


ORIGINAL ARTICLE

Emergency preparedness during the COVID-19 pandemic: Perceptions of oncology professionals and implications for nursing management from a qualitative study

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Abstract

Aim: To explore oncology health care professionals' perceptions of the COVID-19 pandemic response.

Background: The pandemic has created health care delivery challenges globally and many countries have exhibited low readiness and emergency preparedness.

Methods: A descriptive design using a qualitative approach was employed. Semi-structured interviews, which were completed via telephone, were audio recorded and transcribed verbatim. A thematic analysis was conducted.

Results: Participants ($N = 30$) were mostly registered nurses (70%). Three themes emerged: (1) ability to adapt and operationalize disaster planning, training and restructure nursing models (subtheme: reactive vs. proactive approach to emergency preparedness); (2) COVID-19 task forces and professional organisations were critical for valid information surrounding the pandemic; and (3) recommendations for emergency preparedness/planning for future pandemics.

Conclusion: Oncology organisations adapted during the pandemic, but policies and procedures were perceived as reactive and not proactive. Recommendations for planning for future pandemics included (1) adequate personal protective equipment, (2) developing cancer-specific guidelines/algorithms and (3) telehealth training related to billing/reimbursement. Professional organisations were reliable resources of information during the pandemic, but oncology professionals ultimately trusted employers and administration to distribute information needed for safe patient care.

Implications for nursing management: Frontline nurses should hold positions on task forces to develop future emergency preparedness.

KEYWORDS

COVID-19, emergency preparedness, management, nursing, oncology, pandemic

1 | BACKGROUND

The novel coronavirus (COVID-19) pandemic has plagued over 123 million individuals worldwide, with over 2.7 million deaths

reported as of March 2021 (World Health Organization, 2021). Many countries, including the United States, have exhibited low readiness and emergency preparedness to respond to a public health emergency (Jacobsen, 2020). COVID-19 has resulted in the inability to effectively

care for the surge of patients seeking care at hospitals, handle surveillance and laboratory influxes, safeguard frontline health care workers and maintain adequate communication of changing pandemic-related policies and procedures (Jacobsen, 2020). Such pitfalls underscore the importance of necessary, sustained emergency preparedness interventions and ongoing committees to ensure that health care organisations are better prepared for future pandemics or other national emergencies.

In the early phases of the pandemic, there was limited research specific to emergency preparedness for patients with cancer during a global pandemic (Al-Shamsi et al., 2020). This is especially significant given that patients with cancer undergoing active cancer treatment are already a vulnerable and immunocompromised population (Bansal & Ghafur, 2020; Leung et al., 2020; Sahar et al., 2020) and are known to have worse outcomes related to COVID-19 including higher risk for hospitalizations, admissions to intensive care units and the need for mechanical ventilation (Huang et al., 2020; Jung et al., 2020; Liang et al., 2020; Papautsky & Hamlish, 2020). This population is at risk for increased morbidity due to the inability to treat cancer as is typically customary such as postponed or cancelled cancer treatments and related appointments (Papautsky & Hamlish, 2020; Salako et al., 2020). Oncology professionals were faced with the dilemma of protecting their vulnerable patient population from the COVID-19 virus and providing safe and timely cancer care. In a cross-sectional study, Jazieh et al. (2020) identified that 88% of 356 cancer centres from 54 countries across six continents around the world faced challenges providing the same level of cancer care prior to the pandemic. Participants in oncology care noted similar challenges in the wake of the pandemic compared with health care workers in the general medical fields including an overwhelmed health system, lack of personal protective equipment (PPE), staff shortages and limited access to medications (Jazieh et al., 2020). Interruptions to health care, including cancer care, were reported to affect nearly 80% of patients (Jazieh et al., 2020). The World Health Organization has provided recommendations for oncology care during the COVID-19 pandemic. Such guidelines include developing strategies to reduce in-person clinical visits and implement remote care, utilizing existing digital platforms to control COVID-19 exposure, continuing to administer emergency/essential services and practicing safely according to established global public health standards (Salako et al., 2020).

