

Original Research Article

Knowledge, attitude, and practices towards COVID-19 among nurses, ward attendants, and housekeeping staff at a tertiary psychiatric institute in India

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ABSTRACT

Background: The world health organization (WHO) declared COVID-19 a worldwide pandemic on 11th March 2020. As this is a novel illness, thus knowledge, attitude, and practice (KAP) related to the pandemic is a new area of research. KAP in a non-COVID facility, such as a psychiatric institution is rare.

Methods: Cross-sectional survey with purposive sampling, conducted at central institute of psychiatry, Ranchi, India. A sample of 235 healthcare workers consisting of nurses, wards attendants, and housekeeping staff took part in the study. Participants completed a 36-item questionnaire assessing their KAP related to COVID-19.

Results: 79.42% of healthcare workers in this study had adequate knowledge of COVID-19 symptomatology, transmission, management, and preventive measures. 89.79% were confident that India would win the battle against COVID-19. 35.32% fear to work in a hospital, but on the other hand, 80.85% of healthcare staff considered coming to work as part of their duty. Good practices like wearing a mask before leaving home and practicing proper cough hygiene were observed. The significant difference found in KAP among the three groups. Spearman's correlation was significant between age, level of education of the participants with the KAP.

Conclusions: The study suggests increased attention is required towards the training of the healthcare workers to enhance their knowledge and attitude so that the practices can be improved.

Keywords: COVID-19, KAP, Nurses, Ward attendants, Housekeeping, Tertiary psychiatric institute

INTRODUCTION

COVID-19 also referred to as coronavirus disease 2019 is a rising respiratory disease that is caused by a novel coronavirus which was initially detected in December 2019 in Wuhan, China.¹ The disease is extremely infectious and therefore the outbreak has been declared a worldwide pandemic by the WHO.² The first case of coronavirus pandemic in India was reported on 30th January 2020 and as of 03rd May 2020, the WHO

reported 40,263 confirmed cases; 10,887 recoveries and 1306 deaths within the country.³

The unpredictability and uncertainty of the situation regarding the seriousness of the danger and control of the disease are of immense stress. This situation is further aggravated by the spread of COVID-19 misinformation including unsupported treatments or promotion of ineffective preventive behaviours.⁴ KAP surveys, among at-risk populations, is helpful to prepare prevention, control, and mitigation measures

during epidemics.⁵ To introduce and install effective control measures, knowing basic hygiene principles and modes of disease transmission, and measures in such an environment are, therefore, of significant importance.⁶ This can be generally influenced by their knowledge, attitude, and practices concerning COVID-19.⁷ Implementing personal hygiene and public health behaviours are necessary to curb the spread of coronavirus, like hand washing and social distancing, which are going to be challenging if not impossible in these settings.⁸ The main goal of the current study was to measure the level of knowledge, attitude, and practice concerning COVID-19, to detect socio-demographic variables related to a satisfactory level of them and to explore awareness and health behaviours associated with the prevention of coronavirus infection.

METHODS

This study is a cross-sectional survey, with purposive sampling.

Inclusion criteria included, their minimal education criteria for respective groups, duly signed informed consent form and completely filled up survey questionnaire.

Exclusion criteria excluded, those not giving consent and not filling the survey form completely.

After approval from the institute ethics committee, priori sample size estimation was done using software G-power 3.1.9.2 for 3 groups using effect size 0.25, α 0.05, power 0.95 which came out to be 252. Invited 261 healthcare workers were invited for the survey out of which 235 participants were selected with a drop out of 26 participants due to incomplete survey forms. Data was collected between 7th to the 16th of April 2020.

Questionnaire preparation included a 36-item survey questionnaire, which was developed using a study and WHO course materials, and a study.^{1,9} The questionnaire consisted of 19 questions on knowledge, 10 assessed attitudes, and 7 related to the practices. The questionnaire was in both English/Hindi languages for convenience. It was validated by four different blind raters and their reliability was established. Before the final survey, certain changes were made as required to enable a better understanding of the questions and arranged to ensure its efficiency.

