Review Article

The Challenges Experienced by Oncology Nurses during the COVID-19 Pandemic: A Systematic Review

Abstract

Background: The coronavirus disease 2019 (COVID-19) pandemic has introduced a range of obstacles for healthcare workers, including oncology nurses. These frontline workers have had to adjust to updated procedures and protocols while providing care for patients with cancer during times of increased stress and uncertainty. This systematic review aimed to examine the difficulties faced by oncology nurses during the COVID-19 pandemic. **Materials and Methods:** A systematic review was performed on the literature using databases, including Web of Science, Scopus, and PubMed, to find related studies published between January 2019 and July 2024. The quality of the articles was evaluated using the Critical Appraisal Skills Program (CASP) tool. **Results:** This systematic review was performed in international databases, resulting in eight eligible studies. The studies highlighted several difficulties experienced by oncology nurses during the COVID-19 pandemic, including heightened workload, lack of personal protective equipment, emotional distress, and challenges in communicating with patients and families. **Conclusions:** This research revealed that oncology nurses faced numerous challenges during the COVID-19 pandemic, which impacted their well-being and their ability to provide quality care for patients with cancer. Healthcare organizations should provide support and resources to help oncology nurses cope with these difficulties and continue to deliver high-quality care.

Keywords: *COVID-19, oncology nursing, pandemics, systematic review*

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Introduction

Since the start of the coronavirus disease 2019 (COVID-19) pandemic in December 2019, the virus has spread rapidly worldwide, causing millions of cases and deaths. The COVID-19 pandemic has presented substantial difficulties for healthcare workers worldwide, particularly oncology nurses who have been at the forefront of cancer patient care.[1-4] Oncology nurses play an important role in providing emotional support, implementing treatments, and monitoring the health of patients with cancer. However, the pandemic has introduced additional complexities to their work, as they must now deal with infection risks, changes in protocols, limited resources, and increased workloads.[5]

Healthcare workers, including oncology nurses, have been unevenly impacted by the pandemic, with many contracting the virus or experiencing high levels of stress, burnout, and mental health problems.[6] Global organizations, including the World Health Organization and the International Council of Nurses, have highlighted the challenges faced by healthcare workers during the pandemic and have called for better protection, support, and resources for these frontline workers.[7] Various countries have conducted studies and surveys to examine the impact of the COVID-19 pandemic on healthcare workers, including oncology nurses. These studies have identified several key challenges facing oncology nurses, including increased workload, lack of personal protective equipment (PPE), emotional distress, and fear of exposure to the virus.[8,9]

Several research projects have been conducted on the experiences of oncology nurses during the COVID-19 pandemic, highlighting the unique challenges they face and the need for additional support and resources. However, a comprehensive understanding of the problems experienced

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by oncology nurses globally is lacking, as most studies have focused on specific regions or locations.[10,11] There is a research gap within the current literature regarding the difficulties experienced by oncology nurses during the COVID-19 pandemic, with limited studies providing a global perspective on the topic. Understanding the challenges faced by oncology nurses worldwide is critical for developing effective strategies to support and protect these frontline healthcare workers.[12,13] Owing to the crucial role that oncology nurses play in the care of cancer patients, a better understanding of the problems they face during the COVID-19 pandemic is essential.[14]

By conducting a systematic review, it is possible to identify common challenges faced by oncology nurses globally and suggest recommendations to improve their well-being and quality of care. This systematic review aimed to investigate the challenges faced by oncology nurses during the COVID-19 pandemic and to offer a summary of the difficulties they experience worldwide.

Materials and Methods

This systematic review aimed to explore the difficulties faced by oncology nurses during the COVID-19 pandemic. The primary research question addressed in this systematic review was as follows: *"What are the difficulties experienced by oncology nurses during the COVID-19 pandemic?"* The study protocol included the research question, search strategy, inclusion and exclusion criteria, data extraction methods, quality assessment tools, data synthesis techniques, results interpretation, and reporting guidelines.[15,16]

The study protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO) under the registration number CRD42024584777. This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines.[16-18] The review process covered eligible qualitative, quantitative, and mixed-methods studies published between January 2019 and July 2024.

