Research Article

COVID-19 Knowledge Level Research in Nurses

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Received: 12 June 2020; **Accepted:** 22 June 2020; **Published:** 03 July 2020

Citation: Suphi Aydin, Aydin Balci. COVID-19 Knowledge Level Research in Nurses. Journal of Surgery and Research 3 (2020): 198-203.

Abstract

Coronavirus caused a rapid spread around the world, starting from an animal market in Wuhan city, Hubei Province in China in December 2019. This virus has been named the 2019 new coronavirus (2019-nCoV) by the World Health Organization (WHO). On March 11, 2020, WHO declared the new coronavirus infection as COVID-19 infection. With this infection, mortality rates have increased. Psychological pressure on society and healthcare personnel has increased. Afyonkarahisar Health Sciences University Medical Faculty Hospital is a pandemic hospital and there are patients infected with COVID-19. However, nurses' knowledge and attitudes towards infectious diseases and their desire to work during COVID-19 outbreak have not been investigated yet. In this study, it was aimed to evaluate the knowledge and attitudes of the nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital during the COVID-19 outbreak. 123 nurses were included in the study. In this study, cluster sampling system was used. Participants responded to a questionnaire study questioning the basic information of 34 items. During the COVID-19 outbreak, 97.6% of the nurses studied had extensive information on the clinical symptoms of COVID-19 infection and 88% on diagnostic methods. In addition, approximately 66.7% of the participants had a story of contact with the patient with proven COVID-19 positivity. 91.1% thought it was likely to get this infection. As a result; This study shows that during the COVID-19 outbreak, more attention should be paid to the knowledge and attitudes of nurses working in pandemic hospitals, and measures should be taken to reduce stress levels.

Keywords: COVİD-19, Survey, Survey questionnaire, Assistant health personnel, Epidemic

1. Introduction

Since December 2019, COVID-19 infection has spread rapidly from Wuhan, China to the whole world, causing acute pneumonia outbreaks as well as serious psychological stress [1]. On March 11, 2020, WHO declared COVID-19 as an epidemic. As of May 13, 2020, 4,170,424 cases and 287,399 deaths were reported by WHO worldwide [2]. Coronavirus is an enveloped RNA virus that commonly causes respiratory, enteric, hepatic and neurological diseases in humans. Although the mortality of COVID-19 is lower than that of the other coronavirus family, SARS-CoV and MERS-CoV, the contagion rate is higher in others [3]. Therefore, it caused tight isolation measures to be taken worldwide. Healthcare professionals who are directly responsible for the treatment and care of patients infected with COVID-19 work under great pressure when dealing with patients because the virus is highly contagious and there is no standardized treatment protocol worldwide. The knowledge and attitudes of healthcare professionals about COVID-19 are an important factor in combating the outbreak and getting results against the epidemic. Angelillo et al. 2001, Askarian et al. 2007, Daugherty et al. 2009, Sarani et al. In their studies in 2016, they investigated the knowledge and attitudes of healthcare personnel against infectious diseases, whether they were willing to work during the epidemic. Ma et al. reported a study on the knowledge and attitudes of clinicians during the H1N1 influenza pandemic in their study in 2009. According to this report, only 82.3% of the health care professionals reached the conclusion of the desire to care for H1N1 patients [4]. However, the number of studies focused on nurses during the COVID-19 outbreak is extremely low. In our study, we aimed to evaluate the knowledge and attitudes of the nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital. In addition, we tried to identify independent factors that affect the willingness to work with COVID-19 infected patients.

2. Methods

2.1 Ethical approval

All research was conducted with integrity and in accordance with generally accepted ethical principles and was approved by Afyonkarahisar University of Health Sciences Faculty of Medicine. The questionnaire was conducted with the consent of the health personnel and all personal information of the health personnel participating in the questionnaire was kept confidential.

2.2 Survey questionnaire and protocol

A 34-item questionnaire was created to evaluate the knowledge and attitudes of the nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital about COVID-19. We created and distributed the survey and collected relevant data through the online survey tool Google Forms, a professional online survey assessment and voting platform. This program allows survey design, data collection, custom reporting and analysis of results. Between 5-10 June 2020, he was sent to 200 nurses with a survey link. Each of the nurses working at Afyonkarahisar Health Sciences University Medical Faculty Hospital was invited to answer the questionnaire and wanted to forward the questionnaire to others. A total of 123 questionnaires were collected.

