COACH EDUCATION IMPROVES ADHERENCE TO ACL INJURY PREVENTION PROGRAMS: A CLUSTER-RANDOMIZED CONTROLLED TRIAL

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Background

ACL injury prevention programs have demonstrated limited impact on population health, due in part to poor adherence to expert recommendations by sports coaches. Neuromuscular training (NMT) serves as a protective factor against ACL injury and serves as a key component of many ACL injury prevention programs. The objective of this study was to determine the effect of an educational workshop for sports coaches on adherence to neuromuscular training (NMT) implementation recommendations.

Methods

In a cluster-randomized controlled trial, 22 teams in 8 high schools were randomized to either the intervention or control group. The intervention schools included 12 teams (5 female), and the control schools included 10 teams (4 female). The sports included basketball, volleyball, track and field, baseball, softball, and lacrosse. Coaches in the intervention group participated in a 60-minute educational workshop designed to teach coaches how to effectively implement a NMT program as a warm-up prior to team practice sessions and games. The schools in the control arm received print materials on recommended NMT exercises. Adherence to NMT implementation recommendation by sports coaches was the primary outcome. Eight data collectors, who were blinded to the teams' assignment, were trained to observe each team's practice or game 2-3 times a week. At each session, they completed a study questionnaire to identify the exercises completed by athletes during the team's warm-up. They then recorded whether the coach 1) delivered exercise instructions, and 2) provided corrective cues. Generalized estimating equations (GEE) were used to account for potential correlations among teams at the same school.

Results

A total of 399 practices or games were observed over 2 seasons. A greater proportion of coaches in the intervention group provided cues to correct improper technique compared to coaches in the control group [difference=0.04 (95% CI: 0.01, 0.07, p=0.006]. In addition, more coaches in the intervention group completed a full NMT program [OR=4.62 (1.22, 17.50), p=0.02]. There was a similar proportion of coaches in the intervention and control groups who provided exercise instructions [difference=0.01 (95% CI: -0.02, 0.04), p<0.44].

Conclusions

Coach education can improve adherence to NMT implementation recommendations and the delivery of corrective cues during NMT sessions, which are both critical to reducing the risk of ACL injury. All

coaches should receive in-person training that highlights the salience of NMT and provides the knowledge and skills required to effectively implement NMT sessions with young athletes.