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## The Impact of COVID-19 as a Global Crisis

The outbreak of the coronavirus disease (COVID-19) was first reported in Wuhan, China, in December 2019 (Chen, Zhou, et al., 2020; Wang, Hu, et al., 2020). It has since spread rapidly across China, Asia, the Middle East, Europe, North America, and other parts of the world (<https://www.worldometers.info/coronavirus/>). There have been 3,579,479 confirmed cases and 248,445 confirmed deaths globally (latest update: May 4, 2020, Central European Time 10:00, World Health Organization). COVID-19 was declared a public health emergency of international concern on January 30, 2020 (World Health Organization, 2020) and is now a pandemic.

## Clinical Characteristics, Transmission, and Spread

The most common symptoms in patients infected with COVID-19 are fever and cough (Chen, Zhou, et al., 2020; Guan et al., 2020; Huang et al., 2020) followed subsequently by shortness of breath, fatigue, muscle pain, dyspnea, headache, hemoptysis, and diarrhea. Some patients developed further fatal complications, including sepsis, septic shock, pulmonary edema, severe pneumonia, and acute respiratory distress syndrome (Chen, Guo, et al., 2020; Huang et al., 2020). The median incubation period of this disease is 4 days (Guan et al., 2020). However, some infected patients report no symptoms, with the asymptomatic ratio currently estimated at around 30.8% (Nishiura et al., 2020). Asymptomatic expression makes the undetected transmission and massive spreading of this disease possible.

COVID-19 is transmitted primarily from person to person through respiratory droplets (Malta, Rimoin, & Strathdee, 2020). Unsanitary conditions, places with high population densities, and enclosed spaces with heavy foot traffic (e.g., malls, airports, and public transportation) increase the risks of community-based transmission and rapidly spreading this disease (Chen, Zhou, et al., 2020; Lai, Shih, Ko, Tang, & Hsueh, 2020). Furthermore, clusters of nosocomial infections have occurred in hospitals (Wang, Wang, Chen, & Qin, 2020).

## The Pandemic Crisis of COVID-19

The rapid and undetected spread of COVID-19 and the (potentially) relatively high mortality rate from COVID-19-related pneumonia have combined to create the current pandemic crisis, which is impacting greatly on health, economics, and social life on a global scale. Massive medical manpower and resources have been invested in the prevention and treatment of severe pneumonia, increasing the burdens on, and even threatening the exhaustion of, healthcare systems across the world. Restrictions on normal life, trade activities, and travel as well as lockdowns of cities and countries to prevent the spread of COVID-19 have severely impacted the world economy, threatening an economic depression (Anzai et al., 2020; Maffioli, 2020; Pan et al., 2020). In addition to financial woes, psychological reactions such as fear of infection (Chew & Eysenbach, 2010; Signorini, Segre, & Polgreen, 2011), uncertainty, worry, anxiety, and panic have been reported globally.

Since the first outbreak of the disease in Wuhan, China, the travel restrictions on China have led to certain stigmas because of the perceived threat of the virus and caused the negative labeling of and social bias toward countries and ethnicities (Andrasik et al., 2020; Madiba & Josiah, 1919; Person et al., 2004; Yang et al., 2013). Country-based travel restrictions and lockdowns have decreased communications among people and among countries, leading to social distancing and isolation on an international scale as well as to large-scale disruptions in international travel and trade. The massive costs of the damage wrought by the COVID-19 pandemic both to human health and to the economy are currently unknowable.

### Nurses' Contribution in Anti-COVID-19

Because of the mild or even undetectable nature of symptoms of COVID-19 in some infected patients, this new respiratory disease has been able to spread rapidly on a global scale. Nurses are the frontline healthcare professionals who work across acute care hospitals, long-term care agencies, nursing homes, schools, community, and government healthcare agencies. The multiple roles and functions played by nurses are particularly important during this COVID-19 pandemic. These important roles and functions cover five domains.

The first domain is providing health education, screening services, and support for the general public and for individuals in high-risk categories. Health education should cover strategies for infection prevention (e.g., washing hands regularly; avoiding touching the eyes, nose, and mouth; canceling group activities and communal dining) and early detection of infections signs (respiratory symptoms, cough, fever, and muscle

soreness). Screening services focuses on screening individuals for potential infections, whereas support focuses on providing emotional support to those isolated because of COVID-19 (Jernigan & CDC COVID-19 Response Team, 2020; Patel, Jernigan, & 2019-nCoV CDC Response Team, 2020).

The second domain is nosocomial infection prevention and surveillance. Nurses screen suspected cases (recording case histories of contact travel); implement standard precautions (hand hygiene, respiratory hygiene, personal protective equipment, injection safety, medication storage and handling, and disinfection); and educate and train patients, families, and healthcare staff (Centers for Disease Control and Prevention [CDC], 2016) to prevent nosocomial infections. Furthermore, nurses implement isolation care and monitor (using the mobile location finder system), provide supplies to, conduct fever and respiratory symptoms assessments of, and provide emotional support to individuals under mandatory home-quarantine restrictions (Jernigan & CDC COVID-19 Response Team, 2020; Patel et al., 2020).

The third domain is implementing appropriate preparations and precautions in nursing home and long-term care settings. Patients in long-term care facilities and nursing homes are highly vulnerable to infection, with those contracting COVID-19 facing a high instance of experiencing severe pneumonia or even death. Thus, preparing safe and protective care and environment at these sites is a very important role of nurses during this pandemic. Care plans for residents and patients in these institutions should include strategies for rapidly identifying and managing ill residents, developing safe visiting policies that restrict the number of visitors, maintaining a protective environment, conducting critical training and education, and issuing proper sick-leave policies for healthcare staffs (CDC, 2020).

