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Original Research Article

Knowledge, Attitude, and Practices of Healthcare Professionals on COVID-19 and Risk Assessment to Prevent the Epidemic Spread at Tertiary Care Hospitals Lahore

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Abstract

A Coronavirus disease 2019 (COVID-19) is the newly developed respiratory disease that is caused by a novel coronavirus which was first testified in Wuhan, China in December 2019. (Hussain *et al*., 2020) The common clinical manifestations of this highly infectious disease, fever, dry cough, tiredness and less common symptoms are aches, pain, sore throat, diarrhea, conjunctivitis, headache, loss of taste or smell, a rash on skin, or discoloration of fingers or toes. The most Serious symptoms which can put the patient in life threatening condition are difficulty breathing or shortness of breath, chest pain or pressure, loss of speech or movement (WHO, 2020) The health care workers' adherence to the recommended measures taken to prevent trans mission are inevitable to minimize the increasing number of COVID-19 cases. This can be achieved by enhancing knowledge, positive attitudes, and infection control practices of the frontline workers (Ejeh *et al.*, 2020). ***Objective:*** The objective of the present study was to access the knowledge, attitude, and practices of healthcare professionals on covid-19 and risk assessment to prevent the epidemic spread at tertiary care hospitals Lahore. ***Methodology:*** A cross sectional study design was selected. Information was collected about demographic characteristics and knowledge, attitude and practice. SPSS were used for data collection. ***Results:*** A sample of 200 healthcare workers was collected from four different tertiary care hospitals. A descriptive statistic was applied on data. In descriptive analysis frequency tables and graph were used to represent research findings of total sampled population majority respondents were females (98.5%) between the age of 20-25 years (39%). Most of the respondents were unmarried (62%), (94%) staff nurses. ***Conclusion:*** This study concluded that Health care professionals are the frontline workers dealing with the covid-19. In this study nurses had a good knowledge, positive attitude and practice regarding covid -19. In contrast, training programs can improve the understanding of risk and prevention strategies regarding covid 19.

Keyword: COVID- 19, knowledge, attitude and practice.

1. INTRODUCTION

A Coronavirus disease 2019 (COVID-19) is the newly developed respiratory disease that is caused by a novel coronavirus which was first testified in Wuhan, China in December 2019. (Hussain *et al*., 2020). Coronavirus is an enveloped, single-stranded RNA virus that is liable for flu-like symptoms characterized by severe acute respiratory symptoms, high morbidity and mortality as (COVID-19) is highly contagious, and infective and effective reproductive numbers (Ejeh *et al*., 2020).

The common clinical manifestations of this highly infectious disease, fever, dry cough, tiredness and less common symptoms are aches, pain, sore throat, diarrhea, conjunctivitis, headache, loss of taste or smell, a rash on skin, or discoloration of fingers or toes. The most serious symptoms which can put the patient in life threatening condition are difficulty breathing or shortness of breath, chest pain or pressure, loss of speech or movement (WHO, 2020).

The two key coronaviruses that had enticed public health attention globally were severe acute respiratory syndrome coronavirus (SARS-CoV) in

2003, and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2009. WHO declared COVID-19 as a global pandemic on 11 March 2020 SARS-COV-2 is transmitted from person-to-person by close contact (within about 6 feet) via the respiratory secretions in coughs or sneezes or by touching virus-contaminated surfaces or objects. Old age and pre-existence of chronic illnesses are at high risk for severe disease and mortality (Wahed *et al*., 2020).

The virus incubation period is 2–14 days, (80%) have mild symptoms that do not have need of medical intervention. About 20% of COVID-19 cases had serious illness which can lead to life threatening situation, can be lethal in about 2% of cases. The WHO recommends prevention of spread by protecting health care workers (HCWs) and patient's close contact. By adopting primary preventive measures including regular hand washing, social distancing, and respiratory hygiene (covering mouth and nose while coughing or sneezing), spread of COVID -19 could be lessened. The HCWs are at a great risk to be infected from the COVID- 19 pandemic due to their frequent exposure to infected individuals, also have much hazards of psychological distress, long working hours, exhaustion, occupational stigma and physical violence. Lack of sufficient knowledge and training of infection control practices of health care professionals could lead to the extensive transmission of the disease among HCWs. This might be inflated by congestion, less isolation facilities, contaminated atmosphere and is likely boosted by insufficient personal protective measures and ignoring behavior towards precautions. This attitude of HCWs is due to their inadequate knowledge and inappropriate approach to infection control practices which may highly influence the diagnosis of COVID-19 as well as can delay its treatment. HCWs could also become the direct source of spread of the disease, if they are not aware of preventive measures against COVID-19 (Wahed *et al*., 2020.)

