

RESEARCH ARTICLE

A RAPID REVIEW OF NURSES' EXPERIENCES WORKING IN HOSPITAL SETTINGS DURING THE COVID-19 PANDEMIC

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Abstract

Background: Being at the frontline, nurses working in hospital settings are vulnerable to a range of experiences that impact their well-being. Measures to protect their health and welfare during the COVID-19 pandemic have been the focus of discussion among policy-makers and administrators. There is a need to collectively understand their personal experiences to inform relevant policy decisions.

Objective: To synthesize and present the best available evidence describing the experiences of nurses working in hospital settings during the COVID-19 pandemic.

Design: This is a rapid review using Tricco's seven stage process.

Data sources: A structured search using PubMed, CINAHL, Scopus, and a local database Herdin was conducted.

Review Methods: A rapid review of studies published from January to August 2020, describing nurses' experiences of working in hospital facilities during the COVID-19 pandemic were included regardless of methodology. Following data screening and extraction, a narrative synthesis of the findings was conducted.

Results: Nineteen articles were included in the review. The experiences of nurses described in these articles generated a total of fifteen categories, based on similarities of meaning. Four synthesized findings were identified from the categories: (a) supportive nursing culture; (b) physical, emotional, and psychological impact of frontline work; (c) organizational responsiveness; (d) and maintaining standards of care.

Conclusions: Nurses' experiences working in hospital settings during the COVID-19 pandemic are diverse, profound, and dependent on the context of practice and prevailing healthcare system and organization. These experiences reflect personal encounters and shifts in healthcare delivery that ensure protection and safety while maintaining standards of care. Robust studies are needed to capture and explore the breadth of these experiences and heighten the discussions that advocate for nurses' welfare and safety during pandemics.

Keywords: *nurse experiences, COVID-19, pandemic, rapid review*

Introduction

The coronavirus disease-19 (COVID-19) pandemic transformed the lives of both patients and healthcare workers. Nurses who comprise the backbone of the healthcare delivery system are consistently challenged in difficult situations that make them vulnerable in their professional practice during

this pandemic (Chen et al., 2020). Being at the forefront, they witnessed a gamut of experiences arising from patient care activities and a rapidly changing landscape in the healthcare delivery system. These experiences contribute to the crucial discussion on protecting their welfare and well-being during

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these unprecedented times (Fernandez et al., 2020).

Healthcare workers, particularly nurses, are at the frontline in meeting the needs of patients who contracted the highly contagious virus. They spend more time than any healthcare worker in performing bedside care and assisting patients' daily living activities (Liu et al., 2020; Tan et al., 2020). With the rapid surge of people getting hospitalized because of moderate to critical illness, nurses in hospital settings become more vulnerable to risky conditions such as understaffing, shortage in personal protective equipment, high transmissibility of the aerosolization of the virus in a confined setting such as in a hospital facility, and lack of adequate training that matches the complex needs of patients (Chen et al., 2020). Coupled with these health-risk exposures, they also suffer from a multitude of emotional struggles, mental health issues, and forms of societal discrimination (Australian Nursing and Midwifery Foundation, 2020; Han et al., 2020).

Although there is mounting evidence that documents nurses' experiences during the COVID-19 pandemic, this remains disparate and fragmented (Liu et al., 2020). These experiences are critical inputs to global discussions in creating measures that address the immediate concerns on the welfare and well-being of the nursing workforce. An integrated and collective understanding of these personal encounters shall provide policymakers and administrators a powerful and realistic picture of the pressing needs of nurses at the bedside (Fernandez et al.,

2020). Cognizant of the constraints in time and resources, a rapid review offers a pragmatic approach to systematically look into a phenomenon that shall subsequently inform relevant policy decisions (O'Leary, Casey, & O'Connor, 2016). Therefore, this review has been conducted to synthesize and present current evidence regarding nurses' experiences working in hospital settings during the COVID-19 pandemic.

Methods

Design

A rapid scoping review was undertaken to synthesize evidence on the experiences of nurses working in hospital settings during the current COVID-19 pandemic. A rapid review is a form of knowledge synthesis in which components of the systematic review process are simplified or omitted to provide currently available evidence that can inform changes in clinical practice in a cost and time-pressured environment (Tricco et al., 2017). A scoping type of rapid review was utilized since it provided an iterative, systematic, and rigorous way to rapidly map key concepts underpinning an emerging research topic and the main sources of evidence available, irrespective of research methods (Arksey & O' Malley, 2020; Levac et al., 2010). This rapid review followed the seven-stage process outlined by Tricco, Langlois, and Straus (2017) (see Table 1). To date, there is limited research about the review topic. However, understanding the experiences and impact of the current pandemic on nurses is vital to ensure

Table 1. *The seven-stage process as defined by Tricco et al. (2017) and applied to the rapid review*

