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ORIGINAL

NUTRITIONAL STRATEGIES AND THEIR IMPACT ON ATHLETIC RECOVERY AND PERFORMANCE

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ABSTRACT

Dietitians of Canada, the Academy of Nutrition and Dietetics, and the American College of Sports Medicine all agree that wise dietary decisions enhance athletic performance and recovery. In order to ascertain if Smart PLS software was employed, the research study relied on primary data analysis. Descriptive statistics, the correlation coefficient, and the smart PLS Algorithm model that connected them were among the outputs it produced. In order to promote optimal health and performance in a variety of training and competitive sports environments, these organizations provide advice for the proper quality, quantity, and timing of food, drink, and supplement intake. The target audiences for this position paper are the American College of Sports Medicine (ACSM), Dietitians of Canada (DC), the Academy of Nutrition and Dietetics, and other professional associations, governmental organizations, corporations, and the general public. The results of the entire study indicated a clear and substantial relationship between dietary practices and how well athletes recovered and performed. It provides an overview of recent advancements in sports nutrition as well as the opinions of the Academy, DC, and ACSM on matters pertaining to nutrition that have been demonstrated to impact athletic performance. For assistance with creating a personalized nutrition plan, athletes ought to contact a certified dietitian or nutritionist.

KEYWORDS: Nutritional Strategies (NS); Athletic Recovery (AR); Performance (PP)

1. INTRODUCTION

The term "Nutrition" can be discussed and explained scientifically in the following words:" the process of obtaining food, ingestion and digestion and then absorption of food to make it part of the body ". The other term is athlete

recovery, which is concerned with regaining the health of athletes in terms of physical and mental aspects. In this introduction, we are going to cover how nutrition helps athletes recover and enhances their performance. There are different and various types of nutritional Strategies depending on the type of injury an athlete has (Mielgo-Ayuso & Fernández-Lázaro, 2021). For example, if an athlete confronts any muscle injury, he/she must have nutritional strategies enriched in protein sources to provide instant and fast muscle recovery. In this introduction, firstly, we will discuss some specific nutritional strategies of athletes for enhancing Performance. Then, secondly, we will discuss the impacts of these nutritional strategies. The first nutritional strategy is periodic nutrition, which means taking nutrients after a particular time, just like taking a dose of medicine at a particular time. Such a kind of periodic nutrition will not only help in better recovery of athletes but also increase the endurance and tolerance of athletes (Braun-Trocchio et al., 2022). Secondly, we know that carbohydrates are the direct source of energy in our body, so we must take food rich in carbohydrates. More energy is required in athletes compared to lay man, so they need more carbohydrates in their nutrition, which is termed carbohydrate loading. The next nutritional strategy is the balance of electrolytes. It has been proved by scientific studies that electrolytes are a prerequisite for normal functioning of muscles because the whole process of contraction and relaxation of muscles is dependent upon the concentration of ions such as sodium ion and potassium ion (R. J. Maughan & Shirreffs, 2012).

Therefore, such nutrition is necessary for athletes who work to balance ions in the body to normalize and regain normal muscle function. The next nutritional strategy is a hydration plan, which can never be ignored at all. Water is the main and important component of the human body, so the balance of water levels in the body is very important for maintaining health. As athletes undergo hard exercises, they need better hydration plans to cope with the need for water in the body. The next nutritional strategy is protein consumption in athletes, which is related to the growth of muscles in the athlete's body (Bonilla, Pérez-Idárraga, Odriozola-Martínez, & Kreider, 2021). As we know, athletes must have grown muscles to enhance performance and endurance, so these muscles need protein regularly. Scientific studies have shown that protein plays an important role in maintaining skeletal muscles because these muscles are pure proteins. The next nutritional strategy is the avoidance of junk or processed food (del Valle, de la Vega, & Rodríguez, 2015).

