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Healthcare Students' Experiences and Perceptions of Education During COVID-19: An Evidence-Based Practice Project

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Healthcare Students' Experiences and Perceptions of Education During COVID-19: An Evidence-Based Practice Project

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Introduction

Evidence Based Practice

Evidence based practice is defined as the integration of knowledge from professional and clinical expertise, patient/client unique values and circumstances, and best research evidence (Straus, Richardson, Glasziou, & Haynes, 2005). The EBP courses in the St. Catherine University occupational therapy programs emphasizes skill building in finding, analyzing, and synthesizing research.

A definition of Evidence-Based Practice (EBP)



(Straus, Richardson, Glasziou & Haynes, 2005)



The EBP Project

Occupational therapy graduate students at St. Catherine University complete an EBP project in partial fulfillment of the requirements for a course on Evidence-Based Practice.

The EBP Process

- Begins with a practice dilemma
- Dilemma is framed as an EBP question and PICO
P (population/problem) I (intervention) C (comparison group) O (outcome(s) of interest)
- Background learning
- Search for the best evidence
- Initial appraisal and critical appraisal of the evidence
- Summary of themes from the evidence
- Recommendations for practice
- Next steps – implementation in practice

Six EBP Projects: Coronavirus Disease 2019 (COVID-19) and Occupational Therapy Research, Practice, and Education

1. Experiences and perspectives of occupational therapy practitioners and other health professionals who provided care and services during COVID-19
2. Lived experiences and perspectives of occupational therapy and other health profession students who had educational changes because of COVID-19
3. Experiences and perspectives of individuals regarding their performance and participation during COVID-19
4. Characteristics of, effectiveness of and satisfaction with virtual, telehealth and technology-based interventions provided by occupational therapy and other health professionals to clients during COVID-19
5. Characteristics of effective virtual and technology-based learning activities provided to occupational therapy and other health profession students during COVID-19.
6. Client factors, performance, and participation characteristics of individuals with long COVID-19

EBP Cases: COVID-19 and Occupational Therapy Practice, Education, and Research

COVID-19 was chosen as the focus for these projects because of the extraordinary changes in occupational therapy practice and education from 2020 to 2022. There is growing interest in understanding how COVID-19 influenced the lives of individuals with the condition, students preparing to enter the occupational therapy profession, and interventions provided in occupational therapy practice. Because of the recency of the COVID-19 pandemic and limited published research, interprofessional studies were also examined related to each EBP question.

An EBP project always begins with background learning on definitions and key characteristics. The Centers for Disease Control and Prevention (CDC) provided background information on the disease related to the history, variants, transmission, risk factors, and variants (2021). The virus, SARS-CoV-2, was discovered in Wuhan, China around December, 2019 and caused the disease, Coronavirus Disease 2019 (COVID-19). The virus was very contagious and COVID-19 was associated with severe respiratory symptoms for many people. Individuals with certain medical conditions and older adults were at higher risk of severe illness and death from COVID-19.

Many occupational therapy organizations provided general resources on COVID-19. For example, the American Occupational Therapy Association (AOTA) published practice decision guides and case examples for outpatient, inpatient, telehealth and home health settings (n.d.). The Accreditation Council on Occupational Therapy Education (ACOTE) provided guidance to educational programs regarding distance education and allowed broad flexibility to support completion of fieldwork requirements (n.d.). The National Board for Certification in Occupational Therapy (NBCOT) provided regular new items to summarize how they were monitoring government guidelines for test centers (n.d.). The World Federation of Occupational Therapists (WFOT) provided information, resources, and an online forum for the global community of occupational therapy professionals (2022).

Our understanding of COVID-19 and its influence on occupational therapy practice and education is still in the early stages. In occupational therapy education, academic courses and fieldwork experiences were altered to minimize in-person requirements and adjust to quickly changing circumstances in clinical settings. In practice, occupational therapy professionals provided services using new or modified approaches and were recruited to serve in expanded capacities to meet growing needs. There were also growing concerns regarding long COVID or post-COVID conditions as well as the mental health of health profession students and practitioners. The findings from recent research now adds depth to our understanding of the characteristics, outcomes, and implications of these far-reaching changes due to COVID-19. These EBP projects will serve to summarize the evidence and lessons learned from COVID-19.

Appraisals of Best Evidence, Themes, and Recommendations

After searching and finding evidence available from library databases and alternative sources, students conducted an initial appraisal to evaluate the quality and relevance of the evidence and select the best research for further review. Then they conducted critical appraisals of the best formal reviews of primary research (e.g., systematic reviews, meta-analyses) and/or primary/original research studies. One of the steps in the critical appraisal process is to evaluate the strength or level of the research design and the types of conclusions that are possible from each design.