Process Stage	
Needs Assessment	The diverse experiences of nurses while working in hospital facilities during the pandemic is yet to be explored. Specifically, this rapid review aims to explore the experiences of nurses working in hospital settings; which includes, but is not limited to: their experiences in dealing with the pandemic, working with the health care team, and managing and providing care to patients.
Protocol Development	Review team identified. This review was not registered with PROSPERO as this rapid review is not a clinical outcome. No existing review on the topic was found in PROSPERO as of August 11, 2020. PRISMA created and distributed for comment.
Literature Search	Pubmed, CINAHL, Scopus, Herdin Keywords: "nurses", "nursing staff", "experience", "perception", "covid-19", and "sars-cov-2" English language, any study design, no date limitations
Screening and Study Selection	Two reviewers reviewed 24 studies in full, four themes were identified and each of the themes was written by a member of the review team. A total of 19 studies were identified for inclusion.
Data Extraction	Themes identified across the papers
Risk of Bias Assessment	No formal quality appraisal of studies was undertaken
Knowledge Synthesis	Narrative Summary

Table 2. Search strategy utilized on the different databases

Database	Search Strategy
PubMed	(nurs* OR "nursing staff" OR "staff nurses" OR Nurses[Mesh]) AND (experience* OR perception* OR perspective* OR opinion* OR thought* OR feeling* OR belief* OR knowledge* OR view*) AND ("Coronavirus Infections"[Mesh] OR "Coronavirus"[Mesh] OR coronavirus OR novel coronavirus OR NCOV OR "COVID-19" [Supplementary Concept] OR covid19 OR covid 19 OR covid-19 OR "severe acute respiratory syndrome coronavirus 2" [Supplementary Concept] OR severe acute respiratory syndrome coronavirus 2 OR SARS2 OR SARS 2 OR SARS COV2 OR SARS COV 2 OR SARS-COV-2)
CINAHL	nurs* OR (MH "Staff Nurses") OR (MM "Nursing Staff, Hospital") AND experience* OR (MH "Job Experience") OR perspective* OR perception* AND (MH "COVID-19") OR "sars-cov-2"
Scopus	nurse AND experience AND "covid-19"
Herdin	nurs* AND experience* AND "COVID-19"

that they are adequately supported to remain in the workforce, and are capacitated to provide quality health care during this time of health crisis. This review was performed and recorded following the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) checklist

Search Strategy. Using a structured search strategy, the electronic databases (PubMed, CINAHL, Scopus, and local database Herdin) were searched from inception to August 11, 2020. The database search technique was improved, and further refined through peer review by a search expert utilizing the Peer Review of Electronic Strategies (PRESS) checklist (McGowan et al., 2016). Searches were performed using a combination of medical subject headings, keywords, and free text words depending on the database (see Table 2).

Study Eligibility

The eligibility criteria were defined using the Population, Interest, and Context (PICO) framework (Methley et al., 2014). The PICO framework is used to structure the review question, which is a common practice in rapid reviews. A well-constructed research question maximizes the recovery of evidence in the databases and focuses on the scope of the search (Tricco et al., 2017). Correspondingly for this review, the population are the nurses working in hospital settings. The phenomenon of interest is their experiences in the hospital, which includes, but is not limited to, their experiences in dealing with the pandemic, working with the health care team, and managing and providing care to a patient in the context of the COVID-19 pandemic. All published studies which were direct enough to answer the review question were included regardless of methodology. No date limitations were set. However, given the current nature of the pandemic, only studies from 2020 were considered. We also limited our review to published documents written in the English language, to optimize feasibility.

Screening Process

The search produced, after eliminating duplicates, 866 articles. The initial screening was performed by two reviewers (EG, PG) who independently screened the titles and abstracts of potentially relevant studies. After initial screening, 842 articles were excluded. Subsequently, the full-text versions of 24 articles were retrieved and evaluated independently for inclusion by the two reviewers. Any disagreements were resolved by discussion, and if necessary, a third reviewer (ND) was involved. The final sample consisted of 19 articles; whose inclusion was based on a consensus approach (See figure 1).