Emerging evidence also reveals the impact of the pandemic on frontline health care workers, including inadequate knowledge and skills related to the pandemic response, lack of PPE, lack of decision rights related to workflow, limited staffing and allocation of staff resources, and lack of communication between hospital administration and frontline workers on evolving changes (Sanford & Prewitt, 2021; Veenema et al., 2020). In a recent survey, it was identified that 87% of nurses feared going to work, 36% reported lack of adequate PPE while caring for an infectious patient and only 11% felt well-prepared to take care of COVID-19 positive patients (American Nurses Association, 2020a). In addition,

the realities of COVID-19 cancer care have exacerbated oncology nurse distress due to numerous practice changes, intensified burnout, compassion fatigue and personal challenges (e.g., family stressors) produced by the pandemic (Barello et al., 2020; Segelov et al., 2020).

More than a year into the pandemic, numerous analyses and recommendations have since been published for oncology emergency preparedness in response to the pandemic (Jazieh et al., 2020; Richards et al., 2020). To date, however, there has been no qualitative analysis of emergency preparedness of oncology health care providers. This study aims to fill that gap by eliciting the experiences of frontline oncology professionals during the pandemic.

2 | AIM

The purpose of this study was to explore oncology health care professionals' perceptions of the response to the COVID-19 pandemic and emergency preparedness of their employment organisations.

3 | METHODS

3.1 | Study design

A descriptive design using a qualitative approach was employed. Applied thematic analysis (Guest et al., 2011) of semi-structured interviews was conducted.

3.1.1 | Ethical approval

This study was approved by the University of South Florida Institutional Review Board (#000734) and the Scientific Review Committee at Moffitt Cancer Center (#20727). Informed consent was obtained prior to data collection.

3.2 | Data collection and analysis

Oncology health care professionals who were actively practicing and providing care to patients undergoing active cancer treatment in the United States were recruited via social media (e.g., Facebook and Twitter) and email listservs through the researchers' academic institution and via national, professional and community-based organisations. A variety of oncology health care professionals (e.g., oncologists, nurses, advanced practice registered nurses, pharmacists, mental health counsellors and genetic counsellors) were invited to join the study to get broad perspectives from those working in the field of oncology during the COVID-19 pandemic. All interviews were conducted via telephone and audio recorded by the principal investigator (PI) (V. M.), who is professionally trained and experienced

in qualitative methods and interviewing. Interviews lasted between 35 and 45 min on average. Recruitment and interviews continued until data saturation was met or no new information was being revealed by participants (Guest et al., 2006; Weller et al., 2018). Interviews were scheduled according to the order in which participants contacted the PI. Once the study closed, those contacting the PI via email were notified that recruitment had been halted and data collection was complete. Participants received a \$20 gift card for partaking in the study. Data were collected from May to July 2020. Interviews were transcribed verbatim.

Applied thematic analysis techniques were used to analyse the data (Guest et al., 2011). A codebook was developed using a priori (e.g., question domains Table 1) and emergent codes. Emergent codes were generated after research team members, trained and experienced in qualitative methods, independently reviewed transcripts then discussed emerging patterns and themes (V. M., M. C. and D. M. T). The team met regularly to debrief and discuss the analysis process. Team discussions and analytic decisions made during the study were documented to ensure consistency, accuracy and credibility of findings. Intercoder reliability was evaluated at 0.72 with Cohen's kappa, indicating substantial agreement between raters (V. M. and M. C.) (McHugh, 2012). Once intercoder reliability was established, one coder (M. C.) independently coded the remaining transcripts and the PI (V. M.) randomly selected transcripts to assess for discrepancies. Atlas.ti version 8 was used to assist with data analyses (Atlas.ti Scientific Software Development). Descriptive statistics were analysed using SPSS version 24 (SPSS, IBM Corp).