Initial Appraisal

- Quality of the evidence
 - type of evidence and research design
 - investigator qualifications and journal/publication/website
 - journal/publication/website
- Relevance of the evidence

Critical Appraisal

- Appraisal of methods, results, and implications
- Classification of type of research study
 - Reviews of primary research (e.g., systematic reviews, meta-analyses)
 - Qualitative studies
 - Psychometric studies
 - Primary quantitative research studies
 - Level 1: randomized controlled trials
 - Level 2: two groups, nonrandomized/cohort and case control
 - Level 3: nonrandomized, pretest/posttest and cross-sectional
 - Level 4: single subject
 - Level 5: case report

After completing initial and critical appraisals, themes are summarized related to the EBP question and other findings that emerged from the evidence. Recommendations for practice and reflection on participating in an EBP project are identified in the conclusions.

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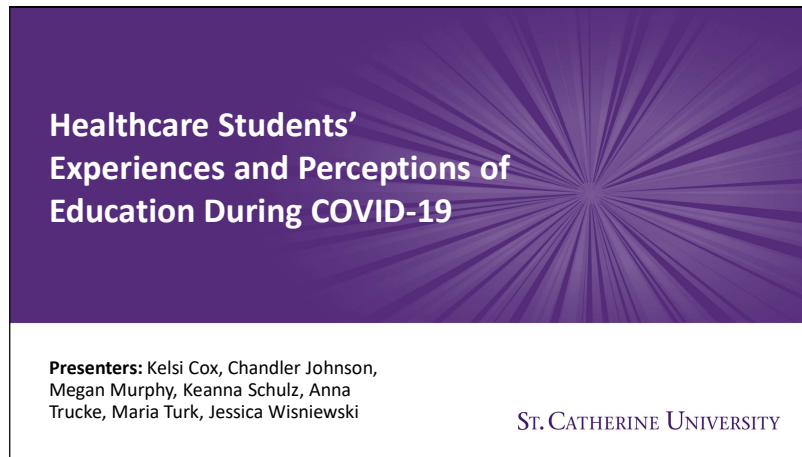
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EBP Question

What were the lived experiences and perspectives of occupational therapy and other health profession students who had educational changes because of COVID-19?

Professional Presentation

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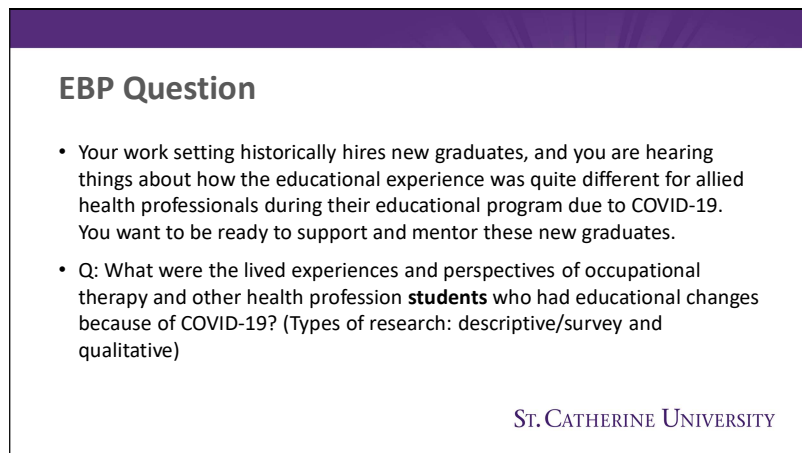


Healthcare Students' Experiences and Perceptions of Education During COVID-19

Presenters: Kelsi Cox, Chandler Johnson, Megan Murphy, Keanna Schulz, Anna Trucke, Maria Turk, Jessica Wisniewski

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Slide 2

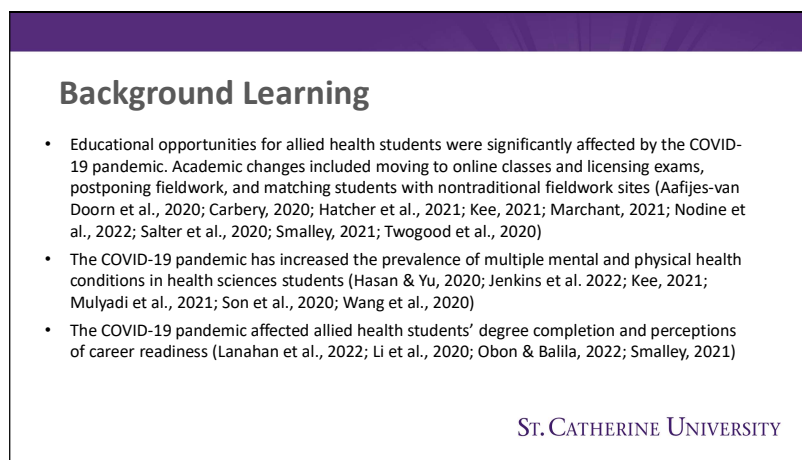


EBP Question

- Your work setting historically hires new graduates, and you are hearing things about how the educational experience was quite different for allied health professionals during their educational program due to COVID-19. You want to be ready to support and mentor these new graduates.
- Q: What were the lived experiences and perspectives of occupational therapy and other health profession **students** who had educational changes because of COVID-19? (Types of research: descriptive/survey and qualitative)

