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RESEARCH ARTICLE

Exploring High School Coaches' Nutritional Knowledge and Its Impact on Athlete Development: A Descriptive Phenomenological Study

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Abstract

This study employed descriptive phenomenology to investigate the knowledge and practices of high school coaches concerning athlete nutrition, hydration, and eating disorders. Through purposive sampling, eight high school coaches from Ohio and Illinois were selected to provide in-depth insights into their nutritional knowledge and its application in supporting their athletes. Participants were interviewed, and their responses analyzed to understand the frequency and methods of nutrition discussions, as well as the impact of their nutritional knowledge on athlete development. The findings reveal that while coaches recognize the importance of nutrition, there is significant variability in their knowledge and application of nutritional principles. The study highlights the need for more comprehensive training programs to equip coaches with the necessary skills and knowledge to effectively promote nutrition as a vital life skill. These insights offer valuable implications for policymakers, educational institutions, and coaching organizations aiming to enhance the holistic development of adolescent athletes.

Keywords: Adolescent Athletes, Qualitative Research, Nutritional Training, Health Education, Life Skills.

1. Introduction

Sports significantly influence youth development, with biopsychosocial benefits encompassing increased physical activity, improved self-esteem, and enhanced academic success (Camiré et al., 2022; Newman et al., 2024). This is corroborated with 7.8 million American youth participating in high school sports in the 2022-23 academic year, continuing a 30-year trend of rising participation rates (excluding the 2018-19 and COVID years) (National Federation of State High School Associations, NFSHA, 2023).

High school coaches play a pivotal role in fostering the positive development of athletes, tasked with enhancing athletes' technical, tactical, physical, and psychological skills (Martin et al., 2022; Gould et al., 2024). Beyond these sport-specific factors, coaches are instrumental in developing athletes' life skills, allowing athletes to apply lessons across various life domains (Pierce et al., 2017). Additionally, coaches play a crucial role in educating athletes on essential physical life skills, including sleep, injury prevention, and nutrition (Carrière et al., 2024).

This study focuses on sports nutrition and the role high school coaches play in supporting this skill (Valand et al., 2022). Sports nutrition is not only vital for athletic performance but also for the overall health and well-being of athletes (Close et al., 2022; Cook & Dobbin, 2022). For young adolescents, nutrition and nutrition attitudes significantly influence energy levels, health, bone density, hydration, growth, development, maturation, and mental health (Kontele &

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Vassilakou, 2021; Masoga et al., 2022). Existing research explores the impact of poor nutrition in high school athletics, yet there is a gap in understanding coaches' nutritional knowledge and dissemination strategies (Cannon et al., 2024; Trakman, 2016). This qualitative study explored how high school coaches develop nutrition knowledge, the impact of training on conveying information to athletes, and how they integrated nutrition into the larger framework of life skills.

2. Literature Review

2.1 Nutrition Knowledge of High School Coaches

Despite the role coaches play in the development of their athletes, there is a paucity of research assessing coaches' nutritional knowledge. Holden et al. (2016) conducted study to evaluate high school coaches' understanding of key nutritional principles, finding that high school coaches possessed significantly lower levels of nutritional knowledge compared to undergraduate college students. Further emphasizing this concern, Gibbs (2020) conducted a study involving baseline assessment data to evaluate high school coaches' initial knowledge and self-efficacy in nutritional recommendations for athletes. Evaluating a range of general and sport-specific nutrition behaviors, the scores highlighted substantial knowledge gaps in both general and sport-specific nutrition practices among high school coaches. These knowledge gaps as well as the overall research gap are concerning given that athletes often turn to coaches for guidance on nutrition with significant implication for their physical and mental well-being.

