

Roles of nurses and National Nurses Associations in combating COVID-19: Taiwan experience

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Abstract:

As the COVID-19 pandemic continues to expand worldwide, Taiwan has effectively contained the spread domestically and protected its citizens after registering its first case relatively early on 21 January 2020. Proactive preparedness and deployment by the national government, timely evidence and experience-based judgements and decision-making, information transparency, rapid response, and effective communication and measures have all been critical to combating COVID-19 in Taiwan. Nurses play a pivotal role in providing direct health care as well as providing contact tracing and care for the quarantined clients and community care services. The Taiwan Nurses Association and other nurses' associations serve a vital leadership role in advocating for nurses, raising public awareness, enhancing nursing's professional profile, and sharing experiences via national and international platforms. The implications for nursing and health policy are that we need to well prepare for any unpredicted emerging pandemic in the future. Providing adequate personal protective equipment and safe staffing should be the highest priority for the governments and policymakers around the world to combat pandemic successfully.

Keywords: COVID-19, Global Health, Nursing, Nursing Leadership, Nurses Role, Pandemic, Personal Protective Equipment, Taiwan

Introduction

World Health Organization (WHO) declared COVID-19 a pandemic on 12 March 2020 (World Health Organization 2020a), and compared to other countries, Taiwan has to date registered a relatively low number of COVID-19 cases. As of 10 June 2020, Taiwan's 443 confirmed cases of COVID-19 included 55 domestic cases (12.4%) and 352 imported cases (79.5%), while 36 (8.1%) were navy members on the fleet, and of these, seven had died (Taiwan

Centers for Disease Control 2020a). This is all the more remarkable given that Taiwan sits only 81 miles off the coast of China and was initially predicted to suffer the second highest number of COVID-19 cases worldwide due to its proximity to and frequency of flights to and from China (Center for Systems Science & Engineering of Johns Hopkins University 2020).

How has Taiwan controlled the spread of this coronavirus outbreak while other countries have not? The answer to this question has its roots in the hard lessons learned from prior experience dealing with the severe acute respiratory syndrome (SARS) epidemic in 2003. This experience helped Taiwan, both at governmental and societal levels, react relatively quickly to the COVID-19 outbreak and treat its potential harms more seriously. Border controls and wearing of face masks became routine policies as early as January in Taiwan, while hospitals quickly established readiness plans that

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included relevant protocols and the stockpiling of supplies, equipment and medications.

This article describes the quick response of the Taiwan government and of Taiwan's nurses and Taiwan Nurses Association, as a National Nurses Association, to the COVID-19 outbreak as a reference to other countries in their response to COVID-19.

Taiwan government's preparedness plan

After experience with the SARS epidemic, Taiwan government began regularly promoting the concept of infection control as well as implementing policies to prevent future epidemics that emphasized preventive health education, hand hygiene and cough etiquette. Infection control was made both a formal hospital accreditation item and an item targeted in yearly onsite inspections. As part of their continuing education, all healthcare professionals must participate in training courses on infection prevention and control. A further key factor that has likely contributed to Taiwan's low number of confirmed cases is the widespread public acceptance and adherence to infection control rules that have been enacted and promoted after 2003. Moreover, Taiwan government has actively distributed three million N95 masks and isolation gowns from its 35-day reserve stock. This distribution began in December 2019, following the finding by a nationally convened public health expert panel that COVID-19 posed a significant risk of human-to-human transmission. As of 10 June 2020, no healthcare workers in Taiwan have lost their lives to COVID-19, and only four nurses have been infected with mild symptoms and have since been cured and discharged.

The Taiwan government classified COVID-19 as a notifiable infectious disease on 15th January, and the Taiwan Centers for Disease Control (CDC) officially activated the Central Epidemic Command Center (CECC) on 20th January. A series of clear policies, and standard operation procedures (SOPs) were regularly announced and strictly executed to prevent nosocomial infections and community outbreaks. These SOPs target surveillance and containment, case identification, resource reallocation and quarantining. These procedures included a national public policy on face masks, which temporarily prohibited the export of masks, implemented a citizen ID-based mask rationing system, and established a public-access mask pre-order eMask website (<https://emask.taiwan.gov.tw/msk/index.jsp>; Taiwan Centers for Disease Control 2020b). The government's pre-emptive measures and centralized coordination of surgical-mask manufactures have been successful in ensuring adequate supplies of personal protective equipment (PPE) for frontline healthcare workers to date.

