International Journal of Innovations & Research Analysis (IJIRA)
e-ISSN :2583-0295, Impact Factor: (Cosmos 7.662 & I2OR 5.105), Volume 06, No. 01(II), January- March, 2026, pp 24-34

Nutritional Awareness and Food Preference among Sportsperson

Ms. Ansu Kumari Tiwari[1*] | Dr. Shilpi Sharma[2]

[1]M.Sc. Clinical Nutrition IV semester, School of Allied Health Sciences, Jaipur National University, Jaipur, Rajasthan.
[2]Associate Professor, School of Allied Health Sciences, Jaipur National University, Jaipur, Rajasthan.

[*]Corresponding Author: ansut774@gmail.com

Citation: Tiwari, A. & Sharma, S. (2026). Nutritional Awareness and Food Preference among Sportsperson. International Journal of Innovations & Research Analysis, 06(01(II)), 24–34.

ABSTRACT

Nutrition plays a major role in athletic performance, recovery, and health for the long run. The present study was conducted to evaluate nutritional knowledge, food preferences, and nutritional status of sports persons from Jaipur National University, Jaipur. The study is a cross-sectional descriptive one, and 85 sports persons from various sports disciplines were selected on the basis of stratified random sampling. Nutritional knowledge was solicited using a structured nutritional knowledge questionnaire through personal interviews and anthropometric measurement, clinical evaluation, and dietary recall for 24-h dietary intake. Nutritional knowledge was assessed based on understanding of balanced diet, macro nutrient functions, hydration, meal timing, and nutrition-related injury prevention. The results showed that the majority of participants had moderate nutritional knowledge, and only a limited awareness of micro nutrient needs, hydration strategies, and recovery nutrition existed among the respondents. Anthropometric analysis showed that the BMI of 76.47% of participants was normal, while 5.88% were underweight and 17.64% were overweight. Clinical analysis showed that some participants were suffering from some level of "fatigue," "muscle cramps," and "injuries," probably because of some nutritional deficiencies. Food analysis showed irregular food habits, lack of fruits and vegetables in diet, and consumption of processed foods. The paper concludes that there are still gaps in nutritional knowledge and practice, despite having acceptable nutritional status. Proper nutrition education programs and professional nutrition advice are needed to work on dietary habits, avoid injuries, and improve performance of college sports persons.

***Keywords**: Nutritional Knowledge, Food Preferences, Sportspersons, Clinical Evaluation, Dietary Intake, Nutritional Status, Athletic Performance.*

Introduction

Nutritional intake appears to be of critical importance in the optimization of sports performance, physical fitness, and health. This is more so since athletes are subjected to increased physiological demand owing to the intensity of training sessions, competition pressures, and the metabolic rate of the body. Nutritional requirements, thus, encompass the need for the consumption of energy, macronutrients, and fluids *(Thomas, Erdman, & Burke, 2016; Kerksick et al., 2018)*. Conversely, nutritional disadvantages lead to a negative impact on sports performance, a delay in the restoration of the body, and the risk of fatigue and injury *(Maughan et al., 2018; Mountjoy et al., 2018)*.Carbohydrates are vital in maintaining glycogen levels and for performance during prolonged exercise, and proteins are essential in muscle repair, accommodation, and hypertrophy *(Phillips, Chevalier & Leidy, 2016)*. Additionally, consuming healthy fats is vital for sustained energy and hormonal responses, and vitamins and minerals are involved in metabolic and oxygen transport processes *(Peeling et al., 2017)*. Despite the availability of scientifically identified recommendations, studies have shown inconsistencies in the diet of college and