Further emphasizing the need for targeted nutritional education and training for coaches, a review of international studies provides insights into existing educational frameworks. Couture et al. (2015) conducted a two-party study series in Quebec, Canada- the first assessing high school coaches' sports nutrition knowledge and implementation, the second assessing the impact of an intervention. It found many shortcomings, but also that related university education and coaching certification significantly improved scores. Additional international studies (Belski et al., 2018; Cherian et al., 2020; Heikkilä et al., 2018) further support these findings. Conducting their assessments through questionnaires or participant interviews, these studies examined specific adolescent athlete groups and consistently identified gaps in nutritional knowledge among coaches. This body of international research underscores the global prevalence of insufficient nutritional training among high school coaches and collectively highlight the potential benefits of structured educational interventions to improve coaches' nutrition education practices and the development of their athletes. Moreover, these studies may not have accounted for the cultural values, societal influences, and food accessibility specific to the United States.

2.2 Importance of Nutritional Knowledge

Understanding nutritional information and dietary habits is paramount for maintaining general health and preventing chronic diseases. Insights into dietary recommendations, food sources, and the complex relationships between diet and disease are essential for empowering individuals to make informed, health-promoting decisions (Spano, 2016). This comprehensive understanding not only aids in preventing chronic illnesses but also enhances overall health and wellness. This is especially critical in the context of sports, where nutrition has a direct and profound impact on performance and recovery (Vázquez-Espino et al., 2022).

For athletes, proper nutrition is essential for performance, recovery, and minimizing the risk of injuries and long-term health complications (Vázquez-Espino et al., 2022). High school coaches with nutrition expertise can ensure athletes meet their dietary requirements and performance potential, making nutrition an integral part of training (Spano, 2016). Best practices in research encourage coaches to defer to licensed nutrition professionals for more detailed nutritional advice. A study by Smith-Rockwell et al. (2001) emphasizes coaches and athletic trainers play a pivotal role in athletes' nutritional practices, underling the importance of professional development and collaboration to safeguard athletes' health and performance.

2.3 Current Study

The primary purpose of this study was to explore the attitudes and understanding of nutrition among high school sports coaches in the United States. Specifically, this investigation aimed to examine the methods and frequency with which coaches discuss nutrition with student-athletes, as well as the depth of their knowledge regarding the connection between nutrition, physical health, and mental well-being. By utilizing a qualitative research design, this study seeks to develop a comprehensive understanding of coaches' nutritional knowledge, attitudes, and experiences. The ultimate goal is to derive insights that can help better support coaches in their roles and enhance the promotion of life skills among adolescent athletes.

3. Methods

3.1 Research Design

This study was approved by the Miami University Institutional Review Board for Human Subjects Research (approval number 02245r). This study employed descriptive phenomenology to examine the nutritional knowledge of high school coaches. Descriptive phenomenology is a qualitative research method within the human science research paradigm, designed to understand and explain the meaning of human experiences (Bass-Krueger et al., 2024). Similar to phenomenology, descriptive phenomenology focuses on the lived human experience but differs by illuminating trivial details that might otherwise be taken for granted (Mavhandu-Mudzusi et al., 2022). This approach has a history of being used within athletics and sport (Haaland & Tønnessen, 2022; Kristiansen et al., 2017).

This study followed a logical, systematic, multiphase, methodological approach to capturing reflections of individuals' subjective experiences of the connection between nutritional knowledge and high school athletics. The use of phenomenology in this study included gathering information from participants, personal reflections from the researchers on the topic (a tenant of interpretive phenomenology), and information gathered from outside the context of the research project (e.g., historical documents like coaching biographies).

3.2 Study Participants

Researchers employed purposive sampling to recruit high school athletic coaches from Ohio and Illinois for this study. To be eligible, participants had to be actively coaching at a high school affiliated with either the Ohio High School Athletic Association (OHSAA) or the Illinois High School Association (IHSA). A total of eight coaches expressed interest in participating and contributed to discussions about their nutritional knowledge and the interactions between this knowledge and their coaching practices (see table 1). To ensure confidentiality, each coach was assigned a pseudonym. The relatively small sample size was deemed sufficient for this study, given the nature of phenomenological research. Similar studies that employ interpretative phenomenological principles in sport-based contexts have utilized comparable sample sizes (Kempe et al., 2023; Thompson et al., 2022).

