

Assessment of Nutritional Knowledge Among Athletes

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ABSTRACT

Many factors contribute to an athlete's performance, amongst which a vital factor is proper dietary consumption of an individual. Nutrition is important for athletes as it is a major source of energy required to perform an activity. There is a very limited reach of nutritional knowledge among athletes. These athletes are the future sporting representatives and hence need adequate nutritional knowledge for improved performance as well as health and wellbeing. The aim of this study was to assess the present nutritional knowledge, physical activity level and dietary pattern of athletes aged 18-38 years. 40 athletes were included in this study from which there were 77.5% male and 22.5% female. When asked about their diet, 45% said it was healthy, 42.5% said it was moderate and 12.5% said that it was unhealthy. Their nutritional knowledge was examined through a questionnaire and food choices were evaluated with the help of a standardized Food Frequency Questionnaire. The results of this study revealed that 59.8% of the athletes had good nutritional knowledge whereas 40.2% of athletes did not possess adequate nutritional knowledge.

Key Words: Sports Nutrition, Nutritional Knowledge, Athletes, Physical Activity Level, Nutritional Status, Dietary practice

INTRODUCTION

Athletes require adequate nutrition for their growth and maturation and if not supplied efficiently can negatively affect physical development. Nutrition is an important component of any physical fitness program. The main dietary goal for active individuals is to obtain adequate nutrition to optimize health and fitness or sports performance. This is not only important to help improve performance but also to promote healthy dietary practices in the long term. Proper nutrition is a very important component of an athlete's training and performance plan. This proper nutrition ensures that an individual is gathering the fuels necessary for the energy production needs associated with the athletes intense sport training and recovery.

That is why proper nutrition is of significant importance especially in the competitive athletes who have added demands of training and competition. In recent times there has been a rise in youth sports participation; however young athletes may be increasingly pressured to excel in their sport, whether through parents, sports coaches, or intrinsic pressures imposed by peer athletes. This lack of knowledge drags the athletes to nutritional supplements in an attempt to gain a competitive edge and improve performance, these nutritional supplements without proper prescription, can have a negative effect on that athlete. Our understanding of the effect of various strenuous physiological training and nutritional variations in combination with exercise stress in young athletes is greatly limited. This limited knowledge is most likely due to ethical considerations of withholding nutrients and physiologically overstressing a vulnerable population such as young athletes, still in the process of growth and development. Athletes from low income communities, receive less educational resources and may possess insufficient knowledge of nutrition to make health conscious decisions.

There is a need to develop valid instruments to assess general and sports specific nutrition knowledge and to compare nutrition knowledge to athletes dietary intake. Nutrition education programs for athletes, might have the potential to close the gap between diet recommendations and individual food intake. Previous researches conducted has indicated that athletes possess limited nutritional knowledge. Many athletes seek to move on to higher levels of competition or even dream of one day becoming professionals in their sport, while others simply desire optimal performance daily. To achieve these goals, athletes tend to train year-round to improve their physical skills while also taking steps to avoid injury. The important step helping them to go forward in their career but is yet often overlooked is nutrition. Many athletes do not give much attention to what they are using as fuel for their body nor do they think it affects their performance. This lack of nutritional concern could be due to many reasons, one of which can be their overwhelming daily schedules and the perceived need to eat what is available and convenient. This, however, is an excuse for most athletes who do not know what they need to be consuming to improve and/or maintain optimal sports performance. Optimum nutrient intake and good nutritional knowledge have been recognized as the key factors that play a critical role in improving athletic performance in terms of improved quality of training and a speedy recovery from intense exercise and training in athletes. This lack of nutritional knowledge could be problematic because athletes have greater nutritional needs due to the greater energy demands associated with intense training and sports participation. Even if an athlete has a basic foundation of nutritional knowledge, he or she will need more specific guidance on what foods and beverages to consume before, during, and after training/sport.

