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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),¹⁴ (2) The Perceived Stress Questionnaire-10-Item Version (PSS-10),¹⁵ and (3) The Brief Resilient Coping Scale (BRCS).¹⁶

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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