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Review

Evaluation of COVID-19 outbreak control in terms of nursing services; an example of Çanakkale

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ABSTRACT

The Coronavirus disease 2019 (COVID-19) pandemic is still threatening lives in Türkiye and other countries, posing a global health risk. COVID-19 infection is a serious disease that spreads quickly from person-to-person, causing respiratory tract infection, multiple organ failures, and even death in severe cases. The healthcare sector is undoubtedly one of the most affected sectors by the pandemic. Nurses who make up the vast majority of the health force, are playing a critical role in controlling the outbreak. While trying to cope with the anxiety of obscurity, nurses working on the front lines of the outbreak have encountered a variety of concerns and issues. The purpose of this study was to reveal the planning and problems encountered in outbreak control as nursing services.

Keywords: COVID-19, nursing services, pandemic planning.

In December 2019, serious cases of pneumonia with an unknown cause were reported in Wuhan, Hubei Province, China. The first cases were found to be associated with a seafood market, but the majority of later diagnosed cases were realized to be unrelated to the market.[1] The coronavirus disease, which causes severe acute respiratory failure, has rapidly spread throughout the world.[2] The virus was found to be 80% similar to the previous SARS-CoV after examining respiratory tract samples taken from the patients, and on January 7, 2020, the coronavirus found in China was classified as a new species. Novel Coronavirus (2019-nCoV) is the name given to this new virus.[3,4]

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Following the initial cases, it is clear that the disease is spread from person-to-person through direct contact, specifically through respiratory droplets. The virus found in respiratory secretions can be transmitted to another person if they come into direct contact with the mucus when a person with a droplet infection coughs, sneezes, or speaks. Furthermore, it is spread by droplets released by sick people while coughing and sneezing, as well as by contacting other people's hands and then touching the mouth, nose, or eye. The droplets are thought to be effective up to a two-meter range.[5]

Many people who have been infected with the COVID-19 virus suffer from mild to moderate respiratory disease. Patients suffering from viral upper respiratory tract infections may experience nonspecific symptoms such as fever, cough, sore throat, as well as nasal congestion, headache, myalgia, or fatigue. In people over the age of 60 who have chronic diseases such as cardiovascular disease, diabetes, chronic respiratory disease, cancer, and immunodeficiency, the disease progresses

rapidly; pneumonia, severe respiratory failure, kidney failure, and death may occur.[6,7]

The COVID-19 outbreak, which caused a worldwide pandemic, continues to pose a serious threat to human life. While information about this disease is updated on a daily basis, the disease's rapid spread causes anxiety and fear in society due to an increase in the number of patients and deaths. Healthcare professionals are at the forefront of the fight against anxiety and disease. Nurses, who make up the majority of the healthcare team and work tirelessly, are part of the struggle with an increasing number of patients and a heavy workload.

NURSING PROFESSION

The nursing profession is the most important part of health services. It is the responsible human force that looks after the patient, teaches about disease prevention and healthy development, and has the education, personality, decision-making ability, theoretical knowledge, and soft skills, as well as the ability to work in a team. Its responsibilities include providing medical care to patients as well as providing health education to patients and their relatives.[8]

Throughout history, this profession has undergone many changes and faced various problems. Although the nursing profession dates back to ancient times, it is widely accepted that professionalization began with Florence Nightingale.[9] Florence Nightingale's struggle with the difficulties she faced changed society's and her own perceptions of nursing. Nursing, which is an applied health branch that deals with the health status of individuals, families, and society, has undergone a series of rapid and striking changes in the process of professionalization by attempting to keep up with social, cultural, and technological changes from the past to the present. The development and change of the nursing profession have been influenced by the increase in the need for healthcare services, the length of stay in the hospital, the increase in scientific knowledge, the rapid advances in technology, socio-cultural mobility, the social structure, understanding of equality and justice, cultural values, beliefs, and norms, and the increase in scientific knowledge.[10] Thus, nurses were able to adapt to future needs and improve their skills based on their experiences, successes, and mistakes.

The World Health Organization (WHO) declared this year the "International Year of the Nurse and Midwife" in honor of Florence Nightingale's 200th birthday, demonstrating the importance of nursing in society. According to WHO statistics from 2017, the number of nurses per 10,000 population in the United States was 145, 111 in France, 132 in Germany, and 27 in Türkiye.[11,12] When we compare our situation to that of other countries, we can see that our country's investment in the nursing workforce needs to be increased.

