



## Analysis of Nutrition Intake Calorie Requirements on The Performance of Futsal Athletes of Students of State University of Makassar Sports Science Study Program Class B 2022

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### ABSTRACT

This study aims to analyze the effect of nutritional intake on the performance of futsal athletes of Makassar State University class B class 2022. Futsal activities require prime physical condition, which is influenced by proper nutritional intake. This study uses a quantitative method with a descriptive approach and experimental design, as well as data collection through the Fat Secret application and BMR Calculator to calculate the nutritional intake of athletes. The subjects of the study were 10 active futsal athletes who underwent regular training programs and rest patterns. The results showed that 6 out of 10 athletes experienced a lack of daily calorie intake, which had an impact on their performance in training and matches. Factors causing this calorie deficiency include the economic and environmental limitations of students. Based on these results, it is recommended that athletes be more disciplined in maintaining a balanced and nutritious diet, and receive better education from coaches and universities regarding the importance of nutritional management. Further research is needed to explore other factors that may affect the performance of futsal athletes.

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### AUTHORS' CONTRIBUTION

A. Conception and design of the study;  
B. Acquisition of data;  
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D. Manuscript preparation;  
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## INTRODUCTION

Sports are a need for life in nature, meaning sports as tools for maintaining and building health that is not abandoned. Sports are also activities to stimulate the growth and development of health physically, spiritually and socially. (Burhaein, 2017).

Futsal is a game sport that requires lots of energy. Futsal players are required to move in a way dynamic and perform several movements explosive. Condition good physical, Of course, support performance athlete. Therefore a good physique is determined by good nutrition (Herpandika et al., 2019).

Futsal is a sport that requires a combination of speed, endurance, strength, and



good strategy. The performance of athletes in this sport is not only influenced by training and game strategy but also by nutritional intake and the fulfilment of appropriate calorie needs. Proper nutritional intake plays an important role in supporting athlete performance during matches and in the post-match recovery process (Ratnaningsih, 2011).

Students who are active in futsal, especially at the university level, often face challenges in maintaining a balance between training, academics, and a healthy diet. Studies show that athletes who have a diet that does not match their energy needs tend to experience decreased performance, faster fatigue, and an increased risk of injury (Ramadhani & Murbawani, 2012).

Arrangement Nutrition in athletes has a big influence on performance play. Settings balance substance nutrition athletes must be following group age, weight, and type of their sport. Athletes must also pay attention to the time between training and competing. (Dengan, 2024) . Conditions for physique athletes are crucial to improve achievement and are needed on a negotiable basis. Conditions physique consists of various components that need to be upgraded and maintained in a way regular. Proper exercise can increase the skills motor following the needs of athletes. Futsal requires Power endurance , speed , strength , and agility , all of which are part of condition physical . ( Novriansyah , 2023).

According to a study (Ariati, 2013), Nutrition has a big influence on activity work. Therefore, activities and intake nutrition must always be balanced so as not to make Sick in activities daily.

According to recent research, a futsal athlete's calorie needs vary depending on the intensity of training and other individual factors, such as body weight and body composition. The recommended energy requirement for soccer athletes is around 47-60 kcal/kg body weight/day, with a carbohydrate intake of 6-10 g/kg body weight/day, protein 1.4-2.2 g/kg body weight/day, and fat less than 1 g/kg body weight/day (El Ghina & Widawati, 2023). This shows that meeting calorie and macronutrient needs greatly affects the endurance and playing ability of futsal athletes.

At Universitas Negeri Makassar, students of the Sports Science Study Program, class B of 2022 who are active in futsal have a high level of physical activity. However, there has not been much research that specifically examines the relationship between nutritional intake and calorie needs on the performance of futsal athletes in an academic environment. Therefore, this study aims to analyze the effect of nutritional intake and calorie needs on the performance of futsal athletes of Universitas Negeri Makassar students, as well as to provide appropriate nutritional recommendations to improve their performance in this sport.