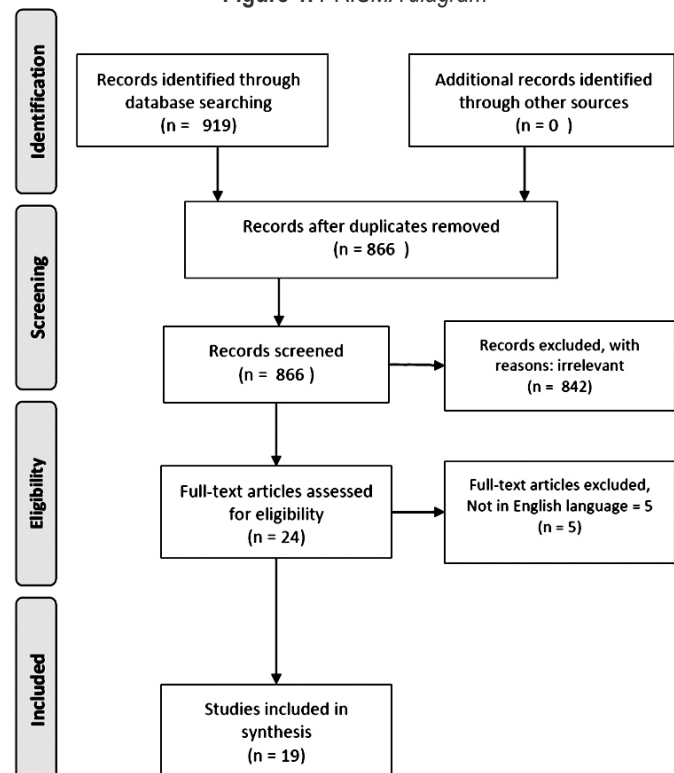
Figure 1. PRISMA diagram

Table 3. Characteristics of Included Articles

Author	Country	Title	Study Design /Article Type	Sample Size	Main Finding(s)
Tan et al. (2020)	China	Experiences of clinical first-line nurses treating patients with COVID-19: A qualitative study	Qualitative study	30	Psychological impact of clinical frontline work includes fear, anxiety, helplessness, and frustration. Despite this, nurses exhibited a high sense of professional identity and responsibility.
Han et al. (2020)	China	Anxiety and Depression of Nurses in a North West Province in China During the Period of Novel Coronavirus Pneumonia Outbreak	Cross-sectional study	22,034	Nurses faced with the COVID-19 outbreak are at risk of experiencing anxiety and depression.
Newby et al. (2020)	USA	Reflections on Nursing Ingenuity During the COVID-19 Pandemic	Reflections article	Not reported	Innovations have been implemented by nurses during the COVID-19 pandemic, aimed mainly to reduce the use of PPE, reduce disease transmission, and to promote staff safety and readiness.
Zhan et al. (2020)	China	Factors associated with insomnia among Chinese frontline nurses fighting against COVID-19 in Wuhan: A cross-sectional survey	Cross-sectional study	1,794	Insomnia was a physical response of nurses to the pandemic. The incidence of insomnia in nurses was higher during the COVID-19 crisis as compared to a non-epidemic period in China.
Stucky et al. (2020)	USA	COVID-19: Initial Perioperative and Perianesthesia Nursing Response in a Military Medical Center	Feature article	Not reported	Perioperative and peri anesthesia nurses demonstrated professional commitment by leading the COVID-19 response through planning and influencing policy, expanding critical services, staff training, and innovations.
Fan et al. (2020)	China	A qualitative study of the vocational and psychological perceptions and issues of transdisciplinary nurses during the COVID-19 outbreak	Mixed methods	44	Transdisciplinary nurses who provided frontline work experienced physical and psychological problems such as anxiety, pain, and insomnia. They also exhibited higher levels of perceived stress and relatively less perceived social support.
Zhang et al. (2020)	China	The psychological change process of frontline nurses caring for patients with COVID-19 during its outbreak	Qualitative study	23	The psychological change process of nurses occurs in early, middle, and later stages. The psychological characteristics of each period were ambivalence, emotional exhaustion, and energy renewal. Nurse leaders contributed to the psychological adaptation of frontline staff.
Yin et al. (2020)	China	A study on the psychological needs of nurses caring for patients with coronavirus disease 2019 from the perspective of the existence, relatedness, and growth (ERG) theory	Qualitative study	10	The psychological needs of nurses from the perspective of the ERG theory was explored. Existence needs were reflected in the health and security needs; relatedness needs consisted mainly of interpersonal needs, humanistic concern needs, and family needs; and growth needs consisted mainly of knowledge needs
Sun et al. (2020)	China	A qualitative study on the psychological experience of caregivers of COVID-19 patients	Qualitative study	20	Positive and negative emotions of frontline nurses coexisted. Negative emotions such as fear and anxiety, fatigue, and helplessness were dominant. Self-coping styles and psychological growth played a crucial role in maintaining their mental health.
Li et al. (2020)	China	Evaluating a nurse training program in the emergency surgery department based on Kirkpatrick's model and clinical demand during the COVID-19 pandemic	Quasi-experimental	35	The implementation of a nurse training program based on the model proved to be effective for nurses in the emergency surgery department. It is crucial to improve nurses' knowledge and skills during the pandemic to ensure that work remains safe, effective, and orderly.

