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Attitude, Knowledge, and Practice Response of Nurses during COVID-19 Outbreak in Military Hospital, 2021

Mahdiye Nejadshafiee

Trauma in Police Operations Research Center, Department of Health, Rescue and Treatment of Police Force, Tehran, Iran

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***Corresponding author:**
Mahdiye Nejadshafiee

Address:
Trauma in Police Operations Research Center, Department of Health, Rescue and Treatment of Police Force, Tehran, Iran

Email:
nejadshafiee.mahdiye@gmail.com

Tel:
+9133936630

ABSTRACT

Introduction: COVID- 19 outbreak was a threat and opportunity for health care systems. Nurses play an important role in COVID-19 pandemic management. Inadequate knowledge, inappropriate attitude and, practice response among nurses might lead to delayed care, and result in the rapid spread of infection. Therefore, this study aims to determine the attitude, knowledge, and practice response among nurses towards the COVID-19 outbreak.

Methods: This cross- sectional, descriptive study was conducted at a military hospital (Seyed Alshohada Hospital), based a on census sampling method in Kerman, Iran. Data were collected from January to February, 2021, using a self- report questionnaire. The questionnaire was distributed among 122 nurses. Data were imported to SPSS v.17 for analysis.

Results: A total of 99 nurses participated in this study. Knowledge, attitude, and practice scores towards COVID- 19 were good. According to the data obtained, the majority had a bachelor' s degree, and most respondents were women (68%). The result of this study showed that 98% took practical infection prevention measures towards COVID-19. Also, our findings indicated that 91% of the study participants had favorable attitudes towards COVID-19.

Discussion: Results showed that participants were knowledgeable, held positive attitudes, and took effective measures for COVID-19. COVID-19 pandemic and other novel diseases are a challenge for all health systems; therefore, it is necessary to enhance knowledge and skills of nurses.

Keywords: Attitude, Knowledge, Nurses, Practice, COVID- 19

Introduction

The recent outbreak of a severe respiratory syndrome, with unknown etiology, occurred in the city of Wuhan in eastern China, in December 2019 (1). Coronavirus is a large category of viruses that has been relatively widespread worldwide (2-4). This virus has low pathogenicity and high transmissibility capability (5). COVID-19, caused by severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2), continues to threaten public health (6). According to a report by the World Health Organization (WHO) On August 5, the cumulative number of COVID-19 cases, globally, surpassed 200 million, just six months after hitting 100 million. This week alone (August 5, 2021), over 4.2 million new cases and over 65 000 new deaths were reported, which was a slight increase as

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compared to the previous week. The largest increase in the number of new cases was reported by the Region of the Americas (14%) and Western Pacific Region (19%), with 1.3 million and over 375 000 new cases reported, respectively (7).

Transmission of virus among nurses depends on elements such as hand disinfection, mask wearing, overcrowding, lack of isolation rooms; it increase if nurses have inadequate awareness of infection control interventions (8).

Hospitals are at the front line of the healthcare system during a pandemic (9). Nurses have been the pioneers of medical care throughout the period from illness to wellness. Therefore, the roles and functions of nurses have become particularly important to prevent transmission of the COVID-19, and it is imperative that they become comprehensively familiar with preventive measures regarding the virus (10).

COVID-19 pandemic creates a situation in which nurses are at greater risk of viral exposure. Lack of knowledge, attitude and practice in nurses can lead to an unsatisfactory performance, regarding the care of epidemic patients. Thus, the gaps in knowledge, attitude, and practice must be identified and addressed to prepare nurses. The current study aims to determine attitude, knowledge, and practice response among nurses towards the COVID-19 outbreak (at a military hospital for the first time in Iran). This is a helpful approach to upgrade the prevention and control procedures in similar situations.

Materials and Methods

Study design

A cross-sectional study based on a census sampling method was used at military hospital in Kerman, Iran. The study period was from January to February, 2021. A total of 99 nurses participated in this study. The inclusion criterion was all nurses working in the hospitals, dedicated to the admission and hospitalization of patients. The exclusion criteria were nurses who were not present during the study and failed to complete the questionnaire (because of sick leave or annual leave). The purpose and procedures of this study were explained to the ward managers and all participants; then, questionnaires were distributed to nurses at their workplace. Nurses were informed that they were free to withdraw at any time, without giving a reason, and all information provided by them would be kept anonymous and confidential.

