Barriers and Solutions Correlated with the Implementation of Correct Sports Nutrition Practices at a Public NCAA Division II University in the Midwest.

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Barriers and Solutions Correlated with the Implementation of Correct Sports Nutrition Practices at a public NCAA Division II University in the Midwest.

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for the Degree of
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Abstract

Barriers and Solutions Correlated with the Implementation of Correct Sports Nutrition Practices at a public NCAA Division II University in the Midwest.

Sports nutrition guidelines are an integral part of athlete performance. The guidelines are established through the American College of Sports Medicine to best guide student athletes for their specific sport. However, even with the guidelines established there are low adherence rates among student athletes who face unique barriers and therefore require solutions to increase adherence to the guidelines. The study aims to identify specific barriers that student athletes face based on their perspectives and opinions. Once the barriers are identified the study provides potential areas of focus to increase adherence rates through the provision of solutions.

To gain insight into student athlete experiences interviews were facilitated. Participants were required to have previous shown interest in sports nutrition and must currently be active on a affiliate sports team with the university. The participants were asked to respond to a variety of questions exploring their previous history with sports nutrition barriers and solutions. The results showed unique barriers and solutions to student-athletes such as resources, lack of knowledge, and social/culture components as well.

The results suggest that resources and knowledge are a key component to a student-athletes success in adhering to the guidelines. These are specific barriers to student-athletes because of the lack of finances as well as time requirements to participate in sports. The results show the need for a new approach to education and provision of resources to student-athletes.
Chapter 1 – Introduction

Introduction

In 2016, a study done on competitive swimmers and adherence to the Mediterranean diet found that 79% of athletes failed to adhere to the nutritional guidelines (Philippou et al., 2016). After intervention, Philippou found a 26% increase in adherence levels. Bentley, (2021) found barriers among high performance athletes to be lack of: time, implementation guidance, evidence-based interventions, finances, and resource availability.

Evidence shows a low adherence to sports nutrition guidelines. Sports nutrition plays a vital role in the health and performance of collegiate athletes. Sports require a unique energy demand that must be met to compete at a high level and to obtain positive training effects. The American College of Sports Medicine (ACSM) gives recommended intakes for the macronutrients. Macronutrients are carbohydrates, fats, fluids, and proteins. Rodriguez (2009) found that sports nutrition can increase performance and increase recovery. Recovery is an important aspect of sports performance because of its importance in repairing damaged muscle tissue through protein synthesis and the restoration of glycogen within the muscle. Macronutrients play an important role in fueling the body and providing energy during activity. Hydration and micronutrients are also an integral part of a proper sports nutrition regime (Beck, et al., 2015).

Background of the problem

According to Judge (2016) there is a lack of adherence to proper sports nutrition practices. In his study on NCAA Division 1 American football players, he discovered that only 24% were adhering to the nutritional guidelines regarding hydration. In a study focused on college softball players in the Mid-American Conference, researchers found that athletes scored
57% on a sports nutrition knowledge test (Grete et al., 2011). Similarly, Andrews et al. (2016) reported that Winthrop University athletes average score on a sports nutrition knowledge test was 57%. Nascimento et al. (2016), found that using specific nutritional interventions can increase knowledge of sports nutrition and increase muscle mass. Additionally, a study done on hydration knowledge and replacement discovered that educating athletes on hydration replacement and its implications to sport alone increase hydration scores by 52% (Nichols et al., 2005).

The failure to implement sports nutrition practice can result in significant risk for injury. There is an increased risk to injury if energy demands are not met. Some of these are a compromised immune system, slowed recovery, and failure to increase bone density (Sale & Elliott-Sale, 2019). Sports differ from one another and place unique energy demands on the athlete. The energy demands placed on the athlete vary based on gender, age, and sport (Spriet, 2019).

Current research provides athletes knowledge on proper nutrition and how it affects their performance. However, it does not show how to apply this information in practical ways that make adherence easily achievable. The purpose of this study is to identify the barriers and potential solutions for the implementation and maintenance of correct sports nutrition practices at a public NCAA Division II University in the Midwest. The research questions are:

RQ1: What are the barriers preventing student athletes from adhering to nutritional guidelines?

RQ2: What are things student athletes need to adhere to nutritional guidelines??
The research will be used to identify the resources needed for student athletes to adhere to nutritional guidelines and to learn what resources they previously used.

**Limitations and delimitations of the study**

Limitations of this study include the lack of experience of the researcher. The researcher could use more experience asking open-ended interview questions as well as improving their ability to guide the conversations and provide follow up questions. The more experience the researcher has the better and more accurate the data will be. More limitations to the study were participants for this study were only male college athletes that represented three affiliated sports with the university. The participation size limits the data and does not include all perspectives from vary sports. The lack of female participants could also hinder the study as there may be specific barriers and solutions correlated with gender and sport. Participants were all from the same university limiting perspectives.

Delimitations of this study include the limited participation group. Participants were all enrolled student athletes participating in an affiliate varsity sport through their university. They must have also shown previous interest in sports nutritional programs and guidance.

**Definition of terms**

1. Proper sports nutrition is defined as the correct number of macronutrients, micronutrients, as well as vitamins, minerals, and fluids that are adequate to provide student athletes with enough fuel and energy to perform, improve, and recover (Purcell, 2013).

**Conclusion**

Chapter one outlined the purpose of this study and provided background information of the problem. The research shows low adherence rates among student athletes as well as strategies used to break down some barriers preventing long-term adherence to sports nutrition. Chapter two will discuss the current literature on adherence to sports nutrition.
guidelines and strategies used to increase adherence. Topics include studies nutrition and its benefits to sports nutrition, current state of nutrition education, specific interventions implemented, as well as sociocultural impacts affecting adherence rates.
Chapter 2-Literature Review

Chapter two is composed of three sections related to relevant literature. The literature reviews the historical context of sports nutrition and reviews the guidelines set by the ACSM. The next section gives a brief overview of the theoretical framework in which the theory of planned behavior is discussed. The final section will review the current relevant studies regarding adherence and strategies to sports nutrition.

Historical Context

There has been a rise in demand for sports nutrition guidance resulting in the development of more evidence-based methods. Research shows a direct correlation to correct nutrition choices and health and performance (Collins et al., 2020). One of the most beneficial aspects of correct nutrition is recovery. If athletes are unable to recover, they will be more prone to injury and less likely to be able compete at a high level for an extended amount of time. Correct sports nutrition can assist in the development of an athlete and build a healthy foundation for them during their careers and beyond.

The current nutritional guidelines are set by the ACSM. These guidelines are based on research to meet the specific metabolic and physiological demands of athletes. These guidelines review the suggested intakes for the macronutrients which are carbohydrates, fats, proteins, as well as hydration. The role of nutrition guidelines is to ensure the adequate energy intake to fuel the athletes for training for their sport. This is done through a variety of ways such as replenishing muscle glycogen through the intake of carbohydrates and for the repair of damaged tissues due to the stressors of training which is done by protein intake (Nutrition and Athletic Performance, 2009). It’s important to understand that sports nutrition is a much-needed role, and topic for discussion within a sports medicine staff (Torres-McGehee et al., 2012).
**Sports nutrition guidelines.**

Organizations such as the American College of Sports Medicine (ACSM) have provided valuable research regarding sports nutrition. They have worked to identify recommendations for athletes to utilize to fuel and better prepare themselves for sports performance. The recommendations from the ACMS are: 6-10 g·kg$^{-1}$ of body weight for carbohydrates, for protein 1.2 – 1.7 g·kg$^{-1}$ of body weight, for fat intake is 20%-35% of the total energy intake, and 16-24oz of fluid for every .5 kg of body weight that is lost due to athletic activity (Nutrition and Athletic Performance, 2009). The ACSM provides a range due to the varying energy demands of sports.

**Barriers.**

The literature review identified four major barriers: misuse of recommendations, lack of knowledge, societal pressures, capability, opportunity, and motivation behavior (COM-B), and lack of training opportunity for staff members. In a study done by Baranauskas et al., 2015, they identified that up to 80.5% of high-level athletes were using the incorrect amount of carbohydrates and 70% of them were also misusing the recommendations for fat intakes (Baranauskas et al., 2015). Researchers identified that these high-level athletes were severely limiting their potential through the nutritional habits. They identified that their nutrition was negatively impacting their levels of adaptation for their sport.

Researchers used a capability, opportunity, and motivation behavior model (COM-B). Capability was defined as knowledge, skills, memory, attention, decisions, and behavioral regulation. Opportunity was defined as environmental context, resources, and social influences. Motivation was identity, intentions, goals, beliefs about capabilities, beliefs about consequences, optimism, emotion, and reinforcement. Some of these barriers/enablers to adherence to sports
nutrition were a lack of food planning skills, desire to enhance performance, emotional connection with food and performance, and a positive working relationship with a sports nutritional (Bentley et al., 2019). The study also suggested the importance of behavior psychology to combat barriers.

Lack of knowledge is a common barrier that prevents the adherence to sports nutrition guidelines. In a study done on softball players researchers used questionnaires to identify current nutritional knowledge. The results showed that on average athletes only scored 57.1% correct. The study showed the lack of knowledge but in the survey, they also identified that nutrition was an important aspect of performance. This points to the need for the implementation of more recommendations within universities to promote health nutritional practices (Grete et al., 2011).

In a study on American football players and fluid replacement and hydration found that athletes were more likely to go directly to the athletic trainer and the coaches instead of the dietitians that were on staff. This study identified the need for more opportunities for coaches and athletic trainers to receive educational training on sports nutrition to give accurate advice. The study showed primary barriers as misconceptions about sports nutrition and the failure of the staff to supervise proper practices and monitoring of the athletes (Judge et al., 2016).