4 | RESULTS

Thirty participants completed the study, representing various oncology occupations (Table 2). Registered nurses encompassed 70% of the sample. Employment characteristics are listed in Table 3. Three themes emerged, which are described with supporting quotes below.

TABLE 1 Example question domains

1. Given your current experience with the COVID-19 pandemic, how will you best prepare for potential future pandemics or national emergencies?
2. How can the oncology profession in general be better prepared in the future?
3. Given your current experience with the COVID-19 pandemic, how has your employer implemented changes to plan for potential future pandemics or national emergencies?
4. What professional organisation, if any, have you relied upon to give you updated information on the COVID-19 pandemic and current practice guidelines to follow?
 - What type of education and announcements from these professional organisations has been the most helpful?
 - Where do you go to get the most up to date news regarding the COVID-19 pandemic?

4.1 | Theme 1: Ability to adapt and operationalize disaster planning, training and restructure nursing models

Many cancer centres were able to adapt and prepare for the worst of the COVID-19 pandemic using a variety of strategies. They began developing or updating current disaster planning training, simulating disaster drills both on and off health care campuses, and organising staff according to specialty and experience. In addition, nursing models were reevaluated to meet the changing need of oncology patients during the pandemic. Such nursing models were critical to consider as some outpatient oncology clinics closed or experienced low census as care shifted to telehealth visits, whereas other units had to adapt to account for surges in COVID-19 positive patients requiring hospitalization. One advanced practice registered nurse described how her organisation set up off-campus triage centres in preparation for high waves of patients, practiced COVID-19 related drills, and organisational leadership restructured nursing models to be prepared for unexpected events during the pandemic:

We set aside the convention center to be our highest level of surge triage— Now that has been identified as something that can be operationalized... Some of the drills that we have actually been able to have the time to practice, they also ran a drill of [personal protective equipment] was stolen from our central hub. What do we do? New York did not have the opportunity or the benefit of being able to practice those things like we have, and that's probably what's put us in a better situation currently... the ICU was full and that they had to start moving patients and using other areas, either within the hospital or making accommodations to use the convention center. The fact that we could train nurses in a different model to be ready... We selected all of the certifications and work experience of all the advanced practice [nurses], and that was put into a master spreadsheet. Then leadership was able to kinda—I think they used like one, two, and three to prioritize deployment if it was needed for who would be best equipped to be deployed if needed. (Participant 5)

A registered nurse noted that her health system created emergency disaster teams. Dividing available staff into different teams ensured that possible COVID-19 exposure could potentially be controlled for

They also broke our roster in half and had emergency teams... A and B disaster type teams. They do something similar during hurricane season whereas if you have to go to the hospital and stay for 24 hours on or stay until somebody else can get in, you are basically all there until you are relieved by the second team to come in. (Participant 7)

TABLE 2 Demographics and employment characteristics of oncology health care providers (N = 30)

Participant characteristic	No. (%) or mean (SD)
Age, years	40.80 (SD = 13.309)
Sex	
Female	27 (90.0%)
Male	3 (10%)
Ethnicity	
Hispanic/Latino	5 (16.7%)
Not Hispanic/Latino	25 (83.3%)
Race	
American Indian/Alaska Native	0 (0.0%)
Asian	2 (6.7%)
Native Hawaiian/Pacific Islander	0 (0.0%)
Black/African American	3 (10.0%)
White	24 (80.0%)
Other	1 (3.3%)
Highest level of education	
Nursing diploma	1 (3.3%)
Associate's degree	0 (0.0%)
Bachelor's degree	20 (66.7%)
Master's degree	5 (16.7%)
Doctoral degree	2 (6.7%)
Medical degree	2 (3.3%)
Professional title	
Registered nurse	21 (70.0%)
Advanced practice registered nurse	4 (13.3%)
Oncologist	2 (6.7%)
Other (pharmacist, licensed mental health counsellor, genetic counsellor)	3 (10.0%)
Employment setting	
Outpatient oncology clinic	17 (56.7%)
Inpatient oncology clinic	11 (36.7%)
Both	2 (6.7%)
Type of organisation	
NCI-designated comprehensive cancer centre	28 (93.3%)
Local hospital-based oncology clinic	2 (6.7%)
Geographic location by US state	
Florida	25 (83.3%)
Kentucky	1 (3.3%)
Illinois	1 (3.3%)
Ohio	3 (10%)
Number of years in current position	
Less than 1 year	6 (20.0%)
1–5 years	16 (53.3%)
6–10 years	2 (6.7%)
11–15 years	2 (6.7%)
Above 16 years	4 (13.3%)
Number of hours per week in oncology setting	
Less than 10 h	0 (0%)

