

Concepts in Disaster Medicine

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Development of Disaster Nursing in China: From the Spirit of Nightingale to COVID-19

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Abstract

As an emerging discipline, disaster nursing is very important in disaster emergency management, but there are few mature practice models and theoretical discussions. In particular, the contribution of nursing staff in disaster emergency has not yet received widespread attention and recognition. After more than 10 y of rapid development, China's disaster nursing has gradually formed a Chinese model and Chinese experience. During the global fight against coronavirus disease 2019 (COVID-19), this article takes the nursing work in disaster emergency rescue as the perspective and briefly describes the development process of disaster nursing in China to introduce the practice and theoretical development of disaster nursing in China to nursing workers around the world. Analyzing the role of Chinese nurses in national disaster emergency response provides a reference for global disaster nursing talent capacity building. By sharing the Nightingale spirit of Chinese nurses in disaster emergency, we will show people all over the world the professional value of disaster nursing practitioners and pay tribute to the nursing staff engaged in disaster emergency work.

As the largest developing country, China has some of the worst natural disasters in the world, and its incidents have gradually increased in recent years.^{1,2} At the same time, various types of accidents along with public health and social security incidents are prone to occur frequently. Unfortunately, the factors affecting public safety are increasing, all of which pose serious challenges to people's lives, property, and general safety^{3,4}; therefore, emergency disaster management has become an important part of China's national governance system.

Disaster nursing refers to the systematic and flexible application of unique knowledge and skills related to disaster medical care by nursing staff in the event of a disaster, while cooperating with other professional fields to carry out tasks and reduce further hazard risks to public safety during disasters.⁵ There is a big difference between a disaster site and a hospital environment; at a disaster site, the environment and conditions are poor, supplies are scarce, tasks are urgent, and the psychological pressure is enormous. When disaster strikes, nurses play multiple roles, such as emergency personnel, triage, and care providers, for both physical and psychological casualties, to name but a few.

Nurses are the largest group of health professionals in China; at the end of 2019, the number of registered nurses nationwide reached 4.45 million.⁶ The Chinese nursing teams played an important role in the emergency response against severe acute respiratory syndrome (SARS) in 2003, the Wenchuan earthquake in 2008, and the Ebola outbreak in 2014–2015.⁷ In 2020, a total of 68% of the medical staff who assisted the Wuhan New Coronary Pneumonia epidemic were nurses. They played a vital role in the medical treatment of critically ill patients, treatments such as life care, therapeutic care, technical support, disinfection, and isolation,⁸ emphasizing the important role nurses play in China's national and international disaster and emergency rescue.

The Development Process of Disaster Nursing in China

After the “September 11” incident in 2001, the topic of “rescue medicine” began to attract global attention.⁹ Disaster nursing came into being along with rescue medicine. From 2004 to 2006, Chinese nurses represented by Dean Zhang Li Yan of the Chinese Armed Police General Hospital participated in the rescue of the Indian ocean tsunami, and the Pakistan and Indonesia earthquakes,¹⁰ summing up the disaster rescue nursing experience, and completed the theory of disaster nursing preliminary discussion with practice.

After the Wenchuan earthquake in 2008, the Disaster Nursing Professional Committee of the Chinese Nursing Society was established in 2009,¹¹ and received the Disaster Nursing Training Program from the World Health Organization (WHO). Since then, China has been devoted to the study of disaster management, and the discipline of disaster nursing in China has grown rapidly. In 2011, the Chinese Nursing Society joined the World Disaster Organization¹² to build a platform for the development of disaster nursing within China.

The Chinese Nursing Society returned to the International Nursing Association (ICN) in 2013,¹³ and created a database of disaster experts. The 3rd World Disaster Nursing Conference was held in Beijing in 2014,¹² consisting of 1389 representatives from 13 countries conducting talks on topics such as disaster rescue, disaster building capacity, disaster management, and disaster psychology. The Disaster Training Program of the Chinese Nursing Society was certified by the International Nurses Association (ICN) in 2015, and published its first training textbook “Nursing Disasters” and was designated by ICN to be the only training book required.¹⁴ In 2017, the successful holding of the 9th National Natural Disaster Nursing Symposium and the 3rd ICN Disaster Nursing Training Course of the Chinese Nursing Society¹⁵ indicates that China’s disaster nursing careers have taken a new step forward.