A comprehensive and systematic literature search was performed in four major electronic databases: PubMed, Scopus, Web of Science, and CINAHL. The search strategy was developed based on the combination of controlled vocabulary and free-text terms related to oncology nursing and COVID-19. The search terms included *"oncology nursing," "cancer nursing," "COVID-19," "SARS-CoV-2," "difficulties," "challenges," "nurse,"* and *"pandemic."* Boolean operators (AND, OR) were used to combine and refine the search terms to ensure a broad yet precise retrieval of relevant studies.[1,16] The search was limited to articles published in English from 2019 onwards. Reference lists of the included articles and relevant reviews were also screened to identify any additional eligible studies. The inclusion and exclusion criteria were defined according to the PICOS framework as follows: Population (P): Registered or licensed oncology nurses working in cancer care units or oncology departments. Studies that included mixed healthcare professionals were only included if the data for nurses were presented separately, Intervention/Exposure (I): Experiences, challenges, and difficulties related to working during the COVID-19 pandemic, Comparator (C): Not applicable because this review primarily focused on descriptive findings from different types of studies, Outcomes (O): Reported difficulties and challenges experienced by oncology nurses in the psychological, organizational, professional, and personal domains, and Study Design (S): Qualitative, quantitative, and mixed-methods studies were included.

Studies were excluded if (1) they did not specifically focus on oncology nurses, (2) they were review articles, commentaries, or conference abstracts without primary data, or (3) they did not provide empirical evidence related to nurses' experiences. Table 1 summarizes the inclusion and exclusion criteria. The study selection process was carried out in several stages under PRISMA 2020 recommendations. First, the duplicate records were removed. Two reviewers independently screened the titles and abstracts of all retrieved articles to identify those potentially relevant to the study. Then, the full texts of potentially eligible papers were assessed for inclusion based on the predefined eligibility criteria. Any disagreements between reviewers were resolved through discussion, and a third reviewer was consulted to reach consensus if necessary. The PRISMA flow diagram illustrates the detailed process of study selection and screening [Figure 1].

Data were collected from all included studies using a standardized, pretested data extraction form developed by the research team. The form was employed to maintain consistency and comprehensiveness in data extraction across all included studies. The extracted data included the following: Study characteristics (first author, publication year, and country), Study design and methodology, Sample

Table 1: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Studies focusing on oncology nurses' experiences during the COVID-19 pandemic	Studies not focusing on oncology nurses' experiences during the COVID-19 pandemic
Studies conducted during the COVID-19 pandemic	Studies not conducted during the COVID-19 pandemic
Studies that include specific information on the difficulties experienced by oncology nurses during the pandemic	Studies not providing specific information on the difficulties experienced by oncology nurses during the pandemic
Studies published in peer-reviewed journals	Studies not published in peer-reviewed journals
The articles written in English	The articles written in languages other than English