There are various reasons for avoiding junk food. The first reason is that there is less nutritional value in these foods (R. Maughan, 2002). Secondly, these foods are enriched in unsaturated and saturated fats, which may be dangerous for athlete health, so athletes must avoid such junk foods. The other nutritional strategy related to athletes is an individual nutrition plan, which must be based upon the needs of the athlete's body, the type of sport he is involved

in, the type of climate at that place, and the level of health of the athlete (Perez-Montilla, Cuevas-Cervera, Gonzalez-Muñoz, Garcia-Rios, & Navarro-Ledesma, 2022). For example, suppose an athlete is going to engage in running activity. In that case, he must have high energy in the body in terms of carbohydrates to meet energy demands and a better level of protein to enhance the power and tolerance of muscles. Every athlete must have an individualized nutritional plan to enhance the Performance and recovery of the athlete (Pritchett, Pritchett, & Bishop, 2011). Now, we will discuss the impacts of these nutritional strategies on the recovery of athletes. Let's suppose an athlete has met muscle twitch, which may affect the athlete's performance. So, athletes must take mutton, bread, eggs, beans, and other protein sources to enhance protein intake in the body because protein helps them regain normal muscle function. For better and swift recovery of muscles, not only is protein adequate, but carbohydrates are also required (Ribeiro Junior, Werneck, Oliveira, & Ibáñez, 2023; Taheri, 2023).

It has been proved by scientific experiments that balancing nutrition with protein and carbohydrates plays an important role in maintaining muscle health and increases the pace of recovery as well. So, such athletes must take rice, wheat, grains, potatoes, yams, and other such carbohydrate sources to meet the need for muscles. Sometimes, free radicals are produced in the body of an athlete, which may cause inflammation in muscles and other complications (Thomas, Erdman, & Burke, 2016). To cope with such substances, an athlete's body needs antioxidants, which must be provided through nutrition as well. There are different sources of antioxidants, such as blueberries and green vegetables, such as spinach, nuts, dry fruits, legumes, whole grains, and others. These antioxidants will help to fight free radicals in the body. There is also a chance that muscle inflammation can sometimes be caused by a deficiency of omega-3 fats, which may result in abnormal muscle function (Kim & Kim, 2020). Such athletes must take food enriched in omega-3 fats such as Salmon, cod liver oil, eggs, yoghurt, milk, and other dairy products. The body's immune system plays an important role in maintaining the health of the body and combating different disease pathogens. Our immune system acts as a guard of the body to keep diseases away but there is a need for some nutritional supplements to maintain a good immune system so an athlete must take nutrition which is enriched in different types of vitamins that help in maintaining the normal immune system in the body. When there is a better immune system, there is less chance of disease and malfunctioning in the body. The next impact of nutritional strategy can be explained in terms of hydration level in the body. An adequate amount of water with balanced electrolytes is necessary in the body to maintain the health of the athlete. Along with physical health, we must pay attention to the mental health of athletes to enhance their performance. All these studies covered in a better way how nutrition has an impact on athlete recovery and Performance (Heaton et al., 2017). Protein is the subject of

several misconceptions. Athletes need protein, especially because it aids with muscular growth. There is a limit to how much protein an athlete may benefit from eating in a single meal, according to study. About 25 to 30 grams of protein each meal is the maximum. This implies that certain 40-gram protein supplements for athletes aren't really doing anything to help the athlete's physique in any way. Dr. Brown quips, "Athletes don't need to eat a steak covered in protein powder." She advises consuming enough protein through diet first, then taking supplements if necessary to build muscle mass during exercise. Furthermore, the average population's recommended protein consumption is too low for an athletic population. Protein intake for athletes should range from 1.2 to 2.3 grammes per kilogramme of body weight per day (g/kg/day).

Crucially, not every protein is made equally. Plant-based proteins do not contain the required amino acids, with few exceptions. Furthermore, critical necessary amino acids like leucine are present in lower levels in plant meals (such soy, hemp, or quinoa) than in animal products, even in diets that do include all required amino acids. For athletes, Dr. Brown does not advise a vegetarian or vegan diet unless there are personal or health-related reasons to do so. Plant-based diets have been shown to offer some health advantages. However, there are conflicting data on their ability to improve Performance. On these diets, athletes may find it difficult to get enough calories and protein. Timing the athlete's protein intake is also crucial. Protein-rich meals should be the main emphasis of an athlete's recovery diet. However, the focus should be primarily on carbs before engaging in physical activity or competing. Nutritional tactics and their impact on sports performance and recuperation are determined by study. There are five distinct study parts in the research article. The study's purpose and introduction are presented in the first section, the literature review is covered in the second, and the research methodology is covered in the third. The use of dietary methods is also determined in this area. The results and their explanation are covered in the fourth section. The last section provided an overview of the whole research study and included some recommendations about performance and recuperation in sports.

