

Beyond COVID-19: The Impact of Recent Pandemics on Medical Students and their Education: A Scoping Review

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Introduction

Since the World Health Organization's first announcement of a mysterious coronavirus-related pneumonia in Wuhan, China on January 9th 2020, undergraduate medical education (UME) has been significantly impacted (AJMC 2020). The rapidly spreading disease forced UME to abruptly alter its means of delivery. With the cessation of face-to-face activities, UME resorted to delivering education through alternate means such as video conferencing tools like Zoom. However, COVID-19 was not the only recent pandemic. This posed the question, were similar disruptions and adaptations also seen in other past pandemics such as Severe Acute Respiratory Syndrome (SARS) or Middle East Respiratory Syndrome (MERS) that could have prepared UME for COVID-19? This scoping review investigated the educational and personal impact of recent pandemics on UME and medical students.

Aims and Objectives

1.To explore prior research on the effect of pandemics and epidemics on undergraduate medical education as well as medical students.

2.To discover common themes and lessons that transcend various pandemics, that could potentially affect the way we conduct undergraduate medical education in the future.

Methods

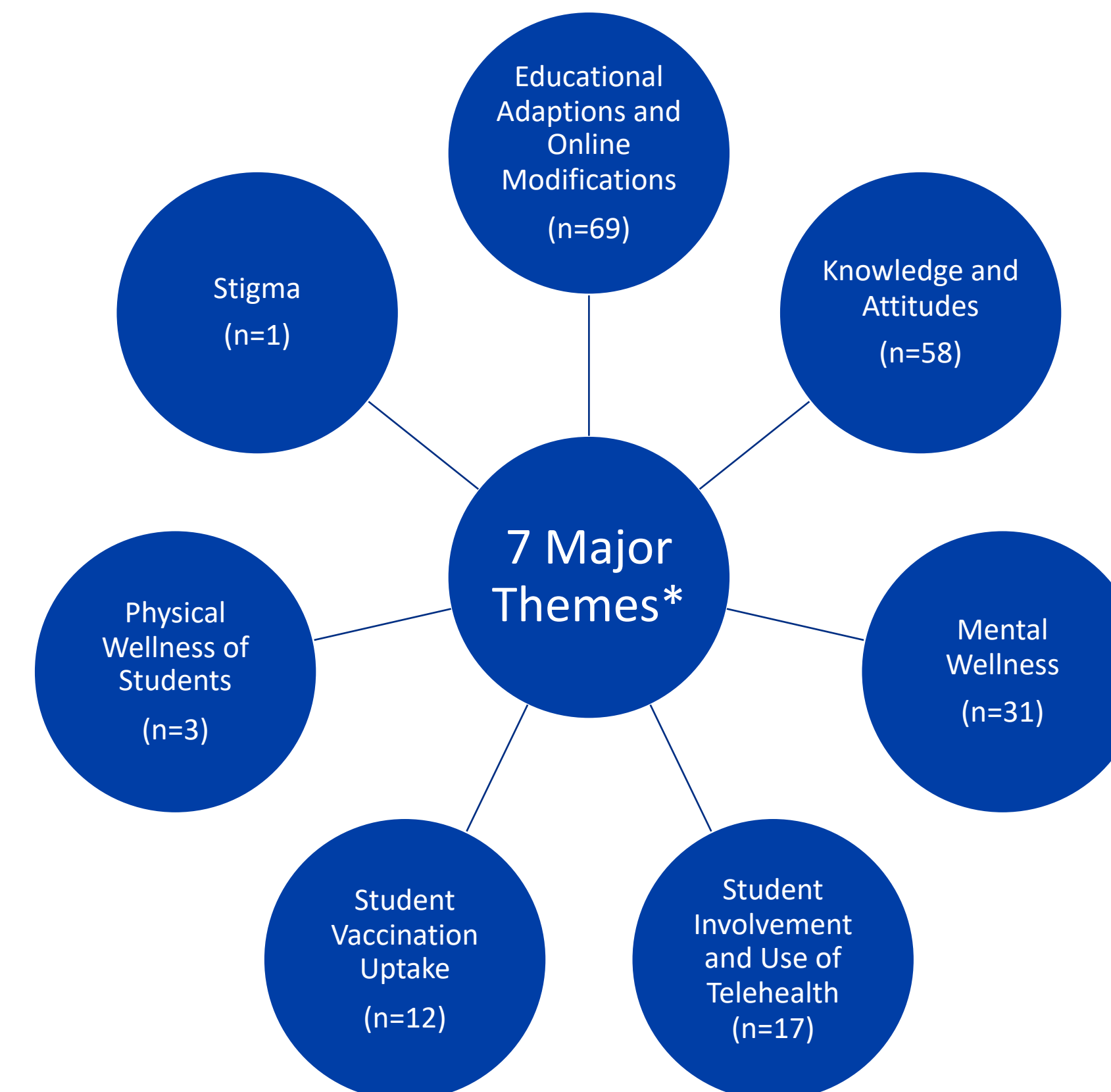
This review followed the PRISMA guidelines for scoping reviews. Nine databases including PubMed, ERIC, and EMBASE were systematically searched using keywords and subject headings related to medical students/UME and SARS, Ebola, H1N1, MERS, Zika, and COVID-19. Articles were limited to research studies published between 2000-2020 and in English. Based on exclusion and inclusion criteria, all articles were independently screened by two reviewers first by the title/abstract and then via full text. Data was extracted from the included studies and analyzed qualitatively using thematic analysis.

