Accuracy and Reliability of Peer Assessment of Clinical Skills and Professional Behaviors Among Undergraduate Athletic Training Students

Engelmann JM; Zaikina-Montgomery, H*: Stony Brook University, Stony Brook, NY;  *Northcentral University, Prescott Valley, AZ

Context: Peer assessment is used widely in medical education as a preparatory tool for students to prepare them for work as healthcare professionals. Athletic training students learn some of the same skill-set as medical students. Initial research in peer assessment in athletic training education shows promise for further development. Objective: To identify if undergraduate athletic training students can accurately and reliably assess their peers on clinical skills and professional behaviors. Design: Quasi-experimental between- and within- groups. Setting: Medical exam office. Participants: Convenience sample of junior (n=9) and senior athletic training students (n=10) and their classroom and clinical faculty (instructors [n= 9]) at a CAATE-accredited program. Years of clinical experience for the juniors was 0.5 years, 1.5 years for the seniors, and averaged 16.4 ± 5.3 for the instructors. Interventions: Independent variables were group assignment, clinical skill (Biceps Femoris Manual Muscle Test [BFMMT], Lachman Test, Kleiger Test, Noble’s Compression Test, Thompson Test), clinical skill subscale (patient position, clinical position, test performance), and professional behaviors summative score. Participants concurrently assessed live clinical skills performance of a junior or senior student. Each student group’s scores were compared to instructor group scores to determine accuracy of student scores. Each student group’s scores were compared within-group to determine reliability of student scores. Accuracy and reliability of skills and subscales were measured using Cohen’s kappa coefficient. Weighted Cohen’s kappa coefficient was used for professional behaviors measures. Instrument was adapted, with permission from an athletic training textbook designed for clinical skills documentation and was field-tested prior to use in study. Main Outcome Measures: Yes/No dichotomous scores used for clinical skills and subscales. 5-point Likert scale for professional behaviors score. Results: Seniors were accurate (P<.05) for all clinical skills (percent agreement 70.0%, 89.7%, κ = .3735, .5540, P<.001, .037), subscales (71.1%, 97.8%, κ = .2577, .7887, P< .001, .019), and professional behaviors (48.6%, κω = .2559, P = .008). Seniors were reliable for BFMMT (76%, κ = .4286, P = .003), Thompson Test (93.3%, κ = .6296, P = .014), test performance (93.3%, κ = .3407, P = .002), and professional behaviors (54.5%, κω = .4094, P< .001). Juniors were accurate for the BFMMT (82.8%, κ = .5589, P< .001), Thompson Test (92.9%, κ = .7296, P< .001), Kleiger Test (71.4%, κ = .2593, P = .041), Noble’s Compression Test (83.9%, κ = -.0862, P = .005) patient position (96.8%, κ = .7835, P< .001), test performance (77.1%, κ = .3236, P< .001). Juniors were reliable for BFMMT (77.5%, κ = .3793, P = .030), Noble’s Compression Test (90.6%, κ = .5200, P = .039), patient position (92.6%, κ = .6250, P = .016), and test performance (78.8%, κ = .3295, P = .023). Conclusions: Students assess the clinical skills of their peers on par with instructors during live skills demonstration. Year in school may affect ability to assess professional behaviors. Word Count: 446