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Point-of-Care Ultrasound (POCUS) Training in an Emergency Medicine Clerkship: A Prospective Study

Background: We aimed to evaluate the effect of 3-hours instructor-led training of Extended Focused Assessment Sonography for Trauma (EFAST) and Rapid Ultrasound in Shock and Hypotension (RUSH) protocol on knowledge gain and retention for the final year medical students.

Methods: This prospective study was held during 2017-2018 academic year in the EM clerkship. A total of 79 medical students with no prior formal ultrasound training neither hands-on experience were trained on EFAST and RUSH protocols. Students received 1 hour didactic and 2-hours practical training on each protocol. Pre- and post-tests were applied to measure knowledge improvement. The final clerkship multiple choice question (MCQ) exam was used to evaluate knowledge retention.

Results: There was a significant increase in the EFAST post-test mark (median[range]: 15[12-19] compared with 7[2-18], $p < 0.0001$) and in the RUSH post-test mark (median[range]: 16[6-20] compared with 6[1-13], $p < 0.0001$). EFAST knowledge was significantly higher in the pre-test ($p = 0.04$) compared with RUSH knowledge but they were the same at the post-test ($p = 0.82$). RUSH mark was significantly less compared with EFAST mark in the final clerkship MCQ ($p<0.0001$).

Conclusions: Our study demonstrates that a 3-hours instructor-led ultrasound training given during an EM clerkship produces significant knowledge gain in both EFAST and RUSH protocols. Knowledge retention after two weeks was higher in the EFAST. A longer period of training of RUSH is advised so as to improve knowledge retention.