

The Quarantine Experience of a Nurse Diagnosed with COVID-19: A Case Report

Abstract

The fight against the coronavirus disease 2019 outbreak, which has influenced the entire world, has been still ongoing. It is necessary to take measures for reservoir control and transmission mode as well as immunization, to protect against coronavirus disease 2019, which is a common public health concern. Filiation teams are actively working in the field to combat this disease, which is transmitted by droplets. Health training, immunization, filiation and surveillance studies, quarantine practices, home visits, and home care services are all duties of the public health nurses in this team for preventing and controlling diseases. Determining the feelings of a public health nurse who had a positive coronavirus disease-2019 test result as well as her experiences during the outbreak could contribute to the delivery of quality health care and the readiness for current and future crises. While the world countries have been continuing their fight with the outbreak during this period, it is essential to examine the filiation team's role, communication with this team, and patient monitoring at home. In this case report, it is aimed to support the service delivery of healthcare professionals by expressing the quarantine experiences of a nurse who was diagnosed with coronavirus disease 2019, her related practices, and her communication with the filiation team.

Keywords: Case reports, COVID-19, public health nursing, pandemics, quarantine

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Introduction

Nurses are the largest group of healthcare professionals involved in the fight against coronavirus disease 2019 (COVID-19) in many countries. ^{1,2} A high risk of infection exists for nurses who are fighting against COVID-19 during this period. According to a report published by the International Council of Nurses in 2021, 1.6 million healthcare professionals in 34 countries have been infected with COVID-19 since the outbreak of the pandemic; infection rates among healthcare professionals vary from country to country, and nurses account for nearly half of the infection rate in some countries. The same report indicated that 2710 nurses died from COVID-19 until January 31, 2021, but the mortality rates are estimated to be significantly higher than this rate. ³ Additionally, the challenges the health professionals, particularly nurses, faced during the outbreak can be listed as the increased patient burden and workload, inadequate resources, long work hours, decreased rest periods, and cancellation of leaves. ¹⁻⁴

It is necessary to take preventative measures for reservoir control and transmission mode as well as immunization in order to protect against the COVID-19 disease, which has influenced deeply Turkey and the rest of the world. The concept of filiation and the filiation team, both of which are components of an infectious disease strategy, gain importance in the management of the COVID-19 process.⁵ Filiation refers to making field examinations and activities to identify the source of infection and the agent and taking preventive and control measures, including patient/contact, and it requires teamwork. The public health nurses, who are a part of this team and work in collaboration with the community, are actively involved in taking COVID-19 under control.^{6,7} The Turkish Ministry of Health publishes up-to-date guidelines within the scope of the fight against the outbreak and recently published the "Contact Tracing, Outbreak Management, Patient Monitoring at Home, and Filiation" guideline for the follow-up and treatment of non-hospitalized cases. This guideline clarifies the evaluation of the contact (close contact and contact), outbreak management, patient monitoring at home, filiation, and termination of

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isolation. As stated in the guideline, public health nurses are actively involved in the filiation, which is carried out in order to take preventive and control measures against COVID-19, an infectious disease.⁹

Public health nurses are at the forefront of the fight against the COVID-19 pandemic, a global public health crisis. 2.3,9.10 Public health nurses have a variety of tasks during this process, including health training, immunization, filiation and surveillance studies, quarantine practices, home visits, and home care services for disease prevention and control. This outbreak requires public health nurses to keep people safe and informed, to support and serve to protect and promote health and provide effective, quality, and evidence-based nursing care. Determining the experiences during this period to improve nursing services and deliver high-quality health care can allow to get more prepared for any existing and future crises, and to overcome them more easily. 11

