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Physician Perceptions of Stress and Telemedicine

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Rowan University

SCHOOL OF OSTEOPATHIC MEDICINE

Physician Perceptions of Stress and Telemedicine

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Background

- **Telemedicine** is an emerging field in which physicians are able to interact electronically with patients to improve health. Telemedicine can be performed through virtual platforms such as email, telephone and video, and can provide or augment care to a multitude of patients.¹
- During the **Novel Coronavirus (COVID-19) pandemic**, the use of telemedicine has grown exponentially in an effort to continue to see patients and manage their care.² The unprecedented era of social distancing and overloaded hospital systems has led many primary care providers and specialists alike to rapidly develop these capabilities in their practices.^{3,4}
- **Benefits** of telemedicine include: increasing access to care in areas where there are provider shortages, decreasing travel burden on patients.⁵
- **Drawbacks** to providing care include: lack of a comprehensive physical exam, breakdown in the relationship between health professional and patients, implementing new technologies and associated training.^{6, 7, 8}
- As physicians work to provide equally high-quality care for their patients remotely, their experiences must be considered.

Objectives

Our project aimed to better assess the perception, comfort level and experiences of physicians using telehealth during the COVID-19 pandemic.

Methods

- We conducted a cross-sectional study to assess physician satisfaction and comfort using telemedicine for patient care.
- This study used an online anonymous developed by researchers and distributed to physicians over email via.
- The surveys were to all physician members of New Jersey Association of Osteopathic Physicians and Surgeons (NJAOPS) in May and June of 2020, approximately 2-3 months into the stay-at-home orders resulting from the COVID-19 pandemic.

Measurements

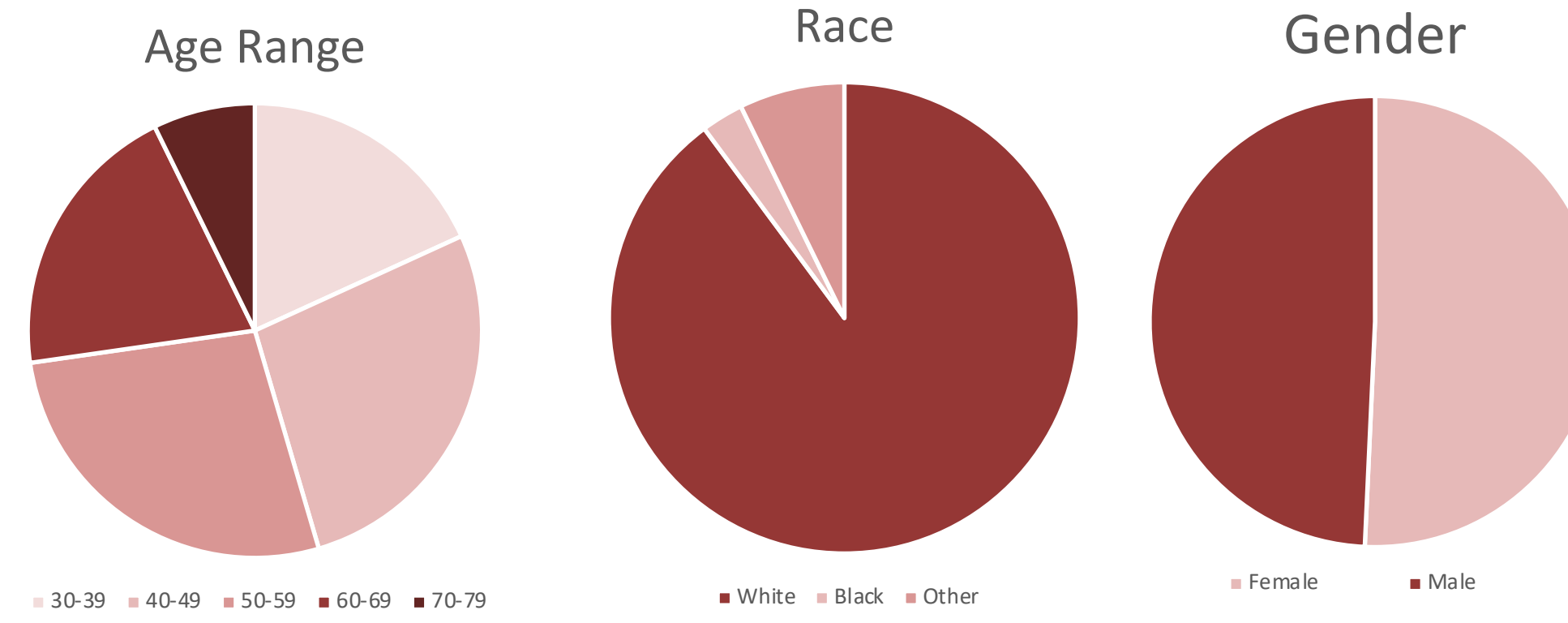
- Using five-point Likert scale responses, subjects were asked about their satisfaction and comfort using telemedicine for patient care as well as their perceptions of medical student involvement in telemedicine.
- A perceived stress scale¹⁹ (PSS) was included to assess stress levels of study participants.
- Data was analyzed using T-Test and ANOVA and significance level $\alpha=0.1$ was used through the study.
- Statistical Software R and JMP were used for the analyses.

Acknowledgements

Special thank you to NJOPS for distributing our survey and all health care workers on the front lines (both virtual and in-person) working through this COVID-19 pandemic.