Adequate nutrient intake is very important, it is not only critical for the normal growth and development processes but is also important to optimize health, physical fitness, and athletic performance. It is also considered an important element of any physical fitness program. Insufficient dietary intake can result in delayed growth, disturbed muscle development, alter the normal pattern of pubertal development, and can

affect the overall athletic performance of an athlete. Athletes are an appropriate target audience for nutrition education because their lives are in transition and have the potential for positive changes. Several studies have reported that athletes frequently have misconceptions about nutrition, fail to make nutrition a priority in food selection, and are poorly informed about dietary guidelines. Athletes, unaware of what they need to eat, should seek out the resources provided by their athletic departments and universities. Often these resources are not used effectively (such as training tables and prepared meals in the cafeteria) by athletes. Moreover, it's important to consider that if the athletes had better nutritional knowledge, they could improve dietary intake and potentially enhance his or her sports performance. A lack of nutritional knowledge certainly may be the barrier between an athlete and her/his best performance. In general, young athletes tend to go for quick and easy meals to save time and money. But a healthy meal doesn't mean an expensive meal. Learning how to incorporate your everyday common dishes in the right quantities makes a huge difference in one's overall health and well-being. For an athlete to understand proper nutrition, he or she must be exposed to sound nutritional information.

Nutrition knowledge is a difficult construct to measure. Instruments may probe knowledge about functions of nutrients, their relevance to health, food source or how to purchase, plan and prepare a diet that is healthy, nutritious and suitable to individual needs. Nutrition knowledge encompasses what has been termed declarative knowledge of facts. Strong declarative knowledge without procedural skills may not translate to healthy dietary intake. Nutrition knowledge is also influenced by beliefs of food and nutrition, which may not be evidenced based but rather steeped in cultural or present secular thinking. Conflicting and evolving nutrition research, food product advertising, the complexity of behaviours needed to achieve healthy eating and strong media and internet coverage of nutrition issues make it challenging for clear nutrition messages to translate at a population level. Athletes' typical sources of information are the coach, athletic trainer, and strength coaches. When coaches themselves aren't very aware of the nutritional knowledge, this lack of knowledge in the athletes is bound to happen. Only if athletes had a greater understanding of nutrition and consumption of the right food in the right amounts, it could be a game-changer. Athletes with a greater understanding of sports nutrition can apply this in their training and therefore yield greater results than those that do not possess any knowledge. This is an extremely important consideration, especially for athletes competing in weight-restricted or aesthetic sports wherein athletes may feel pressured to restrict caloric intake. Unknowingly, not only may this compromise the athlete's physical development, such as nutritional habits, it may predispose psychological behaviors towards disordered eating traits and therefore lead to anemia or bulimia nervosa. So, a reasonable strength and conditioning program and a well balanced diet must be presented as a sensible alternative to a riskier, shortcut mindset. One of the primary strategies for assisting athletes to consume an adequate diet is the provision of nutrition education. Similar to athlete studies, a number of methodological limitations with the instruments measuring nutritional knowledge, including the representativeness of the sample, may in part explain why the link between nutrition knowledge and dietary intake in the general community is also weak.

The purpose of the current study was to examine and describe general nutrition knowledge possessed by athletes. It is unclear whether athletes have an appropriate level of general nutrition knowledge and understanding of nutrition principles, as much as they should. Given the potential for a lack of exposure to high-quality nutrition-related education, nutrition counseling, and qualified sports nutrition professionals, athletes may be ill-equipped to make accurate decisions regarding their nutritional requirements, and this, in turn, may negatively impact their health status, physiological development and sports performance.

Nutrition for healthy growth and maturation is governed by a variety of parameters, each essential in their own ways. A valid and reliable sports nutritional knowledge questionnaire is considered essential in determining the nutrition level of the athletes. Inadequate nutrition knowledge can negatively affect sports performance. Hence, by taking questionnaire results of the athletes into consideration, the athletes can be provided with the required nutritional recommendations so as to support their performance. Currently, no sports nutrition knowledge instrument with enough psychometric measurements exists. That is why, this study aims to assess based on a questionnaire. This paper emphasizes the importance and assessment of nutritional knowledge among athletes, especially targeting athletes aged 18-38 years.

MATERIALS & METHODS

Study design and subjects: The study design used for this research was cross-sectional. A total of 40 (31 males and 9 females) athletes from various institutions of Mumbai participated in this study. The mean age of the participants was 22.1 years of male and 22.6 female, respectively. The method of sampling was purposive. The participating athletes were involved in sports like Badminton, Football, Hockey, Cricket, Swimming, Volleyball, Kho-Kho, Basketball and Baseball.

Data collection: A study questionnaire consisting of four sections of closed ended questions was developed. Section 1 included demographic information like (age, gender, sport played, level of education and whether they possess any nutritional knowledge or not). Section 2 presented 19 nutrition knowledge questions in the following sub-categories, nutrients, fluid/hydration. Each question had potential options with a correct response. Section 3 and section 4 consisted of the set of questionnaires which evaluated their physical activity status and food choices were evaluated with the help of a standardized Food Frequency Questionnaire, respectively. An informed consent was obtained from all the participants and they were explained about their rights as participants.