There are studies in the literature that investigate the experiences of healthcare professionals during the COVID-19 outbreak. A study conducted with healthcare professionals in China reported that it was their responsibility for improving the well-being of patients, they adopted the understanding of "my duty," and they were working in COVID-19 units under harsh conditions (increased workload, working using protective equipment, fear of being infected and infecting others).12 In a study conducted with nurses, it was determined that being unprepared for the COVID-19 pandemic was perceived as the major risk due to uncertainties such as disease transmission, diagnosis, treatment, mortality rate, and complications, and they had concerns about contaminating family members and they were exposed to stigma as being a healthcare professional implied carrying the virus. 13 A study examining the prevalence of coronaphobia among public health nurses during the COVID-19 outbreak indicated that 71% of public health nurses had coronaphobia. In the same study, public health nurses had higher levels of COVID-19 anxiety but lower levels of social support, personal resilience, and perceived health status compared to those working in the hospital.14 In another study conducted with nurses working in the field of public health, it was observed that they possessed a moderate level of knowledge. positive attitudes, and promoting practices (hygiene, mask use, and keeping social distance) regarding COVID-19.15

Determining a public health nurse's quarantine experience and knowledge in the fight against COVID-19 can be guiding for other positive cases in the community and the health services provided to their contacts. We believe that revealing the fear and panic of nurses at home during the quarantine process and their coping methods developed in the fight against this process, as well as their experiences, is important to make visible the difficulties experienced by the filiation team. Therefore, this case report will review the experiences of a public health nurse, who tested positive for COVID-19, during the quarantine process, her related practices, and her communication with the filiation team.

Case Report

This case report is presented in accordance with the CARE guidelines (The CARE Guidelines: Consensus-based Clinical Case Reporting Guideline Development) (Appendix 1).

Socio-Demographic Characteristics

AA is a 24-year-old single woman, who had a bachelor's degree in the nursing department. She lives with her grandmother (64 years old)

and grandfather (70 years old). Necessary explanations were made to the public health nurse who tested positive for COVID-19 and her written consent was obtained.

Past Medical History

She had no known chronic diseases. Her grandmother suffered from chronic diseases (asthma and hypertension), while her grandfather had hypertension and diabetes mellitus. Her grandmother had the pneumococcal conjugate vaccine in 2017 and her grandfather had this vaccine in 2019.

Current Medical History

AA has never had an influenza vaccine and does not take any medication on a regular basis. AA believed she had an upper respiratory tract infection when she suffered from a sore throat on August 30, 2020. She had hot flashes and sweats for 4 nights. The sore throat got worse 6 days later. Based on the pain scale, Sore throat started out at 4 points (moderate pain) and rose to 9 points (extreme pain) 6 days later. AA stated that she was suffering from back, joint, muscle, and general body pains and felt terribly tired. Besides these symptoms, her body temperature elevated to 37.5°C.

Infection Process

AA told that her uncle visited her for one month and he was suffering from the same symptoms on September 2, 2020, 1 day after returning to his hometown. Her uncle had a polymerase chain reaction (PCR) test done in a private hospital on that date and he was tested positive. Although her uncle did not spend time in crowded and enclosed environments, AA was taking the bus every weekday and this trip was taking 1.5 hours, with a crowded bus. Therefore, AA believed that she infected her uncle with the COVID-19 virus. Also in her opinion, the mode of transmission was her bus trip since people were wearing their masks in her workplace, the environment was constantly ventilated and a maximum of 2 people were working in the same room at the same time, therefore, the possibility of infection was low.

Detection of a Suspected COVID-19 Case and Communication with the Filiation Team

When AA learned her uncle had tested positive for COVID-19, she called 112 on September 3, 2020, and notified the 112 team that she came into close contact with someone with COVID-19 and was complaints such as sore throat, sweating, and fever. Also, after AA informed the 112 team that her grandmother was having difficulty in breathing, the 112 team made her talk to the emergency room physician. The emergency room physician expressed that only individuals with severe complaints (difficulty in breathing, loss of consciousness, etc.) were tested at their homes and transferred to the hospital, and when considering her grandmother's condition (not suffering from severe complaints), it was decided that it would be appropriate to send a filiation team instead of the 112 team. The physician provided the early warning lines to AA and she immediately dialed one of them and discovered that the numbers belonged to the filiation team. She informed this team of her medical condition and provided them with her home address. On September 3, 2020, the filiation team, comprised of a doctor and 2 nurses from the Provincial Health Directorate, arrived at AA's apartment within an hour and met with her, her grandmother, and grandfather in its garden. The team recorded AA and her family as COVID-19 contacts, asked their phone

numbers, names and surnames, the Turkish identity numbers, and with whom they had contacted in the past week, and initiated the 14-day quarantine procedure.

