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Osteopathic Medical Students' Perceptions of their Medical Education due to COVID19

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Osteopathic Medical Students' Perceptions of their Medical Education due to COVID19

Abstract

Objective: The SARS-CoV-2 (COVID19) pandemic has led to unprecedented changes in medical education globally. Published reports on these changes have given some insight as to both positive and negative effects for specific medical schools though none have looked at osteopathic education. Our study attempts to examine the effect of COVID19 more formally on osteopathic medical students' perception of their medical education in the third and fourth years of medical training.

Methods: Third- and fourth-year medical students at Lake Erie College of Osteopathic Medicine (LECOM) completed electronic surveys regarding their experiences with changes in medical education due to the COVID19 pandemic.

Results: 451 responses were collected from the 1095 students surveyed (41% response rate). Students identified loss of away rotations (71.4%) and concern about further disruptions to in-person medical education experiences (61.2%) as their top concerns; however, concerns about osteopathic manipulation were reported less often than all other aspects of medical education (5.3%). 56.4% of fourth year students and 44.1% of third year student respondents agreed/strongly agreed that they felt less prepared for residency. Surveys also showed higher anxiety with watching news and social media stories about COVID19 (38.7%) and that 67.4% of respondents disagreed/strongly disagreed with virtual modalities being the future of medical education

Conclusion: Osteopathic medical students felt that their clinical education has been impaired by COVID19 most in their ability to study and focus on licensing exams and participate in away rotations.

Keywords

Covid19, medical education, clinical education, pandemic, osteopathic medical students

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Cover Page Footnote

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Introduction

The SARS-CoV-2 (COVID19) pandemic caused unprecedented societal changes since its identification in December of 2019 including in the field of medical education. Due to concerns with transmission, many medical schools removed students from clinical rotations and implemented virtual education.¹ Studies looking at the impact of these educational changes describe medical students across the world with various responses including: feeling positively about learning new skills with electronic education and feeling like their health and wellbeing were being considered.²⁻⁴ Studies did also showed concern from medical students relating to difficulties with exploring different specialties, obtaining letters of recommendation for specialty training, having electives cancelled and having licensing exams delayed or cancelled.⁵⁻⁷ Additionally medical students reported deterioration in mental health and higher levels of anxiety.⁸⁻¹⁰

Osteopathic medical schools emphasize hands on treatment using osteopathic manipulative treatment (OMT). With the switch to virtual education, osteopathic medical students lost opportunities to practice these skills; however, no studies have been done specifically looking at the impact of COVID19 on osteopathic medical training.

Lake Erie College of Osteopathic Medicine (LECOM) is the largest medical school in the country and uses four campuses across Pennsylvania, Florida, and New York as well as over 100 clinical sites for medical student education. At the start of the COVID19 pandemic, similarly to other medical schools, LECOM students on clinical rotations were removed from clinical settings. They were assigned online coursework through a previously implemented supplemental online curriculum involving directed readings, podcasts, and quizzes. Furthermore, students in their fourth and final year who were in the process of preparing to take licensing exams experienced significant disruptions for the in-person examinations, which were ultimately suspended in November 2020 as a graduation requirement by the Commission on Osteopathic College Accreditation (COCA).¹¹

Our study evaluates the impact COVID19 has had on osteopathic medical education focusing on osteopathic manual skills, preparation for residency training and mental health of medical students.

Methods

This study received exemption through LECOM's Institutional Review Board. Survey questions were adapted from previously published surveys as well as from the validated "Fear of COVID19 Scale" (Appendix A).^{2,5,12,13} Investigators advertised the survey on social media, email, and in a morning report email sent out by a clinical dean. A total of 1095 third and fourth year LECOM students received survey requests using the Survey Monkey platform from 10/6/2020 through 12/6/2020.

Analysis of all responses was conducted with Prism Software, IBM SPSS and Microsoft Excel. Survey questions that had a Likert scale were analyzed by Chi Square analysis and categories that had consistently less than five responses were excluded. Survey questions allowing multiple responses were analyzed using a multiple response analysis.

Results

Of the 1095 students who received the survey, 451 (41%) completed the questions with a higher percentage of third year medical student responding compared to fourth year students (Table 1). Impact on medical education was assessed by asking medical students about what aspects of medical education they were most concerned about due to the COVID19 pandemic (Figure 1). In response to this question, students identified loss of away rotations (71.4%) and concern about further disruptions to in-person medical education experiences (61.2%) as their top concerns. Interestingly, concerns about OMT were reported less often than all other aspects of medical education (5.3%). Additionally, 56.4% of fourth year students and 44.1% of third year students agreed/strongly agreed that they felt less prepared for residency with changes in their medical education due to COVID19.