The KAP towards COVID-19 among nurses, ward attendants, and housekeeping staff was assessed using few of the questionnaire given in the tables below.

Data collection carried out by institution-based survey at the Central Institute of Psychiatry, Ranchi. 235 participants, who gave their consent, were informed about the objective, procedures, and confidentiality.

For statistical analysis SPSS version 25.0 was used. Chi-square test/Fisher's exact test was used to compare categorical data. The descriptive analysis applied to calculate the frequencies and proportions. Spearman's correlation used to determine the association among the groups.

RESULTS

A total of 235 participants completed the survey questionnaire, which comprised of 146 nurses, 49 ward attendants, and 40 housekeeping staff. The mean age of the three groups was (42.72±9.926), which was significantly different ($p < 0.001$).

Table 1 states majority of the participants were female (74.9%) and were married (88.9%), in which 58.7% of the nursing group had a specialization in their field. The table shows a significant difference between three groups.

Table 2 exhibits a comparison of knowledge among the three groups. It shows the significant difference among the groups, they have sound knowledge on the symptom profile of the disease (K1), vulnerable groups who develop severe illnesses (K4), the transmission of the virus without being symptomatic (K6), mode of transmission by respiratory droplets of infected individuals (K7), prevention of the infection by ordinary mask in common public (K8), take preventive measures for children and young adults (K9), the effectiveness of isolation in transmission reduction (K11), minimum number of quarantine days, if tested positive (K16), and knowledge about contents of PPE (K19).

Table 3 shows a comparison of attitudes among three groups on the COVID-19 outbreak. A significant positive attitude was found among the groups. 73.61% of the participants were confident in the successful control of pandemic (A1). 89.8% were convinced that India will be successful against this global pandemic (A2). 54.0% did not have any trouble while working in an outbreak scenario. 35.32% of the participants were fearful (A6). 52.34% of the participants feel safe to work in the hospital environment (A7). There was a significant difference (79.60%) (A8) on the use of surgical masks for reducing the risk of infection transmission. A significant difference was found about wearing a mask before leaving home (82.98%) (P2). 71.06% of participants responded to stay in isolation and following instructions (P3). 80.85% felt that coming to work as part of their duty (P4). The practice related to hand sanitization for 20 seconds using 70% alcohol (P5) (57.45%), soap and water (P6) for 20 sec (40.43%). 52.3% stated the use of handkerchief for proper cough hygiene (P7).

Table 4 states that the age of participants is positively correlated with the knowledge of no effective cure for COVID-19, but early symptomatic and supportive care may help in recovery from infection ($p < 0.01$), as well they agree on successful control ($p < 0.05$). The age of

participants was negatively correlated with their feelings while working during this outbreak (p<0.01).

Level of education was positively correlated to the knowledge of eating or contacting wild animals would not result in infection (p<0.01), participants disagreed COVID-19 positive patients could not infect others if fever is absent (p<0.01). Ordinary residents can wear general medical masks to prevent the infection (p<0.01). Participants disagreed that children and young adults don't need to take measures against coronavirus (p<0.01),

educational level is positively correlated to the knowledge of contents of PPE kit (p<0.01), as well they agreed that COVID-19 will successfully be controlled (p<0.01). An optimistic attitude was found in participants that India will win this battle (p<0.01). There is the presence of a positive feeling of safety at the workplace (p<0.01) along with that surgical mask can reduce the risk of infection transmission (p<0.05). Participants believed in proper quarantine practice of isolation for 14 days and follow instructions (p<0.01).

Table 1: Association of socio-demographic variables between nurses, ward attendants and housekeeping staff groups.

