ISSN:1533-9211
SEYBOLD REPORT
www.seybold-report.com

The Influence of Improper Diet on Athletic Performance: A Case Study of Addis Ababa University Athletes

Dafla Kifle Ibsa[1*], Dr. A. Pallavi[2]

Department of physical education and Sport science, Andhra University, Visakhapatnam- 53003 Andhra Pradesh, India.

ISSN:1533-9211
SEYBOLD REPORT
www.seybold-report.com

ISSN: 1533 - 9211

Abstract

The study's goal was to find out how an improper diet affected the players' performance in the context of the Addis Ababa University sports club. Fifteen athletes and one coach participated in the study, with data obtained through questionnaires and interviews with sixteen respondents serving as the primary data source. The study's design was both qualitative and quantitative, and the descriptive approach was used. A simple percentage was used to organize, evaluate, and interpret the data that were gathered. The study's key findings are significant, and the researchers noted that athletes have poor eating habits because they consume less in the way of both quality and quantity of food. Athletes need to receive more support from the relevant bodies, and athletes' dietary needs are not evaluated. The results showed that poor eating habits or inadequate food supply have a detrimental impact on performance. Because of the inefficiency of the food's quality and amount, athletes' need assessments to determine the positive and negative effects on their performance must be overcome. Based on the results, the study's recommendations were made: management should steer clear of issues related to eating habits, emphasize to athletes the importance of consuming a balanced diet, and regularly improve the quality and amount of food items.

CORRESPONDING AUTHOR:

Dafla Kifle Ibsa

daflakifle2012@gmail.com

KEYWORDS:

Athletics, Performance, proper Nutrition, Diet

Received: 22 November 2023
Accepted: 18 December 2023
Published: 26 December 2023

TO CITE THIS ARTICLE:

Ibsa, D. K., & Dr. A. Pallavi (2023). The Influence of Improper Diet on Athletic Performance: A Case Study of Addis Ababa University Athletes. *Seybold Report Journal*, *18*(10), 235-252. DOI: 10.5110/77.1090

INTRODUCTION

Successful sports and athletic performance depend on proper nutrition. Coaches and athletes are becoming increasingly aware of how vitamins, minerals, fluid intake, and macronutrients can improve sport and athletic performance during training and competition. An adequate diet facilitates the growth of skeletal muscle tissue, allows for the maintenance of a suitable exercise intensity, and aids in the recovery process following training and competition. One such example is the increased muscle glycogen levels and improved endurance performance that have been demonstrated by glucose loading. Long-term exercisers can improve their performance and avoid the negative health effects of dehydration and glucose depletion by consuming enough fluids and carbohydrates. Getting enough protein can help athletes compete in specific sports and improve the growth of their skeletal muscles (Poteiger, 2023; Tipton, 2007) et al.,)

One kind of sport that involves running, throwing, and jumping is athletics. It is a competitive structured sport consisting of many natural movement-based sporting activities. There is a long history of athletics. In order for early humans to survive, they had to go food hunting. They were forced to do this in order to slaughter animals for sustenance by hurling stones or spears at them. They employed a few throw strategies to distinguish themselves from the adversary or predators. When hunting for food, the ancient man or woman frequently had to travel great distances to reach their aim. They had to hurry in time for the computer (Poteiger, 2023).

In order to exist in the past, humans had to go hunting for food. This is how athletics originated. Consequently, people were forced to kill animals for sustenance by hurling stones or spears at them. They defined themselves against the adversary or predators by employing a few throw tactics. Whenever they went on a search for food, the ancient man or woman would frequently have to travel great distances to reach their aim. Moving at the speed of a computer was crucial Sports like walking, throwing, sprinting, and jumping are all part of the specialist category of sports known as athletics. Track & field, cross-country running, road running, and race walking are the most popular sports competitions. One of the most widely-participated sports in the world is athletics because of its ease of use and minimal equipment needs. (MARU, 2018).