1.1 Research Objective

The main objective of this research is to comprehend how nutritional Strategies work in athletes and the Impact of these strategies on their recovery. This study has also explained which type of nutrition is best for any particular injury in an athlete. Such studies will help in the future to maintain the normal physical and mental health of athletes and enhance their Performance.

2. Literature Review

As we all know, nutrition is a basic and decisive factor in maintaining the

physical and mental health of any person. The need for a balanced diet is not the same in athletes and laymen (Helm, McGinnis, & Basu, 2021). The requirements of balanced nutrition are different in athletes than in the common man. In this review, we are going to overview all those studies that are related to nutritional Strategies and Their Impact on athlete recovery and Performance (Hauswirth & Mujika, 2013). In recent times, there has been a major focus on different types of training to enhance the physical and mental health of athletes. Still, recent studies have shown that the nutrition of athletes is as important as other training for enhancing athlete performance during sports (Leonarda et al., 2018). There are a variety of nutritional strategies that are suggested for better athlete performance. One of these strategies is the Mediterranean diet, considered the most important nutritional strategy for athletes. This diet strategy is associated with increasing both aerobic and anaerobic respiration in the body and decreasing the level of inflammation in the body (Nieman & Mitmesser, 2017).

As we know, athletes have to make their bodies habitual of anaerobic respiration as well because the oxygen demand cannot always be fulfilled to perform aerobic respiration. There is also the risk of Injury in athletes, which may cause inflammation, so such a diet plan helps to prevent inflammation in the body (Lee et al., 2017). The important food items included in the Mediterranean diet are fresh fruits and vegetables, legumes, whole grains, moderate or fewer amounts of dairy products such as yoghurt, less processed food, less red meat, and others (Orrù et al., 2018). There are also some other important benefits of the Mediterranean diet, such as balancing the weight of the body, improving cardiovascular function, reducing the risk of diabetes and cancer, reducing depression and anxiety, and improving bone health. These aspects help promote High Performance in athletes during sports (Davis et al., 2022). The other important nutritional strategy is the ketogenic diet plan, which is based on consuming more fats, consuming moderate protein, and consuming less carbohydrates in the body. Such type of diet promotes a process in the body which is termed ketosis which is involved in getting energy by burning fats in the body instead of carbohydrates (Close, Hamilton, Philp, Burke, & Morton, 2016).

When fats are burnt in the body, the overall body weight of any person gets balanced. Thus, this factor helps to maintain the normal weight of the body. This diet also produces antioxidants in the body which works for increasing the overall immunity of the body of an athlete (Campbell, 2013; Rodriguez, Di Marco, & Langley, 2009). This diet also helps to increase mental focus on any aspect because it does not produce laziness in the body because it consumes less carbohydrates. It also helps to maintain the normal sugar level of the body. Another high sugar level in the body may increase the rehabilitation period of the athlete (Smith-Ryan, Hirsch, Saylor, Gould, & Blue, 2020). The important

food items that are included in the ketogenic diet are meat, pork, beef, chicken, lamb, eggs, full-fat dairy products such as cheese, butter, whole milk, dark leafy vegetables, nuts, and seeds such as almonds, walnuts, different oils such as olive oil, mustard oil, condiments such as garlic, pepper, and others. The other important nutritional strategies for improving the Performance of athletes are vegetarianism and a plant-based diet (Ratray, Argus, Martin, Northey, & Driller, 2015). This diet has gained much importance in recent years, and many types of research have been conducted on this topic. This diet is based on taking plant nutrients and avoiding all types of animal food (Ravindra, Janhavi, Divyashree, & Muthukumar, 2022). This diet plan includes eating plant products such as herbs, seeds, oils, and others and avoiding all animal products.

