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Selection and assessment measures used in medical school admissions: A systematic review. V.2

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Selection Systematic Review

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DISCLAIMER

ABSTRACT

Introduction

Patterson et al. (2015) conducted a systematic review examining selection methods used in medical education. The researchers assessed the quality, along with the strengths and weaknesses, of common selection methods. The review evaluated the effectiveness of aptitude tests, academic records, personal statements, references, SJTS, personality and emotional intelligence assessments, interviews, MMIs and selection centres.

Since the publishing of Patterson et al.'s review in 2015, a wealth of research has been completed on selection methods, including a number of longitudinal studies. The present systematic review aims to provide an updated analysis of the literature on the quality of selection methods in medical education. The current review will aim to overcome significant limitations present within the original review. The review will consider literature published from 2015 onwards, encompassing research that has so far not been included in a systematic review of this nature. Completing an updated review will allow medical education providers to understand how recent contributions to the literature may have changed our understanding of the quality of methods used. This will allow for a more comprehensive decision process of which selection methods should be used within medical education in the future.

Conflicts of interest

There are no conflicts of interest to report. There is no funding or sponsorship associated with this review.

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BEFORE START

Review Question

How effective are selection methods in medical education?

The research questions will involve identifying the effectiveness, procedural issues, acceptability and cost-effectiveness of each selection method to provide a comprehensive overview of the suitability of each method.

Search Strategy

Search databases will include EBSCO, EMBASE, Educational Resources Information Center, SCOPUS and Web of Knowledge. Relevant journals will be handsearched.

Search dates will run between June 1st 2021 and August 16th 2021 (searches will be re-run prior to the final analysis).

Search Terms
("medical school" or "medical student" or "medical education") AND ("selection" or "admission" or "criteria" or "test" or "interview" or "predictive" or "psychometric" or "personality" or "resume" or "cv" or "curriculum vitae" or "application form" or "biodata" or "reference" or "sjt" or "situational judgment test" or "situational judgement test" or "selection centre" or "selection center" or "assessment centre" or "assessment center" or "emotional intelligence" or "ei" or "aptitude test" or "validity") and ("reliability" or "construct" or "academic record" or "academic attainment")

Inclusion & Exclusion Criteria

The inclusion criteria for the review will include peer-reviewed studies that involve research on undergraduate and postgraduate medical education. Systematic and meta-analytic reviews will be included in the criteria. Studies completed on both undergraduate and postgraduate medical selection will be included. Only English-language literature published between January 2015 and July 2021 will be included.

Exclusion criteria will include opinion pieces, commentaries and letters.

Screening

Stage 1 screening will involve two independent reviewers. The titles and abstracts of each study will be screened against inclusion criteria to determine the eligibility of each paper in the study. Stage 2 screening will involve two reviewers who will screen the full text of articles and identify whether they meet the criteria to be in the final review. A PRISMA flow diagram will be used to document the number of studies excluded from inclusion in the review at each stage of the screening process.

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Data Extraction

One reviewer will complete the data extraction process, with one other independent reviewer spot-checking the process for accuracy. The research question addressed by each study and the type of study design used will also be recorded to determine the quality of each piece of literature. Each paper will be classified as being either a systematic or non-systematic review, a longitudinal study, qualitative, quantitative, or mixed methods, a cross-sectional study or a multiple cohort study. Data will be recorded using an excel spreadsheet. The quality appraisal process will involve two independent reviewers.

Risk of Bias assessment

The quality appraisal process will involve two independent reviewers. Studies will be rated for quality using an NIH quality assessment tool: https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools.

Data Synthesis Strategy

The findings from the data analysis will be synthesised based on which type of selection method was used by each study. Data will then be separated further within each selection method to include a synthesis of data on effectiveness, procedural issues, acceptability and cost-effectiveness of each selection method.

Existing Review

The present review will update a previous systematic review on selection methods within medical education to include updated literature.

Previous review: Patterson, F., Knight, A., Dowell, J., Nicholson, S., Cousans, F., & Cleland, J. (2016). How effective are selection methods in medical education? A systematic review. Medical education, 50(1), 36-60.

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