RESULTS

The results of the study conducted were as follows:

Sports Persons Information

Results pertaining to the sports persons information is listed in Table 1.

Table 1: Information of the selected sports person (N=40)

Sr.no	Particulars	Percent of Sports Persons (%)
1	Gender	
	Male	77.5
	Female	22.5
2	Age (in years)	
	18-24	85
	25-38	15
3	Types of Sports	
	Cricket.	37.5
	Football	27.5
	Badminton	12.5
	Hockey	2.5
	Swimming	5
	Other sports	15
4	Nutritional knowledge	
	Yes	47.5
	No	7.5
	Maybe	45

The results revealed that 77.5 percent of sports persons were males whereas the remaining 22.5 percent of subjects were females. Of all the sports persons, the majority of them (85 percent) belonged to 18-24 years while 15 percent were within 25-38 years of age. The major sports category among athletes was Cricket (37.5 percent), 27.5 percent played Football, Badminton was played by 12.5 percent of athletes, Hockey and Swimming altogether provided 7.5 percent whereas 15 percent of people played other sports such as Baseball, Basketball, Kabaddi and Calisthenics. On asking if they had any nutritional knowledge, 47.5 percent of athletes replied with 'Yes', whereas 7.5 percent with 'No' and 45 percent of athletes voted for 'Maybe'.

Nutritional Knowledge Assessment

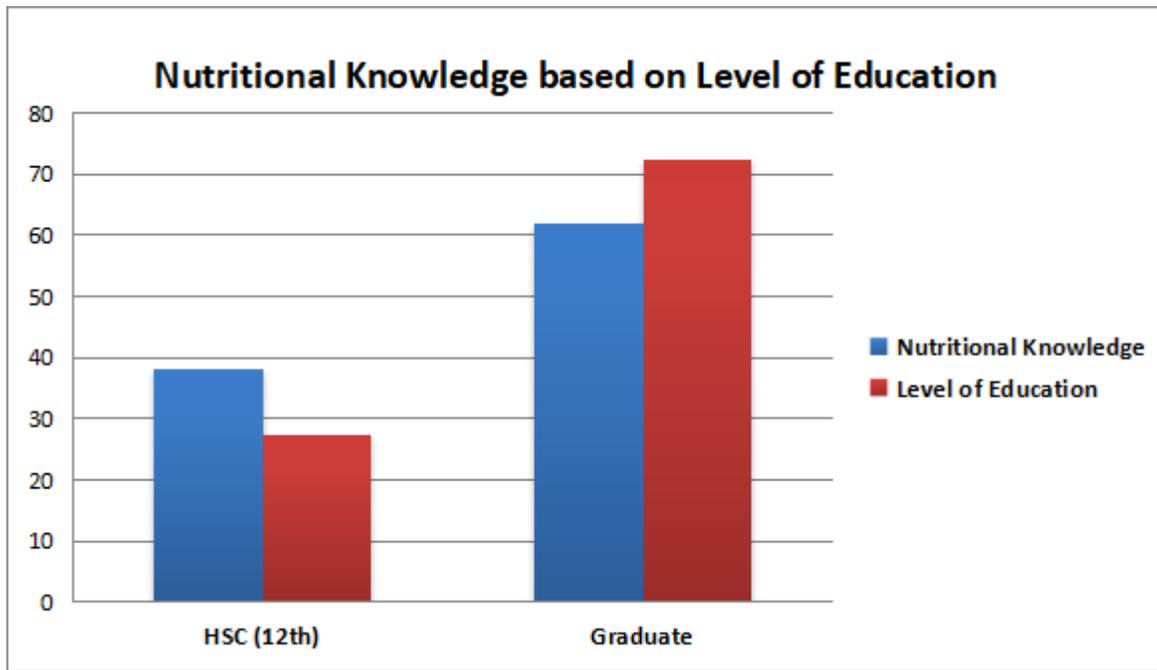


Figure 1: Nutritional Knowledge based on level of education of athletes

The findings showed a difference in nutritional knowledge of athletes based on gender and educational levels. The nutritional knowledge was higher in athletes with a first level of academic education in comparison to those with a high school degree and lower degrees. The athletes with higher degrees were able to impart their education and get a better understanding of nutrition and its importance. However, no significant difference was found in nutritional knowledge of athletes based on age and gender.