Author	Country	Title	Study Design /Article Type	Sample Size	Main Finding(s)
Arneson et al. (2020)	USA	Answering the call: Impact of Tele-ICU nurses during the COVID-19 pandemic	Short Report	Not reported	Tele-ICU nurses provided a proactive approach to caring for critically ill patients. Through technology use, virtual rounding, and increased collaboration, virtual critical care minimized the risk of infection while maintaining a high level of care for patients.
Pontieri-Lewis (2020)	USA	Adapting WOC nursing practice to the COVID-19 pandemic	Feature article	Not reported	WOC nurses demonstrated professional commitment during the pandemic by providing education and training to colleagues, leading innovations, and assuming expanded nursing roles.
Estalella et al. (2020)	Spain	Management and leadership of nursing services in the emergency plan for the COVID-19 pandemic: the experience of the Hospital Clinic de Barcelona	Short Report	Not reported	Nursing directorates play a key role in managing the services provided during the pandemic. Their roles include initial planning, ensuring professional training of staff, organizational restructuring, updating protocols, and the management and control of daily organizational activities.
Sarbooji Hoseinabadi et al. (2020)	Iran	Burnout and its influencing factors between frontline nurses and nurses from other wards during the outbreak of coronavirus disease – COVID-19 in Iran	Cross-sectional study	245	Nurses providing clinical frontline work in COVID-19 areas experienced higher levels of burnout in comparison to other nurses. Work experience, hospital resources, and job stress were identified as influencing factors on burnout.
Australian Nursing and Midwifery Federation, 2020	Australia	Nurses abused over COVID-19 fears	Feature article	Not reported	Nurses are experiencing stigma due to their frontline work, as they experience assault and aggression from people who fear that they may be spreading the disease. Government support is deemed crucial as they are called on to implement zero-tolerance policies to aggressors.
Sell, Mary (2020)	USA	Alabama nurses 'tired and stressed', seek compensation	Feature article	Not reported	Difficulties experienced by nurses during the pandemic include inadequate training, lack of PPEs and supplies, and staff shortage. Nurses have appealed to the government requesting funding assistance, and financial relief packages.
Pourlizadeh, et al. (2020)	Iran	Anxiety and depression and the related factors in nurses of Guilan University of Medical Sciences Hospitals during COVID-19: A Web-based Cross-sectional study	Cross-sectional study	441	Frontline nurses were at high risk of developing mental illness during the pandemic. Lack of PPEs and suspected COVID-19 infection were associated with higher anxiety and depressive symptoms.
Hu et al. (2020)	China	Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large scale cross-sectional study	Cross-sectional, descriptive, correlational study	2014	The physical and psychological impacts of frontline work include the development of skin lesions, burnout, fear, anxiety, and depression. Nonetheless, nurses exhibited professional commitment by expressing their willingness to provide frontline work. Nurses suggested measures to improve working conditions such as enhancing manpower and resource allocation and improving their living conditions.
Liu et al. (2020)	China	The experiences of health care providers during the COVID-19 crisis in China: a qualitative study	Qualitative study	13	Clinical frontline works physically and emotionally drained nurses. Despite this, they showed resilience and professional dedication by volunteering. They identified self-management strategies to cope with the situation. They also achieved transcendence from their experience.

Data extraction

A data extraction form was developed, discussed, and revised a priori. Relevant data were extracted by one reviewer (EG), with accuracy verified by two other reviewers (PG, ND). Disagreements were resolved by discussion. Extracted data from the developed form included author/year, study design, geographical setting, and the main study findings.

Quality Assessment

As this is a rapid scoping review, we did not appraise the methodological quality of the included articles, which is consistent with rapid scoping reviews on health-related topics (Tricco et al., 2016).

Data synthesis

Using data-based convergent synthesis, data transformation was performed on quantitative papers before completing a narrative synthesis (Hong et al., 2017). The content of the studies was classified by consensus into logical categories for this review. The results of the study are summarized narratively and presented in summary tables.

Results

Characteristics of included studies

Table 3 shows the characteristics of the included articles. All included articles were published from January to August 2020.

The final sample was made up of five cross-sectional studies, five qualitative studies, one mixed methods study, one quasi-experimental study, four feature articles, one reflections article, and two short reports. The settings included China (Hu et al., 2020; Fan et al., 2020; Han et al., 2020; Li et al., 2020; Liu et al., 2020; Sun et al., 2020; Tan et al., 2020; Yin et al., 2020; Zhan et al., 2020; Zhang et al., 2020); USA (Arneson et al., 2020; Newby et al., 2020; Pontieri-Lewis, 2020; Sell, 2020; Stucky et al., 2020); Spain (Estalella et al., 2020); Iran (Pouralizadeh et al., 2020; Sarbooji-Hoseinabadi et al., 2020), and Australia (Australian Nursing and Midwifery Federation [ANMF], 2020). The studies were conducted in various clinical units in a hospital facility such as critical care units (Arneson et al., 2020; Pontieri-Lewis, 2020) and the emergency surgery department (Li et al., 2020).

Study findings

The results of the review formed fifteen categories based on similarities in meaning. Based on these categories, four synthesized findings were generated: supportive nursing culture; physical, emotional, and psychological impact of frontline work; organizational responsiveness; and maintaining standards of care (see Table 4)

Supportive Nursing Culture

Sustaining a supportive nursing culture in the workplace was derived from five categories, specifically: leadership, capacity building, communication, collaboration, and collegiality; and staff support and recognition.

Table 4. Synthesis of study findings

Categories	Themes	Description
Leadership Capacity building Communication Collaboration and collegiality Staff support and recognition	Supportive nursing culture	Supportive nursing culture encompasses nursing actions such as leadership, capacity building, communication, collaboration and collegiality, and staff support and recognition, which contribute to the social and psychological environment of nurses during the COVID-19 pandemic.
Physical responses Emotional and psychological responses Coping	Physical, emotional, psychological impact	Involves the responses of nurses to frontline work, which can be physical, emotional, and psychological. It also entails their conscious efforts to deal with the difficulties that they are facing on the frontlines.
Restructuring physical set-up Workflow modifications Nurse's expanded roles Technology use	Organizational responsiveness	Organizational responsiveness entails institution-based strategic actions ranging from restructuring the environmental set-up to modifications of workflow processes and nurses' roles and the use of technology as an integrated response to the COVID-19 pandemic.
Professional commitment and accountability Innovations Evidence utilization	Maintaining standards of care	Nursing actions and attitudes such as professional commitment and accountability, developing innovations, and evidence utilization, depict how nurses can maintain standards of care despite the challenges imposed by the pandemic.

