



Editorial

COVID-19 epidemic: Hospital-level response

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COVID-19 is a serious threat to public health, worldwide (1, 2). This new viral disease is the third coronavirus epidemic in the 21st century, following Severe Acute Respiratory Syndrome (SARS) and Middle-East Respiratory Syndrome (MERS) (3, 4). Due to the spread of the disease, the World Health Organization used the word pandemic for the disease on March 11th 2020(5).

The new coronavirus epidemic first began in Wuhan, China in December 2019. Since it is highly contagious, many countries are involved now (2). As of February 23rd, 2020, it is reported that 76936 cases were infected in China and 1875 outside China (1, 6).

The new coronavirus epidemic has probably begun through contacts between humans and animals or as a result of any contacts at seafood market in Wuhan, China (3). The major transmission method is through respiration; however, it is unclear why the virus is so easily transmitted among individuals (1).

Symptoms of this virus include fever, coughs and respiratory distress. The symptoms of the new corona virus will appear within 2 to 14 days after infection. Preliminary data have shown that the elderly and people with special health conditions or a weaker immune system are more likely to be infected with severe illness (1). Various methods have been proposed to protect against the virus, but more emphasis has

been on precautionary measures to control and prevent infection such as staying home during illness and performing respiratory and hand hygiene exercises (1).

Despite all the individual and public health precautions and measures, the disease affects a large number of people in different countries and some of them should refer to the hospitals. Patients with symptoms such as fever, dry coughs and respiratory distress and those with more severe forms of the illness are usually hospitalized for further treatment. Moreover, the disease has a high mortality rate of between 3 and 15% (2).

The World Health Organization has released guidelines on how countries should prepare to deal with the COVID-19. These preparations include monitoring patients, testing samples, infection control at health centers, maintaining necessary and appropriate resources, and communicating with the public about the virus (7).

It is clear that the implementation of these measures is, to a great extent, the responsibility of the health sector and especially nurses. Nurses are considered as one of the key components in managing hospitals and the health care system in Iran and around the world. However, health care personnel, especially nurses who care for suspected or patients with confirmed coronavirus at the hospitals are at risk of infection and the related challenges and consequences (3, 6). These individuals may have the fear of transmitting the virus to their family, friends, or coworkers (6). In addition, recent studies on Severe Acute Respiratory Syndrome (SARS) have shown that health care personnel have experienced

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problems such as anxiety, depression, fear and hopelessness (8).

In this letter, we describe the actions taken by the nursing system of the hospitals in the cities in Iran in response to the COVID-19 epidemic.

Human resources management

Initially and in the early stages, nursing managers and supervisors contacted universities in order to prevent students from taking part in clinical settings and to cancel their practicum. They also prohibited nurses with diseases such as diabetes, hypertension, and cancer. And, in general, they granted hospital leave to the nurses with high risk of infection or those with any member of in their family who is prone to the disease. Volunteer forces were then used to make up for the shortage of staff. It is also decided to provide nurses with hospital-related accommodation so that they would not be in touch with the environment and that the proper nutritional diet was used to strengthen their immune system. Besides, nurses' problems were identified by forming on-line and virtual groups and efforts were made to resolve them. In case of infection, those nurses would be excluded from the treatment team and replaced by others.

Personnel training

In order to raise awareness and knowledge of health professionals, especially nurses, they were provided by on-line trainings on how to protect and prevent from coronavirus. In addition, related on-line trainings were also designed and provided for other members of the community.

Patient management

Initially, in order to be able to use all the capacity of hospitals, the managers tried to discharge patients who were in better condition or to admit them to other hospitals or centers. They also closed the operating rooms and did not accept elective patients. In order to prevent patients from referring to the hospitals, separate clinical centers were

assigned to visit patients who were suspected to COVID-19. A follow-up call center was also set up for patients who did not need to be hospitalized and were receiving care at home. Patients who were admitted to home stay were contacted on a daily basis and home care nursing teams were provided if needed. In addition, outpatient centers were established in collaboration with the Red Crescent community and volunteer forces. Moreover, there were restrictions or prohibitions on visiting wards where patients infected by COVID-19 were admitted.

Facilities and resources management

Due to the limitations and the possibility of higher hospitalization in the coming days of the epidemic, attempts were made to make the best use of the available resources and facilities. To do so, it was sought to utilize the resources and facilities and the experts in crisis management in coordination with other hospitals. It was also sought to organize donations to fund required equipment such as personal protection kits, masks, gloves and disinfectants. In addition, due to the lack of adequate equipment and facilities for the treatment of critically ill patients, specialized hospitals such as psychiatric or gynecological hospitals should be excluded from the coronavirus care cycle. Because of the increasing number of patients, it was decided to coordinate with other institutions in order to build field hospitals.

Conclusion

In epidemics, health personnel, especially nurses, are at the forefront of the fight against the disease. Nurses should take care of people who are experiencing severe forms of the disease and should do so for long hours using protective equipment. Therefore, in addition to providing adequate protective equipment, they may need implementation of public health measures in a way to help reduce the number of new infected cases and reduce the burden placed on the health care team. Hence, public education and compliance with health

guidelines by the people should be highlighted so that nurses can provide better care to those in need.

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