AA and her family were provided with an information sheet with instructions on how to act during the quarantine period. The filiation team advised them to resort to the nearest hospital for getting a PCR test. The filiation team allowed AA to leave the house. The team said that they could go to the hospital by wearing double masks, driving a private vehicle, and opening all the windows in the vehicle. On September 3, 2020 (the day the team arrived), AA and her family went to a private hospital at 2:00 PM for getting a PCR test, which they paid for. The healthcare professional stated that she could view the test result on the e-pulse system within 24 hours.

Confirmed COVID-19 Case Process and COVID-19 Patient Monitoring at Home

On September 3, 2020, at 8:00 PM (8 hours after they had the PCR test), AA, her grandmother, and her grandfather learned that they tested positive. On September 4, 2020, at 9:00 AM, the Provincial Directorate of Health's filiation team called her and stated that their test results were positive. When AA calls back the filtration team (early warning lines) and asked when they shall start drugs and how to take these drugs, she learned that the private hospital where they had the PCR test done could provide the drugs. When AA called the private hospital, she was told that she could obtain COVID-19 drugs upon an examination in the emergency room. AA and her family applied to the hospital emergency room after they got permission to go out on the same day. Once they were settled in an isolated room, they had their blood tests and computerized tomography done. AA, her grandmother, and grandfather were prescribed hydroxychloroquine of 200 mg twice a day for 5 days, as well as extra drugs (paracetamol, analgesic, and antiseptic spray). Furthermore, the grandmother was administered anticoagulant and her grandfather continued the anticoagulant he was taking regularly due to his chronic diseases. Health professionals at the hospital mention that isolation is important and the advices of the filtration team should be followed.

The family physician called AA, who was a COVID-19 positive case, monitored for the course of symptoms every other day. The filtration team checked whether AA and her family stayed at home by calling them through cell phone for a few days. On September 5, 2020, the filtration team visited AA and her family who had a positive test result on September 3, 2020. This team evaluated whether or not they followed the isolation rules.

AA tracked their fever, pulse, and blood pressure every day at home during the isolation period. AA's health condition became more severe since the fourth day. She had complaints of weakness, difficulty in breathing, back, muscle and bone pain, chest pain, sweating and taste, and loss of smell. AA, therefore, reported her symptoms by calling the early warning line, and the filtration team arrived within half an hour on September 6, 2020, to examine the patient, and administered analgesic infusion treatment. AA also experienced psycho-social problems during this isolation period besides the physical problems. She expressed that she had emotions, such as loneliness, fear of death, and guilt (as she infected her grandmother and grandfather with COVID-19).

During a 14-day quarantine period at home, her neighbor supplied food to AA and her family and bought medicines from the pharmacy. They took vitamins C and D and zinc, and consumed foods rich in these vitamins, vegetables, meat, beef broth, trotter soup, lots of liquid, and bee products to keep their immune system strong. AA and each family member had a sore throat and difficulty in swallowing, and they ingested fluids and warm and soft meals.

COVID-19 Process of Individuals They Live With

However, whereas the COVID-19 process was more severe in the grandmother, it was less severe in her grandfather. The filiation team also checked on the grandmother and grandfather every time they visited, and they were told that they should be informed in an emergency. The grandmother suffered from severe symptoms such as nausea, vomiting, dry coughing, fatigue, loss of taste, body pain, heartburn, constipation, bloating, nervousness, and sleeplessness for 13 days. On the other hand, the grandfather had complaints of headaches and muscular pain for three days.

Terminating Isolation for the COVID-19 Patient

After the quarantine time was over, the District Health Directorate called up AA and her family and informed them that they could return to their normal life. Additionally, they were informed about the things that should be followed at home after the quarantine period such as disposal of toothbrushes and razors, boiling of combs and buckles, and ventilation of the home. Also, AA and her family were informed that persons whose isolation periods have ended would not have a PCR test. One week after the quarantine period, AA volunteered to have her antibody test (IgG) done at a state hospital, where she was informed that the result was negative, there was a risk of COVID-19 infection at any time, and the second infection may result in a more severe clinical condition.