Interventions.

Interventions can increase knowledge of sports nutrition and increase muscle mass (Nascimento et al., 2016). The literature review identified four interventions to assist student athletes with their adherence to proper nutrition. The interventions included nutritional counseling, coaches promoting healthy lifestyles, relationships and culture building, and education interventions.
Nutritional interventions through counseling with a sports nutritionist can be an effective intervention to increase adherence. The study used a dietitian to provide nutritional counseling to promote change on knowledge and behavior in both adults and adolescents. The study found that using nutritional interventions can increase lean body mass and nutritional knowledge. The study also identified a balanced diet for sports performance. It acknowledged the depletion of fluids, glycogen stores, as well as the stress placed on the body through exercise. (Nascimento, M et al., 2016).

Coaches play an important role in adherence. Athletic trainers and strength and conditioning coaches have adequate information especially compared to that of sport coaches. It is also very relevant that athletes are more likely to ask for nutrition advice from the athletic trainer and strength coaches. The study showed the need for quality sports nutritional programs for athletes to able to maintain correct practices (Toerres-McGehee et al., 2012).

Relationships and culture building also serve as an effective strategy to increase adherence. One study found that one of the major enables is offering educational workshops to increase knowledge and understanding that nutrition has in their specific sport. Bentley (2019) explained “Knowledge does not always translate into improved dietary practices.” Researchers found that sport specific context as well as motivation, physical appearance, and team culture all negatively and positively affect adherence to proper intake guidelines. There was also significant correlation between adherence and the competitive season for sport. Motivation changed throughout the in-season/off-season. In another study researchers focused primarily on multicultural influences and the team’s cultural environment. The study found relevant information that teammates play a vital role in food systems implemented by male college
football players. The culture can keep players in check and hold each other accountable (Long et al., 2011).

Researchers identified that with the enhanced stress levels from training there is a greater need for optimal dietary practices for recovery and to also enhance performance. Researchers suggested the potential to offer courses to educate athletes on correct sports nutrition practices. They suggested using a classroom format with the use of hands-on activities as well as workshops, new student orientation, activities, as well as speaker series. These courses should directly target student athletes with the goal to improve their personal nutritional practices. They suggested offering the course for credit to increase incentive of students as well (Karpinski et al., 2012).

Recently there has been relevant research done which will provide direction for future research in the identification of barriers to sports nutrition. Sports nutrition plays an integral key in the success of an athlete and should therefore be reviewed and identified within research. Once correct sports nutrition is identified it’s important to step back and reflect on the current population. Research must be applicable and relatable to their specific population to gain accurate results. Once the population is understood it becomes easier to make long term change. There will then be a reflection of current findings with previous ones to identify trends and potentially add to the current research. It will be unlikely to address all the barriers in one research project, but the goal is providing more framework for future studies and identify ways to make changes at the current location. Many studies have provided groundwork that is meant to be progressed and further built upon. It’s important to note that this review is not focused on what sports nutrition is, but rather, what is preventing athletes from practicing correct nutrition practices.
Theoretical Framework

The theory of planned behavior is used to explain one’s intention to start behavior at a specific time and place. The theory explains the behavior of people who can exert self-control and behavioral intent. It also suggests that the intentions are influenced by the attitude based on the expect outcome after evaluating risks and benefits (LaMorte, 2019). The theory of planned behavior was used in this research to explain the barriers and solutions to the adherence of sports nutrition. The theory explains the lack of knowledge and provides valuable insight into interventions to be used in the future. The theory explores how student athletes can exert self-control and intent to their adherence to sports nutrition or their failure to do so. The theory of planned behavior has been the foundational framework for many intervention programs directed at nutritional practices. Research has shown effectiveness through healthy eating behaviors supported by intentions and behaviors that are associated with it. There are increased positive attitudes towards correct sports nutritional practice. The theory is perceived to be able to predict healthy eating behaviors based on behavior control, attitudes, and subjective norms (Brouwer & Mosack, 2014).

Summary

Chapter Two outlined a review of literature regarding barriers and solutions to sports nutrition adherence. Historical context was given to the topic and past research identifying barriers and solutions were reviewed. The previous literature provides valuable framework and foundation for research moving forward and directs areas of focus. Chapter three will discuss research methodology, research design, sample and setting, instruments, as well as data collection procedures and data analysis.
Chapter 3 - Research Methodology

The purpose of this study was to identify barriers and potential solutions for the implementation and maintenance of correct sports nutrition practices at a public NCAA Division II University in the Midwest. The results identified potential ways to implement long term change to increase adherence and decrease barriers to the sports nutrition guidelines for student athletes. This chapter will discuss and introduce the research design, setting, sampling, participant selection, and how the researcher facilitated the interview and collect data using various data that will later be analyzed.

Research Design

A qualitative research method was used to identify potential barriers as well as solutions to adhering to sports nutrition guidelines. Qualitative research can bring insight in people’s experience, behaviors, and provide the framework and foundation for interventions (Raskind et al., 2019). The qualitative method is important for behavioral sciences and intervention research because it gives us context as well as perspectives (Kegler et al., 2019). The qualitative method aligns with this study because of the exploration of experiences and behaviors, pursuit of interventions, and insight into perspectives.

The interview technique that was utilized by the researcher was semi-structured interviews. Semi-structured interviews give researchers insight to subjective viewpoints and allow the collection of in-depth experiences that the participant have had. The interviews followed a structured schedule with pre-determined questions, but they allow participants to answer in their own vernacular and discuss specific areas of interest to them (Evans & Lewis, 2018). The semi-structured interview allowed a flow of conversation and allowed the
participants to share in greater detail about their specific experience. The researcher was able to use follow up questions to guide the interview.

Sample and Setting

The setting for this research is a small rural Midwest city which is home to a public NCAA Division II university. For privacy and the protection of the participants the university will be labeled as University A. University A consists of nearly 7500 enrolled students and has 73 undergraduate program opportunities as well as 15 master’s programs. The university is home to 14 NCAA DII varsity sports teams and one NCAA Division III varsity team.

The population that was targeted in this study were student athletes who are attending a public NCAA Division II university in the Midwest. To meet the criteria these student athletes must have previous experiences with sport nutrition programs and attempted to have implement the guidelines. The participants volunteered to participate in this study after signing a consent form. Using the participant criteria, emails were sent to student-athletes inviting them to participate in an interview. Six student-athletes were interviewed. All six were male student-athletes representing football, men’s track, and baseball.

Instruments

The instrument that was used was a semi-structured-open ended interview. Open-ended questions allow a structured question to be answered with more consideration for the participant’s experiences. Open-ended questions are valuable in the research because they can reveal people’s understanding, interpretations, circumstances, as well as personal experiences (McGuirk & O’Neill, 2016). These open-ended questions must be carefully thought through to keep the interview focused on the specific question at hand without deviating from the purpose of the question.
The interviews took place face-to-face or on a Zoom interview. The interview was recorded through zoom or a microphone recording software later be transcribed onto a word document. The interviewer was aware of potential bias and was careful to not influence the responses of the athletes. The interviewer was responsible for staying on track and following the pre-determined questions as well as providing guided follow up questions if more information is identified to gain more insight into potential valuable information of experiences. The interview questions are in Appendix A.

**Data Collection Procedure**

IRB approval was obtained, and an email was sent out to potential participants with potential meeting times and a brief overview of the study itself. The goal sample size was 12 participants and emails were sent out obtain volunteers. Participants were given the choice of either in-person interviews or a zoom interview. The entirety of the interview was recorded and stored on a secure storage device. In-person interviews were recorded using the voice recording software on a private secure laptop and zoom interviews were recorded through zoom and stored on the same private secure laptop. Once the study is completed the data will then be permanently deleted from the laptop.

**Data Analysis**

The results were reviewed through thematic data analysis. Qualitative research is used to gain insight into the participants experiences and perspectives. Part of qualitative research is the process of collecting information, analyzing it, and looking for themes and contextual information. Thematic analysis is a popular method for qualitative research because it is used for identifying, analyzing, organizing, describing, and identifying themes found within transcribed
data (Nowell et al., 2017). The process of coding through thematic analysis can provide insightful results that could be the foundation and framework for future research.

**Summary**

This study utilizes qualitative research methods and interpretation. Data collection and analysis will seek to identify potential barriers and solutions to the long-term adherence to sports nutrition based off student athletes’ personal experiences. Chapter four will review and talk about the results and chapter five will be a discussion on the findings and identify potential areas of future research.
Chapter 4 - Results

This study utilized a qualitative research method to identify barriers and solutions to sports nutrition adherence based on the personal perspectives and opinions of student athletes.

Demographics

Six student athletes (football, baseball, and track and field) participated in this study. Within the participants there were: three juniors, and three seniors. All participants previously showed interest in sports nutrition guidance and previously sought advice.

Table 1: Demographics of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Class</th>
<th>Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>Senior</td>
<td>Track/Football</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>Senior</td>
<td>Football</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>Senior</td>
<td>Track/Football</td>
</tr>
<tr>
<td>4</td>
<td>Male</td>
<td>Junior</td>
<td>Football</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>Junior</td>
<td>Football</td>
</tr>
<tr>
<td>6</td>
<td>Male</td>
<td>Junior</td>
<td>Baseball</td>
</tr>
</tbody>
</table>

Data Analysis

To answer research question 1 (RQ1), the following interview questions were asked:

RQ1: What are the barriers preventing student athletes from adhering to nutritional guidelines?

   IQ1: Are you currently adhering to nutritional guidelines?

   IQ2: What is preventing you from adhering to sports nutrition guidelines?

   IQ3: How often do you adhere to sports nutrition guidelines?

   Q4: How long were you able to adhere before progress stopped?