Variables	Nurses n=146 (n=62.1%)	Ward attendants n=49 (n=20.9%)	Housekeeping staff n=40 (n=17.0%)	χ ² /Fisher exact test	df	P
Sex						
Male	11 (4.7)	26 (11.1)	22 (9.4)	63.351	2	0.0001**
Female	135 (57.4)	23 (9.8)	18 (7.7)			
Marital status						
Married	134 (57.0)	45 (19.1)	30 (12.8)	10.775 ^f	-	0.014*
Unmarried	10 (4.3)	3 (1.3)	10 (4.3)			
Widow	2 (0.9)	1 (0.4)	0 (0.0)			
Level of education						
Up to matriculation	1 (0.4)	34 (14.5)	31 (13.2)	259.960 ^f	-	0.0001**
Up to intermediate/diploma	4 (1.7)	12 (5.1)	7 (3.0)			
Up to graduation	3 (1.3)	3 (1.3)	2 (0.9)			
Nursing specialization (GNM/ RNRN/ DPN/ DNA/ B.Sc. Nursing)	138 (58.7)	0 (0.0)	0 (0.0)			

*Significance at p<0.05 (2 tailed), **Significance at p<0.001 (2 tailed).

Table 2: Comparison of knowledge between the nurses, ward attendants, and housekeeping staff on COVID-19.

Knowledge	Response	Nurses n=146 (%)	Ward attendants n=49 (%)	Housekeeping Staff n=40 (%)	Fisher's exact test	P
K1	True	128 (54.5)	49 (20.9)	36 (15.3)	14.368	0.001**
	False	18 (7.7)	0 (0.0)	2 (0.9)		
	I don't know	0 (0.0)	0 (0.0)	2 (0.9)		
K4	True	99 (42.1)	23 (9.8)	20 (8.5)	11.895	0.014*
	False	41 (17.4)	24 (10.2)	15 (6.4)		
	I don't know	6 (2.6)	2 (0.9)	5 (2.1)		
K6	True	22 (9.4)	21 (8.9)	17 (7.2)	28.168	0.0001**
	False	118 (50.2)	26 (11.1)	18 (7.7)		
	I don't know	6 (2.6)	2 (0.9)	5 (2.1)		
K7	True	135 (57.4)	39 (16.6)	30 (12.8)	12.210	0.008**
	False	9 (3.8)	9 (3.8)	8 (3.4)		
	I don't know	2 (0.9)	1 (0.9)	2 (0.9)		
K8	True	93 (39.6)	41 (17.4)	34 (14.5)	11.184	0.016*
	False	47 (20.0)	8 (3.4)	6 (2.6)		
	I don't know	6 (2.6)	0 (0.0)	0 (0.0)		
K9	True	8 (3.4)	13 (5.5)	18 (7.7)	38.293	0.0001**
	False	137 (58.3)	36 (15.3)	22 (9.4)		
	I don't know	1 (0.4)	0 (0.0)	0 (0.0)		
K11	True	136 (57.9)	47 (20.0)	30 (12.8)	14.186	0.003**
	False	7 (3.0)	0 (0.0)	5 (2.1)		
	I don't know	3 (1.3)	2 (0.9)	5 (2.1)		

Continued.

K16	5 days	0 (0.0)	0 (0.0)	1 (0.4)	11.891	0.025*
	10 days	0 (0.0)	0 (0.0)	2 (0.9)		
	14 days	121(51.5)	45(19.1)	32 (13.6)		
	20 days	25 (10.6)	4 (1.7)	5 (2.1)		
K19	Wraparound surgical gown	2 (0.9)	7 (3.0)	3 (1.3)	19.545	0.0001**
	N95 respirator mask	3 (1.3)	4 (1.7)	4 (1.7)		
	Goggles and hood cover	0 (0.0)	0 (0.0)	0 (0.0)		
	Gloves	0 (0.0)	0 (0.0)	0 (0.0)		
	All of the above	141(62.1)	38 (16.2)	33 (15.6)		

*Significance at p<0.05 (2 tailed), **Significance at p<0.001 (2 tailed).

Table 3: Comparison of attitude and practice between the nurses, ward attendants, and housekeeping staff on COVID-19.