Data collection

A self- report questionnaire was used to collect attitude, knowledge, and practices towards COVID- 19 among nurses. This questionnaire was designed and developed using WHO course materials on emerging respiratory viruses, including COVID-19 in Ethiopia. Other published articles were also used (11, 12). The questionnaire's modification was carried out to fit the local context.

The instrument consisted of four sections. The first part covered demographic data of the participants (sex, educational level, and work experience). The second part evaluated the nurses' knowledge of participants about COVID-19. The third and last part evaluated attitude and practice response among nurses towards the COVID-19 outbreak. The coded data were analyzed using SPSS 17, and the descriptive statistics were used to describe the quantitative and categorical variables.

Knowledge of COVID-19

The total knowledge score of the nurses varied between 0 (no correct answer) and 18 (all answers correct); a cut-off level of _9 was evaluated as poor knowledge, and >9 indicated satisfactory level of knowledge (13-17).

Attitude towards COVID-19

There were 11 questions regarding attitude (with a minimum score of 11 and a maximum score of 55). The attitude score was based on a five-point Likert scale, in which a score of 1 to 5 was given from strongly disagree to strongly agree. A mean score of >33 (answering strongly agree or agree), was described as a favorable

attitude, and a score of 11 to 33 indicated an unfavorable attitude (answering strongly disagree, disagree or neutral) (13, 15, 16-17).

Practices to Prevent COVID-19

There were 14 questions regarding practice (with minimum score of 14 and maximum score of 70). The score of the practice was based on a five-point scale, in which a score of 1 to 5 was given from never to always. A mean score of >42 (answering always or most of the time or sometimes) was carried out as performing good practices, and a score of _42 indicated poor practice (answering never or occasionally) (13, 15, 16).

The purpose and procedures of this study were explained to all participants. Then, the completed questionnaire returned to the researcher directly.

Results

99 nurses responded to the questionnaire (81.14%). The majority had a bachelor' s degree. Most respondents were women (68%). Table 1 shows the demographic characteristics.

Nurses' knowledge of COVID-19

Nurses' knowledge of COVID-19 was measured using 18 questions, and a numerical value for each question was provided (1, Yes; 0, No) (Table 2).

Practices towards COVID-19

The infection prevention practices towards COVID-19 were measured by 14 questions using five criteria, and by proving numerical value (1, never; 2, occasionally; 3, sometimes; 4, most of the time; 5, always) (Table 3)

Nurses' attitudes towards COVID-19

The nurses' attitude towards COVID-19 was measured using 11 questions, each of which used five criteria. Numerical value was, then, provided. (1, strongly disagree; 2, disagree; 3, neutral; 4, agree; and 5, strongly agree) (Table 4)

Table 1. Nurses Demographic Characteristics

Variables	Category	Number (percentage)
Sex	Male	31(32%)
	Female	68 (68%)
Educational level	Diploma	4 (4%)
	Bachelor's	88 (88%)
	Master's	7 (8%)
Working experience	<5 years	9 (9%)
	≥5 years	90 (91%)

Table 2. Knowledge of COVID-19

Questions	Response	Number (percentage)
COVID-19 is a virus infection.	Yes	84 (84.5%)
	No	15 (15.5%)
Antibiotics are the first-line treatment.	Yes	69 (69.5%)
	No	30 (30.5%)
Washing hands with soap and water, and using face masks can help prevent transmission of the disease.	Yes	99 (100%)
	No	0(0)
Health-care workers are at a higher risk of infection.	Yes	98 (99%)
	No	1 (1%)
COVID-19 could be fatal.	Yes	78 (78.6%)
	No	21 (21.4%)
The main clinical symptoms of COVID-19 are fever, cough, sore throat, shortness of breath , and myalgia/ fatigue.	Yes	99 (100%)
	No	0(0)
Currently, there is no effective cure for COVID- 19, but early symptomatic and supportive treatment can help most patients to recover from the infection.	Yes	94 (94.9%)
	No	5 (5.1%)
Elderly patients and patients with systemic chronic diseases are at a higher risk of severe infection and death.	Yes	97 (97.9%)
	No	2 (2.1%)