Different types of vegetarian diets include lacto ovo vegetarian, lacto vegetarian, ovo vegetarian, pescetarian, and vegan (Mielgo-Ayuso & Fernández-Lázaro, 2021). The word lacto ovo vegetarian means taking dairy products and eggs as well. The word lacto vegetarian means taking dairy products only such as milk, and butter. The word ovo vegetarian means taking only eggs (Braun-Trocchio et al., 2022). The word pescetarian means taking only seafood and the word vegans means excluding all types of animal products including eggs, meat, dairy products, and even honey. There are many benefits of plant-based food as compared to animal-based food (R. J. Maughan & Shirreffs, 2012). The first and foremost benefit of plant-based food is that it improves cardiovascular function, thus reducing the risk of heart disease and stroke.

We all know that the main reason for any stroke or any cardiovascular disease is the presence of high cholesterol in the body, and this cholesterol comes from animal products. When animal products are avoided, the level of cholesterol automatically gets balanced thus the risk of heart problems decreases (Bonilla et al., 2021). The other benefit of plant-based food is that it helps to maintain the health of the gut and also improves the natural functioning of the immune system. Recent studies proved that plant-based food is easy to digest as compared to animal-based food (R. Maughan, 2002). When plant-based food can easily be digested, it helps in absorption of better nutrients from the gut which in turn helps in improving the immune system of the body (Perez-Montilla et al., 2022).

It has been shown by scientific studies that there are some natural anti-inflammatory substances present in plant-based food which in turn helps in preventing any inflammation in case of Injury (Pritchett et al., 2011). The factor of mental health is very prerequisite in deciding the performance level of an athlete. In primitive times, there was less focus on mental health and more focus on physical health but recent studies have brought our focus to mental health in these days (Taheri, 2023). It has been mentioned that for effective

Performance of athletes, both physical and mental health are to be balanced and maintained. Recent research has shown that plant-based foods have substances that lower the level of stress and depression in the body, thus maintaining normal mental health (Thomas et al., 2016).

The other benefit of plant-based food is that it produces natural antioxidants in the body which help to fight the production of free radicals in the body. Some other food strategies are related to individual needs Such as more protein-enriched food is required for muscle strength, carbohydrate-enriched food is required for getting energy, lipids and other fats are required for storing energy in the body so these food Strategies are quite individual-based, and sport-specific(Kim & Kim, 2020). All of these studies proved that nutritional Strategies play an important role in enhancing the Performance of athletes preventing injury and reducing the rehabilitation period(Fleming, Naughton, & Harper, 2018). This review has effectively overviewed those studies that are related to the impact of nutritional strategies on the Performance and health of athletes(Heaton et al., 2017) (Figure 1).



Figure 1: Athletic Performance

3. Research Methodology

The research study determines that nutritional strategies and its impact on athletic recovery and Performance. The research based on primary data analysis for determine the research used smart PLS software and run results related to sport recovery and Performance and nutritional strategies. The importance of balanced nutrition can never be denied for a healthy lifestyle.

Balanced nutrition is mandatory for both mental and physical health. Although balanced nutrition is required in each individual the nutritional strategies for athletes are quite different as compared to other individuals because of the needs and requirements of the body. The body of an athlete needs more energy for better Performance and recovery. In this study, we will discuss a few implications of nutritional Strategies for athlete performance and recovery(Pritchett et al., 2011). The following are important implications of nutritional Strategies for athlete's lifestyles:

3.1 To know about the demands of the body relevant to nutrition

As described before, the need for an athlete's body is different compared to the layman so there is a dire and stringent need to understand the correct need of an athlete's body. In some athletes, there is a need for more muscular strength and power so they need to take more protein in nutrition. At the same time, some athletes need high energy in body to perform well (Spriet & Gibala, 2004). So these athletes have to take more carbohydrates in the diet for better energy sources in the body. Some athletes need to increase body weight so they have to take more oils and fats for increasing body weight. On the other hand, some athletes need to reduce body weight so they have to take less fat and move from animal to plant-based food. As we know there are some free radicals produced in the body of athletes because of more exposure to sunlight and other factors so there is also a need to take such food which is enriched in antioxidants to cope with these Free radicals in the body(R. Maughan, 2002).

