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An Analysis of the Perception of Nutrition and Performance in Sports Persons

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Abstract *— In addition to ensuring proper growth and development, proper nutrition also contributes to young athletes' ability to perform well in their chosen sports. The main aim of the study is An Analysis of The Perception of Nutrition and Performance in Sports Persons. Training, practice, and "keeping in shape" are not enough to ensure a good and healthy sports performance. Adolescent athletes have specific dietary needs since they must fulfil the demands of both training for performance and growing into adulthood.*

Keywords *— Growth, Sports, Nutrition, Dietary, Training.*

I. INTRODUCTION

In addition to ensuring proper growth and development, proper nutrition also contributes to young athletes' ability to perform well in their chosen sports. Energy for development, activity, and performance must be supplied by a balanced diet of macronutrients, micronutrients, and fluids. In order to perform at their best, young athletes need to know what they should eat and drink before, during, and after their workouts. All kids are naturally talented athletes since they all like playing sports and activities. Children should be encouraged to participate in a school sport of their choosing. Children should be supported in their aspirations to play on intramural home teams and school teams. This would help promote global health and the development of a sport's persona. Despite their obvious gifts, many athletes struggle to reach their full potential because of physical issues linked to poor dietary habits and misconceptions.

Athletes should maximize their performance by participating in a sports nutrition program or learning about proper nutrition. Athletes may enhance their fitness and perform better in their chosen fields when parents and coaches collaborate for the benefit of the kid. Proper nourishment is crucial for physical development, mental clarity, and academic success. Athletes may maximize their training and recover more quickly with the help of sports nutrition, which also reduces tiredness and the likelihood of illness and injury. Maintaining an appropriate energy balance via proper nutrition is essential. Hydration is just as important for development and athletic performance as the macro and micro nutrients themselves.

1.1 Nutrition Knowledge, Attitude and Practice of College Sportsmen

When it comes to reaching one's full athletic potential, proper nutrition is crucial. The degree of physical performance is directly related to the individual's nutritional health. Therefore, the nutritional state of sports professionals is crucial to their physical fitness and training. Proper nutrition is a crucial adjunct to any exercise routine. Nutritionists and dietitians, as well as people, look to active supplement information primarily to help them eat better and, by extension, improve their health, fitness, and/or athletic performance. Any plan to improve one's physical health should include attention to one's diet. For

physically active people, getting enough nutrients to improve health and fitness or athletic performance is the primary dietary objective. This is crucial for fostering long-term healthy eating habits and boosting performance. The risky, short-cut mentality must be contrasted with a more acceptable strength and condition program and a well-balanced diet. Researchers discovered that trainers had a greater impact on teenagers' beliefs, subjective norms, and intentions related to supplement usage than parents did. Teenagers from low-income areas may be less well-informed about nutrition and sports supplements because of a lack of access to information and educational opportunities. Their research also showed that supplements knowledge might be greatly enhanced with a brief educational session. However, there is a dearth of research that evaluates male athletes' KAP regarding nutrition. This research set out to do two things: evaluate the nutritional knowledge of chosen athletes and compare their dietary composition and nutrient consumption to the recommended daily allowance (RDA).

