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A COMPARISON OF NUTRITIONAL KNOWLEDGE AND DIETARY HABITS OF UNDER 15 AND 17 BADMINTON PLAYERS OF SELECTED SCHOOLS IN SOUTHERN AND WESTERN PROVINCE

J. A. S. D. Bandara[1*] and W. E. Iroshani[2]
[1,2]Institute of Technology University of Moratuwa, Sri Lanka
shalinid@itum.mrt.ac.lk[1*], iroshanie@itum.mrt.ac.lk[2]

ABSTRACT: This study investigated nutritional knowledge and dietary habits among under-15 and under-17 badminton players in Sri Lanka's Southern and Western provinces, examining the relationship between nutritional understanding and eating practices, while also exploring gender-based differences. The research involved 40 badminton players who completed a comprehensive questionnaire, approved by Institutional Review Board (IRB) of California University of Pennsylvania covering demographics, dietary habits, and nutritional knowledge. Results revealed that parents (45%) and schools (30%) were the primary sources of nutritional information, with coaches playing a minimal role (12.5%). Statistical analysis using SPSS showed a weak negative correlation ($r = -0.040$, $p > 0.05$) between dietary habits and nutritional knowledge, indicating no significant relationship. Western Province players demonstrated higher levels of good nutritional knowledge (85%) compared to Southern Province athletes (70%). Similarly, Western Province athletes exhibited better dietary habits, with 90% showing good practices, while 60% of Southern Province players maintained fair dietary habits. Gender analysis revealed that dietary patterns were similar between males and females, though male athletes showed slightly higher nutritional knowledge (85%) compared to females (70%). The study recommends enhancing parental and school involvement in nutrition education, encouraging greater coach participation in dietary guidance. Future research should consider using larger sample sizes and examine socioeconomic factors to better understand the influences on young athletes' dietary practices, as the current findings indicate a disconnect between nutritional knowledge and practical application.

Keywords: athletes, badminton, habits, knowledge, nutrition

1. INTRODUCTION

Badminton is a fast-paced racket sport requiring a unique blend of technical skill, sport-specific fitness, and tactical awareness. It can be played in singles or doubles, but at competitive levels, athletes need high aerobic endurance, strength, and agility. The sport's intensity, combined with short intervals between multiple matches and prolonged durations, highlights the need for proper nutrition to sustain peak performance. Nutrition directly impacts energy levels, recovery, and overall health, all of which are critical for athletes (Grandjean, 1997). Research shows that a well-balanced diet, particularly one rich in carbohydrates and essential nutrients optimizes athletic performance, especially in sports with sustained energy demands (Van Erp-Baartl, 2007; Spronk, 2014). Conversely, poor dietary habits, like high-fat or low-nutrient food intake, can impair performance by increasing fatigue and limiting movement (Hale, 2013). This need for proper nutrition is even greater for young athletes managing both growth and athletic development.

Understanding nutritional practices is essential for athletes and those who guide them coaches, trainers, and guardians as their dietary guidance can significantly impact young athletes' health and performance (Rockwell, Richedson, & Thye, 2003). Knowledge of nutrition has a direct effect on dietary practices, yet studies suggest that inadequate understanding may lead to suboptimal eating habits that impede performance and recovery (Susan, 2011). For youth athletes especially, forming good dietary habits is critical, as they are not only striving to perform but are also establishing lifelong nutrition practices.

Moreover, gender-specific nutritional needs and knowledge levels may affect athletes' dietary choices, which can influence their performance (Azizi, 2011; Rezaee & Azizi, 1992). Recognizing these gender-based differences is essential to develop tailored nutritional support that meets the distinct needs of both male and female athletes. Additionally, cultural and regional factors play a role in shaping athletes' access to nutritional information and their capacity to practice healthy dietary habits.

This study compares the nutritional knowledge and dietary habits of under-15 and under-17 badminton players from selected schools in Sri Lanka's Southern and Western provinces. It examines how dietary habits relate to nutritional knowledge, explores gender-based differences, and identifies primary sources of nutritional information. The research also assesses regional variations between the two provinces.

Findings from this study will determine whether young athletes' nutritional understanding translates into practices that support athletic performance. The results aim to guide targeted nutrition education interventions, addressing any gaps between knowledge and practice. Insights gained will help design age-appropriate, region-specific, and gender-sensitive nutrition programs, benefiting coaches, schools, and parents in supporting young athletes' dietary needs and athletic development.

2. METHODOLOGY

This research was designed using a cross-sectional survey method. The sample consisted of 40 players, under 15 and 17, selected from schools in the Southern and Western provinces. Data was collected through a standard questionnaire approved by the Institutional Review Board (IRB) of California University of Pennsylvania. The questionnaire, administered to badminton players from the selected schools, was divided into three sections: demographics, dietary habits, and nutritional knowledge.

