TITLE: Professional and Ethical Issues in United States Acute Care Physical Therapists Treating Patients With COVID-19: Stress, Walls, and Uncertainty

RUNNING HEAD: Professional and Ethical Issues Regarding COVID-19

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Abstract

Objective: No peer-reviewed research has explored professional and ethical issues encountered by physical therapists in treating patients with COVID-19. The purpose of this study was to explore the experiences of physical therapists regarding the professional and ethical issues they encountered during the COVID-19 pandemic.

Methods: The current study used reflexive thematic analysis, a qualitative research design developed by Braun and Clarke, to analyze individual interviews.

Results: Analysis of the coded interviews produced 6 primary themes (uncertainty, physical therapist's role, ethical dilemmas and moral distress, emotions, providing care and working conditions, and management and leadership influence) and associated subthemes.

Conclusions: Physical therapists reported numerous professional and ethical issues across the individual, organizational, and societal realms during the COVID-19 pandemic. This study highlights the need for education and resources to prepare physical therapists for professional and ethical issues encountered during pandemics. Specifically, there is a need to define the physical therapist's role in pandemics and prepare the physical therapy personnel for dealing with ethical issues, stress, uncertainty, and organizational changes associated with pandemics. Ethical guidelines would support organizations in delineating fair processes for triage and allocation of scarce resources for acute care physical therapy during healthcare emergencies.

Impact: The COVID-19 pandemic has produced significant changes in healthcare and physical therapist practice. This study reports results of the first research study focusing on professional and ethical issues experienced by physical therapists in acute care during the COVID-19 pandemic. As the US faces an unprecedented spike in COVID-19 cases and deaths, results of this study may contribute to physical therapists' preparation for and response to professional and ethical issues encountered in acute care during the pandemic.

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[H1]Introduction

The COVID-19 pandemic began in December 2019 when a novel virus spread across the globe.[1] The respiratory virus, SARS-CoV-2 (COVID-19), led to increased hospitalizations and acutely ill patients.[1] Surges in hospitalized patients necessitated changes in organizational and practice policies. Existing disaster management guidelines provided the following organizational recommendations: creating healthcare teams with distinct assignments, conserving personal protective equipment (PPE) while minimizing risk to providers, ensuring adequate staffing, managing space, and cleaning equipment.[2]

While the physical therapy profession in the United States has responded to epidemics (polio) in the past,[3] the urgency of clinical practice changes required by the COVID-19 epidemic has been unprecedented. Physical therapists reported the following changes in practice: increased use of PPE,[4] digital mediums to deliver care,[5,6] and alterations in care delivery.[7] However, frequent changes in safety recommendations, availability of resources such as PPE, and fluctuating COVID caseloads led to many uncertainties within healthcare systems.[8] Within the COVID-19 environment, healthcare providers reported experiencing fear, anxiety, stress, uncertainty, depression, moral distress, and "moral injury."[8] This pandemic has generated extensive discussion of professional and ethical issues in medicine and other healthcare disciplines. Ethical issues during the COVID-19 pandemic include a shift from patient-centered to public health frameworks, distribution of scarce resources, determination of fair processes for patient triage, preserving patient rights in a challenging environment, systemic bias, uncertainty, and psychological impacts on patients and healthcare providers. Existing ethics literature addresses

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general and systemic ethical issues, clinical ethical issues, and ethical issues related to psychological impact during the COVID-19 pandemic (Tab. 1).

A fundamental issue in disaster ethics is the shift from “normal standards of care” to altered” or “crisis standards of care” (CSC).[17,18,20,24,53] Note that CSCs “include triage as a formal decision-making mechanism for allocating care, redefining clinicians' scope of practice, revising staff-to-patient ratios, and permitting family members to provide some forms of clinical care.”[54(p18-19)] Triage refers to the process of sorting patients based on set criteria for the severity of illness, urgency,[29,55] prioritization, availability of resources[56] or likelihood of benefit or survival.[27] Triage to address limited resources shifts the ethical perspective of healthcare from individual or patient-centered ethics to utilitarian or public health ethics.[19,23,28,53,54,57] As Dudzinszki, Hoisington and Brown[11(p68)] describe: “In a pandemic, priorities in patient care change from maximizing the benefit to each individual patient…to maximizing the benefit for the majority (the common good).” Referring to the ICU, Robert et al.[34] describe that “imbalance between societal and individual ethics leads to unsolvable discomforts that caregivers will have to overcome.”[34(p4)] Physical therapists may be unaware of public health ethics and the associated “discomfort” that may occur during pandemics.