Table 1. *Coach Background*

Name	Sports coached	Years coaching experience	Professional background
Angela	Girls' volleyball; Boys' and girls' track & field	7 years	Physician assistant; Science teacher
Jennifer	Girls' softball	20 years recreational; 8 years Varsity	Nurse; Coach
Jake	Boys' and girls' tennis	6 years	Retail; Substitute teacher
Tyler	Boys' soccer; Boys' and girls' track & field (throws)	11 years	Financial advisor
Rebecca	Boys' swimming	Recreational experience; 1 year Varsity	Language arts teacher
Paul	Boys' football; Boys' basketball; Girls' soccer	20 years	Physical education teacher
Stephanie	Girls' softball; Girls' basketball	15 years	Social studies teacher
Evan	Boys' football; Girls' track & field; Boys' volleyball	16 years	Special education teacher; Assistant principal

3.3 Study Procedures

All eight high school coaches participated in an interview via the Zoom platform. Participants responded to multiple open-ended questions and follow-up questions based on responses to engage in conversation about their nutritional knowledge and implications of this knowledge on their coaching. The researchers interviewed each coach until data saturation occurred and interview length ranged between 20 to 60 minutes. Additionally, the researchers took field notes during the interview and used each high school coach's current coaching biography and professional background.

3.4 Thematic Analysis

Following transcription of the narratives, the primary author conducted a thematic analysis of the text, with input from the second and third authors. The researchers considered the detailed notes taken during the interviews, recorded notes taken while listening to and reading the interviews, and the historical contexts into account (Tessier, 2012). This detailed approach of listening to and reading the transcriptions and relevant documents provided a systematic process for identifying emerging themes.-

The researchers used an Excel file to organize potential inductive coding themes. The inductive coding method is used when little is known about the research subject and researchers are conducting heuristic or exploratory research (Laverty, 2003). Researchers coded the interviews into meaning units to capture salient ideas. Researchers used categorization of these codes to generate final themes (Mavhandu-Mudzusi et al., 2022). During the analysis process, the researchers constantly debated in order to reach an agreement on the descriptions and interpretations of the high school coaches' experiences as well as avoid potential confirmation bias.

To promote the quality control of this study, the researchers used triangulation and peer debriefing. For triangulation, the researchers relied on more than one type of data to corroborate their findings (i.e., interview transcripts, field notes, and historical records). A case for quality control could also be made for the researcher's prolonged engagement in athletics as former student-athletes, as a sport social worker, or as current and former National Collegiate Athletic Association (NCAA) Division I coaches.

3.5 Findings

This section elucidates the key themes that emerged from a comprehensive analysis of transcripts, notes, and additional supporting documentation. The study aimed to ensure that the participants' perspectives are accurately represented through specific examples that highlight these themes. The emergent themes have been systematically categorized into four primary topics: sports nutrition training and methodologies, motivational factors, encountered barriers, and advocacy for change. A summary of representative quotations for each theme as well as the frequency of responses are provided in the tables.

3.6 Sport Nutrition Training

The study identified several types of sports nutrition training coaches had received (see table 2). These training types can be broadly categorized into formal education obtained through higher learning institutions and professional development clinics and self-initiated methods including independent reading, peer consultations, and other less formal strategies.

Table 2. *Training Types*

Training Type	Description	Count	Frequency / Example Quote
Higher Education	Received education on nutrition during their higher education in athletic/health-based professions	3	Angela – "Through my undergrad and graduate studies, there's a focus on nutrition and taking care of patients."
Professional Development Clinics	Attended clinics dedicated to professional development in sports nutrition	1	Evan – "I go to various coaching clinics and there's always a component of sports nutrition I try to attend."
Reading Current Research	Ranges from occasional internet searches to consistent reading of peer-reviewed articles	6	Paul – "everything that I've learned is just through further education through outside sources..."
Knowledge from Peers	Acquired knowledge from peers, such as fellow coaches or family members in relevant fields	4	Jennifer – "My friend is a dietician...so I will always ask, 'hey, what do you think about this?'"
Professional Athletes Practices Observation	Followed professional or elite athlete practices and recommendations	1	Angela – "Why are they doing it, does it make sense, and are we able to translate that to our athletes?"
No Current Training	Admits doesn't regularly participate in current nutrition training	3	Jake – "To be honest with you, I have not got into nutrition as much as I could or should with them."