Inadequate provision of personal protection equipment for healthcare workers had worsened the response and prognosis of disease. The burden of the disease in both developed and developing countries had increased the management strategies are seemed to be fail due to blasted spread of COVID-19. Thus, the HCWs' adherence to the recommended measures taken to prevent Tran's mission are inevitable to minimize the increasing number of COVID-19 cases. This ca be achieved by enhancing knowledge, positive attitudes, and infection control practices of the frontline workers (Ejeh *et al*., 2020).

In Pakistan, the incidence of coronavirus disease was initially reported on 26 February 2020 in two persons who returned from the epidemic-affected region of Iran. Until 14 March 2020, there were only 31 confirmed COVID-19 cases. However, afterwards, a dramatic escalation was observed, and the number of cases rose stupendously. By 21 June 2020, the confirmed cases in Pakistan had crossed a figure of 174,200 (Malik *et al*., 2020).

About this date (11th June, 2021) total confirmed cases in Pakistan from March 2020 are crossing the figure of 938,737 and total deaths are more than 21,576 (COVID-19 health advisory platform by ministry of national health services regulations and coordination.)This is a horrifying figure that is increasing day by day which needs to be controlled by preparing our healthcare professionals by equipping them through the knowledge of infection control strategies, provision of better preventive policies and risk management training by using the limited resources.

Despite the impact on healthcare providers, excellent management of a pandemic depends on the level of preparedness of healthcare providers, including nurses. This means that if health care workers are not wisely equipped with the significant knowledge and fail to adopt the precautionary measures, it will be terrible to control the spread of disease. Nurses are on the frontline and are accountable for providing holistic care for all types of patients. Considering the fact that nurses constitute the majority of healthcare providers, they have a critical function in healthcare systems. Their roles in treating patients and in controlling the spread of COVID-19 involve triaging patients and sleuthing suspected cases with infections is inevitable. Providing essential treatment in an emergency and dealing with suspected patients with precautions and coordination with other healthcare providers, Knowledge, attitude and practices to prevent the spread of COVID-19. Health care workers play a vital role in supplying holistic nursing practices in managing multiple infections including clinical treatment, sanitization, isolation, psychological support, and palliative care if needed. However, when they.to a crisis such as COVID-19, they might face many problems if they have limited knowledge inappropriate attitude and poor quality practices towards COVID-19, which may lead to the massive spread of the diseases (Al Thobaity & Alshammari (2020).

1.1. Significance of the study

The war against COVID-19 is still continuing in Pakistan. If we want to fight this war against spread of COVID-19 effectively our health care professionals have to be very much determined to follow precautionary measures to control the spread of this disease and we have to educate our public to follow precautionary measures as well. So, the knowledge, attitude and practices of the health care professionals towards COVID-19 infection have vital role in controlling this pandemic (Hussain, *et al*. 2020).

This study can help the management to control of COVID-19 in Pakistan, there is crucial need to understand the awareness of healthcare professional's knowledge, attitude and practices at different tertiary care hospitals Lahore.

1.2. Aim of study

The aim of the study is to assess the knowledge, attitude, and practices of healthcare professionals on covid-19 and risk assessment to prevent the epidemic spread at tertiary care hospitals Lahore.

1.3. Research Question

- What is the knowledge, attitude and practice of health care professionals at tertiary care hospitals Lahore?
- How the healthcare professionals are doing Risk Assessment to Prevent the Epidemic Spread at Tertiary care Hospitals Lahore?

1.4. Objectives

- To assess the knowledge, attitude and practice of health care professionals at tertiary care hospitals Lahore
- To do Risk assessment of healthcare professionals to Prevent the Epidemic Spread at Tertiary care Hospitals Lahore

1.5. Variables of the study

Dependent Variables

Knowledge, attitude and practice are the dependent variables

Independent Variables

The demographic characteristics of the participants such as Age, Gender, Grade and Qualification etc. are the independent variable.

2. DESIGN AND METHODOLOGY

2.1 study design

This study will be descriptive cross sectional quantitative in nature. The study will be conducted at a tertiary care hospital, Lahore where the COVID-19 patients are being treated.

2.2 study setting

This study will be conducted in natural setting at tertiary care hospital, Lahore.