In response to IQ1 “Are you currently adhering to nutritional guidelines?”
all participants were aware of nutritional guidelines and were attempting to follow them but with no structured plan. Participant 4 answered the question,

   I would say yes and no. I try to get as many vegetables, fruits, and meats/grains in my diet as much as I can. I try and follow that to the best of my ability. I try to follow it but not one hundred percent.”

This was a repeated theme that all participants were aware of nutritional guidelines, but none were adhering to a structured plan.

Two (33%) participants acknowledged that they were aware of guidelines. Participant 4 stated he would ignore the guidelines occasionally to increase body weight for his specific position.

   Being a defensive lineman, I must keep my weight on. So here and there I’ll have like a cheeseburger or something that really isn’t along those guidelines just so I can keep my weight up.”

The second interview question asked, “What is preventing you from adhering to sports nutrition guidelines?” Half of participants stated that lack of knowledge and meal planning were the main reason for not adhering to sports nutrition. Three of six (50%) participants in this study alluded to the cause being a lack of resources readily available for them to use. The resources discussed were money, time, and access to food in the dormitories.

Participants answered how often they adhere to guidelines throughout a single week. This included mealtimes, snacks, and hydration throughout the time. In response to IQ3: “How often do you adhere to sports nutrition guidelines?”, five of six (83%) participants said they adhered 75% of the time. Participant 1 stated that the ease of fast food was the reason for his lack of adherence.

A common theme was “cheat days” which were perceived as the failure to adhere to guidelines by the participants. Participant 3 reflected on his experience by saying:
Sometimes I’ll allow myself one cheat day where I just really go overboard and that sort of thing. That’s where the 25% of failure to adhere comes in.

Interview question four asked, “How long were you able to adhere before progress stopped?” The researcher reviewed the previous experience with nutritional guidance by asking about adherence longevity. Three of six (50%) participants stated that they lasted less than three months. One participant (16%) stated he lasted less than a week, one (16%) lasted three to six months and one lasted over a year adhering to nutritional guidance. When asked about the duration of adherence participant 6 answered:

When we started playing games and stuff it got a little tough when we were on the road and we would stop for lunch and dinner. The choices were always McDonald’s and Burger King so that kind of made it tough.

Participant 3 stated:

I would say I lasted less than a week. I would get there, and it would be like three days in and then it gets boring. I don’t really want to cook and the food doesn’t taste as good as all these other foods. So, then I would try to catch myself stopping but I would keep falling back and keep relapsing. It’s just a bad habit.

To summarize, the barriers identified preventing student athletes from adhering to nutritional guidelines include lack of knowledge and meal planning, lack of resources readily available, money, time, self-control, lack of food variety, and traveling.

To answer research question two, “What are practices student athletes use to adhere to nutritional guidelines?”, the researcher asked three interview questions:

IQ5: What are strategies have you used to follow the nutritional guidelines?

IQ6: What kind of resources would you need to follow sports nutrition guidelines?

IQ7: What assistance have you previously received?
In response to IQ5: “What are strategies have you used to follow the nutritional guidelines?” there was a wide variety of strategies that student athletes have found success with. Two of the six participants (33%) stated that educational resources such as nutrition classes and Google has played a vital role in the implementation of strategies to adhere to sports nutrition guidelines. There were multiple strategies listed such as meal prepping, finding foods they liked, identifying what works for them, and roommates for accountability. Participant 1 stated:

I guess you could say meal prepping is a strategy. Other than that, I wouldn’t say there’s anything that I really stick to other than that. I try to get more protein and carbs but overall, I just meal prep.

Participant 3 shared information on his strategies:

The number one strategy I use is finding food that I like. It doesn’t always have to be chicken and rice because that gets old for anybody. You just find stuff that hits those categories, like the brackets of calories from proteins, sugars and stick to it.

There was also information shared from Participant 4 where they mentioned the effect of social influences:

Even with a roommate we kind of share the same beliefs about eating healthy and we want to both lose body percent body fat and gain more lean muscle mass. So, I think doing it with someone else is important to use because we keep each other accountable.

Interview question six asked, “What kind of resources would you need to follow sports nutrition guidelines?”. Four of the six (66%) stated that they wanted a meal plan which was designed specifically for their needs or position group in sports. Participant 1 provided greater detail:

I think physically giving us like a piece of paper of like what to eat and what not to eat would be a decent idea. Or, hey every football player should have extra breakfast or go from three eggs to four eggs. I mean maybe even an email with sheets for what to have during meals as ideas other than chicken and rice every day.

Two (33%) also mentioned the benefit that a refueling station would play in the role of adherence to sports nutrition guidelines. Participant 6 commented:
A fueling station like some other schools have where we get a sports drink or chocolate milk and maybe have some fresh fruit like apples, oranges, or maybe a banana and then granola bars or proteins bars and things like that. I think that would be huge and I think a lot of people would take advantage of that.

Two participants (33%) also mentioned the desire for a nutritionist since there is not one currently on staff at their university. All participants showed interest in suggesting resources they thought would be valuable to their nutritional adherence.

The last interview question asked, “What assistance have you previously received?.” Most participants, five of the six (83%), stated that their sport coaches or strength coaches have given them nutritional advice. Participant 3 shared their experiences:

Just talking with our position coaches, they’ll harp on it too. Just making sure we’re eating healthy, watching what you eat, and giving lists of foods to stay away from. It’s better than nothing compared to if you left it to their own.

This shows the need for qualified professionals to give out nutritional advice. It also shows the potential for collaboration and educational efforts to better equip coaches to serve their athletes to the best of their ability.

Summary

There are a variety of barriers to sports nutrition adherence that are unique to small NCAA division II public universities in the Midwest. Many of these barriers revolve around the lack of resources and educational opportunities. Finding ways to implement and apply knowledge is also a relevant barrier. Student athletes who have the knowledge do not have the skills or guidance to practically apply these changes to adhere to the guidelines. Participants shared how they thought their adherence would improve based on the implementation of proposed resources. Chapter four discussed the results of the interviews. The following chapter will include the discussion, conclusion, as well as leadership implications.
Chapter 5 - Discussion and Conclusion

The purpose of this study is to identify the barriers and potential solutions for the implementation and maintenance of correct sports nutrition practices at a public NCAA Division II University in the Midwest. This chapter is composed of the discussion and conclusion of this study. The discussion will summarize the findings as they are identified and related to previous research and the theory of planned behavior. The conclusion will translate the results and re-address the main research questions. Lastly, the leadership implication of this study is reviewed and discussed.

Discussion and Conclusion

The research process utilized a qualitative approach. The study identified potential barriers and solutions to sports nutrition adherence at the NCAA Division II level. The previous chapters discussed previous research and relevant information on barriers to sports nutrition adherence as well as adherence strategies that have been successful. Chapter five will present the conclusion of the study as well as discusses the leadership implications and the recommendations for future research.

Semi-structured interviews were utilized by the researcher to gain insight into perspectives and experiences of student athletes regarding barriers and solutions to adherence to nutrition guidelines. The interviews were coded and reviewed to look for emerging themes. The research questions were:

RQ1: What are the Barriers Preventing student athletes from adhering to nutritional guidelines?

RQ2: What are things student athletes need to adhere to nutritional guidelines?
The interviews were conducted through Zoom and face-to-face interviews. The interviews were recorded, and thematic coding was used to identify themes. There were five main themes were identified. Two themes emerged from RQ1: (1) lack of knowledge, and (2) lack of resources, and three more themes emerged from RQ2: (1) resources as solution, (2) educational opportunities, and (3) guidance/culture from coaches.

**Theoretical Connection**

LaMorte (2019) investigated the theory of planned behavior which explains the behavior of people who can exert self-control and intent behind their behavior. The theory of behavior was the theoretical framework and was used to connect the nutritional adherence rates to self-control and intent. The theory of planned behavior was used to explain the barriers and solutions to the adherence to sports nutrition guidelines.

Participants shared their experiences with sports nutrition adherence. These experiences related to self-control as well as intent of their behavior and impacted their adherence rates. Participant 1 expressed his interest in continuing his football career after college and shared how that has given purpose and intent to adhering to the guidelines. The theory of planned behavior connects the intent of the participant and the outcome which is increased adherence (Brouwer & Mosack, 2014). Participant 3 shared his experiences on how the lack of self-control and bad habits caused his failure to adhere to guidelines. He shared how he had intent and understood the impact of adherence, but his habits would continually pull him away from the guidelines. The participants displayed how behaviors and intentions influenced the outcome of their adherence rate. This reaffirms the theoretical framework and connects the theory to the research. The research shows how intentions through knowledge and self-control can affect their nutritional behavior.
**Research Question 1 Discussion**

There were two themes that emerged for RQ1, “What are the Barriers Preventing student athletes from adhering to nutritional guidelines?”, lack of knowledge and lack of resources.

**Theme 1: Lack of Knowledge**

One of the most common themes throughout the interview process was how the lack of knowledge prevented the student athletes from adhering to the nutritional guidelines. According to researchers, there are low nutrition knowledge scores within college athletes and a correlation between knowledge and muscle mass which can increase athletic performance (Grete et al., 2011). Nutrition knowledge is reflected through the lack of skills to prepare a variety of food and ability to identify healthy food groups. Half (50%) of the participants stated that the lack of knowledge was the reason for not being able to adhere to the guidelines. The first research question, “What are the barriers preventing student athletes from adhering to nutritional guidelines?’ investigated the potential barriers and found and emerging theme being the lack of knowledge.

Discussion relevant to this question include:

Participant 5:

Not knowing how to cook proper meals and not knowing what to make. That is the main one for me is like, not knowing what food is good for me and how to make it. I am not good at cooking meals, so that is my downfall.