In Ethiopia as well as the rest of the globe, athletics is currently the most well-known and popular sport. For athletes and the nation as a whole, athletics promotes social, political, and economic growth. Owing to the significance of sports, numerous athletics clubs have been founded all over

the world. The Ethiopian Athletics Federation has established many clubs around Ethiopia in order to fulfil its goal of developing elite athletes who will represent Ethiopia in international competition.

The adaptive response to exercise training is influenced by a number of variables, such as the type, frequency, and length of exercise, as well as the amount and quality of food taken before and after exercise. It's becoming more and more obvious that nutrition can either enhance or reduce adaptations that are brought about by exercise. For example, it is well recognized that there is decreased net protein synthesis and possibly even negative protein balance in the muscle when there is no post-exercise protein consumption. There is proof that reducing the availability of carbohydrates in the body can encourage particular muscle adaptations. On the other hand, taking large amounts of antioxidant supplements can decrease the effects of training adaptations (Jeukendrup, 2017; Buskirk 1981).

Peak performance can be achieved by athletes who eat a well-planned diet that incorporates the right macronutrients (fat, protein, and carbs) in the right amounts and proportions. Rodriguez et al. (2009) have suggested that a diet low in calories relative to energy expenditure may have a negative impact on sports performance and counteract the benefits of exercise training.

Statements of the problem

Playing sports is crucial for the advancement of society, politics, and the economy. Because of this, governments all over the world have taken an interest in sports and have established clubs to teach individuals who aspire to be athletes. The way that athletes perform within the club is influenced by several factors. One of the most crucial training components for athletes is proper nutrition. It makes effects on the comprehensive sports performance of the athlete. Athletes won't reach their full athletic potential if their bodies aren't properly fuelled and nourished. A balanced, healthy, nutrient-rich diet is necessary for maximizing the effects of a regular and well-designed performance enhancement training program. Lack of a balanced diet is the primary contributing factor in this study. After this study is completed successfully, the researcher anticipates receiving answers to the following questions.

- What are the key elements influencing athletes' ability to follow a balanced diet in accordance with their performance goals?
- Why don't athletes follow proper nutrition before, during, and after training?
- Why are coaches less aware of how an improperly balanced diet affects their players' performance?
- Do the coaches and the responsible bodies have any disagreements on nutrition and other matters?

General objective

The study's main goal is to find out how an improperly balanced diet affects an athlete's performance.

Specific objectives

This research has the following specific objectives.

- To investigate the challenges of eating an improperly balanced diet.

- To determine how closely the coach monitors his players, paying close attention to getting the treatment they need before, during, and after their scheduled sporting events.

-To create awareness about how athletes can consume a suitable diet before, during, and after exercise in the allotted amount of time.

- To suggest the optimal diets for athletes based on their training types, loads, techniques, events, and timeliness of training.

- To determine the primary elements influencing an athlete's performance in regard to inappropriate food consumption.

Significance of the study

The purpose of this research article was to identify and address the pertinent issues about how an athlete's performance throughout their career is impacted by eating an improperly balanced diet during training. Thus, the following primary impotence were attempted to be addressed by this research title:

- Provide all athletes with balanced meal intake or appropriate athletic nutrition.

- Assist athletes in understanding how much a poor diet affects their performance objectives.
- Athletes should be taught which foods are best for driftnet sports activities since this will reveal the energy system involved in the events.
- This research paper can be used as a reference by other academics to learn more about this and similar topics.

Hypothesis of the study

The researcher anticipated this study's completion because it significantly alters athletes' performance. The researcher made the following simple predictions based on the research questions:

- Athletes may know a lot about the benefits of a balanced diet or sports nutrition for optimal performance.
- They are able to recognize and identify the best meal types for various sports activities.
- May become more aware of the detrimental effects that improper calorie intake and expenditure has on their performance

Sports Nutrition

Athletes need to know how to eat a balanced, healthy diet and mix it with sports nutrition tactics that are appropriate to their training and competition environment in order to perform at their best. Moreover, general nutrition knowledge—which measures comprehension of healthy eating recommendations—should be more strongly correlated with total dietary intake or quality than sports nutrition knowledge, which covers topics like recovery or pre-event food and hydration needs. (American Dietetic Association and associates (2009).

