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Nutritional Knowledge Among Athletic Teams

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ABSTRACT

The topic of sports nutrition has often been undermined in the athletic world. Practicing good nutritional habits has the ability to both improve performance and health. Several studies have examined nutritional knowledge among athletic teams; however very few have compared this knowledge among athletic teams. The purpose of this study was to determine the extent of various athletes' nutritional knowledge and evaluate the differences in this knowledge among NCAA Division II Athletic teams. A secondary purpose was to discover athlete's confidence level in their nutritional knowledge as well as gain their opinion on how they would improve nutritional knowledge among athletic teams. Very few differences were able to be found between genders and athletic teams regarding nutritional knowledge. Also athletes overall did not score very high on the nutritional knowledge assessment. Additionally several beneficial suggestions were given on improving nutritional knowledge which include providing classes and having athletic trainers and coaches increase nutritional awareness. More research still needs to be done on this topic. However, steps should also begin to be implemented to increase the nutritional knowledge deficit among athletic teams with hopes of improving performance and health care of collegiate athletes.

INTRODUCTION

Several studies have evaluated various aspects of nutritional knowledge in collegiate athletes; however, very few have actually evaluated the differences in this knowledge among athletic teams. One study that did compare knowledge between teams also evaluated other factors and concluded no differences were noted between teams; however, concluded that further research should be done in this area.(Sport Journal, 2014)

Numerous studies have evaluated the differences in nutritional knowledge between female and male athletes, and much of the research is controversial in this area. Many of the articles on this topic concluded that female athletes are generally more knowledgeable than males.(Arazi, Hosseini,2012, Heaney, O'Connor, Michael et.al., 2011, Hinton, Sanford, Davidson et. al.2004) Other research articles indicated that no difference was noted in nutritional patterns between genders.(Sport Journal, 2014, McArdle, Moore, 2013) Additionally some researchers have concluded that males score better in nutritional knowledge when compared to females.(Baker L, Heaton L, Nuccio,2014) These articles are beneficial in recognizing the need for further research on this controversial topic as well as in providing a guideline as to how to conduct a nutritional survey for a collegiate athletic population.

Additional studies have evaluated the nutritional patterns among collegiate athletes. All of these studies concluded that several deficiencies did exist in nutritional patterns among the participants in the studies, and recommended that sports nutrition education programs be implemented for the majority of collegiate athletes to decrease this deficiency. Often it was indicated that athletes often do not consume adequate amounts of carbohydrates to fuel their activities. (Hinton, Sanford, Davidson et. al.2004, Nikić, Jakovljević, Pedišic et.al.,2014)The majority of research on this topic involved the use of nutritional knowledge surveys as well as dietary recall assessments to determine eating and hydration patterns.(Sport Journal, 2014, Giannopoulou , Noutsos , Apostolidis, et. al. 2012, Helms, Zinn, Rowlands et.al.,2014)

One particular study examined the effectiveness of athletes participating in a nutritional education program. This study concluded that athletes that completed a nutritional education program were better enabled to meet their performance and health goals.(Garthe, Raastad, Refsnes,2013) These studies emphasize the need for nutritional education programs to be provided for athletes due to the lack of athletic knowledge and focus in this area.

Other researchers have studied the sports nutrition knowledge among coaches, athletic trainers, dietitians, and other health care professionals. These studies provide excellent guidelines of how to develop a nutritional knowledge assessment study. The general conclusion of this research is that dietitians are the best prepared to advise athletes in nutrition followed by athletic trainers and strength and conditioning coaches.(Torres-McGehee, Pritchett, Zippel,2012) Also coaches' nutritional knowledge is an important factor to consider when examining athletes knowledge. One particular study surveyed 300 different coaches and determined that gymnastic coaches often scored higher in nutritional knowledge when compared to others. However, many coaches are still lacking training in the area of sports nutrition and this study indicated that education programs provided to coaches would be an excellent method to improve athletic knowledge as well.(Heffner, Ogles, Gold, et. al., 2003)

PURPOSE

the purpose of this study was to determine the extent of various athletes' nutritional knowledge and evaluate the differences in this knowledge among NCAA Division II Athletic teams. The secondary purpose of this study was to gather the athletes' opinion on how nutritional knowledge could be improved in the collegiate setting in order to gain a new perspective on how nutritional knowledge deficiencies could be improved for athletes.

METHODS

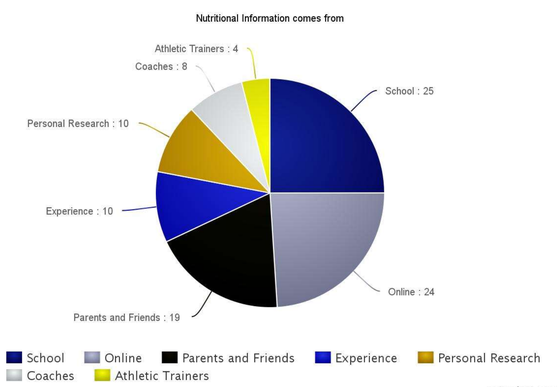
The participants in this study were athletes enrolled in a Division II National Collegiate Athletic Association (NCAA) sport at Cedarville University. Both male and female athletes were evaluated from each different NCAA sport offered at Cedarville University. 100 total athletes participated in this study.47 of the athletes were female and 53 were male. The sports included were as follows: Soccer, cross country, volleyball, basketball, track and field, tennis, baseball, and softball. The participants were between the age of 18 and 22 years and were not considered part of a vulnerable population.