3.2 To decide the type of nutritional strategy to be followed

Scientific studies proved that there are various types of nutritional Strategies for athlete's recovery and Performance. These strategies include the Mediterranean diet, ketogenic diet, high carbohydrate level diet, plant-based diets, animal-based diets, and others. All these types of nutritional Strategies are not followed in all athletes but the specific type of nutritional strategy is followed in sport-specific individuals(Thomas et al., 2016). In some diets, there is a high quantity of proteins, and there is a high quantity of carbohydrates, in others, there is a high quantity of oils or lipids depending upon the needs of the body. Although all these nutritional strategies are best to be followed recent studies revealed that plant-based food is much better for athletes as compared to animal-based food.

Recent studies have shown that plant-based food is easy to digest and absorb in the body of athletes. It has been proved that plant-based food has all the important nutrients that are required for better health of an athlete's body. Recent studies have shown that there are natural antioxidants and anti-inflammatory substances are found in plant-based food which help to increase natural immunity of the body for better health of athlete(Taheri, 2023). Recent

research has also shown that those athletes who consume plant-based food are less prone to suffer from mental health issues such as stress, anxiety, and depression as compared to those athletes who consume animal-based food. There are also such substances present in plant-based food which help in recovery after injury thus decreasing the rehabilitation period of athlete injury. It is important to know of nutritional Strategies that help in understanding which type of nutritional strategy must be followed in which sport or which type of athlete.

3.3 To improve the health of athletes in terms of mental and physical health

As mentioned before both the physical and mental health of an athlete is dependent upon balanced nutrition. In turn, the whole scenario of the Performance of an athlete is dependent upon physical and mental health. We cannot deny the importance of mental health for athlete's better Performance. In primitive times, there was less focus on the mental health of athletes, but now it has been admitted that if an athlete is suffering from mental health issues such as stress, anxiety, or depression, he cannot perform well in sports. So such nutritional Strategies are suggested which help to maintain not only physical health but also mental health(Beck, Thomson, Swift, & Von Hurst, 2015).

The needs of the body can be better understood with the help of these nutritional strategies. For example, if there is a need for protein in the body, athletes must go for meat, beef, mutton, eggs, chicken, milk, and other resources. If there is a need for carbohydrates in the body of an athlete, the athlete must go for potatoes, rice, beans, legumes, whole wheat, grain, fruits, and others. If there is a need for fats in the body, an athlete must go for oils, cheese, butter, milk, and other such sources. All of these nutritional strategies help improve the mental and physical health of athletes (Perez-Montilla et al., 2022).

3.4 Reducing rehabilitation period in case of injury

The athletes are at more risk of injury compared to laymen. During high-impact sports, there is much more risk of any type of injury as compared to other sports. This is because of the demand for high pressure and input in sports such as badminton, cricket, hockey, squash, tennis, and others. After an injury to an athlete, there is a major problem in the rehabilitation period (Beelen, Burke, Gibala, & Van Loon, 2010). If an athlete takes too much time in rehabilitation, it will be dangerous for his professional life as well. So there is a dire need to have such nutritional strategies that may help to reduce the rehabilitation period of athletes. It has been proved by scientific studies that better and balanced nutrition may help in reducing the rehabilitation period of

athletes. Recent studies have shown that plant-based food can help to provide the body with such substances which help in reducing the rehabilitation period such as natural antibiotics, antioxidants, anti-inflammatory substances, and others(Kim & Kim, 2020).

If there is a need to regain the strength of skeletal muscles after injury, there must be food enriched with protein and fats. Better and balanced nutrition helps in preventing injury and also helps in treating injury by reducing the rehabilitation period in athletes. This is one of the important benefits of nutritional Strategies for enhancing athlete's Performance and recovery(Heaton et al., 2017).