Public health goals of controlling the virus were reflected in a plethora of changes within the clinical arena. Many of these changes generated ethical issues for healthcare providers. A survey of nurses in China by Jia et al.[37(p37)] identified the following ethical concerns: neglected patient rights, lack of emotional support, unequal exposure to infectious environment, role ambiguity, insufficient repose to urgency, low sense of responsibility, lack of knowledge and skills, and

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psychological adjustment. A study of 12 different countries[42] found that the pandemic had disrupted the rehabilitation continuum, with many patients not receiving rehabilitation care. Infection control procedures posed significant barriers to providing rehabilitation care. Hauser[41] used the analogy of "literal and figurative walls" to describe the challenge of connecting with patients and families: "And when we do enter rooms, there is the wall of PPE between us and the patient: that wall is at least two masks and one face shield thick.[41(p12)]

To date, there has been no peer-reviewed research into professional and ethical issues encountered by physical therapists during the COVID-19 pandemic. The purpose of this study was to explore the ethical and professional issues physical therapists experienced during the COVID-19 pandemic. Based on physical therapists' unique role, the researchers anticipated that some ethical issues might differ from the general healthcare literature. Professional and ethical issues were defined as situations involving "questions of right and wrong," challenges to ethical obligations, professionalism, professional values, and professional standards. Questions invited participants to discuss ethical issues arising in three different realms: individual interactions with patients, organizational issues, and societal policy levels.[58]

[H1]Methods

[H2]Design

This study used reflexive thematic analysis (RTA), a qualitative research design based on Braun and Clarke,[59-62] to analyze semi-structured individual interviews with physical therapists. RTA is a type of qualitative research that emphasizes researchers' "reflexive engagement with theory, data and interpretation."[62(p3)] Thematic analysis differs from other qualitative methodologies in focusing more on researcher engagement than coding reliability or other qualitative methods.

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Braun and Clarke describe three types of thematic analysis: coding reliability, codebook, and reflexive, each with different epistemological assumptions.[62] In their view, RTA is most consistent with the original vision of a qualitative approach emphasizing the "importance of the researcher's subjectivity as analytic *resource*."[62(p3)] In contrast to qualitative research focused on saturation, coding reliability, coder agreement, emergent themes, and researcher bias,[63] RTA focuses on interpretation by the researchers. Braun and Clarke[62] generally reject a focus on researcher bias and consensus as inconsistent with RTA. However, consensus processes are acceptable in RTA to support research teams in facilitating process and meeting timelines.[62] The researchers selected RTA because it is a flexible and transparent methodology for analyzing themes in data and appropriate for the contextual nature of ethics.[60] The study was approved by the University of South Florida Institutional Review Board on 06/01/2020 (Study # 000969) and was maintained in good status.

[H2]Participants

Purposive sampling was used to ensure that participants were treating patients with COVID-19 and geographic regional representation. An electronic flyer through the American Physical Therapy Association Academy of Acute Care and Cardiovascular and Pulmonary Section was used to recruit physical therapists. Inclusion criteria included being professionally impacted by COVID-19, fluent in English, and having access to a virtual interview platform. Participants provided verbal consent prior to the interview. A total of 10 physical therapists (6 male, 4 female) participated in the study. There was a wide range in years of experience (range = 2-30, $\bar{x}$ = 12.7, SD = 10.0) and years of experience in the current practice setting (range = 2-28, $\bar{x}$ = 10.0, SD = 8.8). The participants represented all major regions of the United States except the Southwest. Table 2 describes participant characteristics.

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[H2]Data Collection

The team conducted semi-structured interviews via an online platform from June 23, 2020 to July 17, 2020. Interview questions were developed based on the Code of Ethics,[64] Core Values of Professionalism,[65] and existing ethical research in COVID-19. Questions explored the physical therapist's role, ethical standards, core values, moral principles, organizational changes, healthcare team dynamics, healthcare policy, and societal issues. Probing follow-up questions clarified participants' responses (see Suppl. Appendix 1). Two investigators (RED, DH) were present for all interviews. Interviewer 1 (RED) conducted the interview and asked all questions, while interviewer 2 (DH) took field notes. Audio was captured using a digital audio recording device. One interviewer (RED) created a verbatim transcript based on the audio recording of each interview (Fig. 1). Participants' identifying information was removed for analysis and dissemination. Pseudonyms were used to preserve anonymity.