The lack of knowledge may origin from the poor resources such as the lack of workshops, staff members, or education materials for the student athletes. The lack of knowledge is a key concept for administrators to understand. Athletes need to know how to achieve their goals. Previous practices have focused on educating student athletes on what they should be doing instead of how they should be doing it.
Theme 2: Lack of Resources

Previous research suggests the lack of resources may be a reoccurring theme within collegiate athletes and their ability to adhere to the nutritional guidelines. High performance athletes often lack time, implementation guidance, evidence-based interventions, and finances (Bentley et al., 2021) This aligns with the participants as they answered the first research question. Resources were a common theme among the failure to adhere. The participants all stated that resources played a major role in their ability to adhere to nutritional guidelines. Through the interview process the participants were able to share their experiences with collegiate athletes and identifying their individual needs and barriers to adherence. Some of the emerging themes regarding resources were time, finances, and self-control. One participant shared his concern on how finances were impacting them:

Participant 4: Money-wise, we are all kind of on our own for food. So, um, like me personally, I can afford it with help from like my parents and the jobs that I worked over the summer and winter break. But I would say for like a student athlete body, maybe some kids cannot follow up because they cannot afford it. So, they, they kind of buy the cheapest thing that they can buy to eat like noodles and like the normal, uh, uh, typical college diet noodles and, and water and like carbs. I will have, you know, stuff I can put in the microwave, but that is not the most nutritious.

Financial resources play a key role in the adherence to the nutritional guidelines. Being able to afford the food that is within the guidelines can be complicated and expensive. This shows the need for resource availability as well as the importance for financially reasonable programs to be encouraged.
Research Question 2 Discussion

Three themes emerged for RQ2, “What are things student athletes need to adhere to nutritional guidelines?”: resources as a solution, educational opportunities, and guidance/culture from coaches.

Theme 3: Resources as Solution

According to the literature, increasing knowledge on sports nutrition can increase muscle mass (Nascimento et al., 2016). This can be done through increasing educational opportunities on sports nutrition practices (Karpinski et al., 2012). Resources such as time, finances, and availability play a large role in the adherence to sports nutrition. Student athletes are met with unique demands as they must balance athletics and academics which often reduces the amount of time and finances that they have readily available. Throughout the interview process the participants used the lack of resources as a barrier but also suggest that making certain resources available could be very beneficial to increasing adherence rates. In regards to resources available the participants shared:

Participant 6: I would say maybe like for all athletics, probably like a refueling station. Like some other schools would have a sports drink or Gatorade or a chocolate milk. And then like have like maybe some fresh fruit. Like, it does not have to be anything crazy. Apples, oranges, maybe banana and maybe like granola bars or protein bar or things like that. I think that would be, that would be huge. And I think a lot of people would take advantage of it.

The interest in resources was a common thing. Providing resources could be a solution however there are many regulations and restrictions that affect this solution. Participants struggled to grasp the reality and of requests and the feasibility of them as well. Many of the resources that are lacking are partially due to lack of financial resources of the university or of the athletic
department. This shows the potential need for partnership and outreach to the local community to help provide resources that would benefit the community through the athletic team.

**Theme 4: Educational Opportunities as Solution**

Research has pointed to education as a highly effective solution (Bentley et al., 2019). As the participants have stated, they have the desire to implement strategies, but they do not have the knowledge to do so. Bentley et al., (2019) found that understanding the direct correlation to nutrition and specific sports can increase adherence. Some of the suggested educational methods found in research are classes, workshops, meeting with a nutritionist and hands on practical experience. The participants shared a common theme where they discussed their interested in educational opportunities:

Participant 4: Strategies I use is while taking nutrition class, they kind of give you a good idea of like, you know, like the MyPlate thing, what foods you should be eating. Educational opportunities may be one of the most feasible ways to provide athletes with the education that they need. They will hear it from professionals in the field and also where to find more resources. Equipping athletes to be successful independently will be one of the best long term adherence tools.

**Theme 5: Guidance/Culture as Solution**

Another common theme was that of guidance from peers and coaches. Toerres-McGehee et al., (2012) found that student athletes are more likely to go to strength coaches and athletic trainers for nutritional advice. This is because of their availability and the time that they are able to spend with them. (Long, 2011) also found that teammates and team culture play a large role in adherence by keeping players accountable. Throughout the interview process the participants
shared the influence that their teammates, coaches, and strength coaches have had on their adherence and knowledge through their years spent in college athletics.

Participant 4: First thing I would say is probably help from your coaches and whatever sport you are in. We talk about eating right, and all this stuff, but the coaches need knowledge behind it instead of just saying, “Hey, you should eat more”. You know, have some knowledge of being able to tell your athlete or your position players like this is what you should be eating this is what is going to help you gain weight.. And then also like maybe getting a packet or something beginning of season that comes along with our playbooks or something. Just like hey, here is some ideas of how you can eat right and things like that. Because like we said earlier, a lot of people do not have any knowledge on how do it right. Yeah. so, I would say more knowledge from coaches and how they can help you.

Coaches play a large role in the success of the student athletes both on and off the fields. The cultures that they create have potential to raise the standard that the players much reach.

The same goes for nutrition and keeping each other accountable. Players often look up to coaches and teammates for answers regarding nutrition. Coaches must be able to make informed recommendations and be able to best set up the athlete for success.

Conclusions:

After concluding the interviews with six participants, reviewing the currently literature, and reviewing the findings, the researcher can draw the following conclusions from the study:

1. Student athletes lack critical resources such as time, finances, resources and knowledge.

   Providing university funded resources will help increase adherence and resources such as a refueling station for athletics where they will be assisted in meeting their nutritional needs will increase adherence. Another resource is access to a sports nutritionist will also increase their knowledge and ability to adhere to the guidelines. Student athletes lack critical knowledge regarding the sports nutrition guidelines set by the ACSM. There is a
lack of understanding on how to implement the guidelines and follow the recommendations. This is seen through the low adherence rates and the low knowledge scores shared by the current literature. A way to combat this is increasing education opportunities. Opportunities such as classes and workshops for student athletes will be a valuable opportunity to educate athletes on their nutritional guidelines and more importantly show them how to follow them. Again, giving them access to a nutritionist will increase their education on how and why it matters for them as athletes.

2. Team culture and guidance from coaches is valuable to educate and keep adherence levels high. Teammates with shared goals will increase adherence through positive reinforcement and pressures. Coaches should understand the nutritional guidelines to be able to assist student athletes within their scope of practice. Coaches are often the first resource that the student athletes will go to. This is because of the amount of time spent together and the relationships that are formed. This provides a great leadership and educational opportunities that re-affirms that coaching happens on the field and off the field.

**Leadership Implication**

**Conclusion 1:** Resources and education play a vital role in preventing athletes from being able to adhere to the sports nutrition guidelines. There are many studies done to show the importance of sports nutrition for student athletes but very few studies done on how to best implement these practices. Many student athletes lack knowledge on how to adhere to the guidelines easily and affordably. Student athletes are challenged by the finances and lack of time due to the regulation of the NCAA and the demanding schedule of being a college athlete.
**Implication 1:** Leaders within college athletics must set up their student athletes for success. As a coach they are both a leader and a mentor. There needs to be awareness of the demand and interest in sports nutrition guidelines and the resources must be provided to allow them to succeed. This can be done by making nutrition and key component to performance and allow for time and attention to be given to the guidelines. Workshops and classes can play a large role in increasing adherence to the guidelines. Since student athletes cannot be compensated for their participation the administrators should consider supplying nutritional resources to best prepare the athletes to perform at a high level while reducing the risk of injury by improving the recovery time.

**Conclusion 2:** Solutions to improved adherence originated from team culture, knowledge from coaches, and educational opportunities. In this study teammates were identified as a solution to increase adherence by keeping each other accountable. Team culture and societal pressures can increase adherence in a healthy way. This can also stem from the coaches and leaders within athletics. Coaches and staff members play a pivotal role in the adherence and should be equipped to best give general guidelines while stressing the importance of seeking professional guidance if it is available.

**Implication 2:** Leaders within college sports are often coaches and mentors. They are responsible for the team culture and the standards that are set. As leaders the student athlete’s success must come as the number one priority. This can be done by educating student athletes on the nutrition guidelines as well as implanting clear standards to keep each other accountable. Ways to do this is to stress the importance and create a healthy uplifting culture in which teammates can push each other to succeed. As a leader the entire staff must be educated and
equipped to serve the student athletes to the best of their abilities through meetings, workshops, classes, and individual meetings.

**Recommendations for Future Research**

Future research should be to integrate the behavioral sciences with student athlete’s adherence to sports nutrition. There could also be more research done on the collaboration of nutritionist and student athletes. Specific examples of ways to collaborate the education system with the athletics system would be a fantastic area of research and could provide a more holistic approach to sports medicine and sports nutrition. It could also assist in laying the foundation integrating multiple fields together.
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Appendix A – Interview Questions

IQ1: Are you currently adhering to nutritional guidelines?

IQ2: What is preventing you from adhering to sports nutrition guidelines?

IQ3: How often do you adhere to sports nutrition guidelines?

Q4: How long were you able to adhere before progress stopped?

IQ5: What are strategies have you used to follow the nutritional guidelines?

IQ6: What kind of resources would you need to follow sports nutrition guidelines?

IQ7: What assistance have you previously received?

Appendix B – Transcripts

Participant 1

Researcher: So now we are recording. So, I will take this, put it on zoom and then it will be transcribed for that. Okay. Yep. So, the first question, overarching research question is what are the barriers preventing student athletes and material to nutritional guidelines. So, I am going to ask you is right here, which is, are you currently adhering to nutritional guidelines?