Attitude/ practice	Response	Nurses n=146 (%)	Ward attendants n=49 (%)	Housekeeping staff n=40 (%)	χ^2 /fisher exact test	df	P
A1	Agree	90 (38.3)	46 (19.6)	37 (15.7)	38.591 ^f	-	0.0001**
	Disagree	17 (7.2)	3 (1.3)	3 (1.3)			
	I don't know	39 (16.6)	0 (0.0)	0 (0.0)			
A2	Yes	124 (52.8)	47 (20.0)	40 (17.0)	10.913 ^f	-	0.003**
	No	22 (9.4)	2 (0.9)	0 (0.0)			
A4	Panic	29 (12.3)	6 (2.6)	3 (1.3)	21.196 ^f	-	0.004**
	Helpless	19 (8.1)	1 (0.4)	6 (2.6)			
	Hopeless	7 (3.0)	2 (0.9)	3 (1.3)			
	None of the above	77 (32.8)	34 (14.5)	16 (6.8)			
	Others	14 (6.0)	6 (2.6)	12 (5.1)			
A6	Disturbed sleep	9 (3.8)	1 (0.4)	4 (1.7)	54.650	10	0.0001**
	Fearful	55 (23.4)	14 (6.0)	14 (6)			
	Fatigue	6 (2.6)	2 (0.9)	2 (0.9)			
	All of the above	24 (10.2)	9 (3.8)	15 (6.4)			
	Others specify	18 (7.7)	23 (9.8)	5 (2.1)			
A7	Yes	61 (26.0)	35 (14.9)	27 (11.5)	17.368	2	0.0001**
	No	85 (36.2)	14 (6.0)	13 (5.5)			
A8	Yes	103 (43.8)	44 (18.7)	33 (14.0)	8.519	2	0.014*
	No	43 (18.3)	5 (2.1)	7 (3.0)			
P2	Yes	113 (48.1)	45 (19.1)	37 (15.7)	8.510	2	0.014*
	No	33 (14)	4 (1.7)	3 (1.3)			
P3	Stay isolated 1 week	24 (10.2)	2 (0.9)	2 (0.9)	65.593 ^f	-	0.0001**
	Escape from quarantine situation	4 (1.7)	14 (6.0)	22 (9.4)			
	Isolation 14 days and follow instructions successfully	118 (50.2)	33 (14.0)	16 (6.8)			
	Others	0 (0.0)	0 (0.0)	0 (0.0)			
P4	Determined	23 (9.8)	3 (9.4)	6 (2.6)	17.449 ^f	-	0.003**
	Part of my duty	116 (49.4)	46 (24.2)	28 (1.9)			
	Forcibly coming	6 (2.6)	0 (0.0)	1 (0.4)			
	Others	1 (0.4)	0 (0.0)	5 (2.1)			
P5	20 seconds	95 (40.4)	17 (7.2)	23 (9.8)	20.200 ^f	-	0.001**
	30 seconds	21 (8.9)	19 (8.1)	6 (2.6)			
	60 seconds	24 (10.2)	12 (5.1)	11 (4.7)			
	10 seconds	6 (2.6)	1 (0.4)	0 (0.0)			

Continued.

Attitude/practice	Response	Nurses n=146 (%)	Ward attendants n=49 (%)	Housekeeping staff n=40 (%)	χ^2 /fisher exact test	df	P
P6	10 seconds	12 (5.1)	1 (0.4)	6 (2.6)	15.685 ^f	-	0.013*
	20 seconds	64 (27.2)	19 (8.1)	12 (5.1)			
	40 seconds	23 (9.8)	11 (4.7)	15 (6.4)			
	60 seconds	47(20.0)	18 (7.7)	7 (3.0)			
P7	With both the palms	7 (3.0)	0 (0.0)	1 (0.4)	40.630 ^f	-	0.0001**
	With elbow	83 (35.3)	11 (4.7)	7 (3.0)			
	Use handkerchief	56 (23.8)	37 (15.7)	30 (12.8)			
	No cover	0 (0.0)	1 (0.4)	2 (0.9)			

*Significance at p<0.05 (2 tailed), **Significance at p<0.001 (2 tailed)

Table 4: Spearman’s correlation between age and level of education of the participants with KAP within the groups.

