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Knowledge, attitude, and practice toward COVID-19 among nurses

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ABSTRACT

BACKGROUND & OBJECTIVE: COVID-19 is caused by the SARS-CoV-2 virus and can lead to respiratory disorders, mainly pneumonia. The study's objective was to determine the Knowledge, attitude, and practice regarding COVID-19 among nurses working at tertiary care public sector hospitals in Karachi.

METHODOLOGY: A descriptive cross-sectional study was conducted at Shaheed Mohtarma Benazir Bhutto Institute of Trauma, Karachi, for three months, from October to December 2020, on 239 nurses of both genders. A non-probability convenient sampling technique was used to assess the participants. A validated and open-accessible tool was used for data collection. A chi-square test was used to assess the association of Knowledge, attitude, and practice toward COVID-19 with demographic variables. The level of significance was considered with a p-value ≤0.05.

RESULTS: Out of the total, 59.4% were female, and 66.1% of the study subject's ages ranged from 25-30 years old. Mainly, 65.3% of the study participants had a diploma in nursing. Approximately half of the participants 54.4% worked the morning shift. Most 87.4 % of participants had two years and above experience. The gender and work experience of the participants were found to be statistically significant (p-value 0.009 and 0.03 respectively). The majority, of the study participants 63.2% think COVID-19 is not a severe disease. Nearly one-fourth of the participants 23.8% were not worried about contracting COVID-19 from patients.

CONCLUSION: It is concluded that most of the study participants had sound Knowledge, a positive attitude towards its remedy, and appropriate practice towards COVID-19.

KEY WORDS: COVID-19, Nurses, Knowledge, Attitude, Practice.

INTRODUCTION

Corona Virus Disease (COVID-19) is an acute respiratory infection that belongs to the novel coronavirus; the first case was diagnosed in December 2019 in Wuhan, China [1] followed by multiple cases of that infection in Wuhan. The transmissions of this infection were noted as close contact with the infected person and droplet [2].

In rare cases, major clinical features of COVID-19 include fever, dry cough, sore throat, body ache, hemoptysis, headache, diarrhea, productive cough, and loss of smell [3]. Moreover, a current research study revealed that COVID-19 is a harmful disease in asymptomatic patients that may cause 2% of deaths [4]. COVID-19 has spread almost all around the globe; hence, WHO declared it a pandemic on March 11th, 2020 [5].

According to WHO, the spread of COVID-19 can be prevented from person to person by maintaining social distance and avoiding close contact [6]. Moreover, healthcare workers predominately nurses are first-line care workers. As a result, healthcare providers mainly nurses are at highest risk of being infected from Covid-19. Moreover, COVID-19 has harmful effects on nurses' mental health, such as anxiety; significantly higher levels of anxiety have been reported in female nurses [7]. It's necessary to take all possible preventive measures to control the transmission of diseases among healthcare providers [8]. Around the globe, rapid communication of COVID-19 creates terrible panic among people [9]. A research study conducted in Pakistan disclosed participants' limited access to infection control material and low Knowledge regarding the transmission

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COVID-19 infection control [10]. Due to a lack of Knowledge, nurses face difficulty in providing proper care, which may cause deterioration of patients' health and lead to high morbidity and mortality [11]. Therefore, this study was conducted to determine the Knowledge, attitude, and practice regarding COVID-19 among the nurses working at tertiary care public sector hospitals in Karachi.

METHODOLOGY

This descriptive cross-sectional study was employed on nurses at Shaheed Mohtarma Benazir Bhutto Institute of Trauma, Karachi, for three months, from October to December 2020. The sample size was calculated using OpenEpi version 3.0 online sample size calculators. The calculated sample size was 239 nurses of both genders. It was calculated by taking the 90% disease prevalence with a 99% confidence level and a 1% margin of error [4].

Data was entered and analyzed using SPSS version 21. Data was shown in mean± standard deviation for all quantitative variables, including age and working experience, while frequency and percentages for all qualitative variables like gender, designation, working area, marital status, duty shift, and educational status.

A convenient non-probability sampling technique was used to approach the participants. All nurses come to their working areas to participate in the study. Participation of the subjects was voluntary. At first, all nurses were invited to attend the introductory session of the present study. Afterward, self-administered structured questionnaires were distributed among all participants and collected back. Principal investigators were there to assist the participants where needed.

The study was conducted after the approval of the Ethics Research Committee (Ref# ERC-000015/SMBBIT/Approval/2020). A validated, piloted instrument was utilized for data collection. The tool's reliability was 0.75 and was computed using Cronbach's alfa test.

Mann-Whitney U Test and Kruskal-Wallis Test were used to establish an association between the demographic characteristics of participants and knowledge score of COVID-19, as data did not follow normal distribution. The association of socio-demographic characteristics with attitude score towards COVID-19 was determined by using chi-square/Fishers exact. The level of significance was considered with a p-value ≤0.05.

RESULTS

Out of 239 participants, 145 (59.4%) were female, and the gender variable was also found to be statistically significant (p-value=0.009), which shows that male participants had slightly more Knowledge of COVID-19 than females.