P1: I would say, yeah, I am. Yes. How so? Uh, by making sure I eat three good meals a day, um, as well as snack packing throughout the day, trying to make sure I get enough protein, carbs and fruits and vegetables in my life. Um, as well as hydrating throughout the day continuously to make sure, um, I guess would be the biggest aspects that I could think of off the top of my head.

Researcher: And what has helped you out here? Like where you went to get your information from, to learn about sports nutrition.
P1: Um, I guess a lot of it would be from just, uh, my academics in general. Um, I would say the strength staff, staff plays a little role. Um, I guess our coaches do that would say they are a little less than that than what you guys do. But I say, uh, I guess mostly it would just be from, uh, my academic background as well as just my overall knowledges of being an athlete, I guess, to what I know I need to put into my body.

Researcher: And then last question is how often you adhere, which for you would be above 75% based on what you just said. So, it is 0% times 25% time. 50%,

P1: Yeah. Yep. 75. Um, I mean, I am good throughout the week, but I might have a, you know, a double butter burger from Culver's on the weekends. Yeah. I mean, like, I, I mean the fast food gets to you here and there just for, you know, convenience and what not, but I am going to treat yourself here and there. So

Researcher: Yeah otherwise it is impossible to stay sane.

P1: I mean, like I said, it was with how many calories and stuff burning every week. I mean, I burned, you know, give, or take over 2000 calories with every workout. So, I am in, I do not know, eating ground Turkey, vegetables, and rice for dinner every day is not the most enjoyable thing, but it gets the job done.

Researcher: It gets the job done, but for how long? Right,
P1: Exactly. Four days maybe.

Researcher: All right. And there is another question. How long were you able to adhere? So how long have you been currently at hearing? I guess this is a better word for you.

P1: Um, I mean, I guess I do not know how to answer this one. Um, what do you mean before? Like progress not good before I stopped doing it, like before I stopped eating, like, well, have you been,

Researcher: Um, adhering


Researcher: Yup. I think you are the only person that is adhering long-term to this.

P1: It was when I was like younger. I mean, I did not my, I mean, my freshman year, it was all dorm food sophomore year. I did not know how to make food. Like my mom never taught me how to make food. Like I knew how to make butter noodles and stuff my sophomore year college. Like that was it. And then was living with more and more people, I have learned how to make more and more things. And like I said, I mean, we talk about what I eat. I mean, it is pretty good for, you know, the same thing every day for breakfast and a decent meal for dinner. So, I
mean, and obviously with where I want to be in life and hopefully playing football after this, so I know I got to eat well, biggest thing, but I'd say 12 months,

Researcher: Definitely. One of the few people that has like the end goal, you know, like 10 of three years from now, most guys do not think that far ahead when it comes through what they are putting in their bodies, they think of what is good to have right now.

P1: But like, I should cut on fast food and a little bit more. I mean, I will go for the occasional ice cream on a Tuesday night, because I just need it. But like, I do not know. But then again, the problem is when I do get fast food, I spend like $16 on myself, like 16 bucks. That is a lot. I do not know. Yeah. All right. Problem could be worse though. It would be worse.

P1: Strategy, other meal prep. I guess if you would use that as a strategy. Other than that, I would not say there is anything that I really stick to other than, depending on what I want to do with either, you know, more protein or more carbs, but I would just say I just meal prep, I guess what the word is I don't use categorize, but like proportion my meals, I guess that kind of goes, that kind of answers your question.

Researcher: Yep, does. And then the next question is for like say here at our university, what kind of resources since you are already doing it, what kind of resources can we give you to help even more with the adherence to these guidelines?
P1: I think like physically giving us like a piece of paper of like what to eat and what not to eat, I guess would be a decent idea or, Hey, this is, I get, you know, every football player will have extra breakfast, but say, Hey, you should have, you know, three to four eggs. Here's a handful of grapes. And you know, when given, I guess an ideal of what meals, um, to eat will be a huge one. Um, I know we have a nutritionist here, but like I said, I do not think I have ever spoken to him, him, or her. Um, because I know that that has been on and off the last couple of years. Um, so I mean just coming to them to talk, maybe it might be an idea, but like, I think like giving sheets of like, I mean maybe even an email, I do not know, but saying like, Hey, these are some actual ideal meals that you eat other than chicken and rice every day. Cause I mean, some of it, obviously people do not eat ideal, but the idea of like, Hey, these are some ideas that you could do. That is going to help you. That are basic other than like, you know, chicken and rice or extra breakfast. I think it would be huge because I know that is when my buddy has, uh, uh, Arkansas state. They have like a little list of like, Hey, here is 12 like meats you should eat. And like here is 12 meats you should not eat. And here is 12 fruits, vegetables that will benefit you. And here is some that really will not do much for you. I, I use that a little bit too of just like what? Okay. So, you can add that to my strategies, I guess, whatever, um, of what I should know, but I just broke this here.

Researcher: And that is an easy fix. I have seen that too where it is like if they give athletes as a sign for graphics. Yeah, I have seen that before I deal with, they have a giant infographic where it is like, they have all the sources of big meat-based proteins and plant based and then fruits veggies, and they say, pick two of these and they have like a portion size for you. That is something that's easy to do that we should put together. Right.
P1: Having that piece to paper, just something easy and basic.

Researcher: Yep. So, you are looking at more, just like also meal planning information, like,

P1: Yeah, I guess, I mean, I do not know. I do not, I do not mind making dinner every night, but just with how busy I am, it is not the most convenient thing to do. And I think that's kind of where I am at with how busy I am. It is more common in convenience. So, like if I can make six, six chicken breasts for a week and eat to finish this, I will be okay.

Researcher: You can say one of your personal barriers is time and convenience and it makes it hard.

P1: I think it is. Yeah, for sure. I would say time and convenience for sure. And then a lot of it and then some of it is just, um, what sort of, I want to use here? Um, not strength, but sticking to my, uh, like not going to go get 10 items from taco bell when I have food at home. Yeah. That would be, yeah. I mean, it is given or take sometimes you need to do it, you know, you had a tough week, let us go get some ice cream, but it is also like, do I really need the ice cream? Yup.

Researcher: What assistance have you previously received that has helped?

P1: Uh, I mean, I guess just talking to more people the better, um, as well as if I have any questions, I guess I just Google it. Um, I think we have talked to nutritionist before, but like it was not anything very in-depth. Um, while I was talking, I guess, from other, from other athletes
at different schools, like bigger schools, I guess, because I have a couple of buddies that played D1 sports. So, I just curious to see what they give them or what they say. I will be like, you know, um, as well. Um, and then just, I mean, I mean, like I said, asking you guys, I mean, you know what I mean, plays a vital role as well, just for your opinions about stuff. I talked to read about it and I have talked to you about it and I obviously talked to a coach about it too.

**Participant 2**

Researcher: Now they are all open-ended questions. So, it is like pretty simple, impossible to get wrong. There you go. Hopefully, I do not mess it up. Yep. I have two overarching questions. I am trying to answer. So, you do not answer this directly, but I have not. So, questions to help answer this through our conversation. So, this is the overarching question. So, what are the barriers preventing student athletes from adhering to nutritional guidelines? Um, again, with these questions, I am not looking for themes that we can identify. Um, once this research is done, here is the first question regarding this? Is, are you currently adhering to nutritional guidelines? Yes or no. And why or why not? Or how, or why not

P2: Someone given me these nutritional guidelines. Yep. So, no nobody is given me any.

Researcher: Gotcha. But have you ever received any guidelines or even on your own looked up? Oh, looked up. Yes. Yeah. Yes. So yes. Your kind of currently are?

P2: Yes. Okay. I did not know if it was from the coaches or not, but yes.
Researcher: And are you currently practicing?

P2: Um, trying to get my daily calories at around 4,000, and then I am just incorporating a balanced diet with, um, getting the vegetables, vegetables, and fruits in, and then, uh, eggs, um, lean meats, like Turkey, um, and stuff like that.

Researcher: Perfect. Favorite, um, in the past, what has prevented you from adhering in the past? Whether you have fallen off or, um, what has made it difficult?

P2: Um, the money side of it. Just being able to afford those groceries. And sometimes, I guess during the season you get busy, but finding that time to go and get those groceries.

Researcher: Yup. Time has been the number one answer so far because everyone says they do not have time. Um, perfect. Next one is how often do you add here? So, it gives you the ranges 0% of time. Twenty-five percent of the time, 50% of the time or 75% of the time. 75%, 75.

That's good. That is solid. Seventy-five percent in the past. When you have it here to guidelines, how long have you been able to go? Um, continuously about a week, a month, six months or around 12 months?

P2: Um, say three to six. I would say six months. Six months.
Researcher: Yeah. It is kind of a cool trend. We are seeing that the older guys do way better than the younger guys.

P2: I really hear it early on. It was not like this.

Researcher: Yep. All right. The next question, um, with, against you, which again, you do not have to answer because of two or three sub questions for, this is what a private student athlete use to add here. So, this is focusing on what you are doing here and kind of what we have available for you, so that you have used, um, to follow the nutritional guidelines, um, uh, specific strategies that have helped you kind of stay on track.

P2: That'd be just Googling

Researcher: Googling

P2: Yeah. Googling the hotline, nutritional guidelines or not sure.

Researcher: Yep. So that has been a, your main source of information has been Google. Yeah. Alright. And then from a university standpoint, or I guess when I went through athletics, so yeah, it is the university. So, what are, what kind of resources would you need to follow guidelines? And then basically, how can we assist you student athletes, do it hearing longer and not falling through and mean these barriers that we are seeing?
P2: Um, I would say if we could work with the nutritionist, um, I know it is a lot, but if they could make, I think position groups, um, kind of like a standard weekly nutritional plan, something kind of like a workout, something easy to follow. Um, and you know what I mean?