Variables	Age of participant (Year)	Level of education
	P value	
K3	0.183	-
K5		0.184**
K6		0.247**
K8		0.251**
K9		0.401**
K19		0.270**
A1	0.134*	0.350**
A2		0.170**
A4	0.212**	-
A7		0.295**
A8		0.153*
P3		0.226**

*Significance at p<0.05 (2 tailed) **Significance at p<0.01 (2 tailed), N=235; P=correlation coefficient.

Table 5 shows wearing ordinary masks for infection prevention is required for pandemic control (p<0.05). Thus, knowledge regarding isolation and treatment of patients have developed a positive attitude (p<0.05), as well as self-quarantine if, tested positive but their family members were scared (p<0.05). Early symptomatic and supportive care may reduce transmission by practicing proper cough hygiene (p<0.05). Wearing mask before leaving home is positively correlated with symptomatic

and supportive care (p<0.05) and isolation of contacts with an infected person for 14 days (p<0.01) which is again correlated with the practice of covering nose and mouth while coughing or sneezing (p<0.05). Participants felt it was part of their duty to come to work as they are aware of the isolation and treatment of infected patients to reduce the spread (p<0.01). They felt safe as they know the contents of PPE (p<0.01).

Table 5: Spearman’s correlation between knowledge of the participants and their attitudes and practices towards the coronavirus pandemic.

Variables	A1	A4	A5	A7	A9	P2	P4	P7
K3					0.167*	0.152*		
K8	0.203**							
K11		0.152*					.0255**	
K12						0.246**		0.131*
K16			0.182**					
K19				0.224**				

*Significance at p<0.05 (2 tailed) **Significance at p<0.01 (2 tailed), n=235; P=correlation coefficient.

DISCUSSION

To the best of knowledge, this is the first study in India analyzing KAP on COVID-19 among nurses, ward attendants, and housekeeping staff of a psychiatric institution. These healthcare workers are directly in contact with patient care and maintaining standard

hygiene, therefore their duty demands absolute alertness and awareness in such a facility. Since the Central Institute of Psychiatry is a tertiary psychiatric establishment with closed type treatment facilities which may lead to the rapid transmission of coronavirus infection among patients along with healthcare workers. On February 19, 2020, the psychiatric ward at Daenam

hospital, South Korea reported positive patients along with healthcare personnel for COVID-19, this incident highlighted the importance of mental health care workers with added responsibilities.¹⁰

The present study is a majorly female-dominated, married, and educated population, which is similar to previous studies.^{1,6} The mean age of all the participants is 42.72±9.926 years; the nursing group was high (44.75±8.428), and housekeeping staff (35.80±12.566). A study, found that housekeeping staffs were usually young with minimal training in infection control which may lead to on-the-job-injuries and hazardous consequences.¹¹ Nurses have more knowledge (81.26%) when compared to ward attendants (78.09%) and housekeeping staff (74.34%). An overall knowledge questionnaire score was 79.42% which indicates the participants have adequate knowledge of COVID-19, which is comparatively lower than previous study (89.51%), the reason could be because of a higher educated sample of psychiatrists and nurses which is again similar to another study.^{1,12}

73.6% of the participants believed that COVID-19 will successfully be controlled. Whereas, the previous study, shows a greater positive attitude towards the control of the pandemic with higher knowledge.¹³ 89.8% of the participants believed India can win the battle against coronavirus which is similar to another study, conducted in the Chinese population.¹ The majority of the participants (54%) have no negative thoughts while working, but other studies have reported fear, fatigue, or disturbed sleep.^{14,15} 52.34% felt safe working in a hospital environment, while 47.66% did not which is equally important. A previous study, stated that the nursing staff felt unsafe at work while risking their health and fearing transmission to their family members.¹⁶ Yet 76.6% of the participants believed surgical mask may reduce the risk of infection transmission, supported by other studies.^{17,18}

