



ISSN: 2278 – 0211 (Online)

Knowledge, Attitude And Dietary Practices Of Track And Field Athletic Men And Women Aged 18-22 Years

Supriya V.

Lecturer, Sri Ramachandra University, Porur, Chennai, India

Lalitha Ramaswami

Head Of The Department. PSG Arts And Science College, Coimbatore, India

Abstract:

Background: Sports and nutrition are directly related to each other. Taking into consideration the fact that sportspersons need more energy to carry out their sporting activity effectively, it becomes of prime importance to take care of the nutrition for sports performance. Careful planning and implementation is required, when it comes to athlete sports nutrition. Objective: The purpose of this study was to see whether track and field athletes are having the proper knowledge, attitude and practice regarding sports nutrition .Design: A prospective descriptive analysis of athletes' sources of nutrition knowledge, attitude and practices were assessed using a structured questionnaire developed by the investigator. A pilot study was conducted to validate the questionnaire that was developed. A total of one hundred and seventy eight athletic men and women aged 18 to 22 years were included in the study. An informed content was obtained from the participants. The KAP questionnaire comprises of ten questions of knowledge, attitude and practice each respectively. The results: The mean age of the athletes were 18 ± 3.2 yrs. The main nutrition sources of athletes were from coaches. The mean score of knowledge questions was 5.26 ± 1.5 and 56 % of the athletes gave correct responses on knowledge questions, whereas mean attitude score was found to be 36.3 ± 6.42 and only 47% of the athletes had a good attitude towards attitude questions. The mean dietary practices score was 5.82 ± 2.1 and 59% gave right responses to the practice questions. The results of the KAP showed fair knowledge, attitude and practice regarding sports nutrition Conclusion: Fair KAP score demands nutrition education to be implemented for the athletes to have a better physical performance.

Key words: KAP, athletes' knowledge, sports nutrition.

1.Introduction

Sports and nutrition are directly related to each other. Taking into consideration the fact that sportspersons need more energy to carry out their sporting activity effectively, it becomes of prime importance to take care of the nutrition for sports performance. Track field athletes pose a strong emphasis on diet.

While only a few studies have been conducted on nutrition knowledge among collegiate athletes, the majority of them have found a lack of basic nutrition knowledge in this population (Dunn, Turner, & Denny, 2007). If athletes do not possess basic nutritional knowledge, it possibly affects their peak athletic performance.

Proper guidance from a sport nutritionist would enable an athlete to make better choices, thereby maintaining his or her goal weight. Adequate nutritional education positively affects an athlete's dietary intake. A direct correlation is seen between healthy food choices and an athlete's nutritional knowledge

2.Objectives

- To select the athletic men and women (Track and field events) for the study.
- To administer the structured questionnaire as to assess the nutritional knowledge, attitude and Practices of the selected group of athletes.

3.Materials And Methods

A total of 178 subjects who are involved in track and field events are included for the study. Samples were selected from a sports training academy in Chennai using purposive sampling technique. Track and field athletic men and women aged 18-22 yrs were state and national level players.

3.1. Inclusion criteria

- Those who have previously not being educated by a nutritionist
- Athletes who have a minimum of 3 yrs of experience
- Belonging to the age group of 18-22 yrs.
- Those who are willing to participate

3.2. Exclusion Criteria

Those who are not willing to participate were excluded from the study

An informed consent has been obtained from the subjects.

- **Pilot Study**

A pilot study was performed among twenty athletes and necessary modifications were made. The reliability of the questionnaire was also obtained. A strong reliability (0.82 for knowledge, 0.96 for attitude, and 0.638 for practice) was obtained using test- re test reliability tests- As the test was strongly reliable, there was a high positive association between the scores of knowledge, attitude and practice.

- **Formulation Of A Questionnaire**

Based on the common dietary practices of athletes, this questionnaire was formulated by the investigator. A set of ten questions on knowledge, attitude and practice was framed. It was based on general sports nutrition, carbohydrates, proteins, fluids, vitamins, performance, supplements etc. This questionnaire cum interview schedule has been administered to the samples to test their KAP.

- **Procedure**

The questionnaires were distributed to the athletes with an explanation about the purpose of the study. The questionnaire cum interview schedule poses questions in one to one basis asking for the demographic data, knowledge, attitude and dietary practice of the track and field athletes. The questionnaire took ten minutes to be filled with them.