The CECC holds daily press conferences to directly provide to the public transparent, updated information on the pandemic and related control and response measures. Quick and effective communication and information transparency have been critical to raising public awareness and knowledge regarding the COVID-19 outbreak. All television networks broadcast public education information on personal protection measures necessary for different occasions, covering face mask and hand washing protocols, avoiding big gathering activities and crowded venues, and other issues. Nowadays, hand sanitization and temperature monitoring using thermal imagers have become routine in all public areas. COVID-19 testing is free to the public under Taiwan's National Health Insurance System (NHIS) and the toll-free number '1922' is manned as a single-window information hotline for COVID-19 questions and assistance requests. The abovementioned policies and strategies have helped Taiwan keep community transitions exceptionally low to date, allowed infected persons to receive comprehensive care, and avoided the need to lock down any city.

The Taiwan NHIS, established in 1995, provides universal health coverage with a coverage rate of 99.9% and accessible health services to all people. The NHIS database has recently been integrated with Immigration and Customs databases, creating a platform for big data analytics that allows real-time alerts to be generated during hospital visits based on an individual's travel history and clinical symptoms to facilitate rapid case identification and diagnosis. The system also uses app and AI software, including QR code scanning and online reporting, to check on individual travel histories during the previous 14 days. People at higher risk levels are asked to self-quarantine at home, with their current position tracked via their mobile phone to ensure compliance with quarantine restrictions (Wang et al. 2020). The asymptomatic nature of some cases during the early stage of infection has led the CECC to update control measures, including the announcement on 1st April of a new policy urging people to practice social distancing in public spaces by keeping a distance of at least 1 metre outdoors and 1.5 metre indoors (Taiwan Centers for Disease Control 2020c).

The roles of nurses during the outbreak

Working together with the government, Taiwanese nurses are heavily involved in prevention, control and treatment of COVID-19. They provide services including:

Border control and screening

Nurses provide services at airports and harbours to control suspected imported cases. They utilize technology and big

data to take history of travel, occupation, contact and cluster (TOCC) and further conduct case finding, fever screening and health assessment.

Charter flight and evacuation services

In January and March, three charter flights were sent to evacuate Taiwanese citizens from Wuhan, China, and Tokyo, Japan (Diamond Princess Cruise ship). Nurses play the key roles to fulfil this mission in protecting all passengers' health and safety.

Quarantine services

Twenty-seven quarantine centres are allocated in communities around Taiwan. Nurses are designated to assess physical and psychological health of residents evacuated from abroad. Nurse-led quarantine call centre was established to recruit nurse volunteers to follow up people under self-quarantine and early detect those need referral.

Clinical nursing services

Clinical nurses provide direct medical and social care for suspected and confirmed cases at infection control units and negative-pressure isolation wards. Mental health and psychosocial support of patients and their families are also delivered by nurses via technology and social media. Infection control nurses serve as mentors and consultants to hospitals and the public during the COVID-19 pandemic.

Community services and public education

In addition to the direct care provided by clinical nurses, nurses in schools, industries and communities implement contact tracing and provide care as part of self-health management, home quarantine, home isolation and community care services, such as case monitoring and following up. In response to government's policy, nurses also provide public education regarding proper hand hygiene, cough etiquette, mask wearing and social distancing.

In light of the large number of professional nurses involved, coordinating nurses as a group to respond effectively to this crisis may be considered half the battle.

Measures to protect nurses during the outbreak

Their long working hours and close contact with patients significantly increase the risk to nurses of becoming infected. Working closely with nursing society, the government and healthcare system in Taiwan have enacted a variety of measures specifically aimed to protect nurses and help enhance their resilience.

Appropriate PPE and training

In addition to providing adequate PPEs, hospitals ensure that every nurse understands how to properly use the equipment. Also, remote temperature detectors have been introduced and centralized health care has been implemented to reduce the frequency and duration that nurses are required to be physically presented in negative-pressure isolation rooms.

Professional and legal protections

In response to the pandemic, the government has temporarily suspended all hospital review and accreditation procedures as well as licensure renewal for nurses. To protect nurses' rights, hospitals are required to provide additional insurance coverage for nurses working in negative-pressure isolation wards. Furthermore, nurses are receiving special-hazard subsidies equal to those received by medical doctors during this crisis (Ministry of Health and Welfare, Taiwan 2020a, 2020b).