[H2]Data Analysis

A qualitative analysis of interviews was employed using the 6 phases of thematic analysis described by Braun and Clarke.[59-61] Initial familiarization with the data (Phase 1) was done by transcribing, validating, and re-reading interview transcripts for meaning and patterns. The investigators (RED, DH) developed initial codes (Phase 2) and coded the transcripts using an inductive approach. To facilitate discussion and reflexivity, a third investigator (LLS) created tables and figures that summarized agreement and disagreement between researchers. All three investigators (RED, DH, LLS) met to discuss and reflect on the data to achieve agreement on codes. Development of themes (phase 3) was facilitated by creating figures demonstrating possible relationships. This reflexive iterative process (Phase 4) continued until reaching agreement on themes, subthemes, representative quotes, and a final figure (Phase 5).

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_**[H1]**Results

Analysis of the coded interviews produced 6 primary themes (uncertainty, physical therapist's role, ethical dilemmas and moral distress, emotions, providing care and working conditions, and management and leadership influence) and associated subthemes (Tab. 3). Figure 2 illustrates the themes and subthemes representing the participants' experiences during COVID-19.

[H2]Theme 1: Uncertainty

Uncertainty was defined as doubt or a lack of knowledge, evidence, or clarity. This experience resulted from lack of evidence about the disease and its transmission, availability, and proper use of PPE, altered communication and team dynamics. Uncertainty about the disease itself was fundamental to uncertainty that pervaded other aspects of their work. Participants described the uncertainty of this pandemic as "the unknown" or "navigating uncharted waters."

> "I think there's restrictions that, you know, we have to weigh things like the PPE issue and unknowns of getting exposed to the virus." *Blake*
>
> "The difference is because it's uncharted waters." *Shawn*

Participants expressed the difficulty posed by lack of clinical evidence and guidelines during the pandemic.

> "The hard thing is there wasn't really any clinical evidence…because it was such a new virus." *Alex*
>
> "Kind of like a fly by the seat of your pants kind of thing." *Charlie*

Confusion and ambiguity about procedures and care were common experiences.

> "The speed of change and the amount of things that were changing on a daily basis…even in the morning to the afternoon..." *Parker*
>
> "So, at any given time, I was right or wrong regarding my PPE." *Shawn*

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[H2]Theme 2: Physical Therapist's Role

Physical therapist's role was defined as anticipated duties, expectations, responsibilities, and tasks. A consistent question was whether physical therapy is necessary or essential in acute care for patients with COVID-19.

> "We really advocated for PTs being involved in COVID patient care. But there were definitely providers and nurses that provided more, that had some pushback as far as us being in the room because there was a question about whether rehab therapy with essential." *Morgan*

Participants were willing to perform tasks perceived as unique, atypical or outside of normal scope of practice to support the patient, healthcare team and organization.

> "On a couple days where I was redeployed, I went up to a floor and did some housekeeping." *Quinn*

> "It was often times where if they could open a door and tell me what I needed to do to an IV, you know, if it was beeping like press this button, press this button. I'm not supposed to touch IVs, but if I'm there under the care of a nurse, like I'm just helping." *Shawn*

Whether based on facility admissions limitations or families' fear of placing loved ones in specific facilities, participants voiced concerns over navigating discharge.

> "A lot of families were scared to go to subacute… if the patient and the family are refusing to go, there's not much you can do. So just educating them to the best of their ability, making sure home care is set up, making sure the DME is set up." *Kyle*

Some participants were invited to volunteer to work with COVID-19 patients, while others were assigned. While many viewed this as a professional duty, others expressed frustration with new expectations.

> "Well, I know what I signed up for, if I didn't want to work with these sick patients, there are other job opportunities out there. But this is something I enjoy, something I chose to do, so I am going to do it." *Alex*

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"And it's easy for one to say, oh well you signed up for this. But like nobody signed up for this." *Shawn*

[H2]Theme 3: Ethical Dilemmas and Moral Distress

Ethical dilemmas were defined as situations presenting two different "right" courses of action, or competing values, duties or obligations.[66] A classic ethical dilemma is the choice between honoring patient autonomy or beneficence.[67] Moral distress exists when a person is aware of the correct ethical action but is unable to act on that knowledge; for example, when lacking the appropriate authority.[66] Patients' right to care, maintaining patient autonomy, fairness and triage were commonly discussed ethical issues. Although participants did not use the term "triage," they addressed triage issues resulting from administrative recommendations to restrict the number of providers in patient rooms, excessive daily caseload, or in prioritization of patients. Selecting or prioritizing patients was challenging and raised ethical issues.