As of 2020, a total of 27 of the country’s 34 provinces have established special disaster nursing committees to carry out practices with broad coverage, new content, and continual improvement, indicating the commitment China has to the development of disaster nursing. China’s disaster rescue medical science has accumulated solid practical experience; however, if compared with other more developed countries, China’s disaster nursing education started late, educational content has not been unified, and disaster education and training has not been encompassed into the basic nursing education curriculum.¹⁶

Only a few higher nursing schools offer disaster training. Most general nursing colleges only present disaster nursing in theory form, as chapters in community nursing or emergency medical courses without any practical experience.¹⁷ Universities that offer disaster nursing courses include Sichuan University, Jiangsu University, Dalian Medical University, Jinzhou Medical University, Nanchang University, Shanxi Medical University, etc. In 2012, the School of Nursing of Jilin University began enrollment of graduate students in the direction of critical care and disaster nursing research. In 2013, the Hong Kong Polytechnic University and Sichuan University jointly established the School of Post-Disaster Reconstruction and Management, and formally began the systematic cultivation of postgraduates in disaster nursing. However, there are still fewer Chinese medical colleges that carry out postgraduate training in disaster nursing.

As of April 2019, the WHO has certified 25 international emergency medical teams in 15 countries, of which China has 5 and is 1 of the largest in the world.¹⁸ The same year, China’s National Emergency Medical Team built 49 teams,⁷ which has laid a solid foundation for the development of China’s disaster rescue nursing. However, China’s disaster nursing is still in its infancy and exploratory stage; it has yet to establish disaster nursing departments⁵ and has yet to form a complete discipline system.²

The Role of Nurses in Disaster Relief Nursing in China

The *Lancet* pointed out that Chinese nursing teams are facing a critical dilemma with a lack of well-trained nurses.¹⁹ More skilled nurses are required at a disaster site.²⁰ As China’s largest health professional group, nurses are not only the executors of medical orders, but also play an indispensable role in the preparation and coordination of emergency materials and human resources. In 2011, nursing became a first-tier discipline in China,²¹ equal with clinicians. Medical personnel are of equal importance in an emergency rescue, because medical rescue in the disaster area is not to diagnose and treat.

Disaster nursing focuses on the scene, which is more arduous, time critical, and complicated than general nursing work, involving prehospital emergency care, emergency surgical care, intensive care, infection care, and psychological care among other vital nursing duties. Disaster nursing requires interdisciplinary skills, strong social coordination, and higher requirements of professional nurses. Since the establishment of China’s International Rescue Team in 2001, Chinese nurses have been working on the front line of emergency rescue, whether at earthquake sites, such as Wenchuan, Yushu, and Lushan in China, or providing international assistance at the tsunami in Indonesia, the Futian earthquake in Japan, the nuclear rescue site in Japan, and the Ebola outbreak in Africa.^{7,22,23} In 2020, a total of 28,600 nurses are fighting the coronavirus disease 2019 (COVID-19) pandemic, becoming the front-line fighters against the epidemic in China. Among the 42,600 members supporting the Hubei medical teams, there are 28,600 nurses, accounting for nearly 70%; a total of 25,300 of which were female nurses, accounting for nearly 90% of the total number of nurses in Hubei. Nurses born in the 1980s and 1990s accounted for 90% of the total number of nurses; of these, nurses born in the 1990s accounted for 40%. From a professional perspective, they mainly included nurses in specialties, such as critical illness, respiratory, infection, and continuous renal replacement therapy. During disasters, Chinese nurses play a huge role, whether it is to rescue victims at the scene or to help them recover from their physical injuries or psychological trauma after the disaster.

The ICN released version 1.0 of the Disaster Care Competency Framework in December 2009.²⁴ Because of its reasonable structure and comprehensive design, it has become the most widely used theoretical framework guide in the practice and application of disaster nursing in the world.²⁵ West China School of Nursing, Sichuan University, developed a clinical nursing disaster assessment capability tool for Chinese clinical nurses based on the 1.0 version of the ICN framework,²⁶ proposing that Chinese nurses should play an organizational management role, demonstrate professional skills, provide postdisaster psychological crisis intervention, carry out disaster nursing research tasks, and implement the role of infectious disease prevention and control.

ICN released version 2.0 of the Disaster Care Competency Framework in December 2019.²⁷ The framework involves general registered nurse practitioners (level I nurses) and registered nurses who wish to become disaster responders (level II). The framework includes 8 areas, namely, preparation and planning, communication, incident management, security, evaluation, intervention, recovery, and law and ethics. However, as of yet, there are no reports on the application of version 2.0 of the framework in China.

Existing research on disaster nursing capabilities in China mostly adopts the Delphi method to carry out research and design, and the research content is limited, such as the study of the ability of nurses during disaster recovery and disaster nursing readiness of male nurses.^{28,29} Most of the existing evaluation tools are mainly based on the ICN framework version 1.0 and lack the foundation of previous research, the setting of dimensions and items, and lacks a reliable theoretical basis.³⁰ In addition, due to the differences in the functions and level of authority of Chinese nurses than those of other countries, it is difficult for China’s disaster nursing to strictly follow the model of those countries. Related research also shows that Chinese nurses can currently assume the responsibilities of disaster response and management, but still need disaster training.^{31,32} Obviously, the abilities and standards of nurses for disaster relief in China have not yet been unified, which is also the focus of our research.