The demographic section required students to answer questions about gender, age, and grade in School, sport, height and weight. The dietary habits section, consisting of 18 questions, inquired into how often they consumed specific food items. This section included questions about the frequency of consumption of foods from each portion of the food pyramid, as well as consumption of beverages, and vitamin and mineral supplements, and practices such as dieting and skipping meals. The nutritional knowledge section aimed to assess each athlete's level of knowledge about nutrition and included 29 questions where students indicated the extent to which they agreed with the given statements which were designed to gather data on.

The data analyzed from SPSS software, employing both descriptive statistics and the Pearson correlation coefficient to examine relationships between variables. Descriptive statistics provide a summary of the data, including measures with relevant percentages and frequencies. Graphical representations, including diagrams, charts, and graphs, are used to visually present the data, making it easier to identify patterns and trends. The results are comprehensively presented using these methods, ensuring a clear and detailed interpretation of the data.

3. RESULTS AND DISCUSSION

Analysis was started by obtaining the descriptive statistics of the sources from which badminton players obtain nutritional knowledge, as summarized in Table 1.

Table 1. Sources of Nutritional Information

Information source	Frequency	Percentages (%)
Coach	5	10.42
News Paper	1	2.08
TV	1	2.08
Parents	18	37.5
School	12	25.0
Nutritional course	8	16.67
Other	3	6.25

According to Table 1, most players relied on their parents (37.5%) and school (25.0%) for nutrition guidance. Only 10.42% of players sought information from their athletic coach. Additionally, 6.25% of players turned to other sources, such as doctors or nutritionists, for nutritional advice. Both

television and newspapers accounted for only 2.08% each, indicating that players are not heavily relying on these media for nutritional knowledge.

According to Fig. 1, when comparing sources of knowledge of Southern and Western province players, Southern province players gather more nutrition knowledge (50%) from parents than Western province players (40%). However, it is evident that western province players (35%) gather more knowledge related to nutrition from school than southern province players (25%). In southern province, 20% of athletes gather nutrition knowledge from coach while 5% of western province gather knowledge from coach. Although a small fraction of western province players gathers information from doctors and nutritionists, 0% of southern province players seek guidance from them.

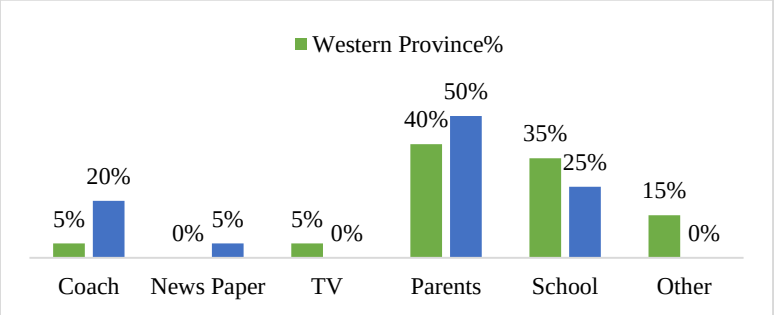

Fig. 1. Comparison of knowledge sources of player from southern and western

It is essential for players to have a solid understanding of nutritional knowledge, as this can greatly influence their habits and overall nutrition. In order to gather information on students' nutritional knowledge and dietary habits several questions were designed, and a mark was awarded for each answer. Scores were calculated according to their responses and classified into the following categories: Excellent (85-100%), Good (70-84%), Fair (55-69%), and Poor (54% or lower). The nutritional knowledge scores of the players from each provinces were compared, and the results are presented in Fig. 2.

When comparing the nutritional knowledge score between provinces, many students demonstrated a good level of understanding. Specifically, 85% of players from the Western Province achieved a 'Good' level of nutritional knowledge, compared to 70% of players from the Southern Province. Additionally, 30% of players from the Western Province and 15% from the Southern Province were classified as having 'Fair' nutritional knowledge. Overall, the majority of players from both provinces possess an adequate level of nutritional knowledge. Notably, no players from either province reached 'Excellent' or 'Poor' knowledge levels. Province-wise dietary habit scores were compared, and the results are illustrated in Fig. 3.

Considering southern province players, 60% of them have got fair dietary habits and 40% show good dietary habits. No players from either province reported having excellent or poor dietary habits. Then the relationship between nutritional knowledge and dietary habits were statistically analyses using Pearson's correlation. Results are shown in Table 2. Table 2 shows the relationship between nutritional knowledge and dietary habits of players. Pearson Correlation value was -0.040 indicating a weak negative correlation between dietary habits and nutritional knowledge. However, the p value indicates that there is no significant relationship between nutritional knowledge and dietary habits, as p-value >0.05. Table 3 and 4 below illustrate gender based dietary habits and nutritional knowledge among players.