> "[T]here are times where you, you just run out of the day and you have to choose between a COVID patient and a non-COVID patient, and that is really, a really difficult decision. So, I think those are the ethical decisions that I have to make…. [S]ometimes those COVID patients get the, you know, the blunt end because it's a longer process to work with them versus just being able to pop into a room and do your session." *Charlie*

> "The COVID logic is which patients will be able to tolerate being seen on that daily or every other day frequency. Because some patients on a vent could not even tolerate it…And so if I had someone that was going to lay in bed, and that patient was pretty much bed bound and the other one was doing transfers, then I would pick the one that couldn't do transfers to be deprioritized." *Drew*

Participants identified conflicts between duties of providing optimal care and minimizing spread of the disease.

> "The dilemma was…you can't pick a right choice situation, like, do I provide the best patient care and potentially infect other patients by being in that room? Or potentially spread this disease to my family members? Versus doesn't this patient have a right to the best care we can provide, type situations." *Morgan*

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Physical and emotional "walls"[41] needed to mitigate infection were perceived as socially isolating and dehumanizing.

> "Most of our patients were very, very depressed once they were extubated. It's sitting in a room a nurse coming in maybe once an hour…and we don't have phones in the room, so we have to put a phone in the room if they wanted to call but a lot of times they didn't even know how to call because they were weak. So, it was a very, very isolating for them. You could just see like there was no joy in their face." *Charlie*

Patients often experienced limited discharge options and participants expressed concerns about potential loss of patient autonomy in discharge decisions.

> "There were a number of situations where I guess our hands were tied or decisions were made for us…where the patient could go, what the patient could receive, that were less than ideal from what recommendation services, equipment, we would typically get for them." *Taylor*

Participants were aware of issues of fairness in allocation of resources and end of life decision-making. Although some of these decisions were beyond their scope of their authority, the resulting moral distress was troubling to participants.

> "Our hospital system enacted a DNAR where a physician could override people's DNR wishes, if they thought that there was no clinical benefit to providing CPR services. And if you had told me 6-7 months ago this was going to happen, (sic) in United States, I would have told you are crazy." *Kyle*

[H2]Theme 4: Emotions

Emotions represented short or long-term mental reactions resulting from treating patients during the pandemic.[44] Participants experienced stress, burnout, anxiety, fear, frustration, and guilt. The emotional toll varied based caseload and the time during the pandemic, but this left lasting effects on the participants.

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> "It was stressful, and I feel like it was stressful because of the disease itself and your, you know, multiple exposures to it." *Quinn*

> "I think compassion fatigue is real. I feel very burnt out right now. And I think I'm struggling a little bit now, more than I was in the middle of it, like that adrenaline rush is over, you now realize this is going to be the new normal for a long time." *Morgan*

> "And you find yourself starting to kind of slide into a more of an apathetic versus an empathetic or sympathetic mindset because it's almost easier to not care as much, than it is to keep pushing on, pushing on, pushing on, caring, caring, caring and then just being devastated when those patients aren't achieving the outcome that you know they could otherwise. And that is for me that has been the most difficult situation. I found even outside of work for me having to adjust, I guess self-care routines, anxiety medications." *Taylor*

Physical therapists also experienced frustration and distress in the plight of their patients. It was clear that the responsibility of caring for patients with COVID-19 was a significant emotional burden.

> "And I think when you inherently get, feel, absorb their distress and their frustration and either from the other side of the door or from across the room. You know that there's nothing you can do to change that situation. It's absolutely distressing. So, I think that's been the toughest is part, really fundamentally on a human level of being where we are and what's going on in the world." *Taylor*

> "I feel like I have the weight of the world's COVID numbers on my shoulders." *Morgan*

[H2]Theme 5: Providing Care and Working Conditions

The theme of providing care and working conditions captures the effect of environmental factors on participants. PPE had significant impact on the participants' sense of well-being and ability to provide care.

> "Not only is it physically exhausting to be in these rooms, especially because now the population we're seeing tends to be a little bit older. Inherently, it seems like everyone is cold. So, their rooms are, the air is on blast and then we come in with gowns, masks, face shields and then I feel like it's just, it turns into a sweat shop. So, it's physically exhausting but these patients also require time, close monitoring of vitals, of their presentation. So, it's physically exhausting. It's mentally exhausting." *Taylor*

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> "So, I've worn a mask for up to, I think 5 1/2 hours… In a room, heavy lifting, with the patient for the most part. I think I would take breaks at the nursing station and like relax for a couple minutes before I moved on to the next patient, occasionally. But I realized that the fog after work was unbearable if you saw more than six patients." *Drew*

Infection control, limiting time with patients to reduce exposure, altered clinical procedures, reduced access to equipment and facilities and cleaning procedures affected delivery of care. These changes were viewed as time intensive.

