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A BEME Realist Synthesis Review of the Effectiveness of Teaching Strategies Used in the Clinical Setting on the Development of Clinical Skills Among Health Professionals: BEME Guide No. 61

PIERCE C; CORRAL J; AAGAARD E; HARNKE B; IRBY D; STICKRATH C

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Keywords

Effective clinical teaching; educational outcomes; realist synthesis review

Headline conclusions

Apart from the OMP, SNAPPS, and concept mapping—all of which impact only formation of medical knowledge and clinical reasoning—the literature establishing effective, specific teaching strategies in the clinical setting is sparse.

Background and context

A substantial portion of health professions education occurs in clinical settings, yet how clinical skills are best taught within them is not well understood, and the literature describing the effectiveness of teaching strategies in the clinical setting is limited. This realist synthesis review focuses on understanding the effectiveness of teaching strategies used in the clinical setting.

Review objectives

This BEME realist synthesis review seeks to answer which clinical teaching strategies are effective in what contexts and among which health professions learners.

Review methodology

Search Strategy: We searched ten databases for English language publications between 1 January 1970 and 31 May 2017 reporting effective teaching strategies used in a clinical setting for teaching non-procedural skills. Phase 1 focused on (unknown) specific named strategies used in a clinical setting to teach non-procedural skills. From these results, text words and corresponding Medical Subject Headings and Emtree terms were identified by examining language associated with identified strategies. Additional search terms were identified through expert content knowledge.

Phase 2 used the basic structure: non-procedural skill + teaching. We also performed a hand search of citations from key, relevant publications.

Inclusion and Exclusion Criteria: Publications were screened using title and abstract review and included if they described use of a specific, named teaching strategy in a clinical setting amongst health professions trainees and reported learning outcomes in the pre-specified competency domains. The strategy needed to be consistently named throughout the literature, reproducible, and feasibly implemented with minimal orientation. Publications describing courses or teaching with simulators, strategies not utilised with direct access to patients, not involving health professions learners, those examining only teaching of procedural skills, and those not measuring outcomes of interest were excluded. Group consensus determined final inclusion.

Data Extraction: A standardised instrument, adopted from previous published BEME data collections forms, was used to capture study populations, methodology, and outcomes. It was iteratively modified for the needs of this specific review based on input from all team members. All data on methodology, study populations, and outcomes were extracted from candidate publications into our standardised data collection tool using a REDCap electronic data capture tool.

Data Synthesis: The learner and teacher populations in which each strategy has been studied were determined. Learners were categorised according to health discipline and then as pre-licensure, limited licensure, or full licensure. The specific teacher population was identified, as were the clinical settings where strategies were shown effective. Strategies were classified as learner led or teacher led, based on who was most responsible for its use. The key outcomes impacted were identified and noted as desirable, undesirable, or not significant and classified by competency domain. Lastly, the relative quality of evidence for a specific strategy was determined based on number of studies and methodological rigor.

Implications for practice

1) The One-Minute Preceptor (OMP) and SNAPPS are the only well-established teaching strategies consistently proven effective in the clinical setting. They have been studied mostly (but not exclusively) among physician trainees. Clinical environment and teacher/learner characteristics may dictate a preference for the OMP or SNAPPS.
2) Concept mapping may be an effective strategy for teaching clinical reasoning in the clinical setting among early learners and for integrating basic and clinical sciences knowledge. Time intensiveness likely limits its widespread use.
3) We postulate these three strategies are effective because they: a) provide a structure for teachers and learners to develop a shared understanding of the learner's knowledge and organization of important clinical information and causal linkages; b) invite both parties to participate in a dialogue that includes opportunity for specific feedback.
4) We identified no specific teaching strategies used in the clinical setting that improved skills in non-cognitive domains.

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Association for Medical Education in Europe (AMEE),12 Airlie Place, Dundee DD1 4HJ, UK
email: beme@dundee.ac.uk, Internet: www.bemecollaboration.org, Scottish Charity No. SC 031618