Researcher: Definitely. Like you want external assistance from my specialist for your like specific, I know you said a weekly meetings and check-ins because I think people, people fall off if they did not like constantly, constantly being checked in and cuffed accountable. And the last question again, this is super easy. This interview is super, super easy. Is what assistance have you received? Um, if any, from the university and athletics, whether it is coaches, strength, coaches, teachers, peers,

P2: You might hear coach say something every now and then, but really It is kind of like a, on your own thing.

Researcher: Okay. On your own. All right. Perfect. So, we need easy, right? Yeah. I was not so nervous to do this interview. I do not know why I have no idea what you are going to ask me. So yeah, nothing groundbreaking. I am just looking for, like, I think it is called coding, which is where certain words and phrases get categorized. And then from there we can use that to, um, look for trends. It is going to have qualitative research and you will do it in few months, probably, but all right, I will talk to you out there.

Participant 3:
Researcher: And then this is getting recorded, just so you know. Okay. And then this gets transcribed into like a text file. And then I just, all the questions and the answers you have. And then download it and code it, which is like putting your entries in different categories and the approach of the answers. Sure stuff. But we will knock this out quick. So, you can go to bed, sleep in tomorrow. This is my overarching question. You do not have to answer this one. Okay.
The first question we are going to wait to answer is what the barriers are preventing student outfits. I am adhering to nutritional guidelines. So, the first question for you to answer, and again, these are all open-ended questions, so there is no right and wrong answer. I am the only person in the field. So, boom. First question. Are you currently adhering to nutritional guidelines?
Yes or no? And if so, why, or how?

P3: Yes I am. Because what is adhering me? If they can do it, I can follow. Okay. Yes. Yes. I am sticking to a plan because I want to see the most turnout of the, um, like lifting. Let me go through, I do not want to just waste it by eating bad, healthy. I want to just stick to eating like healthy, watching the calories I take in fats and the sugars, keeping that like, uh, it is like a lower account, like lower on saturated and lower saturated and then lower artificial flavorings too. So, I can stick to that during the season.

Researcher: That is good. Well then in the past, next question is what is preventing you from adhering? Um, so in the past, what has prevented you from adhering or following the guidelines?
P3: My ego, I would say my ego in the past. I always thought I can just eat whatever, stay active, you, whatever I am going to get away with it. You know, everybody is eating all this healthy food. I can still go to McDonald's after every lift. You know, obviously it does not work out that way You really get out what you put in. Into it out of the situation. I mean, you eat healthy foods. You are going to obviously have better results, like more protein, nutrition, and stuff like that. So, after I realized that that's what happened, I started switching over to that and it really turned out in my favor.

Researcher: Yeah, definitely. It would say you cannot. Out-train a bad diet. Right?

P3: That's fair. That is fair. I'm walking a bicep.

Researcher: So, um, daily, how often do you adhere to sports? Nutrition guidelines? 25%, 0%, 25% percent or 75%.

P3: I say 75%. I try, I just try to stay straight to it. Um, I mean, sometimes I will, I will allow myself one cheat day, a week where I will just go overboard and that sort of thing, that 25% comes in, but usually on a day-to-day basis,

Researcher: What's your favorite cheat meal?

P3: Uh, just going to taco bell, taco bell,
Researcher: All right. Next question. In the past, how long were you able to adhere it before progress stopped? One week, one month, three months. Oh, wait, one week, one month, three months, six months or 12 months.

P3: In the past. I would say it would be less than a week, honestly. Like, I'd be like, oh yeah, I'm going to eat healthy and be healthy. And then, uh, I'd get there, and it'd be like three days in, this is, this is boring. I do not really want to cook it. Does not taste as good as all these other foods. So, then I'd try to catch myself stopping and then fall back and keep relapsing on that. Yeah, just a bad habit. Really.

Researcher: Yeah. It is tough to be the bad habits. Right. So easy. Right? Yeah. We only have a few more question. Overarching question again. They do not, you do not answer is what practices do athletes use to adhere to nutritional guidelines? And this category is described strategies. You have used to follow the nutritional guidelines, what strategies?

P3: Uh, I say the, just the number one strategy I use is probably just finding food that I like, you know, I mean, it does not need to always be chicken and rice, chicken and rice, chicken, and rice, because that, that gets old for anybody, no matter who you are. I mean, you just find stuff that hits those categories, like the brackets of calories and proteins and sugars. And like, if it is low with sugars and stuff like that, I will stick to it. And then like to just keep switching it up. I mean, I get people who meal prep too, cause it's easy during the week, but I don't, I don't personally, I don't think that works for me because I'll just get sick of it. And then I will find myself, um,
throwing out the food that I make earlier on in the week when it gets to like that fourth day, fifth day. So just finding a meal that work for me,

Researcher: Everything I think, guidelines they use to kind of help find the foods that you liked and that aligned with sports nutritional guidelines. Or do you just go based off your knowledge of like the macronutrients of the foods that you are eating?

P3: I will look up online, I will just look up like, like what you said, like brackets and stuff like that. And like the average person, I mean, I am bigger than normal. So, I'd like to widen the brackets a little bit just because I'm doing a lot more than just like going to work a nine to five and then coming home and eating and working out, you know, I got to stay active all the time. So, I got to, I think my body needs more fuel than most just to keep going with that.

Researcher: You have a little bit more leeway, right? Yeah. All right. Next one. What kind of resources would you need to follow sports guidelines from another state? So, what could we give you from an administration point of view, whether that's through athletics training or strength and conditioning or the university to help you or even your teammates, um, better adhere as far as resources?

P3: I think that a cool resource that could be done, uh, um, it'd probably take a lot of work would be just going around to, you know, all these division one schools, even if you can get into with like NFL teams and seeing what their nutritional guidelines on and hour and try to like base one off of their like, based on for body style body, um, like height and stuff like that, stature position,
stuff like that. And then just find a way to where you could give like a, uh, um, guideline out to
players and other athletes to, to where they could just follow that. And then just make sure they
find foods that are within that bracket and stuff like that. Like say it was like, Oh, we need this
much protein with this meal. And I gave him like an example of how much protein, like, Oh, it
would be like a, a breast, and a half a chicken, or it would be like a pound of lean beef, 95 to 5%
or whatever, something like that. I think that would help a lot for athletes all around,

Researcher: You know, seriously an overall just like knowledge and educational resources would
be big. Yeah. Okay. Let us go with the NFL. Actually. I know the guy that just got hired for the
Vikings and coach, and he was the strength coach that filled the Eagles and their prime. He also
does their nutrition and he, they have so like, they just, they have got a team chef obviously,
which is right. We cannot do that. Or they can do that, but they have like meals and like alarms
for their meals where they send out reminders that these guys must have like meal an at 10
o'clock and then meals at like 2:00 PM. It is nuts. Yeah. You are the only person that I would say
that you wanted a fuel station here, which is also unrealistic.

P3: It is very unrealistic. You got to realize where we are. I mean, it would be nice to say, Hey,
be cool if we could get a field station, but realistically where we are. And um, like the it is
expensive to do that every day. So yeah. I think the protein and sandwiches a lot too, even for us,
which is good, but yeah,

Researcher:
It is something right. Yeah. Better than nothing. So. All right. Last question. What assistance have you previously received from the university? Like nutritionally? Yeah. As far as guidance or information or anything like that,

P3: I am just talking with our position coaches. We all, I mean, they will harp on it too. I mean, last year it was hard. Just making sure you are eating healthy, watching what you are eating. Just try to stay away from them, fatty foods, and stuff like that. And then as far as the weight room itself, the sandwiches, and the protein in the morning, that is when you cannot really get much better than that, honestly. It is way better than nothing. I mean, way better than nothing. If you left it to where it just be on our own, Hey, go home, buy some protein. I am guaranteed. Like 85% of the kids went by protein.

Researcher: All right. That is all the questions. Okay. Sweet. Anything else you would like to add before I end this?

P3: Uh, no, not that I can think of.

Researcher: All right. Awesome. You passed with flying colors. I would say top 10.

P3: Thanks

Researcher: You're welcome. All right. You have a good one. You are too. Thanks so much for doing this again.
Participant 4:

Researcher: I will ask the question and I will put it in the chat too. So, in case you have to read it again that's the first one is, are you currently adhering to nutritional guidelines? If yes. How so? If no. Why?

P4: Um, I would say yes and no. Yes. With, um, I try to get as much like vegetables, fruits, and meat and grains in my diet, as much as I can. I try and follow that to the best of my ability, but with playing the sport of football and being a defensive alignment, um, I must keep my weight on, so here and there I will have like a cheeseburger or something that really is not along those guidelines, just so I can kind of keep my weight up because that is what I figured out has helped me keep my weight on. So, so I tried to follow it, but not a hundred percent.

Researcher: Try to, it is also tough to do. I think long-term hard to do, right. I answered this one by talking about how you need weight to be on the D-line. But is there anything else that is preventing you from adhering to sports, nutrition guidelines?

P4: Um, I guess I would speak on not myself, but like the whole athletes, student body, just like money-wise, we are all kind of on our own for food. So, um, like me personally, I can afford it with help from like my parents and the jobs that I worked over the summer and winter break. But I would say for like a student athlete body, maybe some kids cannot follow up because they cannot afford it. So, they, they kind of buy the cheapest thing that they can buy to eat like noodles and like the normal, uh, uh, typical college diet noodles and, and water and like pretty many carbs.
Researcher: Yeah. Most people just eat plain rice and chicken and that gets boring.

P4: Right? Yeah. So, I would say on that, like the student body athlete aspect, some kids might not be able to follow it because they don't have the money to do so. That is what I would say.