II. LITERATURE REVIEW

Thapa, Madhu & Neupane (2023) Athletes' performance and health may benefit greatly from increased awareness of, and adherence to, good nutritional practices. The purpose of this research was to examine athletes' levels of understanding, beliefs, and dietary habits in relation to nutrition and diet. Methods From January to April of 2022, national athletes from two different clubs in the Kathmandu Metropolitan Area of Nepal participated in cross-sectional research. The information was collected via a questionnaire with several open-ended questions. The subjects' food habits and anthropometric data were gathered. Estimates of cOR and aOR, together with 95% CIs, were calculated using bivariate and multivariate binary logistic regression. Results There were a total of 270 participants (mean age: 25; male: female ratio: 50.0%). A little over half (54.1%, 146/270) of the athletes gave positive responses to questions on their nutrition knowledge, attitude, and habits. The average daily consumption of calories, carbohydrates, proteins, and fats was 35.0, 5.6, 0.9, and 0.9 kcal/kg/day, respectively. The average daily consumption of calcium was 370 mg, while the average daily intake of iron was 12.5 mg. Those who did not obtain a diet plan (aOR = 3.14; 95% CI = 1.25 to 7.84) and those whose monthly family income was less than 50,000 Nepalese rupees ($400) were more likely to have low nutrition knowledge in the multivariate model. Negative attitudes concerning nutrition were more common among players who did not read food labels (aOR = 1.44; 95% CI: 0.78 to 2.63). Players were more likely to have poor nutrition practices if they had never taken a nutrition class (aOR = 3.54; 95% CI: 1.46 to 8.54) or if they did not eat differently throughout the off season and the on season of sports (aOR = 2.36; 95% CI: 1.39 to 4.01). There was a sufficient level of nutritional knowledge, attitudes, and behaviors among half of the athletes. Athletes had less-than-ideal dietary consumption. Nutrition intervention programs are essential if Nepal's national athletes are to increase their nutritional knowledge, attitude, and practice in regards to their food consumption.

Finamore, Alberto & Benvenuti (2022) The world of amateur athletics is a murky one, seldom evaluated alongside the world of professional sports. The focus of this study was on examining gym-goers' supplement usage and NKS in relation to athletic performance. NKS was designed to be adequate at a level of 60% accurate responses. Almost half of respondents (46.4% to be exact) reported using some kind of dietary supplement, most often multivitamins (31.0%), amino acid tablets (29.5%), minerals (29.1%), and protein powders (28.2%). Muscle growth was aided by supplements (36.9%), and muscle damage was dealt with (35.1%). Males, in particular (84%), looked to personal trainers at their gyms for advice on supplement usage. Correct responses to the NKS questions averaged 57.1%, and 47.3% of respondents had a high enough NKS score to be considered competent. Males and those with the greatest levels of education (respectively, 61.5% and 44.5%) had the highest rates of getting the questions right. This research showed that amateur athletes lack the knowledge necessary to make informed nutritional choices, and that gym culture does little to disseminate accurate information about supplements' benefits. Since proper nutrition is so crucial for athletes, measures should be taken to improve the nutritional literacy of gym-goers and trainers.

Majumder, Sneha & Das (2022) After their triumph at the Asian Games, Indians have given Kabaddi a lot of

attention. Adolescent Kabaddi players have increased dietary needs due to their rapid development. To this end, researchers at the Sports Authority of India in Gandhinagar conducted a cross-sectional survey of 156 teenage Kabaddi players to identify the factors that influence their KAP towards sports nutrition. Knowledge, attitudes, and skills all averaged out to a 5 (standard deviation [SD] = 1.7), 5 (SD = 1.6), and 5.1 (SD = 1.5), respectively. Most athletes (76.3%) were given nutritional advice by their coaches. There was a strong relationship between knowledge and experience levels (P=0.004). When compared to male athletes and city dwellers, ladies and rural people exhibited superior nutrition knowledge and behavior. The attitude ratings were higher for older teenagers and those with a secondary education or above. In a multivariate analysis, mother's level of education was shown to be a significant predictor of both the knowledge and practice scores (P=0.01 and P=0.02, respectively). The results of the research highlight the significance of nutrition education for athletes, which would lead to improved health and performance.

Astuti, Widya (2020) One of the biggest issues is the widespread lack of nutritional understanding among Indonesian athletes and coaches. Therefore, it is essential to understand the impact of nutrition education on enhancing subject-specific knowledge, attitudes, and behaviors. The narrative review may be organized in a variety of ways. We used the phrases "education," "requirement," "nutrition status," "nutrition," and "athletes" to search for the article's original source on Google Scholar, Pubmed, and Elsevier. Coaches, authorities, and administrators may serve as a peer group of sorts, encouraging players to adopt balanced nutrition patterns in their everyday life, if they have the information, attitudes, and conduct to apply consumption patterns that can satisfy nutritional demands.

