Effects of Student Pharmacist-Led Sports Pharmacy Education on NCAA Division I Student Athletes

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INTRODUCTION

- Doping results in advantages for athletes which can include increased muscle mass, increased aerobic capacity, increased alertness, analgesic effects, and weight loss.[1]
- In the spirit of fairness and sportsmanship, governing bodies such as the National Collegiate Athletic Association (NCAA), United States Anti-Doping Agency (USADA), and World Anti-Doping Agency (WADA) have deemed various substances prohibited for use in athletes without an appropriate exemption.[2-4]
- Pharmacists can educate athletes on illicit substances, supplements, and drug testing processes and have been identified as a potential solution to doping.[5]

OBJECTIVE

- The purpose of this project was to assess the effectiveness of student pharmacist-led education on NCAA Division I student athletes' knowledge of supplements and banned substances.

METHODS

- An educational program was developed by two third-year student pharmacists using the NCAA Division I banned substances list and focused on substances that lead to positive drug tests such as stimulants, anabolic agents, and various dietary supplements.
- The program was reviewed for accuracy and comprehensibility by two licensed pharmacist faculty members from the School of Pharmacy (one was a former Division 2 collegiate athlete), student pharmacist peers, the director of athletics and the senior associate athletic director before delivering to student athletes.
- The educational content was delivered by two student pharmacists to approximately 300 out of the 424 student athletes using a 20 minute, in-person presentation with handouts.
- Consent was obtained from participants before completing an anonymous pre- and post- intervention knowledge assessment.
- The pre and post knowledge assessments were identical and consisted of two demographic questions and thirteen knowledge questions. Knowledge was assessed using three true/false and ten multiple choice questions.
- Face validity was used to ensure readability. Content validity was confirmed items measured intended constructs.[6]

METHODS

- A paired samples t-test was used to determine if student pharmacist-led banned substances and supplement education significantly impacted student athletes' overall knowledge of prohibited substances and supplements.
- Data was analyzed using Statistical Package for Social Sciences (SPSS) Version: 28.0.1.1 (15). An alpha level of 0.05 was set to determine statistical significance.
- Study was verified as exempt by the Institutional Review Board.

RESULTS

- Two hundred thirty-three student athletes consented and provided matched pre-post data for analysis (55% of all student athletes).
- Overall, there was a statistically significant difference in the knowledge scores before (mean (M)=75.0%; standard deviation (SD)=11.6) and after (M=85.4%; SD=12.1) the intervention; t (232) =-11.855, p < 0.001.
- Results from the data analyzed using a two-way ANOVA with repeated measures between knowledge factor (pre vs post) and sex (female, male) indicated a statistically significant main effect for the knowledge, F (1,231) = 140.99, p < 0,001, but no statistically significant interaction between knowledge and gender, F (1,231) = 0.99, p = 0.25.

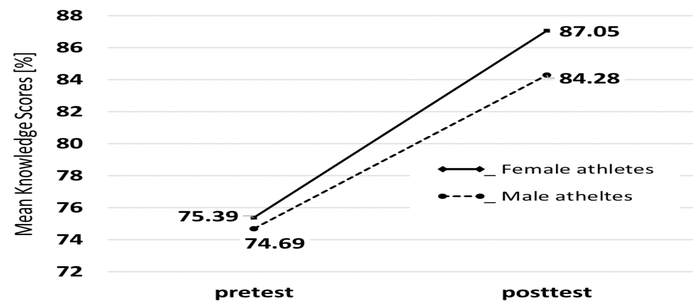
Table 1.Student Athlete Program Association (n=233)

	n(%)
Football[a]	56 (24%)
Track and field/cross country[b]	41 (17.6%)
Track and field/cross country[a]	39 (16.7%)
Baseball[a]	23 (9.9%)
Soccer[b]	19 (8.2%)
Softball[b]	16 (6.9%)
Wrestling[a]	16 (6.9%)
Volleyball[b]	12 (5.2%)
Basketball[b]	7 (3%)
Basketball[a]	4 (1.7%)

a=male sport; b=female sport

RESULTS

Figure 1. Pretest and post test mean knowledge scores by gender



CONCLUSIONS

- Student pharmacist led education resulted in statistically significant increases in student athlete knowledge of supplements and banned substances.
- The educational presentation is adaptable and easily transferable to other universities. Schools of pharmacy should consider implementing student pharmacist-led education to student athletes.

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DISCLOSURES

- The authors of this study have nothing to disclose.