The World Health Organization, nurses, and other healthcare professionals are at the forefront of the COVID-19 response, working to provide high-quality treatment and care, facilitate community dialogue to address fears and questions, and collect data for clinical trials in some cases. It was stated that "there would be no answer if there were no nurses," and it aimed to contribute to the achievement of universal quality in the fields of nursing education, research, management, and practice.[13] Despite the increased workload, fear, and the loss of colleagues, nurses and other healthcare professionals resist and continue to provide essential services with dedication.

Although there is a growing need, and demand for health care, resources are limited. As a result, it is necessary to use resources more effectively and efficiently, requiring the need for effective management and organization. Health services are a special occupation that necessitates the collaboration of multiple health workgroups. The provision of these human-life-related services requires effective interdisciplinary collaboration.[14]

All decisions regarding the nursing care environment and optimizing this care are administrative decisions in nursing management. Nurse managers, besides their characteristics such as leadership, planning, organization, human resource management, and supervision, should take an active role in making managerial decisions and policy determination in order to provide effective care in nursing services.[15] While carrying out these duties, nurse managers may encounter issues arising from the country's health laws and policies, legislation, the management

style of the institutions they work with, financial and human resource constraints, the health team they work with, and other employees. Therefore, the above-mentioned difficult tasks and responsibilities should be undertaken by senior managers as well as executive nurses at the middle and lower levels.[16]

There is a need for good nursing services that will make all of these plans in the nursing profession, which is responsible for the planning, implementation, and evaluation of health-care services, as well as the training of those who will perform these services.

PLANNING DURING THE PANDEMIC

When the first case of the pandemic was seen in our country on March 10, our hospital's pandemic plan was initiated. The committee for pandemic met to determine plans including where possible and specific cases to be followed, the routes to be followed during the meeting and follow-up of patients arriving at the emergency department, the elevator and road to be used, and the personnel to be employed. Daily innovations and plans were made as the process progressed and the number of cases increased.

From the first week after the pandemic was declared in our country and in our hospital, infection control nurses trained all personnel (health workers, security, administrative personnel, cafeteria personnel, cleaning personnel, technical team, morgue, and ghusl room workers, etc.) on how to approach the patient with COVID-19 and how to use personal protective equipment. This training was repeated until all personnel had received them. The training has been updated in response to newly published guides and changing information.[17-20]

The infectious diseases specialist, microbiology specialist, and infection control nurses in the infection control committee provided advice and support during the planning process. Infection control committees work on the principle of planning, implementing, and controlling the measures taken in the process of controlling hospital infections, regional or national pandemics.[21]

With the hospital's designation as a pandemic hospital on March 24, all hospitals and services were ready for this process. Two outdoor triage tents were set up in the garden of the emergency room. Thus, the plan was made to reduce the intensity and contact with the emergency department. During the initial triage, health personnel (nurse, health officer, emergency medical technicians) assessed the patient's history and vital signs. Those who were COVID-19 compatible were taken to the second tent for physician evaluation. A throat swab specimen (for PCR) was taken during the initial evaluation and the patients who would be admitted to the hospital after imaging were divided into three groups: Group 1, Group 2, and intensive care unit group, based on their general condition and findings.

A sampling cabinet was used to collect throat swab specimens from patients in the emergency department and the Infection outpatient clinic. The cabinet protects the patient area by preventing air from spreading outside the sampling area. Using the cabinet reduces the risk of transmission by preventing air from passing from the patient's area to the healthcare worker taking the sample. Furthermore, it adheres to the principle of preventing cross-contamination between patients by creating a sanitary environment for the next patient, as the air in the area where the patient enters remains clean when the patient exits.[22] It was intended to protect both our healthcare workers and our patients with the cabinet. COVID-19 tests were carried out in a sterile environment made possible by negative pressure technology. While the virus did not come into contact with the physician who took the sample, the contamination of other patients was prevented by keeping the environment clean.