2.3. Study population

This study will be conducted on all the Nurses working at these tertiary care hospitals

2.4. Sampling technique

Non probability convenient sampling technique will be used.

2.5. SAMPLE SIZE

Sample size will be almost 222 nurses, calculated by the Solvins formula of sampling which is mentioned here.

Total population (total nurses working at different tertiary care hospitals Lahore) = 4000
N= is denoted by Population, n= is denoted by sample size, E= is denoted by the margin of error.
$n=N/1+ (N) (E)^2$
$n= 500/1+ (500) (0.05)^2$
n=500/1+ (500) (0.0025)
n= 500/1+1.25
n=500/2.25
n=222
Sample of 222 was recruited based on above formula.

2.6. INCLUSION CRITERIA

This study will be conducted only on all the head nurses and nurses working at different tertiary care hospitals Lahore.

2.7. EXCLUSION CRITERIA

- Physicians
- Student Nurses
- Midwife
- Nurses who are absent or not willing to participate

2.8. DATA COLLECTION TOOL

Previously validated an adoptive questionnaire from "Knowledge, Attitude, and Practices Toward COVID‐19 in Primary Healthcare Providers: A Cross‐Sectional Study from Three Tertiary Care Hospitals of Peshawar, Pakistan"

2.9. DATA ANALYSIS

Data will be analyzed by using SPSS version 20. The researchers are interested to know the Knowledge, Attitude, and Practices of Healthcare Professionals on COVID-19 and Risk Assessment to Prevent the Epidemic Spread at Tertiary care Hospitals.

2.10. ETHICAL CONSIDERATION

Participants will be provided with enough information of research study including the purpose of study. Their information would be kept confidential. In addition, permission of research will be taken by ethical review committee of the institute on a letter.

3. RESULTS

Table-1: Demographic characteristics of COVID-19.

Variables Section 1	Frequency	Percentage	
Age **20-25** **26-30** **31-35** **>36**	64 78 42 16	32.0 39.0 21.0 8.0	The participants of this study were between the age of 26-30 years. It shows that all the participants were matured and responsible.
Gender **Male** **Female**	 3 197	 1.5 98.5	Results reveal that majority of the participants were female and only 1.5 % of all the participants were male. It shows that female dominancy in the profession.
Marital Status **Unmarried** **Married**	 124 76	 62.0 38.0	62% of the participant were unmarried and 38% of participants were married.
Level of education **DGN 4 Years** **BSN 2 Years** **BSN 4 Years** **Masters**	 51 104 32 13	 25.5 52.0 16.0 6.5	We have four level of education DGN 4years, BSN 2 years, BSN 4 Years and masters. 52% of the respondents were from BSN 2 years programs
Occupation **Staff Nurses** **Head Nurses**	 188 12	 94.0 6.0	Most of the respondent were staff nurses that directly involve in patient care.
Workplace Organization Type **Four different tertiary care hospitals of Lahore**	 67 45 27 61	 33.5 22.5 13.5 30.5	Participants were taken from four different tertiary care hospitals of Lahore.

Table-2: Responses to COVID 19 Knowledge

Variables	Frequency	Percentage
Have you heard about the novel corona virus and the related terms COVID-19		
No	14	7.0
Yes	183	91.5
Do not know	3	1.5
COVID-19 disease is a viral infection		
No	2	1.0
Yes	197	98.5
Do not know	1	0.5
COVID-19 can be transmitted through close contact with infected people and infected animals		
No	8	4.0
Yes	191	95.5
Do not know	1	0.5
COVID-19 virus can be transmitted through contaminated food and water		
No	116	58.0
Yes	72	36.0
Do not know	12	6.0
Fever, sore throat, cough, and shortness of breath are possible symptoms of COVID-19 infection		
Yes	200	100.0
No	0	0
The novel coronavirus is a similar virus as SARS-CoV and MERS-CoV		
No	28	14.0
Yes	136	68.0
Do not know	36	18.0