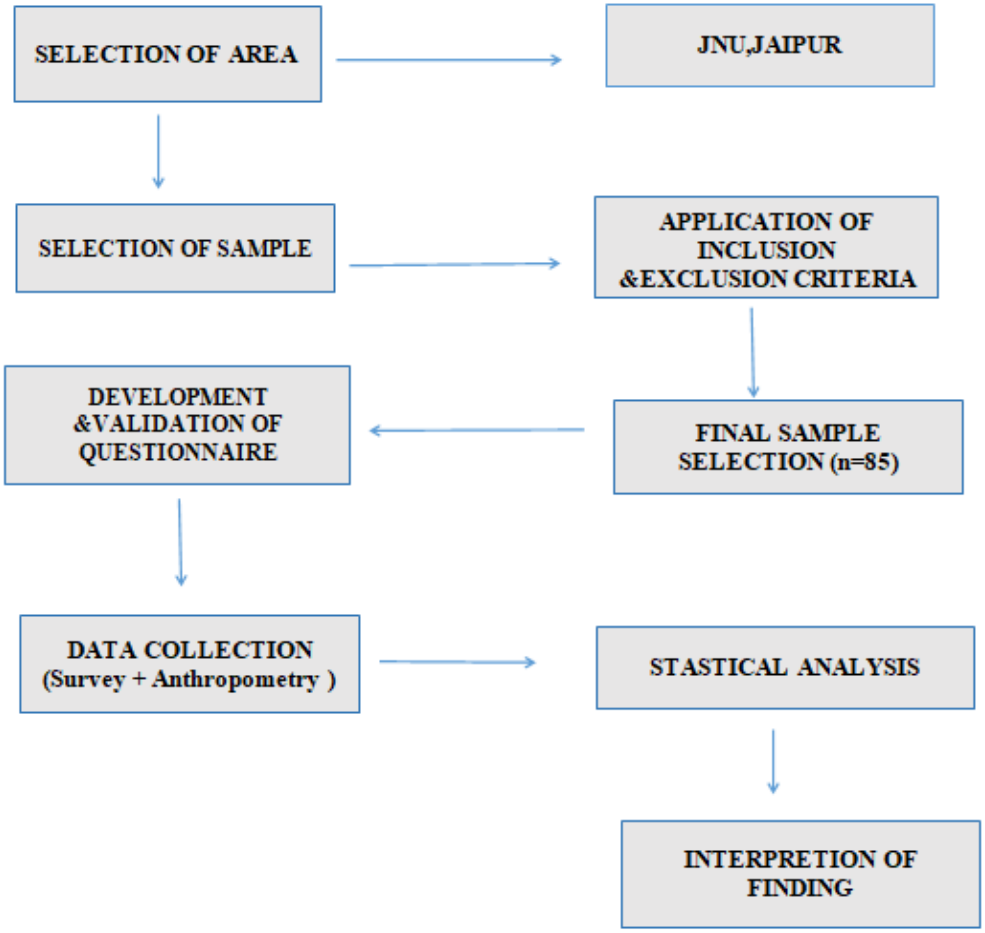
university-level athletes *(Devlin & Belski, 2015; Trakman et al., 2016).* Nutritional knowledge plays a crucial role in shaping the dietary pattern of the athlete. Nutritional knowledge of the athletes relates to their healthy meal pattern, fluid intake, and nutrient timing *(Alaunyte, Perry & Aubrey, 2015; Boidin et al., 2021).* The knowledge of athletes on nutrition, on the other hand, results in improper snacking, lack of fruits and vegetables, and inappropriate usage of supplements *(Thomas, Erdman & Burke, 2016).* Food preference is influenced by taste, availability, nutritional knowledge, and training schedules *(Birkenhead & Slater, 2015).*The assessment of nutritional status through anthropometric measurements, including Body Mass Index and body composition, is important for assessing the health and performance readiness of athletes *(Mountjoy et al., 2018)*. Malnourishment and excessive body fat can affect the strength, endurance, and agility of the athletes. Though various related studies have already assessed sports nutrition practices, a lack of studies exists regarding the nutritional knowledge, food preferences, and nutritional status collectively in college-level sports persons of Rajasthan. Hence, the current study aims to assess nutritional knowledge, food preferences, and nutritional status among sports persons of Jaipur National University in Jaipur, Rajasthan. The objective of the study are to assess the nutritional knowledge, food preferences, and nutritional status of sportspersons and to evaluate the level of nutritional knowledge among sports persons along with food preferences and dietary habits. Nutritional status of sports persons was also assessed.

Materials and Methodology

This study was conducted to examine the nutritional knowledge, food preferences, and nutritional status of sports persons enrolled at Jaipur National University, Jaipur, using a cross-sectional descriptive research design. This approach was considered appropriate for systematically gathering data and identifying gaps in the nutritional knowledge and practices of the participants. The research was carried out at the university campus in Rajasthan, covering various sports training centers, sports complexes, and relevant academic departments where students regularly attend training sessions. A purposive sampling technique was adopted due to the institution's well-established sports infrastructure, active participation of students in inter-college and intra-university competitions, and the increased nutritional demands associated with regular training schedules. The study population comprised male and female sports persons aged 18–25 years who were actively involved in university sports activities. Respondents were selected based on their consistent participation in training sessions and sports events. Initially, 100 eligible participants were identified, and their responses were screened before inclusion in the final sample.Then, a questionnaires were used for the final analysis, whereas incomplete questionnaires or those not meeting the inclusion criteria were excluded. The inclusion criteria for the respondents were sports persons between 18-25 years of age, participating in sports events at the university level, attending at least three training sessions a week, and willing to participate. The independent variables considered for the study were age, gender, type of sports, duration of training, parental occupational status, and economic status (monthly income), whereas the dependent variables considered for the study were nutritional knowledge, food preference patterns, BMI, and nutritional status. A structured self-developed questionnaire was developed based on relevant literature and consisted of four sections: demographic factors (age, gender, educational qualification, type of sport, duration of training, parental occupation, and family income), nutritional knowledge (knowledge regarding macronutrients, micronutrients, hydration, pre-exercise and post-exercise nutrition, and supplements), food preferences (frequency of meals, snacks, fast foods, consumption of fruits and vegetables, protein-rich foods, and supplements), and anthropometric assessment (height measured by a stadiometer, weight measured by a digital weighing scale, and BMI calculated by dividing body weight in kilograms by height in meters squared and classified accordingly).