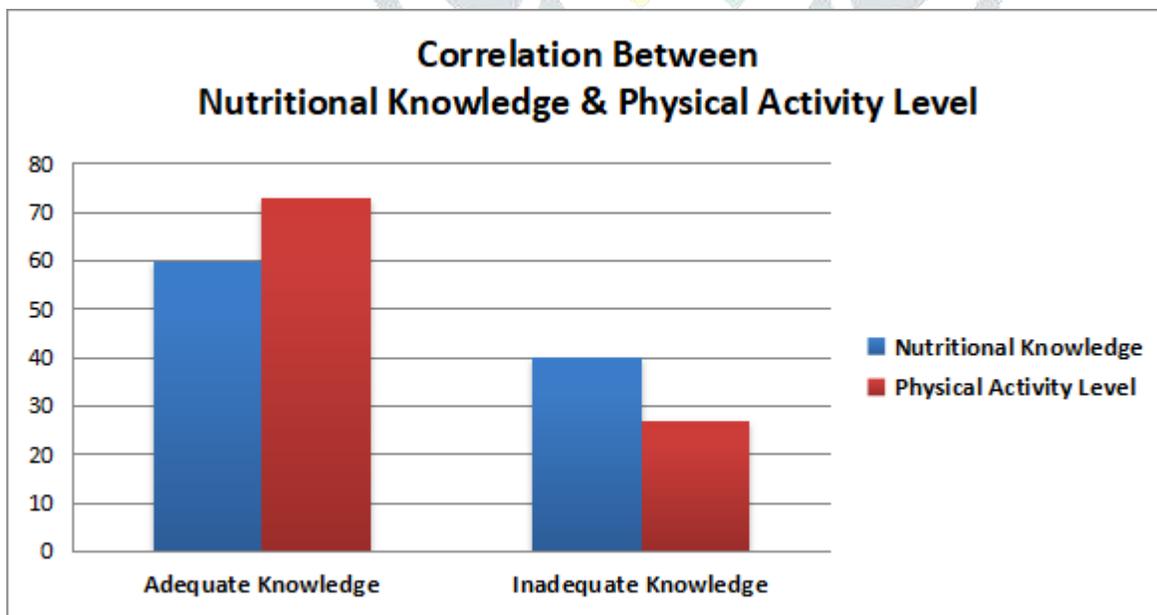


Figure 2: Correlation between nutritional knowledge & physical activity level

A correlation between nutritional knowledge and physical activity level was also found. As shown in figure 2 Wherein, athletes with higher nutritional knowledge were observed to have better physical activity levels. They were able to impart their knowledge of nutrition which resulted in better activity levels and therefore better performance.

DISCUSSION

Understanding the nutrition knowledge of athletes and its impact on their performance is important as it helps in developing the nutrition education program to improve their dietary intake. Inadequate nutritional knowledge can have a serious impact on nutritional status and athletic performance.

Studies have shown that nutritional knowledge and dietary attitude may contribute to poor dietary behaviours (Walsh et al., 2011). The present study found that athletes had fair to poor nutritional knowledge. Our study confirms the result reported by Jessri et al. (2010), who indicates that female athletes had higher nutritional knowledge than male athletes.

Results from the current study supports the recommendation for nutrition education programs for athletes, as Little et al. has reported that as little as five nutrition education intervention programs can be effective in enhancing nutritional knowledge of athletes.

It was also observed in the current study that athletes with higher nutritional knowledge had good athletic performance and had higher endurance level which shows the similarity with the study conducted by Ozdogan and Ozcelik, 2011 that athletes who reflect their nutritional knowledge in their behaviours and dietary practice are more successful in sports life.

The current study also supports that good nutritional knowledge was found in young athletes whereas people ranging from the age 24 to 38 years did not possess adequate nutritional knowledge which contradicts the observation reported by Juliane et al.(2014) stating that young athletes do not possess adequate nutritional knowledge.

CONCLUSION

Our findings provide evidence that higher nutritional knowledge is associated with better dietary practice in athletes. Athletes with higher nutritional knowledge, had in turn high physical activity levels. Thus, education for the purpose of increasing knowledge may have beneficial outcomes for actual dietary practice and therefore improve the athletes performance. However, future studies are required to assess the usefulness and effectiveness of educational programs as a strategy to improve the adequacy of dietary intake in this specific population.

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