Does the virus survive on surfaces of doors, tables and other objects		
No	24	12.0
Yes	175	87.5
Do not know	1	0.5
Is the COVID-19 infection the same illness as flu or cold		
No	63	31.5
Yes	136	68.0
Do not know	1	0.5
Is there any laboratory test to confirm the presence of COVID-19 infection		
No	11	5.5
Yes	188	94.0
Do not know	1	0.5
The incubation period of COVID-19 infection is1- 2 weeks		
No	4	2.0
Yes	189	94.5
Do not know	7	3.5
Can COVID-19 infection be caught from a person who presents no symptoms and has recently visited the affected area		
No	9	4.5
Yes	191	95.5
A vaccine for the COVID-19 virus is now available in the market		
No	58	29.0
Yes	106	53.0
Do not know	21	10.5
Available in some countries	15	7.5
Antibiotics are useful for the treatment of COVID-19 infection		
No	57	28.5
Yes	136	68.0
Do not know	7	3.5
People with a compromised immune system and old age people are at more risk of developing the infection		
No	3	1.5
Yes	197	98.5
Patients with comorbidities are at more risk of developing the infection		
No		
Yes	7	3.5
Do not know	178	89.0
	15	7.5
Health care workers and hospitalized patients who are near to infected patients are at more risk of developing the infection		
No	1	0.5
Yes	198	99.0
Do not know	1	0.5
People in crowded places are at increased risk of getting affected by the disease		
No		
Yes	2	1.0
	198	99.0
Patients of COVID-19 infection should be immediately isolated to avoid the transfer of infection to other people		
No	1	0.5
Yes	198	99.0
Do not know	1	0.5
Healthcare professionals are well prepared to cater to the people in case there is a spread of COVID-19 disease		
No	4	2.0
Yes	193	96.5
Do not know	3	1.5

This data shows the knowledge of participants regarding Covid 19, 91.% participants have heard about the novel Corona virus and its related terms,98% of the respondents know that the COVID-19 disease is a viral

infection,96% were aware about its transmission through close contact with infected people and infected animals,58%said that this virus can also be transmitted through contaminated food and water but 36% answered as NO. All the participant were knowledgeable about Fever, sore throat, cough, and shortness of breath are possible symptoms of COVID-19 infection, 68% of the participants were aware about the different strains of this virus. Majority of the population about 85% know that the virus can survive on surfaces of doors, tables and other objects, 68% were agreed with the resemblance of COVID-19 infection with the infections as flu or cold,94% were knowledgeable about the availability of laboratory test for the presence and confirmation of COVID-19 infection,95% were mindful about that COVID-19 infection be caught from a person who presents no symptoms and has recently visited the affected area, 53% of the respondents were aware about the availability of vaccine for the COVID-19 virus is in the market,68% were agreed that Antibiotics are useful for the treatment of COVID-19 infection but 28.5 percent were disagreed, 99% of the study participants have knowledge that the People with a compromised immune system and old age are at more risk of developing the infection, 89% said that Patients with comorbidities are at greater risk of developing disease ,99% know that Health care workers and hospitalized patients who are near to infected patients are prone to develop infection, and was mindful that infection spread rapidly at crowded places and we should isolate the infected people immediately to avoid the transfer of infection to other people,97% thought that Healthcare professionals are well prepared to cater to the people in case there is a spread of COVID-19 disease.

From the above statistics we conclude that health care workers in four different tertiary care hospital of Lahore are well oriented and knowledgeful about COVID-19 and can play an affective role in preventing the spread of COVID-19.

Table-3: Responses to COVID-19 Related Attitude items

Variables	Frequency	Percentage
The disease can be transmitted by coughing and sneezing		
No	1	0.5
Yes	199	99.5
Transmission of COVID-19 infection can be prevented through wearing masks		
No	1	0.5
Yes	198	99.0
Do not know	1	0.5
Transmission of COVID-19 infection can be prevented through washing hands and face regularly with antiseptics and sanitizers		
No	2	1.0
Yes	197	98.5
Do not know	1	0.5
Transmission of COVID-19 infection can be prevented through the isolation of COVID-19-infected patients		
No	0	0
Yes	198	99.0
Do not know	2	1.0
Transmission of COVID-19 infection can be prevented by taking antibiotics		
No	88	44.0
Yes	101	50.5
Do not know	11	5.5
Restricting the travel of COVID-19-infected people to other areas of the world and of people in other areas to affected areas can be beneficial to prevent the spread of the infection.		
No	6	3.0
Yes	191	95.5
Do not know	3	1.5
Having a healthy and well-cooked diet can be helpful in reducing the risk of getting the 0vel coronavirus disease		5.0
No	10	92.5
Yes	185	2.5
Do not know	5	