(Continues)

TABLE 2 (Continued)

Participant characteristic	No. (%) or mean (SD)
10–20 h	1 (3.3%)
21–30 h	0 (0.0%)
31–40 h	23 (76.7%)
>40 h	6 (20%)

Abbreviation: NCI, National Cancer Institute.

TABLE 3 Employer communication, telehealth utilization and PPE status reported by oncology health care providers (N = 30)

Participant characteristic	No. of participants (%)
Employer communication of pandemic	
Phone calls	6 (20.0%)
Text messages	8 (26.7%)
Emails	30 (100.0%)
Unit or health care setting meetings	27 (90.0%)
Experienced PPE shortage	
Yes	12 (40.0%)
No	17 (56.7%)
Did not know	1 (3.3%)
Type of PPE shortage	
Gloves	2 (6.7%)
Masks	12 (40.0%)
Face shields	4 (13.3%)
Gowns	5 (16.7%)
Eye goggles	1 (3.3%)
Telehealth services implemented for patient care	
Yes	28 (93.3%)
No	2 (6.7%)

Abbreviation: PPE, personal protective equipment.

4.1.1 | Subtheme: Reactive versus proactive approach to emergency preparedness

Although participants noted the many emergency preparedness protocols and procedures that were introduced during the pandemic, some participants also felt that the COVID-19 preparedness within their organisations were reactive and not proactive. Oncology health care professionals expressed that there should have been measures in place to deal with a public health crisis such as COVID-19 and guidance sometimes lagged. The lack of a clear emergency preparedness plan for COVID-19 caused stress and anxiety as oncology health care professionals faced limited PPE and lack of structured algorithms for patient care, such as who could withhold cancer treatment versus those with emergent treatment needs to prevent disease progression. An oncologist described the disgrace of not being better prepared with adequate PPE, both on an organisational level and on a national level:

Beside the fact that we need way more [personal protective equipment] than we ever thought we could need... We've obviously learned about that, and that we as a country, we have responded to that... It's a national disgrace that we did not do a better job with this, that we were unprepared for this and that we remain inadequately prepared to acquire and distribute critical protective equipment.... (Participant 13)

4.2 | Theme 2: COVID-19 task forces and professional organisations were critical for valid information surrounding the pandemic

A majority of participants noted that there was some form of a COVID-19 task force that distributed information regarding COVID-19 and related policies and procedures updates. These task forces were often the centre of information for the organisation, which was often relayed via email, virtual town halls, or organisational-based websites. Task forces were often comprised of hospital leadership personnel, oncologists and infectious disease physicians. One registered nurse was able to detail members and functions of the task force in her organisation:

We have the Infection Prevention and Control Team. There's a team of nurses and physicians... They have a command center that's set up if you have questions, concerns, anything. Its 24 hours a day. It's staffed by, at minimum, nurses. If you felt like you were symptomatic, and you felt like you needed to know if you needed to get tested or not, you'd call that hotline. We have testing available at work for employees if you met any of the criteria that you felt like you needed to get tested... They send out a daily email that keeps us up to date on what is happening within the cancer center. (Participant 4)

Participants did feel supported by their organisations' task force and administration and were satisfied with the updates and information they received. One advanced practice registered nurse described

