Discussion

Necessity for disaster-related nursing competency training of emergency nurses in China

Yehua Xu*, Xia Zeng
Sichuan Provincial People’s Hospital, Chengdu City, Sichuan, China

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ABSTRACT

Purpose: Discuss on the disaster-related nursing competency training of Chinese emergency nurses.

Methods: By retrieving concerned literatures, summarize the current situation of disaster responses of Chinese emergency nurses and the impact factors of disaster-related nursing competencies.

Results: The disaster preparedness of emergency nurses in China is at a medium level and must be improved. The impact factors include the educational degree, gender, disaster relief experience, training, and mechanisms for domestic disaster relief.

Conclusion: As a direct response to disaster, emergency nurses should improve the comprehensive ability of disaster nursing by systematic disaster nursing education and professional training.

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Disaster refers to any events that can cause facility damage, serious economic losses, casualties, human health hazard, and deterioration of community health service conditions. Disaster occurs when the destructive power exceeds the compensating capacity of the affected region and inhabitants need to seek external assistance [1]. In recent years, world disasters have occurred frequently and gradually shown large-scale, long-term, and intensive trends. Mass casualties and damage derived from disasters threaten the health care system and test the competencies of doctors and nurses. Emergency nurses, which are an important part of the disaster rescue team, constantly fight in the front line of the operation. An appropriate disaster preparation plan is a key to effectively and timely address disasters. The degree of disaster preparedness of emergency nurses directly determines the success of disaster-related nursing, which considerably affects disaster responses and recovery of the injured person after the calamity [2,3]. However, surveys [4–7] show that most nurses are incompetent in disaster-related nursing.

Disaster-related nursing education and training are vital for disaster prevention and mitigation. However, disaster-related nursing education began late in China, and clinical nurses in China have not received systematic disaster-related nursing training or higher education; hence, these nurses lack the required disaster-related nursing knowledge and skills.

* Corresponding author.
E-mail address: 155122743@qq.com (Y. Xu).

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In the 512 Wenchuan, 414 Yushu, 420 Lushan, and 425 Nobiore earthquakes, emergency nurses in our hospital successfully completed rescue missions and accumulated substantial practical experience in rescue. However, response to these disasters revealed the lack of disaster-related professional knowledge and rescue skills in some nurses. Therefore, disaster emergency nurses from different levels and positions must be trained through different forms of education and a scientific, professional, standardized, and systematic disaster relief nursing team must be established.

1. Status and role of emergency nurses in disasters

Since its establishment in 2008, the emergency center in our hospital has constantly improved the infrastructures, acquired advanced technology and equipment, and optimized the layout of various professional disciplines; the center has also gradually established a set of integrated management systems for pre-hospital, in-hospital, and critical care emergency treatments as well as set up a full range of equipment, young staff, and high-level emergency medical personnel. Emergency nurses serve as vanguard of disaster rescue and are involved in disaster site rescue, classification of the injured, transportation, safety nursing, psychological nursing, and health education; these nurses also participate in health and quarantine in natural and man-made disasters and public health emergency rescues both locally and abroad [5,10]. Emergency nurses are an integral component of disaster relief operations [11].

2. Current situation of disaster responses of emergency department nurses

Wang [2] studied the current situation of disaster responses of emergency department nurses; the results indicated (1) low participation of disaster rescue nursing personnel; (2) insufficient training of nurses in the emergency department triage; (3) lack of knowledge on disaster nursing; (4) lack of comprehensive, standardized, and systematic disaster nursing education; (5) insufficient disaster nursing continuing education and training efforts; and (6) research lag on disaster nursing in China.

The level of disaster preparedness of nurses indicates their ability to respond to disasters. This factor also determines the speed and efficiency of the entire disaster relief team. According to domestic and foreign surveys, the disaster preparedness of emergency nurses in China is at medium level [12–14] and must be improved.

Li Yule [9] and other domestic scholars investigated the disaster nursing capacity in China; these scholars concluded that the overall level of disaster nursing ability is low, resulting in weak disaster responses and highlighting the shortage of competent nurses for responding to disasters. Li Zhen [12] and other researchers reported that most emergency nurses know the importance of disaster nursing but lack relevant knowledge and training. Moreover, the level of participation of these nurses is low.

3. Analysis of factors influencing the disaster nursing ability of emergency department nurses

3.1. Educational degree

Effective disaster responsiveness is influenced by high education degree, long educational duration, great content of learning, and abundant disaster knowledge and skills of emergency nurses [5,12]. In China, the educational degree of nursing staff is relatively low. The “Chinese health statistics yearbook data in 2013” released by the Chinese National Health and Family Planning Commission reported that the percentage of Chinese nurses with college degrees or higher was 56% in 2012, and those with undergraduate and higher education was only 10.6%.

3.2. Gender

In the study of Li Zhen [12], the knowledge reserve of male nurses was higher than that of the female nurses. Disaster relief is usually faced with harsh field conditions, heavy load, and intensive and long-term work. Male nurses exhibit improved physical fitness, endurance, and other physiological advantages, especially in moving, lifting, transporting, and other physical work. When faced with emergency incidents, male nurses are highly resilient against pressure and are willing to accept challenges and difficult work to confront negative events in the disaster site. These advantages could explain the higher interest of male nurses on knowledge in disaster nursing [15].

