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RESEARCH

Perspectives of athletes and pharmacists on pharmacist-provided sports supplement counseling: An exploratory study

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ABSTRACT

Objectives: To identify athletes' interests in receiving advice about sports supplements from a pharmacist in a supermarket setting and to identify pharmacists' knowledge, confidence, and enthusiasm for providing counseling on various sports supplements.

Methods: Two cross-sectional surveys were developed and administered. One survey was administered to athletes at local northwestern Ohio fitness facilities, and 1 survey was administered to pharmacists in chain pharmacies during mid-February to mid-March 2017. The athlete survey gathered demographic information, information sources, products purchased, including their location and selection factors, and perceptions of pharmacists providing sports supplement counseling. The pharmacist survey gathered demographic information; knowledge, confidence, and enthusiasm for providing sports supplement counseling; perceptions of counseling benefit; and barriers to implementation of providing a sports supplement counseling service.

Results: The athlete survey had 129 participants. Athletes primarily reported obtaining sports supplement information from supplement stores, and only 2% indicated using a pharmacist. Although 52% said they would talk to a pharmacist about sports supplements, 66% said their perception of a pharmacist's fitness level would influence whether or not they would approach him or her.

The pharmacist survey had 143 participants. On a 5-point Likert-type scale (1 = strongly disagree and 5 = strongly agree), the mean (SD) of their knowledge, confidence, and enthusiasm statements were 2.49 (0.89); 2.61 (0.94); and 3.54 (0.87), respectively. Ninety-two percent (n = 130) of pharmacists thought it would be beneficial to provide counseling on sports supplements. Perceived barriers included lack of knowledge, evidence, and time.

Conclusion: Pharmacists were not identified as a primary resource for sports supplements, but athletes would be willing to discuss this topic with knowledgeable and physically fit pharmacists. Pharmacists felt that they lacked knowledge and confidence regarding sports supplement products but noted enthusiasm to provide counseling. Sports pharmacy counseling could be a viable expansion of pharmacy services in community pharmacies with proper education and tools.

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In 1994, the Dietary Supplement Health and Education Act (DSHEA) placed dietary supplements in the “foods” category, defining supplements as a product taken by mouth that contains a “dietary ingredient” used to supplement the diet.^{1,2} This can include vitamins, minerals, herbals, amino acids, and other substances. Through this act, dietary supplements no longer needed to be approved by the U.S. Food and Drug Administration (FDA) for safety or efficacy before being marketed to the general population.

Key Points**Background:**

- The increase of dietary supplements for athletes' perceived needs may cause the potential for overlapping ingredients that may go unnoticed by health professionals.
- There is limited evidence of community pharmacists engaged with their local athletes regarding sports supplements.

Findings:

- Athletes previously had not considered pharmacists as a resource of sports supplements but would be interested in this type of service.
- Pharmacists have a low self-ranking of knowledge and confidence regarding sports supplements but high level of enthusiasm for providing counseling on this topic according to their personal reference levels.

The manufacturers of these products are responsible to ensure that safety and health claims are accurate. The FDA does have the ability to review claims as needed but must prove the product is unsafe before forcing the product to be taken off the shelf. In addition, the Federal Trade Commission can take action against false or misleading claims about products. This does not guarantee safety; supplements on the market were found in some instances to be contaminated by other substances.² Although deceptive companies use other ingredients or substances in products as fillers, many companies hire research teams with sports nutrition background to help develop new products to provide truthful claims and products to comply with government regulations.¹ Numerous products and claims result in patients or athletes sifting through a large quantity of information from different sources to review supplements. Many times, the evidence for use of a supplement does not affect its sales.³ Athletes use supplements to aid in training recovery, improve health, improve performance, prevent or treat an illness, and to supplement an unbalanced diet.⁴

Trends in both sales and reported supplement use show that use of these products is prevalent in the United States. The market for dietary supplements has continued to grow, with reported sales increasing from \$4 billion in 1994 to \$33 billion in 2012.⁵ In one study, the regular supplement use among general adult consumers was reported to be in the range of 48% to 53% from 2007 to 2011.⁶ A recent meta-analysis showed the percentage of dietary supplement users to be higher in athletes at a more advanced performance level, around 70%, compared with only 45% of recreational athletes.⁵ Popular sports supplements include antioxidants, caffeine, creatine, ephedrine and pseudoephedrine, β -hydroxy- β -methylbutyrate, L-arginine, β -alanine, proteins, amino acids, erythropoietin, human growth hormone, insulin-like growth factor 1, pyruvate, androstenedione, dehydroepiandrosterone, and anabolic steroids.^{3,7}

With an increase in supplement usage to cover athletes' wide variety of needs and an extensive variety of products, athletes create the potential of unknowingly taking various supplemental products with overlapping ingredients, causing potential safety concerns or drug interactions that might then go unnoticed by a health professional. Specific sports supplement education would be beneficial for all athletes, both advanced and recreational, as well as for any health professionals who interact with these athletes, including physicians, nurses, and pharmacists.⁸ With proper education on the use of dietary supplements and potential safety concerns when using supplements, accessible providers may start to narrow this educational gap by communicating this information to their physically active patients. To our knowledge, pharmacist-athlete education about sports supplements has not been studied in the community setting. Therefore, the present study assists with adding to this area of research by exploring the perspectives of both pharmacists and athletes, which could then be used to establish a service for pharmacists to better assist athletes in their sport supplement decisions.

Objectives

The purpose of this study was to identify athletes' interests in receiving advice from a pharmacist in a supermarket setting. In addition, pharmacists' knowledge, confidence, and enthusiasm for providing counseling on various sports supplements were explored.

Methods*Eligibility criteria*

Two groups of participants, athletes and pharmacists, were targeted to complete a cross-sectional survey specific to their designation. Athletes were recruited from 6 local fitness facilities in northwestern Ohio, including general fitness clubs, Crossfit gyms, and triathlon, running, and strongman groups. Pharmacists were recruited from the Kroger Co., Columbus Division, pharmacies with 111 pharmacies in Ohio, 6 in West Virginia, and 1 in Michigan. Overall, 415 pharmacists in the division were invited to participate. In both groups, study participants were eligible in each setting if they were 18 years of age or older. There was no other inclusion or exclusion criteria. Participants were identified from mid-February to mid-March 2017 (4 weeks). The University of Toledo's Social, Behavioral, and Education Institutional Review Board reviewed and approved this study.

Questionnaires

Athletes were asked to take a 16-question online survey (Appendix 1) and pharmacists a 21-question survey (Appendix 2) developed by the authors that consisted of multiple-choice, select all that apply, ranking, Likert-type scale, and open ended questions. Athlete information gathered included age; sex; level of fitness; exercise reason, duration, and frequency; sport supplement expenses; source of supplement information and purchases; products used; most important product selection factors; types of products

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