With existence, This research aims to find out the influence of intake nutrition on futsal athletes from Makassar State University, class B, 2022, with the method of 24-hour food recall and pattern of regular breaks to improve performance players and added with an effective training program. The results of this analysis are expected to contribute to improving the performance of athletes young to reach careers in professional futsal.

## METHODS

This study uses a quantitative method with a descriptive approach and experimental design. Data collection is carried out through the Fat Secret application and BMR Calculator to calculate the nutritional intake of athletes. The data obtained will be analyzed to see the effect of nutritional intake on the performance of futsal athletes.

The subjects of the study were Makassar State University students, class B, class 2022 who were active in futsal sports. Data were collected using the 24-hour food recall method to assess the daily food consumption of athletes, as well as monitor rest patterns and exercise programs carried out. The results of this analysis will be used to evaluate the relationship between nutritional intake and improved performance of futsal athletes.

With this approach, research is expected to provide appropriate nutritional recommendations to improve the performance of young athletes, as well as contribute to the development of sports science at the university level.

## RESULTS AND DISCUSSION

The number of subjects in this study was 10 futsal athletes from Makassar State University of Sports Science, class B, 2022. The results of the study showed that 6 out of 10 athletes experienced a lack of daily calorie intake.

**Table 1.**

Student futsal athlete data knowledge sports class of 2022 class B.

Name	Height	Weight	Need Calories Per day	Calories per day	Less or Enough
Adfirsyam	163cm	55kg	1474 kcal	1346 kcal	Not Enough
Rifki W	167cm	66kg	1609 kcal	1554 kcal	Not Enough
Alfian	160cm	49kg	1395 kcal	1653 kcal	Enough
Andika	166cm	53kg	1473 kcal	1495 kcal	Not Enough
Nabil K	160cm	49kg	1395 kcal	1577 kcal	Enough
John	163cm	59kg	1514 kcal	1453 kcal	Not Enough
Ferdinand	160cm	47kg	1375 kcal	1356 kcal	Not Enough
Password	160cm	50kg	1405 kcal	1478 kcal	Enough
Faiz	176cm	83kg	1835 kcal	1554 kcal	Not Enough
Hadi	160cm	50kg	1405 kcal	1493 kcal	Enough
Hairul	165cm	51kg	1446 kcal	1336 kcal	Not Enough

Based on the data, this calorie deficiency can affect athlete performance in training and matches (Asih & Widyastiti, 2016). The main factors causing this lack of calorie intake are the student environment and economic limitations in meeting daily nutritional needs. The role of coaches is needed in educating athletes to consume affordable but still high-calorie foods (Kusumo, 2020).

In addition, research by Khomansa (2014) stated that good nutritional knowledge can help athletes in managing their diet, but is not always followed by changes in healthy eating behaviour. Some athletes with good nutritional understanding still experience a calorie deficit due to a lack of motivation to implement the knowledge in their daily lives. This shows that nutritional education must be followed by guidance and encouragement so that athletes can implement a more optimal diet.

According to the assumed researcher, this is happening Because of the environment students and the limitations economy to meet the need for calories. The role of the trainer is to educate athletes to consume affordable food However high calories. Because of the activity athlete in this is not only practice. Lack of calories greatly affects performance in exercise or match. (Kusumo, 2020).

This is in line with Khomansa in 2014 stated that If an athlete has more knowledge about their nutrition, they are more likely to change their behaviour by eating it. This is because the more Lots knowledge about nutrition, the more A little the possibility to calculate the amount and choose type the of food they should eat. According to the assumption of researcher athletes with knowledge of nutrition and body fat percentage, more can happen to the athletes No do habit good nutrition following understanding. Based on the data collected part big athletes with knowledge of nutrition and body fat percentage more profession as civil servants (10 athletes ). This can happen Because knowledge does not always cause changes in behaviour Because of every individual own desire or motivation to follow his knowledge, (Dengan, 2024).

## CONCLUSION

Based on the results of the study, it can be concluded that most of the futsal athletes of Makassar State University class B class 2022 still experience a lack of daily calorie intake, which affects their performance in training and matches. Therefore, athletes need to pay attention to their nutritional balance to improve endurance and performance in futsal.

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