Thomas, D. & Burke (2016) The Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine all agree that proper nutrition is an important factor in both athletic performance and recovery. Food, drink, and supplement consumption suggestions from these groups have been shown to improve health and athletic performance across a wide range of training and competition conditions. Members of the Academy of Nutrition and Dietetics, Dietitians of Canada, the American College of Sports Medicine, and other professional organizations, as well as government agencies, businesses, and the general public, are the intended audience for this position paper. It lays forth the Academy's, DC's, and ACSM's position on developing trends in sports nutrition as well as dietary aspects that have been found to impact athletic performance. For a customized eating regimen, athletes should see a dietician or nutritionist. The Certified Specialist in Sports Dietetics (CSSD) is an accredited sports nutritionist who has a registered dietitian's license in the United States or a Canadian equivalent in both countries.

III. METHODOLOGY

Training, practice, and "keeping in shape" are not enough to ensure a good and healthy sports performance. In order to perform at one's best, an athlete's body need assistance in the form of food, water, and sleep. Any plan to improve one's physical health should include attention to one's diet. Adolescents' nutritional education has to be prioritized in the classroom if they are to achieve their full academic potential. In addition to keeping kids physically healthy, this motivates them to improve their athletic abilities.

Two hundred male cricket and volleyball players, ages 13 to 16, from a city school in Mumbai participated in the research.

IV. RESULTS

4.1 A COMPARATIVE OBSERVATIONAL STUDY

Table 1: Baseline Characteristics

Characteristic	Game		Total (N=200) %
	Volleyball (n=100) %	Cricket (n=100) %	
Age in years			
• <12.5	18	32	50(25%)
• 12.5-14.5	72	51	123(61.5%)
• >14.5 - 16	10	17	27(13.5%)

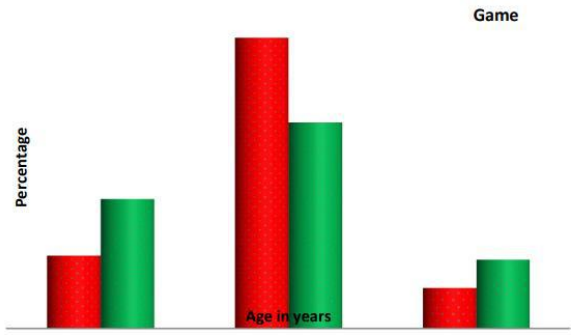

Fig.1

The research population's baseline characteristics are shown in Table 1. The research population included 100 volleyball players and 100 cricket players. Adolescent males, aged 12 to 16, made up the study's samples.

Table 2: Baseline Variables of The Study Population

Characteristics	Game		Total	P value
	Volleyball	Cricket		
Age in years	13.36±0.90	13.25±1.19	13.31±1.06	0.463
Height (cm)	5.29±0.46	5.01±1.02	5.15±0.80	0.013*
Weight (kg)	52.18±12.03	52.13±13.23	52.16±12.61	0.980
BMI (kg/m^2)	19.47±3.83	20.43±3.77	19.95±3.82	0.077+

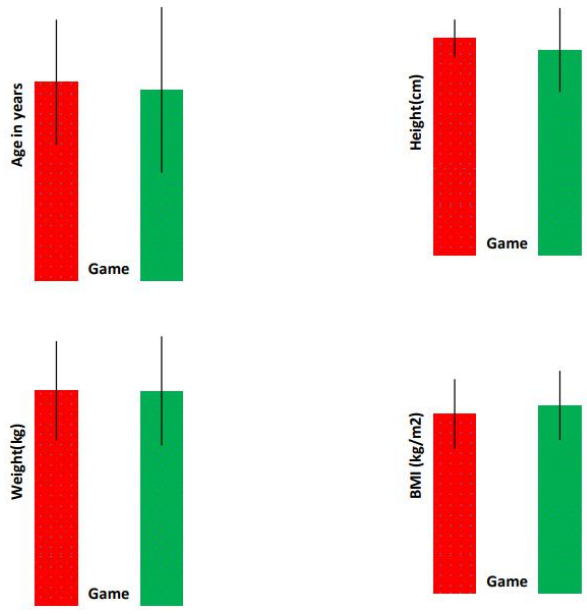

Fig.2

The study population's ages, heights, weights, and body mass indexes are shown in Table 2. Samples varied somewhat in age, height, weight, and body mass index (BMI), as shown, but these differences are not statistically significant. Volleyball players and cricket players have a noticeable height gap. One possible explanation is that the physical demands of playing volleyball make its players taller than the average person.

