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Research Article

Study on the Perception of Knowledge of Nutrition like Protein

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Abstract:
Nutrition refers to the process through which an organism takes in and uses food to meet its metabolic requirements. The main aim of the study is Study on The Perception of Knowledge of Nutrition Like Protein. The five-motor ability test was used to evaluate the research population's fitness, and their nutritional condition was determined before the questionnaire was given out. Understanding the importance of diet in improving athletic performance is crucial. An athlete's performance in a competition may be affected by a wide variety of circumstances, each of which may have its own root cause.
Keywords: Nutrition, Knowledge, Athletes, Performance, Metabolic

Introduction

Nutrition refers to the process through which an organism takes in and uses food to meet its metabolic requirements. There is a plethora of vital nutrients necessary for optimal health. Micronutrients include vitamins, minerals, and water, whereas macronutrients are carbs, fat, and protein. Although many foods are multi-nutrient, the amounts of individual nutrients in these foods vary widely. That's why it's crucial to fill up nutritional gaps and prevent deficits by eating a wide range of meals.

The process of maturation continues until full maturity is reached. These transformations occur at all stages of life, but particularly between the ages of 10 and 19 (or, in my view, 13 and 19) for both sexes. Many people refer to this time as puberty, and it affects women's nutritional needs far more quickly than men's. Children's physical, mental, and emotional growth often peak throughout their school years (5-18 years old). Because of the potential impact of dietary inadequacies on growth and development as well as academic and athletic performance, this is a crucial period. Up to 45% of skeletal development occurs throughout adolescence, and 15-25% of adult height is attained during adolescence. Bone mass may increase by as much as 37% during the teen growth spurt. Adolescents are often receptive to new experiences and ideas, and proper nutrition is important at all stages of development, from infancy through adolescence. They are naturally inquisitive and interested in novel experiences. Adolescence is a period when many lifelong habits are formed. Adolescents' own tastes and preferences begin to take precedence over traditional family eating

patterns. They are gaining greater freedom over when and where their meals are consumed. Adolescents alter their diets as part of their quest to prove themselves as independent adults. Therefore, educating teenagers about proper nutrition is a worthwhile endeavor. The parents of a young kid are in control and open to persuasion. Adults may find it more challenging to alter habitual routines.

1.2 Knowledge, Attitude and Practises about Healthy Eating

A coach is someone who manages, instructs, and trains a sports team or an individual athlete, as defined by Wikipedia. A trainer could also be an educator. Athletes often worship their coaches as though they were deities. A coach is someone who encourages and guides players to reach their greatest potential. A coach's responsibilities for an athlete extend much beyond those of a trainer. Coaches need the correct background info to provide players sound scientific advice. Athletes may improve their performance and speed up their recoveries with the aid of sports nutrition. Improved performance in sports endeavors is possible when proper diet and exercise are combined. Athletes rely on proper nutrition to helpa them achieve their weight, muscle, and fat percentage goals, as well as to speed up their recovery times. After the 2010 Commonwealth Games, sports nutrition as a discipline gained significant traction in India. When it comes to getting the most out of their meals, coaches and players may take some advice from a sports nutritionist. Team sports demand athletes to alternate between short bursts of high intensity exertion and longer periods of lower intensity activity, which may lead to significant losses of body water. Athletes might benefit from a delay in the creation and buildup of lactic acid in their bodies. The maximum aerobic capacity, or Vo2max, is increased by eating well.