Without question, eating habits have an impact on the outcome of competitions, and sports have a significant social impact. Beyond any doubt, elite athletes—who represent the most extreme elements of the human genetic pool and push the limits of physical performance—serve as a valuable model for studies pertaining to nutrition and metabolism. There is no denying the correlation between professional athletes' diets and their performance, if only because the former is a more readily measured consequence and the latter may have a more direct causal relationship. Though it is obvious that an inadequate diet will negatively impact one's capacity to train and

compete (Maughan, 2001). The requirement for thinness or leanness is present in the majority of sports that seem to put athletes at risk for eating disorders, or at the very least, eating disturbances. On the other hand, engaging in some activities could encourage an athlete to try gaining more muscle. Under these conditions, athletes may experience dietary changes as well as an increased risk of anabolic-androgenic drug usage in some cases (Thompson & Trattner Sherman, 1999).

The athlete will not reach their maximum potential if they do not eat proper nutrition since they will not perform at their best, may not maintain their current level of training, will heal from injuries more slowly, and may be more prone to infections and injuries. Since it is now well acknowledged that proper nutrition plays a significant role in athletic performance, athletes, whether they are recreational exercisers or elite competitors, should always be interested in learning more about nutrition in addition to training and injury prevention. While this may be interpreted as evidence of the critical role nutrition plays in exercise performance, there is still a great deal of misinformation regarding the nutritional concepts underlying both fitness and health (Maughan, 2001).

Certain types of nutritional manipulation may enhance performance; however, the ideal diet may vary depending on the sport and the individual. Consequently, it is only possible to provide broad recommendations, even if athletes desire dietary advice that will help them become champions. Adequate nutrition alone won't turn the typical person into a world-class athlete, but poor eating habits might keep even the most talented athletes from reaching their full potential (Maughan, 2001).

Fuel and Diet:

Nutrients have three functions. Certain foods provide you with energy. Numerous factors have a role in the development of body structures. Some support the upkeep of the systems that sustain our life. Any one of these tasks is carried out by any nutrient. According to Smolin and Grosvenor (2009), all nutrients are required for the body's growth, maintenance, and repair. Usage of Energy To optimize training and performance, an athlete must first ensure that their diet provides an adequate amount of calories to match their energy expenditure. Because the caloric demands of exercise (200–400 kcal/session) are not too high, participants in general fitness programs (e.g., 30–40 minutes of exercise three times a week) can usually meet their nutritional needs with a

normal diet (1,800–2,400 kcal/day, or approximately 25–35 kcal/kg/day for an individual weighing 50–80 kg. Athletes may nevertheless burn up to 1,200 kcal or more per hour of exercise if they participate in high volume intense training, which is defined as 3-6 hours of intense training per day spread across 1-2 workouts for 5-7 days per week, or moderate levels of intense training, which is defined as 2 hours per day of intense exercise performed 5-7 times per week. Consequently, an athlete weighing between 50 and 100 kg may need as many as 50–80 kcal/kg of calories per day. Even with hard training or competition, an exceptional athlete can expend a great deal of energy. (Maughan, 2001) For every athlete who wants to perform at their best, making sure they are consuming the right amount of energy is essential. Almost every kind of athlete who competes at a high level uses carbohydrates as their main fuel source, despite its use being much restricted. (Kerksick & Kulovitz, 2013). We get energy from our diets, which include the meals and drinks we drink. The body uses the following three main nutrients as fuel: The most important source is carbohydrates, which are followed by lipids and proteins. Your body uses fat and protein as well. needs energy following the consumption of all the carbohydrates. When you eat, your body breaks down the food. reduces nutrients to tiny pieces so that it can absorb them and use them as fuel. This process is called metabolism. (Smolin & Grosve,2009). When you exercise, your body uses more energy overall, so you need more fuel to keep up the physical activity. endogenous fat and carbohydrate stores provide the majority of the extra fuel; each contributes differently depending on the subject's features and the nature of the physical activity. It is possible that eating habits that refill these energy stores will be stimulated if endogenous energy stores are depleted (Hill & Commerford,1996; Gollnick, 1985).

