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Is It Time to Revise the Competency-Based Assessment? Objective Structured Clinical Examination and Technology Integration

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Dear Editor,

Objective structured clinical examination (OSCE) has long been a gold standard in clinical assessment for medical and healthcare professionals (1). However, the emergence of virtual OSCE has revolutionized the examination method, especially in the context of remote and online learning. Virtual OSCE, also known as V-OSCE or E-OSCE, is a relatively recent development in medical education and assessment (2, 3). The global coronavirus disease 2019 (COVID-19) pandemic significantly impacted medical education and clinical assessments. Social distancing measures and restrictions on in-person gatherings have necessitated exploring alternative assessment methods. Virtual OSCE has emerged as a viable solution to ensure the continuity of clinical assessment while prioritizing the safety of students, faculty, and standardized patients (3, 4).

Virtual OSCE offers greater accessibility and flexibility compared to traditional in-person assessments. It eliminates geographical barriers, allowing students from remote areas or those facing travel constraints to participate in assessments without needing physical presence. In addition, virtual OSCE enables students to complete assessments at their convenience, accommodating different schedules and reducing logistical challenges (4, 5). With the increasing familiarity and comfort levels of students and educators with technology, adopting virtual OSCE has become more feasible. Students are often tech-savvy and accustomed to using various digital platforms, which facilitates their engagement and participation in virtual assessments. Faculty members have also become more adept at designing and conducting virtual assessments, supported by training and resources provided by educational institutions (3-5).

Virtual OSCE offers unique opportunities for pedagogical enhancements. It allows for integrating virtual patient simulations, interactive feedback mechanisms, and standardized patient encounters in a controlled environment. These advancements can enrich the learning experience, promote critical thinking, and provide immediate feedback to learners, enhancing their clinical skills and decision-making abilities (4, 5).

Several platforms can conduct virtual OSCEs, each with features and capabilities. The choice of platform may depend on different factors, such as institution preferences, available technology, and specific requirements for virtual OSCE. Diverse platforms, namely Zoom, Microsoft Teams, WebEx, and Google Meet can be utilized for virtual OSCEs (2, 6, 7). These platforms provide video and audio communication, screen sharing, and breakout room functionalities for real-time assessments (7, 8). The video conferencing option allows the examiner, examinee, and standard patient to communicate via webcam and microphone. Moreover, the screens can be shared to help demonstrate visual materials, including radiographs or diagnostic images, to simulate a realistic clinical environment. Other features, such as breakout rooms, facilitate dividing participants into groups for the parallel rotation of students through different stations or individual assessments. On most platforms, text-based chat and polling functionality can be utilized for communication, interaction, and gathering feedback from participants during virtual OSCE (7-9).

Many educational institutions use learning management systems (LMS), such as Moodle, Blackboard, Canvas, or Brightspace. These platforms can be adapted to host virtual OSCE stations, allowing students to access cases, submit recordings, and receive feedback within the LMS environment. Some virtual OSCEs utilize dedicated simulated patient encounter platforms (7, 9-11). These platforms simulate patient interactions through pre-recorded videos or interactive interfaces. Examples of such platforms include CASUS, MedEdPORTAL, and MedU (7, 9-12). Virtual reality (VR) technologies are also being explored for virtual OSCEs. The VR platforms create immersive environments where students can interact with virtual patients and perform clinical tasks. Some platforms, such as Osso VR and Oxford Medical Simulation, offer VR-based medical simulations (13).

When selecting a platform for virtual OSCEs, it is essential to consider different factors, including ease of use, security features, technical requirements, scalability, and compatibility with assessment tools and institutional infrastructure. Moreover, it is recommended to ensure compliance with data protection regulations and maintain patient confidentiality throughout the virtual OSCE process (2, 5).

Virtual OSCEs come with their own set of challenges that need to be addressed for a successful implementation. Virtual OSCEs rely heavily on technology, and technical difficulties can disrupt the assessment process. Issues, such as internet connectivity problems, audio/video glitches, or platform-related challenges, can impact the smooth running of the assessment (14, 15). In addition, ensuring standardization across virtual OSCE stations and cases can be challenging and requires careful development of cases, training of standardized patients (if used), and establishing consistent criteria for assessment and scoring. Replicating the authenticity of face-to-face clinical encounters in a virtual environment can be difficult. Virtual interactions may lack the tactile and sensory elements present in in-person encounters, which can affect the realism of the assessment (16, 17). Assessing non-verbal communication cues and physical examination skills can be more challenging in a virtual setting. Limited camera angles and reduced ability to observe physical interactions may impact the assessment of specific skills (2, 5, 6, 15). Students and examiners may require training and support to become familiar with the virtual platforms and tools used for virtual OSCEs. Ensuring everyone involved is comfortable and competent in technology use is crucial for a successful assessment (2, 6, 16, 17). Implementing virtual OSCEs may require dedicated resources, including technology infrastructure, equipment, and technical support. Institutions need to ensure they have the necessary resources in place to support the virtual assessment process. Addressing these challenges requires careful planning, practical training, and continuous evaluation of the virtual OSCE process. Institutions and educators should continuously adapt and refine their virtual OSCE strategies based on feedback and the best-emerging practices in the field (12, 14).

To sum up, it is important to note that while virtual OSCE has gained traction recently, it does not entirely replace the value of in-person clinical competency-based assessments. It is often used as a complement or alternative when face-to-face assessments are not feasible (2, 5, 12). The decision to implement virtual OSCE is context-dependent. It requires careful consideration of educational objectives, resource availability, the feasibility of technology as an infrastructure, and the specific needs of the learners and institutions involved (2, 5, 7).

Footnotes

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