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Prevalence rates of shoulder and elbow overuse injuries among competitive overhead youth athletes in Singapore

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INTRODUCTION:

High prevalence rates of shoulder and elbow overuse injuries have been reported among overhead youth athletes in various populations. However, there is a dearth of such epidemiological evidence among Asian overhead youth athlete populations. Therefore, the aim of this study was to determine the prevalence rates and severity of shoulder and elbow overuse injuries, and its associated factors among competitive overhead youth athletes in Singapore.

METHODS:

An online survey was distributed among 532 overhead youth athletes (12- to 18-years old) in Singapore, who were recruited from various youth sports clubs and training centres. Participants' gender, age, years of experience, and weekly training hours were collected. The survey included four multiple-choice questions and one open-ended question. Presence of an overuse injury was determined based on participants' response to Question 1, concerning their ability to participate in training and competition. Severity scores were tabulated from the scores of Questions 1 to 4, which were each scored on a scale of 0-8-17-25. The association between participants' demographics and presence of shoulder and elbow overuse injuries was determined using the Chi-square Test. Crude Odds Ratios and 95% confidence intervals were also calculated. **RESULTS:**

A total of 434 surveys were found complete and included for analysis. Badminton, cricket, softball, swimming, and volleyball were some of the sports studied. The prevalence rates of shoulder and elbow overuse injuries were 31.3% and 9.2%, respectively. The respective severity scores were 30.4 ± 14.4 and 38.4 ± 22.4. Age was associated with the presence of both shoulder (P = .016) and elbow overuse injuries (P = .037). Years of experience was associated with the presence of substantial elbow injuries (P = .049). Weekly training hours was associated with the presence of shoulder (P = .016) and substantial shoulder injuries s (P = .020). Being 15- to 18-years old increased the odds of shoulder (OR = 1.65, 95% CI 1.10 to 2.49) and elbow overuse injuries (OR = 2.04, 95% CI 1.03 to 4.01). Having more than 8 years of experience increased the odds of substantial shoulder (OR = 2.71, 95% CI 1.01 to 7.29) and substantial elbow overuse injuries (OR = 3.92, 95% CI 1.01 to 15.24). Training more than 11 hours per week increased the odds of shoulder overuse injuries (OR = 2.64, 95% CI 1.31 to 5.30). CONCLUSION:

Shoulder overuse injuries are more prevalent but elbow injuries tend to be of greater severity among competitive overhead youth athletes in Singapore. Coaches working with older and experienced youth athletes training long hours every week should be cognizant of the risk of shoulder and elbow overuse injuries and consider the implementation of injury prevention programs.

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