Carbohydrate

Athletes' performance depends on carbohydrates because they are a significant source of energy in the diet. There is proof that the energy requirements for various sports lead to varied recommendations (Price, 2021).

Making ensuring athletes have the right proportions of fat, protein, and carbohydrates in their diets is the second step towards enhancing training and performance through nutrition. For individuals following a general fitness programme, a standard diet of 45–55% CHO [3-5 grams/kg/day], 10-

15% PRO [0.8–1.0 grams/kg/day], and 25–35% fat [0.5–1.5 grams/kg/day] will typically meet their macronutrient requirements. To achieve their macronutrient needs, athletes who train at moderate and high volumes must consume higher amounts of protein and carbohydrates in their diets. (Tarnopolsky et al,. 1992). The body uses carbohydrates for five main purposes: generating and storing energy, constructing macromolecules, protecting the metabolism of proteins, and aiding in the metabolism of fat. Carbs' main function is to supply the body with energy in the form of ATP. Specifically, glucose is used by the brain and other bodily parts that depend on carbs for energy, including red blood cells (Hess et al., 2012).

Protein

The building blocks of proteins are amino acids, which can be either non-essential (produced by the body) or essential (not produced by the body). Twenty distinct amino acids in all, organised in a variety of configurations to create functioning proteins. For a protein to be functional, amino acids must be incorporated and utilised in the proper order. Protein synthesis is the process through which proteins are made. Transcription, which takes place in the cell nucleus, is initiated when the need for proteins rises (Price, 2021). First, it was recommended to athletes not to exceed the recommended daily allowance (RDA) of protein, which is 0.8 to 1.0 g/kg/d for adults, adolescents, and children. But over the last 10 years, research has indicated that athletes who exercise hard must eat twice as much protein as the recommended daily requirement (RDA) (1.5 to 2.0 g/kg/d) in order to maintain protein balance. An athlete will maintain a negative nitrogen balance if they don't consume enough protein through nutrition, which might speed up protein catabolism and hinder recovery. Training intolerance and muscular atrophy could result from this over time. (Tarnopolsky et al,. 1992; Tarnopolsky, 1999). According to Campbell et al. (2007), proteins are necessary for the synthesis of hormones, enzymes, receptors, transporters, storage of other molecules, bodily defence, and muscular growth.

Fat

A well-balanced diet must include dietary fat as a necessary and vital component. Dietary fat helps the body metabolise fat-soluble vitamins, provides vital fatty acids that our bodies are unable to

manufacture, and fuels our muscles during rest and exercise**.**(Oliver et al,. 2012).

An athlete's diet plan may include increasing the percentage of fat in the diet. This strategy's main justification is to increase intramuscular triglyceride stores that are already present in the body. According to theory, this should enhance performance during continuous exercise while protecting glycogen reserves (Genton et al,.2010; Kerksick, 2019). A diet containing less than 15% fat does not improve performance in comparison to one containing 20% to 25% fat. Therefore, there is no reason to restrict fat consumption. Since it offers energy, fat-soluble vitamins, and vital fatty acids, fat plays a significant role in athletes' diets. Athletes should not be advised to follow high-fat diets due to lack of scientific support (Campbell & Wisniewski, 2017; Hill,1995).

Research Design and Methodology

Design of the study

The study used qualitative as well as quantitative approaches, with a descriptive method.

Source of data

Both primary and secondary data were used in the investigation. A questionnaire and interview were used to collect primary data. Relevant books, the internet, and magazines were the actual preferences for the secondary data source.

Participant of the study

Participants in this study included fifteen athletes from various events and one sports manager. Fifteen club athletes and one coach made up the study's target population. Sixteen people were living there in total. The investigator chose each of these using basic random selection techniques.