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Background Learning

- Educational opportunities for allied health students were significantly affected by the COVID-19 pandemic. Academic changes included moving to online classes and licensing exams, postponing fieldwork, and matching students with nontraditional fieldwork sites (Aafjjes-van Doorn et al., 2020; Carbery, 2020; Hatcher et al., 2021; Kee, 2021; Marchant, 2021; Nodine et al., 2022; Salter et al., 2020; Smalley, 2021; Twogood et al., 2020)
- The COVID-19 pandemic has increased the prevalence of multiple mental and physical health conditions in health sciences students (Hasan & Yu, 2020; Jenkins et al. 2022; Kee, 2021; Mulyadi et al., 2021; Son et al., 2020; Wang et al., 2020)
- The COVID-19 pandemic affected allied health students' degree completion and perceptions of career readiness (Lanahan et al., 2022; Li et al., 2020; Obon & Balila, 2022; Smalley, 2021)

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Examples of Evidence Resources

Governmental and Major Foundations

- National Library of Medicine- National Institute of Health (NIH)
- Education Database - ProQuest
- CDC (Centers for Disease Control and Prevention)

OT Specific Resources

- CINAHL Complete - Cumulative Index to Nursing and Allied Health Literature
- American Occupational Therapy Association (AOTA)
- PsycARTICLES - American Psychological Association

Interprofessional Journals, Databases, Organizations

- PubMed Database - U.S. National Institute of Health's National Library of Medicine
- ERIC (Education Resources Information Center) - Institute of Education Sciences

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Examples of Search Process

Databases Used

- CINAHL and PubMed
- ERIC and Education database
- Google Scholar

Most Helpful Search Strategies

- Dividing the databases and alternative search strategies between group members
- Utilizing online tutorials for searching databases
- Applying limiters to searches such as peer-reviewed, full-text, and English

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Examples of Search Process

Most Helpful Keywords

- Health science students, healthcare students, graduate students, nursing students, OT students, medical students
- COVID-19, SARS-CoV-2, Coronavirus, COVID-19 pandemic, 2019-ncov
- Perceptions, experience, attitudes, feelings, perspectives
- Mental health, physical health, wellbeing
- Clinical competence, academic performance

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Initial Appraisal of Best Evidence

- Primary Research Studies
 - 29 articles
- Reviews of Primary Research
 - 5 articles
- Conceptual/Theoretical Articles
 - 1 article

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Overview of Critical Appraisals of Best Evidence

Primary Research

- Stress, anxiety, depression, and perfectionism among graduate students in health sciences programs (Bogardus et al., 2022)
- Participatory peer research exploring the experience of learning during COVID-19 for allied health and healthcare science students (Daly Lynn et al., 2022)
- Perceptions of medical students towards online teaching during the COVID-19 pandemic: A national cross-sectional survey of 2721 UK medical students (Dost et al., 2020)
- Academic and psychosocial challenges of health science students during the COVID-19 pandemic: A university of technology perspective (Govender N. et al., 2021)

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Overview of Critical Appraisals of Best Evidence

Primary Research

- Stress perceived by university health science students, 1 year after the COVID-19 pandemic (Marcén-Román et al., 2021)
- The influence of COVID-19 on the mental health of final-year nursing students: Comparing the situation before and during the pandemic (Reverté-Villarroya et al., 2021)
- Student thriving before and during the COVID-19 pandemic: A cross-sectional study of professional students in clinical laboratory science, occupational therapy, and therapeutic recreation (Yatczak et al., 2022)

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Critical Appraisal 1 and 2:

Title: Stress perceived by university health science students, 1 year after the COVID-19 pandemic (Marcén Román et al., 2021)

•**Focused Question:** How did the COVID-19 pandemic impact perceived stress, anxiety, and depression amongst health science students?

•**Clinical Bottom Line:** Students with higher perceived stress due to the pandemic are more likely to suffer anxiety and depression, and students in the occupational therapy program had the highest level of perceived stress among all the health science degrees included in the study.

Title: Participatory peer research exploring the experience of learning during COVID-19 for allied health and healthcare science students (Daly Lynn et al., 2022)

•**Focused Question:** How did the COVID-19 pandemic affect the clinical and academic experiences of allied health students?

•**Clinical Bottom Line:** Allied health students identified four themes to their COVID-19 experience including a negative psychological impact, rapid changes to learning, decreases in peer interactions, and hardships with living alongside COVID-19.