- **Statistical Analysis**

The collected questionnaires were coded tabulated and analysed statistically. Means, standard deviation and percentages were calculated from the scores from the nutrition knowledge, attitude and practice questions. Pearson's correlation coefficient was used to assess the correlation between nutrition knowledge, the attitude and practices of college athletes. Statistical results were considered to be significant at $p \leq 0.05$. Z scores were used to check how many standard deviations below or above the mean test score is. Statistical analysis was used using SPSS (version 15).

4. Results

4.1. Demographic Data

The mean age of athletic men and women was 18 ± 3.2 yrs. 60 % of the subjects were females and 40% were males. The participants played the sport for an average of 6 yrs. Mean Height were found to be 165.5 ± 3.2 cms and weight was 61.2 ± 2.1 kgs. The main source of nutrition information was from coaches (56%) and magazines (30%).

4.2. Knowledge

Nutrition knowledge becomes essential for an athlete to have an enhanced peak performance. 92% of the athletes were aware of the general aspects of sports nutrition, whereas only 39% percent were able to give proper information on peak performance and nutrients involved in peak performance. Carbohydrate loading was under reported by the athletes (22%), proteins and source of proteins were found to be profusely aware (81%).

Nutrition aspects	Correct responses (%)
General sports nutrition	92
Peak performance and nutrition	39
Food groups	42
Carbohydrate loading	22
Proteins	81
Antioxidants	58
Sports drink	26
Knowledge on water	42

Table 1: Knowledge Questions And Their Responses To The Questions

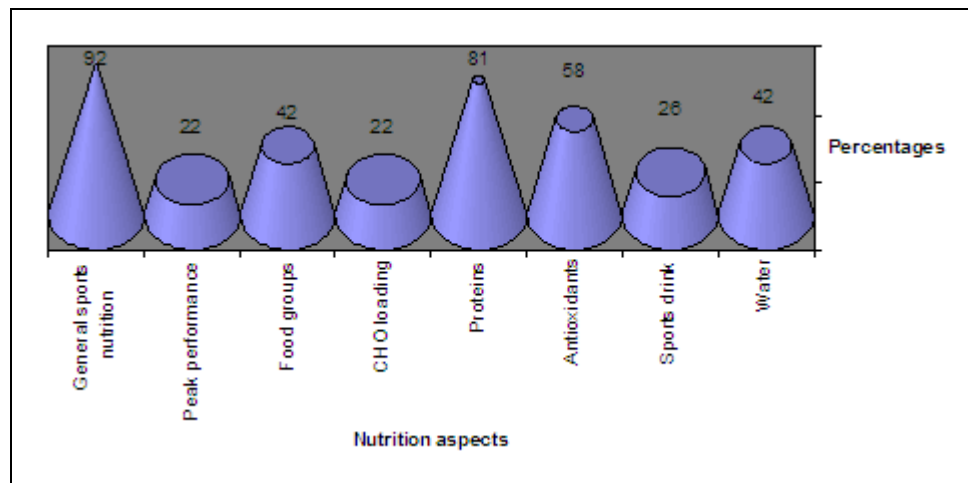


Figure1: Representation Of The Correct Responses Of Knowledge Questions

An active body consumes significantly more oxygen than a less active body, so it follows that regular physical activity may result in a persistent state of oxidative stress and, therefore, greater antioxidant needs. 58% of the athletes were aware of the antioxidants. Only 26% of the athletes knew about sports drink to be consumed before, during and after the performance.

4.3. Nutritional Attitude

The statements being framed for the attitude test were based on widely prevalent beliefs, tradition, food fads and attitudes of south Indian athletes (Table 2)

Statements	Correct response	Correct responses (%)
Nutritional needs of athletes differ from normal population	SA	57
Good nutrition is as important as skill, training and motivation	SA	68
Expensive foods are better and are important for good performance	SD	46
Coaches influence the food choices of athletes	A	42
Peers and role models influence the food choice and consumption	SA	28
Large consumption of water is necessary before, during and after performance	SD	23
It is necessary to add electrolytes in sports drinks.	SA	42
High consumption of ghee, almonds and milk enhance performance	SA	28
Fasting is the best method to lose weight.	SD	60
Consumption of nutritional supplements is vital to win in sports	SA	57