The frequency coaches discussed sports nutrition with athletes varied (see table 3). Coaches were likely to have individual-level, in-depth (i.e. meal planning) discussions with athletes daily. Team discussions were more infrequent, shorter, and related to relevant reminders (i.e. hydrating on a hot day or adjusting to a different schedule).

Table 3. *Frequency of Discussing Nutrition*

Frequency	Count	Example Quote
Never or minimally	1	Jake – "I don't talk to them about it much."
Semi-Regularly	3	Stephanie – "It's mostly in terms of hydration and if we have a weird schedule day..."
Regularly or Daily	5	Rebecca – "Individually like at practice probably daily just depending on if a kid seems like they're dragging…"

Coaches mentioned eight content areas, to varying degrees (see table 4). Content areas were covered in different ways, such as Angela discussing food intake in number of meals while Tyler measured intake in calories. Sports with longer meets, such as track and swimming, prioritized food timing (i.e. eating between events).

Table 4. *Content Areas Discussed*

Content Area	Count	Example Quote
Relation with Mental Health and Disordered Eating	7	Jennifer – "We try to encompass the whole girl."/ Angela – "Especially for girls, it can be a point of control."
Hydration	6	Tyler – "During the year, I always talk about hydration."
Amount of Food or Calories	5	Angela – "eating 3 meals a day at least." vs. Tyler - "your activity level is going to go from 2,000 calories a day to maybe 4,000 to 4,500 a day."
Macronutrients	5	Evan – "They're mindful about the proteins that they were putting in their body and the carbohydrates that were put in their body."
Meal Planning or Snack Options	5	Paul – "We do meals of the week on our Google classrooms and quick fixes for practice."
Food Timing in Relation to a Meet or Practice	5	Rebecca – "When we have those evening meets when they've been at school all day, making sure they're eating the right kinds of things throughout the day."
Differences in Nutrition Needs Between Sports	4	Jennifer – "a softball team needs different nutrition than a cross country runner."
Differences in Nutrition Needs Between Genders	3	Paul – "they're not only burning calories because they're growing or in a female sense going through things."

Coaches discussed six methods to disseminate nutrition knowledge (see table 5). Individual discussions with athletes ranged from brief check-ins to more in-depth conversations and planning and were often driven by athlete interest. Coaches that discussed nutrition more frequently with their athletes also covered a wider content range and used more methods.

Table 5. *Methods of Disseminating Nutrition Knowledge*

Method	Count	Example Quote
Individual Discussions	7	Jennifer – "randomly ask people, what did you eat for lunch?" / Paul – Helping an athlete and caregivers create a healthy weight gain plan.
Providing Information to Caregivers	4	Jennifer – "We always try to give them a list of things that are good for the girls."
Eating as a Team	2	Paul – "We will have a meal at film sessions."
Providing Healthy Snacks	2	Jennifer – "I always have nutritious snacks for the girls before they go."
Checking in During School Day	2	Angela – "When I see them at school, I'll be down in the lunchroom."
Having Athletes Complete Food Logs	2	Evan – "Let's add up all of the calories and workouts that you're spending this week and then look at how much you're eating, or you're not eating."
Collaborating with Other Athletic Staff	1	Jennifer – "Our trainer will go and help us out, like 'hey, I noticed 3 days in a row she didn't eat."'

3.7 Motivational Factors

When responding to questions related to nutrition, coaches expressed their motivations for discussing nutrition with their athletes and for learning about nutrition (see table 6). The most common motivation was the impact of nutrition on athletic performance, driven by researched and anecdotal experiences. Athlete interest in nutrition motivated coaches, especially with individual, coach-athlete discussions. Motivation also expanded outside of performance, including prioritizing the athlete's overall health, a greater responsibility as a coach, or a touchpoint for other conversations concerning an athlete's well-being.

Table 6. *Motivation for Discussing Nutrition*

Motivation	Count	Example Quote
Perceived Performance Benefits	7	Jennifer – "I can see the difference when her nutrition changed and her lifting, she is 10 times stronger..."
Athlete Interest and Approach	5	Paul – "So I give it to the kids, but if the kids come back with questions, then I actually will talk to them about it."

