

Body Mass Index (BMI) Profile of The Surabaya City Contingent Team In The 2019 East Java Porprov

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Abstract

Body Mass Index (BMI) is a simple value to monitor the nutritional status of people who are taken from the calculation of weight (kg) and height (cm²). Body mass index can also be a tool for determining athlete performance in training and timing of matches. Objective: this research is to know the profile of body mass index (BMI) athlete of the Surabaya contingent team in porprov East Java 2019 by understanding the body composition according to each sport branches. Sample: the subject in this study was all athletes in 31 sport branches on the Surabaya contingent in porprov East Java 2019 with a total of 501 athletes. Method: this method of research uses the ex – post facto method. The instrument uses age, weight, and height to determine the BMI. Results: The body mass index of kora Surabaya contingent team athletes has a percent body mass index of 2% of skinny category athletes, 82% normal, 7% obese, 3% overweight, and 6% athletes in the obesity category. Conclusion: body mass index is one way to determine the condition of the athlete's body to prepare and maintain performance for the short and long term.

Keyword: PORPROV East Java 2019, Body Mass Index (IBM)

INTRODUCTION

Faculty of Sports Science Sport is also a physical activity that is healthy for the body; without realizing it in today's life, the sport has an important role that cannot be separated from daily activities. A person doing sports aims to maintain physical fitness. An essential component of physical fitness is body composition. This is reinforced by Camacho (2017: 193), who stated that "from the past, it has been known that body composition plays an important role in sports performance, especially in physical status. Consequently, body composition has been studied in different sports such as basketball, rugby or football to analyze the status of athletes."

One of the examinations of body composition is anthropometric measurements. This measurement can assess whether the body components are by normal or ideal standards. The most frequently used anthropometric measurement is between body weight (kg) and height (m²) which is called BMI (Azwar, 2004). Body Mass Index is a value taken from the calculation between a person's weight (BB) and height (TB) which is used to classify body

conditions as usual, overweight or obese in adults. Body mass index is defined as body weight (kg) divided by height in meters (m²).

Research conducted by the Expert Panel on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults suggests that a BMI of 25 – 29.9kg/m² is considered overweight, and a BMI of 30kg/m² is considered obese. This clarification uses BMI as a surrogate measure for relative body fat. Therefore, adults with a BMI of more than 25kg/m² are considered to have excess fat and are considered at risk for hypertension, high cholesterol, diabetes, and coronary heart disease (Ode et al., 2006). In today's technological era, all things related to the needs in the system can make it easier for humans to carry out their activities, such as seeing a person's ideal body composition. Body mass index is the simplest and easiest way to know the condition and body composition, which is not directly related to that person's nutritional status. The athletes of the Surabaya contingent have various body shapes and different body compositions, especially some sports that require athletes to have large bodies or bodies that are below average in general, sometimes athletes do not know the classification of their body condition and only know their height. And weight only. Athletes should know their body condition to keep the body in stable physical condition and fitness during matches, and even the 2019 East Java PORPROV takes place. To find out, you can calculate the athlete's body mass index as a reference in the development of increased achievement.

By taking into account the body mass index of the athletes of the Surabaya contingent team at the 2019 East Java PORPROV, athletes can find out their body composition in the ideal or less category, even obesity. Because the quality of the athlete's physical condition and fitness affects the match's outcome, this is to ensure that their body condition is well monitored. They are taking into account the body mass index of the athletes of the Surabaya contingent team as a reference so that other city contingents can have athletes whose body composition is the same as that of the Surabaya contingent athletes to prepare their athletes to take part in East Java PORPROV in the following year or other short-term or long-term competitions. From the explanation of the background above, the authors are interested in researching the Body Mass Index Profile Analysis of the Athletes of the Surabaya City Contingent Team at the 2019 East Java PORPROV.

METHOD

This study uses ex-post-facto research (Ramadan & Juniarti, 2020), namely research where the independent variables have occurred when the researcher observes the variables on the dependent Variable (Sukardi, 2003: 165). The main characteristic of ex-post-facto research is explained by Natsir (1999:73) that "the nature of ex-post-facto is that there is no

control over the variables. Variable seen in Furchan (2002:383) that "ex-post-facto research is research conducted after differences - differences in the independent variables occur due to the development of an event naturally.