Experience of the Confirmed COVID-19 Nurse and Recommendations

I have worked as a public health nurse for approximately 2 years. I have been providing care for the individuals, families, and the society at District Health Directorates, Healthy Life Centers, and Family Health Centers. As a public health nurse, I give training and health consultation to individuals about health protection and promotion. While we, as healthcare professionals, were continuing to take these interventions, the COVID-19 outbreak broke out in the world and in Turkey. Upon its outbreak, we, as healthcare professionals, were highly concerned as the general public. We were committed to increasing the training on preventive measures for infectious diseases, which is one of the trainings we deliver to persons at Family Health Centers. This is because we needed to stop the rapid spreading of the outbreak. Raising awareness of each person was quite valuable in this regard. It was our duty as public health nurses to act in this awareness with self-sacrifice. The vital importance of the disease's symptoms and follow-up was obvious. We had to bring this understanding to society and set an example in field practices. While I was doing health checks on people by wearing masks, face shields, and gloves, I was endeavoring to raise public awareness about how we fight against COVID-19.

I, too, unfortunately, caught COVID-19. However, I overcame it. My grandparents at home also tested positive for it. Now I've begun to help heal others affected by it—just like Florence Nightengale, who

looked after and treated wounded soldiers during the Crimean War. I knew exactly what to do throughout the quarantine procedure as a public health nurse. Throughout this period, I felt less fear and panic than people who were not health professionals. This was due to my experiences that made it simpler for me to fight against an outbreak. The coping methods I had used during the quarantine were maintaining proper hygiene and diet, doing mild workouts at home, having enough quality sleep, and engaging in healthy lifestyle behaviors such as coping with stress.

Throughout the quarantine, I needed to recover and promote my existing health condition. I was doing regular vital monitoring on everyone at home, including myself. Along with physical health, I had to keep my psychological health in a good condition. Quarantine left us—both myself and those at home—feeling bored, terrified, and exhausted. To improve the circumstances, I was planning and executing interventions to promote and protect psychological health. These included encouraging others to express themselves at home, reading newspapers and books, practicing my religion, and reflecting on old memories (by looking at photos)—I did everything I could. As a caretaker, I had to take my caregiver role to the forefront. Likewise, whenever my family relaxed, so did I to accelerate my recovery.

My grandfather and I independently carried on with our day-to-day activities. My grandmother, on the other hand, was semi-dependent on me. I assisted her to eat, put on her clothes, look after her personal hygiene, and use the bathroom. My relatives' health was gradually better, which motivated me. Our experiences are our greatest strength. If we share that with one another (our colleagues included), we have the power to protect and strengthen people, society, our teammates, and ourselves.

Discussion

The public health nurses offer actively services to preserve and promote the community health care during the COVID-19 outbreak, a current public health issue. 2,9,10 Public health nurses have several duties, including monitoring and treating suspected/confirmed cases who have been discharged from the hospital or require no hospitalization, screening for confirmed and suspected cases, health training, social isolation and quarantine, and following the updated guidelines on outbreak management. 8 Nurses must deliver society with an effective and high-quality health care in the fight against the outbreak. 8,10,16,17 In this case report, the feelings and experiences of a public health nurse who tested positive for COVID-19 as well as her related practices and communication with the filiation team were investigated.

Along with physical symptoms such as fever, weakness, difficulty in breathing, muscle and bone pain, and taste-smell loss, the patient also had psychological problems such as loneliness and fear of death. In the management of the COVID-19 process at home, she made interventions to enhance immunity and promote psychosocial health. Respiratory symptoms, fever, cough, and dyspnea are the most common physical health concerns associated with COVID-19, according to outbreak management guideline. Anxiety, depression, obsessive behaviors, fear, loneliness, social isolation, and loss of employment are among the psychosocial problems caused by this virus. A study conducted in Australia reported that when patients learned that they tested positive, they felt anxiety, shock, and concern, and had both positive and negative experiences throughout the quarantine. While positive experiences were satisfaction with isolation for the care

