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Letter

Tele-oncology in the COVID-19 Era: Are Medical Students Left Behind?

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We read, with interest, the recent article by Shirke *et al.* [1] ‘Tele-oncology in the COVID-19 Era: The Way Forward?’, describing the benefits and limitations of tele-oncology and its role during the coronavirus disease 2019 (COVID-19) pandemic. As medical students experiencing the disruptions caused by COVID-19, this article resonates with us. We appreciate the value of telemedicine in cancer services and agree that tele-oncology offers excellent prospects to help patients with cancer during COVID-19 and in the future. Yet, we are confronted with the fact that there is little mentioned by the authors of the opportunities and challenges associated with integrating telemedicine education and training (ET) in tele-oncology. In response to this statement, here, we set out ways in which telemedicine ET can be integrated in tele-oncology services for medical students. In addition, we discuss challenges of telemedicine ET and propose ways to overcome these.

Emergence of the COVID-19 pandemic has exerted an unprecedented strain on medical education. As medical students interested in specialising in oncology, we are disheartened by the missed learning opportunities caused by the suspension of clinical placements and cancellation of summer electives and research programmes. Although there has been an accelerated transition to telemedicine ET through virtual conferences, webinars, online platforms, and free open-access medical education (FOAMed), these predominantly offer theoretical education,

with little hospital training and medical simulation [2]. We are concerned that reductions in clinical teaching will hinder our clinical skills performance and self-confidence.

Even though all aspects of medical education have been significantly disrupted, we believe that oncology is disproportionately affected because it is already underrepresented [3–5]. Furthermore, early specialty exposure through academic opportunities and mentorships significantly increases the likelihood of medical students pursuing oncology-related careers [6–8]. The decline in such experiences amid COVID-19 may impede oncology specialty selection, causing a shortage of trainees to join a workforce that is already overstretched [9,10]. Increased physician burnout and poorer quality oncology services will likely result. To prevent these outcomes, we believe a revitalised medical education effort is crucial. If telemedicine is indeed the way forward, it is paramount to incorporate medical student ET.

First, streaming tele-oncology clinics is an easy method to offer clinical exposure to medical students who are restricted from attending clinical placements. Live participation in outpatient clinics through videocall and webchat offers real-time patient access, replacing the need for students, doctors, and patients to be in physical proximity and, thus, risking COVID-19 contraction. Allowing students to interview and clerk patients online can offer invaluable clinical experience. Students can assist in taking notes during consultations, supporting clinicians’ undivided attention to patients. Additionally, medical students should be invited to join virtual multidisciplinary team (MDT) meetings, which are easily accessible and a treasured source of learning. Most importantly, we strongly advocate for the provision of remote access to electronic patient records (EPR) for all clinical year students. We believe that such access

will cause a paradigm shift, enabling students to familiarise themselves with patient cases and bolstering student research initiatives by allowing them to conduct audits, retrospective patient studies, and case-series remotely. Indeed, restricted access to EPRs is a main obstacle in students’ preparation for clinical practice [11].

Telemedicine ET has its limitations, including the fact that medical students cannot practice physical examinations. Moreover, face-to-face patient exposure offers a better chance of cultivating empathy, practicing motivational interviewing, observing body language, and engaging in more sensitive patient discussions. Additionally, the presence of medical students in virtual clinics may reinforce uncomfortable feelings from patients who already report increased nervousness, emotional distance and difficulty, or reluctance, associated with communicating with providers using television-based systems [12]. Lastly, although remote access to EPRs will exponentially increase research output and aid clinical learning, it also poses a risk to patient confidentiality by information miss-sharing.

Undergraduate medical curricula must be revised to prepare future doctors for a telemedicine-dominant era. Training students on tele-oncology tools and increasing awareness of their limitations should form part of undergraduate education. Medical schools must teach students how to decide when telemedicine is appropriate by triaging patients who require in-clinic assessment. Emphasis should be placed on developing online communication skills and reassuring patients who are reluctant to use television-based systems. Lastly, students must recognise that tele-oncology needs require modification on a case-by-case basis.

Given that the duration of healthcare disruptions remains unknown, with a significant

backlog in services anticipated even after the pandemic has subsided, medical ET cannot be neglected. The pandemic has accelerated the transition to tele-oncology, unmasking a new era in telemedicine that is expected to remain in the long term. As medical schools adapt to the new face of medicine, students' transition to telemedicine should be prioritised, given that they have an important future role. Further efforts should focus on integrating telemedicine ET in tele-oncology services and educating students on using telemedicine systems.

Author Contributions

K.R. wrote the letter, and A.A. contributed to comments and editing.

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Letter

Response to Letter by Rallis and Tejerina

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We have read the response to our article by Rallis and Tejerina 'Tele-oncology in the COVID-19 era: are medical students left behind?', elaborating ways in which telemedicine education and training (ET) can be incorporated in tele-oncology services for medical students [1,2]. The pandemic has shifted the focus of patient care to management of COVID-19 cases, with surgeries limited to emergencies. It goes without saying that medical education is overlooked, with students getting less opportunities to participate in clinical procedures/placements due to the potential risk of contracting the virus. Additionally, with in-person classes, electives, and research opportunities being cancelled, we are well aware of the drawbacks brought about by the pandemic. In response, we have stated a few ways in which telemedicine has revolutionised the delivery of medical education in a matter of months.

Several teaching hospitals in the UK have suspended their clinical attachments, leading to medical students receiving reduced exposure to specific specialties, which can potentially be detrimental to exam performance and competency in the years to come. However, frequent rotation between hospitals and wards can

make medical students potential vectors for the disease, hence putting others at risk. Additionally, over one-third of medical students in the UK, every year, come from Black and other ethnic minority backgrounds [3]. Evidently they have been disproportionately affected in the pandemic and hence are at an increased risk compared with their white counterparts [4]. This raises the dilemma of the efficacy of online education versus the potential risks imposed by in-person learning.

We appreciate that medical ET cannot be neglected; however, major changes in the medical curriculum would be required to accommodate ET, change that will only come with time. Telemedicine has opened borders, resulting in education being delivered on a global scale through virtual conferences, webinars, case series, and more. Students can learn from world experts on topics and specialties of interest, free of cost [5]. Universities in China had introduced an innovative way to supplement remote medical education utilising online problem-based learning techniques to complete the curricula; these have been implemented in subsequent years, despite the COVID-19 pandemic [6].

Tele-oncology can be used to supplement the e-learning of medical students to provide a more holistic medical education. Students can be a part of the virtual patient meeting and be involved in the history-taking of the patient as well as decision making and planning. Medical students can also be taught to and then administer virtual physical exams via tele-oncology services. This would help medical students develop their communication skills as well as reinforce their physical examination skills. Such visits would provide a more realistic scenario with patients during these times than a case series [7,8].