Avoiding touching the nose, mouth, and e1 can reduce the risk of infection		
No	3	1.5
Yes	196	98.0
Do not know	1	0.5
Avoiding touching the surface of doors, furniture, or other things can be helpful in preventing the disease		
No	6	3.0
Yes	193	96.5
Do not know	1	0.5
If a vaccine is developed against the novel coronavirus, it can significantly reduce the epidemic spread		
No	6	3.0
Yes	178	89.0
Do not know	16	8.0
The available information about COVID-19 disease is sufficient in Pakistani society		
No	71	35.5
Yes	124	62.0
Do not know	5	2.5
The government in our country has all the necessary healthcare facilities and is able to control the epidemic situation.		
No	70	35.0
Yes	125	62.5
Do not know	5	2.5

In Table 3 (99.5 %) participants shows that Covid-19 disease is transmitted through coughing and sneezing, (99.0%) participants shows that covid-19 transmission is prevented by wearing mask, (98.5%) respondents shows that transmission of COVID-19 infection is prevented through washing hands and face regularly with antiseptics and sanitizers. Transmission of COVID-19 infection is prevented by the isolation of COVID-19-infected patients (99.0%), (50.5%) participants shows that transmission of COVID-19 infection can be prevented by taking antibiotics. 95% respondent agreed that travel restriction of covid 19 infected patient is beneficial to prevent spread of infection. Moreover, 92% of the participants thought that taking healthy and well-cooked diet reduces the risk of getting the virus. 98% of the respondent agreed that by avoiding touching nose, mouth reduce the risk of infection, and 96% said that avoid touching the door of surface, furniture and other things also reduces the chance of getting the disease. 89% participants thought that vaccination can reduce this epidemic spread. 62% participants agreed that available information about covid 19 is sufficient in Pakistan on the other hand 35% denied that. In addition, 62% agreed that necessary health care facilities are available that control the epidemic spread but, 35 % denied that.

Table-4: COVID-19 related practice and Risk Assessment:

Variables	Frequency	Percentage
I advise the general public to eat thoroughly cooked food, especially meat products		
Always	122	61.0
Mostly	51	25.5
Sometimes	22	11.0
Rarely	5	2.5
I advise the public to keep themselves warm and hydrated		
Always	129	64.5
Mostly	51	25.5
Sometimes	15	7.5
Rarely	4	2.0
Never	1	0.5
I advise people to use soap or sanitizer regularly to wash their hands and face		
Always	170	85.0
Mostly	23	11.5
Sometimes	5	2.5
Rarely	2	1.0

I advise the general public to avoid close contact with people with cough and flu-like symptoms		
Always	172	86.0
Mostly	21	10.5
Sometimes	3	1.5
Rarely	2	1.0
Never	2	1.0
During interaction with a COVID-19 patient, I wear the necessary personal protective equipment (PPE) such as masks, gloves, gown, etc.		
Always	168	84.0
Mostly	25	12.5
Sometimes	3	1.5
Rarely	3	1.5
Never	1	0.5
I perform hand hygiene before and after touching COVID-19 patients or before and after performing an aseptic procedure		
Always	181	90.5
Mostly	14	7.0
Sometimes	4	2.0
Never	1	0.5
I perform hand hygiene after touching a patient's surroundings such as beds, tables, doors, etc.		
Always	173	86.5
Mostly	21	10.5
Sometimes	6	3.0
I avoid unnecessary close contact, practice social distancing, and keep at least 1 meter distance from patients and other healthcare workers		
Always	138	69.0
Mostly	46	23.0
Sometimes	13	6.5
Rarely	2	1.0
Never	1	0.5

Table 4 shows that respondent practice and risk assessment related to covid- 19. 61% of the participants practiced to eat thoroughly cooked food, 64% of the respondent said that they keep themselves warm and hydrated. In addition, 85% people were using soap or sanitizer regularly to wash their hands and face. Moreover, 86% of the participants avoid close contact with the people having cough and flu like symptom, 84% of the people were using protective equipment during interaction with COVID-19 Patients. Most of the respondent i.e., 90% were performing hand hygiene before and after touching covid 19 patients and 86% were performing hand hygiene after touching patients surrounding. Around 69% avoid close contact and maintaining social distancing.

DISCUSSION

The front-line health care providers have to face emerging challenges. They are working hard to safeguard the lives of many people and play a crucial role in providing care to COVID-19 patients. literature also support that nurses working in such an unprecedented situation, working beyond their capacities, and with a high risk of contracting the disease, putting health care workers at an increased risk of health problems (Gupta & Sahoo 2020).