COVID-19=Coronavirus disease 2019

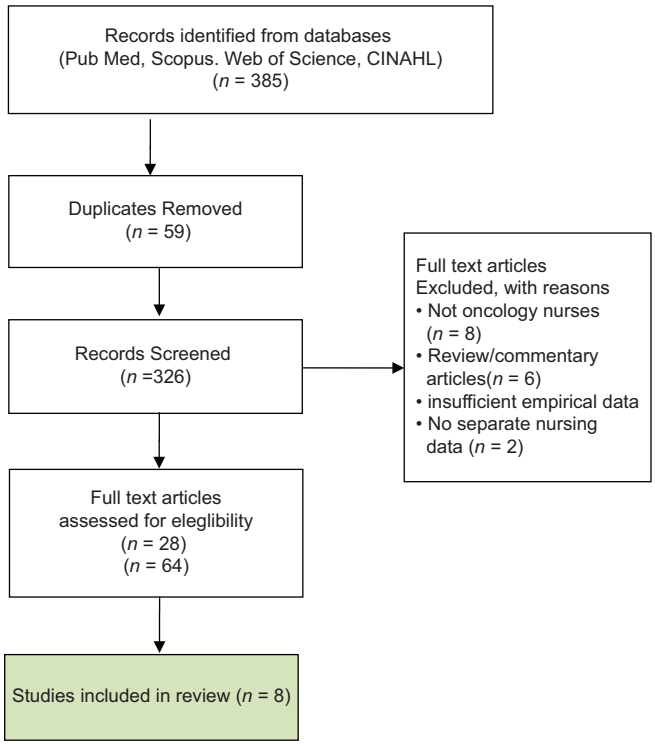

Figure 1: PRISMA 2020 flow diagram. PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

size and characteristics of participants, Type and domain of difficulties experienced by oncology nurses, Data collection tools or instruments used, Key findings and themes of interest. Two reviewers independently extracted data from each included study, and the accuracy of the extracted information was verified through cross-checking. Any discrepancies were discussed and resolved through consensus. The extracted data are summarized in tables for easier comparison and synthesis. The methodological quality and rigor of the included studies were appraised using the Critical Appraisal Skills Program (CASP) tools.[19] Different CASP checklists were applied according to the study design: the CASP Qualitative checklist for qualitative studies and the CASP Cohort or Cross-sectional checklist for quantitative studies. Each included study was evaluated based on 10 methodological domains, such as clarity of aims, appropriateness of methodology, research design, data collection, ethical considerations, analysis, and relevance of findings. Each study received a quality score, and the studies were categorized into three predefined quality levels: High quality: 16–20 points, Moderate quality: 10–15 points, Low quality: 1–9 points. The results of the quality assessment for all included studies are shown in Table 2. Only studies with acceptable methodological rigor contributed to the synthesis and interpretation of findings.

Given the methodological diversity and heterogeneity of the included studies, we adopted a narrative (descriptive) synthesis approach rather than a meta-analysis. The extracted data were analyzed thematically to identify

Table 2: Critical Appraisal Skills Program questions for the quality assessment of the included articles

Question
Are the study objectives clearly stated?
Is the study methodology appropriate?
Is the study design properly considered?
Is the research strategy designed properly?
Are the research inclusion criteria correctly selected?
Is the data extraction performed correctly?
Is the quality assessment tool selected correctly?
Is the data synthesis done correctly?
Is the data interpretation performed correctly?
Is the report of the results clearly stated?

recurring patterns and main themes regarding the difficulties experienced by oncology nurses during the COVID-19 pandemic. Themes were grouped under broader categories, such as psychological challenges (stress, fear of infection, burnout), professional challenges (workload, ethical conflicts, communication barriers), and organizational challenges (staff shortages, inadequate resources, insufficient support). The synthesis process involved comparing and integrating findings across studies to construct a comprehensive overview of oncology nurses' common and context-specific difficulties.

The results were analyzed in relation to the main research question and compared with existing literature on nurses' experiences during the pandemic. The findings were discussed to identify implications for clinical practice, nursing management, and future research. All stages of the systematic review, including the protocol, search strategy, study selection, data extraction, quality assessment, data synthesis, and reporting, were conducted and presented according to the PRISMA 2020 guidelines.[16-18] A structured and transparent report was prepared, including the study protocol, search strategy, results, discussion, and conclusions.

Ethical considerations

This systematic review was conducted in accordance with the principles of research integrity, accuracy, and transparency as outlined in the PRISMA guidelines. The study protocol was registered in PROSPERO (CRD42024584777) to promote methodological transparency and reduce reporting bias. All stages of the review process—including study selection, data extraction, and quality appraisal—were independently performed by at least two reviewers, with discrepancies resolved through consensus or consultation with a third reviewer to minimize bias. Data from the included studies were synthesized and interpreted in a manner faithful to their original context to ensure accuracy and avoid misrepresentation. All sources were properly acknowledged to maintain academic honesty. As this review involved a secondary analysis of previously published studies, no institutional review board approval was required.