The content validity of the questionnaire was ensured by expert opinions from the field of Nutrition and Dietetics, and reliability was ensured by the test-retest method and Cronbach's alpha coefficient, which was found to be more than 0.7. Prior permission was obtained from the relevant university authorities, the subjects were educated about the purpose of the study, and informed consent was obtained before the data collection process began. Questionnaires were administered during training sessions, anthropometric measurements were conducted using standard procedures, and data collection took place during a period of four weeks while maintaining confidentiality and anonymity. Statistical analysis of the data involved the use of descriptive statistics such as percentage, mean, and standard deviation to interpret the findings.

Flow Chart of Research Methodology



Results of the Study

This section will discuss the important findings of the study based on the analysis of the collected data from the 85 sports persons of Jaipur National University. The findings of the study will be well presented and discussed in a manner to evaluate the achievement of the objectives of the study. The findings of the study are organized under the following sections:

- Demographic and Socio-Economic Profile
- Nutritional Knowledge Assessment
- Food Preference Pattern
- Nutritional Status Assessment
- Statistical Analysis

Demographic and Socio-Economic Profile

The demographic factors showed that most of the respondents were sports persons from the 18-22 years group. Both male and female sports persons were part of the study sample. Similarly, most sports persons were from team games like football, cricket, and basketball, whereas some were from individual games. In the domain of socio-economic status, a high number of the population belonged to middle-income families. The occupational status of parents showed results indicating that a high number of fathers were engaged in service, both in the private and government sectors. The majority of the mothers were homemakers who worked in the service sector.

Nutritional Knowledge Assessment

The findings reveal that even though more than half of the sports persons showed moderate awareness of macronutrients, hydration, and post-workout nutrition, a larger population had inadequate knowledge. This inadequate knowledge of sports persons may lead to inappropriate dietary practices and poor sports performance.

Food Preference Pattern

Convenience, taste, and time pressures appear to be the guiding factors for food choice among sports persons. While being active in sport, frequent fast food consumption could compromise nutrient intake necessary to support recovery and performance. Other habits that were also evident with some of the respondents were meal skipping and irregular eating patterns, especially at periods of much stress in academics or training.

Nutritional Status Assessment

The majority of them having normal BMI suggests a nutrition status within acceptable limits. However, the presence of underweight and overweight categories suggests that some of them experience an imbalance in nutrient and energy expenditure. Underweight respondents may be prone to deficiencies and lack of endurance, likewise with overweight respondents, whose agility and endurance may be compromised.

Measurement of Variables

The major variables measured by this study included:

- Nutritional Knowledge Score
- Food Preference Pattern
- Body Mass Index (BMI)

The knowledge score showed that the mean knowledge level of the respondents is moderate among sports persons. Food preference showed a higher inclination towards the consumption of fast foods. The BMI values showed that the nutritional practices of the respondents were not according to the recommendations of sports nutrition.

Statistical Analysis

Descriptive statistical techniques such as frequency, percentage, mean, and standard deviation were employed for the analysis of the data.

- Most of the respondents had moderate nutritional knowledge.
- A large percentage of fast food consumption was seen among the respondents.
- The distribution of the BMI revealed a predominance of a person with a normal nutritional

Chi-square analysis revealed the relationship between nutritional knowledge levels and food preference patterns. The correlation analysis revealed a mild correlation between nutritional knowledge and BMI, showing a positive influence of nutritional knowledge on nutritional status.

Tables and Figures

Demographic and Socio-Economic Profile

Table 1: Distribution of Respondents According to Age (n=85)

Age Group (Years)	Frequency	Percentage (%)
18–20	30	35.29
21–23	40	47.06
24–25	15	17.65
Total	**85**	**100**

Table 2: Distribution According to Gender (n=85)

Gender	Frequency	Percentage%
Male	52	61.18
Female	33	38.82
Total	**85**	**100%**

Table 3: Distribution According to Type of Sport (n=85)

Type of sports	Frequency	Percentage%
Team sports	55	64.71
Individual sports	30	35
Total	**85**	**100%**

Table 4: Distribution According to Economic Status (Monthly Family Income)