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Critical Appraisal 3 and 4:

Title: Stress, anxiety, depression, and perfectionism among graduate students in health sciences programs (Bogardus et al., 2022)

•**Focused Question:** To what degree were graduate students in the health sciences (OT, PT, SLP, and PA) impacted by depression, anxiety, stress, and perfectionism during the spring of 2020?

•**Clinical Bottom Line:** During the spring of 2020, graduate students in the health sciences (OT, PT, SLP, and PA) experienced numerous mental health difficulties at higher rates than the general population.

Title: Perceptions of medical students towards online teaching during the COVID-19 pandemic: A national cross-sectional survey of 2721 UK medical students (Dost et al., 2020)

•**Focused Question:** What is the role of online teaching in facilitating medical students' education and clinical competence during the COVID-19 pandemic?

•**Clinical Bottom Line:** Many UK medical students reported feeling unengaged, underwhelmed, and clinically incompetent following online education during the COVID-19 pandemic.

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Critical Appraisal 5:

Title: Academic and psychosocial challenges of health science students during the COVID-19 pandemic: A university of technology perspective (Govender et al., 2021)

•**Focused Question:** What were the negative experiences health science students experienced due to distance learning imposed by the COVID-19 pandemic?

•**Clinical Bottom Line:** During COVID-19, health science students felt anxiety and fear surrounding completion of their degrees, difficulty connecting to and participating in online lectures, navigating space within their homes, along with feelings of isolation.

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Critical Appraisals 6 and 7:

Title: Student thriving before and during the COVID-19 pandemic: A cross-sectional study of professional students in clinical laboratory science, occupational therapy, and therapeutic recreation (Yatczak et al., 2022)

• **Focused Question:** How did educational changes due to COVID-19 impact thriving in clinical laboratory science, occupational therapy, and therapeutic recreation students?

• **Clinical Bottom Line:** During the COVID-19 pandemic, overall student thriving shifted to surviving. Barriers and supports to students' thriving were identified and recommendations were given to address them.

Title: The influence of COVID-19 on the mental health of final-year nursing students: Comparing the situation before and during the pandemic (Reverté-Villarroya et al., 2021)

• **Focused Question:** Did the situation caused by the COVID-19 pandemic have an effect on the mental well-being of final-year nursing students?

• **Clinical Bottom Line:** Experiencing the COVID-19 pandemic had a direct association with suffering mental health problems in final-year nursing students.

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Theme One:
Academic Changes due to COVID-19

Healthcare students expressed varying attitudes towards academic changes that occurred as a result of COVID-19.

- During the COVID-19 pandemic, new methods of healthcare education were implemented to maintain social distancing requirements and slow disease transmission (Emory et al., 2021; Daly Lynn et al., 2022; Dost et al., 2020; Goni-Fuste et al., 2021; Govender et al., 2021; Mattila et al., 2020; Mutalib et al., 2022; Naciri et al., 2021; Ng et al., 2021; Singh et al., 2021)
- Healthcare students expressed varying attitudes, preferences, and satisfaction levels toward academic changes due to COVID-19 (Chan et al., 2021; Daly Lynn et al., 2022; Dikmen, 2020; Dost et al., 2020; Emory et al., 2021; Govender et al., 2021; Mutalib et al., 2022; Naciri et al., 2021; Ng et al., 2021; Osmani, 2021; Singh et al., 2021; Sivaramalingam et al., 2022; Wang et al., 2020)

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Theme Two:
Effects of COVID-19 on Mental and Physical Health

The COVID-19 pandemic was associated with negative impacts on the mental and physical health of health sciences students.

- The COVID-19 pandemic and related educational changes were associated with increased stress, negative mental health outcomes, and psychological stress for graduate health science students (Almhdawi et al., 2021; Campos et al., 2021; Essangri et al., 2021; Marcén Román et al., 2021; Ng et al., 2021; Reverté-Villarroya et al., 2021)
- Research has indicated that graduate health science students experienced heightened levels of depression during and after the COVID-19 pandemic (Campos et al., 2021; Essangri et al., 2021; Marcén Román et al., 2021; Mulyadi et al., 2021; Wang et al., 2020)
- A review of the literature revealed an elevated incidence and prevalence of anxiety in graduate health science students during and after the pandemic (Bal et al., 2020; Bogardus et al., 2022; Govender et al., 2021; Reverté-Villarroya et al., 2021; Wang et al., 2020)

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**Theme Three:
Impact of COVID-19 on Degree Completion and Career Readiness**

The COVID-19 pandemic had an impact on healthcare students' attitudes regarding their ability to complete their degrees on time and be ready for their careers.