The “World Nursing Status Report 2020” released by the WHO makes it clear that disaster nursing is the focus of attention. WHO has designated 2020 as the “International Year of Nurses and Midwives.” May 12 is International Nurses’ Day. This year’s theme for our country is “Salute to the teams of nurses and fight the epidemic together.” The National Health and Health Commission issued the “Notice on Doing a Good Job in the May 12th Nurses’ Day in 2020,” emphasizing that organizations at all levels in the country must care for the nurses, take care of the physical and mental health of nurses, implement nurses’ treatment guarantee policies, and effectively reduce the burden on nurses, safeguard nurses work place safety, and increase the general public’s awareness of nursing work, etc.³³ In 2020, China’s master of nursing enrolls 73 academic colleges and 107 professional colleges. There are 28 doctoral enrollment colleges, and the level of nursing education in China has been significantly improved.³⁴ At present, the nursing teams in China are growing continuously, accounting for nearly 1/4 of the total number of nurses in the world, and the professional literacy and service abilities continue to improve.

The Nightingale Spirit of Nurses in China’s Disaster Emergency Management

Inheriting the Nightingale Spirit

Florence Nightingale is the founder of modern nursing and the founder of modern nursing education; she is also the pioneer of the International Red Cross Movement.³⁵ The earliest attempt to study disaster nursing was Nightingale.³⁶ During the Crimean War of 1854 to 1856, Nightingale fully organized field hospitals to carry out on-site emergency medical work, reducing the casualty mortality rate from 42% to 2%.³⁷ She put her personal safety out of consideration and served the wounded soldiers with a spirit of humanity, fraternity, and dedication, becoming the role model for nursing workers worldwide. Since then, people have changed their perception of nurses. In 2019, when COVID-19 broke out in China, 19,800 medical staff first assisted in Wuhan, of which 14,000 were nurses. This team changed people’s perception of Chinese nurses.³⁸

Nightingale dedicated her life to nursing, and the Nightingales spirit has become synonymous with the nursing spirit.³⁹ 2020 is the 200th anniversary of Nightingale’s birth and is also the “International Year of Nurses and Midwives.” Chinese nurses bravely faced COVID-19, inherited and practiced the Nightingale spirit, and made the world take notice and understand the important role and strength of a nursing team.

Humanistic Qualities That Respect Life and Care for Life

Disaster relief must face challenges, such as fatigue, personal suffering, and the test of life and death at all times.⁴⁰ From the day Nightingale founded nursing, nursing has always been closely linked with the humanitarian spirit of caring for life and saving lives. In the fight against the COVID-19 epidemic, the workload of Chinese nurses is extreme, from professional nursing to life care, ventilator management, observation of vital signs, prospective prevention of complications, airway management, artificial membrane lung care, prone position ventilation, bedside hemofiltration, specimen collection, nutrition support, disinfection and isolation, humanistic care, psychological care, stress injury care etc., all of which must be completed by nurses. The nursing teams played a vital role in the response to the COVID-19 epidemic.

COVID-19 is a severe infectious disease, and family members cannot accompany the patients. Chinese nurses replaced the role of family members, giving patients needed comfort and company. These nurses go beyond the scope of psychological counseling, providing more soothing, humanistic literacy that is patient-centered.

Responsibility

The Nightingale Award is the highest honorary award that the ICRC bestows for outstanding contributions to nursing. Since our country first participated in the Nightingale Medal in 1983, there have been 80 Nightingale Medal winners to the present day.⁴¹ They inherited the Nightingale spirit of Chinese nurses in the domestic and foreign medical rescues against SARS, Ebola, earthquake medical rescue, flood relief, peace-keeping medical care, and other domestic and foreign medical aids.

China’s Nightingale Volunteer Nursing Service Corps were approved and named by China’s Red Cross Federation and were established in Beijing in July 2007.⁴² This is a volunteer service organization composed of Nightingale Medal winners, nursing professionals, nursing school students, and caring people from all walks of life. It is the only volunteer organization in China with nursing specializations. At present, nursing volunteer services have spread to 31 provinces, municipalities, autonomous regions, and municipalities in China, and 538 teams have been established, encompassing more than 300,000 nursing volunteers. Whether it is international or domestic rescue, Chinese nurses have stepped up and faced the disasters head on.

Summaries and Outlook

Disaster nursing is an important part of disaster emergency management. The nursing teams are very important in disaster emergency construction, which deserves the close attention of the global society. Disaster nursing in China has developed rapidly, injecting strength into the development of emergency disaster management in China and the development of global disaster nursing. Through the display of disaster nursing work in China, we call on the world to pay attention to the development of disaster nursing disciplines and understand the status and role of nurses in disaster relief. We look forward to working with disaster relief colleagues all over the world to expand the scope and development of disaster care so that nursing staff can play a greater role in emergency disaster response and rescue.

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care experts who participated in the study were obtained after reading the informed consent and ensuring that they were voluntary.

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