1. Literature Review

Abdullah, Khairul Hafezad& Riza(2023) This study set out to examine the rising importance of sports nutrition throughout the globe by analyzing publication patterns in the respected Scopus and Web of Science (WoS) databases. ScientoPy was used to examine variables including publication volume, principal research topics, most prolific authors, authors' most frequently used keywords, authors' favorite sources, and institutional information. This study required matching 1,527 records in the Scopus and WoS databases. According to the Scopus and WoS databases, sports nutrition research is on the rise, with Sport Science as the dominant academic field. In both 2019 and 2020, searches including the term "Muscle" are expected to rise dramatically in popularity. Nutrition, exercise, sports performance, nutrition, and dietary supplements are the top five most searched terms in this area of study. The Australian Institute of Sport has risen to become the premier sports nutrition research facility worldwide. The leading institutions and researchers in the field of sports nutrition, as well as the principal areas of research, commonly used keywords, and related studies, have all been identified in this study. Readers and scholars of the future will benefit from the international viewpoint it offers on the field of sports nutrition. It provides a number of analyses to aid in the organization of data for the establishment of sound theories and practices in this area.

Shakeel, Huzaifa & Noreen, Sana & Rizwan(2022) Inadequate nutrition may stunt a child's development, so it's especially vital to ensure they get enough food in the first few years of their lives. This means that exercise, emotional development, and food all play important roles in determining overall success. Examining sports students' understanding, motivation, and behavior around eating healthily. Using a non-probability convenient sampling method, researchers surveyed 100 college athletes participating in teams at the University of sports complex for a cross-sectional study. To gather information on their understanding, perspectives, and routines, we administered a structured questionnaire survey to each one of them individually. SPSS version 24.0 was used for the data analysis. Our

findings indicate that 75.2% of participants had a high level of knowledge regarding healthy food choices, 64.4% held a positive attitude toward selecting the appropriate meal, but only roughly 57.4% were really putting this information into practice. The majority of sports students were found to have appropriate knowledge of and attitude toward healthy eating, but to have insufficient good dietary behaviors. Even while most sports students were of a healthy body mass index, many of them were not getting enough to eat. The vast majority of students ate at fast food restaurants, consumed sugary sodas and coffee, and ate unhealthy snacks. The kids' water intake dropped as a result.

Rodas, Gil & Vázquez Espino(2021) Having a solid foundation in nutrition knowledge (NK) is essential for everybody, but it's particularly crucial for athletes. Specifically, we wanted to see whether there was any correlation between the athletes' perceptions of their own NK, their nutrition knowledge, where they got their information, and what they ate. Our research was a split-section cross-sectional design. We began by measuring the NK of highly skilled players (n = 264) and comparing their results to those of sports' technical teams (n = 59) and non-athletes (n = 183) of varying ages and levels of education. Second, we looked the links between NK and additional factors. The Nutrition Knowledge Questionnaire for Young and Adult Athletes (NUKYA) was utilized to evaluate NK because of its reliability and validity. The median score for athletes was 25.1, which was lower than the scores of both the sports technical team (58.5) and the final-year Human Nutrition and Dietetics students (74.6), but similar to the scores obtained by high school students (19.5) and university Philosophy students (29.0). Additionally, we discovered statistically significant correlations between NK and self-reported NK levels (n=240,=0.2546,p=0.0001), NK and fruit and vegetable consumption (n=111,=0.2701,p=0.0041), and NK and the consumption of non-essential foods (n=111,=0.2008,p=0.0001). The Dunning-Kruger effect shows that athletes who scored lower than average tend to overestimate their abilities in the area of nutrition. We came to the conclusion that education programs are necessary to increase athletes' NK, and that these plans should take into account factors like the appropriate selection of information resources and the need of avoiding using supplements without the appropriate prescription. It is important to think about how to include the technical team and their families in the training process.

Wahlang, Phyrnailin& Baruah, Chandrama (2020) Researchers in Guwahati surveyed local gym goers to gauge their fitness-related literacy, mindset, and routine. As the research location, Guwahati, Assam was chosen. The study's primary purpose was to gather demographic information, secondary aims included evaluating respondents' dietary habits, and thirdly, KAP (knowledge, attitude, and behavior) was evaluated. The group chosen for the study was deliberate. The largest proportion of respondents were between the ages of 17 and 25, followed by those between the ages of 26 and 35, then those between the ages of 36 and 49, and finally those below the age of 16 (2%). Eighty percent of men and women had completed college, 16% of women and 14% of men were HSLC students, and 4% of women and 6% of men were High School graduates. According to the World Health Organization's criteria, 70% of females and 50% of males were classified as normal weight, while 18% of females and 34% of males were classified as pre-obese, 16% of females and 4% of males were classified as overweight, and 6% of females and 4% of males were classified as underweight. Male members scored 84%, 8%, 30%, 54%, and 34%, 26%, 40% on nutritional knowledge, attitude, and practice, respectively; female members scored 48%, 36%, and 34%, respectively; poor, average, and good scores were distributed similarly across all three categories. The results show that the gym goers have a solid foundation of knowledge, but there is room for growth in terms of mentality and routine. Keywords: nutritional standing;