This study uses data in the form of weight, height, and age of all athletes from the Surabaya contingent team who participated in 31 sports at the 2019 East Java PORPROV with a total of 501 athletes. This study used an instrument in the form of Body Mass Index (BMI). With the measurement of weight and height, you can determine a person's body mass index. Then categorize whether a person has a thin, regular, or fat body according to the Body Mass Index (BMI) threshold category as follows:

Table 1 BMI threshold categories >18 years old

Kategori	IMT
Kurus	<18,5
Normal	18,5 - <25,0
Berat badan berlebih	≥25,0 - <27,0
Obesitas	≥27,0

Source: Riskesdas Ministry of Health RI, 2018: 580

The data collection technique in this study was from secondary data from the official website of PORPROV East Java 2019 in the form of weight and height, then analyzed to obtain the athlete's body mass index and classified the body mass index of each sport. For weight and height measurement data, it can produce a body mass index calculation. The data analysis technique used is descriptive statistics, which analyzes data by describing or describing the data collected and making conclusions for the public (Sugiyono, 2017: 254).

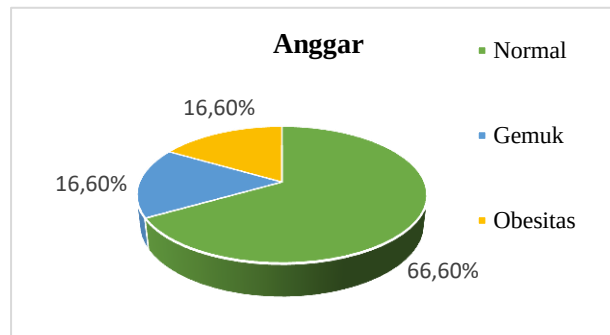
The data that has been obtained will be analyzed using SPSS. After analyzing the average (mean), then analyzing the percentage and drawing conclusions from the percentage results.

RESULTS AND DISCUSSION

Results

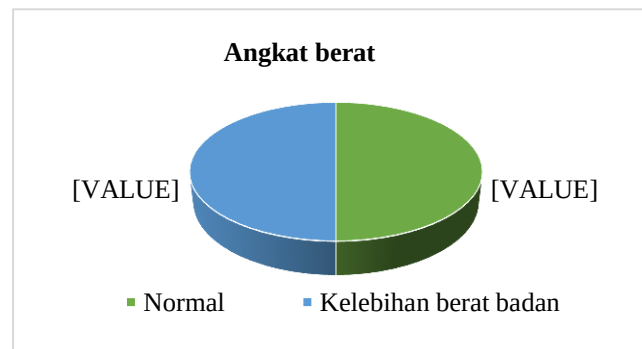
The analysis of the research results will be related to the research objectives, which have been described in chapter 1, so the research results are in the form of descriptive exposure. Descriptive data will be presented in body mass index data for athletes from the Surabaya City contingent team at the 2019 East Java PORPROV in weight, height, and age from 31 sports the Surabaya City contingent participated in totaling 501 athletes. The results of descriptive research are in the form of tables and diagrams according to their respective sports. Overall research results can be seen in the following tables and diagrams:

Figure 4.1 Percentage of fencing athlete's BMI category



Body mass index fencing athletes have a body mass index with 66.6% having a normal BMI, 16.6% having a fat BMI, and 16.6% having an obese BMI in the body mass index category.

Figure 2 Percentage of BMI categories for weight lifters



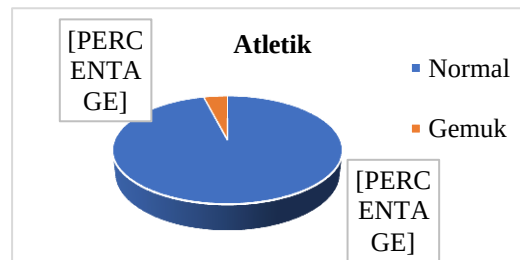
The body mass index of athletes in weight lifting has a body mass index with details of 50% having a normal BMI and 50% having an overweight BMI in the body mass index category.