Leadership. Overall, the review highlighted the fundamental leadership role played by nursing managers and administrators during the pandemic (Estalella et al., 2020; Liu et al., 2020; Sarbooji Hoseinabadi et al., 2020; Zhang et al., 2020). Available evidence demonstrated that nursing leadership facilitated adaptation, and fostered resilience among staff nurses by providing work-related support such as adequate personal protective equipment (PPE), appropriate training, shift work adjustment, and psychological support (Liu et al., 2020; Sarbooji – Hoseinabadi et al., 2020; Zhang et al., 2020).

Aside from staff support, nursing leadership also played a crucial role in managing and controlling daily nursing activities and ensuring efficient information exchange between the administration and staff (Estalella et al., 2020).

Capacity building. Rapidly changing knowledge about COVID-19 increased the stress levels of nursing staff. Most nurses expressed their desire to provide quality patient care, yet they received inadequate training in caring for them (Fan et al.; Tan et al., 2020; Zhang et al., 2020). Therefore, to promote preparedness, nurses took the lead in conducting organized and targeted training programs to ensure a safe and effective working environment (Li et al., 2020; Liu et al., 2020; Pontieri- Lewis, 2020; Sun et al., 2020).

Likewise, nurses also promoted an exchange of knowledge and expertise by spearheading nursing innovations aimed at reducing nurses' risk of exposure while maintaining a high level of care through the use of technology (Arneson et al., 2020), and promoting staff safety and readiness, reduction of foot traffic in isolation units, and judicious use of resources (Newby et al., 2020).

Communication. Unfamiliarity with the disease and work environment created feelings of anxiety and fear among the nursing staff (Fan et al., 2020; Tan et al., 2020). To mitigate this, unified communication systems helped facilitate the seamless exchange of information between the staff and the administration. Nurses have a leading role in facilitating communication on general aspects of the disease, protection measures, hospital protocols, and health surveillance (Estalella et al., 2020).

Collegiality and Collaboration. Nurses demonstrated a high degree of professional collegiality during the pandemic. They acknowledged the importance of caring for their colleagues and sharing the workload. This was manifested through their continuous exchange of knowledge, expertise, and experiences, through the provision of interdisciplinary and collaborative training (Arneson et al., 2020; Pontieri-Lewis, 2020); appreciation for the support of fellow nurses, demonstrated by “in-depth conversations” with nurse managers and psychological

comfort offered by colleagues (Zhang et al., 2020) and assuming professional responsibility by expressing their willingness to participate in frontline nursing work (Hu et al., 2020; ANMF 2020).

Staff support and Recognition. Support was provided to nurses in various forms, which assisted them in coping with the current situation in their workplace. The logistical support provided by hospital facilities included the provision of protective and medical supplies, accommodations (Zhang et al., 2020), financial assistance, and monetary incentives (Sell, 2020; Zhang et al., 2020). Moreover, continuous psychological support was also actively being provided in the workplace to ensure that nurses maintain their psychological well-being amidst the pandemic. Support was demonstrated through the availability of a psychologist or through conversations with nurse managers or colleagues (Estalella et al., 2020; Hu et al., 2020; Pouralizadeh et al., 2020). Lastly, support in the form of government and public recognition of their services gave nurses a sense of accomplishment as they could take pride in their contributions during the pandemic (Estalella et al., 2020; Zhang et al., 2020).

Physical, Emotional, and Psychological Impact of Frontline work

Physical, emotional, and psychological responses. Frontline work brought about various physical and psychological responses from nurses. The long hours of wearing PPE caused the development of skin lesions (Hu et al., 2020; Pontieri – Lewis, 2020). The heavy workload coupled with their unfamiliarity with the disease and their working environment (Fan et al., 2020; Li et al., 2020), gave nurses feelings of stress, fear (Arneson et al., 2020), anxiety, and depression (Han et al., 2020; Pouralizadeh, 2020; Tan et al., 2020), and led them to frequently experience burnout (Hu et al., 2020; Sarbooji – Hoseinabadi et al., 2020) and insomnia (Fan et al., 2020; Zhan et al., 2020). Moreover, nurses also experienced grief and powerlessness due to experiencing the patients' suffering and sudden loss of lives (Fan et al., 2020). Aside from their health, nurses also had feelings of uncertainty and fear that colleagues may get infected, or that their frontline work placed family and friends at greater risk of infection (Pouralizadeh et al., 2020; Sell, 2020). Their desire to be with loved ones also contributed to their emotional stress (Sun et al., 2020; Yin & Zeng, 2020). Nurses' frontline work also made them prone to discrimination. They experienced verbal assault and refusal of services at public establishments while wearing hospital-issued scrubs and uniforms (ANMF, 2020).