Table 3 Nutrition Practices

NUTRITION PRACTICE	Game		Total (n=200)	P value
	Volleyball (n=100)	Cricket (n=100)		
Regular consume breakfast consumption	76(76%)	81(81%)	157(78.5%)	0.389
Breakfast at home	78(78%)	82(82%)	160(80%)	0.480
Preference for home food	100(100%)	99(99%)	199(99.5%)	1.000
Snack consumption between meals	92(92%)	86(86%)	178(89%)	0.175
Milk consumption	90(90%)	89(89%)	179(89.5%)	0.818

Athletes' opinions on common dietary habits are summarized in Table 3. Adolescent athletes should take special care to ensure they are getting the nutrients they need to perform at their best. Because puberty is such a formative time for developing the body, it is essential that young athletes follow healthy eating habits (Rashtriya kishor swasthya karyakram-Resource book from ministry of health and a family welfare).

4.2 PERCEPTION ON NUTRITION AND PERFORMANCE

Adolescent athletes have unique dietary requirements due to their rapid growth and development, increased metabolic rate, and increased energy consumption. Due to their particular requirements, limited access to reputable information and nutrition specialists, and pervasive media and commercially-available disinformation, athletes face a heightened nutritional risk. Adolescents need to be taught the importance of good fuelling and recovery and given the autonomy to make decisions about what, when, and how they will eat and drink. The performance of an athlete might be negatively impacted by erroneous beliefs and practices around nutrition.

Athletes' pre-test dietary attitudes have been less than ideal. A closer look at Table 4 reveals that athletes have a skewed understanding of how diet affects their health and performance. It is clear that participants' food-related knowledge and attitudes have greatly improved as a result of the nutrition education program.

Table 4 Perception on Food

Nutritious food decreases your appetite				
• Pre	2.55±1.39	2.61±1.38	2.58±1.38	0.760
• Post	4.29±0.46	5.00±0.00	4.65±0.48	<0.001**
• P value	<0.001**	<0.001**	<0.001**	
The taste of food is more important than how healthy itis				
• Pre	1.95±1.23	2.29±1.49	2.12±1.37	0.080+
• Post	4.33±0.47	5.00±0.00	4.67±0.47	<0.001**
• P value	<0.001**	<0.001**	<0.001**	
Learning about food and nutrition issues is enjoyable				
• Pre	3.61±1.10	3.49±1.29	3.55±1.20	0.480
• Post	4.69±0.46	5.00±0.00	4.85±0.36	<0.001**
• P value	<0.001**	<0.001**	<0.001**	
One can become sick if theydo not eat balanced diet				
• Pre	3.87±1.06	3.82±1.32	3.85±1.2	0.768
• Post	4.72±0.45	4.98±0.14	4.85±0.36	<0.001**
• P value	<0.001**	<0.001**	<0.001**	

Table 5 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 table below illustrates how people's views on exercise and anxiety may have an impact on athletic performance. The athletes reported feeling physically weakened and mentally weakened during pre-test activities. 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. Although some degree of physical excitement is useful and serves as good practice for competition. An athlete's performance may be severely hindered if their anxiety levels are high.

This table displays athletes' opinions on the relationship between diet and performance. Even while athletes have sharp awareness during the pre-test period, they mistakenly believe that eating less makes them more physically prepared. An athlete's caloric deficit is offset by the calories he consumes while training. Reducing caloric intake and increasing physical exertion beyond the body's caloric reserves will both result in weariness. Therefore, pupils will be motivated to eat healthily and in quantities commensurate with their level of physical exertion.

