Pilot point-of-care-ultrasound physician assistant curriculum: an educational adjunct to the traditional anatomy course

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Introduction:

Efforts to incorporate point-of-care-ultrasound (POCUS) into formal medical education curricula have grown in parallel with its widespread integration across medical specialties and practice settings. Although POCUS has been proven a feasible and beneficial educational tool within the didactic and clinical phases of the four-year medical school setting, little data exists for non-physician graduate medical learners such as physician assistant (PA) students. In addition to the usual barriers to ultrasound curriculum integration, the condensed nature of PA program curriculum poses an added challenge.

To address this challenge, we proposed to pilot POCUS during the foundational didactic phase of the PA curriculum as an adjunct to a robustly instructed anatomy course. The objectives of this pilot were twofold: 1) determine the feasibility of developing and implementing a POCUS program as an educational adjunct for PA learners and 2) determine PA learner perceptions of such efforts and POCUS in general.

Methods:

This pilot served to introduce ultrasonography early in the foundational didactic curriculum of the University of North Carolina Division of Physician Assistant Studies. Each of the twenty first-semester PA students were offered a series of four small-group hands-on POCUS sessions held over the duration of the Spring 2017 semester. The POCUS sessions mirrored the established anatomy lecture and dissection lab units. Session topics included: 1) knobology and extremity vasculature 2) cardiac 3) abdomen and 4) head and neck. Each 45-minute session began with faculty instruction in relevant scanning technique and sonographic appearance of anatomic structures, followed by supervised scanning time. Through generous equipment support from the UNC School of Medicine, the pilot program enjoyed a ratio of five PA learners per two ultrasound machines per session. At the conclusion of all four sessions, surveys were distributed to students.

Results:

All didactic phase PA students (n=20) attended all four POCUS sessions. Initial data review reveals that a majority (95%) of the students agreed or strongly agreed that as a result of the sessions they better understood various anatomic relationships and structures. Additionally, nearly all students (95%) agreed or strongly agreed that instruction in POCUS should continue throughout the didactic phase. Further analysis of data is pending.

Conclusion:

This innovative pilot demonstrated that POCUS can efficiently and effectively be integrated into existing physician assistant didactic curriculum as an educational adjunct to a traditional anatomy course. Preliminary data suggests PA students found POCUS helpful in understanding human anatomy and desired further formal US instruction. Future goals include increasing sample size by providing anatomy POCUS sessions to subsequent cohorts and studying educational impact through development and deployment of a formal assessment component.