- Healthcare students felt less confident in their ability to complete their degree on time or get high grades due to the educational changes from the COVID-19 pandemic (Daly Lynn et al., 2022; Govender et al., 2021; Walsh et al., 2021; Wang et al., 2020; Yatzcak et al., 2022)
- The transition to online learning caused healthcare students to feel unprepared to enter either their clinical placements or the workforce, and led to doubt surrounding career preparedness (Daly Lynn et al., 2022; Dost et al., 2020; Emory et al., 2021; Govender et al., 2021; Rana et al., 2020; Wang et al., 2020; Yatzcak et al., 2022; Zhang et al., 2021)

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**Theme Four:
COVID-19 Impact on Student Lifestyle**

Healthcare students faced decreased social interaction, changes to living situations, and financial difficulties due to the transition to online learning.

- Healthcare students described a reduction in social interactions during the COVID-19 pandemic, resulting in patterns of mental health decline (Daly Lynn et al., 2022; Govender et al., 2021; Wang et al., 2022)
- Some healthcare students dealt with a change to their living situation following the COVID-19 pandemic (Cici & Yilmazel, 2021; Daly Lynn et al., 2022; Dost et al., 2020; Govender et al., 2021; Walsh et al., 2021; Wurth et al., 2021)
- The pandemic caused a financial strain on many health science students while completing their program (Daly Lynn et al., 2022; Govender et al., 2021; Walsh et al., 2021; Wang et al., 2020; Yatzcak et al., 2022)

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Recommendations

- The mental health and wellbeing of healthcare students should be prioritized when creating and evaluating health science curricula
- Future healthcare education should prioritize a blended learning approach, interactive methods, and peer collaboration to improve student experiences and engagement
- Universities must continue to survey students' educational preferences to ensure optimal learning and clinical competence
- At a systems level, standards must be implemented for healthcare programs to ensure quality online education
- Further research should assess the long-term effects of COVID-19 on healthcare students

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Summary and Reflection

- The EBP process aided us in identifying four themes pertaining to COVID-19's effect on student academics, mental and physical health, degree completion and career readiness, and lifestyle
- We learned how to analyze qualitative studies to understand lived experiences and perspectives of a population
- Our findings illustrated the necessity of gaining knowledge about the impact of COVID-19, particularly in students
- Findings also highlighted the importance of creating opportunities for growth and healing from this experience, as well as the possibility for change on the systems level

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Thank You!

Questions?

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Executive Summary

The evidence-based process included a review of the literature surrounding the lived experiences and perspectives of health science students during the COVID-19 pandemic. For the purpose of this research, the terms “health science students” and “healthcare students” were considered to be interchangeable and were defined as undergraduate or graduate students preparing to enter a clinical career in a chosen healthcare profession. Professions represented in this review of literature included, but were not limited to, occupational therapy (OT), physical therapy (PT), speech-language pathology (SLP), nursing, and medicine. Since late 2019, the COVID-19 pandemic has created devastation and uncertainty around the world. COVID-19 is a highly contagious respiratory virus (Centers for Disease Control and Prevention [CDC], 2021). The unique ways in which the COVID-19 pandemic has impacted health science students is still being researched; however, it is imperative that the existing research is evaluated so that universities and employers can determine how to best support current healthcare students and new graduates (Bogardus, 2022). To this end, 35 articles were analyzed through an evidence-based process and four themes emerged. These themes described the academic programming changes due to COVID-19, the effects of COVID-19 on students’ mental and physical health, the impact of COVID-19 on degree completion and career readiness, and the ways in which COVID-19 impacted student lifestyles.

Theme One: Academic Changes due to COVID-19

During the COVID-19 pandemic, new methods of healthcare education were implemented to maintain social distancing requirements and slow disease transmission. Multiple cross-sectional surveys found that the most notable change to educational delivery was the transition to online classes and distance learning (Dost et al., 2020; Emory et al., 2021; Singh et

al., 2021). Professors utilized PowerPoint presentations, case-based learning, interactive sessions, recorded lectures, external resources, and video-based learning (among other methods) to convey curriculum online (Dost et al., 2020; Ng et al., 2021; Singh et al., 2021). According to a cross-sectional survey ($n = 2,721$) and a qualitative research study ($n = 15$), the delivery methods for licensure and academic examinations also changed during COVID-19 in which many healthcare students took examinations remotely or reported that their examinations were canceled or postponed (Dost et al., 2020; Govender et al., 2021). The majority of students also reported that their clinical placements were suspended or limited (Daly Lynn et al., 2022; Emory et al. 2021; Goni-Fuste et al., 2021; Govender et al., 2021; Mattila et al., 2020; Ng et al., 2021). Some universities utilized human patient simulators (mannequins) and simulation labs to make up for the lack of in-person clinical training (Mattila et al., 2020).