A survey was given out to each athlete in the fall prior to the beginning of competition. A consent form was provided with each survey and the athletes chose to accept or reject participation in the survey. Those who chose to participate both signed the consent form and completed the survey. Participation was completely anonymous and athletes were not required to provide their name or any identifying information on the survey. Before participating in the study, all subjects read and signed an informed consent form approved by the University's IRB for the Protection of Human Subjects, which also approved the study. The responses were collected and analyzed.

The survey contained demographic questions assessing the sport the athlete participated in as well as their gender. Demographic questions were followed by 21 multiple choice questions assessing nutritional knowledge. The following sports nutrition categories were included in the survey: macronutrients and performance, supplementation, weight management, and hydration. Another questions asked the athletes to rank their nutritional knowledge confidence on a scale of one to ten. Lastly, the survey concluded with 2 open ended questions. The first question evaluated where the participant received the majority of their nutritional knowledge. Lastly the athletes were asked to respond with their opinion on how they would choose to improve nutritional knowledge as a collegiate athlete.

STATISTICAL ANALYSIS

The quantitative data was analyzed using SPSS analysis with the priori alpha level being set as a value equal to or less than 0.05. Chi-square tests were used to compare the results between genders and one-way ANOVA was used to compare the results between the various athletic teams. The qualitative data was evaluated for common themes and groupings.

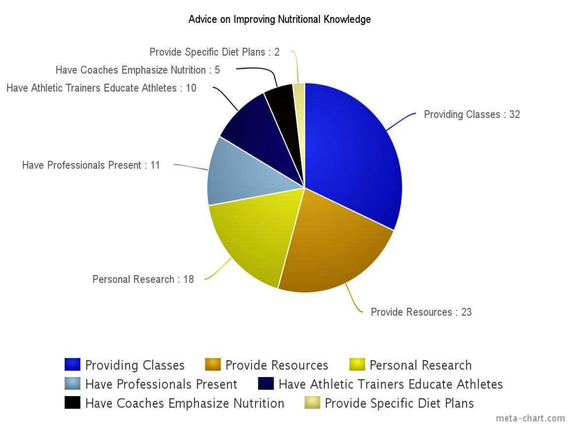


RESULTS

For the qualitative question regarding where the majority of the athletes received their nutritional information from, 25% of the athletes indicated that school was the primary source; this was the most common answer. Twenty four percent indicated that online sources were their primary source. Other common responses included 19% indicating parents and friends as their primary source, 10% indicated personal experience, 10% replied personal research, 8% answered coaches, and 4% responded with athletic trainers.

For the second qualitative question assessing their suggestions on improving nutritional knowledge among athletic teams the most common response was to provide classes specifically on the topic of sports nutrition and make the classes easily available for athletes; 32% of the athletes offered this suggestion. Twenty-three percent of the athletes suggested that providing sources such as pamphlets or online resources would be beneficial in increasing nutritional knowledge. Eighteen percent replied that doing personal research on their own through individual motivation was their suggestion. This was followed by 11% recommending professionals come and speak on the topic of nutrition, 10% suggesting that athletic trainers be more purposeful in educating athletes, 5% indicating that coaches should increase nutrition awareness, and 2% suggesting that specific diet plans be created for individual athletes.

Regarding the question on confidence levels the majority of the athletes indicated that their confidence was low to medium. Most athletes rated their confidence as a 3 or 5 on a scale of 1 to 10. For the nutritional knowledge assessment portion of the survey which consisted of 21 questions the average score overall was 11 out of the 21 questions being answered correctly; which would be the equivalent of them answering 52% of the questions correctly. When comparing male versus female responses there was no statistically significant different difference between the entire survey. However, in the category assessing knowledge of macronutrients and performance, females scored statistically higher than males (.008 difference using Chi-square). When comparing knowledge among the different sports no statistical difference was found over the entire survey however in the category of supplementation track performed statistically higher than basketball and softball.



DISCUSSION

When comparing these results to previous studies I found that similar results were found regarding male versus female knowledge. The majority of previous studies have either indicated that there was no difference between genders or that females performed higher than males. Regarding the differences between athletic teams, this study indicated that there was no difference overall; however, track may excel in the area of supplementation while basketball and softball may need further education on this topic.

Limitations of this study included the population size and response of the athletes. Certain sports provided more responses than others which limited the external validity of the study. Also this study was very specific to the athletes attending this university. Other studies should be done at different locations and with larger population sizes to enhance the reliability and validity of the study. Also further studies researching the benefits of nutritional education programs, nutritional knowledge between genders, and nutritional knowledge between varsity and reserve athletes.

This study was able to demonstrate the importance of athletic trainers and coaches competence on the topic of sports nutrition. Many of the athletes indicated that they would seek advice from athletic trainers and coaches. Also many participants suggested that athletic trainers and coaches be more proactive about providing nutritional information and advice specifically for athletic teams. More effort should be done to improve nutritional knowledge among athletic teams. This can be done through providing classes, packets, speakers, online resources, weekly advice, and even creating diet plans. The results of this study should stimulate action to improve areas where deficiencies exist in athlete's sports nutrition knowledge.

CONCLUSION

Sports nutrition is a significant and often overlooked aspect of athleticism and performance. Having a good knowledge base in sports nutrition has the potential to greatly improve performance as well as overall health. This specific research study has evaluated the differences in sports nutritional knowledge among athletic teams as well as gained suggestions form athletes on what they would do to improve the deficiencies in nutritional knowledge among collegiate athletes. This study can provide future guidance for coaches and other health care professionals as they seek to improve nutritional knowledge among various teams. The results from this study can stimulate action to advance areas where nutritional knowledge deficiencies exist, whether it is a specific sport, gender, or nutritional category that has the greatest deficiency. Also the questionnaire has gathered recommendations and information on ways to improve nutritional knowledge among collegiate athletes from their own perspective.