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Assessing online learning readiness and perceived stress among first year medical students during COVID-19 pandemic: a multi-country study
Évaluation de la capacité d’apprentissage en ligne et du stress perçu chez les étudiants de première année de médecine pendant la pandémie de la COVID-19 : une étude multipays

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Introduction

The emergence of COVID-19 has produced rapid and dramatic changes in medical education, especially in the preclinical phase.1-4 Strict and widespread lockdowns and social distancing have limited students’ ability to attend lectures, practical labs, problem-based learning (PBL), clinical sessions, and other in-person teaching.1,5-9 Remote teaching in the preclinical years deprives students of hands-on experience which is preferred to virtual/simulated medical teaching.2,4,6-9 Online learning, technological challenges, social distancing, lockdown, non-supportive home environment, family conflicts, loneliness, unfamiliar examination formats, and uncertainties have created barriers to learning. These also generate stress and anxiety among medical students.1,5,6,10,11 Studies conducted before the COVID-19 pandemic demonstrated that medical students showed higher rates of stress, anxiety, depression and suicidal tendency and were less likely to seek support. Therefore, effective strategies need to be implemented to support their learning, as well as physical and mental health,12,13 especially during the COVID-19 period and beyond.2,10,11

The University of the West Indies (UWI), a regional Caribbean university with medical faculties in Barbados (Cave Hill Campus), Jamaica (Mona Campus), and Trinidad and Tobago (St. Augustine Campus), and a clinical teaching site in the Bahamas (Nassau), has an enrolment of approximately 3,000 medical students in its 5-year Bachelor of Medicine, Bachelor of Surgery (MBBS) degree programme. In response to country-specific COVID-19 policies and protocols, the Faculty of Medical Sciences (FMS) transitioned preclinical teaching entirely online and suspended clinical duties for clerkship students for the remainder of the academic year 2019-2020. All assessments inclusive of the final MBBS examination were administered remotely and unproctored.

In the fall semester, 2020, the FMS decided to conduct either fully online/remote (St Augustine Campus; Mona Campus) or hybrid (Cave Hill Campus) teaching for new cohort of the first-year students. Half of first-year students...
at Cave Hill Campus, Barbados are Trinidad and Tobago nationals and were unable to participate in face-to-face teaching sessions since national lockdown measures prevented air travel to Barbados. Students anecdotally reported anxiety and stress caused by off-campus teaching and online assessment during academic advising sessions and student-staff liaison committee meetings. This study in progress aims to systematically assess online learning readiness and perceived stress among first-year medical students during the COVID-19 pandemic.

Methods
A cross-sectional online survey of first-year medical students \( n = 600 \) in Barbados, Trinidad and Tobago, and Jamaica is in progress during the fall semester of 2020-2021. The self-administered questionnaire comprises the following standardized instruments: (1) The Online Learning Self-Efficacy Scale (OLSES),\(^4\) (2) The Perceived Stress Questionnaire-10-Item Version (PSS-10),\(^5\) and (3) The Brief Resilient Coping Scale (BRCS).\(^6\)

Analyses will include: (i) descriptive statistics for items measuring readiness for online learning, perceived stress, and adaptive coping [means, frequencies, and confidence intervals]; (ii) the association of perceived stress and adaptive coping with age, gender, and campus [comparison of means, correlational analysis]; and (iii) the psychometric properties and measurement invariance of the three standardized measures (the PSS-10, BRCS, and OLSES) [internal consistency, concurrent validity, confirmatory factor analysis]. The University of the West Indies-Cave Hill/Barbados Ministry of Health Research Ethics Committee/Institutional Review Board approved this study.

Summary
The preclinical curriculum is foundational for subsequent clinical training. The curriculum utilized didactic lectures with practical-oriented, laboratory-based training in the pre-COVID era. This multi-country study will provide an understanding of online learning readiness, technological preparedness, and perceived stress of first-year students in the context of rapid implementation of virtual curriculum delivery during the COVID-19 pandemic. Our results will identify academic, administrative, and technological challenges and inform the design of future online teaching and assessment strategies, and effective student psychosocial support services during the COVID-19 pandemic.

