

Abstract

Purpose

Procedural competency is an integral component of Internal Medicine clinical practice and resident training. There remains to be a lack of a standardized assessment process in resident education that determines proficiency or readiness to perform procedures autonomously.

Method

A multiple methods study with quantitative and qualitative analysis was performed to evaluate the learning impact on University of Colorado IM first-year residents participating in same-day simulation-based mastery learning utilizing standardized educational materials and protocols at the Veterans Affairs procedural clinic. Data collected include participants' performance in three common ambulatory procedures using an error-counting checklist and participants' overall learning experience through semi-structured interviews using rapid qualitative analysis.

Results

Thirty-four IM PGY-1 participants were observed performing 30 subacromial space injections averaging 2.5 of 23 possible errors, 45 knee injections averaging 2.3 of 23 possible errors, and 38 large volume paracenteses averaging 3.2 of 39 possible errors. Qualitative analysis revealed the following themes the overall learning environment created a sense of psychological safety that reduced anxiety and increased confidence, dedicated time for simulation-paired procedure clinic provided greater cognitive focus on learning skills and patient care, and the most effective learning occurred when residents performed the same procedure that they had simulated that same day.

Conclusions

A same-day simulation-paired procedural clinic with standardized educational materials and clinic protocols may provide a psychologically safe and effective learning environment for IM PGY-1s to acquire common ambulatory IM procedural skills.