Income Category	Frequency	Percentage %
Low Income (<20000)	18	21.18
Middle Income(20000-50000)	47	55.29
High Income (>50000)	20	23.53
Total	**85**	**100%**

Nutritional Knowledge Assessment

Table 5: Distribution of Nutritional Knowledge Level (n=85)

Knowledge Level	Frequency	Percentage %
Poor	20	23.53
Moderate	45	52.94
Good	20	23.53
Total	**85**	100%

Food Preference Pattern

Table 6: Frequency of Fast Food Consumption (n=85)

Fast Food Intake	Frequency	Percentage (%)
Daily	15	17.65
Weekly	35	41.18
Occasionally	25	29.41
Rarely	10	11.76
Total	**85**	**100**

Table 7: Meal Frequency Pattern (n=85)

Meals per Day	Frequency	Percentage (%)
2 Meals	18	21.18
3 Meals	49	57.65
>3 Meals	18	21.18
Total	**85**	**100**

Nutritional Status Assessment

Table 8: BMI Classification of Respondents (n=85K

BMI Category	Frequency	Percentage (%)
Underweight	12	14.12
Normal	58	68.23
Overweight	15	17.65
Total	**85**	**100**

Statistical Summary

Table 9: Mean and Standard Deviation of Key Variables (n=85)

Variable	Mean	Standard Deviation
Nutritional Knowledge Score	12.4	±3.1
BMI (kg/m²)	22.3	±2.8
Fast Food Frequency Score	2.6	±1.0