From my perspective, I feel supported, and I feel like they are figuring it out, and they are planning and

taking care of things. I've never felt like they were not prepared or that they were not working through it just like everyone else is. They... keep us updated, almost daily, about everything that's going on. (Participant 3)

Having trusted information from the COVID-19 task forces within the employment organisations was critical as many participants noted their distrust in the media for reliable information regarding the pandemic. Oncology health care professionals felt that there was misinformation surrounding COVID-19 and related statistics. One registered nurse recounted, 'I was getting information from the news in the morning... but I stopped doing that a while ago. I didn't agree with what I was hearing. It just seemed a little far off. It seemed like there was an agenda behind the numbers. (Participant 1) Another registered nurse noted

I've had to shut out the media, and I've had to just do my own research. There's so many topics and opinions out there. I just really have to figure out if what I'm hearing is true cause there's been so many mixed messages and incorrect information that's been given out. I have really had to trust our administration, knowing that they are doing the best that they can for us. I do feel very lucky to work where I'm at and to have the president that we do because he's done a phenomenal job with getting the information out. (Participant 4)

However, the level of knowledge about the exact makeup and role of these task forces varied among participants. Some of the registered nurses noted a lack of familiarity with the organisation's COVID-19 task force as one participant expressed, 'I believe they do [have a COVID-19 task force]. I have no idea who it would be, how we would contact them. I know the emails that we get reference three people, and that's it.' (Participant 23).

Others felt that they had information overload. There was too much information coming from too many resources and they tended to rely on their employer to distribute the most critical information needed to safely care for their oncology patients. As one registered nurse explained, 'It's like, well, whatever they tell me, whatever the latest email is, let me just read that and keep myself updated to the best I can.' (Participant 8). As policies often changed quickly in the first months of the pandemic, this increased confusion and anxiety, another reason they relied upon their respected oncology clinics to deliver the most up to date information related to COVID-19. An advanced practice registered nurse noted that she trusted her employer and wanted to ensure she abided by her organisation's specific policies, 'If I had to choose one source of information—I feel like I can trust my employer... If I was following the information from another source, maybe I wouldn't be complying with my organization.' (Participant 3).

Although participants relied upon their employer to distribute information needed to safely perform their job duties, several participants noted that they did seek information from other

trusted sources to supplement their knowledge regarding COVID-19. Oncology health care professionals were careful and understood that their professional organisations may contradict their employers' policies as one registered nurse working in the oncology surgical unit explained:

The [Association of periOperative Registered Nurses] is the surgical stuff, so they sent out some webinars and things like that. Honestly, for me, personally, though, I've just waited to go by the direction of what our hospital is doing 'cause regardless of what the [Association] says we should do, it's not gonna be helpful if our organization is saying something different. (Participant 2)

Oncology nursing organisations provided helpful information and guidance to nurses facing challenges during the pandemic such as limited supply of PPE. One registered nurse noted:

I'm a member of the Oncology Nursing Society.... They send out emails, too, especially when there was a shortage of PPE. They sent out guidelines for, 'If this is all you have, this is what we'd like you to use. This is what you can use, and if this is all you have to be able to take care of your patients.' They have given us a lot of information, and, yes, they had a series of, I think, six webinars. They are recorded, so you can go back as a reference. Yes, they have been a great resource for that. (Participant 4)

Information was coming from many sources and COVID-19 task forces and professional organisations were seen as reliable and valid sources of information. Ultimately, however, they relied on their employer's information to ensure compliance with their organisations policies and procedures.

