Counting the Effects of COVID-19 on Early Career Doctors and Call for Sustained Mitigation

Coronavirus disease (COVID-19) outbreak was first reported in Wuhan, China, and since the outbreak, there have been multifaceted implications on people and the world generally.[1] The Human Resources for the Health (HRH) has been at the forefront of confronting this pandemic, which has affected more than 30 million people globally and about a million dead as of September 19, 2020. The HRH has not been left without an unprecedented and unique set of effects on their physical and mental health, among others.[2,3] In an article published by Ing *et al*. in July 2020, a larger proportion of physicians have been affected with worse hit specialties being general practice and internal medicine, while worse hit countries were Italy and Iran.[4] Another report from Italy also reveals that more than half of the affected HRH were medical practitioners.[5]

The early career doctor (ECDs) are vital HRH and are described as graduate medical or dental practitioners who are resident doctors, medical/dental interns, or medical officers below the rank of principal medical officers and dental equivalents.[6,7] Globally, ECDs play a vital role in delivering tangible and intangible benefits on the health system and the world generally. They are also unique with embed vulnerability on health and well-being among others in the health system. While they have not been left out of the impact on HRH, there appears to be some differential impact on this subcategory of HRH.[8]

The United States, which has overtaken China as the global epicenter of the pandemic, has shown a significant infection among ECDs due to closer contact with high-risk patients and a significant proportion of the overall HRH.[9] In a particular series of 2306 participants, 101(4.4%) were confirmed positive, with specialties such as ophthalmology, anesthesia, and emergency medicine having higher proportions of confirmed cases.[9] Although the overall impact on mortality and morbidity appeared to be more highlighted among medical practitioners compared to other HRH categories, the differential impact on ECDs has been poorly highlighted even though they may be more in closer contact with patients in many climes.

There are disruptions to ECDs training due to redeployment to the frontline of the COVID-19 battle. There is a profound impairment of postgraduate training due to decreased patient volume in noninfectious disease specialties, due to an attempt at enforcing nonpharmacological intervention in clinical settings.[10] There are reported cases of reassignment/redeployment of surgical residents from their specialties to COVID-19 wards to meet the surging workforce need of this unprecedented pandemic.[11,12] In many instances, elective cases, procedures and interventions were postponed and rescheduled.[12] Other disruptions include the insufficient cases to allow for the sign on for postgraduate examinations due to lockdown, adjustment to clinical rotations, and impairment to didactic education delivery.[13] There are incidence of postponement of postgraduate examinations and the possibility of inadequate preparation for postgraduate medical or board examinations.[14] While clinical rotations in training position during this period were considered invalid warranting extension of such rotations. The enforcement of social distancing and other nonpharmaceutical interventions probably served as a significant impediment, albeit a mitigating one on the pandemic to the flow of relevant cases required for exposure for training during this period.[15] There is decrease in the number of staff involved in many cases/procedures/interventions to reduce exposure and risk mitigation for COVID-19 infection. Many residents consider the effect on their educational pursuit to be the most significant impact.

It is reassuring that novel learning opportunities and clinical communication have been evolving and gaining traction during this period.[16] These have produced a generation of "techno-omnivores" who are comfortable with the new learning technologies among residents. The use of webinars, online interviews, and other virtual meetings and activities are fast becoming the new normal in this era.[14]

Such differential vulnerability affects mental health with a higher toll of burnout and work-related stress, quality of life.[17,18] Four out of five residents in a French cohort had a negative psychological impact.[17,19] Furthermore, the effect on training can occur in extremely high proportion; the stagnation or slowing of earlier training plan can cause anxiety. A further cause of distress includes the inadequacies of not fully acquiring the necessary skills related to the new disease. The information explosion as related to the disease is unprecedented. Workplace issues such as satisfaction are also worst in them.[8,20] There is also the demoralizing impact of quarantine due to occupational exposure and the great uncertainty that this pandemic poses on ECDs' training and education.[13,21] The fear of acquisition of the infection and transmission of the same to a family member is an identifiable risk.[13]

Inadequate availability of personnel protective equipment (PPE) is also a crucial issue among the ECDs. This problem is worse in low- and middle-income countries, and unacceptable proportions have been reported in developed countries.[21] Interestingly, the study among resident doctors in New York State found no correlation between mask type used by residents (surgical, N95, or both) and perceived shortage of PPE or number of COVID-19-positive residents.[21]

Overall, COVID-19 since its outbreak include the direct and indirect impact on health, training, well-being, uncertainty with key issues of ECDs, while the effect on health includes those on physical, social, and mental aspects.[17,22] This unprecedented global threat with a heavy death toll on health workers generally, and physicians especially, is a call for action generally. Unfortunately, these effects are not appearing to resolve soon.[13] There is also the need to understand the challenges and issues associated with medical educations during this period and the long-term implications.[21]

Therefore, this is a call for more evaluation to provide targeted policies to mitigate the possible effects considering the vulnerability of these categories of physicians. Identifying such is essential in mitigating the profound effects in the interim and long-term. While financial inducements are excellent and welcome, the other issues that need actions need to be addressed.

There is a need for more studies to assess the long-term implication on the overall health system vis-a-viz the slowing of meeting specialist workforce need. There is also a need to understand the postpandemic implications where the curve is already flattening and provision of more PPEs among others.[21] It also calls for more use of telemedicine and deployment of more information technology into residency training programs.[8] Regulatory guidance is also not limited to the need to develop safe, secure, and patient-friendly telehealth applications.[14] The postgraduate colleges have to come up with a guideline for the incorporation and use of these new technologies in the curriculum.[23]

It would be interesting to assess the influence of the pandemic on ECDs from baseline mental health distortion, to the influence of the pandemics on the social dynamics of ECDs, especially the family dynamics.[8,12]

Although many postgraduate medical institutions have developed a conceptual framework to mitigate the impact of the pandemic on residents as its the case with the Accreditation Council for Graduate Medical Education.[23] There is a need to develop more longitudinal studies to assess the impact of this pandemic on ECDs, resident training, and health.[23] Training institutions and regulatory bodies need to develop strategies and guidelines, expected to mitigate the effect of the pandemic on educational outcomes.

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