Coping. During periods of stress, nurses demonstrated various coping and self – care strategies. Psychological defense mechanisms such as avoidance, isolation, speculation, and humor were adopted by some nurses to adjust to a stressful situation psychologically (Sun et al., 2020). Alternatively, coping measures such as breathing relaxation, music, meditation, and

mindfulness were also adopted by nurses as ways to reduce stress. Self-management strategies such as recognizing the need for good nutrition, sleep, and exercise were also employed by nurses to mitigate negative emotions (Liu et al., 2020; Sun et al., 2020).

Moreover, despite initial feelings of distress and anxiety during the first few weeks of frontline work, nurses eventually began experiencing positive emotions such as confidence, calmness, and relaxation, which simultaneously or gradually appeared with negative emotions (Sun et al., 2020). Notably, nurses achieved transcendence from their frontline work (Liu et al., 2020). They described their experiences as "special" and "unique," as they were able to overcome difficulties, and find meaning in their work and value in their profession (Liu et al., 2020; Zhang et al., 2020).

Organizational Responsiveness

Nurses working in hospital settings encounter abrupt and drastic organizational changes during the COVID-19 pandemic. Organizational responsiveness consists of the following categories: restructuring physical set-up, addressing protection and safety through workflow modifications, expanded roles of nurses, and technology use.

Restructuring physical set-up. Hospital physical set-up was restructured and sectorized to isolate COVID-19 confirmed cases. Non-infectious regular wards, operating rooms, and post-anesthesia care units were converted as adjunct critical care rooms and isolation rooms (Estallela et al., 2020; Lieu et al., 2020; Stucky et al., 2020).

Workflow modifications. Workflow processes were modified to address protection and safety. Staffing patterns were changed to rotating shifts for one week and another week off (Sarbooji- Hoseinabadi et al., 2020). As these protocols were updated, some nurses go on straight duty for eight hours inside the COVID unit without eating and drinking, which tested their physical and mental state (Fan et al., 2020). To address the excessive workload due to the surge of patients being admitted, staffing is augmented through outsourcing of support nurses such as retired, students, teachers, volunteers (Sun et al., 2020; Estallela et al., 2020; Hu et al., 2020), tiered staffing, and a buddy system for an experienced and inexperienced critical care nurse (Arneson et al., 2020), and mobilization of staff from clinical units that were closed to be deployed to COVID units (Stucky et al., 2020).

Policies were intended to protect cross-contamination among health workers such physical distancing during mealtime (Estallela et al., 2020), new patient flow or traffic system and triage procedures, stringent visitation guidelines and

systematic infection control procedures (Sarbooji - Hoseinabadi et al., 2020), and resorting to a home-based workstation in remote monitoring for vulnerable population group of nurses (Amerson, 2020). Health facilities employed strategies for the rational use and allocation of PPE, which pose fears to nurses because of the shortage (Yin & Zeng, 2020; Amerson, 2020). Nurses' basic needs such as transportation, food, and housing who provide direct care were prioritized (Estallela, 2020), and imposing sanctions for forms of discrimination among healthcare workers were imposed (ANMF, 2020).

Nurses' expanded roles. Nurses assume various expanded roles during the pandemic, such as program designer and coordinator, mentor to inexperienced ICU nurses, a leader in an innovation project, navigator, care coordinator, and collaborator within a department (Pontieri - Lewis, 2020; Arneson et al., 2020; Estallela et al., 2020).

Technology use. The use of technology is evident in implementing capacity-building programs for nurses and the delivery of care to patients. Organizations expanded their infrastructure by utilizing state of the art technologies. Training programs for nurses were designed as instructional videos and were carried out through online platforms (Li et al., 2020; Arneson et al., 2020). Virtual rounds, virtual critical care, and remote monitoring were used in the tele-intensive care units to minimize nurses' prolonged contact exposure (Arneson et al., 2020).

Maintaining Standards of Care

Nurses' ingenuity and resilience proved their ability to deliver high quality of care even amid struggles and hardships brought by the COVID-19 pandemic (Newby et al., 2020). The experiences that they got gave them a sense of accomplishment as well as improved their professional identity (Tan et al., 2020). Maintaining standards of care were done through professional commitment and accountability, innovations, and evidence utilization.

Professional Commitment and Accountability. Despite the fear of getting the disease, nurses and other health care providers showed commitment and developed a sense of purpose to overcome the difficulties of the situation (Liu et al., 2020; Tan et al., 2020). Staff from other departments reached out to offer additional workforce to different COVID units. The struggle of wearing PPEs for an extended period, the emotional distress from dying patients and colleagues, and limited staffing were some of the struggles that made nurses work more and complain less. They showed empathy and compassion, provided emotional support, and assisted the patients in their daily living (Liu et al., 2020).

Innovations. With limited information about COVID19, different innovations were utilized to prevent healthcare workers from getting infected. Extension tubings were used to allow staff to manipulate equipment such as infusion pumps outside the patient's room. Tapes were also placed on the floor to mark safe areas across the units. Makeshift rooms designated for staff to relax in the middle of the shift were built to reduce foot traffic. Videoconferencing and digital stethoscopes were employed to assess conditions, reducing the time spent with the patient (Newby et al., 2020). Innovations such as donut-like foam cushions for patients in prone positions and education posters about preventing pressure injuries for healthcare providers were seen in different COVID units (Pontieri-Lewis, 2020).

