Teleophthalmology as a Valid Teaching Tool in Medical Education: Medical students' Views during a Pragmatic Pilot

Naik R., Dr Scott JA., Dr Livingstone I.

INTRODUCTION

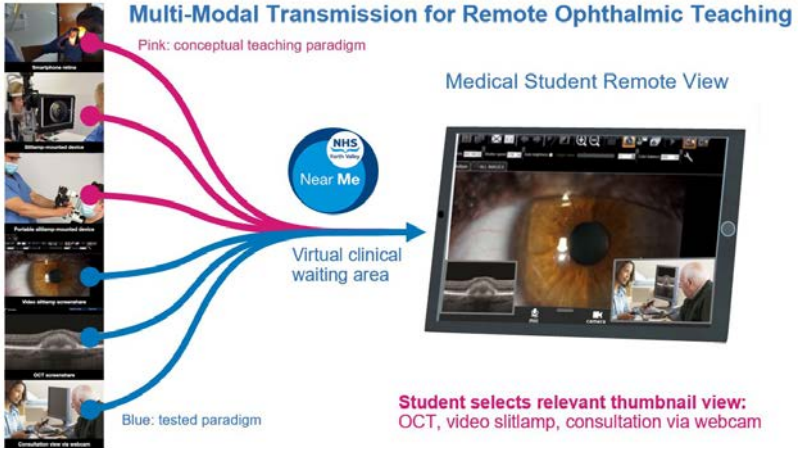
In March 2020, clinical training for medical students was discontinued 5 for months leading to a significant number of students unable to be part of a clinical team during this time [1]. Social distancing measures have impeded traditional teaching from absence of non-essential staff and decreased patient throughput. Clinical rotations have shortened to ensure missed experiences can be regained.

There have been many advances in Teleophthalmology, especially for diabetic retinopathy [2] with reliable screening tools in place. In order to prevent massive backlog of appointments, ophthalmologists have begun to do teleconsultations for a wide variety of patients during COVID19. Teleophthalmology has been a central part of the pandemic eye care response in several Scottish Boards, building on pathways in clinical use [3, 4, 5]. Pre-established technology can theoretically be used to teach students on clinical rotations if they are given access to the software and instructions on how to use it (fig. 1).

AIMS

The aim of this project is to evaluate if using pre-existing video conferencing and teleophthalmology tools is an effective method to teach medical students remotely.

Figure 1: Multi-Modal Transmission for Remote Ophthalmic Teaching

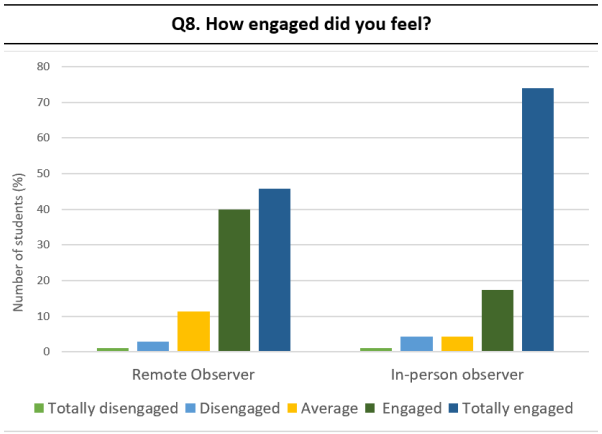


METHODS

A survey was produced through use of a mini-Delphi process involving a small panel of experts and the 5-point Likert Scale. This was then evaluated for potential improvements; suggestions were considered and re-drafts were finalised.

During the consultation, there was a student present in the room and/or a student dialled in through the use of 'NHS Near Me' software which has been approved by Regional Information Governance for this modality of teaching. Patients were asked for consent, made aware of both students and the consultation proceeded. The survey was completed after each session. Responses were stored and tabulated to determine patterns and compare students' opinions of how engaging they perceived the teaching to be remotely with views on traditional in-person teaching, as well as rating effectiveness of teaching technique.

Figure 2: Medical Student Opinion on Engagement



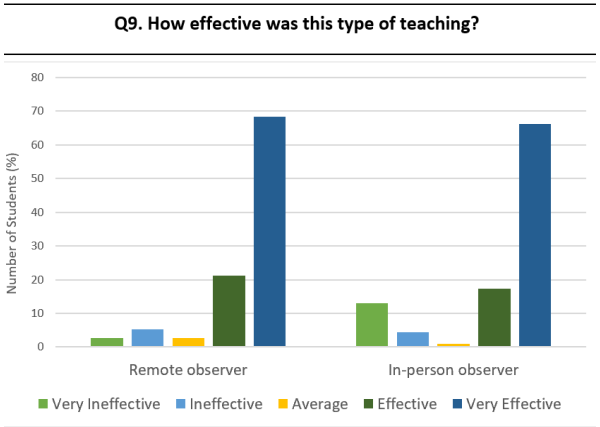


Figure 3: Medical Student Comparison on Effectiveness of Teaching Method

RESULTS

There have been 61 responses so far with almost 97% completed by fourth- and fifth-year medical students from Glasgow University (38 remote, 23 present in-person) but more responses are needed to make a definitive correlation.

Responses show that students are overall more engaged with in-person teaching (91.3%) compared to remote teaching (85.7%) (fig.2). Of those in-person, only 17.4% found it was an effective method of teaching and 65.2% found this to be highly effective, whereas 21.1% of remote learners found it effective and 68.4% highly effective (fig. 3). Both sets of students very highly recommended each method with minimal difference between results. There was an option for free comment which highlighted that present technical difficulties can be disruptive to teaching but being able to see the slit lamp images is highly useful.

CONCLUSION:

Preliminary data suggests that remote teaching may be at least just as good as traditional, face-to-face teaching for Ophthalmology. However, more data is still needed and expansion to other sites may be useful in order to avoid bias. A trial with similar methods is currently underway for Glasgow Caledonian University Optometry teaching during lockdown with multiple students.

If remote teaching is judged valuable, it may be highly useful during current social distancing measures, and also in the future as an alternative to involve more students remotely and safely. Finding the maximum effective number of remote students will be subject to further study, evaluating opportunities for small versus large group remote teaching.

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