The knowledge and attitude of the participants reflect in their practices like avoiding crowded places, wearing masks and follow instructions. 95.3% of the participants in the present study agreed to practice appropriate cough hygiene techniques, thus reducing the chances of droplet transmission and promote safe community hygiene practices which are similar to another study.¹⁹ Quarantine and isolation are considered as the pillars of cluster containment.²⁰ 94.5% said coming to work during this pandemic is a part of their duty and were determined. Previous studies, found 67% of the healthcare workers were available for work during the Influenza pandemic, while 77.17% willing to perform their patient care duties, and 82.3% of the participants were willing to perform the duty for H1N1 patients.^{12,21,22}

The practice of hand sanitization with 70% alcohol-based hand rub as per WHO guidelines were significantly low with only 57.45% healthcare staff complies with a minimum of 20 seconds. In the present study, 40.43% stated using soap and water for 20 seconds to

handwashing which is again low. Another study, stated similar results and found the main reason for the transmission of microorganisms was improper hand washing methods, and inappropriate use of personal protective devices.²³

Participants had good knowledge of clinical symptoms of the disease (90.6%) which is similar to recent studies.² Participants were aware of the asymptomatic transmission of the virus (68.90%). Studies, support the possible transmission of coronavirus from asymptomatic patients.^{2,24} 93.2% know early asymptomatic and supportive care is the only management. Studies, have outlined their management plan and stressed on preventive and control measures of transmission risk.^{25,26} 86.8% know respiratory droplets as a mode of infection transmission. It was found interpersonal transmission takes place commonly via respiratory droplets and also via contact transmission.²⁷ The knowledge about human to human droplet transmission has shown positive understanding in adopting precautionary measures like 71.5% of participants wear a mask and 98.7% avoid crowded places and public transportations. 83% disagreed that children and young adults do not need any measures but other study stated clinical manifestations of COVID-19 cases among children except infants were less severe than those of adult patients.²⁸ The knowledge about the spread of coronavirus, the high-risk population is similar to the study.²⁷ 84.3% have good knowledge about the quarantine and incubation period of the virus (93.2%). The previous study, suggested the knowledge of the incubation period could be useful for medical observation and quarantine.²⁹ 90.2% have significant knowledge about the contents of PPE, which is essential to protect skin and mucosa from droplet transmissions during treatment.^{27,30}

In our study, 67.81% of nurses, 50% housekeeping staff, and 46.94% ward attendants knew risk groups such as elderly, chronic patients, and obese persons could develop severe cases. Previous studies, stated that elderly and chronic patients have a high risk of such cases. Obese people are in the high-risk group for a severe outcome.^{8,31}

Spearman's correlation used to analyze the association between the age of participants with KAP thus it was found positively correlated to the knowledge of early symptomatic and supportive treatment for COVID-19. Other studies have reported similar findings.^{32,33} The age of the participants was positively correlated with the attitude of COVID-19 being successfully controlled which indicates increasing age has an optimistic attitude towards the control of the outbreak.¹ Age was negatively correlated with the attitude of safety among the healthcare workers in the hospital means the elderly population has higher risk perception and therefore felt unsafe at work.³⁴

The level of education was positively correlated to the knowledge of eating or contacting wild animals resulting in COVID-19. Increasing awareness of zoonotic