Table 3: Characteristics and quality of the included studies

Study ID	Author (s), year	Country	Study design	Sample size	Main focus/key findings	CASP score	Quality level
1	Smith *et al*. (2021)	USA	Review	-	Summarized psychological burden and coping strategies among oncology nurses	19	High
2	Rossi *et al*. (2021)	Italy	Cross-sectional	215	Reported high stress and workload; significant lack of PPE	14	Moderate
3	Demir *et al*. (2022)	Turkey	Cross-sectional	142	Anxiety and ethical stress as key challenges	19	High
4	Lee *et al*. (2022)	Australia	Review	-	Highlighting institutional barriers and emotional exhaustion	15	High
5	Kovacs *et al*. (2022)	Hungary	Cross-sectional	98	Emphasis on burnout and low managerial support	16	High
6	Brown *et al*. (2023)	USA	Review	-	Lack of resources and organizational strain	15	High
7	Conti *et al*. (2023)	Italy	Cross-sectional	155	Communication and ethical challenges reported	17	High
8	Nguyen *et al*. (2024)	USA	Cross-sectional	176	Fear of infection and moral distress	16	High

CASP=Critical Appraisal Skills Program; PPE=Personal protective equipment

Results

Description of the included studies

After a comprehensive search of the selected databases, 385 records were initially identified, as outlined in the Methods section. After removing duplicates and screening titles and abstracts, eligibility was assessed for 28 full-text articles. Finally, eight studies met the inclusion criteria [Figure 1]. Among the included studies, five were cross-sectional and three were review articles. These studies were conducted in various countries, including the United States, Italy, Australia, Hungary, and Turkey. Table 3 summarizes the characteristics of the included studies.

Quality assessment of the studies included

The CASP tool was used to evaluate the methodological quality of all included studies. The scores for the review studies (Studies 1, 4, and 6) were 19, 15, and 15, respectively. All were rated as high quality. The scores for the cross-sectional studies (Studies 2, 3, 5, 7, and 8) were 14, 19, 16, 17, and 16, respectively; four studies were rated as high quality and one was rated as moderate quality [Table 3]. Overall, seven studies (87.5%) were classified as high quality and one study (12.5%) as moderate quality.

Evaluation and thematic synthesis of the findings

Oncology nurses have always faced distinctive challenges in their work; however, the COVID-19 pandemic intensified these difficulties and created new stressors across multiple dimensions. The synthesis of the included studies revealed the following four themes:

Psychological and emotional challenges: Nurses reported high levels of stress, anxiety, fear of infection, and emotional exhaustion. Fear of transmitting the virus to family members and witnessing patient suffering were major sources of distress. Qualitative studies highlighted deep emotional turmoil, including guilt and helplessness. Workload and organizational difficulties: Increased workload, staff shortages, insufficient rest, and unclear role expectations were consistently reported. Many nurses faced extended shifts and inadequate staffing during the peak pandemic periods.

Ethical and communication challenges: Nurses struggled with ethical dilemmas, particularly balancing patient care with personal safety. Communication barriers because of PPE and restrictions on family visits intensified emotional strain. Resource and institutional barriers: Limited access to protective equipment, lack of managerial support, and insufficient training on infection control were major concerns. Nurses emphasized the need for better organizational preparedness and psychological support systems.

Emotional distress and organizational workload were the most commonly reported challenges, especially in countries with high COVID-19 incidence rates.

The qualitative findings enriched the understanding of these experiences by describing the personal and emotional depth of nurses' struggles beyond quantitative measures [Table 4].