nutritional literacy; nutritional outlook; nutritional behavior.

Peerkhan, Nazni& Vimala, Srinivasan (2010) Any plan to improve one's physical health should include attention to one's diet. Athletes should focus on getting enough nutrients to improve their health and performance in the arena. The purpose of this research is to evaluate the athletes' level of understanding, commitment, and application of nutritional principles. Athletes were chosen from five separate private institutions in the Salem District of Tamil Nadu, India. A total of 102 athletes, 32 are volleyball players, 25 are weightlifters, and 45 are runners. All of the qualified athletes participated in the analysis. Selected athletes were given a questionnaire designed to measure their nutrition knowledge, attitudes, and practices called the Knowledge, Attitude, and Practice (KAP) questionnaire. The athletes' dietary composition is also evaluated. The information was coded and then utilized for analysis. Compared to weight lifters (43%), volleyball players (42%), who had adequate nutritional knowledge (50-59%) based on KAP results, had better nutritional knowledge (60-69%). Only 29% of the runners had excellent understanding (70-79%) of nutrition. Athletes tended to consume less cereal, other vegetables, and milk than the Recommended Dietary Allowance (RDA) recommended. Runners had the highest average nutritional consumption compared to their fellow athletes in volleyball and weightlifting. Athletes' dietary education, outlooks, and routines were profoundly shaped by the specific sports they participated in. The majority of the athletes scored high enough to suggest that they had a solid grasp of nutrition and supplementation.

2. Methodology

The five-motor ability test was used to evaluate the research population's fitness, and their nutritional condition was determined before the questionnaire was given out. The sample population was given the finalized survey. Two hundred teenage males were tested before and after they played football or basketball. The subject was measured using anthropometric parameters established in advance. The Body Mass Index (BMI) was used to evaluate a person's nutritional health.

3.1 Pilot Study

Ten percent of the samples were used for pilot research to determine the study's viability. Minor adjustments were made to the questionnaire based on the findings of the pilot research before the final version was used to gather the data.

3. Results

4.1 Perception of Knowledge of Nutrition like Protein, Fats

Table 1: Reactions to Playing Sports

REACTIONS TO PLAYING SPORTS	Game		Total (n=200)	P value
	Basketball (n=100)	Football (n=100)		
Somatic status				
My body feels tense.				
Not at all	23(23%)	22(22%)	45(22.5%)	0.128
A little bit	47(47%)	53(53%)	100(50%)	
Pretty much	22(22%)	11(11%)	33(16.5%)	
Very much	8(8%)	14(14%)	22(11%)	
My stomach feels upset				
• Not at all	65(65%)	61(61%)	126(63%)	0.8
• A little bit	23(23%)	23(23%)	46(23%)	
• Pretty much	4(4%)	7(7%)	11(5.5%)	
• Very much	8(8%)	9(9%)	17(8.5%)	
My muscles feel tight because Iam nervous				
• Not at all	59(59%)	52(52%)	111(55.5%)	0.243
• A little bit	23(23%)	18(18%)	41(20.5%)	
• Pretty much	10(10%)	15(15%)	25(12.5%)	
• Very much	8(8%)	15(15%)	23(11.5%)	