Health and safety assurance

In line with restrictive patient-visitation policies in place during this pandemic, nurses help family members communicate with patients via the telephone, mobile phone and tablet computers. To reduce anxiety about possibly infecting their family members, nurses may stay in outside accommodations that are arranged and paid for by the institution. To help address their anxiety, panic or concerns, nurses may access free hospital-based counselling and care. Nurses, who are deemed at higher risk of contracting COVID-19, are pregnant or vulnerable and are eligible for reassignment to non-COVID-19-related responsibilities. Furthermore, a clinical practicum SOP for nursing students was established to ensure safety for both students and patients.

Physical and psychological resilience

To strengthen resilience, nurses who have taken care of suspected or confirmed cases of COVID-19 may take additional 3-day and 14-day leaves, respectively. Hospitals maintain caring-support mechanisms to promote the physical and mental health of nurses.

The Taiwan Nurses Association provides leadership roles

Under the support of government, the Taiwan Nurses Association (TWNA) launched the Taiwan Nursing Now in February 2018. TWNA speaks and advocates on behalf of nurses in concert with other nursing associations and stakeholders.

Advocacy for nurses and patients' health and safety

Taiwan Nurses Association strongly advocates the health and safety for nurses and patients. It called on government's attention to postpone or terminate the last-long and large-scale gatherings to prevent the collapse of healthcare system in the beginning of the pandemic on 26th February. Through interviewed by TV channels, Ministry of Health and Welfare and national and international media, TWNA urges the health authorities and healthcare systems to provide adequate supplies of PPE, safe staffing and compensation, and protect safety, health and well-being of nurses and patients.

Enhancing nurses' profile and image

Taiwan Nurses Association has started to collect photographs, videos and stories related to the COVID-19 containment effort. These will be printed, published and otherwise promoted to gain widespread media exposure to recognize and spotlight the critical role and contribution of nurses. In early March 2020, TWNA worked with nine medical centres to produce videos, showcasing how nurses are currently working to combat COVID-19, have been posted and shared on a variety of popular social media platforms.

Experience sharing through international and national platform

Taiwan Nurses Association has been working on sharing information and the containment experiences of nurses on its official website, Facebook, Line and Twitter accounts. Furthermore, TWNA extends its appreciation to all frontline nurses to salute them for their significant contributions to protect people from the pandemic.

On 27 March, TWNA President Dr. Hsiu-Hung Wang was invited to speak on the 'Key Strategies to Combat COVID-19 in Taiwan' on ICN's first webinar. This webinar was attended by over 200 nurse leaders in over 50 countries. Dr. Wang's presentation highlighted Taiwan's anti-pandemic efforts and helped raise the national and international profile of nurses. On 15 April, Dr. Wang was invited by the Qatar Foundation and the World Innovation Summit for Health to share the experience in a virtual panel discussion entitled 'Flattening the Curve: Global Responses to COVID-19', which was attended by over 2,000 viewers from around the world.

Showing appreciation for nurses' contribution

On 12th May, International Nurses Day, the nurse leaders were invited to the Presidential Office. During the visit, Taiwan President Dr. Ing-Wen Tsai extended her appreciation for nurses' contribution to team up with other health workers to tackling the pandemic crisis and praised frontline nurses

with the words of 'This country is great because of you' via press media. At the same day, TWNA and Taiwan Union of Nurses Association (TUNA) called on hospitals and the public around the country to show gratitude to all nurses by clapping hands. An Appreciation Ceremony for frontline nurses who are taking care of COVID-19 patients will be held in August 2020.

Implications for nursing and health policy

What we have learned from the COVID-19 pandemic is that we need to well prepare for any unpredicted emerging pandemic in the future. Nurses are at the frontline who comprise more than half of health workforce and are the critical manpower to prevent the collapse of healthcare system due to any pandemic crisis. Unfortunately, according to 2020 State of the World's Nursing (World Health Organization 2020b), the number of nurses per 10,000 populations varies from 0.6 to 196. Investing in nursing is the imperative priority to increase nursing workforce. As of the early June 2020, more than 600 nurses died from the COVID-19 pandemic due to insufficient PPE (International Council of Nurses 2020). Providing adequate PPE and appropriate staffing should be the highest priority and responsibility of the governments and policymakers around the world to protect nurses' safety and save people's lives.

Conclusions

There remains great concern in many countries regarding the adequacy of currently available medical resources and supplies to combat COVID-19 effectively. This situation makes the quality and number of nurses even more critical. In Taiwan, the quick response and high vigilance of the CECC have been essential to containing COVID-19. The fight against COVID-19 requires the participation of all, including the government, healthcare workforce and the public. Nurses comprise over half of the health workforce worldwide and have the mindset and professional training necessary to effectively combat COVID-19.

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