Motivation	Count	Example Quote
Health Outside of Sport	3	Angela – "if you're not fueling your body properly, then there's a reason why you're not getting faster or stronger..."
Coaches' Responsibility or Role	3	Jennifer – "we just need to provide them the best." / Tyler – Feeling "an obligation to my team."
Touchpoint to Other Wellbeing Conversations	2	Angela – "Nutrition is really a coach's gateway to so much more that's going on with the student."

3.8 Barriers

All coaches expressed multiple barriers to learning about (see table 7) and/or discussing nutrition (see table 8) with their athletes. Self-acknowledged gaps in knowledge included a general lack of understanding of the topic as well as specific content areas. For example, both Paul and Evan wanted more information on female nutritional needs (i.e. menstruation and sport). Coaches expressed a desire to learn more about nutrition but faced cost and time barriers or lacked the organizational support to do so. Athlete investment was seen both as a motivator (if an athlete expresses interest and approaches a coach) and a barrier (if an athlete does not appear interested) for coaches. Coaches discussed teenage eating habits as a barrier, referring to a reliance on fast food or picky eating. Time was a barrier both for learning about sports nutrition (to research during or outside of school) and discussing it with athletes. Coaches stated having multiple priorities in their roles as professionals, coaches, and in their personal lives that made nutrition research difficult.

Table 7. *Barriers to Learning About Nutrition*

Barrier	Count	Example Quote
Gaps in Knowledge	5	Jake – "I really haven't received much [training] on nutrition."
Cost	4	Angela – "we coach for free."/ Paul – "I feel like the other barrier would be funding."
Time to Research or Attend Training	4	Paul – "It's hard to set aside time in a shortened day in a shortened schedule and being a teacher and a coach of 2 sports." / Stephanie – "A lot of that would fall on me and I just don't have time to do that as a professional educator."
Lack of Accessible Resources	3	Paul – "There's not enough resources for coaches to be able to hone in on it and make it such a priority."
Difficulty Finding Resources	3	Coaches expressed wanting to learn but not knowing where to start.

Table 8. *Barriers to Discussing Nutrition with Athletes*

Barrier	Count	Example Quote
Lack of Interest by Athletes	7	Jennifer – "it's really hard to get to these kids."
Teenage Eating Habits	5	Jake – "I try to keep them away from the fast food, which is pretty much notorious for student-athletes of that age."
Caregiver Investment	4	Angela – "It's hard to help the athlete if the family is not on board." / Tyler – "It's the parents that are buying the food."
Not Present During School Day	2	Jennifer – "I don't have the benefit of seeing them every day until practice times, so I don't know."
Time to Discuss or Educate	2	Tyler – "nutrition unfortunately just goes at the bottom of the list a lot of times."
Feeling Uncomfortable or Lacking Approach Skills	2	Evan – "It can be a challenging conversation to engage in where it's not perceived as body image, body shaming."
Conflicting Messages from Other Coaches	1	Angela – "If all the coaches are telling them something different then they're going to change for what that coach wants."

3.9 Advocacy for Change

Coaches mentioned changes that they believe would increase the accessibility of knowledge for them and/or promote healthy nutrition practices and understanding among athletes (see table 9). In addition to reducing the mentioned barriers, coaches called for more accessible, general resources for coaches, caregivers, and athletes. Calls for change also included accountability among coaches, both in their behaviors modelled to athletes and in not seeking current information or upholding outdated beliefs. With these changes, coaches expressed the need for support from the schools and state organizations they coach in. Support included funding as well as distribution of nutrition information to coaches, caregivers, and athletes.

Table 9. *Desired Changes*

Desired Change	Example Quote
Accessible Resource	Angela – "having a high-quality platform [that] breaks it down simply for coaches to be able to utilize."
General Resource	Jennifer – "it would be nice to have a general resource."
Accountability Among Coaches	Jake – Concern about out of shape coaches. Evan - Concern about outdated beliefs.
Support from Schools or State Organizations	Jake and Tyler – State athletic organization providing accessible resources. Paul – Attending conferences and having a nutritionist.
Free Period for Nutrition Education	Rebecca – Free period between school and practice used for nutrition education.