My muscles feel shaky.				
• Not at all	50(50%)	40(40%)	90(45%)	<0.001**
• A little bit	31(31%)	33(33%)	64(32%)	
• Pretty much	16(16%)	17(17%)	33(16.5%)	
• Very much	3(3%)	10(10%)	13(6.5%)	
I feel tense in my stomach				
• Not at all	54(54%)	55(55%)	109(54.5%)	0.062+
• A little bit	34(34%)	21(21%)	55(27.5%)	
• Pretty much	4(4%)	6(6%)	10(5%)	
• Very much	8(8%)	18(18%)	26(13%)	
Worry				
I worry that I will not play well				

Worry				
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• Not at all	20(20%)	19(19%)	39(19.5%)	0.846
• A little bit	32(32%)	38(38%)	70(35%)	
• Pretty much	27(27%)	24(24%)	51(25.5%)	
• Very much	21(21%)	19(19%)	40(20%)	
I worry that I will let others down				
• Not at all	24(24%)	31(31%)	55(27.5%)	O.050*
• A little bit	42(42%)	27(27%)	69(34.5%)	
• Pretty much	25(25%)	23(23%)	48(24%)	
• Very much	9(9%)	19(19%)	28(14%)	
I worry that I will not play my best.				
• Not at all	21(21%)	35(35%)	56(28%)	0.148
• A little bit	33(33%)	26(26%)	59(29.5%)	
• Pretty much	25(25%)	24(24%)	49(24.5%)	
• Very much	21(21%)	15(15%)	36(18%)	
I worry that I will play badly				
• Not at all	21(21%)	30(30%)	51(25.5%)	0.322
• A little bit	39(39%)	28(28%)	67(33.5%)	
• Pretty much	21(21%)	21(21%)	42(21%)	
• Very much	19(19%)	21(21%)	40(20%)	
I worry that I will mess up duringthe game.				
• Not at all	25(25%)	35(35%)	60(30%)	0.238
• A little bit	38(38%)	35(35%)	73(36.5%)	
• Pretty much	22(22%)	13(13%)	35(17.5%)	
• Very much	15(15%)	17(17.0%)	32(16%)	

Concentration disruption				
It is hard to concentrate on the game				
• Not at all	40(40.0%)	51(51.0%)	91(45.5%)	<0.001**
• A little bit	47(47%)	35(35%)	82(41%)	
• Pretty much	9(9%)	10(10%)	19(9.5%)	
• Very much	4(4%)	4(4%)	8(4%)	
It is hard for me to focus on what I am supposed to do.				
• Not at all	29(29%)	44(44%)	73(36.5%)	
• A little bit	42(42%)	30(30%)	72(36%)	
• Pretty much	23(23%)	16(16%)	39(19.5%)	
• Very much	6(6%)	10(10%)	16(8%)	
I lose focus on the game.				
• Not at all	52(52%)	53(53%)	105(52.5%)	
• A little bit	31(31%)	36(36%)	67(33.5%)	
• Pretty much	11(11%)	10(10%)	21(10.5%)	
• Very much	6(6%)	1(1%)	7(3.5%)	
I cannot think clearly during the game				
• Not at all	50(50%)	41(41%)	91(45.5%)	
• A little bit	29(29%)	34(34%)	63(31.5%)	
• Pretty much	14(14%)	18(18%)	32(16%)	
• Very much	7(7%)	7(7%)	14(7%)	
I have a hard time focusing on what my coach tells me to do.				
• Not at all	40(40%)	56(56%)	96(48%)	
• A little bit	39(39%)	30(30%)	69(34.5%)	
• Pretty much	12(12%)	8(8%)	20(10%)	
• Very much	9(9%)	6(6%)	15(7.5%)	