Table 2: Attitude Of Athletic Men And Women Regarding Nutritional Practices

SA: Strongly agree / A: Agree / U: Undecided / D: Disagree /

SD: Strongly Disagree

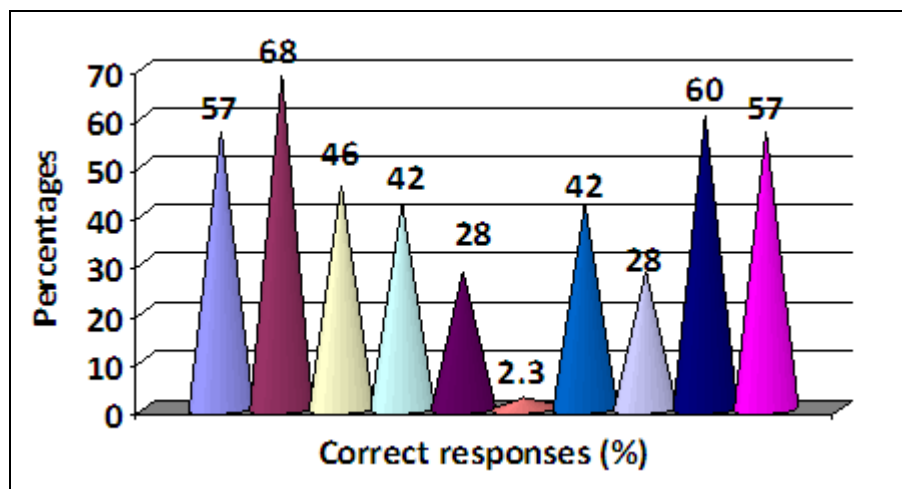


Figure 2: Percentage Correct Response Of The Athletes

The overall attitude of the athletes was quite commendable and impressive. 68% of the athletes strongly agreed that good nutrition is necessary for performance, training. Whereas, 60% strongly disagreed on fasting to lose weight, which is found to be a good trend seen among athletes. Only 28% had a correct attitude that high consumption of ghee, almonds and milk enhance the performance of the athletes. A minimum of 2% only agreed that consumption of water is necessary before, during and after performance.

Practice Questions	Yes (%)	No (%)
Changing dietary pattern at the time of competition	46	54
Skipping meals prior to competition	86	14
Practising carbohydrate loading prior to competition	48	52
Consuming commercial sports food supplements everyday	39	61
Consuming commercial sports drinks everyday	40	60
Consuming commercial sports supplements everyday	31	69
Skipping meals to lose weight	10	90
Consuming ergogenic foods before performance	24	76
Following a dietary regimen everyday	61	39
Eating all the recommended foods in the right quantities every day for peak performance	82	18

Table 3: Percentage Responses Of Practice Questions

4.4. Dietary Practices

46% of them were found to change their dietary pattern at the time of competition, only 14% did not skip meals prior to competition. In concern with carbohydrate loading, about 48% practiced this. An average of 60% was not consuming any form of sports supplements, drinks every day. 76% of them were not consuming ergogenic aids before performance. This shows that there seems to be a satisfactory amount of practice being followed.

Standard scores	Knowledge (%)	Attitude (%)	Practices (%)
Excellent (>70)	-	10	10
Very Good(60-69)	3	35	13
Good (50-59)	16	38	20
Satisfactory(40-49)	31	14	12
Regular (30-39)	26	1	15
Poor(20-29)	12	-	15
Very Poor(10-19)	7	-	11
Bad(<10)	5	2	4

Table 4: Nutrition Knowledge, Attitudes And Practice Based On Z Scores

Z scores were established to check the standard scores of the three attributes- knowledge, attitude and practice. Overall knowledge was found to be satisfactory (31%) with good and very good scoring comes to 19%; there was no person with excellent knowledge, with poor, v. poor and bad knowledge observed in 24% of the subjects. This indicates that proper nutrition education should be implemented in order to improve the knowledge of the athletes.

The attitude of the athletes were found to be very good (35%) and remarkable. 10% were excellent, followed by 38% of good attitude observed. Only 2% were found to be having a bad attitude. Dietary practices are not consistent as only 20 % were having good practices, followed by 10% having excellent dietary practices and 13% with very good practices. Bad/poor practices were also followed by the athletes at 30% overall, indicating the importance of health, nutrition education for the athletes.

4.5.KAP

Knowledge-attitude-practice model is based on the cognitive-affective-behaviour theory in the area social psychology (Figure 3) and this model suggests that an increase in knowledge affects attitude and consequently changes the diet.