To bridge the gap in the disease's uncertainty, nurses seek different ways to supply themselves with the knowledge they need. Internet browsing was done by most of them (Yin & Zeng, 2020). Nurse educators on the other hand created training courses by collecting guidelines and policies from various agencies and presented them to their staff using different modalities like instructor-led training, hands-on learning, and video-assisted learning (Newby et al., 2020).

Evidence Utilization. Evidence-based information became part of different health institutions when creating action plans for COVID-19. To reduce the use of PPEs and augment staffing problems, teleconferences for patients in the ICUs were implemented (Arneson et al., 2020). Infection control measures, like a spotter for donning and doffing, and modification of floor plans to create a negative flow ward and reduce foot traffic, were also put in place (Newby et al., 2020).

Discussion

In summary, this rapid review synthesized findings from extant literature about nurses' experiences working in hospital settings during the recent pandemic. Four themes were generated from fifteen categories: supportive nursing culture; the physical, emotional, and psychological impact of frontline work; organizational responsiveness; and maintaining standards of care. Although the findings were drawn from reports with varying methodologies, the review demonstrated the dynamics of personal encounters and organizational culture as factors that continuously shape the nurses' experiences during the COVID-19 pandemic. These are consistent with the report on nurses' experiences in acute care hospital settings during a respiratory pandemic (Fernandez et al., 2020).

A positive and supportive working environment may consist of essential elements such as skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership (Vollers et al., 2009). These are critical elements for nurses to feel, particularly

in the context of a pandemic where feelings of uncertainty are high. As such, we have identified these elements in the results of our review. The theme, *supportive nursing culture*, reflects leadership that is proactive, flexible, and caring; and promotes timely capacity-building activities. Our review also illustrated that it is essential for nurse leaders to adopt a clear, accurate, and consistent communication system. Nursing leaders are considered as primary vehicles in ensuring effective communication (Hartung & Miller, 2013). In this context, nurses must receive accurate, timely, and important information from the administration. Lastly, our review identified collaboration and collegiality, and staff support and recognition as contributors to a supportive culture. Collaborative working relationships is also deemed beneficial as it allows nurses to show mutual respect that is based on knowledge and expertise (Kieft et al., 2014).

Physical, emotional, and psychological impact describes the spectrum of effects on the nurses' well-being. At the outset of the pandemic, nurses suffered mixed emotions of fear for themselves and their loved ones, anxiety, depression, fatigue, insomnia, grief, and forms of discrimination. Nurses employed coping strategies such as psychological defense mechanisms, relaxation, and self-care activities to adapt to their work demands. Over time, they embraced confidence, calmness, and fulfillment despite the uncertainties and difficulties. These coping processes are consistent with anecdotal reports of the experiences that frontline nurses undergo. Recognizing the range of emotions and strategies of coping during the pandemic contributed to the development of programs tailored to enhance their well-being, protect their mental health, and improve working conditions.

More than the profound experiences at the bedside, nurses witnessed the paradigm shifts in the delivery of care in their respective health organizations. The organizational responsiveness is viewed in the restructuring of the hospital's physical set-up to contain the cross-contamination of infection. Workflow policies and processes were modified with the intent to protect the health and safety of healthcare workers. The changing role of nursing expands even more during a pandemic. Global pandemics necessitate that nurses assume roles that require adaptability, creative thinking, and leadership skills (Corless et al., 2018). Likewise, the results of our review indicated that nurses assumed expanded roles during the pandemic from care providers to coordinators, navigators, innovators, collaborators, and project managers. Institutions maximized the use of technology to implement continuing education programs and deliver healthcare services such as remote monitoring of the patients.

Despite the various issues in the healthcare system brought about by the pandemic, such as workforce shortage, dwindling personal protective equipment, and rapidly evolving health policies, nurses strived to maintain the standards of care. The

high transmissibility of COVID-19 does not prevent nurses from continuously delivering nursing care to patients who were isolated and left alone in the hospital. It is inherent for nurses to have a strong sense of duty towards patients and demonstrate exceptional commitment to the profession even in times of crisis (Hewlett & Hewlett, 2005). Moreover, the humanistic approach of the nursing profession allows nurses to exemplify values such as altruism, professional responsibility, commitment, and competency (Shahriari et al., 2013). As presented in our review, nurses continuously demonstrated professional commitment and accountability at work. Their ingenuity and resourcefulness are reflected in the innovations that address the unique needs of the patients and constraints in resources. Nurses engaged in self-directed learning to make use of the readily available best evidence to inform clinical decision-making.

Ultimately, it is worth noting that the results of the review indicate that nurses, regardless of geographic location, share similar experiences that undergo a process of coping during this pandemic. Since this review has been conducted in the early months of the pandemic, it is expected that similar studies will subsequently increase exponentially, which shall present stark similarities and differences in the experiences among nurses across locations, contexts of practices, and economies. Critical in the shared experiences identified in this review are resource shortage and the need for proactive leadership and visible support. It was also common for them to experience physical fatigue and psychological distress. Despite these ordeals, nurses have demonstrated ingenuity and professional commitment. However, the extent to which these experiences resulted in favorable outcomes remains unexplored and therefore requires further investigation.