Data collection instruments

To conduct this study the researcher applied Questioners and Interview tools

Method of data analysis

In order to effectively compile, the responses from the respondents were first classified

quantitatively based on tally. The data was obtained through interviews and questions from coaches and athletes. The researcher then shifted to a percentage by using the table that follows. Finally, it conducted a thorough qualitative study to explain how the sample populations responded to the overall populations in an unbiased manner**.**

Study Findings

This chapter presents an analysis of data collected from coaches and athletes. The data collected from the athletes' coaches via questionnaires and interviews regarding the impact of improper nutrition on athletes' performance in the AAU athletics club has been examined in order to provide a suitable response to the question posed in the previous chapter.

Athletes were given 14 questions, categorized into 12 closed-ended and 2 open-ended categories.

Analysis from the athlete's questioners

Q1. Where do you consistently get food? And is it sufficient?

As can be seen in the first item of table 2 above, none of the responders received their food from the club, six athletes (40%) received it from their families, nine athletes (60%) made their own meals, and none of the athletes received it from other sources. Given that the majority of athletes obtain their meals on their own, as the above table illustrates, sharing training time with a lack of rest may result from this. In contrast, 60% of respondents report receiving their food from their families, which is more advantageous. Rest and recovery are crucial components of every training program, yet athletes frequently overlook them, according to linked literature. As per the relevant literature, rest and recovery are crucial components of any training regimen; nonetheless, athletes tend to overlook these aspects. Overtraining, from loss and eventually repeated injuries can result from this.

As indicated in Table 2, item number 2 above, there is a discrepancy in the amount of food athletes consume for training; 4 athletes (27%) had enough food for training, while 11 athletes (73%) did not receive enough food. Based on the information above, the researcher came to the conclusion that those athletes weren't eating enough to meet their nutritional needs. The following are some

advantages of good diet for sports performance, per associated literature: - Shorter recovery times; - Enhanced energy; - Reduced muscle tissue loss; - Injury presentation and A better quality of life.

The researcher came to the conclusion that athletes lose the advantages of optimal nutrition for performance if they do not eat enough.

Q2**.** How much is your knowledge about the relationship between balanced diet and athletics performance & do you think in appropriate diet is the cause of decreasing your performance?
How much do you know about the relationship between a balance diet and athletic performance?

Do you believe that eating the improper food is what's causing your performance to decline?

It is recommended that athletes drink water throughout training and consume foods that can replenish the calories they expended during training, according to the coach. "Athletes eat light food before training, which is not difficult for training." In accordance with relevant literature, the researcher came to her conclusion (food for fitness, 3rd edition, pages 35–40). How much energy you have for training and how well you perform depends on what you eat and drink the day before and in the few hours leading up to your workout. Whether you are hungry or not, if you exercise for more than 30 minutes, your body will recover more quickly the sooner you eat or drink afterward.

Q3. What role do you play in athletes' inability to eat the correct foods?

The coach stated, "I advised them to take vitamins and proteins; the athletes don't eat strange or unusual foods; they have to eat familiar foods."

What you eat and drink the day before or in the few hours prior to your workout determines how much energy you will have for training and how well you will perform, according to relevant literature (Food for Fitness, Third Edition). You'll have plenty of energy to train hard and give it your all if you take care of your nutrition before exercising. It is possible to address legitimate common issues like exhaustion, dizziness, fainting, and stitch by eating the appropriate amount and type of carbohydrates and timing your pre-exercise. The researcher came to the conclusion that coaches should advise athletes in addition to the above literature notes if they exhibit any

problems.

Q4. Exists a professional that supervises or evaluates the athletes' diet at the club? If not, why not?

A. Yes B. No

The coach's response is "No" for various reasons, yet it is better for the development of athletes' performances if coaches are included. In light of this, the researcher came to the conclusion that in order to ascertain athletes' knowledge, attitudes, or beliefs regarding nutrition, clinical assessments of their nutritional status, dietary counseling, support for peak performance, or club research are all necessary.

Conclusion and recommendation

Conclusion

The primary aim of this investigation was to assess the impact of inadequate nutrition on athletes' performances within the context of the Addis Ababa University athletic club in Ethiopia.