Questions	Response	Number (percentage)
People with COVID-2019 cannot infect others when they do not have a fever.	Yes	81 (81.8%)
	No	18 (18.2%)
Children and young adults do not need to take measures to prevent the infection by the COVID-19 virus	Yes	79 (79.2%)
	No	20 (20.8%)
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	Yes	96 (97%)
	No	3(3%)
People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place. In general, the observation period is 14 days.	Yes	90 (90.9%)
	No	9 (9.1%)
COVID-19 vaccine is available in markets.	Yes	82 (82.8%)
	No	17 (17.2%)
Unlike common cold, stuffy nose, runny nose and sneezing are less common in infected people.	Yes	56(56.6%)
	No	43(43.4%)
Eating or having contact with wild animals would result in getting the COVID-19 virus	Yes	66 (66.3%)
	No	33 (33.7%)
COVID-19 is transmitted by close contact with the infected person , via respiratory droplets	Yes	98 (99%)
	No	1 (1%)
Ordinary residents can wear general medical masks to prevent the infection.	Yes	92 (92.9%)
	No	7 (7.1%)
To prevent the infection by COVID-19, individuals should avoid taking public transportations , and going to crowded places such as train stations	Yes	98 (99%)
	No	1 (1%)
Knowledge (mean score of knowledge :15.71 ± 1.55)	Good	99 (100%)
	Poor	

Table 3. Infection Prevention Practices of Nurses towards Coronavirus Disease 2019 (COVID-19)

Questions	Never frequency	Occasionally Frequency	Sometimes frequency	Most of the time frequency	Always frequency
Have you gone to any crowded places?	31 (31.3%)	41 (41.5%)	20 (20.2%)	3(3.2%)	4 (4%)
Have you worn a mask when leaving home?	41 (1%)	3 (3%)		11 (11.1%)	84 (84.4%)
Do you always remove protective equipment carefully?	1 (1%)	3 (3%)	2 (2%)	45 (45.5%)	48 (48.5%)
Do you wash hands after touching contaminated objects?	1 (1%)	2 (2%)	1 (1%)	18 (18.2%)	77(77.8%)
Do you cover your mouth when coughing and sneezing?	4 (4%)		1 (1%)	18 (18.2%)	76 (76.8%)
Do you use public transportation?	50 (50.4%)	22 (22.2%)	12 (12.1%)	8 (8.1%)	7 (7.2%)
Do you wear a mask regardless of the presence or absence of symptoms?	2 (2%)		2 (2%)	19 (19.2%)	76 (76.8%)
Do you wash your with soap and water?	1 (1%)		2 (2%)	23 (23.2%)	73 (73.8%)
Do you wash your hands immediately after coughing, rubbing the nose, or sneezing?	1 (1%)	3 (3%)	11 (11.1%)	25 (25.3%)	59 (60.5%)
Do you avoid using an elevator?	6 (6.1%)	24 (24.2%)	41 (41.4%)	20 (20.2%)	8 (8.1%)
Do you avoid meeting with more than ten people?	2 (2%)	10 (10.1%)	20 (20.2%)	41 (41.4%)	26 (26.35)
Do you feel that there has been too much worry or anxiety about COVID19?	13 (13.1%)	29 (29.3%)	16 (16.2%)	17 (17.2%)	24 (24.5%)
Do you stay at home to avoid COVID-19 rather than a normal situation (family quarantine)?	2 (2%)	7 (7.1%)	12 (12.1%)	34 (34.3%)	44 (44.5%)
Do you sit in one row while having a meal?	55 (55.6%)	23 (23.2%)	9 (9.1%)	6 (6.1%)	6 (6.1%)
Practice (mean of practice: 52.15 ± 5.50)	Good	98(98%)			
	Poor	1(2%)			