As classes, examinations, and clinical learning transitioned to an online format, many healthcare students found that the online platforms and resources were inaccessible. According to focus groups, cross-sectional surveys, and qualitative research, students who did not have a personal computer, money to afford data or virtual platforms, a designated space to attend virtual classes, internet connectivity, or prior experience with technology reported greater difficulty participating in and learning from online classes (Daly Lynn et al., 2022; Dost et al., 2020; Govender et al., 2021; Mutalib et al., 2022; Naciri et al., 2021; Singh et al., 2021). Through a cross-sectional survey in India ($n = 22,225$), Singh et al. (2021) identified that students of lower socioeconomic status and those who lived in rural areas experienced greater barriers to online learning than their affluent or city-dwelling peers; however, nearly all students reported varying amounts of technical difficulties including audio-visual disparity, audio disturbances, and videos that did not stream properly (Mutalib et al., 2022; Naciri et al., 2021; Singh et al., 2021).

Healthcare students expressed varying attitudes, preferences, and satisfaction levels toward academic changes due to COVID-19. An online survey revealed that an estimated 55% of nursing students ($n = 56$) reported low engagement with online coursework during the COVID-19 pandemic (Chan et al., 2021). This unmotivated attitude toward learning may be explained by lack of hands-on experience and environments conducive to learning (Daly Lynn et al., 2022; Ng et al., 2021). However, students that had previous experience with online learning and possessed higher computer skills were shown to have a more positive attitude (Naciri et al., 2021; Osmani, 2021). This positive attitude also predicted a higher grade point average and overall success with virtual learning (Dikmen, 2020; Osmani, 2021). Paying attention to students' preferences may increase attitude, thus increasing success. For example, medical students with independent learning styles enjoyed online education because they could work on their own time (Dikmen, 2020). Students contributed additional valuable insight into their preferred modes of learning online.

Access to recorded lectures and class materials was a preferred bonus to online learning as students were able to reference these during class activities or studying (Daly Lynn et al., 2022; Ng et al., 2021; Singh et al., 2021). Specific online constructs that students preferred included video tutorials, discussion with classmates and faculty, and live webinars (Dost et al., 2020; Ng et al., 2021; Singh et al., 2021; Sivaramalingam et al., 2022). Overall, student satisfaction with online education is mixed. A systematic review of the literature from Mutalib et al. (2022) summarized health science students' experiences with online learning during the pandemic and found that 66.7% of studies ($n = 36$) concluded students generally favored online learning. Other students felt a moderate satisfaction level toward the virtual education system (Emory et al., 2021; Osmani, 2021; Wang et al., 2020). This being said, two cross-sectional

studies found that online learning may increase negative emotions and decrease engagement and enjoyment (Dost et al., 2020; Ng et al., 2021). This may also be due to decreased opportunities to obtain feedback from mentors (Dost et al., 2020; Govender et al., 2021; Singh et al., 2021).

Theme Two: Effects of COVID-19 on Mental and Physical Health

The COVID-19 pandemic and related educational changes were associated with increased stress, negative mental health outcomes, and psychological distress for graduate health science students (Campos et al., 2021; Essangri et al., 2021). In two primary research studies conducted by Marcén Roman et al. (2021) and Ng et al. (2021), students reported high levels of perceived stress through various measurements including the Perceived Stress Scale and thematic analysis of qualitative structured interviews. Elevated negative feelings, stress, and reduced motivation to study were reported. According to a cross-sectional study by Essangri et al. (2021), the pandemic increased the risk of mental health issues for graduate health science students. Students were twice as likely to develop mental health problems and had a lower health related quality of life than students who did not experience school during the pandemic (Almhdawi et al., 2021; Reverte-Villarroya et al., 2021).

Research has indicated that graduate health science students experienced heightened levels of depression during and after the COVID-19 pandemic. Multiple primary research studies have reported results with more than 70% of their sample of graduate health students exhibiting symptoms of depression, and indicated that the prevalence of these symptoms increased from pre-pandemic to post-pandemic (Campos et al, 2021; Essangri et al., 2021; Marcén Román et al., 2021, Wang et al., 2020). There also appeared to be a link between depression and sleep issues in graduate health science students. A systematic review conducted by Mulyadi et al. (2021) revealed that 52% of nursing students ($n = 8,175$) had symptoms of depression and 27% ($n =$

3,359) had experienced sleep disturbances or insomnia. Additionally, the negative impact of quarantine on students was associated with higher levels of both depression and insomnia in graduate health science students (Essangri et al., 2021).

A review of the literature revealed an elevated incidence and prevalence of anxiety in graduate health science students during and after the COVID-19 pandemic (Bogardus et al., 2022; Reverte-Villarroya et al., 2021; Wang et al., 2020). A thematic analysis by Govender et al. (2021) found that students reported that their increased anxiety levels were associated with unique health concerns, lifestyle disruptions, and academic pressures that arose with the onset of the COVID-19 pandemic. Additionally, a cross-sectional descriptive study by Bogardus et al. (2022) described perfectionism as a construct that is positively correlated with anxiety levels; specifically, the socially prescribed and self-oriented subscales of the Hewitt-Flett Perfectionism Scale. Research consistently indicates that student anxiety is associated with negative academic and health outcomes including poor academic performance, difficulty balancing roles, and high levels of exhaustion (Bal et al., 2020; Bogardus et al., 2022). These findings suggest a need for health science departments to prioritize student mental health and re-evaluate their program design to accommodate these needs (Bogardus et al., 2022; Wang et al., 2020).