4. Discussion

The study illuminated the landscape of sports nutrition knowledge among high school coaches, focusing on their training, motivational factors, barriers encountered, and advocacy for change. These findings not only provided a snapshot of coaches' current understanding of sports nutrition but also highlighted key areas where targeted interventions could enhance both coaches' and athletes' nutritional practices. Existing literature has consistently demonstrated the profound influence that coaches have on athletes, both within the realm of athletic performance and in broader aspects such as psychological health and well-being (Jowett et al., 2023). Furthermore, coaches have been shown to impact athletes' eating behaviors, playing a role in both preventing and contributing to disordered eating (Voelker et al., 2022). With these findings in mind, understanding the specific methods and training approaches coaches used to acquire and communicate sports nutrition knowledge is critical to addressing the gaps identified.

4.1 Sports Nutrition Training and Methodologies

Qualitative analysis revealed diverse approaches to acquiring sports nutrition knowledge among coaches. Those with formal education in health-related fields, like Angela and Paul, exhibited a more structured, evidence-based understanding of nutrition's role in athletic performance. In contrast, many coaches still depend on self-directed learning, such as independent research or peer consultations, as seen with Paul and Erik. A notable concern is the reliance on Google for information, where much of the content is not evidence-based and lacks the depth needed for critical issues like eating disorders (Denniss et al., 2023; Haslam et al., 2021). This variability in information quality underscores the need for formalized, reliable education. Judge et al. (2024) also stress the importance of structured, evidence-based training to ensure accurate knowledge dissemination. As noted by Couture et al. (2015) and Belski et al. (2018), the reliance on informal sources highlights the necessity for accessible, standardized training. Peer outreach is beneficial but depends on personal networks, which are not universally available, further complicating the consistency of nutrition guidance.

4.2 Motivational Factors

Performance enhancement and athlete interest emerged as primary motivators for coaches to engage in discussions about nutrition. Coaches consistently observed improvements in strength, endurance, and recovery when athletes adopted better nutritional habits, echoing findings by Close et al. (2022), Belski et al. (2018), and Smith-Rockwell et al. (2001), which emphasize the critical role nutrition plays in athletic performance. Coaches expressed enthusiasm when athletes-initiated nutrition conversations, viewing this as a demonstration of athlete agency. The coach's role in supporting athlete-driven goals emphasizes the importance of creating an environment where athletes feel comfortable seeking guidance. While these conversations are often framed around performance, the implications of educating athletes about proper nutrition extend far beyond sport, impacting long-term health and well-being. Nutritional knowledge can have lasting effects on attitudes toward food and health behaviors, as demonstrated by Judge et al. (2021), who found a strong link between hydration knowledge and behavior. Coaches, particularly at the high school level, are in a unique position to instill positive and enduring nutritional habits in their athletes.

Furthermore, nutrition serves as more than just a tool for physical improvement; it opens the door for broader discussions around holistic well-being. Nutritional education can be intertwined with topics such as mental health, body image, and lifestyle choices, providing a comprehensive support system for athletes. This integrative approach fosters not only physical preparedness but also mental and emotional resilience, highlighting the coach's broader

developmental role. As Camiré et al. (2022) pointed out, the role of the coach extends beyond athletic performance to include life skills and well-being. By addressing nutrition within this holistic framework, coaches can help athletes develop sustainable, healthy habits that contribute to their success and overall well-being both in and out of sport.

4.3 Barriers

Despite their motivation to discuss nutrition, coaches faced several barriers. Knowledge gaps, time constraints, and a lack of accessible resources were the most commonly cited challenges. Many coaches noted the need for further education on topics like female nutritional needs, which aligns with findings from Brown et al. (2014) and Almousa and Bandin van Loon (2024), highlighting the importance of addressing stigmas and fostering open discussions about female health in sports. Conversations with female athletes about nutrition go beyond performance enhancement, focusing on long-term health and fostering a supportive environment where they feel safe and valued.