> "First that they're trapped in their room so you can't really, you know, you could like do laps in the room to like ambulate, but you know, you can't really ambulate that far. You can't do stairs. You are limited in that way." *Quinn*

> "You're doubled gloving, you're "Purelling©" five times and it was much more complicated. So, we had to teach that. And the initial concern was this is going to take us literally 5 minutes just to take the gear off and disinfect everything." *Kyle*

[H2]Theme 6: Management and Leadership Influence

This final theme illustrated issues in the facility's leadership, management, policy, procedures, communication, and overall environment. Participants described an environment in flux, in which organizational leadership developed numerous guidelines and policies for PPE use and treatment. This sense of urgency and short timeframe to address the pandemic resulted in frequent changes.

> "I feel like there was a lot of changing policies and communication and kind of 2-fold because we are a national organization, a lot of these policies came from way above and then our direct leadership like supervisor, manager(s) were not the greatest at communicating." ***Quinn***

> "Because of the rate in which things were changing, we were also changing with all of that and had to meet at least once, maybe even twice a day, initially." *Drew*

> "Things changed every day. At first, we were told not to wear masks. Now we obviously have to wear a mask no matter where you are on campus. We were told, I mean, all kinds of different things. There was just, it felt like procedures changed daily." *Morgan*

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Organizational policies and guidelines used different strategies to minimize the risk of infection to patients and providers: COVID-19 only teams, reassigning physical therapists to other teams, altered work schedules, and not allowing PT in COVID-19 units. These decisions raised questions of process and fairness.

> "How do we meet the needs of the patient the best way possible while also minimizing the chances of getting the team sick because if they're out then we can't provide the level service that we currently provide." *Kyle*

> "[T]here are some people that have refused to see COVID patients for good reason, some were pregnant, some had kids… then other people were like OK you're flexing me off yet I'm the only person willing to see these patients." PTJ-2020-0964.R1

> "[S]ome organizations they choose to have a COVID team. But they've also shown that the viral load, people can get sicker if there's a higher viral load. So, do we give it to one person, do we do it on a voluntary basis? Do we make it mandatory across the board?" *Kyle*

Redefining teams and units led to altered team dynamics. These changes were perceived positively and negatively by participants.

> "And then at the beginning, I'd say it was a little hostile honestly between nursing and therapy providers because it was just a lot of miscommunication on what should happen for these patients." *Morgan*

> "It's brought us closer together, almost like a camaraderie from being in a battle or on a team together." *Taylor*

Impacts on productivity due to fluctuating caseloads and additional time required for infection control were of concern to the participants.

> "We dropped to about 50% of caseload in like the peak weeks of April and May and we tried not to flex off or furlough staff…. [The] response has been to expect 105 to 110% of productivity for all PTs or you risk becoming furloughed. So, I think that … it runs the risk of situations of unethical billing practices at seeing patients more frequently than is appropriate. Especially in intensive care." *Morgan*

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[H1]Discussion

Participants experienced numerous professional and ethical issues during the COVID-19 pandemic in each realm: individual, organizational, and societal. Physical therapists reported concerns about PPE, uncertainty, fair allocation of resources, redeployment, atypical roles, fulfilling professional duties, duty to treat, psychosocial issues, and living out the Core Values of Professionalism.[65] These issues were similar to findings by Jia et al.[37] who had identified nurses' concerns about patient rights, lack of emotional support, role ambiguity, and concerns about exposure. Physical therapists also experienced discomfort in shifting from patient centered ethics to public health or utilitarian ethics. This concern was captured in participants' comments about triage of care, lack of family input, prioritization or selection of patients, and inadequate discharge processes.

There were several aspects of the results that were unique to physical therapy and rehabilitation. Interviews with participants in this study suggest that patients experienced disruption of the rehabilitation care continuum consistent with research by Prvu Bettger et al.[42] Whether due to facility closings, state mandated closings, autonomous patient decisions to reduce health risk, or facility-based guidelines to contain infection; physical therapists believed that some patients had suboptimal discharge disposition. Lack of time with the patient due to minimizing exposure risk, limited family education or support, decreased staffing, and limited equipment or facility access contributed significantly to discharge concerns. These concerns indicate that physical therapists were not comfortable with utilitarian ethical frameworks focusing on the "greatest common good" rather than individual patient needs.