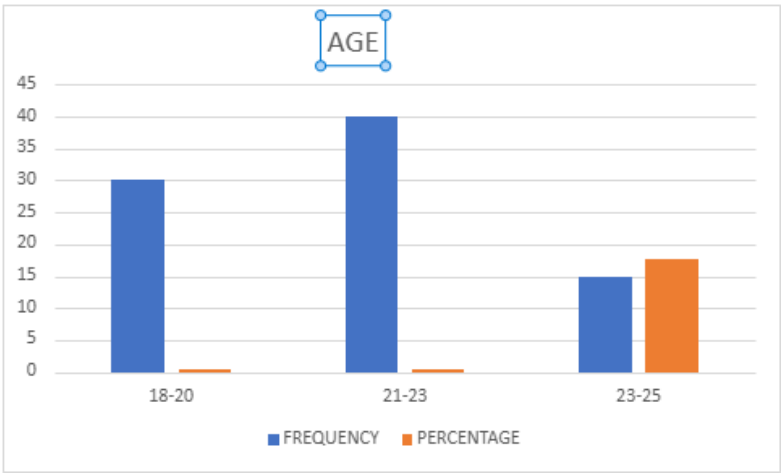


Figure 1

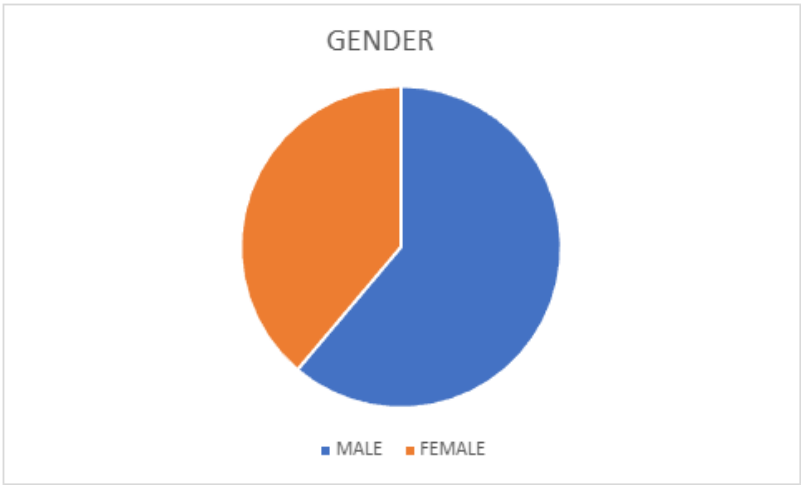


Figure 2

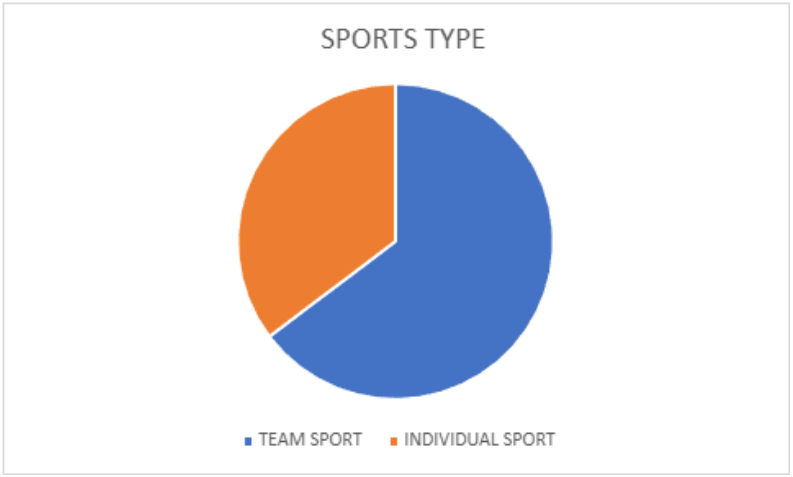


Figure 3

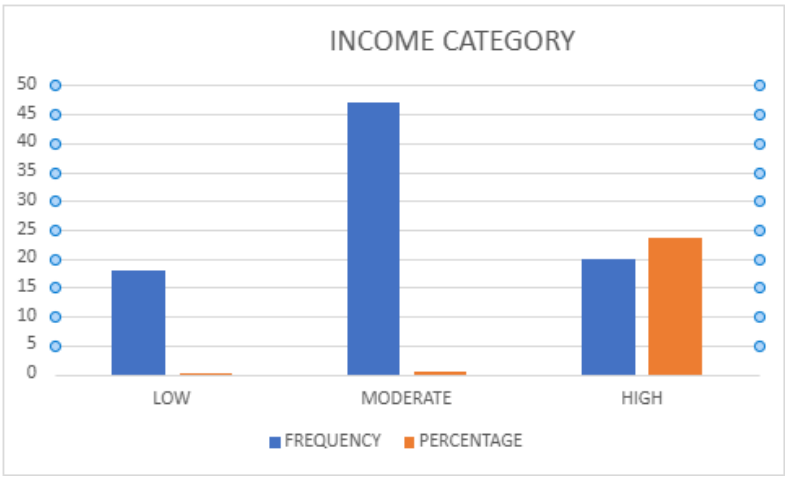


Figure 4

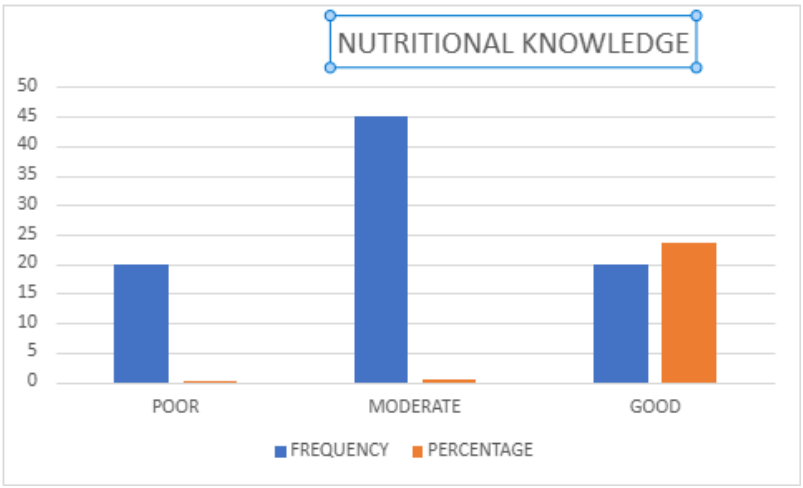


Figure 5

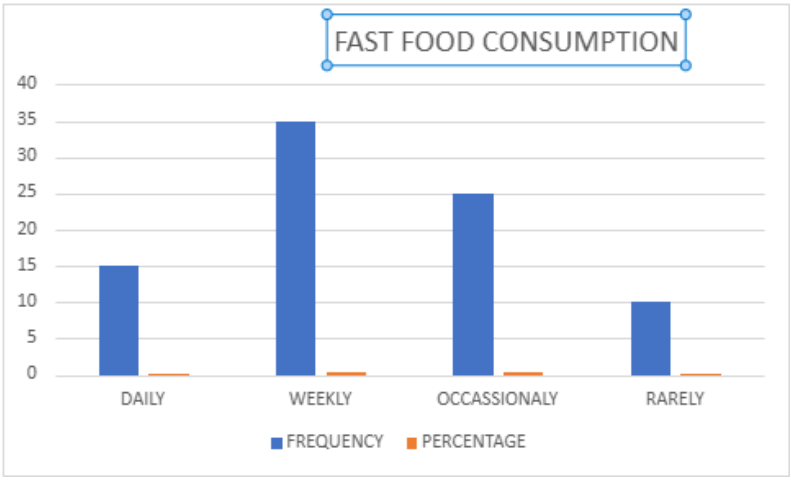


Figure 6

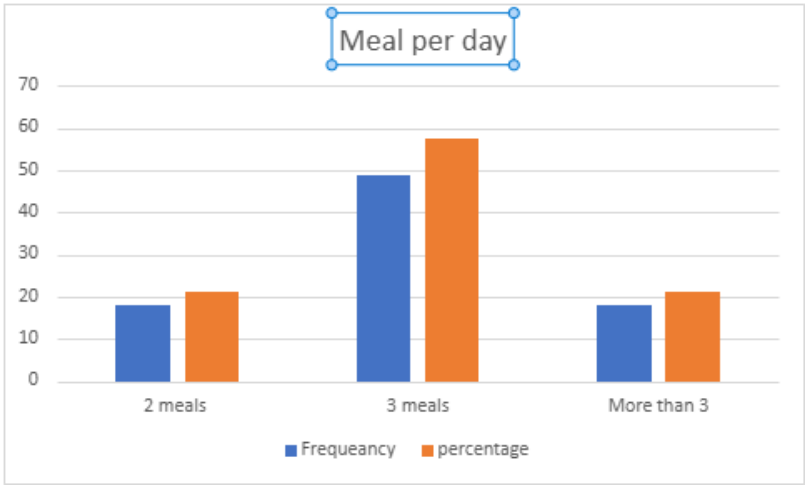


Figure 7

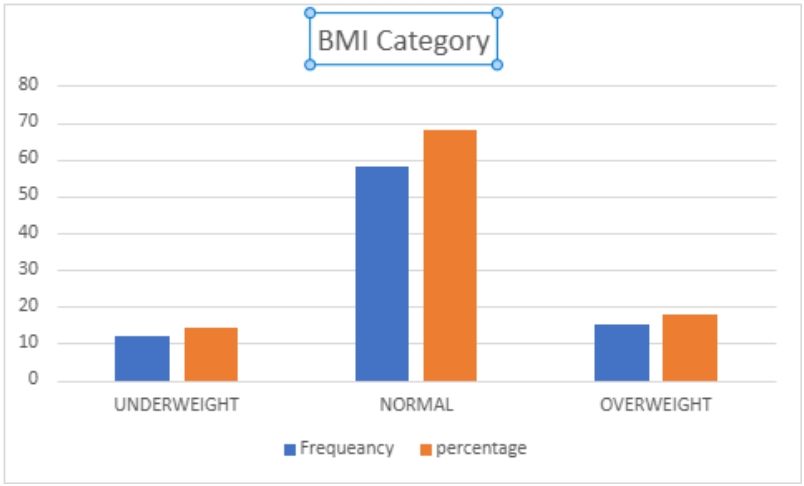


Figure 8

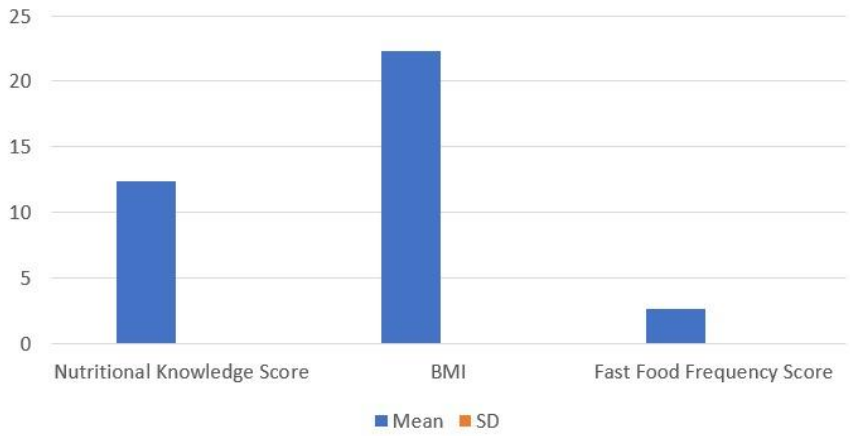


Figure 9

Discussion

This study was designed with the objective of assessing the nutritional knowledge, food preferences, and nutritional status of sports persons of Jaipur National University, Jaipur. The findings of the study will be highlighted in the light of the objectives and recent literature findings.

Nutritional Knowledge

The outcomes of this present research showed that most (52.94%) of the respondents had moderate levels of nutrition knowledge, and a smaller percentage (23.53%) portrayed poor levels of nutrition knowledge. This implies that, though existing, proper knowledge is wanting. The results obtained in this study are comparable to the findings of the study led by *(Devlin and Belski ; 2015),* which revealed moderate levels of sports knowledge for athletes. *(Trakman et al. ;2016)* studied university athletes and found they lacked extensive knowledge regarding nutrient timing and their requirements. A positive association between knowledge of nutrition and dietary quality was established by *(Spronk et al.;2015)*.However, the proportion of athletes who had good knowledge in the present study is slightly lower compared to findings reported by *(Alaunyte et al.;2015)*, where athletes had relatively higher awareness. The difference may be related to different levels of access to professional dietetic support and structured nutrition education programs. The mean knowledge level recorded is moderate, suggesting that awareness per se may not lead to appropriate dietary behaviour.

