be seen that the $p\text{-value} \geq 0.05$, which means there is no relationship between nutritional status (BMI) and stress levels in extracurricular students at SMAN 1 OKU. The results of the analysis of the relationship between nutritional status (BMI) and physical fitness of extracurricular students obtained a value of 0.039 or $p < 0.05$ which means that there is a significant relationship between nutritional status (BMI) and physical fitness (Chao, 2018; Rahmatillah & Mulyono, 2019).

D. Conclusion

It can be concluded that there is no significant relationship between nutritional status (BMI) and stress level of extracurricular students at SMA Negeri 1 OKU, but there is a significant relationship between nutritional status (BMI) and physical fitness of extracurricular sports students at SMA Negeri 1 OKU, South Sumatra Province.

E. Acknowledgement

We express our deepest gratitude to the teachers at SMA Negeri 1 OKU, the students who were very extraordinary, the Chancellor of the PGRI Palembang University, the Head of the Physical Education Masters Study Program and the lecturers at the PGRI Palembang University who have provided support to us so that able to do this extraordinary thing. We also thank our colleagues in the Masters of Physical Education who helped a lot, supporting each other at all times.

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