3.5 Smart PLS Algorithm Model

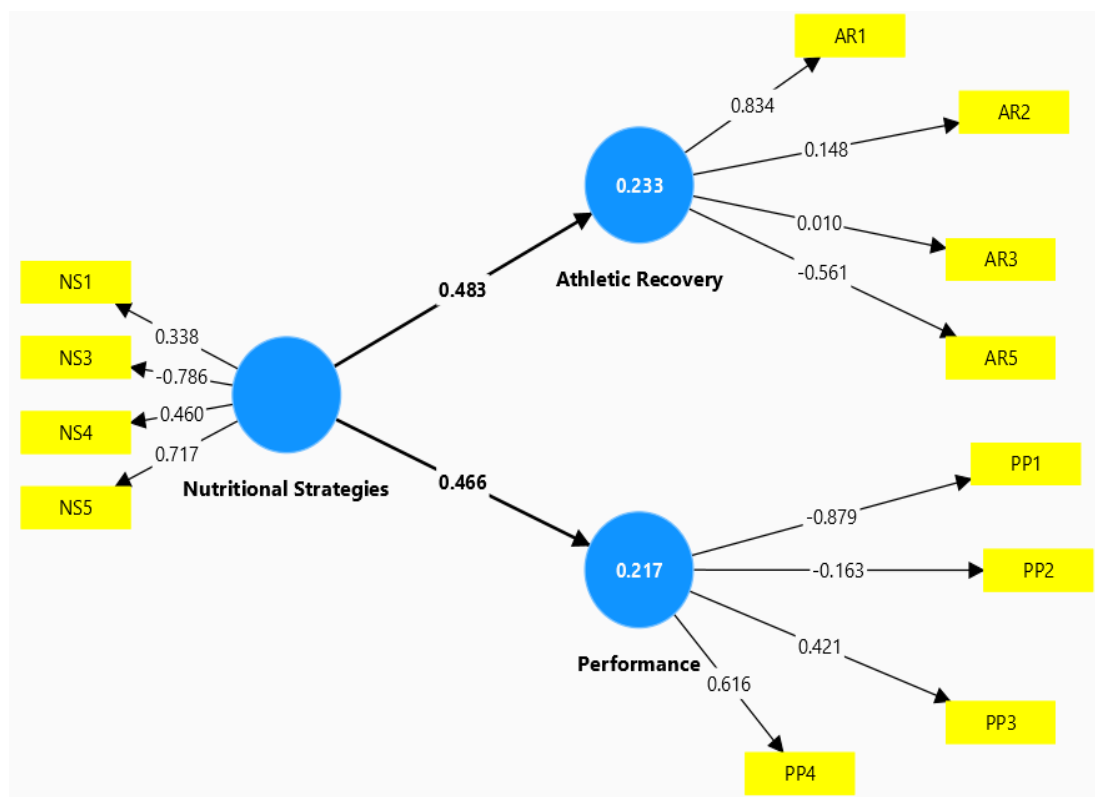


Figure 2: Smart PLS Algorithm Model

The above model of figure 2 represents the smart PLS Algorithm model in between nutritional strategies and athletic recovery also Performance between them. according to the above model the nutritional strategies shows 0.338, -0.786, 0.460 and 0.717 shows that 33%, 78%, 46% and 71% significant rate between them. the nutritional strategies show 46% positive and significant link with athletic Performance. the result also presents that athletic recovery shows 0.834, 0.148, 0.010, -0.561 shows that 83%, 14%, 10%, and 56% significantly level between them. the Performance shows that 87%, 16%, 42% also that 61% significantly level between dependent and independent variable.

3.6 Descriptive Statistic

Table 1: Results of Descriptive Statistic

NAME	NO.	MEAN	MEDIAN	SCALE MIN	SCALE MAX	STANDARD DEVIATION	EXCESS KURTOSIS	SKEWNESS	CRAMÉR-VON MISES P VALUE
NS1	1	1.420	1.000	1.000	3.000	0.533	-0.627	0.741	0.000
NS2	2	1.420	1.000	1.000	2.000	0.494	-1.969	0.334	0.000
NS3	3	1.680	2.000	1.000	3.000	0.614	-0.599	0.334	0.000
NS4	4	1.580	2.000	1.000	3.000	0.603	-0.574	0.528	0.000
NS5	5	1.420	1.000	1.000	3.000	0.533	-0.627	0.741	0.000
AR1	6	1.580	2.000	1.000	3.000	0.569	-0.757	0.346	0.000
AR2	7	1.540	2.000	1.000	3.000	0.573	-0.678	0.496	0.000
AR3	8	1.720	2.000	1.000	3.000	0.601	-0.525	0.217	0.000
AR4	9	1.500	2.000	1.000	2.000	0.500	-2.085	0.000	0.000
AR5	10	1.660	2.000	1.000	3.000	0.552	-0.696	0.060	0.000
PP1	11	1.460	1.000	1.000	3.000	0.573	-0.283	0.819	0.000
PP2	12	1.520	1.000	1.000	3.000	0.574	-0.610	0.573	0.000
PP3	13	1.500	1.000	1.000	3.000	0.539	-1.052	0.396	0.000
PP4	14	1.520	1.000	1.000	3.000	0.574	-0.610	0.573	0.000