Limitations

This review is strengthened by following the seven-stage approach outlined by Tricco et al. (2017). Potential bias in this review was also reduced through the following means: optimizing the search strategy through peer review by using the PRESS checklist (McGowan et al., 2016); systematic literature searching of more than two databases; and the involvement of more than one reviewer in the screening, data extraction, and analysis of findings.

Despite the rigor with which this review was conducted, the inherent limitations of a rapid review also need to be acknowledged. To produce the review promptly, we streamlined some components of the review process (Tricco et al., 2017). As such due to time and resource constraints, we did not consult an information specialist or a medical research librarian in developing the search strategy. The search strategy was developed by a member of the review team with experience in conducting evidence reviews (EG); consistent with the

recommendation by Tricco et al. (2017), peer review of the search strategy was conducted following the PRESS guideline (McGowan et al., 2015). Although the peer-review process may provide a subjective validation of the search strategy, we also recognize that the process has improved the quality of the database search, since the peer reviewer was able to find search errors and offer alternative strategies. Likewise, the review team also did not conduct an appraisal of the methodological quality of the included articles. Hence, we are unable to provide a comment on their scientific rigor. We also acknowledge that our review is limited considering that we restricted the inclusion of articles to those published in English. There is a possibility that some original research articles were missed which may also account for the countries not represented in the review articles. The reference lists of relevant documents were not scanned and searching for grey literature was also not conducted. Moreover, owing to the heterogeneity among included articles, our review findings cannot be generalized. Differences in culture, health beliefs, display of mental symptoms, and different healthcare systems may have influenced the results of the studies included in this review. Nonetheless, we believe that the review yielded important findings to inform nursing practice, policy, and research.

Implications

Policy

This review recommends a supportive organizational culture that provides the holistic needs of nurses who are indispensable resources during a pandemic. Policy-makers and administrators should further strengthen activities that support nurses' well-being and safety when their health and safety are at risk, especially during a pandemic. Institutional policies that favor the well-being and safety of the nursing workforce may adopt several strategies such as restructuring healthcare delivery, modifying workflow processes, allocating resources, streamlining technology, and providing nurses' basic survival and informational needs.

Leadership opportunities for nurses to engage in national and organizational crisis committees is necessary. Nurses comprise the backbone of the healthcare delivery system having the greatest number of personnel in health operations. Representation of the nursing workforce in policy-making bodies is crucial so that nurses' experiences of struggles and priority needs as well as patient advocacies can be heard and catalyzed into concrete plans.

Practice

The COVID-19 pandemic exposed serious problems in human resource management such as understaffing and unsafe working environments. There is a need to implement proactive and compassionate measures and evidence-informed long-term

agenda that better protects nursing personnel such as safe and adequate staffing and favorable work conditions. Moreover, nurses should be given timely opportunities for role expansion and capacity-building responsive to the emerging needs of the healthcare system such as the optimal use of technology, nursing specializations, and strengthening the nursing curriculum on global infectious diseases and related pandemics. Mechanisms that harness and incentivize nurse-led innovations in patient care delivery particularly during disasters and pandemics need to be incorporated in institutional and national health programs.

Research

Further studies with robust methodologies are needed to capture the breadth of nurses' experiences during the pandemic. It is recommended that these studies should be systematically reviewed and linked to specific outcomes for immediate policy and clinical use. Findings may provide inputs in future role development of nurses, workforce projections, strategic needs assessment, and program planning.

Conclusion

The emergence of COVID-19 creating a global outbreak has proved nurses' unprecedented commitment to their job. From providing direct care to affected hospitalized patients to leading hospital response operations, nurses are working relentlessly in this pandemic. The experiences of nurses in this review demonstrate how the pandemic has shaped the face of nursing. Nurse have assumed roles where they have had to acquire new knowledge and skills within a short period. They are also continually working in understaffed, and potentially unsafe settings, suffering from fatigue, stress, and unaddressed mental health needs. Despite this, positive adaptations have been made in response to the pandemic. The situation has the potential to modernize the sector through the use of technology and innovations as described in our review. Nurses also aim to maintain standards of care despite the challenges that they currently face. In fact, hospital nurses are applying evidence-informed principles to reorganize nursing care in this context. Moreover, the situation has also fostered better collaborative practices among nurses, and the strengthening of professional responsibility and identity.

Nurses' high sense of responsibility highlighted their passion - that serving those affected by the virus is more important than overcoming their struggles. Amidst the fast-increasing numbers of people getting infected, they showed courage and compassion in providing care despite the limitations, safety concerns, and the fear of getting and unknowingly spreading the disease. This health crisis also revealed problems in healthcare systems that put nurses in a vulnerable condition. Lastly, it also fueled radical reforms in health organizations to calibrate infrastructures and work systems and provide supportive leadership where nurses are protected, safe, and recognized.

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