Time and financial constraints also posed considerable challenges for coaches, particularly those juggling multiple roles. Some coaches noted the intersection of their professional and personal identities, such as caregiving responsibilities, as additional barriers to acquiring nutrition knowledge. The financial burden of pursuing nutritional education further complicated the situation, a concern also noted by Couture et al. (2015) and Heikkilä et al. (2018), who emphasized the need for cost-effective educational solutions. Institutional support could alleviate some of these barriers, with coaches calling for funding, time allowances, and access to resources. By adopting a person-centered approach, school administrators can engage in open discussions with coaches about the challenges they face in educating athletes on nutrition.

4.4 Advocacy for Change

Coaches expressed a strong desire for systemic changes to overcome these barriers and improve the dissemination of nutrition knowledge. The call for accessible, comprehensive resources tailored to the needs of coaches, caregivers, and athletes aligns with the recommendations of Trakman et al. (2016), who stressed the importance of user-friendly educational tools. State athletic organizations and National Governing Bodies (NGBs) are well-positioned to address time and cost constraints by creating and distributing evidence-based information and curricula that coaches can easily implement. Schools can further support coaches by providing access to resources and dedicated time for research and training.

Coaches also emphasized the importance of accountability within their profession, recognizing the need to stay updated on current nutrition science and avoid outdated practices. Support from institutions, particularly in the form of funding for nutrition programs and access to professional resources such as dietitians, was deemed critical. Some coaches proposed practical solutions, such as dedicating free periods between school and sports to nutritional education, which could help address time constraints for both coaches and athletes.

4.5 Limitations

The present study's reliance on self-reported data introduces potential biases, such as social desirability and recall inaccuracies. Future research could build on existing assessments of nutrition knowledge by incorporating a more holistic approach, including attitudes toward nutrition and disordered eating patterns. Additionally, the small and geographically limited sample size restricts the diversity of responses. The cross-sectional design also limits the ability to establish causal relationships between variables. These limitations are typical in qualitative research, which prioritizes depth and context but is influenced by the subjective experiences of participants.

4.6 Practical Implications and Recommendations

The findings from this study highlight several actionable strategies for high school coaches. Developing structured, evidence-based nutrition education programs tailored to the needs of high school coaches is crucial. These programs can be designed to be affordable, accessible, and flexible to accommodate coaches' busy schedules. The success of brief educational interventions, as demonstrated by Belski et al. (2018) in junior Australian football teams, underscores the potential impact of such programs in improving nutrition knowledge and confidence among coaches.

Further support can be provided by schools and athletic organizations through the distribution of accessible, evidence-based sports nutrition resources. Facilitating collaboration between coaches, dietitians, and healthcare professionals enhances knowledge sharing and ensures consistency in nutritional guidance. Engaging parents and caregivers through educational workshops or informational resources can also foster a supportive environment for young athletes, as discussed by Almousa and Bandin van Loon (2024) and Cherian et al. (2020). Additionally,

integrating nutrition education into regular practice schedules, as exemplified by the Champion Nutrition initiative highlighted by Cannon et al. (2024), offers a practical model for high school athletic programs. These approaches enhance athlete nutrition, support optimal performance, and promote long-term health.

5. Conclusion

This study explored the current state of sports nutrition knowledge among high school coaches, revealing variations in training backgrounds, key motivational factors, and barriers that limit effective nutrition education. The advocacy for systemic reforms, such as the provision of accessible, high-quality resources, institutional support, and greater accountability among coaches, highlights the need to address gaps in nutrition education and practice. These findings align with and expand upon existing literature, underscoring the importance of structured nutritional education in the athletic context. Implementing the suggested changes has the potential to improve nutrition education for both coaches and athletes, thereby enhancing health outcomes and athletic performance. Addressing these needs will contribute to a more informed and health-conscious athletic community, promoting the holistic development of young athletes. Although coaches in this study faced time and cost constraints, their dedication to the well-being of their athletes and the importance of nutrition was evident. Improving access to evidence-based nutrition resources and fostering a holistic approach to athlete education can have lasting benefits for both coaches and athletes, improving their well-being on and beyond the field.

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