Introduction

Point of care ultrasound (POCUS) rapidly answers focused clinical questions and expedites diagnostic workups. The barriers to initiating a family medicine residency POCUS curriculum include a lack of appropriately trained faculty, limited access to ultrasound equipment, and a lack of comfort in interpreting images without a radiologist review [4].

As such, the goal of this study is to assess the development, implementation and effectiveness of a resident-lead POCUS curriculum that bypass these barriers.

Methods

Participants: University of Arizona Family Medicine residents were recruited by self-selection, none of whom had prior formal US training.

Study design: Curriculum learning material was adopted from free iBook “Bedside Ultrasound” by Dawson, and assessment tools (questions, images, and videos) and Quiz Star software adopted from 2 other FM residencies in the country.

Interventions: Training sessions were resident-led, held monthly, had associated reading chapter for a flipped-classroom experience, and took place at an the outpatient clinic. Scanning subject were volunteers.

Primary measure: The primary outcome measure included knowledge of ultrasound acquisition and interpretation by way of pre- and post- topic multiple choice quizzes with images and videos. Our control are residents within our family medicine program who did not participate in POCUS training. We developed OSCE (observed clinical skills exam) for each sessions.

Analyses: Secondary outcomes will include incidence ultrasound scans within various service rotations (ER, medicine, ICU, sports med etc.) documented via New Innovations and qualitative data on curriculum development.

Results

Nine out of twenty-eight (30%) of the residents functioned as the intervention group and attended the curriculum on a voluntary basis from 2015-2016 academic year, none having had prior training in ultrasound. The control group (19 out of 28 residents) had similar average POCUS competence scores compared to the pre-test intervention group (62% vs. 68%). The post-test competence scores increased by 23% (68% vs. 91%). OSCE (observed clinical skills exams) were created for the curriculum and used by attendees of workshops as protocol guides.

Conclusions

- Prior studies show that family doctors can do limited echocardiograms, rapid AAA screening, and rapid DVT evaluation as well as specialists.
- Our resident-led curriculum shows an increase in competency measures in POCUS and knowledge of image acquisition is attainable.
- Limitations: selection bias, sustainability, and long term impact on resident training.
- Implications: With 2% of FM residencies currently have some sort of POCUS training and 20% of FM programs with an US “in development” (4), it behooves us as a specialty to overcome barriers in resident POCUS training.

References


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