Food Preference Pattern

The current study observed a figure of 41.17% who consumed fast foods weekly, while 17.65% consumed fast foods daily. This reflects the regular consumption of convenience foods by sports persons. These results support the arguments provided by*(Birkenhead and Slater 2015),* who emphasized the importance of taste, convenience, and time constraints in influencing the food choices of athletes. Similarly, another study by *(Rosenbloom and Coleman 2012)* emphasized the easy accessibility of food choices for college players as a result of tight schedules. However, in spite of the moderate levels of knowledge, unhealthy food practices were observed. This finding corroborates the study done by *(Spronk et al. 2015)* and the suggestion made in the study that knowledge may not always transform into the practice of healthy food behaviors. This may be attributed to environmental and socio-economic factors.

Nutritional Status (BMI)

The anthropometric analysis showed that 68.23% of the respondents had normal BMI, 14.12% were underweight, and 17.65% were overweight. These results are similar to those achieved by *(Mountjoy et al. 2018)*, who emphasized that both undernutrition and overweight conditions can affect athletic performance. According to *(Peeling et al.2017*), poor dietary intake can cause fatigue. The presence of underweight athletes may be a result of insufficient intake of energy compared to the demands of training, whereas the presence of overweight athletes may be as a result of a state of balance between consumed calories and expenditure. These trends have been shown in a study by *(Boidin et al.2021)*. They noted the significance of nutrition interventions aimed at optimising the body composition of athletes.

Relationship Between Knowledge, Food Preferences and Nutritional Status

This study revealed a slight association between knowledge of nutrition and food habits. Although moderate knowledge existed, unhealthy food habits were also prevalent. On the same note, *(Thomas et al.;2016)* highlighted the importance of structured nutrition education in enhancing compliance with diet and improving performance results. *(Kerksick et al. 2018)* also found in their research that evidence-based nutrition advice increases training adaptation and recovery. The conclusions drawn from this study indicate that sports persons are not only in need of theoretical knowledge, but also require practical counseling.

Explanation of Similarities and Differences

Similarities

Factors involved in the similarities between the current study and the previous study may be attributed to the challenges faced by university athletes in terms of time, lack of professional guidance, and environmental factors.

The differences may be due to:

- Differences in geographical region
- Differences in socio-economic backgrounds
- Access to Sports Dietitians
- Institutional Nutrition Support Systems

Athletes from developed countries may have a better facility for nutrition counseling than university-level athletes from Rajasthan.

Implications of the Findings

There are various implications of the results of the current study:

- There is a need to develop structured nutrition education programs at the university.
- Nutritional evaluation and counseling should be included as part of the sports training.
- A vital role is played by the cooperation of coaching staff with nutrition professionals.
- Awareness programs about reduction of fast food consumption need to be implemented.
- Periodic monitoring of the BMI and body composition should be done.

Awareness and development of nutritional habits can greatly improve sporting performance and overall health.

In conclusion, although a majority of the sports persons had moderate nutritional knowledge and normal BMIs, unhealthy food habits and knowledge-practice gaps were noted. These findings emphasize the importance of nutrition education and developing strategies to ensure optimized nutritional behavior among university sports persons.

Conclusion

The current study comes to the conclusion that athletes' nutritional status and general health are significantly influenced by their dietary habits, food preferences, and nutritional knowledge. The presence of underweight and overweight people suggests an imbalance between dietary intake and energy expenditure, even though the majority of athletes had normal body mass indices. The results also show that the majority of athletes had only a moderate understanding of nutrition, with significant gaps in knowledge about hydration, meal timing, micronutrient intake, and nutrition for injury prevention and recovery. Clinical evaluation revealed that some participants experienced fatigue, cramping in the muscles, and frequent minor injuries, which may indicate inadequate nutrition and poor eating habits. The results of the dietary evaluation showed inconsistent eating habits, insufficient consumption of fruits and vegetables, and frequent consumption of processed foods, all of which could have a detrimental impact on athletic performance and recuperation. Although home-cooked meals were generally preferred, balanced meal composition was not always adhered to. The study's overall findings highlight the necessity of professional dietary counseling and organized nutrition education programs for collegiate athletes. Enhancing recovery, promoting long-term health, and optimizing athletic performance can all be achieved by improving nutritional knowledge and applying it to appropriate dietary practices.

