# **ORIGINAL ARTICLE**

# Covid-19 One Year on: Exposure to Infection, Covid-related Functional Difficulties and Concerns Among Medical Students From a Malaysian Medical School

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### **ABSTRACT**

**Introduction:** The COVID-19 pandemic has forced revolutionary changes in the delivery of medical education and imposed much stress on medical students and academicians. This study aimed at evaluating the level of exposure to COVID-19, COVID-related functional difficulties and concerns experienced by medical students, approximately one year after COVID-19 became significant health and socio-economic issues in Malaysia. **Methods:** A cross-sectional study using self-administered online questionnaire, was conducted among the undergraduate medical students of a private university in Malaysia. **Results:** A total of 243 medical students participated. They reported low level of exposure to COVID-19 infection. Majority of them demonstrate moderate level of difficulties in learning (median score of 3, highest score = 4) and high levels of COVID-related concerns (median scores of 4 to 5, highest score = 5). Lowest household income category was a significant predictor of high level of functional difficulties (OR = 3.878, 95%CI: 1.651, 9.110); whilst female gender was a significant predictor of high level of COVID-related concerns (OR = 7.400, 95%CI: 1.920, 28.514). **Conclusion:** One year following the onset of COVID-19 pandemic in Malaysia, medical students still reported significant functional difficulties in learning and demonstrated high levels of COVID-related concern. Collaborative efforts to mitigate the problems need to be intensified with emphasis on the delivery of online medical education and special attention to female and lower socio-economic group students to prevent detrimental consequences to medical students and medical education. Multi-center and longitudinal studies are recommended.

**Keywords:** Medical students, Exposure to COVID-19, COVID-related functional difficulties, COVID-related concerns, Medical education

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## **INTRODUCTION**

The COVID-19 pandemic was declared by the World Health Organisation (WHO) on 11th March 2020 (1). Without an established effective treatment or a vaccine to fight this new virus, the authorities had been forced to implement drastic community mitigation strategies to control the transmission of the disease (2,3). Lockdowns and semi lockdowns have been enforced worldwide to ensure social distancing with measures like homequarantine, travel restrictions, shutting down of non-essential services and educational institutions (2,3).

Malaysia reported the first case of COVID-19 on 25th Jan 2020 (2). That was followed by increase of cases in February and March 2020 leading to the lockdowns in

Malaysia [locally know as "Movement Control order" (MCO)] which started on 18th March 2020. Since then, Malaysians at different locations have undergone multiple levels of MCO with different level of restrictions based on the severity of disease occurrence (2).

Since the onset of the pandemic, numerous studies conducted during earlier phases of the pandemic, have highlighted the significant impact of COVID-19 and the lockdowns on the mental health of university students (both medical and non-medical) (3-5). The main stressors identified were online learning and financial constraints (3,4), with females noted to be more prone to adverse psychological effect of COVID-19 (3,4,6).

Medical education is inherently stressful (7). The training at medical schools are unique as clinical attachments and practical sessions are essential to prepare students to be competent doctors. Multiple institutional studies have shown that at least half of medical students may experience "burn-out" at some point of their education