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SHORT COMMUNICATION

Bringing OSCEs into the 21st century: Why internet access is a requirement for assessment validity

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ABSTRACT

Web-based resources are a vital and indispensable component of modern medical practice. However, these resources are often not made available during clinical assessments such as OSCEs, creating a divide between assessment and real-life practice. Open Resource Clinical Assessments (ORCAs) are a novel concept that allows the use of 'open book' resources such as the internet (hence 'open resource') to improve assessment validity by recreating realistic workplace conditions. This is the first discussion in the academic literature as to why this form of assessment should be a pedagogical requirement within medical education, and how to overcome the inevitable challenges in implementation. Further work is required to understand how this will impact the medical curriculum for both undergraduates and postgraduates, and to pilot this concept.

Introduction

Web-based resources have become an invaluable tool for the modern clinician, as necessary as a calculator for an engineer. In the western world, almost all clinicians have access to web-based resources (Kennedy et al. 2008), and the majority use them to access clinical information on a typical shift (Nolan 2011). Clinicians balance the relevance, validity, and work required to access this information when making a clinical decision – a skill referred to as information management (Shaughnessy et al. 1994). Being able to access web-based resources improves point-of-care decision making, clinical communication, patient education, and overall co-ordination of patient care (Pandey 2012). Neglecting to incorporate web-based resources into clinical practice may be considered unprofessional (Teodorczuk et al. 2018), yet it is still mostly taught through the 'hidden curriculum' (Shenouda et al. 2018), and is largely absent from modern assessments.

Modern clinical assessments

> … we may expect great things in the near future, but meanwhile we jog along without any fixed aim, too often carried away by the winds of doctrines. – William Osler (1896)

Rote memorisation and factual recall, once the markers of clinical competency, have now become these very 'doctrines' which are preventing the evolution of medical assessments. We can no longer rely on their presence or absence to determine clinical competency. This is because it is now impossible to know all available medical information (Densen 2011) and irresponsible to rely on fallible recall of facts about the 'average' patient (Wartman and Combs 2019). Clinical competency must instead be determined by demonstration of appropriate information management and communication skills (Shaughnessy et al. 1994; Wartman and Combs 2019).

The role of clinical assessments is to determine an examinee's competence (Holmboe et al. 2010). Objective Structured Clinical Examinations (OSCEs) are a valid assessment of competency in clinical skills (Sloan et al. 1995) and have also been used to assess how well an examinee can utilise evidence-based medicine resources (Ilic 2010). The assessment of this skill typically involves a single station where examinees are given access to web-based resources, and thus the majority of the clinical assessments still occur without these resources. Herein lies the fundamental problem with clinical assessments: the difference between practice in the assessment and practice in real life. This impedes the ability to extrapolate performance in the test environment to real life, undermining the assessment's validity (Cook et al. 2015). By administering an invalid assessment, medical educators may be failing their ethical responsibility to produce competent doctors (Gonnella and Hojat 2001).

Open resource clinical assessments

Open resource clinical assessments (ORCAs) are a novel concept that aims to improve the validity of clinical assessments by aligning them with real-life practise. They function like an OSCE except examinees are allowed access to 'open book' resources ('open resources') such as the internet at every station, as they do in real life. This will assess their competency at rapidly finding accurate information, appropriately analysing its credibility, and succinctly incorporating this into a patient-centred management plan for every patient. All institutions hoping to administer valid medical assessments that mimic realistic working conditions must consider the role of ORCAs in their medical curriculum.

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Advantages

ORCAs will provide a more accurate assessment of clinical competency as they are more authentic to 'open-book,' real-life practice (Erlich 2017). They can assess a clinician's ability to make decisions based on the combination of best patient-orientated evidence with patient-centred care (Slawson and Shaughnessy 2005). As such, ORCAs will shift the assessment paradigm away from historical, arbitrary measures of competency towards actually assessing the skills required to be a competent clinician in the 21st century.

There are several pedagogical advantages to open resource assessments too, as they examine one's ability to find, understand, evaluate, and use external resources (Durning et al. 2016), as well as assessing higher levels of learning (Broyles et al. 2005).

Overall, ORCAs will align assessments with practice, and thus improve the validity of the results. All educators should advocate for an accurate assessment of good medical practice, not just how well one has memorised a textbook.

Barriers to implementation

There will be inevitable barriers to the widespread uptake of ORCAs. First, individuals may lack the technological literacy to use these tools (Kennedy et al. 2008). However, this should be easily overcome through education, like any other clinical skill.

Second, there is a lack of perceived acceptance of technology by patients and clinicians. However, patients are willing to accept the use of technology if it is explained that they are professional tools (Alexander et al. 2015). Furthermore, some clinicians still do not trust the quality of evidence on the internet. Appropriate education on how to identify and utilise frequently updated, peer-reviewed resources (Murfin 2013) should help to ameliorate these concerns.

Third, some believe that increasing reliance on web-based resources threatens the humanistic qualities of medicine (Gonnella and Hojat 2001). On the contrary, ORCAs should reduce the time and effort needed to teach and assess memorisation. This will allow time to nurture and assess the humanistic qualities of interpersonal skills, compassion, empathy, and the healing touch (Wartman and Combs 2019).

Finally, Tobin (2014) has argued that moving away from memorisation will impair clinical reasoning. Arguing over whether this is true misses the point that the ship has already sailed. Clinicians are already utilising external resources to offload the requirement for memorisation and to improve the care they provide. We have been paralysed by the fear expressed by Tobin (2014), and have thus rigidly adhered to historical assessments paradigms. We do not know the impact open resources will have on assessments, but we can no longer ignore their use and continue to widen the gap between assessment and practice.

The use of web-based resources falls on a spectrum. Two extremes of this spectrum are a theoretical lay person with access to the internet, and a theoretical doctor who refuses to use any web-based resources. Obviously, neither of these characters would make a desirable physician in the modern age. The ideal middle ground is a physician who knows what questions to ask and how to find the answers, but has the humility to understand that they cannot possibly know the answers to all questions.

The next step

A shift has occurred in medicine, whereby the ability to answer a point-of-care question using web-based resources is now more important than memorising facts destined to change (Erlich 2017). As we did with communication, we must recognise this skill's clinical utility and formalise its education and assessment (Shenouda et al. 2018). By incorporating ORCAs into medical curricula for both undergraduates and postgraduates, we can more accurately determine the competency of an examinee in their real-life practice, and hence this should be a requirement for all medical education institutions.

Currently, ORCAs are a conceptual solution to the broadening gap between assessment and practice. The author wishes to invite discussion about the concept of ORCAs and the evolving relationship between technology and assessments in modern medicine. As we consider the validity of our current assessments, we must also consider the role of ORCAs in medical education and how this may impact the current teaching model. The next step is to pilot the use of ORCAs to determine whether their theoretical benefits are translated into real life.

If you still believe web-based resources will undermine the assessment process, consider this: using a calculator reduces your competency at long division. However, you would not assess the skill of an engineer by how well they can build a bridge without a calculator. Let's make medical assessments more realistic, and let doctors have their 'calculator'.

Disclosure statement

The author reports no declarations of interest. The author alone is responsible for the content and writing of the article.

Notes on contributor

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