In terms of psychological impact (Table 2), most students felt neutral or disagreed with the statement “I am most afraid of COVID 19”(57%) however of the students who did agree/strongly agree with the statement, a larger percentage was female (33% vs 27%, $p=0.0115$). In comparison, students did report higher anxiety with watching news and social media stories about COVID19 (39%) again with a larger percentage of those who agreed/strongly agreed with the question being female (29% vs 47%, $p<0.0001$). When asked to consider the future of medical education, 53% of respondents across years disagreed/strongly disagreed with virtual modalities being the future of medical education. In addition, 67% reported they would not be more likely to seek out online learning opportunities after the COVID19 outbreak.

Table 1. Demographic information of surveyed individuals (n = 451).

Age Group	Respondents (% of respondents)
18-22	2 (0.4%)
22-25	159 (35.2%)
25-30	249 (55.2%)
30+	41 (9.1%)
Gender	# of respondents (% of total respondents)
Male	197 (43.7%)
Female	253 (56.1%)
Other	1 (0.2%)
Curriculum Year	# of respondents (Total # of students in curriculum year,% of students in that year)
3 rd year	277 (548, 50.5%)
4 th year	174 (547, 31.8%)

Figure 1. Graphic representation of responses on impact of medical education

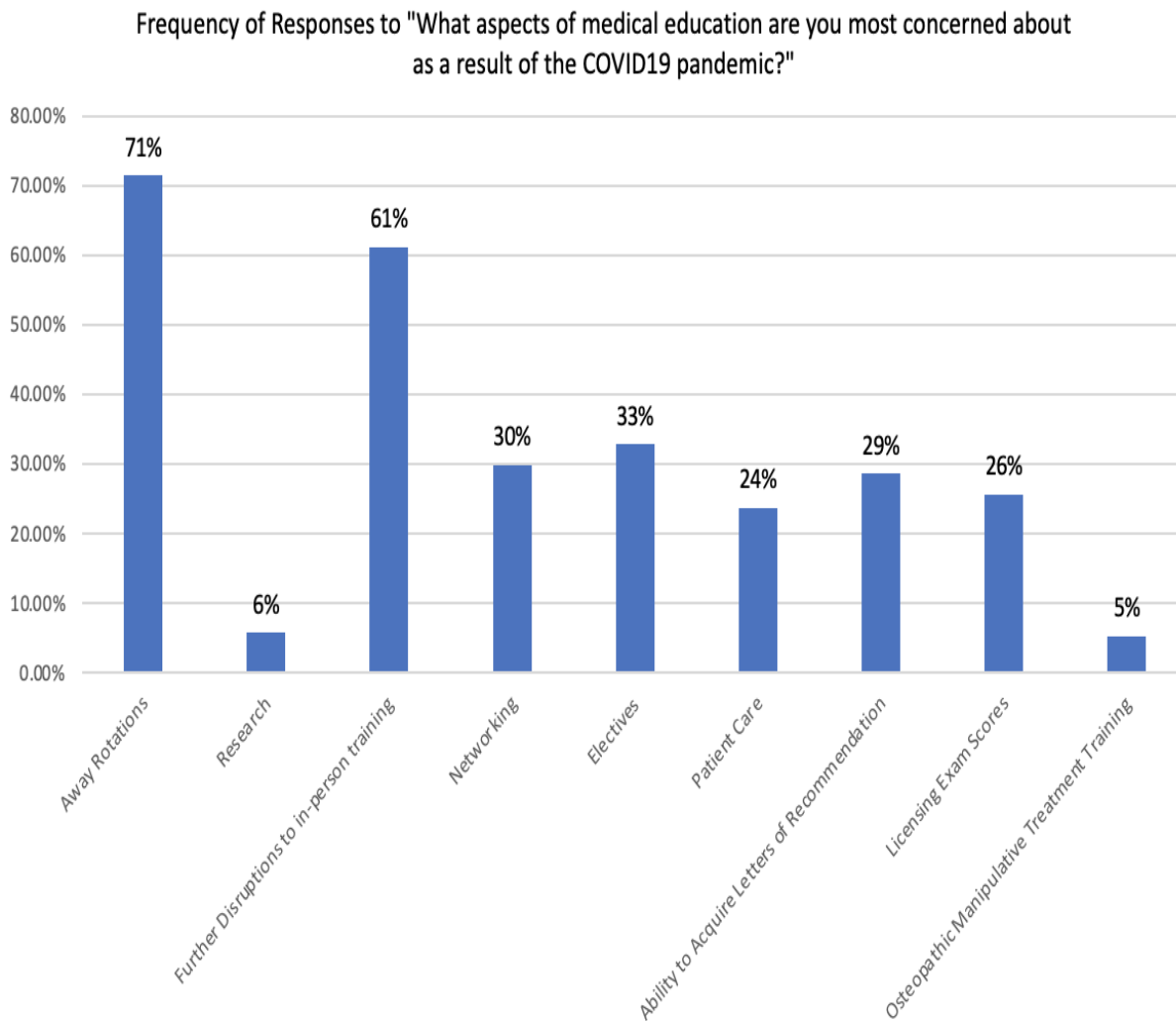


Table 2. Responses to various statements

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am most afraid of COVID 19.	47	117	141	117	61
When watching news and stories about COVID on social media, I become nervous or anxious.	12	66	123	145	84
Do you feel less prepared for residency b/c of changes to your education due to COVID-19?	30	73	117	163	47
I believe that virtual education modalities are the future of medical education.	143	147	64	61	15
I will be more likely to seek out online learning opportunities after the COVID-19 outbreak.	95	134	99	87	15