2.3 Survey questionnaire

Data on the demographic characteristics of the participants such as age, gender, marital status, professional status were recorded. The professional status of the participants was categorized as male and

female nurses. Participants were asked to report their experience on the symptoms, diagnosis and treatment of COVID-19 infection, blood table, risk groups, routes of transmission, measures taken and ways of protection, knowledge about this infection, contact status and relevant training. The questions had answers yes-no, right-wrong-I don't know, multiple choice multiple answers, open-ended answers, and triple Likert type question answers such as I agree or disagree.

2.4 Statistical analysis

Data are expressed as mean ± standard deviation (SD). All answers on the Likert scale were expressed as I agree, disagree, and indecisive. Continuous variables Student's t-test was compared. In the comparison of categorical variables, univariate analysis methods were used for variables including chi-square test, profession, knowledge and attitudes.

3. Results

3.1 Participants characteristics

A total of 123 nurses, including 86 women and 37 men, were included in the study. Demographic data of health personnel are shown in Table 1. The average age of the participants was 31.76 ± 6.92. The average age of female nurses was 31.60 ± 6.68 and the average age of male nurses was 32.13 ± 7.54. The number of singles in male nurses was 13 (35.1%) and 30 (34.9%) in female nurses (Table 1).

3.2 General knowledge level of COVID-19 risks and knowledge of protection strategies

72 (66.7%) of the participants reported that they had direct or indirect contact with confirmed patients with COVID-19, 41 (33.3) had no contact. 10 (8.1%) had a PCR test on suspicion, and the result was negative. Although 73.17% of the participants were trained, 89.43% of the participants stated that they had sufficient information about the COVID-19 outbreak. Besides the training program organized by the hospital, various media (including internet, television and newspapers) were also among the important information sources. 25 (20.3%) of 123 nurses who participated in the survey had a chronic disease. The most common chronic condition was thyroid dysfunction with 7 (5.7%) people and asthma with 6 (4.9%) people. Smoking history was present in 34 (27.6%) people. 20 of the smokers stated that they wanted to quit smoking in this process. 93 (75.6%) of the participants knew that the corona virus was a positive-polar envelope RNA virüs and and 123 (100%) knew there was an epidemic that spread from China to the world. The most frequent answer to the coronavirus's propagation paths was "that it spreads by droplet" and the number of those who expressed it was 107 (87.0%), the second incidence was that ‘’it was transmitted by close contact’’ and the number of those expressing this was 4 (3.3%). All participants responded most frequently to clinical findings with fever, dry cough and weakness. 48 (39.0%) people were additionally weak, 20 (16.3%) additional taste and smell disturbance, 14 (11.4%) additional nasal congestion, 17 (13.7%) additional waist and muscle pain. For description "Unlike the common cold, nasal congestion and sneezing are less common in humans infected with COVID-19". 81 (65.9%) people were correct, 28 (22.8%) were wrong, 12 (9.8%) people did not know, 2 (1.6%) did not answer. " This infection has no effective treatment, early symptomatic and supportive treatment can help patients get rid of the infection." 107 (87%) people are correct, 9 (7.3%) are wrong, 5 (4.1%) do not know, 2 (% 1.6) the person did not respond. This infection "People with chronic

disease are more severe in the elderly." 109 (88.6%) people were correct, 12 (9.8%) were wrong, and 2 (1.6%) people did not know". Eating wild animals or contacting them causes COVID-19 infection." 53 (43.1%) people were correct, 51 (41.5%) were wrong, 19 (15.4%) did not know (Table 2). 32 (26.0%) people ''polymerase chain reaction (PCR)'', 25 (20.3%) people '' thorax computed tomography and PCR'', 23 (18.7%) people ''Thorax computed tomography'', 22 (17.9%) person ''thorax computed tomography, PCR and rapid antigen test'', 10 (8.1%) person ''rapid antigen test'', 9 (7.3%) person ''thorax computed tomography and rapid antigen test'', 2 (1.6%) person'' PCR and rapid antigen test'' gave the answer. In diagnosis, 88 (71.5%) people expressed the oropharyngeal region as the place of taking the sample with the highest positivity rate. 112 (91.1) people gave the wrong answer to the statement "People infected with COVID-19 will not transmit the virus when there is no fever." 118 (95.9%) people had the correct answer to statement for "This infection spreads by droplet". When asked about the drug combinations used in the treatment of the patients, 46 (37.4%) people given the answer the combination of hydroxychloroquine and favipiravir. The combinations containing remdesivir, lopinavir and oseltamivir were less known. Number of people who think that they are at high risk of transmission because they are in health sector 112 (91.1%).