4.3 | Theme 3: Recommendations for emergency preparedness and planning for future pandemics in oncology care

Several areas for planning for future pandemics were cited including ensuring adequate PPE, better screening protocols, developing cancer specific guidelines and algorithms during a pandemic or other national emergency, safe cancer treatment administration and the use of telehealth. These recommendations for future emergency preparedness were based on the lessons learned and personal experiences working in oncology care during the current pandemic. The most widely mentioned areas for future pandemic planning was ensuring adequate PPE. Forty percent of our participants noted an inadequate supply of PPE during the COVID-19 pandemic. One registered nurse noted the importance of prioritizing personal protective equipment for oncology:

I think, from an oncology nurse, our patients, it does not matter what kind of cancer they get, we give them chemotherapy. They're all very immunosuppressed. They're all high risk of contracting any kind of infection, so I think... we need to focus more on having more [personal protective equipment]. Not just everyone, but I think specifically for oncology because these are the patients that, if they get coronavirus, they are gonna die because they have no immune system. They cannot fight anything, and I think that's something that, as the oncology field, that they have to work on with having better protection, better equipment to take care of this population. (Participant 8)

Developing cancer-specific care guidelines and algorithms for continued cancer care was also a high priority for future emergency preparedness planning. Participants understood the importance of prioritizing treatments and continued cancer care for patients in active cancer treatment with the goal of improving patient outcomes and delaying disease progression. Many patients with cancer were faced with decisions of delaying cancer treatments, screening, surgeries and other cancer-related procedures. Understanding the types of patients that could delay treatment versus those who needed treatment to prevent cancer progression was noted as critical. One oncologist noted that deciding what patients could delay treatment versus those who could not was a struggle. She also stated that sometimes bringing patients in for cancer treatment could place them at high risk for exposure to COVID-19, so it was a balance of continued cancer therapy versus risk of exposure to the virus. She shared:

I know that there's a lot of initiatives being done nationally to help develop more of a set of guidelines of what to do in a pandemic like this in terms of how to manage and treat our patients, who can withhold treatment for a bit or push off treatment for a bit versus those that we cannot really wait on treatment or initiating or continuing management. That's really been a big positive out of this experience, I would say, to be prepared for future issues like this because I think that's what's really been an area that we have struggled with... It's typically consensus guidelines that are being put together by the National Cancer Comprehensive Cancer Network. (Participant 16)

The use of telehealth was also of priority for future pandemic planning and emergency preparedness. Over 93% of participants noted using telehealth in some form during the pandemic. However, there were concerns regarding how telehealth visits would be billed and reimbursed. This was especially evident in oncology facilities that were struggling financially or furloughing employees. For example, one registered nurse explained, 'Also, I still don't know why we haven't figured out how to charge for the virtual visits. I think that needs to be our first priority. If we switch to virtual visits again, it

shouldn't tank our budget.' (Participant 18) Another registered nurse added that in addition to confusion and uncertainty of billing that the process of using technology to implement telehealth needed to be addressed earlier to ensure continuity of care. She also noted the issues with some coworkers not being familiar with technology such as Zoom and the importance of learning these systems in advance:

I think they should have—with their Zoom telehealth implemented earlier and should have had things like that ready to go. It was, in my opinion, a real cluster at the beginning like what we were doing, how we were billing, what are we charging for, how are we putting it in the charting system. On the back end, it was really difficult knowing how to do it because nobody was using Zoom before. It was hard to have this implemented and not knowing what we were going to do with it. (Participant 27)

5 | DISCUSSION

Our study is one of the first to evaluate the perceptions of emergency preparedness among oncology professionals during the COVID-19 pandemic. Since our study, several recommendations from state and national organisations have surfaced; however, the way in which this information is disseminated and employers trained is up to individual oncology organisations (National Comprehensive Cancer Network, n. d.; American Society of Clinical Oncology, 2020). We found that overall, participants felt their organisations did an adequate job of organizing cancer care during the pandemic, but policies and procedures were reactive and not proactive. This led to several recommendations for planning for future pandemics or other national emergencies in the oncology setting, but many of these recommendations can be applied to other fields nursing or nursing specialties. First, ensuring adequate PPE was the most frequently mentioned priority. Forty per cent of the participants experienced such a shortage during the pandemic (Table 3), which have been previously reported in the literature (American Nurses Association, 2020b; Jazieh et al., 2020; Sanford & Prewitt, 2021; Veenema et al., 2020). Nurses in our study noted that they sought out organisations such as the Oncology Nursing Society to get information on what to do in the event of a PPE shortage, but ultimately followed their employer's recommendations to ensure compliance.