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In addition to discharge, participants also reported other professional and ethical issues in the organizational realm unique to physical therapy. The process and fairness of triage for physical therapy and healthcare were especially concerning to participants. Physical therapists were not always engaged in development of organizational policies for triage and patient care. Several participants described advocating for the importance of physical therapy for patients with COVID-19 in organizations that deemed physical therapy not essential. PPE priority or other healthcare providers' opinions were perceived as challenges to physical therapists' providing COVID-19 care. Another organizational issue was the process of assignment to the COVID-19 team, whether volunteer or mandated, with participants identifying issues of fairness. Voluntary assignment to COVID-19 units served to protect physical therapists with pre-existing conditions and provided professional development opportunities for those interested in treating patients with COVID-19. In contrast, mandatory assignments appeared to create concerns about fair distribution of potential exposure.

The uncertainty of the clinical environment contributed to ethical issues in the individual and organizational realms: evidence, novelty of the disease, use of PPE, adapting to rapid change, and redefining healthcare team and units. A scoping review of uncertainty in healthcare by Pomare et al[68] found that uncertainty is "pervasive" in healthcare with overlapping sources including ethical and systems uncertainty. Koffman et al[8] provide extensive recommendations for health systems, providers, patients and families in addressing uncertainty during the COVID-19 epidemic: preparing new systems for pandemics, rehearsing situations of uncertainty with providers, and exploring imaginative ways to show empathy and collaborate with patients/families. Their recommendations may assist physical therapists in coping with a "new normal."

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Findings of this study indicate that physical therapists would benefit from education in the following areas: emergency and public health ethics, general and specific ethical guidance during pandemics, strategies for coping with uncertainty, and awareness of the effects of patient isolation (Tab. 4). In addition, the profession may consider developing resources to support fair processes in physical therapy triage, strategies for intervention and communication during altered care situations, and advocacy for physical therapy as essential throughout the continuum of care. Additional resources and education would support physical therapists in addressing the ethical and professional issues raised by implementation of public health ethics during pandemics.

[H2]Limitations

Several limitations should be considered when interpreting the results of this study. Although the sample size used in this study is consistent with expectations in thematic analysis,[69] the sample did not include physical therapists from all states, all types of facilities, nor any physical therapist assistants. Similarly, the timing of the study may have affected participants' experiences. The use of RTA provides methodological strengths and weakness. While RTA produces rich contextual descriptive interpretation, it shares the inherent limitations of qualitative research methods: potential researcher bias and inability to determine causal relationships.

[H1]Conclusion

Based on interviews with physical therapists, the COVID-19 pandemic presented numerous professional and ethical challenges. Further research about the professional and ethical issues related to the pandemic will support physical therapists in caring for patients with COVID-19. The profession should consider the role of the physical therapist in pandemics, the process for

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triage and allocation of resources for physical therapy, and resources to address the psychosocial repercussions of public health emergencies.

[H1]Author Contributions

Concept/idea/research design: R.E. Ditwiler, L.L. Swisher, D.D. Hardwick

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Consultation (including review of manuscript before submitting): L.L. Swisher

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[H1]Ethics Approval

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[H1]Disclosure

The authors completed the ICMJE Form for Disclosure of Potential Conflicts of Interest and reported no conflicts of interest.

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Table 1. Ethical Issues During the COVID-19 Pandemic[a]

Issue	Specific Concerns
General and systemic ethical issues during COVID-19	• Ethical issues in COVID-19[9-15] • Ethical guidance for triage during COVID-19[16-21] • Individual or patient-centered ethics versus public health ethics[22,23] • Uncertainty in COVID-19[8,18] • Justice, equity and fair allocation of resources during COVID-19[9,20,24,26,27] • Utilitarianism and the Pandemic[22,28] (Note: Utilitarianism refers to basing ethical decisions on consequences and the overall "net benefit among all those affected."[29(p284)] Often characterized as greatest good for greatest number.) • Health inequalities, structural inequities, discrimination, bias, and health disparities[30-33] • Exacerbation of structural inequities by COVID (racial, disability, age)[14]
Clinical ethical issues during COVID-19	• Uncertainty in COVID-19[8,18] • Balancing individual and public health ethics creates discomfort for healthcare providers[23,34] • Balancing providers' duty to care with right to self-protection[35] • Which health care workers count as essential or receive priority?[11,14] • Informed consent and disclosure in COVID-19[14,36] • Patient rights[37] • Indirect effects on non-COVID 19 patients[38] • Vaccine development and distribution, immunity passports[9] • Research about ethical Issues of physicians and nurses[37,39,40] • Threats to family centered care[34;] barriers to communication and collaboration[41] • Disruption of rehabilitation needed throughout the continuum of care[42] • Knowledge, skills, job competency[37]
Psychological impacts of COVID-19	• Psychosocial Impacts of COVID-19[43,44] • Psychological impacts of quarantine[45] • Effects on providers (insomnia, depression, burnout, anxiety, PTSD, uncertainty)[8,44,46] • Effects on patients (isolation, social distancing, loneliness)[13,41,47,48] • Challenges posed by PPE and protection to relationship with patients[41] • Health care providers' health and well-being[49,50] • Moral distress, moral residue and moral injury[14,23,39,51,52]