Table-I: Demographic characteristics of participants and knowledge score of COVID-19 (N=239).

Characteristics		n (%)	Knowledge Score Mean (SD)	Mann-Whitney U/χ^2	P-value
Age (Years)	25-30	158 (66.1)	7.73 (1.93)	0.597[b]	0.89
	31-35	67 (28.0)	7.91 (1.57)		
	36-40	12 (5.0)	7.58 (1.44)		
	41 and above	2 (0.8)	8.00 (0.00)		
Gender	Male	97 (40.06)	8.15 (1.71)	5559.000[a]	0.009*
	Female	142 (59.4)	7.52 (1.82)		
Designation	Staff Nurse	198 (82.8)	7.79 (1.89)	3.604[b]	0.16
	Head Nurse	15 (6.3)	8.27 (0.88)		
	Other	26 (10.9)	7.38 (1.39)		
Marital Status	Single	108 (45.2)	7.61 (1.89)	6503.500[a]	0.27
	Married	131 (54.8)	7.92 (1.72)		
Educational Status	Diploma in Nursing	156 (65.3)	7.67 (1.81)	4.831[b]	0.08
	BSN	81 (33.9)	8.05 (1.74)		
	MSN	2 (0.8)	5.50 (2.12)		
Duty shift	Morning	130 (54.4)	7.97 (1.61)	2.466b	0.29
	Evening	51 (21.3)	7.88 (1.64)		
	Night	58 (24.3)	7.26 (2.22)		
Work Experience	< 2 years	30 (12.6)	7.13 (1.87)	2409.000a	0.03*
	2 years above	209 (87.4)	7.87 (1.78)		
Working Area	General Wards	165 (69.0)	7.76 (1.90)	5981.500a	0.79
	Special Care Unit	74 (31.0)	7.81 (1.58)		

a. Mann-Whitney U Test
b. Kruskal-Wallis Test
c. * significant

Approximately half, 131 (54.8%) of the subjects were married. As for an education concern, one-third of 156 (65.3%) of the study participants had a diploma in nursing, and only 02 (0.8%) were MSN holders. Nearly half of the 130 (54.4%) participants worked the morning shift, and the rest were in the evening or night shift. The majority 209 (87.4%) participants' experience was two years and above, which was also significant (p-value=0.03), indicating that more experienced nurses were somewhat better than less experienced nurses. Table- I exhibits the demographic characteristics of participants and the knowledge score of COVID-19.

The majority, 63.2% of the study participants, think COVID-19 is not a severe disease. Nearly one-fourth of 23.8% were not worried about contracting with COVID-19 patients. Almost half, 44.4% of the study subjects, verbalized that COVID-19 has not disturbed their daily lives, and 45.6% said that it can't be treated at home without a doctor's consultation. Approximately half of the participants 58.6% agreed that if a coronavirus vaccine is available, we will use it 53.1% of participants agreed that the use of a face mask is an essential preventive strategy, 50.6% of participants think health education has nothing to do with disease prevention and 57.3% of the participants agreed that handling COVID-19 patients do not put us at risk of the infection. The only variable working area of the nurses was found to be statistically significant with attitude toward COVID-19 (p-value=0.021) (Table- II).

Table-II: Comparison of Koos subscale between the experimental and control groups.

Characteristics		Attitude		χ^2	p-value
		Not Good n(%)	Good n(%)		
Age	Up to 30 Years	122 (77.2)	36 (22.8)	2.872	0.09
	Above 30 Years	70 (86.4)	11 (13.6)		
Gender	Male	73 (75.3)	24 (24.7)	2.664	0.103
	Female	119 (83.8)	23 (16.2)		
Designation	Staff Nurse	156 (78.8)	42 (21.2)	1.748	0.186
	Other Position	36 (87.8)	05 (12.2)		
Marital Status	Single	89 (82.4)	19 (17.6)	0.536	0.464
	Married	103 (78.6)	28 (21.4)		
Educational Status	Diploma in Nursing	129 (82.7)	27 (17.3)	1.580	0.209
	Graduation in Nursing	63 (75.9)	20 (24.1)		
Duty shift	Morning	101 (77.7)	29 (22.3)	1.841	0.398
	Evening	41 (80.4)	10 (19.6)		
	Night	50 (86.2)	8 (13.8)		
Work Experience	< 2 years	25 (83.3)	5 (16.7)	0.195	0.659
	2 years above	167 (79.9)	42 (20.1)		
Working Area	General Wards	126 (76.4)	39 (23.6)	5.319	0.021*
	Special Care Unit	66 (89.2)	8 (10.8)		

Table-III reveals' practices toward COVID-19. 57.7% of participants did not wash their hands frequently, and 77.4% were washing their hands for 20 seconds. One-third of the study subjects, 65.3%, were maintaining distance from people with influenza-like symptoms. Most, 46.9% of the participants still go to crowded places, and 65.3% wear masks when leaving home.

Table- III:Practices toward COVID-19 (n=239).