3.3 Knowledge of COVID-19 risks and protection strategies

72 (66.7%) of the participants were in the service where they experienced care for suspected or confirmed COVID-19 patients and 30 (24.4%) of them were in the service where COVID-19 patients were treated. 116 (94.3%) of the participants stated that general medical masks should be wore to prevent infection. It was 120 (97.6%) people who said they wore masks when going out, 119 (96.7%) participants stated that they should not go to crowded places and get on public transport to protect against the virus. 34 (27.6%) people stated that they have been going to a crowded place recently. The isolation and treatment of virus-infected patients was 120 (97.6%) who believed that it was an effective method to reduce the spread of the virus. 118 (95.9%) people stated that the isolation period should be 14 days (Table 3). 98 (79.6%) of the nurses participating in the survey, believed that the war against COVID-19 could win, 4 (3.3%) did not believe that this war could win. 21 (17.1%) people were undecided.

Characteristics			**Nurses (n =123)**
Age (Year)	Female		31.60 ± 6.68
	Male		32.13 ± 7.54
Gender (%)	Female		86 (%69.9)
	Male		37 (%30.1)
Marital Status (%)	Single	Female	30 (%34.9)
		Male	13 (%35.1)
	Married	Female	54 (%62.8)
		Male	

	Other	2 (%1.6)

Table 1: Demographic information of nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital.

Comments	True	False	Do not know
Contrary to the common cold, nasal congestion and sneezing are less common in people infected with COVID-19.	81 (%65.9)	28 (%22.8)	12 (%9.8)
There is no effective treatment for this infection, early symptomatic and supportive treatment can help patients get rid of the infection.	107 (%87)	9 (%7.3)	5 (%4.1)
This infection is more severe in the elderly with chronic disease.	109 (%88.6)	12 (%9.8)	2 (%1.6)
Eating or contacting wild animals causes COVID-19 infection.	53 (%43.1)	51 (%41.5)	19 (%15.4)

Table 2: General level of knowledge.

Comments	Number of people (n / %)
Those who believe that general medical masks are sufficient to prevent infection transmission	116 (%94.3)
Believe the necessity of wearing a mask when going out	120 (%97.6)
Those who state that they should not go to crowded places and get on public transport to protect against the virus	119 (%96.7)
Indicating that they have been going to a crowded place recently	34 (%27.6)
Those who say that the isolation and treatment of virus-infected patients is an effective method in reducing the spread of the virus.	120 (%97.6)
Those who believe that the isolation period should be 14 days	118 (%95.9)

Table 3: COVID-19 risk strategy.

4. Discussion

In this study, we showed that during the COVID-19 outbreak, 89.43% of the nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital had extensive knowledge about COVID-19 and 73.17% received relevant training in the hospital. 75.6% had detailed information about the structure of the virus, 97.6% had detailed information about the general symptoms of COVID-19 infection and how to protect themselves from the disease. 91.1% of the participants believed that they were in the risky group in terms of this infection and 79.1% believed that success could be achieved against this infection. In addition, 66.7% of the nurses who participated in this

study showed that there was a history of contact with the patient infected with the suspected or confirmed COVID-19 virus. In this study, we found that the vast majority of participants received the COVID-19 training program. Sachan et al. In their study conducted in 2012, they showed that training programs organized by hospitals and related institutions have an important role in the fight against infectious diseases. Stergachis et al. In their work in 2011, they observed an increase in the willingness to work for staff if appropriate training and protective measures were implemented.cParticipants were in the high-risk group for transmission of COVID-19 infection. More than half of the participants had a history of direct or indirect contact with the patient who had this infection. However, the rate of those who believed that this epidemic would be successful was high. This suggests that it is due to the high level of education and knowledge. Finally, this study has several limitations. This study was done in a single hospital and with a limited number of nurses. For this reason, interpretation of this study to the general may not be correct. Therefore, more research is needed to confirm the findings of this study.

5. Conclusion

This study revealed that the nurses working in Afyonkarahisar Health Sciences University Medical Faculty Hospital during the epidemic had generally sufficient knowledge about COVID-19 and believed that they would be successful in combating the epidemic. They demonstrated that they were aware of the high probability of contracting the disease, therefore their sensitivity on preventive measures. This research also proved that the level of knowledge is one of the most important factors in combating infectious diseases.

Conflict of Interest

All authors declare that they have no conflict of interest.

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