provided by nurses and doctors, and isolation and quarantine procedures reflecting the quality of care and professionalism, negative experiences included a lack of social interaction, time loss, and physically restricted movement.²² In a study conducted in Indonesia, it was determined that these patients were shocked about how they were infected, the test result was uncertain, they had experiences, such as believing they could die even no symptoms appeared, and they were bored and were exposed to stigma and discrimination throughout the isolation.23 Due to her young age and strong immunity, the case did not suffer from major physical problems; her anxiety and fear levels were lower, and her psychosocial health was better compared to non-healthcare workers. It is required to consider both physical and psychosocial health of individuals in the society in the fight against this process. It is critical to train the people about all potential health problems during the fight against COVID-19, to raise their awareness, and to deliver psychological counseling to them.

In this case, the public health nurse who was in quarantine at home due to COVID-19 maintained her contact with the filiation team and attempted to manage the process in accordance with the training given by the team. The guideline on COVID-19 contact tracing, outbreak management, and patient monitoring at home published by The Ministry of Health states that either confirmed and suspected cases should be isolated at home or hospitalized patients should be isolated in the hospital. The filiation team and the healthcare professionals from the Family Health Center follow the patients who are monitored at home until they recover. The guideline on the outbreak management and patient monitoring at home advises not to admit guests to the home, to regularly ventilate rooms, to isolate the followed patients in a separate room, if possible, to change masks when they become damp, as well as to pay attention to respiratory hygiene, to clean all surfaces with bleach, to resort to a health institution in case of any symptoms in the household, and to alert 112 if the patient's condition gets worse. Also, the filiation team distributes the COVID-19 information sheet to the patient online through the FITAS software. It is stated that the individuals could return their work without being tested at the end of the isolation time if they had adhered to the preventive measures.8 In a study in which home quarantined COVID-19 patients were followed up with the WeChat software, it was determined that the telemedicine system ensured early hospitalization in the event of disease progression, which helped healthcare professionals to take appropriate and timely treatment decisions.24 The patient in this study fought the COVID-19 virus by following all of the rules at home and being in contact with the filiation team at all times. It is observed that the use of a telemedicine system in the follow-up of COVID-19 patients, as in the study, or in the face-to-face or telephone follow-up of confirmed/suspected cases by the filiation team is an effective intervention.

The outbreak is a significant public health issue that persists all over the world. Public health nurses, who devote their lives to fighting this virus, have been struggling for public health. The experiences of a trained public health nurse at home throughout this period were shared as a case report. These experiences are precious in that they reflected the problems that people experienced at home in the fight against the outbreak. Public health nurses, who work in close proximity to society, should provide necessary and sufficient training to individuals to whom they provide service by considering these experiences, direct them to accurate sources of information, reinforce communication between persons and their filiation team and health

professionals, and apply interventions to promote individuals' physical and psychosocial health.

Conclusion

In the fight against the COVID-19 outbreak, a major public health problem, the filiation team and healthcare professionals take an active part and work under tough circumstances with a fast-paced work schedule. Public health nurses, who have critical roles and responsibilities in the health system, are responsible for informing the public, assuring that they have access to accurate information, promoting psychological health, and delivering health training. In this case report, a public health nurse who tested positive for COVID-19 maintained a constant interaction with the filiation team throughout the guarantine. Although the patient and her family had some physical and psychosocial problems during this period, the process was managed well, the recovery process was accomplished at home without needing hospitalization, and the isolation was ended. The filiation team quickly contacted the suspected/confirmed case, informed her about preventive and control measures, and treated them at home. By taking these experiences into account, public health nurses fighting against COVID-19 should provide care to other people in the community and plan interventions that support both their psychosocial and physical health. Accessing cases quickly, delivering training with a professional approach, communicating effectively with patients, and collaborating with individuals in the community for the filiation team are all elements that will increase success in the fight against COVID-19 so that early diagnosis and treatment, and control measures are assured, hospitalizations and mortality are reduced, and quality of life is enhanced.

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