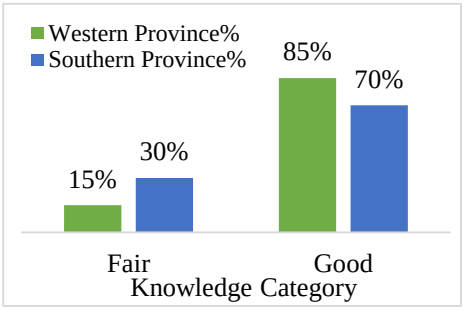

Fig. 2. Comparison of nutrition knowledge between the provinces

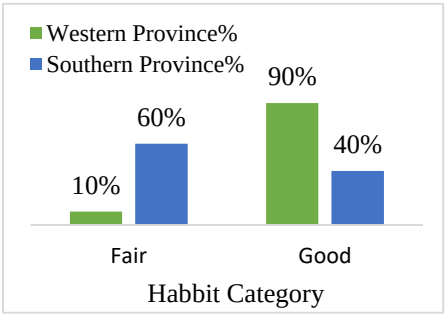

Fig. 3. Comparison of Dietary habits

Table 2. Pearson Correlation between Total Dietary Habits and Nutritional Knowledge Scores

Variable		Dietary Habits	Nutritional Knowledge
Dietary Habits	Pearson Correlation (r)	1	-.040
	Sig. (2-tailed) (p-value)		.804

Table 3. Difference of Dietary Habits according to Gender

Habit category	**Gender**		**Total**
	Female	**Male**	
Fair (% within gender)	6 (30%)	8 (40%)	14 (35%)
Good (% within gender)	14 (70%)	12 (60%)	26 (65%)
Total (% within gender)	20 (100%)	20 (100%)	40 (100%)

As depicted in Table 3, irrespective of gender, both male and female players exhibit good dietary habits, with 65% of players (70% of females and 60% of males) falling into the 'Good' category. This suggests that a majority of players, regardless of gender, maintain favorable dietary practices.

Table 4. Gender -wise Difference in Nutrition Knowledge

Knowledge category	**Gender**		**Total**
	Female	**Male**	
Fair (% within Gender)	6 (30.0%)	3 (15.0%)	9 (22.5%)
Good (% within Gender)	14 (70.0%)	17 (85.0%)	31 (77.5%)
Total (% within Gender)	20 (100.0%)	20 (100.0%)	40 (100.0%)

Table 4 shows that the majority of players exhibit good nutritional knowledge, with 70.0% of females and 85.0% of males demonstrating this level. Males have a higher percentage of good nutritional knowledge (85.0%) compared to females (70.0%), while a greater proportion of females (30.0%) have only fair knowledge.

4. CONCLUSION

This study explored the nutritional knowledge and dietary habits of under-15 and under-17 badminton players in the Southern and Western provinces of Sri Lanka. Findings showed that although players generally have good nutritional knowledge, especially among Western Province athletes (85% vs. 70% in the Southern Province), this knowledge has not translated into healthy dietary habits. Parental (37.5%) and school influences (25%) were the primary sources of nutritional information, with minimal input from Television and newspapers (2.08%).

Notably, Western Province athletes exhibited better dietary habits (90% in the "good" category) compared to those in the Southern Province, where most players fell into the "fair" category (60%). Gender differences were minimal regarding dietary habits, though male athletes displayed slightly better nutritional knowledge (85%) than female athletes (70%). However, no statistically significant correlation was found between nutritional knowledge and dietary habits (Pearson correlation -0.040, $p > 0.05$), indicating that factors beyond knowledge such as accessibility, socio-economic status, and personal preferences may play a role in shaping athletes' dietary practices.

The study recommends several key actions to enhance the nutritional knowledge and dietary habits of young athletes. First, parental and school involvement is crucial, as athletes primarily obtain nutritional information from these sources. Providing nutritional education to both parents and teachers through workshops or seminars would ensure that athletes receive consistent and accurate dietary advice. Second, coaches should be encouraged to play a more active role in guiding their athletes' dietary habits. Training sessions on sports nutrition for coaches could empower them to offer effective nutritional guidance.

Finally, further research is needed to expand the sample size and explore the influence of socio-economic factors, training schedules, and psychological aspects on athletes' dietary habits and nutritional knowledge. This comprehensive approach will contribute to better health and performance outcomes for young athletes.

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