Participants Profile

| Category | N |
|----------|----|
| Gender | |
| Female | 35 |
| Male | 34 |
| Race | |
| White | 62 |
| Black | 2 |
| Other | 5 |
| Age | |
| 30-39 | 10 |
| 40-49 | 15 |
| 50-59 | 15 |
| 60-69 | 11 |
| 70-79 | 4 |



Summary of Perceived Stress Scores

- Physicians' experiences with the integration of telemedicine into their practices varied based on gender, the presence of medical students, age, and prior experience with telemedicine.
- Different age groups have significant levels of PSS.
- PSS are not significantly different among gender, race, prior experience with telemedicine, the presence of medical students, and the telemedicine volume.
- Table 1 summarizes the PSS scores across the demographics of the physicians who responded.

| Category | N | Mean | Standard Deviation |
|--------------------------|----|-------|--------------------|
| Gender | | | |
| Female | 35 | 14.94 | 5.49 |
| Male | 34 | 14.97 | 9.47 |
| Race | | | |
| White | 62 | 15.38 | 7.64 |
| Black | 2 | 13.2 | 1.41 |
| Other | 5 | 6 | 7.69 |
| Age | | | |
| 30-39 | 10 | 17.5 | 6.87 |
| 40-49 | 15 | 14.53 | 7.62 |
| 50-59 | 15 | 18.4 | 9.60 |
| 60-69 | 11 | 11.18 | 5.90 |
| 70-79 | 4 | 4.5 | 1 |
| Prior Telemed Experience | | | |
| No | 55 | 15.58 | 7.76 |
| Yes | 14 | 12.5 | 6.95 |
| Medical Student | | | |
| No | 28 | 15.10 | 6.71 |
| Yes | 39 | 14.10 | 8.00 |
| Telemed Volume | | | |
| <25% | 16 | 18.5 | 9.05 |
| 25-49% | 8 | 14.25 | 6.04 |
| 50-74% | 5 | 15.2 | 5.36 |
| 75-99% | 14 | 14.86 | 8.50 |
| 100% | 20 | 15.55 | 9.32 |

Table 1: Table 1: Summary of Perceived Stress Scores

Results: Perception of Telemedicine

- Physicians aged 30-59 years had the **highest levels of perceived stress** with age group 50-59 years old ranking first in that category.
- Physicians aged 70-79 years had to **lowest levels of perceived stress**.
- The youngest (30-39 years old) and oldest (60 and older) groups reported the **highest levels of satisfaction** with telemedicine ($p=0.0374$).
- While they reported high levels of satisfaction with telemedicine, physicians age 30-49 were **more likely to find the pandemic stressful**
- Physicians aged 60 and older **were less likely to find the pandemic stressful** ($p=0.0024$).
- Physicians who had not previously used telemedicine were more likely to find **it stressful to incorporate** ($p=0.0702$).
- Physicians were **more comfortable** with telemedicine at the time of the survey than prior to the pandemic ($p<0.0001$). While not statistically significant, female physicians were more comfortable with telemedicine than male physicians ($p=0.0862$).
- Female physicians indicated they will **be more likely to incorporate** more telemedicine into practice in the future, beyond the COVID-19 pandemic ($p=0.007$).
- Among the differences in specialties, family medicine physicians indicated the **lowest levels of satisfaction** ($p=0.0172$) and **lowest levels of comfort** ($p=0.0282$) when it comes to use of telemedicine.

Discussion

- Physician with experience in telemedicine are more likely to incorporate telemedicine into their practice
- Physicians who have not previously used telemedicine are more likely to the find utilizing telemedicine more stressful, and are less likely to incorporate it into their practice.
- Female physicians are more comfortable with telemedicine as well as more likely to incorporate it in their practices in the future. This could be related to female physicians being more likely to work part time⁹ or more interested in seeing patients from home. It is also an attractive option for physicians who are parents, caregivers, have burdensome commutes, or who also work in academic medicine.
- Physicians who have medical students with them while using telemedicine reported less stress than those who did not have students, though it was not found to be significant. This could be attributed to utilizing medical students as a resource in the office or providing teaching attending physicians with a sense of normalcy and opportunity for mentorship.
- Physicians between the ages of 30-49 are more likely to find the pandemic stressful and physicians who are 60 years old and older are less likely to find the pandemic stressful, which is consistent with data that has examined anxiety, depression, and emotional response during the pandemic stratified by age group.¹⁰
- Family physicians report the lowest levels of comfort and satisfaction with telemedicine. This could be attributed to the rapid transition to for physicians that often have long standing relationships with their patients and switching to a more physically distant, remote type of interaction may be challenging for some as well as high COVID rates in this region during this time.

Conclusions

In summary, physician respondents of this survey provided valuable data on the perceptions of the widespread incorporation of telemedicine during the COVID-19 pandemic. There are many factors in determining one's comfort, satisfaction, and stress, and this study serves as a first step in determining some of these dynamics.

Future Research

Further opportunities in this topic include:

- Evaluating the causes of some of these findings such as why family physicians are less comfortable and satisfied with telemedicine and why female physicians overall seem more comfortable with telemedicine.
- Examining why physicians with students seem to view telemedicine more positively than physicians without students, as this could serve as an important factor in preceptor recruitment and training.
- Following which physicians choose to keep telemedicine integrated into their practices, as well as how and why they make that choice.
- How the demand for these virtual visits changes as the need for social distancing decreases in the coming months.

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