3572 Abstracts and Titles Screened

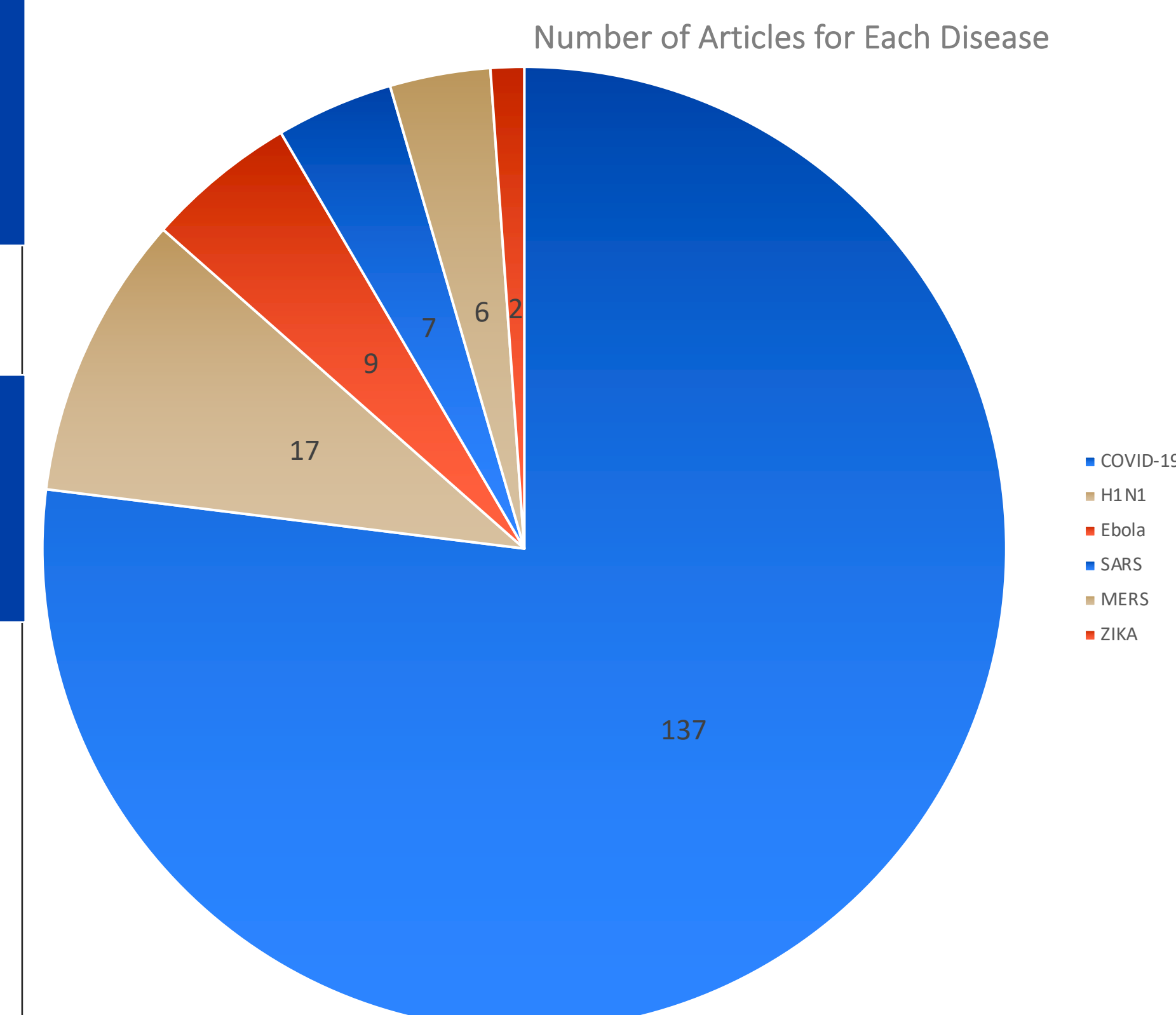
851 Full Texts Screened

172 Studies Included

Results



* Sum of all themes exceeds 171 due to several studies belonging to multiple themes



Conclusions

- A majority of articles addressed COVID-19 due to its worldwide scale, but other pandemics had similar impacts on UME and medical students at a regional level.
- **Educational adaptations and online modifications** were unique to COVID-19. Various adaptations were utilized and had mixed reception but also demonstrated increased flexibility for education delivery.
- **Student knowledge** was mostly sufficient regarding disease transmission and symptoms but could improve in treatment options. Medical students tended to have better general understanding of diseases compared to other students.
- **Mental wellness** topics were well studied in COVID-19 including measuring depression, anxiety, and stress levels. However, most did not explore strategies for managing stressors.
- **Students remained involved** through volunteer opportunities. Telehealth was a significant outlet for student participation in community outreach and enhancing clinical skills.
- **Vaccine** studies were related to H1N1 only due to a December 2020 search end date, offering a need for future studies. Studies demonstrated varying uptake with low comprehensive knowledge regarding the vaccine and disease.
- **Physical wellness and stigma** demonstrated Asian students faced increased stigma during COVID-19 and varying effects of student physical wellness.

References

- ¹American Journal of Managed Care. A Timeline of COVID-19 Developments in 2020. Published January 21, 2021. Accessed February 24, 2022. <https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020>
- ²Sandhu P, de Wolf M. The impact of COVID-19 on the undergraduate medical curriculum. Med Educ Online. 2020;25(1):1764740. doi:[10.1080/10872981.2020.1764740](https://doi.org/10.1080/10872981.2020.1764740)