Discussion

The included studies revealed valuable insights into the challenges experienced by oncology nurses and healthcare professionals during the COVID-19 pandemic. The key themes identified were: the critical role of nurses in the development and implementation of oncology care policies during a pandemic, the ethical challenges faced by healthcare workers in pediatric oncology care, and the importance of prioritization research in cancer care during the COVID-19 outbreak.[13,20] Additional findings included burnout among oncologists, nurses, and radiographers involved in the care of oncology patients, the impact of COVID-19 on oncology nursing in the Global South, and an evaluation of the knowledge of oncology nurses about COVID-19.[13,20] The findings of these studies highlighted the importance of ensuring that oncology nurses are adequately supported and equipped to provide high-quality

Table 4: Oncology nurses' difficulties during the coronavirus disease 2019 pandemic

Challenge	Description
Increased exposure risk	Oncology nurses face a heightened risk of exposure to COVID-19 because of their close interaction with patients receiving cancer treatment. This puts them at a greater risk of contracting the disease and potentially transmitting it to vulnerable patients
PPE shortage	The increased demand for PPE during the pandemic has led to shortages in many healthcare facilities, including oncology units. This puts oncology nurses at greater risk of contracting COVID-19 when caring for patients
Emotional toll	The stress and emotional burden of caring for patients with cancer during a pandemic can be overwhelming for oncology nurses. They may experience feelings of fear, anxiety, and burnout as they navigate the pandemic challenges
Changes in treatment protocols	The pandemic has forced many healthcare facilities to adjust their treatment protocols for patients with cancer, which can be confusing and stressful for oncology nurses. They may need to quickly adapt to new guidelines and procedures while still providing quality care to their patients
Limited resources	The strain on healthcare systems during the pandemic has resulted in limited oncology nurses' resources, including staff shortages, limited access to tests and treatment options, and reduced patient support services
Communication barriers	The use of remote communication tools during a pandemic can create challenges in communicating effectively with patients and their families. Oncology nurses may need to find new ways to provide emotional support and navigate difficult conversations with patients
Impact on mental health	The ongoing stress and uncertainty of the pandemic can affect the mental health of oncology nurses. They may struggle with feelings of isolation, anxiety, and depression as they work tirelessly to care for their patients during this challenging time

PPE=Personal protective equipment; COVID-19=Coronavirus disease 2019

care to patients with cancer in times of a pandemic.[21,22] Strategies, such as providing mental health support services, advocating for appropriate PPE, and active participation in task forces, can help reduce the effects of the pandemic on oncology healthcare providers and ensure optimal care is provided to patients with cancer. It is imperative for healthcare organizations and policymakers to prioritize the well-being and resilience of oncology nurses and healthcare professionals to ensure the continued delivery of quality cancer care during challenging times, such as the COVID-19 pandemic. Collaboration, communication, and support are key factors in navigating these unprecedented times and ensuring the best possible outcomes for healthcare providers and patients.[8,22]

The findings indicated that nurses are key contributors to the development and implementation of cancer care policies during a pandemic, as highlighted by Paterson *et al*. and Zeneli *et al*.[4,12] Nurses actively participated in the response to COVID-19, contributing to social distancing and preventing the spread of the virus, as demonstrated in the Italian experience described by Zeneli. Moreover, Marks *et al*. highlighted ethical challenges encountered by healthcare workers in pediatric oncology care during the COVID-19 pandemic, with many staff members experiencing distress because of patient care disruptions and moral distress. Strategies for moral recovery among healthcare professionals have been suggested to prevent ongoing problems.[12,23] Zanville emphasized the importance of research priorities related to COVID-19 in cancer care, identifying priority areas for advancing the care of patients with cancer during the pandemic. Innovative methodological approaches and attention to disparities have been highlighted as essential for improving cancer care in the COVID-19 era.[24] Furthermore, Sipos *et al*. examined the prevalence of burnout among oncologists, radiographers, and nurses working in oncology patient care during the pandemic, with results showing a negative effect on personal burnout among certain groups.[25] Future strategies for preventing burnout should be integrated into the professional workplace.