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[a]Table 1 provides major themes and is not exhaustive. PPE = personal protective equipment; PTSD = post-traumatic stress disorder.

Table 2. Participant Demographics[a]

Sex	Experience (y)	Practice Setting	Facility Type	Geographic Region	Experience in Setting (y)
M	30	Acute care	Level 2 Trauma Center	Southeast	28
F	9	Acute care	Level 1 Trauma Center	Midwest	9
F	3	Acute care	Community Hospital	West	3
M	21	Inpatient rehab	Acute Inpatient Rehab Facility	Midwest	6
M	2	Acute care	Academic Medical Center	Southeast	2
M	24	Acute care	Trauma Hospital	West	23
F	9	Acute care	Hospital	Southeast	9
F	17	Acute care	University Medical Center	Northeast	12
M	4	Acute care	Level 1 Trauma Center	Northeast	4
M	3.7	Acute care	Urban Hospital Center	Northeast	3.7

[a]F = female; M = male.

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Table 3. Themes and Subthemes[a]

Themes	Subthemes
Uncertainty	• Lack of evidence, clinical guidelines, and experience (physical therapy care, PPE, infection control) • PPE procedures and effectiveness • Ongoing and frequent changes • Conflicting communication
Physical therapist's role	• Is PT essential, appropriate, or needed for patients with COVID? • Articulating and advocating for the PTs role in caring for COVID patients • Process of discharge (limited resources and collaboration to prepare patients) • Scope of physical therapist practice • Voluntary vs assigned to COVID population • Atypical roles and redeployment on the physical therapy and health care team • Individual values and professional duties
Ethical dilemmas and moral distress	• Triaging who receives physical therapy • Social isolation of patients and families • Allocation of resources, health care disparities and access to care for COVID and non-COVID patients • Patient and family voice in discharge options • End-of-life situations
Emotions	• Fear and anxiety • Stress • Frustration • Lasting effects (regret, guilt, burnout, traumatization)
Providing care and working conditions	• The effect of mask and PPE use on PT's sense of well-being • The effect of mask and PPE use on the amount and quality of care • Infection control driving care decisions • Limited time with patients due to exposure policies • Cleaning procedures • Equipment and facility restrictions
Management & leadership influence	• Speed and amount of change in policies and procedures • Leadership decisions and communication (frequency and transparency) • Facility minimizing risk/harm as information is available • Redefining teams and units • Productivity expectations • Work schedules and assignment (vacation time, PTO usage,

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	weekend coverage, extended hours, sick leave, fairness issues)

[a]PPE = personal protective equipment; PT = physical therapist; PTO = personal time off.

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Table 4. Ten Recommendations Based on Research Findings[a]

	Recommendations	Realms of Action
1	Articulate the relevance of ethical guidelines of emergency and public health disaster situations for physical therapy.	Individual Organizational Societal
2	Delineate the appropriateness of and fair processes for triaging patients and allocation of scarce resources during public health emergencies.	Individual Organizational
3	Advocate for physical therapy as essential, appropriate, and necessary for patients with COVID-19 across the continuum of care.	Individual Organizational Societal
4	Strategize ways to communicate and treat patients optimally with limited time, space, equipment, and family support amidst the pandemic.	Individual Organizational
5	Promote ethics education regarding pandemic issues for DPT programs, organizations, and practitioners.	Individual Organizational Societal
6	Diversify resources for health and wellness for physical therapists experiencing stress, burnout, moral distress, moral injury, and long-term psychological effects.	Individual Organizational
7	Advocate for organizational and societal transparency and stakeholder engagement during the COVID-19 pandemic.	Individual Organizational Societal
8	Promote awareness of and strategies to minimize “walls” (effects of isolation).	Individual Organizational
9	Expand research in professional and ethical issues encountered during the COVID-19 pandemic in other practice settings and regions.	Individual Organizational Societal
10	Educate students, practitioners, and administrators/leaders in addressing uncertainty as individuals and within systems.[8]	Individual Organizational Societal

[a]DPT = doctor of physical therapy.