The following queries were raised in order to fully address the goals:

- Did athletes consume meals based on their sort of training?
- Did the athletes consume meals based on the type of training they did?
- What were the elements influencing athletes to utilize a balanced diet adequate for their desired performance?
- Did the coaches know that an improper diet can negatively impact an athlete's performance?

The description research approach was used to try and provide answers to these queries. Personal data for the study was acquired through the use of questionnaires and interviews. Generally, 15 athletes and 1 coach will provide the information needed to complete the research project successfully. Both qualitative and quantitative techniques were used in the data analysis. The research generated the following significant conclusions based on the data collected.

- The study found that athletes were not prepared in a timely manner
- That there is an issue with providing them with a balanced meal.
- According to the study, athletes were not getting enough sustenance for their exercise.
- The study found that most athletes did not drink water after training
- The coaches were unaware of participants' dietary habits. The
- study revealed that athletes receive inadequate compensation and few opportunities to discuss a healthy, balanced diet, while concerned organizations and coaches fail to provide meals for players. found that there is no support for the nutritional value of the food consumed by athletes.

The researcher came to the following significant conclusions based on the data gathered from the subject populations.

- It is evident from the analysis that the club's athletes were not receiving enough proper, balanced nutrition.
- It's the amount that club players were paid that they couldn't afford to eat a healthy, balanced diet in order to replenish the calories they burnt during training.
- The majority of athletes prepare their own meals. They could pass training time by sharing their time.
- Athletes do not consume enough food from their constant food source for training.
- Athletes do not all understand the relation between a balance diet and optimal performance.
- or the best possible athletic performance, one must choose the right foods, beverages, timing of intake, and supplements.
- Players did not consume enough food or nutrients
- The athletes' performance is impacted by the unequal distribution of a suitable, balanced diet in the AAU athlete's club.
- 40% of athletes report that they receive their food from relatives and 60% report that they prepare their meals. Thus, athletes do not receive equal nutrition.
-

Recommendation

The researcher liked to provide the following recommendations, based on the conclusions drawn from the data gathered, to the success of Ethiopia's entire athletics club:

- ❖ According to the study, bodies who are concerned with athletes need to support them by ensuring that they are fed a well-balanced meal at the right moment.
- ❖ In order to improve the athlete's performance, the manager attends to issues and addresses food deficiencies.
- ❖ A balanced diet and training are related, and this needs to be explained to the sport office experts.
- ❖ Inappropriate or imbalanced diets consumed by athletes must also be avoided by the management.
- ❖ The coach needs to provide guidance and assistance when needed.
- ❖ The club needs to incorporate all aspects of athletics in order to boost athlete engagement and competition.
- ❖ The athletes' drinking habits need to be improved in order to account for legitimate exhaustion and sweating-induced dehydration.
- ❖ A balanced diet and athletic performance are related, and players need to learn more about this.
- ❖ The manager needs to provide the athletes additional resources, supplies, and equipment

COMPETING INTERESTS

The authors have no competing interests to declare.

Author's Affiliation

Dafla Kifle Ibsa[1*], Dr. A. Pallavi[2]

Department of physical education and Sport science, Andhra University, Visakhapatnam- 53003 Andhra Pradesh, India.

HOW TO CITE THIS ARTICLE:

Ibsa, D. K., & Dr. A. Pallavi (2023). The Influence of Improper Diet on Athletic Performance: A Case Study of Addis Ababa University Athletes. *Seybold Report Journal*, *18*(10), 235-252. DOI: 10.5110/77. 1090

REFERENCES

Buskirk, E. R. (1981). Some nutritional considerations in the conditioning of athletes. *Annual review of nutrition*, *1*(1), 319-350.

Campbell, S. C., & Wisniewski, P. J. (2017). Nutritional recommendations for athletes. In *Nutrition in the Prevention and Treatment of Disease* (pp. 255-271). Academic Press.