3.3. Disaster relief experience

Nurses who participated in disaster field rescue have gained adequate practical experience and psychological endurance. These nurses understand the characteristics of rescue work and can view the shortage of disaster-trained nurses from multiple angles. Nurses are targeted to strengthen relevant knowledge and skills to improve the disaster nursing capacity of the country. Li [6] stated that disaster field rescue enables nursing staff to realize the importance of improving disaster rescue ability to enhance their awareness and motivation to learn.

3.4. Training

Training course, content arrangement, method, and training cycle affect the ability of emergency nurses to respond to disasters. Li fan [16] compared disaster-related nursing education and training locally and abroad in terms of contents and forms of education and training practice. The results indicated shortage in disaster-related nursing education and training resources in China, particularly few disaster-related nursing courses in colleges, in comprehensive training contents, and simple training formats. This study highlights the need and
urgency of developing disaster-related nursing education and training.

3.5. Others

Disaster nursing science started late in China and is currently in the exploration stage. The present related system and mechanism of disaster prevention, disaster reduction, and disaster relief are unsound. Disaster relief work places a high demand on emergency nurses. Except for participating in disaster emergency rescue, nurses should possess certain disaster management abilities, particularly in disaster prevention, mitigation, preparedness, and relief as well as in post-disaster reconstruction work. A disaster nursing professional training system must be developed rapidly to overcome the insufficient disaster-related nursing competencies of emergency nurses [17].

4. Recommendations on improving the disaster nursing ability of emergency department nurses

4.1. Strengthening the systematic disaster nursing continuing education and training

Different training plans must be developed in accordance with different levels of disaster nursing knowledge. Local and foreign studies in recent years suggested that disaster nursing training content include the following aspects [16,18].

4.1.1. Disaster nursing theory training

This type of training should tackle the following: (1) general knowledge of disaster includes disaster-related concepts, such as treatment techniques for common disaster diseases, disaster epidemiology, and disaster emergency preparedness of nurses; (2) disaster psychological intervention, such as psychological counseling for disaster victims and rescue workers, management of posttraumatic stress disorder, and communication skills; (3) protection of disaster rescue worker's occupation, including knowledge about the environment, epidemics, safety, and survival; (4) disaster nursing management, which covers hospital infection control and ambulance management, nursing information management, and disaster relief coordination; (5) common emergency nursing knowledge, such as emergency nursing principles of thoracoabdominal injury, cranioencephalic injury, burn, extrusion, fracture, and shock syndrome; and (6) chemical, biological and nuclear knowledge training.

4.1.2. Disaster nursing skills training

This type of training should include the following: (1) professional skills training, including triage, judgment of injury severity, wounded transport, nursing records, medical staff occupational protection, and accident treatment skills; and (2) first-aid skills training, which covers basic first-aid skills, such as cardiopulmonary resuscitation, bleeding bandage, fracture fixation, artificial airway establishment, emergency use of drugs and equipment, use of rescue equipment, and survival skills.

4.1.3. Disaster rescue plan and rehearsal

The disaster rescue plan includes a disaster warning system, an emergency plan, and a rescue plan for groups of patients.

4.1.4. Preparation of manpower and material resources

A healthy body is a basis for rescue work. Emergency nurses should exercise, enhance their own physical fitness, and be prepared for rescue at any time. A sufficient supply of emergency material reserves, including life and medical supplies, must also be maintained.

4.2. Variety of training methods

Instead of simple model of traditional classroom teaching, various methods, such as theory teaching, simulation exercises, role play, practice skills, movie watching, and case discussions can be combined. Experts can be invited to provide comments and recommendations. Enthusiasm should be instilled in nurses. Moreover, nurses should be trained to analyze problems from different points of view and master learned knowledge for practice and improve practical rescue skills. In recent years, an increasing number of experts have promoted the use of simulation scene, in which psychological, technological, and first-aid training are integrated. This approach would not only exercise the ability of nurses to respond to the scene, judgment agility, and infeld disposal ability but also exercise team collaboration, communication, and other skills. In this training process, each nurse can determine one's own weakness in a specific training. The teachers with abundant rescue experience can be invited to give advices using actual rescue scene pictures, audio, video, cases, and their own rescue experience [19].

4.3. Strengthen scientific research of disaster nursing

Nurses should be encouraged to actively carry out disaster nursing research, summarize, promote relevant experience in disaster nursing, and expand the field of disaster research [20].

4.4. Take advantage of male nurses

In disaster relief cases, male nurses possess unique advantages over female nurses in both physiological and psychological aspects, rendering the former more suitable for disaster relief work. Therefore, male nurses must focus on their daily work, such as mental health, work performance, learning and communication platform, favorable growth environment, and confidence and pride in nursing work.

4.5. Others

With increasing need for international disaster relief, basic English language training should be included in the routine training plan. Domestic and international communication and cooperation must also be improved. Nurses should learn from domestic and international research and experience on disaster nursing to improve disaster nursing ability.
5. Conclusion

China commonly encounters natural and man-made disasters. As a direct response to disaster, the disaster nursing ability of emergency department nurses directly affects the result of disaster rescue. To address the low level of preparedness of emergency nurses for disaster relief, systematic disaster nursing education and training must be strengthened. The ability of emergency nurses for disaster nursing must also be improved to reduce community loss and health hazards caused by disasters.

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