The fourth domain is the protection of patients with immune deficits or underlying diseases such as chronic obstructive pulmonary disease, chronic illnesses, and cancer. These patients face significantly higher health risks from a COVID-19 infection than the general population. Patients with cancer, especially those with hematological malignancies, who are currently receiving chemotherapy as well as patients receiving immunosuppressive therapies or bone marrow transplants must be particularly well educated and cared for to prevent infection. Educating patients on self-protection strategies is a critical function of nurses (American Society of Clinical Society, 2020; CDC, 2020).

The fifth and final domain is providing care to patients with COVID-19 who are in an acute or critical condition. COVID-19 may induce severe pneumonia and even lead to mortality in every age group, with the highest risk groups including older adults and

individuals with immune deficits. Thus, it is important to provide urgent, intensive care to patients who are infected and symptomatic, particularly so for those with severe conditions. Ensuring that healthcare providers are fully protected by adequate personal protection equipment is necessary to prevent them from becoming infected. Intensive care capacities in terms of both manpower and equipment are very important. In intensive care, nursing staffs provide direct life-sustaining care to help patients recover from COVID-19-induced pneumonia as well as provide psychological support to patients in states of panic or distress (Jin et al., 2020; Lai et al., 2020; Liew, Siow, MacLaren, & See, 2020).

## Key Challenges Faced by Nursing Professionals During COVID-19

Infection prevention and control in primary, community, and acute care settings present healthcare and nursing professionals with huge challenges. Important practice issues remain to be resolved (CDC, 2020; National Institute for Health and Care Excellence, 2017). The key challenges to nursing professionals during the COVID-19 pandemic are discussed hereinafter.

### Providing Support to Reduce Gaps in Critical Knowledge

As COVID-19 is a newly identified disease, effective vaccines and treatments are still in development. Thus, in tackling this newly identified infectious disease, nurses face a potential risk of infection as well as potential work-related anxiety and mental health problems (Khalid, Khalid, Qabajah, Barnard, & Qushmaq, 2016). It is important to apply the latest knowledge to protect healthcare professionals and nursing staff who are caring for patients with COVID-19. Healthcare providers must be educated about the dangers of infectious disease, including the proper use of personal protective equipment, proper personal hygiene practices, and related environmental measures (Aldohyan et al., 2019).

### Preventing Inadequacies in the Healthcare System

The rapid spread of COVID-19 has caused challenges worldwide, especially in terms of delivering sufficient personal protective equipment to the healthcare system. The disease mainly spreads through respiratory droplets. Insufficient personal protective equipment (facial mask, gloves, impervious gowns, and eye protection) has been associated with occupational exposure and illness (Kilmarx et al., 2014). Previous studies have reported on inadequate personal protective equipment and medical supplies in hospitals and healthcare agencies during past events (Lautenbach, Saint, Henderson, & Harris, 2010; Rebmann, Wilson, LaPointe, Russell, & Moroz, 2009). Improving production and procurement is critical to ensuring security and safety in the workplace.

## Policies and Strategies to Prevent Staffing Shortages

Outbreaks of recognized contagious illnesses such as COVID-19 highlight the risk of safety problems for healthcare providers and nurses. Manpower shortages during infectious disease outbreaks may be caused by uncertainties regarding life-threatening infectious sources and real cases of infection among healthcare staff (Musau, Baumann, Kolotylo, O'Shea, & Bialachowski, 2015). Policies from government, healthcare, and nursing administration systems may help prevent the rapid spread of COVID-19 through measures including infection control education, protective equipment use, and isolating patients who have been infected from the noninfected population. These and other measures may protect healthcare staffs. Nurse administrators and clinicians also play important roles in developing and promoting effective anti-infection protective environments and strategies. Policies on employment benefits and incentives may also be used to increase staff retention during outbreaks (Stone, Clarke, Cimiotti, & Correa-de-Araujo, 2004).

## Psychological and Social Support for Patients, Healthcare Professionals, and Nurses

During outbreaks of new infectious diseases such as COVID-19, uncertainty, anxiety, and panic spread as the overall situation changes quickly, particularly while the disease is not yet under control. Supporting those with the disease, those under isolation, and healthcare staffs is essential. Implementing policies and strategies to decrease conflicts stemming from disease-related discrimination and isolation is also critical.

## Research to Enhance Knowledge on COVID-19 Prevention and Management

The lived experiences, strategies, and policies related to confronting, exploring, and managing COVID-19 are important to healthcare professionals and nurses in preventing and managing future outbreaks of infectious diseases like COVID-19. In addition to basic and clinical studies, conducting studies on disease-spread prevention and the experience of supporting patients physically and psychologically will be crucial. Examining the effects of administrative strategies on disease-spread prevention in both healthcare and community settings will be valuable. Exploring the impact of cultural differences on the perception and prevention of COVID-19 will be one of the most significant issues related to the spread and management of COVID-19 across countries and cultures.

Furthermore, exploring the psychological distress and social burdens experienced by healthcare professionals and nurses during this outbreak will be vital as well. Better understanding the perceptions, stress, and concerns of nursing and other healthcare

professionals may provide critical new information that administrative systems may use to better support these professionals during future infectious disease outbreaks.

## Conclusions

The rapid spread of COVID-19 poses a serious threat to human health and is impacting severely on public health, global communications, and economic systems worldwide. Nurses are key members of healthcare teams charged to control and prevent the spread of infectious diseases. Moreover, nurses work on the front line, providing direct care to individuals infected with COVID-19. Further effort is necessary to develop strategic recommendations and to integrate new knowledge into education. The immediate efforts to control and prevent COVID-19 and to care for those who are infected remain ongoing.

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