Conflicts of Interest: Authors possess no conflict of interest.

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References
1. Torda AJ, Velan G, Perkovic V. The impact of Covid-19 pandemic on medical education. Med J Aust. 2020;14:1. https://doi.org/10.5694/mja2.50762
2. Gaur U, Majumder MAA, Sa B, Sarkar S, Williams A, Singh K. Challenges and Opportunities of Preclinical Medical Education: COVID-19 Crisis and Beyond. SN Compr Clin Med. 2020:1-6. https://doi.org/10.1007/s42399-020-00528-1
3. Sandhu P, deWolf FM. The impact of COVID-19 on the undergraduate medical curriculum. Med Educ Online. 2020;25(1):1764740. https://doi.org/10.1080/10872981.2020.1764740
4. Singh K, Gaur U, Hall K, Mascoll K, Cofahl D, Majumder MAA. Teaching anatomy and dissection in an era of social distancing and remote learning. Adv Hum Biol. 2020;10:90-4. https://doi.org/10.4103/AHBI.AHBI_87_20
5. Rose S. Medical student education in the time of COVID-19. JAMA. 2020 323(21):2131-2132. https://doi.org/10.1001/jama.2020.5227
6. Majumder MAA. COVID-19 pandemic: Medical education is clinging on a knife’s edge! Adv Hum Biol. 2020;10:83-4. https://doi.org/10.4103/AHBI.AHBI_88_20
7. Longhurst GJ, Stone DM, Dulohery K, Scully D, Campbell T, Smith CF. Strength, Weakness, Opportunity, Threat (SWOT) analysis of the adaptations to anatomical education in the United Kingdom and Republic of Ireland in response to the COVID-19 pandemic. Anat Sci Educ 2020;13:301-11. https://doi.org/10.1002/ase.1967
8. Pather N, Blyth P, Chapman JA, Dayal MR, Flack NA, Fogg QA, et al. Forced disruption of anatomy education in Australia and New Zealand: An acute response to the COVID-19 pandemic. Anat Sci Educ. 2020;13:284-300. https://doi.org/10.1002/ase.1968
9. Franchi T. The impact of the COVID-19 pandemic on current anatomy education and future careers: A student’s perspective. Anat Sci Educ. 2020;13:312-5. https://doi.org/10.1002/ase.1966
10. Araújo FJ, De Lima LS, Cidade PI, Nobre CB, Neto ML. Impact of Sars-Cov-2 and its reverberation in global higher education and mental health. Psychiatry Res. 2020;288:112977. https://doi.org/10.1016/j.psychres.2020.112977
11. Sahu P. Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. Cureus. 2020;12(4):e7541. https://doi.org/10.7759/cureus.7541
12. Schwenk TL, Davis L, Wimsatt LA. Depression, stigma, and suicidal ideation in medical students. JAMA.
13. Molodynski A, Lewis T, Kadhum M, Farrell SM, Lemtiri Chelieh M, Falcão De Almeida T, et al. Cultural variations in wellbeing, burnout and substance use amongst medical students in twelve countries. Int Rev Psychiatry. 2020:1-6. https://doi.org/10.1080/09540261.2020.1738064

14. Cohen S., Williamson G. Perceived stress in a probability sample of the United States. In: S Spacapan, S Oskamp. eds. The social psychology of health. Newbury Park, CA: Sage; 1988.

15. Sinclair VG, Wallston KA. The development and psychometric evaluation of the Brief Resilient Coping Scale. Assessment. 2004;11(1):94-101. https://doi.org/10.1177/1073191103258144

16. Zimmerman WA, Jonna M. Kulikowich JM. Online Learning Self-Efficacy in Students With and Without Online Learning Experience. Am J Distance Ed. 2016;30(3):180-191. https://doi.org/10.1080/08923647.2016.1193801