

Short Communication

Overview of Peer Assessment as Formative Assessment in Medical Education

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A B S T R A C T

In Competency-Based Medical Education (CBME), assessment plays a crucial role. It is defined as the systematic collection, review, and use of both qualitative and quantitative data to enhance student learning and development. There are two main types of assessments: summative and formative. Peer assessment involves various activities where students evaluate and provide feedback on their peers' work. This review article aimed to explore peer assessment in medical education. Articles were sourced from PubMed and Google Scholar, with a focus on studies related to peer assessment published between 2015 and 2024. Initially, 28 relevant studies were identified, but 15 were excluded due to incomplete access or paywalls.

The review found that students were concerned about how open and transparent peer assessment might affect their relationships. However, students showed increased confidence in assessing peer performance from their first to second year. While peer assessment was not found to be reliable for evaluating Objective Structured Clinical Examination (OSCE) performance, peer assessors felt it was beneficial for their learning. The insight gained into exam techniques and self-evaluation helped students better understand expectations in clinical settings and develop approaches to self-assessment. Entry-level students tended to provide more positive feedback compared to senior students. In conclusion, the article highlights the importance of early training and preparation for students, as well as continuous professional development for faculty members, to ensure effective guidance in the peer assessment process.

Keywords: Peer, Assessment, Formative, Medical Education

Introduction

In competency-based medical education, assessment plays a vital role. It is defined as the systematic process of gathering, reviewing, and utilising both qualitative and quantitative data to enhance student learning and development.¹ There are two types of assessments: summative and formative.

Traditionally, faculties have focused more on summative assessment. Summative assessment occurs at the end of a learning period and provides an overall judgement of student achievement against established standards or learning objectives. However, there is a shift in focus towards formative assessment, moving from assessing

learning (summative) to assessing for learning (formative). The National Medical Commission of India is also placing greater emphasis on formative assessment.² Formative assessments are ongoing evaluations of student learning, usually conducted multiple times throughout a unit, course, or academic programme. Formative assessment, which is also known as the assessment for learning, is an essential component of the educational process, distinguished by a range of defining characteristics and serving specific purposes in promoting student learning.³ The main purpose of formative assessment is to provide feedback to students. Feedback is a crucial component of medical student development, offering valuable insights to help students enhance their performance and grow into competent physicians.⁴ Formative assessment employs a range of methods, with peer assessment being one of them. Peer assessment involves activities where students evaluate and provide feedback on their peers' work. Peer teaching and learning enable students to receive effective feedback that is specific, selective, actionable, and timely and emphasizes key learning priorities. This method benefits both the students being assessed and the evaluators themselves. Recently, peer evaluation has gained prominence in healthcare education, with its value explored across various fields such as medicine, nursing, dentistry, and pharmacy.⁵ In medical education, peer assessment serves as a teaching tool for all three domains—cognitive, psychomotor, and affective—as well as an assessment tool according to Miller's pyramid. This review article aimed to understand the peer assessment in medical education.

Methodology

The search of all articles was conducted in PubMed and Google Scholar. Related research articles focusing on peer assessment in medical education published in the period from 2015 to 2024 were included in the review. A total of 28 studies similar to the current study objectives were identified initially, of which 15 were excluded due to the unavailability of the complete article and paid articles. Key words used in the search include 'peer assessment and medical education; peer assessment and competency-based medical education; Peer assessment and formative assessment. We included the remaining 13 studies regardless of study design or sample population. The collected information is conferred under the following subheadings: effect on students, faculty perception, and role in competency-based medical education

Effect on student

Mainly, students worried about the impact that open, transparent peer assessment could have on their relationships with each other.⁶ Students often experience anxiety and discomfort when assessing peers and providing feedback, particularly in the early stages of training.

With regular peer assessment, students overcome these challenges. Studies show their confidence in evaluating peers grows from first to second year. Initially, they prefer giving positive feedback but gradually become comfortable with constructive criticism. While students became more comfortable providing negative feedback to peers during the two years.⁷ This shows students know the importance of negative feedback that will help improve their skills. In another study, students found the exercise to be fruitful in helping them revise important syllabus topics before their end-term exams. Integrating peer teaching-learning activities for students within the academic timetable has favourable outcomes.⁸ In addition, peer assessment may improve the communication of feedback, as peers may use similar and more accessible language, as well as reduce negative feelings of being evaluated by an authority figure.⁹

Faculty Perceptive

Exposing students in their medical education to a peer audience and receiving feedback early can prove an important stepping stone toward successful presentation later in their professional sphere.¹⁰ Peer assessment was not reliable for evaluating OSCE performance, but peer assessors perceived that it was beneficial for their learning and Insight gained into exam technique and self-appraisal of skills allows students to understand expectations in clinical situations and plan approaches to self-assessment of competence.¹¹ Student experience as peer assessor offers a feasible means of providing them greater access to OSCEs without consuming more resources, although its impact on enhancing performance in the OSCE is likely to differ across stations.¹² Peer learning and teaching is an effective learning and evaluation model that can promote collaborative learning and increase learning enthusiasm. It is more suitable for knowledge expansion learning and comprehensive practical learning where teachers cannot be present for the entire process.¹³

Peer assessment in Competency-Based Medical Education (CBME)

Competency-based education calls for diversification of assessment practices and asks how assessment impacts learning. Peer assessment meets CBME goals by fostering skill mastery, self-reflection, and professional competencies through continuous, collaborative feedback, aligning with workplace-based learning. The peer-based OSCE responds to these demands and will become an important practice in health professions education.¹⁴ An informal formative peer assessment activity involves a continuous process throughout a course or education, whereas a formal one is designated to a single point in a course's momentum.¹⁵ Students at entry level tend to give more positive feedback than senior students; they also focus on practical and clinical knowledge, whereas more senior students focus

on communication, management, and leadership in their feedback comments.¹⁶

Conclusion

Peer assessment is considered a highly effective method of assessing competency in medical education. It involves both learning and teaching. However, faculty members emphasise the importance of providing early training and preparation to students, as well as their own professional development, in order to effectively guide them.

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D L- Critical review, editing, supervision, and final manuscript approval.

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