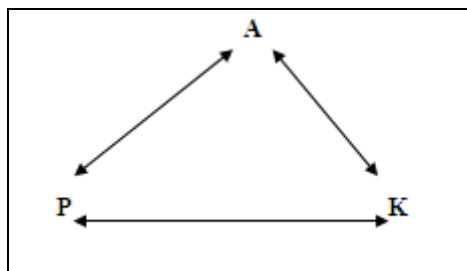


Figure 3: Knowledge-Attitude-Practice Model (Schwartz, 1)

Attributes	Knowledge	Attitude	Practice
	Mean± SD	Mean± SD	Mean± SD
	5.26 ± 1.53	36.3 ± 6.41	5.82± 2.10
Knowledge Vs Attitude	0.163*		
Attitude vs Practice	0.257**		
Knowledge vs practice	-0.17 ^{NS}		

Table 5: Pearson Correlation Between Knowledge, Attitude And Practice Of The Athletes

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

NS_ Not significant

From the above table, it was found that the knowledge is correlating well with attitude at $p < 0.05$ it can be hypothesized that the diet is related to the nutrition attitude and knowledge and subsequently nutrition practices, promotion of knowledge leads to the promotion of their attitude and subsequent to the improvement of their diet. In fact, this research suggests the importance of nutrition knowledge and its influence on nutrition attitude and diet. An appropriate diet has a considerable effect on the improvement of an athletes' health. A similar observation was made with an attitude and practice, which correlated well at $p < 0.01$. In the present study, attitude and practices were scored well, thereby had a good correlation as well. There seems to be no significant correlation between knowledge and practice.

5. Discussion

Some studies have shown a positive correlation between the nutrition knowledge of athletes and the quality of their dietary intakes. Proper hydration and athletic performance go hand in hand. It is essential for athletes to consume adequate amounts of fluids before, during, and after exercise to optimize athletic performance, maintain health, and avoid dehydration (ADA, 2009).

It is vital for athletes to understand appropriate weight loss and gain practices before engaging to avoid negatively impacting athletic performance and overall health. It is widely accepted among health professionals that the most safe and effective way to lose weight is slow and steady and not by fasting.

Wilta et al. (1995) found that runners with greater nutritional knowledge made better food choices compared to their peers with lower nutrition knowledge, indicating that an increase in athletes' knowledge leads to better dietary behaviours in this population. A study conducted by Rash et al. (2008) analysed college track athletes' nutrition knowledge, attitudes, and dietary intakes and found that nutrition knowledge and attitude were not primary factors impacting dietary intake.

Based on the mixed results of these studies, it is apparent that further research examining the relationship between nutrition knowledge and dietary behaviours is warranted, hence this study was undertaken.

6. Conclusion

The present study reveals that there is a paucity of nutrition education intervention among track and field athletes. Therefore, it becomes vital to have a nutrition intervention program to be organized to achieve better performance. False beliefs, food fads, fear of eating right before, during and after the competition has brought in major drawback in performance, hence an appropriate nutrition knowledge, attitude and practice can come from adequate nutrition/health education.

7. References

1. American Dietetic Association (ADA). (2009). Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and athletic performance. *Journal of the American Dietetic Association*, 109(3), 509-527.
2. Dunn, D., Turner, L.W., & Denny, G. (2007). Nutrition knowledge and attitudes of college athletes. *Sports Journal*, 10(4), 45-52.
3. Rash, C.L., Malinauskas, B.M., Duffrin, M.W., Barber-Heidal, K., & Overton, R.F. (2008). Nutrition-related knowledge, attitude, and dietary intake of college track athletes. *Sport Journal*, 11(1), 48-54.
4. Wilta, B., Stombaugh, I., & Buch, J. (1995). Nutrition knowledge and eating practices of young female athletes. *Journal of Physical Education, Research, and Dance*, 66, 36-41.
5. Schwartz, N.E. (1976). Nutrition knowledge, attitudes and practices of Canadian public health nurses. *Journal of Nutrition Education*, 8(2): 28-31.
6. Nutrition knowledge, attitude and practices of college students. (2011). *Physical Education and Sport* Vol. 9, No 3, pp. 349 – 357.
7. Mahsa Jessri, Maryam Jessri, Bahram RashidKhani, and Caryn Zinn, 2010. Evaluation of Iranian College Athletes' Sport Nutrition Knowledge. *International Journal of Sport Nutrition and Exercise Metabolism*, 20, 257-263.