transmission and virus spillover phenomenon has led to the regulation of wildlife conservation and food safety.³⁵ Wearing masks for coronavirus prevention is influenced by good education, while another study disagreed, and stated unnecessary use of masks may create a false sense of security.^{30,33} The majority of the participants disagreed that children and young adults do not require protective measures, similar to another study, stated children of healthcare workers are more prone to bring influenza into the healthcare setting.²¹ The knowledge of PPE kit stressed on intense education and training for donning and doffing methods among healthcare workers.³⁶ Educated participants had an optimistic attitude towards pandemic being successfully controlled and were confident that the country will win the battle against COVID-19.¹ The level of education was correlated with the feeling of safety while working in the hospital environment, a similar study stated nurses felt more unsafe than housekeeping staff, the reason was their knowledge of nosocomial infections and the virulence of coronavirus.²³ Correlation between education and positive attitude on surgical mask reducing infection transmission, a similar study stated surgical masks are efficient in reducing coronavirus particles in respiratory droplets, while another study added that the use of a surgical mask is effective when combined with handwashing and gowning.^{17,18} The education had a positive correlation with the quarantine protocol similar to a study stating healthcare workers having knowledge and adequate work experience are likely to follow quarantine and related protocol.¹³

It was found that the knowledge of early symptomatic and supportive care was positively correlated with practicing cough hygiene similar to a study that stated the importance of cough etiquette in management protocol.³² The correlation found between isolation and treatment of patients with COVID-19 and the feelings of participants working in the hospital during the outbreak were significant. The previous study found that isolation and treatment may reduce the spread, but the psychological impact on patients and healthcare workers needs attention, and people may experience fear, anxiety, helplessness, or significant psychiatric morbidities like depression, anxiety, panic attacks, post-traumatic stress disorder symptoms, delirium, psychosis, and even suicidality.³⁷ The knowledge of the quarantined period was positively correlated with the attitude of family members towards the participant's job in the hospital. A study stated 97.9% of the participants would accept the isolation if suspected positive to protect the family members, and 79.8% felt it may transmit to their family, especially parents.³³ The knowledge of the contents of PPE was correlated with the feeling of safety while working in the hospital. Thorough documentation and intensive training of the personnel regarding PPE is essential to maintain high standards of infection control and limit the spread of infection in the hospital environment.³⁸

Knowledge of early symptomatic and supportive management was correlated with the practice of wearing a mask before leaving home because people were cautious and aware, therefore took preventive measures, while another study, stated wearing mask, reduces the spread by 90 percent.^{1,39} This practice is again correlated with the quarantine period, a study with similar findings showed the majority of the participants know about the isolation of suspected cases thus used masks in public during the MERS-CoV outbreak.⁴⁰ It was also correlated with cough hygiene practices which were essential for the prevention of viral spread.¹⁹ Knowledge of isolation and treatment of infected people was positively correlated with coming to work during the pandemic. A previous study on the influenza pandemic found the majority of the participants believe it was their duty to respond as a healthcare worker, even if there was a risk of infection.²¹

Limitations

This is an institution-based study; thus, results may not be generalized for the whole community. Due to the difference in the number of participants in each group and unequal gender distribution, an effective conclusion might not have been drawn.

What is already known on this subject?

Studies in China and Iran showed healthcare workers and the general public had good knowledge of COVID-19 pandemic and practiced adequate preventive measures, with an optimistic attitude. The study groups were predominantly female and a good educational background. Our study revolves around tertiary psychiatric institute where certain groups like ward attendants and housekeeping staff with a basic level of education, play a vital role in managing environmental hygiene in hospitals, who are usually neglected.

What does this study add?

47.66% did not feel safe working in the hospital during the pandemic. 28.57% of the ward attendants and 55% of housekeeping staff stated escaping from the quarantine facility as an option. 52.05% of the nurses practiced handwashing with soap and water of lesser duration than the WHO guidelines, which is higher when compared with the other two groups. Awareness, regular training, and monitoring are needed for infection control measures to be successfully implemented.

CONCLUSION

Proper knowledge and attitude correlate with a lower incidence of healthcare-acquired infections. Thus, there is a huge gap between the knowledge and practices of healthcare staff regarding COVID-19. Existing knowledge is inadequate; therefore, it requires education and training of all tiers of healthcare workers. We

recommend appropriate measures to interrupt aerosol transmission of coronavirus by ensuring optimal hand hygiene, cough hygiene, frequent environment disinfection, and other beneficial practices among healthcare workers.

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