



Medical and Health Professional Education
Best Evidence Medical Education

BEME Spotlight 59

The utility of mini-Clinical Evaluation Exercise in undergraduate and postgraduate medical education: A BEME review: BEME Guide No. 59

Mortaz Hejri S, Jalili M, Masoomi R, Shirazi M, Nedjat S & Norcini J

Review citation

Sara Mortaz Hejri, Mohammad Jalili, Rasoul Masoomi, Mandana Shirazi, Saharnaz Nedjat & John Norcini (2019) The utility of mini-Clinical Evaluation Exercise in undergraduate and postgraduate medical education: A BEME review: BEME Guide No. 59, Medical Teacher, DOI: 10.1080/0142159X.2019.1652732

Review website

<https://bemecollaboration.org/Published+Reviews/BEME+Guide+No+59/>

Keywords

Mini-CEX, BEME, Utility, Workplace based assessment, Undergraduate medical education, postgraduate medical education

Headline conclusions

The mini-CEX can be used in both undergraduate and postgraduate training programs with reasonable validity and reliability. By providing a framework for structured observation and feedback, the mini-CEX bears a favorable educational impact. Although can be used for summative purposes, by facilitating meaningful feedback and its antecedent favorable educational consequences, the mini-CEX is especially suitable for formative assessment. The reported acceptability and feasibility should be interpreted in the light of the required number of encounters needed to achieve desired reliability. Proper implementation process to ensure psychometric and educational properties while maintaining acceptability and feasibility should be adopted.

Background and context

The mini-Clinical Evaluation Exercise (mini-CEX) is one of the most frequently-used assessment tools that measure trainees' performance in workplace settings.

Review objectives

To explore, analyze, and synthesize the evidence considering the reliability, validity, educational impact, acceptability, and cost of the mini-CEX for assessing undergraduate and postgraduate medical trainees.

Review methodology

Search Strategy: Seven electronic databases were explored: MEDLINE, EMBASE, PsycINFO, CINAHL, SCOPUS, ERIC, and Web of Sciences. The search was performed in December 2016 and updated in June 2017 and again in September 2018. To find the gray literature, ProQuest Dissertations & Theses Global was searched.

Inclusion and Exclusion Criteria: Studies reporting on the use of mini-CEX in undergraduate or postgraduate medical education which provided quantitative or qualitative data related to the validity, reliability, educational impact, acceptability, or cost of the mini-CEX were included. Papers which used mini-CEX in simulated settings, or video-taped clinical encounters were excluded. No study was excluded on the grounds of study design, geographical location, or language.

Data Extraction: The data was extracted by two independent reviewers. When there was any discrepancy, the final decision was made by discussion and consensus. The data extraction form included the following information: details of the citation, country and institution of study, study aims and design, characteristics of the population, details of the format of the mini-CEX used, methods used to evaluate the utility, and the key findings.

Data Synthesis: We reported our findings narratively and undertook a rich and exploratory descriptive synthesis of evidence to explain differences in findings. Just for Cronbach's alpha, we conducted a meta-analysis by pooling data using a random-effects method.

Implications for practice

Administrators and faculty members who would like to observe and evaluate medical trainees within workplace in a meaningful and credible manner can opt for the mini-CEX as an assessment tool with positive educational consequences. However, the mini-CEX as a single measure of competence suffers from some limitations and should be used in conjunction with other instruments. Particular attention should be paid to proper implementation of this tool and establishment of a quality assurance system.