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FIGURE CAPTIONS:

Phase 1 Familiarization With Data

- Conduct interview
- Transcribe interviews
- Validate interviews

Phase 2 Generate Initial Codes

- Developed initial codes
- Coded data
- Summarized agreement & disagreement

Phase 3 Searching for Themes

- Sorting codes based on frequency
- Grouping related codes
- Outline possible themes and subthemes

Phase 4 Reviewing Themes

- Generate a figure to show relationship between themes and subthemes
- Multiple revisions as researchers reflected on relationships

Phase 5 Finalize Themes

- Themes and subthemes were finalized
- Figures finalized

Phase 6 Generate Report

- Manuscript preparation

Figure 1. Research process based on Braun and Clarke.[60(p87)]

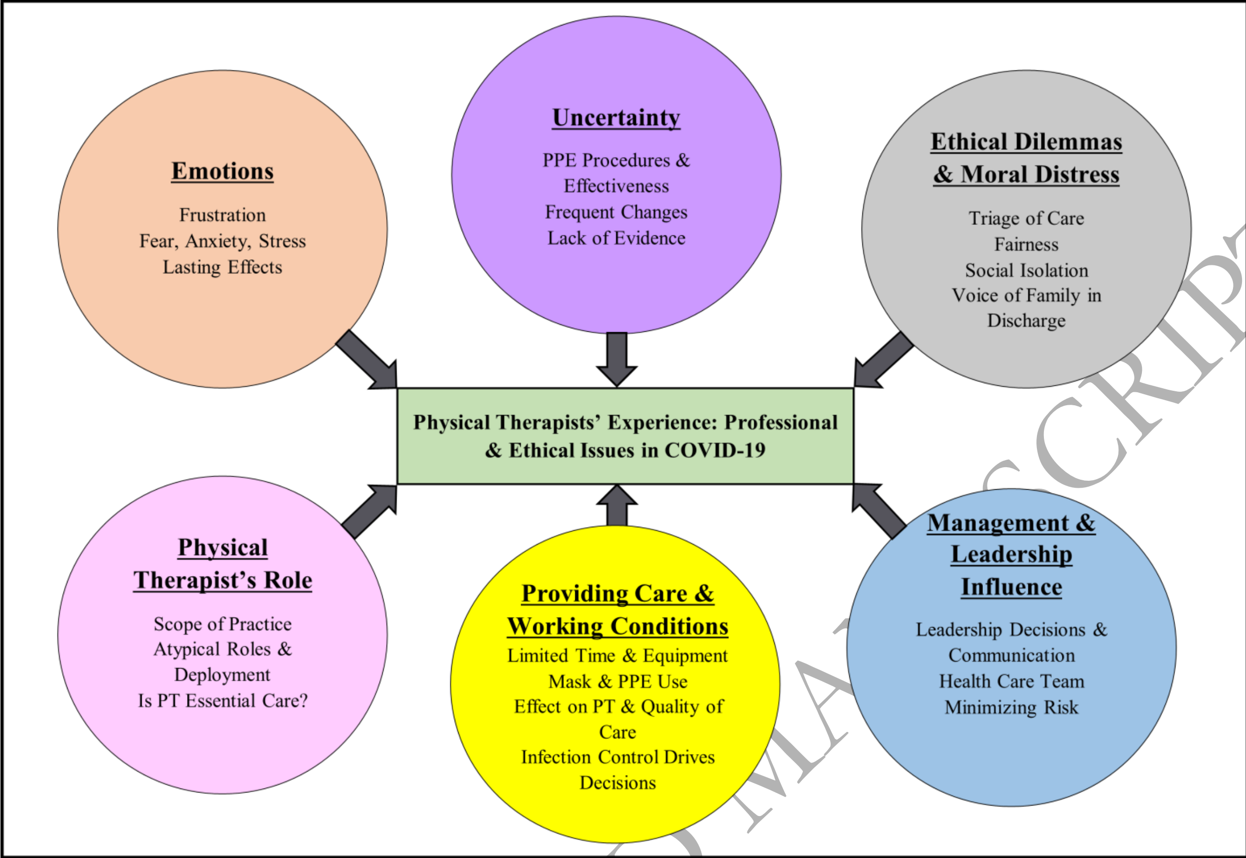

Figure 2: Thematic Map

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