Athletes' mental states before a performance or competition are outlined in Table 1. An athlete's performance may benefit greatly from mental toughness. Thirty percent of kids say that unsupportive adults (coaches or parents) are the main reason they no longer participate in sports. Some athletes have even claimed their coaches have yelled at them or called them derogatory names. Athletes also reported coaches who cheated and got into fights with parents, officials, and opposing coaches. Injured sportsmen have often reported feeling pushed to perform through the pain. Favoritism, a lack of effective teaching methods, and an emphasis on winning have all been highlighted as contributing factors to the high dropout rates in sports that have been related to the actions of coaches. Attrition rates are directly correlated with whether or not participants had a good or bad athletic experience. It's often held that becoming active and involved in sports can do wonders for one's moral compass, sportsmanship, and teamwork skills. An obvious first step in mitigating issues in kid sports is to address common concerns like sports-related injuries, high-pressure conditions, and unpleasant conduct on the part of parents and coaches. The chart shows that even when athletes are well-versed in nutrition and follow sound dietary habits, their pre-event nerves might hinder their performance. Consequently, in addition to appropriate nutrition, it is crucial to educate, motivate, and work on each athlete's psychological shortcomings on an individual basis in order to assist them triumph over their psychological fights.

Table 2: Perception on Physical Activity

Physical activity drains your energy and makes you weak				
• Pre	2.35±1.17	2.73±1.35	2.54±1.28	0.035*
• Post	4.20±0.40	4.95±0.22	4.58±0.50	<0.001**
• P value	<0.001**	<0.001**	<0.001**	
Anxiety reduces performance level of sports persons				
• Pre	3.87±1.05	3.78±1.23	3.83±1.14	0.578
• Post	4.56±0.62	4.99±0.10	4.78±0.50	<0.001**
• P value	<0.001**	<0.001**	<0.001**	

The following table illustrates how different people's perspectives on physical exercise and anxiety could impact their athletic abilities. Athletes reported feeling fatigued after exercise and having their performance hampered by anxiousness before a competition. The growth and development of strong bones, muscles, and joints is only one of the many benefits of regular physical exercise. Worrying about how you'll do before or during a tournament is counterproductive. While a certain amount of physical excitement is useful and necessary for competitive preparation. Extreme nervousness may havea detrimental effect on an athlete's performance.

Table 3: Knowledge on Protein

NUTRITION KNOWLEDGE	Game		Total	P value
	Basketball	Football		
Protein helps in building muscles in the body				
• Pre	4.30±1.01	4.21±1.12	4.26±1.07	0.552
• Post	4.85±0.36	4.80±0.45	4.83±0.41	0.386
• P value	<0.001**	<0.001**	<0.001**	
Too much protein in the diet puts added burden on kidneys				
• Pre	3.53±1.11	3.32±1.25	3.43±1.18	0.211
• Post	4.51±0.66	4.52±0.80	4.52±0.73	0.923
• P value	<0.001**	<0.001**	<0.001**	
Protein is required to support growth, build and repair muscles.				
• Pre	4.21±0.89	4.18±0.97	4.2±0.93	0.820
• Post	4.88±0.33	4.87±0.34	4.88±0.33	0.832
• P value	<0.001**	<0.001**	<0.001**	

Man-Whitney U. U test/Wilcoxon test for comparing two groups Group comparison using a sinned rank test Table 10 displays athletes' level of understanding of proteins. Energy and development depend on protein. Muscular strength is essential for athletic performance, because muscles are formed of proteins. Athletes seem to have a solid understanding of how crucial proteins are to their training and competition success.