Next, participants expressed that developing cancer-specific care guidelines and algorithms for continued cancer care was critical for future emergency preparedness planning. It was important to understand which patients with cancer could temporarily withhold cancer treatment and which patients needed immediate and continued care to prevent disease progression. Participants had to make decisions regarding continued cancer treatment and the risk of COVID-19 exposure, further complicating their determinations. Although other specialties like primary care had similar emergency planning such as adequate PPE and modified staffing models to deal with the surge of

patients (Ali et al., 2020), cancer care differs in that some treatments cannot be completed remotely or be delayed without causing poor patient outcomes or even death. Participants, notably oncologists, relied upon guidelines from the National Comprehensive Cancer Network and the American Society of Clinical Oncology. However, these guidelines were not necessarily available at the start of the pandemic. Similar challenges during the pandemic have been reported and have resulted in international collaborations to determine best practices in oncology care during a pandemic (Segelov et al., 2020).

Lastly, our study found that over 93% of participants utilized telehealth in some form during the pandemic, which aligns with the World Health Organization's recommendations to utilize existing digital platforms during the pandemic to help control COVID-19 exposure while continuing cancer care (Salako et al., 2020). Although it is hard to adequately compare pre and post COVID-19 telehealth use in this population as Medicare and Medicaid expanded the approved use of telehealth services during this time, there are reports of tremendous adoption of telehealth during the pandemic (Bestsenny et al., 2020; Koonin et al., 2020). There were concerns regarding how telehealth visits would be billed and reimbursed by their organisations, which has also been noted by Al-Shamsi et al. (2020). Such concerns were heightened in oncology facilities that were impacted financially, reducing employee hours, or furloughing employees. Participants felt the need to plan for the use of technology in the future by training employees and understanding the billing and reimbursement. Although Medicare and Medicaid did increase telehealth service coverage and improved provider payments for telehealth services (Koonin et al., 2020), these changes were made in late March, and employees felt they were not educated and trained. Another important factor described by participants was the lack of knowledge using technology among older patients and those with language barriers. As Battisti et al. (2020) noted, telehealth is especially important among more vulnerable patients with cancer such as the elderly or those with chronic conditions to reduce exposure.

Most participants in our study were knowledgeable about their organisation's COVID-19 task force. They found that these task forces were helpful in the distribution of information related to COVID-19 to safely care for their oncology patients. Ueda et al. (2020) has also noted the critical nature of having command centres during a pandemic to centralize dissemination of information. These results are important given reports of oncology nurse distress due to numerous practice changes and information overload during the pandemic (Barello et al., 2020; Segelov et al., 2020). Participants distrusted media sources and often felt they were experiencing information overload. Such sources of information overload during a pandemic have been referred to as an infodemic, where individuals are bombarded with information and cannot decipher what is reliable and what is not (Merchant et al., 2021; Tangcharoensathien et al., 2020). This is especially difficult in the era of social media (Merchant et al., 2021). Oncology professionals relied upon the COVID-19 task forces and other information from their administration. They also supplemented their knowledge by seeking information from state and federal agencies and their specialty or professional organisations.

Many noted, however, that despite receiving information from these reliable sources, they ultimately went with the recommendation of their organisation to ensure they were following the outlined policies and procedures needed to comply with their employer in the event there was a contradiction.

The pandemic will undoubtedly have an impact on the education of nurses. Future directions should include the training of nursing students and new nurses on emergency preparedness that can assist in the pandemic response (Veenema et al., 2020). Strategies for schools of nursing and universities to enhance the inclusion of emergency preparedness and pandemic response may include updated curriculum and clinical experiences involving COVID-19 testing, vaccine education and rollout, and vaccine administration (Veenema et al., 2020).