The above research of table 1 illustrates how descriptive statistical analysis may be used to show how mean values, median values, minimum and maximum rates, and their respective explanations of significant differences in values between dependent and independent variables. There is a 100% significant level between them, as evidenced by the overall minimum rate of 1.000, maximum value of 3.00, and significant rate of 0.000. The pp stands for performance, and the mean numbers that are displayed are 1.460, 1.520, 1.500, and 1.520, all of which indicate positive mean values. With a 53% variation from the mean, the standard deviation rate is 57%. The findings also explain the mediating roles that AR1, 2, 3, 4, and 5 have.

Mean values are 1.500, 1.660, and 1.460 based on the results. They are all indicative of the mean's positive average value. The percentages of standard deviation that differ from the mean are 55%, 57%, and 60%. The skewness number indicates the skewness rate of each indicator, which is 81%, 57%, and 39%.

3.7 Correlation coefficient

Table 2: Results of Correlation coefficient

	NS1	NS2	NS3	NS4	NS5	AR1	AR2	AR3	AR4	AR5	PP1	PP2	PP3	PP4
NS1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NS2	0.090	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NS3	-0.078	0.245	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NS4	0.176	-0.012	-0.255	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NS5	0.083	0.166	-0.262	0.113	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR1	0.054	-0.227	-0.327	0.302	0.252	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR2	0.109	-0.024	-0.134	-0.096	0.043	-0.040	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR3	-0.195	0.261	0.028	0.282	0.055	0.007	0.207	1.000	0.000	0.000	0.000	0.000	0.000	0.000
AR4	0.338	-0.122	-0.000	0.166	-0.038	0.176	0.244	0.133	1.000	0.000	0.000	0.000	0.000	0.000
AR5	-0.195	0.084	0.328	-0.008	-0.059	-0.073	0.075	0.195	0.326	1.000	0.000	0.000	0.000	0.000
PP1	-0.109	-0.259	0.361	0.038	-0.436	0.040	0.035	-0.033	0.035	0.052	1.000	0.000	0.000	0.000
PP2	0.136	-0.065	-0.039	0.053	-0.322	-0.005	0.058	0.074	0.070	-0.073	-0.058	1.000	0.000	0.000
PP3	0.105	0.188	0.000	0.092	0.174	-0.033	-0.162	0.185	-0.037	0.101	-0.162	-0.194	1.000	0.000
PP4	0.136	0.429	-0.152	0.169	0.136	-0.066	-0.002	0.132	0.000	0.179	-0.302	0.029	0.129	1.000

The above results of table 2 represent the correlation coefficient analysis result describe that some positive and some negative result related to the nutritional strategies and their impact with athletic recovery and Performance. according to the result overall significant interrelation between dependent and independent variable.

4. Conclusion

After reviewing all these implications of nutritional Strategies for athlete's Performance and recovery, we can conclude that nutritional strategies help athletes in various ways to enhance Performance and prevent major injuries. The enemy is carbon-based compounds. According to Dr. Brown, "this is a very common one in aesthetic sports, such as dance or even cross country." "We are aware that a fuel source for intense exertion is carbs. Athletes who engage in high-intensity or endurance sports require a diet rich in carbs to support their physical activity. If your carbohydrate intake is too low, it will be difficult to keep up your activity intensity. Another fallacy about sports drinks is that their high sugar content makes them unhealthy. The research based on primary data analysis for determine the research study used smart PLS software and run result included descriptive statistic, correlation coefficient also that smart PLS Algorithm model between them. These beverages are designed for athletes who are consuming a lot of energy, nevertheless. Athletes also need to be well-hydrated in addition to eating carbs. But these beverages aren't for everyone, and it's better to think of them as an athletic supplement rather than a meal substitute.

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