Practices	Yes n(%)	No n(%)
Do you wash your hands more frequently?	101 (42.3)	138 (57.7)
Do you wash your hands for at least 20 seconds while hand washing?	185 (77.4)	54 (22.6)
Do you keep a distance from people with influenza-like symptoms (flu/colds)?	156 (65.3)	83 (34.7)
In recent days, have you gone to any crowded place?	127 (53.1)	112 (46.9)
In recent days, have you worn a mask when leaving home?	156 (65.3)	83 (34.7)

DISCUSSION

The world is facing the worst health concern, COVID-19. This pandemic created a panic situation similar to the previous ones, with the world's population dying from this outbreak. The whole machinery of the medical world came into action to control this pandemic and save humanity. Since the outbreak of COVID-19 occurred, healthcare providers have shown more respect, solidarity, and responsibility than ever.

Healthcare workers, especially doctors and nurses, play their best role in preventing, diagnosing, controlling, and managing this disease. Their Knowledge, attitude, and practices have greater importance in dealing with such emergencies. This study was designed to determine nurses' Knowledge of this novel disease and their attitudes and practices in preventing, controlling, and managing COVID-19.

The current study found an overall 64.83% correct response rate on knowledge assessment and showed that participants had average Knowledge of COVID-19. Males had slightly better Knowledge of COVID-19 than females (p-value=0.009). The scores are in line with a study carried out in Nepal [12] but better compared with Vietnam [13], Nigeria [14], and Ethiopia [15]. A study in Lahore, Pakistan, showed a higher knowledge score [16].

It is essential to keep in view that the disease is novel. Diversity in the presentation of symptoms and imaging [17], the WHO continuously updates its diagnostic criteria for inclusion and suspiciousness of the disease. WHO and other health agencies designed different online courses for healthcare professional training to enhance their Knowledge and competencies [18]. They were improving professional Knowledge and building competencies.

Along with other factors, education and work experience affect nursing competence [19] and better quality of working life [20,21]. The current study demonstrated lower participation of nurses with a baccalaureate or a master's degree, but those with higher work experience reported higher mean knowledge scores (p-value=0.03). The total mean Knowledge was not significantly different among different age groups and working areas.

It is a matter of great concern that most nurses replied that COVID-19 is not a severe disease. Besides this, only 23.8% did not worry about contracting COVID-19 patients. Almost half of the participants think using a face mask is an essential preventive strategy. A similar proportion of respondents answered that health education has nothing to do with disease prevention and that handling COVID-19 patients does not put us at risk of infection.

This attitude can affect their way of practicing in the current outbreak. A negative attitude toward the disease was also reported in Nepali nurses [12, 21]. Other studies expressed contradictory results regarding nurses' attitudes regarding this outbreak [13,14]. Healthcare professionals must have a positive role in preventing and controlling the spread of infections by educating others about necessary and mandatory measures at every level. Improvement is needed to enhance their Knowledge, resulting in a change of attitude and practice. People nowadays are getting more Knowledge and awareness from online sources and television [15]. Still, those living in rural areas or needing access to such sources may have less Knowledge and a negative attitude towards COVID-19. Nurses can educate and motivate the communities to increase their knowledge of preventing and controlling the spread of infection.

WHO and the Centers for Disease Control and Prevention (CDC) recommended different strategies to prevent and minimize the spread of COVID-19. These include frequently washing hands, wearing a mask, socially distancing at least six feet, avoiding crowded and poorly ventilated spaces, coughing and sneezing etiquette, and properly cleaning and disinfecting surfaces [22]. Another significant finding revealed that 57.7% of participants did not wash their hands frequently. Proper hand hygiene is pivotal in enhancing protection and preventive measures for any infection, especially COVID-19. Most participants, 101 (42.3%), washed their hands for 20 seconds.

However, studies illustrated that frequent hand hygiene patients have a greater risk of skin damage than those who wear gloves longer [23]. Applying moisturizer following hand washing or alcohol-based hand sanitizer can reduce damage to the skin [24]. Half of the respondents visited crowded places. About one-third of the participants were not maintaining social distancing from people with influenza-like symptoms. Nearly half of the participants have yet to go to a crowded place.

Moreover, 65.3% had worn a mask when leaving home. The virus of COVID-19 is highly contagious and spreads easily and very fast from person to person through droplets (coughing or sneezing) or contact with contaminated surfaces. It has been observed a large number of individuals are asymptomatic but can spread the infection; community transmission and spread can be decreased by maintaining proper social distancing and wearing a mask in combination with other preventive strategies. The government had imposed lockdowns at different stages to overcome barriers to controlling the outbreak's spread.

CONCLUSION

It is concluded that nurses have a considerable knowledge of COVID-19. However, nearly two-thirds of the study participants do not consider COVID-19 a severe disease. In comparison, practice towards COVID-19 was found appropriate. Continuous nursing educational sessions may be carried out on a regular basis to improve Knowledge, attitudes, and practices towards COVID-19 among nurses at every hospital.

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Ghulam Murtaza: Substantial contributions to the conception or design of the work.
Badil: Acquisition and analysis of data for the work.
Raja: Interpretation of data for the work.
Gulsher:Drafting the work for important intellectual content.
Kashif Khan:Interpretation of data for the work.
Ameer Ullah Khan:Drafting the work and reviewing it critically for important intellectual content.