Discussion

In this large, multi-site study, the greatest concern among third and fourth year osteopathic medical students related to medical education and COVID19 came from the fear of loss of away rotations and further disruptions of education. Interestingly, students were not as concerned about their OMT skills despite the loss of in person learning opportunities for this hands-on treatment. Not having these learning opportunities could further exacerbate the larger trend of osteopathic physicians using these skills less often in the United States overall.¹⁴

Contrary to other studies, a majority of students disagreed with the idea that virtual education was the future of medical education. Student perceptions may change as these experiences are enhanced and allow more interaction among students and instructors. It may be helpful to explore what types of modalities students are receptive to and focus on those in future curriculums – both at the undergraduate and graduate medical education level.

This study could have been strengthened by requesting more qualitative responses and asking medical students for specific examples of concerns. Further exploration of many of these questions is warranted. Additionally, perceptions seven months into the pandemic were examined, and since

the severity and timing of COVID restrictions in each region were different the responses represent concerns from one time period only in potentially very different learning environments.

While this study has explored some of the perceptions of clinical medical students in light of the COVID-19 pandemic, further research is needed. Objective measures, such as exam scores and acceptance rates to residency training, should be examined to see if they support student concerns. As medical students matriculate to residency programs, information from program directors and faculty may be useful regarding whether their residents are less prepared for residency than in previous years. As medical education stabilizes and long-term solutions are adapted by schools, perceptions may change.

Conclusion

Osteopathic medical students felt that their clinical education has been impaired by the COVID19 pandemic. Overall, students were most concerned with the impact the pandemic had in preparation for licensing exams and residency. Osteopathic students did not feel as concerned about changes to OMT education. Further, medical students did not prefer virtual education experiences and use of social media specifically increased overall levels of anxiety. It is important that as medicine continues to be affected by COVID19, we continue to assess our medical students and the impact the pandemic has had on medical education.

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Appendix A: Survey Questions

1. Pick which of the following encompasses your age.

Choose one.

- a. 18-22
- b. 22-25
- c. 25-30
- d. 30+

2. Gender.

Choose one.

- a. Male
- b. Female
- c. Other

3. Your current curriculum year:

- a. 3rd year
- b. 4th year

Pick which of the following most closely aligns with the following statement.

“I am most afraid of COVID-19.”

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Pick which of the following most closely aligns with the following statement.

“When watching news and stories about COVID on social media, I become nervous or anxious.”

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Was your USMLE Step 1 or COMLEX Level 1 schedule impacted by the COVID19 pandemic?

- Yes
- No
- I am a 4th year medical student (please also pick this answer if you were a 4th year who took USMLE step 1 in 4th year/during the pandemic).

If you answered yes to the previous,

What kind of disruptions did you face due to changes in your USMLE or COMLEX exam? (May pick as many as apply) – Step 1 or COMLEX Level 1 test takers only.

- Study Schedule
- Location
- Ability to study/focused studying
- Increased financial burden
- Worries about graduating on time
- Lower scores

Was your USMLE Step 2CK or COMLEX Level 2/PE schedule impacted by the COVID19 pandemic?

- Yes
- No
- I am a 3rd year medical student.

If you answered yes to the previous,

What kind of disruptions did you face due to changes in your USMLE or COMLEX exam? (May pick as many as apply) – Step 2 CK or COMLEX 2/PE test takers only.

- Study Schedule
- Location
- Ability to study/focused studying
- Increased financial burden
- Worries about graduating on time.
- Lower scores

Do you feel less prepared for residency b/c of changes to your education due to COVID19?

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

I believe that virtual education modalities are the future of medical education.

- Strongly agree
- Agree
- Neutral

- Disagree
- Strongly Disagree

I will be more likely to seek out online learning opportunities after the COVID19 outbreak.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

What aspects of medical education are you most concerned about as a result of the COVID19 pandemic? (may pick up to 3)

- Away rotations
- Research
- Further disruptions to in-person clinical education
- Networking
- Electives
- Patient Care
- Ability to acquire letters of recommendation
- Licensing examination scores
- Osteopathic Manipulative Treatment Training
- Other (please specify)