Theme Three: Impact of COVID-19 on Degree Completion and Career Readiness

Healthcare students felt less confident in their ability to complete their degrees on time or get high grades due to the educational changes during the COVID-19 pandemic. As learning transitioned online, accessing academic resources became a challenge for many students (Govender et al., 2021; Walsh et al., 2021; Wang et al., 2020). Results from a qualitative research study ($n = 15$) showed some difficulty came from the ability to access online content due to poor internet connectivity and data issues (Govender et al., 2021). Students in a cross-

sectional study reported challenges in online learning because of unfamiliarity with technology, unavailability of university faculty, and adjustment to online learning (Wang et al., 2020). Other health science students discussed fears of the potential negative impact on their grades as well as being unable to complete their degrees in a timely manner (Daly Lynn et al., 2022; Govender et al., 2021; Walsh et al., 2021; Wang et al., 2020; Yatzak et al., 2022).

The transition to online learning caused healthcare students to feel unprepared to enter either their clinical placements or the workforce, and led to doubt surrounding career preparedness. Since the implementation of online learning during COVID-19, many healthcare students reported concerns regarding the pandemic impacting their ability to successfully gain clinical skills in preparation for a career in healthcare (Daly Lynn et al., 2022; Dost et al., 2020; Rana et al., 2020; Wang, et al., 2020; Yatzak et al., 2022). After experiencing educational changes due to COVID-19 students across two cross-sectional studies, one cross-sectional survey, and one qualitative study also reported feelings of uncertainty regarding their future, including their likelihood of continuing to pursue a career in healthcare, the impact on their licensure or certification exams, or a possible limitation in their skills or job prospects when entering their career field (Emory et al., 2021; Govender et al., 2021; Yatzak et al., 2022; Zhang et al., 2021). It is important to note that although some students felt their clinical experience was negatively altered due to COVID-19 and the subsequent switch to online learning, other students felt that this had either no impact or a positive impact on their career preparedness (Rana et al., 2020).

Theme Four: COVID-19 Impact on Student Lifestyle

Healthcare students described a reduction in social interactions during the COVID-19 pandemic, resulting in patterns of mental health decline. The move to online learning

significantly impacted peer-to-peer socialization that students had once experienced in higher education classrooms (Daly Lynn et al., 2022). An online survey ($n = 2031$) administered to undergraduate and graduate students revealed that more than half of participants reported feelings of isolation due to a decrease in social activities and contacts (Wang et al., 2020). Additionally, the top lifestyle concerns for such students included “changes to social relations or social isolation” and “social/physical distancing” (Wang et al., 2020). Lack of personal contact with lecturers and research supervisors was also noted by health science students, impacting their access to academic and personal support during COVID-19 (Govender et al., 2021).

Some healthcare students dealt with a change to their living situation following the COVID-19 pandemic. Many students had to complete their online classes from apartments or houses with a number of roommates, or returned home amidst the switch to virtual classes (Daly Lynn et al., 2022; Dost et al., 2020; Govender et al., 2021; Walsh et al., 2021; Wurth et al., 2021). These living accommodations caused numerous problems to the students' ability to concentrate on and complete their schoolwork. These problems, summarized in studies consisting of cross-sectional, focus group, and qualitative designs, included increased distractions, increased noise, crowding, internet or data connection issues, lack of study spaces, increased familial responsibilities, and lack of understanding of study habits by family members (Daly Lynn et al., 2022; Dost et al., 2020; Govender et al., 2021; Walsh et al., 2021; Wurth et al., 2021). Another reason for displacement among healthcare students was the fear of bringing home the COVID-19 virus and spreading it to those they lived with, resulting in some staying away from home altogether during their clinical placements (Cici & Yilmazel, 2021; Daly Lynn et al., 2022). The uncertainty surrounding the switch to online learning also caused some students anxiety regarding finding a place to stay if they did get a clinical placement away from

home, as well as financial stress on students who signed a lease near campus before the change to an online learning platform was made known to them (Daly Lynn et al., 2022).

