

The Correlation between The Energy Intake with Taste, Appearance, Maturity Level, and Food Variety in Athletes at Football Academy

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Abstract. The data obtained from the preliminary study that conducted on adolescent athletes at the football academy were known that the average total intake was 1869.6 kcal. When compared with energy needs, a figure of 79% is obtained, which is included in the category of moderate deficit energy intake. The purpose of this study was to determine the correlation between taste, appearance, level of maturity, and variety of food provided by the dormitory to the total intake of football athletes. The research design used in this study was cross sectional, by using 30 athletes as samples, who were taken randomly using stratified random sampling technique. Data analysis was performed using the Pearson Product Moment and Rank Spearman tests. The results of this study showed that there was no significant correlation between total intake with taste, appearance, maturity level, and variety of food provided by the dormitory ($p=0.708$; $p=0.924$; $p=0.852$; $p=0.973$).

Keywords: total intake, food quality.

1 Introduction

The development of football academies in Indonesia, which are specifically for teenagers, is increasing rapidly along with the increasingly popular football game around the world. In addition to having to pay attention to physical aspects and skills for athletes, football academies also need to pay attention to aspects of food intake and nutritional adequacy. Adequate nutrition is needed so that athletes can display maximum performance when training and competing, as well as to support their growth and development in adolescence.

Lack of nutritional adequacy can cause an athlete to experience a decrease in performance, as well as inhibition of his growth and physical development. Previous research by Penggalih and Tahir stated that football athletes who live in dormitories have a total intake that is less than their needs (Penggalih, Tahir, Lestari). Some of the causes of the lack of total intake of athletes are the low knowledge of athletes about nutritional needs and nutritional functions in supporting stamina, the incompatibility of food nutrients served by food organizers, the effect of food quality aspects (taste and appearance) on athletes' eating satisfaction.

The food intake of the athletes living in the dormitory environment is obtained from the food provided by the dormitory meal organizers, and may be influenced by the consumer's assessment of the quality of the food (1). The quality of food according to Moehyi and Qin consists of taste, appearance, degree of doneness, and variety of food (1,2). Therefore, it is

necessary to have a good food organizer who can serve food with good quality and preference so that consumers' nutritional intake can be fulfilled optimally.

Preliminary studies conducted in football academies in starch districts produced data that 87% of athletes had energy intake in the less category. Based on the observations, some athletes do not eat the side dishes served because they feel that the side dishes are not cooked thoroughly and are bored with the variety of side dishes or menus served by food organizers. Based on this, the researchers were interested in knowing the relationship between taste satisfaction, appearance, maturity level, and food variation with the total intake of athletes in football academies in the Pati district.

2 Method

The study was conducted on football academy athletes in Pati Regency with data collection in June 2022. This type of research is analytical observational using a cross-sectional approach. The purpose of this study was to determine the relationship between taste, appearance, maturity level, and food variation with the total intake of athletes in football academies.

Participants were 30 athletes who lived in the dormitory of the football academy in the district with an age range of 13-20 years. Sampling was carried out using a *simple random sampling* method that represented all age groups. To participate in the research, the athlete must be someone who 1) resides in a dormitory, 2) is willing to be a research sample, 3) physically and spiritually healthy, 4) can communicate well.

Data collection in the form of athlete identity, food recall, and food quality satisfaction was taken directly using interview techniques. The data analysis techniques used are pearson product moment and spearman rank.

3 Result and Discussion

Table 1. Deskriptif Asupan Energi dan Skor Kepuasan Mutu Makanan

Variabel	Median	$\bar{x} \pm SD$	Min	Max
Energy intake (kkal)	1785,5	1869,63 \pm 367,655	1034,8	2828,2
Taste	69	66,07 \pm 9,962	42	83
Appearance	65	62 \pm 12,972	25	90
Maturity Level	35,5	36,43 \pm 8,955	17	50
Food variety	58	60,30 \pm 12,318	25	83

The sample assessment on food performance showed a median score of 65, an average score of 62 \pm 12,972, a minimum score of 25, and a maximum score of 90. Sample assessment at the food maturity level showed a median of 35.5; the average score is 36.43 \pm 8,955; the minimum score is 17, and the maximum score is 50. The sample assessment on food variations showed a median of 58, an average score of 60.30 \pm 12,318; a minimum score of 25 and a maximum score of 83.

Table 2 below shows the results of the relationship statistical test using the spearman rank test and the person product moment. The test results showed that there was no relationship between total intake and taste ($p=0.708$), no relationship between total intake and appearance ($p=0.924$), no relationship between total intake and maturity level ($p=0.852$), and no relationship between total intake and dietary variation ($p=0.973$).

Table 2. Hubungan Asupan Energi dengan Skor Kepuasan Mutu Makanan

Variabel	p
Energy intake (kkal)	0,708
Taste	0,924
Appearance	0,852
Maturity Level	0,973

Discussion

A person's feeding intake is influenced by internal and external factors. Internal factors are factors that originate within a person, which include psychic, physical, eating habits, and gender factors. Meanwhile, external factors are factors that come from outside a person which include food consumed from outside the dormitory, the attitude of officers, meal schedules, and food quality (1). Food quality can be assessed in terms of taste, appearance, degree of doneness, and variety of food (1,3)

Based on the results of the correlation test between total food intake and taste scores, a p value of 0.708 was obtained which showed no relationship. This result is not in line with Berdhika's research which shows that there is a relationship between intake and the taste of food served at Puri Cinere Hospital, West Java (4). However, these results are in line with research by Nazahah that there is no relationship between food intake and taste in SDIT Flowing Quran (5). This means that taste does not have much effect on the total intake of respondents.

The correlation test between total intake and food appearance score showed a p value of 0.924, which means that there is no significant relationship between the two variables. This result is in line with research conducted by Siti Hadiani that there is no relationship between eating intake and the appearance of food in the College of Aviation Sciences (6).

Between the maturity level and the total intake resulted in a p-value of 0.852 indicating no significant relationship. This result is not in line with research by Rabbani in Rumkital Dr. Ramelan Surabaya that there is a significant relationship between maturity levels and pediatric patient intake (7). However, this result is in line with Hadiani's research, that there is no relationship between maturity levels and cadet intake in STIP (6).

The statistical analysis test between food variation and total intake resulted in a p value of 0.973, which means that there is no significant relationship between the two variables. These results are in line with research by Heidi that there was no significant association between food variation and intake in adolescents at BPSAA Pegadean, Subang (8).

The absence of a relationship between taste, appearance, maturity level, and food variation in this study was biased due to several things, one of which was that there were other factors that were not studied that were possible to affect total intake, namely the internal factors of the sample in the form of appetite, habits, emotions when eating, and the presence of certain taboos.

Conclusion

Based on the results of the study, it can be concluded that there is no relationship between total intake and taste, appearance, maturity level, and food variation with a p value of $p = 0.708$ respectively; $p=0.924$; $p=0.852$; $p=0.973$. The absence of a relationship between taste, appearance, maturity level, and food variation in this study was biased due to several things, one of which was that there were other factors that were not studied that were possible to affect total intake, namely the internal factors of the sample in the form of appetite, habits, emotions when eating, and the presence of certain taboos.

Thus, the advice for subsequent researchers is expected to be able to examine other factors that have not been studied in this study in the realm of institutional nutrition that can affect the total intake of athletes in football academies.

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