Table 4. Nurses' Attitude towards COVID-19

Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Do you agree that COVID-19 will be successfully controlled?	7 (7.1%)	20 (20.2%)	37(37.4%)	31 (31.3%)	4 (4%)
Can prevalence of COVID-19 be reduced by active participation of health-care workers in hospital infection control programs?	3 (3%)	8 (8.1%)	19 (19.2%)	55 (55.6%)	14 (14.1%)
Can transmission of COVID-19 be prevented by washing hands with soap frequently?		9 (9.1%)	20 (20.2%)	49 (49.5%)	21 (21.2%)
Should COVID-19 patients be kept in isolation?		2 (2%)	19 (19.2%)	36 (36.4%)	42 (42.4%)
If a COVID-19 vaccine was available, I would have it.	7 (7.1%)	11 (11.1%)	29 (29.3%)	34 (34.3%)	18 (18.2%)
Is medical staff ready to participate in preventive procedures in the community?		3 (3%)	17 (17.2%)	56 (56.5%)	23 (23.2%)
Do you have confidence that Iran can win the battle against COVID-19 virus?	3 (3%)	6 (6.1%)	38 (38.4%)	39 (39.4%)	13 (13.1%)
Do you think you might get the disease?	1 (1%)	6 (6.1%)	31 (31.3%)	35 (35.4%)	26 (26.3%)
Are you worried that one of your family members may get an infection?		4 (4%)	14 (14.1%)	37 (37.4%)	44 (44.4%)
Should patients disclose their exposure to the virus?			10 (10.1%)	48 (48.5%)	41 (41.4%)
Should COVID-19 patients be kept in isolation?	6 (6.1%)	9 (9.1%)	14 (14.1%)	30 (30.3%)	40 (40.4%)
Attitude (mean of attitude : 41.98 ± 4.80)	Favorable attitude	91(91%)			
	Unfavorable attitude	8(9%)			

Discussion

The present study was carried out to assess knowledge, attitude and practice response towards COVID- 19 among nurses, during COVID-19 outbreak, at a military hospital.

Knowledge about COVID-19 is essential to control and manage the disease. Based on this study, 100% of the participants had good knowledge regarding COVID-19 outbreak. This percentage is higher than other studies conducted in Iran and Ethiopia (11, 12). In another study in Nepal, the majority of healthcare workers had good to moderate knowledge (18). Similarly, Zhou et al. also reported that, the majority of healthcare workers in a study in China had sufficient knowledge and good practice towards COVID-19 (n = 89%, 89.7%, respectively) (13). Furthermore, Arslanca et al. concluded that the knowledge level of health care workers concerning COVID-19 was above 90% (19). These results were in line with a study that revealed good knowledge and positive attitude among healthcare workers towards MERS (20). They were also consistent with another study by Alqahtani (21) among 418 health college students in Najran, Saudi Arabia. Possible reasons for good knowledge may be that, the nurses were being prepared to deal with the epidemic.

The result of this study suggested that 98% of the participants showed satisfactory infection prevention practices towards COVID-19. Findings were consistent with the results of previous studies (15,22-23). In addition, Rani et al. explored the knowledge, attitude, and practices of health-care professionals regarding Coronavirus (COVID-19) pandemic infection, and found that the practice score was good (24).

Our findings showed that 91% of the study participants had favorable attitudes towards COVID-19. Also, similar results were obtained from other studies (14,22-24).

Limitation

The relatively small sample size limited the general applicability of the results. The results presented in this study were self-reported, and partly dependent on the participants' honesty and recall ability.

Conclusion

Nurses showed almost good attitude, knowledge, and practices concerning COVID-19. Emergence and spread of Coronavirus as an international threat, has disrupted all global equations. COVID-19 pandemic has impacted normal life in most countries. Despite problems, a unique opportunity has been created to recognize true values and status of nursing. However, nurses must be equipped with more information to prevent and control infectious disease.

Conflict of interest

Authors declared no conflict of interest.

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Authors, contributions

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