Researcher: Do you think they have the knowledge because if you do it right, it is not actually that expensive?

P4: Um, that is another thing. So, like I'm obviously an exercise science major. So, I had to take nutrition and classes that talk about it, where like guys that are in business major or something like that, like they might not have the knowledge of how to do it as well, because I know how to do it in an affordable way and what to buy and what not to buy. So, I'd say a lot of the athletes are on educated on how to, how to eat right. And how to eat right. For a decent price.

Researcher: Yup. Yup. I agree. I think that is a big problem when it comes to nutrition, but all this information, but not how to do it and how to do it. Well, I think that is where we, we are not good.

P4: Right? Yep. Cause a lot of athletes will start it and then we will go away from it because, well, I do not know what to do. They fail and then they get frustrated.
Researcher: Yeah. People do not know how to add variety when they try to first start, everyone just gets chicken and rice and broccoli, but there is like 50 other options you could do. Like at least 50, we just do not know about them. So, I think you're definitely right. You talked about that. All right. Next question. How often do you adhere to sports nutrition guidelines? 0% of the time, 25% of the time, 50% or 75% or greater?

P4: I would say like 75% because I have my healthy meals during the week and then I will have occasional, I will have the occasional Culver's trip or something like that. And there, and then the weekends get rough just because the weekends are a break from everything and I kind of just eat whatever, drink, whatever. Yeah. So, I'd say during the week of like, while we're competing, we're lifting and working out, it's pretty good. But then the weekend kind of get away from it.

Researcher: Yeah. And that is how it should be. You need a mental break. Like it is okay to like, you know, treat yourself. We talk about treat meals and those are a good thing to write occasionally. Otherwise, you lose your sanity. All right. Next one. How long were you able to adhere before progress stopped? And this should be regarding an actual plan that you have tried in the past?

P4: Um, I would say I've the longest I have lasted is maybe a month maybe, maybe. Um, just because like you said, you kind of get in a routine and you get bored and yeah. Obviously, you see some people, like my roommate that I share a room with, is not an athlete, they will see him come upstairs with pizza or something like that. And you are like, wow, I really want to eat that. So, then you kind of give in and then your, that my diet will go bad for a couple of weeks. And
then I will realize I got to really gain that back in, along with that, I would say the temptations around you is the reason why you cannot sustain it the whole time. Yep. Go ahead.

Researcher: You say the social aspect also. It is kind of what you are alluding to.

P4: Yeah the social aspect, but like a discipline of yourself too. I mean, I feel like part of nutrition is you got to want to do it yourself. Yeah.

Researcher: Which I think it goes back to like why you are doing what you are doing, you know, like what is the end goal now people do not know. So that is the first question I am trying to answer through my interview on the second one where it says a few more is, um, again, you do not answer this one. This is the overarching question. And there will be follow ups looking to answer this one. So, it is what our predecessors do, and athletes use to adhere to nutritional guidelines. Okay. So, the first question we're going to answer this one is described strategies you have used to follow the nutritional guidelines.

P4: Uh, some strategies I use is while taking nutrition class, they kind of give you a good idea of like, you know, like the MyPlate thing, what foods you should be eating. I eat the same foods. I do not follow really the guidelines of how much you should be eating because those are for like normal people. So obviously I got to eat more because I am burning more calories. And also, I am a bigger person and I have to be bigger to play my position. So, I would say following like the, my plate guidelines of the P like the picture of the plate and what should be, you should be eating and things like that. But I do not, I do not really follow that how much you should do.
Researcher: Yeah, no, that is a good point. I do not like that either. Like I remember we use sheets last year. I think Maria and edit with Iowa Hawkeye meal plan stuff, but it's not very like specific cause there's like you said, you're a D lineman. You need more than they could lie or corridors or safety. But normally they just meshed into one big program, which is, I think, I do not want to say dumb, but not as helpful as it could be because players do not necessarily know what exactly to us to be doing and chooses around program or a meal plan. Suddenly they are at a place where they do not want to be. You do not want a corner weighing 250 pounds right? You do not want someone up there.. What kind of resources would you need to follow? Sports, nutrition guidelines. So here in college. What are, what are the things we could do or implements or provide to help you guys as student athletes better adhere to these guidelines?

P4: Uh, first thing I would say is probably help from your coaches and whatever sport you are in. Um, we talk about eating right, and all this stuff, but the coaches may be having some knowledge behind it, instead of just saying, Hey, you should eat more. You know, have some knowledge of being able to tell your athlete or your position players. Like this is what you should be eating. This is what, um, is going to help you gain weight. Is not going to help you lose some weight. Does not want to help you maintain things like that. And then also like maybe getting a packet or something beginning of season that comes along with our playbooks or something, just like, Hey, here is some ideas of how you can eat. Right. And things like that. Because like we said earlier, a lot of people do not have any knowledge on how do you, right. So, someone might eat two pizza rolls instead of 10. And I think that is healthy, you know? I do not know. Yeah. So, I just say, um, more knowledge from coaches and how they can help you. And then also, I mean, it would be cool if we could get some food, you know, like how the D one has their, their cafeteria
is where they go eat and stuff. We are obviously not going to get that because they do not have the money. Yeah. But even just a little bit to help us out.

Researcher: I think I just heard that the, uh, NCAA approved, um, maybe reallocation of funds to go to sports, nutrition bars. So, it is a possibility if we had money.

P4: Yeah. I think that would be a cool thing. Cause you know, we watch, you'll watch a video in Alabama. You will watch a video in Wisconsin or something like that. And they have their athlete cafeterias where it is all good food for you, you know.

Researcher: It is way easier to have money.

P4: Right, exactly.

Researcher: Right. Yeah. I have a friend who worked, or I know a guy, not really a friend. I know the Philadelphia Eagles, strength coach and head nutritionist. And now we just signed with the Vikings to be there and coaching nutritionists. But they like do everything for them. They make meals for them. They have a little reminder of what time to eat each meal. They're all labeled and everything for them.

P4: A dream, right? Yeah. It takes to perform at the highest level. Right. So, if we get to you guys, even a quarter of that, that'd be okay.
P4: I think so too, because like we know working out is only like 10% of improvement.

P4: Yup. And that is like the biggest credit recovery is sleep and nutrition. They go hand in hand, you cannot just have one of them and expect results. Right. That is why it is weird. We have been trying to slam hearts, Sam through sleep all the time, but we do not push nutrition. Like we should, I think it is like disappointing, but hopefully this is the foundation, you know, for the next season. Maybe I know Gunner's passionate about this. I hope we can use this information to really do something with it and have a structured program. Not just when you guys come up to us and ask for stuff that was there waiting for you with our packets, like you mentioned before I pack, it would be big. I think.

P4: That would be nice.

Researcher: All right. Last one. What assistance have you previously received from the university?

P4: Uh, pretty much just gain protein after I lift. Yeah. And um, I guess, like you said, if you directly ask someone they are not professional dieticians, but they have the knowledge from previous education that can somewhat help you go in a direction that you want to go, but we don't have like a, what would be really cool is if they had like a nutritionist for athletes, like we don't have a lot of money, even just like a nutritionist for just the athletes. Not every specific sport I think would help a lot too.
Researcher: Yeah, definitely. We have a, so when I want to say it just added a major on health and human sciences or a sports nutrition, and we are thinking it might be a possibility to collaborate with their upperclassmen students and assign teams to them where they would be like the head nutritionist and then after the meal plans. And I think the biggest thing is checking in and athletes too. Like you give them something, but then you got to check in to make sure that they are on track and not falling off, but that is a possibility in the future. Like we are talking about that.

P4: Yeah. I think that would be a game changer because I use an NFL guys have all their nutritionists and stuff. We are not the NFL, but like you said, a quarter of it would be giant.

Researcher: And then yeah, maybe they would be undergrad students, but they would have a good baseline knowledge and they have the passion to, you know, invest in help outfits obviously. So, it'd be cool and helpful for them to do or just learn about the culture of sports and how to apply it. Because I think textbook knowledge is not always as transparent as it should be when it comes to like how to do it. So, it'd be good experience, I think for both the football players and then also the students and yeah, I think it would have a big impact. I think the first step,

P4: Which is good. And I think even from like my freshman year to now, it is it has not improved a crazy amount, but I mean, it is, it is getting better and better each year, partially because I think there's people like you were informed, but also there is more players that are more educated on what should be right. And what should be wrong. Yep. That is the first step.
Right. Right. Cause I mean, a lot of us are in the majors where this is what we are going to be doing. So, I think that's kind of helping change the change the route a little bit too.

**Participant 5:**

Researcher: All right. I think it is recording. All right. So, it's going to be, let me check one, two, three, four, five, six, seven questions. And these are all what is called open-ended questions. So, there's no right or wrong answers, so should be easy. All right. So, I will ask you the question and then I'll put it in the chat.

P5: Yeah,

Researcher: So, the first one is, are you currently adhering to nutritional guidelines? Yes or no?

P5: Uh, I would say yes. Um, because right now I am changing up my diet a little bit to, um, lose some body fat, but gain more lean muscle to me. Yup. And I can do that. Why? Because I do not know. I just feel like it is going to help me on the field. Um, and of course it, it looks really good, and it looks good, especially for the summer bod, but, and then it just, like, I was talking to some guys who like have really low body percent fat and like they just said, like, they feel so much better, and they move so much better and sleep so much better. So, I just want to try it out. But just general health and then also athletic performance.

Researcher: Yeah. Um, this is the next question, which is what is preventing you from adhering to sports, nutrition guidelines. So, what has prevented you, what do you think will prevent you?
P5: Like not knowing how to cook proper meals, not knowing what to make? Um, yeah, that is, that is the main one for me is like, not knowing what food is good for me and how to make it. Um, I am not good at cooking meals, so that is my downfall. Uh, we bought a cow and shot a couple of deer, so we have a lot of venison and a lot of chicken.