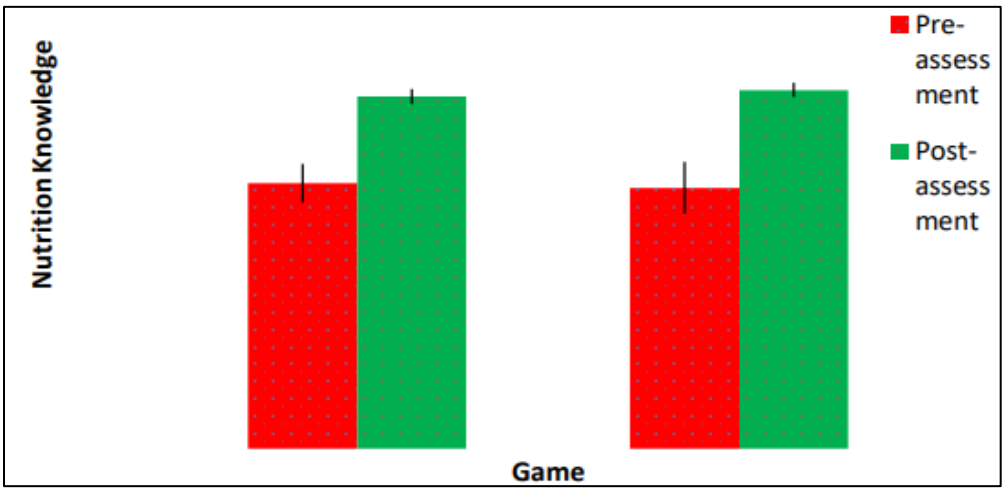
Table 4: Knowledge On Fats

NUTRITION KNOWLEDGE	Game		Total	P value
	Basketball	Football		
Fat is a nutrient, which provides energy				
• Pre	3.48±1.28	3.61±1.36	3.55±1.32	0.488
• Post	4.61±0.49	4.65±0.70	4.63±0.61	0.610
• P value	<0.001**	<0.001**	<0.001**	
Fats in the body stores energy and protects vital organs				
• Pre	3.52±1.02	3.62±1.19	3.57±1.11	0.524
• Post	4.74±0.52	4.65±0.69	4.7±0.61	0.299
• P value	<0.001**	<0.001**	<0.001**	
Fats provide essential fatty acidswhich our body uses as energy source				
• Pre	3.62±1.08	3.56±1.03	3.59±1.05	0.688
• Post	4.82±0.39	4.81±0.39	4.82±0.39	0.856
• P value	<0.001**	<0.001**	<0.001**	
Fatty foods slow digestion, which is not ideal for an athlete facing a competition.				
• Pre	3.83±1.05	3.80±1.09	3.82±1.07	0.844
• Post	4.83±0.38	4.71±0.64	4.77±0.53	0.108
• P value	<0.001**	<0.001**	<0.001**	

Knowledge of fats among athletes is seen in Table 4. Fats are oxidized to provide energy, and fat is the primary means through which the body stores excess energy. Fats are essential for optimal health, but only when consumed in moderation. In addition to providing energy, the inclusion of fatty acids in an athlete's diet may aid in the healthy growth of the brain and neurological system. Vitamins A, D, E, and K are among those that are better absorbed with the aid of fat.

Table 5: Influence of Nutrition Knowledge Program

Nutrition Knowledge	Game		Total	P value
	Basketball	Football		
Pre- assessment	178.99±13.03	176.00±17.37	177.50±15.39	0.170
Post-assessment	237.34±5.04	241.79±4.81	239.57±5.40	<0.001**



The respondent's pre- and post-test nutrition knowledge are summarized in Table 5. The three-month dietary regimen was followed by a post-test. The results of the nutrition intervention on the study population are summarized in the table below. Post-test p-values suggested that athletes had significantly increased their understanding of the connection between diet and performance. During competition, a variety of circumstances, some of which may be unrelated to the sport itself, may have an effect on an athlete's overall performance. Among athletes, insufficient total dietary energy consumption is by far the most prevalent nutritional issue.

Conclusion

Understanding the importance of diet in improving athletic performance is crucial. An athlete's performance in a competition may be affected by a wide variety of circumstances, each of which may have its own root cause. One of the most common issues in sports nutrition is an insufficient intake of dietary energy. This is often the result of a lack of nutrition education and/or bad eating habits. Carbohydrates, proteins, fats, vitamins, minerals, and water are the six macronutrients found in food, each of which plays a unique role in sustaining life. An athlete's peak performance depends on his awareness of the physiological, psychological, and emotional effects of competition on his body. The primary source of energy utilized to satisfy the labor demands of a specific sport will be determined by the length and intensity of the activity performed in that sport. Improved athletic performance may be attributed to a focus on good nutrition and diet.

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