Figure 3 Percentage of weightlifting BMI categories



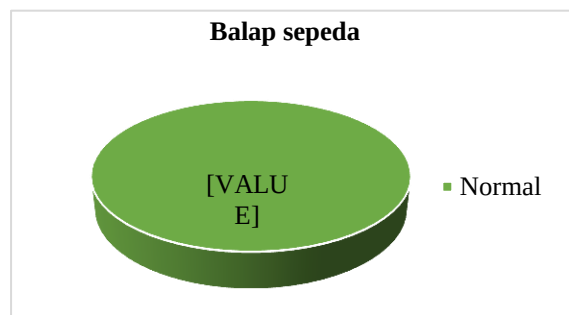
The body mass index of athletes in weightlifting has a body mass index with details of 100% having a normal BMI in the body mass index category.

Figure 4 Percentage of athletic athletes' BMI category



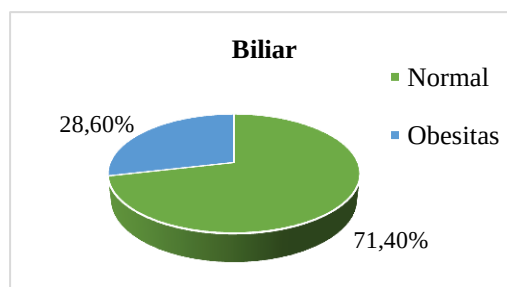
The body mass index of athletes in athletic sports has a body mass index with 96% having a normal BMI and 4% having a fat BMI in the body mass index category.

Figure 5 Percentage of BMI category for cycling athletes



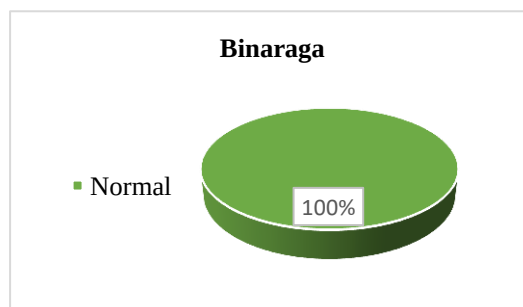
The body mass index of cycling athletes has a body mass index with details of 100% normal BMI in the body mass index category.

Figure 6 Percentage of billiard athlete's BMI category



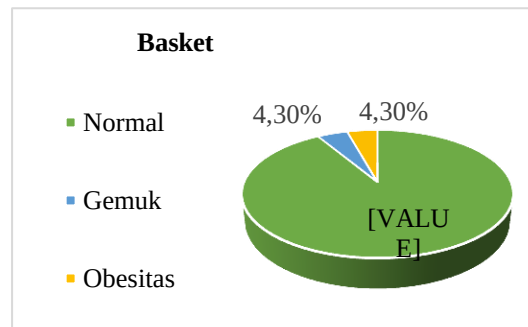
The body mass index of the athlete in billiards has a body mass index with details of 71.4% having a normal BMI and 28.6% having an obese BMI in the body mass index category.

Figure 7 Percentage of bodybuilding athlete's BMI category



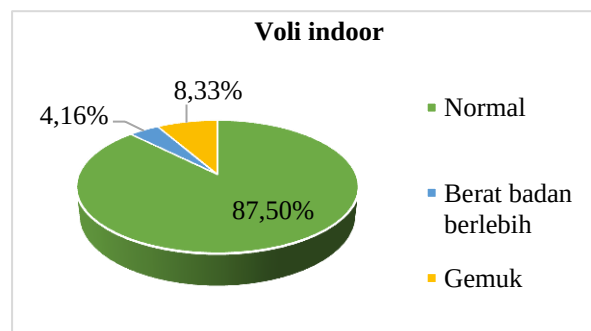
The body mass index of athletes in bodybuilding has a body mass index with details of 100% having a normal BMI in the body mass index category.