Researcher: The best way to do it, you save so much money that way,

P5: So much money. And a lot of people do not realize that because there is a lot of money up front, but in the long run you save money.

Researcher: Yeah. If you are only paying like three pounds per beef or per pound of beef, which is like the whole towel, like yeah. It is like $5 everybody's steak at the end, which is, yeah. Next one. How often do you add here? Like 0% of time. 25% of the time, 50% or all the time?

P5: Um, I would honestly, I would say second 75% of the time. I am cautious of what I eat and when I eat.

Researcher: So, in the past, how long were you able to adhere before progress stopped? So about how long can you stay on track before you feel yourself? Kind of falling off.
P5: Uh, honestly about two weeks. And then I get that urge and like, I look at some chips, I'm like, oh my goodness, those seem so good right now. And then, or ice cream, you know, I will, I will go in the freezer and just started eating some. But, uh, yeah, I would say about two weeks.

Researcher: Two weeks. So less than a month. Yeah. It is better than most people. Really. Yeah. Well, what's, most people are like less than a week, less than a week having like chips once a day, once a week is not, that's not bad. That is not bad at all. Alright. Here is the next question. Describe the strategies you have used to follow the nutritional guidelines. So, what has helped you,

P5: Um, even with a roommate, um, we kind of share the same beliefs about eating healthy and we want to both lose body percent fat and gain more lean muscle mass. So, I think doing it with someone else is really important to us because we keep each other accountable.

Researcher: Yep. So, the other social aspect yeah. Keeps me accountable. Yep. Okay. Next question. What kind of resources would you need to follow the guidelines? So, what could like, as a student what things did we have to provide you athletes to be able to adhere for greater than what you currently are doing?

P5: Our coaches like to talk to us more about healthy eating and nutrition and like gave us some resources on like what to eat, when to eat, how much to eat. Like right now. There is not much of that. And I think we would all really benefit of if it were taught more to us if that makes sense.
Researcher: Yeah. But how would you, how do you think it would be the best way to teach you guys? That'd be like a workshop, a class, because I feel like the once-a-year meetings don't do a ton, you know.

P5: Yeah. No. Um, so we had a meeting with the tight ends a couple of weeks ago and Coach A talked to the nutrition guy at the dolphins and the dolphins sent us the, like the resource that they use for eating healthy. And that was beneficial cause like knowing that NFL guys eat that and follow that plan was kind of cool to see. So just like providing us with resources like that, I think would go a long way. Um, maybe, maybe a class, but I do not know if guys would take that seriously because when they must do more than what is, as they get kind of mad about that, but yeah.

Researcher: Yeah. All right. You kind of answered this one a little bit, but maybe you have more experience with this, but what assistance have you previously received that helped.

P5: Uh, talking to Coach B Um, he kind of helped me, um, but the dolphin’s resource from Coach A, um, next level with Coach C, I try to get on a meal plan with him, but he never sent me the meal plan. Just like talking to some NFL guys that come through next level and what they eat and when they eat and how much.

Participant 6:

Researcher: And they are all open-ended questions. So, say yes, no. And then give it a backstory. And then we put more information as far as experience and perspectives. Okay. Because how it
works is whatever your answer is, you give me the words are coded and based on the code, it is then scored just kind of confusing. But I can explain that to you eventually, when you are in your master's program, you will have to do the same, the same thing. Okay, bye. Very easy. Very informal, um, interview. So, don't worry. I can also turn the audio or the transcript, so you will not have to take anything out. Just let me know. We can just go top it right now. Okay. All right. So, this is the main research question. I am not asking you this, but these are kind of what the other questions following it or hoping to answer. So, the main question in this category is what are the barriers preventing student athletes from adhering to nutritional guidelines? The first poll question for you to answer is a copy and paste right there. It is right here. Are you currently adhering to nutritional guidelines?

P6: Um, I would say that I am probably not adhering to nutritional guidelines. Um, I try to eat as many fruits and vegetables as I can. Um, sometimes, you know, if I run out of, you know, a certain fruit or vegetable, I might have to wait until I get back to the grocery store. And if I want to have time to go back within that week. So, um, I guess there will be some days that I do not like get some fruit. Usually, I try to eat vegetables because I bet every time we usually get through it, I eat a whole bunch of it. Right when I get it. Yeah.

Researcher: I did the same thing.

P6: And then I am out for, until I go back. But if I need to do a little bit better job of maybe having fruit in moderation, I guess, I guess trying to make it last longer. Right.

P6: I would say the main thing that is preventing me from meeting the nutrition specific nutrition guidelines would be like, I would have to say time, time is a big, big thing. Um, sometimes I do not have 30 minutes to sit down and cook some vegetables. I mean, usually I will have, you know, stuff I can put in the microwave, but that is not the most nutritious, I guess. Um, and then back to what I said in my previous question at the time of like going to the grocery store when I run out, um, sometimes, you know, I might not have time until two days from now or yeah. So, stuff like that, I would say.

Researcher: Right time has been the number one thing that everyone else has also said, just even when I was reviewing the research and stuff, every college ever, all the athletes at time, they just do not have time to meal prep or have a story every day.

P6: And, and I probably do have some sort of time during the day, but, um, or like during the weekends, but I could, like, that is just more of a self-discipline issue. It could be a self-discipline issue as well.

Researcher: Yep. That's I think the second one actually on the list was self-disciplined and the third one was some knowledge. Yeah. Yep. All right. So, I know you've tried to adhere to it before it some kind of program.
Researcher: This question kind of goes off. That is how often do you adhere to sports nutrition guidelines and 0% less than 25% of the time? 50% of the time or 75% think about either day-to-day or weekly. How often do you think you would try to add here?

P6: Um, I would say it would probably be in the over 50% range. Um, um, and then, I mean, probably in between the over 50%, but below 75, probably when I adhere to the nutrition, sports, nutrition guidelines. Um, I tried it is pretty good. Yeah. But I guess I am not a hundred percent sure. Like what fits, you know, adhere to the sports, nutrition guidelines.

Researcher: Um, did coaches ever give you like macro nutrients, breakdowns.

P6: Um, Yeah, yeah. A little bit.

Researcher: So that would be the macronutrient guidelines for sports nutrition. Okay. Very hard. It is kind of where we are kind of trying to research right now is how to implement it in educate and enable athletes here.

Researcher: Next one, when you did dry, how long were you able to adhere it before progress stopped a week, a month, six months, 12 months?

P6: Um, I would probably say it was probably a month, month or so that I tried to stick to it. And then I think at that time we started playing games and stuff and, uh, got a little bit tough when we
were on the road and we would stop for what would it be? Lunch or dinner. And your two choices were either burger King or, um, I do not know, like McDonald's or something, so that can make it tough. Um, when we are traveling. So, I would say probably a month know.

Researcher: That's pretty good though. A month is a good. Studies were like three days. So, am I studies you're saying, or is that even, not even 12 hours sometimes? All right. So that is the first research question I am looking at you. And I think we have pretty good info from your answers. The second one is based on, um, adherence and how we can kind of help you adhere better. So, here's the overall research question again, there'll be questions following this that we'll use to answer this. So, the main question is what practices student athletes use to adhere to these guidelines. So, the first one is scrap strategies. Um, but what strategies have you used, um, to follow these nutritional guidelines?

P6: Um, I would say I think meal prep during the weekends was a big one. I would make a whole bunch of like a protein and then I would have that as like my main thing. And then, um, I would be able to like either cook pasta or make rice with that. And then most of the time it would end up being microwaveable, like the vegetable things that I had put in that, and then some fresh fruits. So, like app, I would have like an Apple or orange and grapes. So, planning ahead kind of preparing has been your main strategy. Yeah. Yeah. That, and also having stuff that's readily available to like to bring with me. Yep.
Researcher: And here is the next question? What kind of resources would you need to follow a sport, nutrition guidelines? So, what could University A provide athletes to better adhere to the guidelines.

P6: Um, I would say maybe like for all athletics, probably like a like refueling station. Like some other schools would have that boat maybe have like, I do not know, like a sports drink or Gator or a chocolate milk. And then like have like maybe some fresh fruit. Like, it does not have to be anything crazy. Apples, oranges, maybe banana and maybe like granola bars or protein bar or things like that. I think that would be, that would be huge. And I think a lot of people would take advantage of it.

Researcher: Definitely. I wish we had something like that too. Is anything, it could be better than what we currently have, so yeah. I agree. The downside of being in division two athletics. Right. Yeah. Be different, but maybe soon maybe we will see. That would be awesome. All right. And the last question very last one, the best for last is what assistance have you previously received? Um, whether it be just information-wise or anything who has helped you with sports, nutrition guidelines, or giving you information or helped you kind of adjust. Is there any diets I guess, or practices since my time being here the, the most?

P6: I think I would probably say when, um, Coach A was here and she gave us a, I think it was a packet that had, um, that was from Iowa football and it had different types of Ways to, um, eat incorrectly. So, it would have like protein guidelines, um, some fruits and vegetables suggestions, um, some ways to like snack really well, making sure that our bodies always has
fuel in it throughout the day and trying to eat, maybe eat smaller meals sporadically throughout
the day versus eating larger meals, breakfast, lunch, and then dinner, and then kind of have small
snacks. And then also, I think it also is having, like having a, like a protein at the end, at like at
night, that way it can decrease the amount of time you are fasting when you are sleeping.

Researcher: Definitely. So, you would say your main source of assistance has been Coach A?


Researcher: All right. That was all the questions.