Campbell, B., Kreider, R. B., Ziegenfuss, T., La Bounty, P., Roberts, M., Burke, D., ... & Antonio, J. (2007). International Society of Sports Nutrition position stand: protein and exercise. *Journal of the international society of sports nutrition*, *4*(1), 1-7.

Genton, L., Melzer, K., & Pichard, C. (2010). Energy and macronutrient requirements for physical fitness in exercising subjects. *Clinical nutrition*, *29*(4), 413-423.

Gerovasili, V., Stefanidis, K., Vitzilaios, K., Karatzanos, E., Politis, P., Koroneos, A., ... & Nanas, S. (2009). Electrical muscle stimulation preserves the muscle mass of critically ill patients: a randomized study. *Critical care*, *13*, 1-8.

Gollnick, P. D. (1985, February). Metabolism of substrates: energy substrate metabolism during exercise and as modified by training. In *Federation proceedings* (Vol. 44, No. 2, pp. 353-357).

Heaney, S., O'Connor, H., Michael, S., Gifford, J., & Naughton, G. (2011). Nutrition knowledge in athletes: a systematic review. *International journal of sport nutrition and exercise metabolism*, *21*(3), 248-261.

Hess, J., Latulippe, M. E., Ayoob, K., & Slavin, J. (2012). The confusing world of dietary sugars: definitions, intakes, food sources and international dietary recommendations. *Food & function*, *3*(5), 477-486.

Hill, J. O., & Commerford, R. (1996). Physical activity, fat balance, and energy balance. *International Journal of Sport Nutrition and Exercise Metabolism*, *6*(2), 80-92.

Hill, J. O., Melby, C., Johnson, S. L., & Peters, J. C. (1995). Physical activity and energy requirements. *The American journal of clinical nutrition*, *62*(5), 1059S-1066S.

Jeukendrup, A. E. (2017). Periodized nutrition for athletes. *Sports medicine*, *47*(Suppl 1), 51-63.

Kerksick, C. M., & Kulovitz, M. (2013). Requirements of energy, carbohydrates, proteins and fats for athletes. In *Nutrition and enhanced sports performance* (pp. 355-366). Academic Press.

Kerksick, C. M. (2019). Requirements of proteins, carbohydrates, and fats for athletes. In *Nutrition and enhanced sports performance* (pp. 443-459). Academic Press.

MARU, N. G. (2018). FACTORS AFFECTING ATHLETICS PERFORMANCE IN LONG DISTANCE RUNNING IN CASE OF WOMBERA WEREDA MALE AND FEMALE ATHLETICS CLUB; METEKEL ZONE, BENISHANGULE GUMEZE REGIONAL STATE

Maughan, R. J. (2001). Sports nutrition: what is it?. *Nutrition*, *17*(3), 270-270.

Poteiger, J. (2023). *ACSM's Introduction to exercise science*. Lippincott Williams & Wilkins.

Price, F. G. (2021). *Macronutrient intake: A multi-sport study of female division I collegiate athletes*.

Mississippi State University.
Rodriguez, N. R., Di Marco, N. M., & Langley, S. (2009). American College of Sports Medicine position stand. Nutrition and athletic performance. *Medicine and science in sports and exercise*, *41*(3), 709-731

Smolin, L. A., & Grosvenor, M. B. (2009). *Nutrition for sports and exercise*. Infobase Publishing.

Tarnopolsky, M. A., Atkinson, S. A., MacDougall, J. D., Chesley, A., Phillips, S., & Schwarcz, H. P. (1992). Evaluation of protein requirements for trained strength athletes. *Journal of Applied Physiology*, *73*(5), 1986-1995.
Tarnopolsky, M. A. (1999). Protein and physical performance. *Current Opinion in Clinical Nutrition & Metabolic Care*, *2*(6), 533-537.
Thompson, R. A., & Trattner Sherman, R. (1999). Athletes, athletic performance, and eating disorders: Healthier alternatives. *Journal of Social Issues*, *55*(2), 317-337.

Tipton, K. D., Jeukendrup, A. E., & Hespel, P. (2007). Nutrition for the sprinter. *Journal of Sports Sciences*, *25*(S1), S5-S15.