



Nursing and Care Practice Strategies in the Coronavirus Disease-2019 (COVID-19) Pandemic

Yeni Koronavirüs Hastalığı-2019 (COVID-19) Salgınında Hemşirelik ve Bakım Uygulama Stratejileri

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ABSTRACT

The coronavirus disease-2019 (COVID-19) is a highly contagious disease, which has human-to-human transmission through droplet and contact. It commonly manifests with fever, dry cough, myalgia, and dyspnoea; the severity of this disease may range from mild to severe or critical. Currently, there is no definitive treatment or vaccine for COVID-19. The only evidence-based management of the disease is isolation and supportive care. Therefore, nurses play an important role in the management of the disease. This evidence-based, comprehensive literature review describes the importance of initial assessment, triage, sample collection, patient care with mild to moderate symptoms, critical patient care, and nursing practices in patient management during the COVID-19 pandemic.

Keywords: Coronavirus, nurse, prevention

ÖZ

Yeni koronavirüs hastalığı-2019 (COVID-19), damlacık ve temas yoluyla insandan insana bulaşan oldukça bulaşıcı bir hastalıktır. Genellikle ateş, kuru öksürük, kas ağrısı ve dispne şeklinde kendini gösteren, hafif, şiddetli veya kritik olarak tanımlanan bir hastalıktır. Halen COVID-19 için kesin bir tedavi veya aşı bulunamamıştır. Hastalığın kanıta dayalı tek yönetim şekli izolasyon ve destekleyici bakımdır. Bu nedenle hastalığın yönetiminde hemşirelerin büyük bir rolü vardır. Bu kanıta dayalı, kapsamlı literatür incelemesi; COVID-19 pandemisinde hasta yönetiminde ilk değerlendirme, triyaj, örnek toplama, hafif - orta şiddette semptomları olan hasta bakımı, kritik hasta bakımı ve hemşirelik uygulamalarının önemini anlatmaktadır.

Anahtar Sözcükler: Koronavirüs, hemşire, korunma

Introduction

The coronavirus disease-2019 (COVID-19), which first appeared in Wuhan, China in December 2019, was a virus that spread rapidly all over the world, causing severe acute respiratory syndrome and pneumonia (1).

With the spread of the COVID 19 in the world and the start of the pandemic process, some changes had to be made in health services in many parts of the world. Postponing surgeries, closing outpatient clinics, reducing daily surgeries and emergency services

can be counted among the examples to be given. This process was very difficult for health professionals due to high risks arising from the working environment and tragically loses of lives. An issue that changes the perspective in healthcare practices and that we have to pay more attention to is the risks of COVID-19 care and the tragic death of healthcare professionals (2).

The purpose of this review is to provide information about nursing and care practice strategies within the scope of COVID-19 due to the increasing need for the care role, which is the main purpose of nursing, in a short time during the pandemic.

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Nurses During the Pandemic

A multidisciplinary approach is needed in the prevention, control and protection of the pandemic. Nurses working in hospitals designated within the scope of the pandemic play a critical role in the control of COVID-19 (2). The workload of nurses providing care to patients with COVID-19, their families and the community is quite high, and it reaches the upper limit. Nurses serve at the forefront, taking great responsibility in care of patients with COVID-19 that require hospitalization. Nurses who spend a long time with the patients need care practices more than ever in this process (3-5).

The COVID-19 carries a high risk for nurses. Because asymptomatic progression of the disease increases the risk of transmission in some patients. In particular, virulence depends on the severity and degree of infection in the patient. In the literature on the subject, it is emphasized that the daily working hours exceeding 10 hours due to the large number of patients and the low number of health personnel are the reasons for the high incidence of infection in healthcare professionals. In addition, extreme fatigue and stress increase the sensitivity to COVID-19 by causing weakness in immune system (5,6).

As the infection spreads rapidly, there is difficulty in accessing personal protective equipment, so the rate of infection spread among healthcare professionals is increasing. Thus, the rate of transmission of infection between visitors, staff and patients increases. All personnel in the department will have to stay in quarantine for 14 days in case of contamination in any healthcare professional (5,6).

In order to prevent transmission from the patient to the healthcare professionals, necessary precautions should be taken, covering the entire process from the patient's admission to the hospital until discharge. The team involved in the care of patients with COVID-19 should consist of nurses experienced in patient care. Inexperienced nurses must work under the guidance of this group and there must be a leader coordinating the team. When the COVID-19 pandemic first appeared, it was important to share the duties among nurses, to ensure employee safety, and therefore to ensure the sustainability of health services (5).

Nurses, one of the most reliable health professional groups, play a key role in providing the necessary education on the prevention of diseases and reducing the spread of false information. It is among the duties of nurses to be aware of the symptoms of the disease, to provide and maintain infection control measures, and to provide the best care to the patient and their relatives. For this reason, the COVID-19 pandemic is a period in which nurses use their consultancy and educator roles at the highest level (3,7).

Points that the healthcare professional should pay attention to during the COVID-19 pandemic (8):

- Triage protocols should be established for acute respiratory tract infection symptoms at first admission.
- Hospital entry points should be restricted.