The virus is highly transmissible and has very bad effects on frontline warriors, through the sound knowledge of disease they can fight against this fatal pandemic effectively. Health care workers working frontline should know the measure to prevent and treat this fatal disease A study is done in Lebanon according to that nurse should have current and accurate knowledge of COVID- 19 so they exactly know how to receive, assess, and provide quality care and education to patients with a possible or confirmed case of COVID- 19 (Saadeh *et al*., 2020).

Knowledge refers to the remembering of information which is required for behavioral change. According to cognitive behavioral theory knowledge is interlinked with behavior change. It is believed that the knowledge is necessary to bring behavioral change in an individual who might not be sufficient at occasion to influence nurses and health care professional's behavior (Bolaji-Osagie, Adeyemo, & Onasoga, 2015).

The COVID-19 is transmitted through close contact; nurses are the front-line warrior and are in close contact with infected people. They are the main part of the infection transmission chain thus, their knowledge of covid -19 prevention and protection

procedures can help prevent the transmission of infection (Nemati, Ebrahimi, & Nemati 2020). In this present study overall 93% of health care professionals have knowledge about covid-19. In contrast, study conducted in Lebanon which states that 93% of nurses knew that COVID- 19 is mainly transmitted from person to person by droplets, and more than 80% were aware of the effective methods and the steps to take to self- protect from potentially infected patients. (Saadeh *et al*., 2020).

This study was conducted to assess the knowledge, attitude, and practices of healthcare professionals on covid-19 and risk assessment to prevent the epidemic spread. Knowledge and attitude regarding the disease greatly Influence the practice of heath care providers. Literature also supports that knowledge directly influence attitude. Increasing knowledge will influence attitude and practice of health care worker toward COVID-19 (Puspitasari *et al*. 2020).

A study conducted in Peshawar, Pakistan and according to that 90% of primary health care worker have knowledge about covid-19. Another study from China reported that 88% of the healthcare workers knew about COVID-19 (Hussain *et al*., 2020).

Attitude is described as a feeling or opinion about something or someone. (Al-Dossary et, al. 2020). Knowledge had a great influence on people's attitude. A study done in Saudi Arabia identified that health care workers have low attitude toward covid- 19 because they have lack of knowledge with the outbreak (Abolfotouh, *et al*. 2020).

Health care worker attitude and practice influence the spread of disease. In the present study overall 93% of health care professional have positive attitude toward covid-19. Another study conducted in Peshawar; Pakistan suggested that 80%-90% of the respondents had a positive attitude toward the COVID-19 infection. (Hussain *et al*., 2020). In this study, attitude defined as a predisposition of nurses to respond positively or negatively while providing care to COVID-19 patients A study conducted in Saudi Arabia which states that 96.85% of nurses had excellent knowledge about the disease and more than half of respondents (60.4%) had a high positive attitude towards providing care to COVID-19 patients (Al-Dossary *et al*. 2020). A study is done in Pakistan and according to that Approximately 94.5% of healthcare professionals showed better practices towards COVID-19 disease management (Malik *et al*., 2020)

Practice is an implementation of measures to treat and prevent the spread of infection. Health care worker are on frontline and are responsible for providing holistic care to COVID-19 patients they should take precautioning measures, practice protocols and procedures to prevent the spread of infection. Healthcare professionals (HCPs) are at a high risk of getting infection from the patients if they do not have sufficient knowledge and mindfulness about the disease or if they do not take adequate precautionary measures they can get the diseases (Malik *et al*., 2020).

In this study 93% of health care professional practicing preventive measures to protect themselves from covid-19. Another study done in Pakistan and according to that approximately 94.5% of healthcare professionals showed better practices towards COVID-19 disease management (Malik *et al*., 2020). Another study from Iran reported that 89% of the participants practiced preventive measures regarding COVID-19 disease management (Hussain *et al*., 2020).

CONCLUSION

Health care professionals are the frontline workers dealing with the covid-19. In this study nurses had a good knowledge, positive attitude and standard practice regarding covid -19. In contrast, training programs can improve the understanding of risk and prevention strategies regarding covid 19.

RECOMMENDATION

Health education and training sessions should be arranged by the government for all the health care professionals. Check and balance and compliance of standard of practice should be monitor to prevent and reduce the spread of infection.

LIMITATION

Certain limitations are present in this study. Firstly, the study was conducted in one province so we cannot generalize the result with the rest of the country. Secondly, we have only evaluated nurse's response in this study other health care professional were not assessed. Thirdly, we have conducted the survey though google doc so many of the nurses were not able to participates due to internet connectivity issue.

Conflict of Interest Statement

The authors have no conflicts of interest to declare

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