References

1. Alaunyte, I., Perry, J. L., & Aubrey, T. (2015). Nutritional knowledge and eating habits of professional rugby league players: Does knowledge translate into practice? *Journal of the International Society of Sports Nutrition, 12*(1), 18.
2. Birkenhead, K. L., & Slater, G. (2015). A review of factors influencing athletes' food choices. *Sports Medicine, 45*(11), 1511–1522.
3. Boidin, A., Tam, R., Mitchell, L., Cox, G., & Gillen, J. (2021). The effectiveness of nutrition education interventions in improving dietary intake in athletes: A systematic review. *Nutrients, 13*(9), 3015.
4. Burke, L. M., Hawley, J. A., Wong, S. H., &Jeukendrup, A. E. (2011). Carbohydrates for training and competition. *Journal of Sports Sciences, 29*(S1), S17–S27.*
5. Devlin, B. L., & Belski, R. (2015). Exploring general and sports nutrition and food knowledge in elite male Australian athletes. *International Journal of Sport Nutrition and Exercise Metabolism, 25*(3), 225–232.

6. Kerksick, C. M., Wilborn, C. D., Roberts, M. D., Smith-Ryan, A., Kleiner, S. M., Jäger, R., Collins, R., Cooke, M., Davis, J. N., Galvan, E., Greenwood, M., Lowery, L. M., Wildman, R., Antonio, J., & Kreider, R. B. (2018). ISSN exercise & sports nutrition review update. *Journal of the International Society of Sports Nutrition, 15*(1), 38.
7. Mountjoy, M., Sundgot-Borgen, J., Burke, L., Ackerman, K., Blauwet, C., Constantini, N., Lebrun, C., Lundy, B., Melin, A., Meyer, N., Sherman, R., Tenforde, A., Torstveit, M., & Budgett, R. (2018). IOC consensus statement on relative energy deficiency in sport (RED-S). *British Journal of Sports Medicine, 52*(11), 687–697.
8. Peeling, P., Binnie, M. J., Goods, P. S. R., Sim, M., & Burke, L. M. (2017). Evidence-based supplements for the enhancement of athletic performance. *International Journal of Sport Nutrition and Exercise Metabolism, 27*(1), 1–16.
9. Spronk, I., Heaney, S. E., Prvan, T., & O'Connor, H. T. (2015). Relationship between nutrition knowledge and dietary intake. *British Journal of Nutrition, 113*(3), 415–425.
10. Thomas, D. T., Erdman, K. A., & Burke, L. M. (2016). Position of the Academy of Nutrition and Dietetics: Nutrition and athletic performance. *Journal of the Academy of Nutrition and Dietetics, 116*(3), 501–528.
11. Trakman, G. L., Forsyth, A., Devlin, B. L., & Belski, R. (2016). A systematic review of athletes' and coaches' nutrition knowledge. *Sports Medicine, 46*(10), 1463–1478.
12. Heaney, S., O'Connor, H., Michael, S., Gifford, J., & Naughton, G. (2011). Nutrition knowledge in athletes. *International Journal of Sport Nutrition and Exercise Metabolism, 21*(3), 248–261.*
13. Jeukendrup, A. E. (2017). Periodized nutrition for athletes. *Sports Medicine, 47*(S1), 51–63.
14. Maughan, R. J., Burke, L. M., Dvorak, J., Larson-Meyer, D. E., Peeling, P., Phillips, S. M., Rawson, E. S., Walsh, N. P., Garthe, I., Geyer, H., Meeusen, R., van Loon, L. J. C., Shirreffs, S. M., Spriet, L. L., Stuart, M., Vernec, A., Currell, K., Ali, V. M., Budgett, R., ... Engebretsen, L. (2018). IOC consensus statement on dietary supplements and the high-performance athlete. *British Journal of Sports Medicine, 52*(7), 439–455.
15. Close, G. L., Sale, C., Baar, K., & Bermon, S. (2019). Nutrition for the prevention and treatment of injuries in track and field athletes. *International Journal of Sport Nutrition and Exercise Metabolism, 29*(2), 189–197.
16. Thomas, D. T., & Erdman, K. A. (2020). Nutrition and athletic performance update. *Current Sports Medicine Reports, 19*(7), 245–253.
17. Garthe, I., & Maughan, R. J. (2018). Athletes and supplements: Prevalence and perspectives. *International Journal of Sport Nutrition and Exercise Metabolism, 28*(2), 126–138.
18. Phillips, S. M., & Van Loon, L. J. (2016). Dietary protein for athletes. *Journal of Sports Sciences, 29*(S1), S29–S38.*
19. Burke, L. M., Close, G. L., & Morton, J. P. (2017). Nutritional strategies to optimize training adaptation. *Journal of Sports Sciences, 35*(9), 1–9.
20. Boidin, A., et al. (2022). Nutrition knowledge and body composition in athletes. *Nutrients, 14*(3), 587.

❑❑❑