Table 6 Perception on Nutrition and Performance

PERCEPTION ABOUT NUTRITION	Game		Total	P value
	Volleyball	Cricket		
Eating habits plays an important role sports performance				
• Pre	4.46±0.80	4.09±1.13	4.28±0.99	0.008**
• Post	4.88±0.33	4.81±0.39	4.85±0.36	0.173
• P value	<0.001**	<0.001**	<0.001**	
The quality of diet affects performance as an athlete.				
• Pre	4.17±1.07	3.87±1.24	4.02±1.16	0.068+
• Post	4.66±0.76	4.75±0.56	4.71±0.66	0.339
• P value	<0.001**	<0.001**	<0.001**	
Diet affects mental performance such as ability to remember things and reaction time.				
• Pre	4.17±1.07	3.50±1.29	3.84±1.23	<0.001**
• Post	4.73±0.63	4.88±0.33	4.81±0.51	0.037*
• P value	<0.001**	<0.001**	<0.001**	
Skipping meals can negatively affect athletic performance.				
• Pre	4.28±1.01	4.05±1.15	4.17±1.08	0.134
• Post	4.76±0.59	4.93±0.26	4.85±0.46	0.009**
• P value	<0.001**	<0.001**	<0.001**	
Having less food during competition will keep a sports person fitter and agile				
• Pre	2.91±1.29	2.96±1.33	2.94±1.3	0.787
• Post	4.67±0.47	4.30±0.96	4.49±0.78	0.001**
• P value	<0.001**	<0.001**	<0.001**	

Table 7 Nutrition Knowledge on Carbohydrates

NUTRITION KNOWLEDGE	Game		Total	P value
	Volleyball	Cricket		
Carbohydrates, Proteins, Vitamins, fats, minerals & water constitute a balanced diet				
• Pre	4.26±0.79	4.24±0.93	4.25±0.86	0.870
• Post	4.87±0.49	4.88±0.38	4.88±0.44	0.872
• P value	<0.001**	<0.001**	<0.001**	
Carbohydrates are mostly stored in muscles and liver				
• Pre	3.08±0.99	3.07±1.12	3.08±1.06	0.947
• Post	4.52±0.72	4.61±0.51	4.57±0.62	0.308
• P value	<0.001**	<0.001**	<0.001**	
Carbohydrates are the most fuel source for athletes				
• Pre	3.61±1.14	3.44±1.31	3.53±1.23	0.330
• Post	4.81±0.42	4.65±0.66	4.73±0.56	0.041*
• P value	<0.001**	<0.001**	<0.001**	
Fruits & vegetables provide carbohydrates				
• Pre	2.80±1.34	2.90±1.30	2.85±1.32	0.593
• Post	4.13±0.94	4.49±0.76	4.31±0.87	0.003**
• P value	<0.001**	<0.001**	<0.001**	

Based on the results of the pretest, it is clear that further education is needed on the significance of carbs (as shown in the table). There was a statistically significant increase in participants' carbohydrate knowledge after the nutrition education session. A

healthy diet typically has a carbohydrate content of 45–65 percent, a protein content of 10–30 percent, and a fat content of 25–35 percent. They are the energy source for exercise and athletic competition. Therefore, it is crucial to learn about these nutrients.

V. CONCLUSION

Adolescent athletes have specific dietary needs since they must fulfill the demands of both training for performance and growing into adulthood. It is clear that even when nourishment is supplied, it does not always match the athletes' needs for optimal performance and healthy development. This, in turn, hinders both their productivity and development. Fast food and junk food are often eaten in metropolitan schools because they are convenient and popular. Athletes often fail to appreciate the fact that eating may be both delicious and unhealthy. Their health and productivity may suffer as a result. Improved athletic performance may be attributed in large part to better diet. Athletes require a balanced diet that includes all the vitamins and minerals they need and enough protein to build and repair their muscles. The majority of one's diet should consist of carbohydrate-rich foods like cereals and breads made from whole grains. Athletes may improve their performance and avoid dehydration by drinking enough of water.

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