As of April 2, 2020, throat swab specimens were examined in our hospital's microbiology laboratory. Thus, while the results of the samples taken from hospitalized patients in our hospital were completed on the same day, the district hospitals in the region continued to be served. Infection prevention training was given to laboratory staff and personnel who transport specimens. After collecting each specimen, it was stored and transported in a single zip-lock bag. It was intended in this way to prevent contamination of personnel in the process all the way up to the laboratory.

The facilities for convalescent plasma therapy were prepared in our hospital's blood center. Plasma from volunteers who recovered from the disease was used to treat hospitalized patients. During the patient sampling procedures, the staff in the blood center used personal protective equipment (PPE) in accordance with the Ministry of Health's "COVID-19 (SARS-CoV-2 infection) guide".[23]

COVID-19 infection is primarily spread through close contact and droplets from person-to-person. Therefore, complete isolation of the infected person is critical. High-risk exposure is defined as intentional or unintentional contact with an infected or sick person that is closer than 2 meters and lasts for an average of 10-15 minutes (this is the average time given in the guides; however, it can be transmitted in less time if the person has a high virus load, an immune disorder, or a chronic disease).[24,25] For this reason, patient care services were designed so that healthcare workers and cleaning staff in inpatient services would only wear PPE in the room twice per day for a total of 15 minutes. This is, as far as we know, the first implementation. Patients were instructed to wear masks when entering the patient's room for treatment, care, and cleaning. In this way, it was desired to reduce the risk of contamination by acting as a second barrier in procedures that would come into contact with the patient. All procedures for the patient's treatment, care, and diagnostic tests have been programmed to be completed correctly and in a single process. Nurse counters and restrooms have been designated as clean areas. Employees were informed during our visits to the areas as infection control nurses not to enter these areas with protective equipment and not to contaminate them. It was emphasized that we needed to keep our social distance from each other in the rest areas so that we didn't contaminate each other. All of the patients in the wards were hospitalized as a single person in the rooms. Hand hygiene is the most effective way of preventing nosocomial infections because healthcare workers' hands are the most important way of transmitting nosocomial infections.[26,27] It is estimated that hand hygiene compliance will reduce nosocomial infections by approximately 30-50%.[28] Hence, hand sanitizer and medical waste buckets were placed in each patient room and in the corridors between the two rooms. Thus, frequent hand hygiene was intended to prevent the spread of infections.

Closed aspiration was used in each intubated patient in the intensive care units, and bacterial filters were used in the Ambu devices. It was aimed at reducing the risk of employee contamination by utilizing portable intubation boxes during patient intubation and extubation procedures. During this process, the number of restrooms was increased while keeping the social distance rules in mind. The work schedule was alternately programmed to allow for two hours of rest every three hours. The primary goal of all implementations is to keep the risk of health worker contamination to a minimum.

The restriction on patient visits and companions was implemented throughout the hospital. The patient's needs were left to the consultation at the main entrance by their relatives, and the intermediate staff moved the patient to the service where the patient was hospitalized. Patients who required companions (those who were unable to care for themselves due to psychiatric disorders such as dementia, Alzheimer's, or schizophrenia) were informed about the use of PPE and precautions, and their consent was obtained.

The cafeteria was closed, and employee meals were delivered to their respective work areas in sealed packages. Foods that should be served raw (salad, etc.) were not provided during this process. The cafeteria employees were also trained on the rules that must be followed during food preparation.

Protective equipment was distributed on a daily basis to the number of personnel specified by the charge nurses. The equipment was distributed based on the units that worked, and the implementations that were completed. On occasion, there were difficulties with the equipment's quality and adequacy. In these cases, every piece of feedback received was quickly evaluated, and any necessary changes were made. The efficient use of equipment was audited. The issue was brought to the attention of the staff.

Looking at the work planning of the nurses in this process, the nurses from all units of the hospital were charged to the newly opened

services. Only personnel who complied with the statements in the Ministry of Health's circular on personnel leaves (with serious chronic diseases) were considered on administrative leave.[29] At the same time, health workers who were on maternity leave and had children under the age of one were granted unpaid leave at their own request. As the patients were hospitalized, services were made available. Nursing staff in the newly opened services were kept ready if they were informed that they would be called in a planned and necessary condition. The situation that caused the most difficulty in planning was that nurses who continued to work in other services found their working hours to be longer than the pandemic conditions during the period before the new services opened. The issue that received the most feedback and suggestions during the field visits was working hours. Working lists for nursing services were prepared in accordance with the same teams that would work together. The aim was to achieve collective harmony and a smooth division of duties and responsibilities. However, this situation has occasionally raised objections. The desire to work alternately has arisen as a result of the fact that the same people always work in group two and the workload in that group.