- In hospital applications, individuals should be given a face mask and should be told to wear it constantly.
- A quick anamnesis should be taken from the patients.
- Patients with suspected COVID-19 should be isolated quickly and safely.
- The healthcare team must use protective equipment.
- They should wash their hands with soap and water or alcohol-based hand washing products.
- While coughing and sneezing, the mouth must be covered with a handkerchief.
- Touching the face with unclean hands should be avoided.
- Frequently touched objects and surfaces should be cleaned and disinfected.
- Close contact with individuals should be avoided, a distance of 1.5 m should be left in between
- Closed and crowded areas should be avoided.
- Protective equipment should be used to minimize the risk of exposure of healthcare professionals to COVID-19.
- Two separate areas should be created for healthcare professionals to put on and take off their protective equipment.
- Protective equipment can only be tolerated for a few hours as it raises body temperature.
- Care providers should notify the competent units when they have complaints of dry cough, fever, sore throat or come into contact with individuals diagnosed as having COVID-19. They should be tested immediately and quarantined for 14 days according to the test result.
- Shifts should be arranged for nurses to rest. This arrangement should be every 2-3 hours for the health personnel who care for isolated patients.
- Hospitals should be designed as intensive care units, including operating rooms.
- All nurses should be trained to work in the intensive care unit.
- Nurses should be organized according to their knowledge, skills and experience, in such a way that they can care from complex patients to stable patients.
- Patient records are very important for both the hospital and the patient and their relatives. All daily notes should be kept electronically by physicians and nurses.
- Due to the increased stress and panic environment during the pandemic, the mental and psychosocial health of caregivers is as important as their physical health.
- Avoid contact with patients who are coughing, have high body temperature and have difficulty in breathing.

- Avoid sharing objects that come into contact with the mouth.
- Shaking hands should be avoided.
- Standard rules such as hand and respiratory hygiene, safe waste management and sterilization of equipment should be followed.
- In order to reduce the workload of nurses, nurse planning should be done in such a way that one nurse per patient.

Things to do in care and treatment for individuals diagnosed as having COVID-19 (8-12);

- If the patient's hemodynamics is good, prone position should be given. In the literature, it is stated that applying the prone position for a minimum of 12 hours a day increases oxygenation and reduces mortality.
- In individuals with severe acute respiratory distress, it is recommended to keep the individual in the prone position for 12-16 hours in order to maintain mechanical airway patency.
- Vital signs should be followed up at frequent intervals.
- Bilateral lung sounds should be listened to.
- The patient's pain and consciousness should be evaluated.
- It is recommended that patients in the intensive care unit stay in negative pressure rooms.
- It is recommended that at least 3 specialists (physician and nurse) be assigned to ensure a safe prone position for each patient.
- Visitor entry should be prohibited in intensive care units. However, video calls can be made to ensure communication between the patient and their relatives. Negative pressure system must be applied to reduce droplet and aerosol exposure in patients hospitalized with the diagnosis of COVID-19 in intensive care units. In cases where there is no negative pressure system, the room doors should be kept closed and the number of rooms should be increased.
- Patient rooms should be single occupancy, if there is no single room, a distance of at least 1-1.5 meters should be left between patient beds.
- Every material used for patients should be patient-specific.
- Oxygenation of patients should be monitored frequently and it should be ensured to maintain it within normal limits.
- It is very important to intubate patients at the right time. For this reason, the respiratory functions of the patients should be monitored frequently.
- Non-rebreathing reservoir masks should be used in patients without dyspnea, and non-invasive respiratory support systems should be used in patients with dyspnea.
- Heart rhythm and rate, blood pressure and other organ functions should be monitored continuously by monitoring sick individuals.

- Due to the long-term prone positioning, sick individuals should be followed up frequently against the risk of pressure injury.
- Fluid therapy should be carefully managed and balanced solutions should be selected in terms of the risk of dehydration. Edema must be checked.
- Considering comorbidities, especially in elderly patients, is very important in terms of care planning.
- It is very important to follow the patient's hourly intake and output. If there is a urinary catheter, it should be taken care of.
- Evaluation of capillary refill rate, body temperature and perfusion of sick individuals is very important.
- If the patient is not intubated, oral feeding should be supported, enteral nutrition should be preferred in patients whose oral intake cannot be maintained.
- Gastrointestinal system functions and aspiration risks of individuals must be evaluated. Individuals over 65 years of age who are at risk of aspiration and those with advanced distension should be supported with parenteral nutrition.
- Patients should be followed up for the risk of developing coagulopathy. Low molecular weight heparin prophylaxis is recommended for the prevention of thromboembolism in individuals in line with the physician's request.
- The patient must be followed up for the development of acute renal failure.
- The patient should be followed up for early signs of sepsis.
- Regular blood gas analysis is very important.
- The entrances to the patient's room should be reduced as much as possible.
- Oral care must be applied once every 4 hours.
- Aspiration of patient secretions should be ensured.
- All contaminated materials used after care should be disposed of in the medical waste box and removed from the area.

It is very important to apply individualized care when planning nursing care for patients with COVID-19.

Conclusion and Recommendations

COVID-19 is a highly contagious viral disease with a high mortality rate. It is only possible with a qualified individualized nursing care that individuals hospitalized due to the diagnosis of COVID-19 are affected by adverse situations as little as possible. The responsibilities of nurses in this regard are quite high and of critical importance. For this reason, if the nurses know both the interventions to be applied for the sick individual and the necessary measures to protect themselves during the period from the patient's admission to the discharge from the hospital, negative experiences, recovery time and contagiousness can be reduced.

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