Figure 8 Percentage of BMI category for basketball athletes



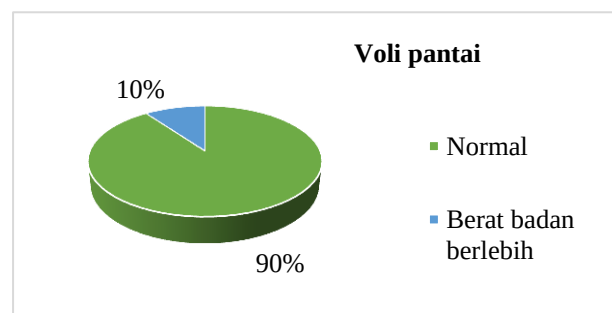
The body mass index of basketball athletes has a body mass index with 91.3% having a normal BMI, 4.3% having a fat BMI, and 4.3% having an obese BMI in the body mass index category.

Figure 9 Percentage of BMI category for indoor volleyball athletes



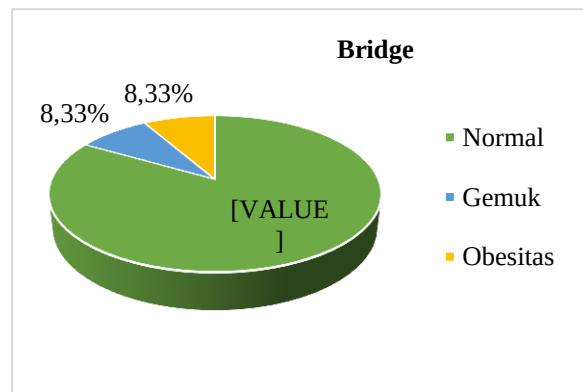
The body mass index of athletes in indoor volleyball has a body mass index with details of 87.5% having a normal BMI, 4.16% having an overweight BMI, and 8.33% having a fat BMI in the body mass index category.

Figure 10 Percentage of BMI categories for beach volleyball athletes



The body mass index of beach volleyball athletes has a body mass index with details of 90% having a normal BMI and 10% having an overweight BMI in the body mass index category.

Figure 11 Percentage of bridge athlete's BMI category



Discussion

From the results of the study, it can be seen that the overall body mass index percentage of the athletes of the Kora Surabaya contingent team has a body mass index percentage as shown in (figure 4.32) as many as 2% of athletes in the thin category, 82% normal, 7% fat, 3% overweight and 6% of athletes are obese categories. The BMI value is a ratio to compare body weight to height (Adininingsih et al., 2016), so it can be seen whether the athlete's weight is ideal compared to his size. An athlete's body mass index is also influenced by body posture, age, gender, ethnicity, heredity, and energy balance by Aprillia's research (20214).

For self-defense athletes, high BMI values occur because bodyweight exceeds usual standards. This indicates that there is an overload of people of the same height. Therefore, athletes with a greater BMI have lower performance (Roring et al., 2020). Rasyid Moh (1986) said, "Achievements depend a lot on size, not just skills. Good skills will excel if they are supported by a posture by the sport they are engaged in, for the weight of the martial athlete by the number of the race that will be followed.

According to the BMI formula from the Indonesian Ministry of Health in 2011, namely: Suppose the taekwondo martial arts athlete chooses the competition number for the men's under 80 kg class. So, according to the existing BMI formula, an athlete must have a minimum weight of 75kg and a height of 170 cm, which will have a normal BMI classification of 25kg/m². However, according to Irianto (2007:155), being overweight is not always a problem as long as body fat levels are normal. In many certain athletes, being heavily based on height and weight measurements is common but does not interfere with performance. And there is a new concept of ideal body weight, which is sufficient body weight or weight that is considered the most appropriate for specific sports; the most important thing is that the fat under the skin is still within normal limits.

CONCLUSION

Based on the results of the percentage of body mass index of all athletes of the Surabaya City contingent team at East Java PORPROV 2019 from the results of the study, the rate of skinny classification was 2%, normal 82%, overweight 3%, fat 7% and obesity 6% found in 501 athletes. From the study results and conclusions, the researchers suggest that the coach should first look at the athlete's anthropometry to adjust what sport is suitable for the athlete and the appropriate training program for the athlete, as for the advice for athletes to always maintain body condition by keeping the food consumed and always doing regular exercise activities to prepare themselves for short-term and long-term matches.

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