

Impact of COVID 19 on Dermatology Education

Healthcare professionals were in the forefront of this battle against COVID-19 pandemic. As nations' healthcare systems struggled with an unprecedented number of patients, resident physicians (RP) of all specialties were recruited to help, since most were recruited outside their expertise, RPs were the most impacted in terms of academics and mental well-being.^[1,2] Optimization of resident and undergraduate training programs is required to achieve proficiency in their respective disciplines.

Issues at hand

The COVID 19 pandemic that reached India in March 2020 upset standard educational techniques and residency programmes. Das *et al.*,^[3] through an online questionnaire-based study reported that the majority of the responders were engaged in both management of Covid 19 positive patients and departmental work. Among all physicians, resident doctors suffered the most, feeling out of place in almost every facet of their careers. Nowadays, most lectures and seminars are held online rather than in person and this has resulted in lower bedside learning, fewer two-way exchanges, and inability to apply the learning, which is an important element of medical training programs.^[4]

The epidemic has also reduced hands-on training, and surgical specialties have been hit the worst, with no elective surgeries to break the transmission cycle.^[5,6] The frequency of elective biopsies, phototherapy, cryotherapy, laser training, etc., have come to a standstill.^[7]

A study by Mishra *et al.*,^[8] among ophthalmology trainees concluded that lockdown adversely affected their surgical training. A questionnaire-based study conducted by Sil *et al.*,^[9] showed

that there was a marked reduction in the quantum of procedures being performed. The pandemic has hampered most research and dissertation projects, since fewer patients visit outpatient facilities, and fewer follow-ups are possible.^[10] It has deprived new residents of the chance to communicate with their peers and stalwarts in their particular professions, which may drive them in tough times such as these. Less cutaneous examinations, avoiding dermoscopy^[11] may lead to physicians missing intricate details in the morphology of lesions, especially skin malignancies.^[12] Physicians have voiced qualms about utilizing immunosuppressives and biologicals, which are the cornerstone of dermatological care in the wake of the current pandemic. This new circumstance denies residents the ability to research illness, use therapies they had previously only read about, and improve patient outcomes.

Among the numerous challenges raised by the pandemic, mental health and burnout has been hit the worst. According to Sil *et al.*^[13] 26.82% of frontline dermatologists were depressed and 29.2% were stressed. Perception of stress decreased with work years in a research by Podder *et al.*^[14] In addition to the pandemic, this has raised stress and sadness among residents, affecting their academic and social performance. Patients' care was formerly considered altruistic, but today it's risky since many doctors may be asymptomatic carriers of the virus and inadvertently transmit it to their patients. So, the deeply ingrained ethos of "patient first" is under question, given the current situation.^[15]

Possible solutions

As we discover more about the virus, the path to advancement looks steep as new viral varieties arise and developing nations like India deal with repeated outbreaks.

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In the meantime, mass immunizations and herd immunity seem to be the only viable options.

Most classes are now done online through Skype, Google Meet, or WebEx, in addition lecture recordings would enable re-reading to better comprehend the content. Planning frequent evaluation modules based on the lectures may help prevent procrastinating. An entire library of case-based modules may be established. In a web-based model constructed by Scaperotti *et al.*,^[16] the intervention group outperformed the non-interventional group in both module-based and nonmodule-based questions. Exams are also being conducted online, with Imperial College London delivering their first ever online exams for final year students.^[17]

Simulated models may be utilized in dermatological surgery training. Using surgical simulation, Liu *et al.*^[11] found that residents' self-confidence in surgical performance increased from 27 to 46 on the OSATS (objective structured evaluation of technical skills). For this research, the trainees watched instructional videos at home before getting hands-on training. This methodology reduces on-site exposure durations in surgical and general learning modules. Cadaveric simulators may also help residents learn surgery. Online pathology slide libraries like path presenter, dermpathpro, Kiko, may be used for online teaching. Weekly didactic lectures with online virtual microscope sessions will also assist. Teledermatology is best utilized in the follow up phase to decrease outpatient visits, it saves time and resources while providing digital record for subsequent examination.^[12] It also allows doctors to prescribe at their convenience, particularly in less urgent specialties like dermatology, which may aid residents in devoting time on other assignments. It also allows patients from rural places to seek medical assistance. The incapacity of the masses to utilize technology properly, poor picture quality, and a two-dimensional perspective of the morphology of lesions, among other issues, may lead to delicate findings being ignored.^[12] The state and federal governments might help create teledermatology departments at different hospitals, which could act as a common repository for patient health information. Web sites like Sanjeevani^[18] may also help. This should be introduced with the understanding that doctors may request visits if necessary, preventing missed cases and lost learning opportunities for residents.

Walgren *et al.*^[19] employed a simulation-based dermatological model called NUDOV, and 90% of participants said the software helped them learn. Considering the existing restrictions on gatherings, CMEs should be performed online. To minimize "zoom fatigue", avoid repeating themes and keep sessions between 30 and 45 minutes long.^[20] Residents may remain up to date by participating in virtual networking sessions and case sharing. Smaller groups and mentoring sessions

might assist people obtain drive and expertise in these challenging times. The ICMR has made a biomedical research course obligatory for postgraduate trainees. Better financing, coaching, and incentives like thesis publication will help to keep the RP motivated. Interdepartmental and intercollege collaboration should be promoted to improve case sharing.^[21]

Mental health should be discussed more and given priority by both professionals and the general population. Early symptoms of stress and depression should be monitored closely in residents working in non-specialty wards with lengthy unexplained hours. Prioritize support groups, helplines, well-timed breaks from work, improved administration, and recognition of residents' efforts. Early identification of burnout symptoms and seeking treatment should be a priority.

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Conflicts of interest

There are no conflicts of interest.

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