In another study, Challinor *et al*. offered an overview of the impact of COVID-19 on oncology nurses in the Global South, highlighting care disruptions, lack of support/resources, and psychosocial impacts. Oncology nurses in these regions often took over the care of patients with cancer during the pandemic, gaining valuable experience that will be essential for the future.[2] In addition, Semerci *et al*. assessed the knowledge of Turkish oncology nurses regarding COVID-19 during the outbreak in Turkey, emphasizing the need for more information to better control infectious diseases among patients with cancer.[26] Marshall *et al*. also examined the effects of COVID-19 on oncology healthcare professionals, highlighting the strength required by this profession and the importance of advocating for appropriate PPE and mental health support services.[27] These studies underscored the difficulties faced by oncology nurses and healthcare professionals during the COVID-19 pandemic and offered significant insights into strategies for addressing these challenges and improving cancer care in the current and future pandemics.

Healthcare professionals worldwide have faced unprecedented difficulties because of the COVID-19 pandemic, and oncology nurses have been at the forefront of the response. In addition to their usual responsibilities regarding the care of patients with cancer, oncology

nurses have been forced to follow the complexities of treating patients with cancer in the midst of a global health crisis.[4,28] The unique nature of cancer treatment, which often requires frequent visits to healthcare facilities and close collaboration between patients and healthcare providers, has made the challenges of caring for patients with cancer during the pandemic even more apparent to oncology nurses. In this article, we will investigate the difficulties that oncology nurses have experienced during the COVID-19 pandemic and how they have overcome them to continue providing high-quality care to their patients.[26] Key challenges for oncology nurses during the pandemic include concerns about increased risk of exposure to COVID-19, the impact of changes in treatment protocols and limitations in patient care, the emotional toll of caring for patients in isolation, and a lack of resources. Despite these challenges, oncology nurses have shown incredible resilience and dedication in adapting to the changing healthcare landscape and ensuring that patients receive the care they need during these challenging times.[13,24] By evaluating the difficulties experienced by oncology nurses during the COVID-19 pandemic, it is possible to continue providing specialized care to patients with cancer.

This research included a comprehensive search of the relevant literature to find studies on the challenges faced by oncology nurses during the COVID-19 pandemic. This ensured that the review was based on diverse evidence. This study also included a qualitative assessment of the selected articles. This study discussed the implications of the findings for oncology nursing practice, which could help improve oncology nurses' support and well-being during the COVID-19 pandemic. One of the main limitations of this study was incomplete data in some of the included articles; to address this issue, strict inclusion criteria were applied to ensure that only studies reporting essential data for analysis were included. This study specifically examined oncology nurses; therefore, the results cannot be generalized to other healthcare professionals or settings. Additionally, this research may have missed relevant studies that were not published or were published in languages other than English, which could potentially introduce bias into the review.

Conclusion

The reviewed studies revealed significant challenges faced by oncology nurses and healthcare professionals during the COVID-19 pandemic. Nurses have played a significant role in the development and implementation of policies related to standards of care, as well as actively participating in response efforts to prevent the spread of the virus. Healthcare professionals in pediatric oncology centers reported ethical challenges and moral distress related to patient care disruptions. Burnout has been a concern among radiographers, oncologists, and nurses involved in oncology care, and measures have been taken to prevent burnout and ensure psychological well-being. Research priorities have been identified, emphasizing the need for innovative methodological approaches and addressing COVID-19-related disparities in cancer care. Nurses in the Global South have taken on more responsibilities due to physician shortages, underscoring the importance of their experiences for future pandemic preparedness. Furthermore, oncology nurses' knowledge about COVID-19 varies across regions, emphasizing the need for ongoing education and support from hospital management and health authorities. Overall, oncology nurses and healthcare professionals have shown resilience and dedication in providing quality care to patients with cancer during the pandemic. Adequate resource support, mental health advocacy, and active participation in response efforts are essential to ensure the well-being of oncology healthcare providers and the patients they care for.

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Conflicts of interest

Nothing to declare.

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