Additionally, the pandemic caused a financial strain on many health science students while completing their program. Two cross-sectional studies and a focus group study found that the abrupt change to an online learning platform due to COVID-19 increased fear and worry surrounding their financial situation, some of which could be contributed to leaving part-time jobs to decrease potential spread of the virus or expectations to help financially at home (Walsh et al., 2021; Wang et al., 2020; Yatzak et al., 2022). Another study utilizing focus groups (Daly Lynn et al., 2022) found that some financial stress for healthcare students was due in part to factors such as premature signing of leases or moving back home while still paying a lease near campus. Qualitative research (Govender et al., 2021) showed that healthcare students faced increased financial strain due also to less available financial support to their program

Summary and Implications

Take Home Message

Graduate health science students experienced significant educational challenges due to COVID-19. The pandemic led to the shutdown of educational institutions and an abrupt switch to online learning. Ultimately, this negatively impacted students' mental and physical health, attitudes regarding degree completion and career readiness, and lifestyles. Health science students, in particular, reported increased stress and negative mental health outcomes resulting from abrupt lifestyle changes and challenges in online learning (Campos et al., 2021; Essangri et al., 2021). Based on these outcomes, it would be beneficial for government and academic institutions to implement mental health support for health science students. In addition, preparedness measures for possible future pandemics would benefit the mental health of healthcare students.

Findings

The COVID-19 pandemic altered graduate healthcare students' educational experience, primarily due to the transition to online learning. This switch elicited varying attitudes, levels of satisfaction, and preferences towards online learning and the use of technology in the classroom and educational system. A majority of the studies that focused on the experiences and perceptions of healthcare students used qualitative data obtained from self-report measures such as surveys and focus groups. Within these studies, healthcare students reported feeling less competent entering into their fieldwork placements as well as uncertainty towards their career preparedness after graduation. Additionally, students were less confident in their ability to complete their degree on time, and felt as though they were unable to receive high grades as a result of the switch to online learning. Along with these academic implications, COVID-19 caused challenges in students' home lives as well.

Healthcare students faced difficulties at home and with their finances during the pandemic, as a number of health science students had changes to their living situation due to online learning. These changes included moving back home, spending more time at their housing near campus, and finding new housing due to problems with roommates. Many students had problems focusing on and completing work for school due to increased responsibilities around their home, too many people living in the same place, loud roommates, lack of adequate study spaces, and misunderstandings from family about time needed to spend studying. Many of the health science students encountered financial difficulties and strain while completing their academic programs as well. This was due to factors such as fewer financial resources from their university, an increased familial need to help at home, and finances allocated to unused housing.

Health science students experienced isolation and a reduction in social interactions due to the COVID-19 pandemic. Online learning, quarantine, and social distancing altered how these students interacted with peers, family members, and university faculty. Missing out on social interaction and experiencing various personal and educational changes as a result of the pandemic led to patterns of mental health decline and psychological distress in healthcare students. Students reported higher levels of perceived stress and an increase in negative mental health outcomes during and after the COVID-19 pandemic. In addition, health science students experienced heightened levels of depression post-pandemic, in relation to both personal and educational changes. An elevated incidence and prevalence of anxiety during and after the pandemic was found in this population of students as well.

Strengths

The literature included in our project had a plethora of strengths that enhanced our work. Due to the recency of COVID-19, each of the studies was current and included findings within the past three years. The research addressed healthcare students on a global level, providing diverse experiences among different countries and academic institutions. This potential for good external validity was met with similar responses between the diverse students, increasing the overall findings of the research theme. Finally, each of the studies used valid and reliable measures while also noting limitations and suggestions for future research.

Limitations

While many strengths were documented, limitations were also found during the research process. The recency of COVID-19 does not allow for long-term effects to be studied within academia. Additionally, there was a failure to collect baseline measurements concerning mental health and academic standings because of the pandemic's abrupt beginning. Many of the

qualitative studies had relatively small samples due to limited class size among universities. Finally, data concerning nursing and medical students was drastically larger than other health disciplines such as OT, PT, and SLP.

Implications and Recommendations

Our findings support implications and recommendations for research and education delivery. In the future, emphasis must be placed on the mental health and wellbeing of healthcare students when creating and evaluating health science curricula. Further research should be conducted to determine long term effects of COVID-19 on healthcare students. Specifically, longitudinal studies may highlight the impact of COVID-19 on the long-term educational performance and clinical competence of healthcare students.

Future Considerations

Future healthcare education should prioritize a blended learning approach, interactive methods, and peer collaboration to improve student attitudes, level of satisfaction, and engagement. Universities must continue to survey students' educational preferences to ensure optimal learning and clinical competence. At a system level, standards must be implemented for healthcare programs to ensure quality online education. This could include increased faculty training or even broader, the Accreditation Council for Occupational Therapy Education may revisit and revise their existing standards that regulate the delivery of online education.

Conclusion

This evidence-based research was conducted with the goal of gaining knowledge on the lived experiences and perspectives of healthcare students who experienced educational changes due to the COVID-19 pandemic. The research process aided us in pinpointing specific findings, strengths, limitations, and implications. We identified themes pertaining to COVID-19's effect

on student academics, mental and physical health, degree completion and career readiness, and lifestyle. Improvements in educational responses to national emergencies are critical. In addition, the long-term effects of COVID-19 on students must be investigated. These findings have illustrated the necessity of gaining knowledge about the impact of COVID-19, particularly in students, and the importance of creating opportunities for growth and healing from this experience.

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