6 | LIMITATIONS

Our study is one of the first to examine perceptions of the response to the COVID-19 pandemic among oncology professionals. However, our sample was mostly female, nurses, White, non-Hispanic/Latino, and from the United States. Due to our sample and methodology, results cannot be generalized to males, diverse racial/ethnic backgrounds, various professions, or those from other countries. Nurse managers and other administrators were not interviewed, and therefore, their perceptions need to be explored further. Additionally, data were collected from May to July 2020 when the pandemic was still very new, and information was fluid.

7 | IMPLICATIONS FOR NURSING MANAGEMENT

Much of our sample consisted of nurses and has implications for nursing management. These implications are indicated for oncology nurse managers but can be utilized outside of this specialty as many similarities existed across different fields of nursing, such as lack of adequate PPE and allocation of staffing resources. Frontline nurses should hold positions on interdisciplinary committees and task forces that concentrate on developing future emergency preparedness in the event of another global pandemic or other national emergency. Nurse managers should appoint and ask for volunteers to participate on such task forces to ensure nurses' concerns are heard and addressed. As the COVID-19 pandemic continues to unfold, nurses on the frontline can lend insight in planning for issues related to limited PPE and developing oncology-specific care plans and algorithms to ensure that patients who need immediate and continued cancer care are prioritized to improve patient outcomes. Nurse managers should encourage nurses to advocate for patients to ensure their wishes are met and concerns directed appropriately during the pandemic. Patients may be fearful of continued treatment during a pandemic and should be well informed of the benefits and risks of both delayed and continued care (Kutikov et al., 2020; van de Haar et al., 2020). Managers should have smaller task forces or committees that tackle the active role in the

implementation and continued establishment of telehealth in oncology care. Issues and concerns regarding billing for various telehealth visits and advocating for insurance coverage is needed. Nurse managers can also advocate for training patients who are elderly or have limited exposure to technology. Managers should support the involvement in specialty and professional organisations, so employees can stay connected with trusted information that impacts patient care.

Although our study was limited to oncology health professionals practicing in the United States, these implications can be translated to oncology care around the globe as the threats of the pandemic are widespread. Several international collaborations to guide cancer care initiatives during the COVID-19 pandemic have been established (Al-Shamsi et al., 2020; Segelov et al., 2020). Inadequate preparations for the pandemic are evident and the consequences have impacted health care in many of the same ways globally as they have in the United States. For example, nurses from different countries have reported similar experiences such as limited PPE, coping with large influxes of patients, shifting out of specialty areas to help care for COVID-19 positive patients, and challenges with staff allocations (Segelov et al., 2020). Just as oncologists from various countries have met to develop cancer-specific guidelines for cancer treatment, nursing organisations around the world can collaborate to cultivate guidelines for nursing practice and management during a pandemic or other global crisis.

8 | CONCLUSION

Overall, oncology professionals believed that their organisations were able to adapt during the pandemic, but most policies and procedures were reactive and not proactive. Recommendations for planning for future pandemics or other national emergencies included ensuring adequate PPE, developing cancer-specific guidelines and algorithms to prioritize cancer care, and telehealth training related to billing and reimbursement. Professional organisations were reliable resources of information during the pandemic, but oncology professionals ultimately trusted their employer to distribute information needed for safe patient care, which has steep implications for nurse managers responsible for disseminating and implementing new policies and procedures that are so fluid during a global pandemic.

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CONFLICT OF INTEREST

The authors have no conflicts to disclose.

ETHICAL APPROVAL

This study was approved by the University of South Florida Institutional Review Board (#000734) and the Scientific Review Committee at Moffitt Cancer Center (#20727).

DATA AVAILABILITY STATEMENT

Data are available upon request. Please contact Victoria Marshall, PhD, RN (vkmarshall@usf.edu).

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