Nursing support was provided to district hospitals, with alternate assignments due to slowed services as part of the social isolation measures. Incoming nurses were also trained how to use PPE in patients with COVID-19. When the stress of having to work in a different institution was added to the anxiety about the disease, it manifested as a reluctance to work and accompanying complaints. The psychological response of healthcare workers to an infectious disease outbreak, on the other hand, is complicated. Feelings of vulnerability or loss of control, as well as concerns about one's own health, the spread of the virus, the health of family and others, changes at work, and isolation, can all be sources of distress.[30] Of course, there were new beautiful friendships and heartfelt messages among them. As we welcomed the satisfaction with joy, we accepted the complaints with maturity and linked them to the process.

As the number of cases in Türkiye and at the hospital has increased, employees have become more concerned. Comparing and deducing the number of daily cases with countries such as the United States and Italy, which entered the pandemic process before our country and suffered significant losses and traumatic cases, heightened anxiety. Planning for intensive care, in particular, was done with more adverse conditions in mind. According to research conducted in China, mental health symptoms are prevalent among healthcare workers who treat COVID-19 patients. Overall, all participants reported depression, anxiety, insomnia, and distress symptoms. In all measurements, nurses, women, and workers in Wuhan reported more severe symptoms.[31] There has yet to be any publication on this subject in our country. Taking these possibilities into account, the “psychosocial support helpline” was established in all provinces.[32] During this process, necessary arrangements were made for personnel who did not wish to go back to their homes. For transportation to the accommodation, a shuttle service has been arranged. They were given all the information they needed regarding their concerns about returning home and the precautions they should take.

There was a loss of life among health workers in our country and around the world as a result of the epidemic. In this context, all employees with risk contact in our hospital were evaluated in accordance with the Ministry of Health’s “Evaluation of Healthcare Workers Contact with COVID-19” guide.[33] Samples for PCR were collected from newly assigned health workers, and those from the metropolitan area began working after completing their 14-day quarantine period. Twenty-seven of the 58 personnel who were noticed to be in close contact were rated as high risk, two as medium risk, and one as low risk. Infection control nurses prepared a “COVID-19 high-risk contact form” to be completed in the event of contact. The relevant form was discussed in the workplace safety committee and began to be used in quality forms. No stuff has been diagnosed in our hospital since the pandemic began. These were reinforced during field visits and in-service training, and they were effective in both reducing anxiety and emphasizing the importance of adhering to the implemented measures (use of PPE, hand hygiene, separation of clean and dirty areas, etc.).

This study mentioned the precautions taken in hospitals during the COVID-19 outbreak, the arrangements made, and the process after becoming a pandemic hospital. Some of the difficulties faced by nurses who are at the forefront of this struggle were highlighted. Working hours, a lack of protective equipment, an increase in daily workload and stress, being infected with disease, and the fear of endangering their loved ones are just a few of the issues they face. The importance and role of nurses in the healthcare team have been spotlighted once again as a result of this epidemic. In this context, nurses are indispensable members of the health team and have a vital role in the health system. According to the World Health Organization, "nursing should not be viewed as a cost, but as a health investment in a country," and "nurses are the backbone of the health system, and they are at the forefront in the fight against COVID-19". Even though it was difficult, these experiences served as a mirror and knowledge for all of us. It has demonstrated the importance of nursing service planning in preventing conflicts and reducing anxiety during such a stressful process.

In conclusion, the process made us all realize that there were many important factors in this exam that we passed as a society and even as a world. It emphasized the importance of working together and the positive outcomes that can be obtained when we carry out our responsibilities. In addition to the use of equipment in the isolation processes, it provided an opportunity to see how the risk of employee contamination can be reduced through physical measures and training. With the new normalization process, waiting for new experiences and plans for adapting to the new order. As Turkish nurses, we believe that, like all healthcare professionals, we will work with the same self-sacrifice and respect for our work, even if we are exhausted and worn out during this process. We also believe that the importance of the nursing profession was recognized throughout society and the world during this process, and we hope that more investments will be made in the future.

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