

Adequacy of the emergency point-of-care ultrasound core curriculum for the local burden of disease in South Africa

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Objective: This prospective cross-sectional study assesses the adequacy of the current South African emergency point-of-care ultrasound core curriculum against the local burden of disease.

Methods: Patients presenting to five Emergency Centers during July 2011 were eligible for inclusion. Patients under the age of 12, after hour presentations (17h00–07h00 & weekends), missing folders, and folders with incomplete notes were excluded. Emergency physicians with emergency point-of-care ultrasound exposure were responsible for data collection at each hospital. They were all blinded towards the aim of the study. Summary statistics describe the proportion of clinical cases and clinical procedures for which emergency point-of-care ultrasound was used. One investigator assessed the adequacy of the curriculum by matching the clinical indications of each module with the presenting complaint and final diagnosis of each patient. The ultrasound modules were ranked according to the frequency of their clinical indications. Kappa-statistics are reported on 10% randomly selected cases to quantify inter-observer agreement.

Results: The study included 2971 patients. Ultrasound assisted with diagnosis in 384 (12.92%) patients and in 34 (1.14%) procedures. A total of 1933 emergency point-of-care ultrasounds were indicated in 1844 (66.07%) patients. The five most frequently indicated modules were pulmonary, musculoskeletal, cardiac, focused assessment with sonography of HIV/TB co-infection, and renal. The overall inter-observer agreement was “good” ($\kappa = 0.602$; 95% confidence interval 0.559 to 0.645).

Conclusions: This study was an attempt to ensure an evidence-based approach to assess the adequacy of the emergency point-of-care ultrasound core curriculum in South Africa. The results illustrates that our local burden of disease may require a change of the current core curriculum.