



## **Assessment of Knowledge, Attitude, Practice and Satisfaction Of Frontline Health Professionals in Nishter Hospital Multan Regarding Precautionary Measures During Covid-19**

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### **ABSTRACT**

*The main purpose of the study was to know about knowledge, attitude, practice and satisfaction of frontline doctors, nurses and paramedical staff regarding precautionary measures during COVID-19. A study was carried out through cross sectional descriptive design at Nishter Hospital Multan, Pakistan. It was comprised assessment of knowledge, attitude, practice and satisfaction regarding precautionary measures among health professional during work. As a sample of study 119 participants were selected through convenient sampling and data was collected by circulated self-structured questionnaire among them one by one. Results of the study reveal that health professionals do not bother and follow the precautionary measures during work. Majority of them were assessed with lack of knowledge, negative attitude, and inappropriate practice during work in hospital. In addition, they were founded as dissatisfied with administration of the hospital. Scarcity of resources was claimed by the doctors, nurses and paramedical staff to face the patients of Coronavirus. Hence, the Ministry of Health and Institutions of Health in Pakistan should be responsible to save the lives through this pandemic situation and should take radical steps to provide facilities to frontline health professional during COVID-19.*

**Keywords:** Knowledge Assessment, Attitude Assessment, Practice Assessment, Satisfaction of Health Professionals, COVID-19.

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### **INTRODUCTION**

On 31st December 2019, Wuhan health commission in the Hubei province of the Republic of China notified the National Health Commission, China CDC and WHO of a cluster of 27 cases of pneumonia of unknown etiology [7]. These patients presented with a constellation of symptoms such as fever, dyspnea, dry cough, and radiological findings showed bilateral lung glassy opacities. Furthermore, the public health office traced all these 27 cases to Huanan Seafood Wholesale Market which trades live species of bats, snakes, pangolins, and badgers [6, 7, 8]. Multiple intrinsic variables led to rapid early transmission dynamics, and this made Wuhan the flashpoint of the pandemic. In 2018, Wuhan had a documented population of 11.08 million; this made Wuhan one of the top five most populated cities in China [5, 6]. Wuhan's large population density and proximity of the marketplace that sold live animals made it the epicenter for the human-animal interface. Additionally, the lack of early containment due to the inability to accurately trace the history of exposure in the early patient cases contributed to the rapid rate of spread in Wuhan. This eventually precipitated into the WHO declaring this viral pneumonia as an outbreak on 30th January 2020. On 11th March 2020, due to the global logarithmic expansion of the cases the coronavirus disease 2019 (COVID-19) was declared as a pandemic by the WHO. Since the beginning of the coronavirus disease 2019 (COVID-19) outbreak began in Hubei province from November 2019, frontline medical staff throughout China have experienced an increase in workload, increased working hours, and increased psychological stress. According to previous studies, during the outbreaks of severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), frontline medical staff had reported high levels of stress that resulted in posttraumatic stress disorder (PTSD)[11, 4]. The risk factors of psychological stress in medical staff had been previously investigated during the SARS and MERS epidemics. In 2008, Styra *et al.*, [12] in Toronto, identified four major risk factors for stress in medical staff during the SARS outbreak, including the perception of the medical of

their risk of infection, the impact of SARS on their work, feelings of depression, and working in high-risk medical units [12]. The perception of infection risk by medical staff was previously reported by Tam *et al.* [13] to be significantly associated with their risk of developing PTSD [13]. Other factors, including social stigmatization and contact with infected patients, have previously been shown to be associated with increased levels of stress and anxiety in medical staff [5].

Pakistan is amongst the 180+ countries dealing with the coronavirus pandemic. There are now clear warnings of a global economic recession as workers continue to fall sick, factories remain shutting, and healthcare systems become overwhelmed. Mitigating the health emergency and extent of economic loss will not be easy for Pakistan. The country of over 200 million is already going through a macroeconomic stabilization, and ranks below world average on most human development indicators. The spread of disease within and into Pakistan cannot be separated from the global context. The world's urban population at 4.2 billion has now exceeded the global rural population, and almost 40% of Pakistanis live in cities. Meanwhile in the country, close to seven million use air transport. COVID-19 has already surpassed the death toll of the more recent outbreaks of Ebola, MERS and SARS. While fatalities in Pakistan have as of 6 April hit 50, it has more than a 3250 confirmed, and many more can be unreported. Government estimates suggest by the beginning of June cases in Pakistan could rise to 58,000, while mortalities could lie anywhere between 5 to 10% of this number. In all eventualities, Pakistan's healthcare system is likely to be overwhelmed.

## LITERATURE REVIEW

Coronavirus spreads from person to person through small droplets from the nose or mouth which are spread when a person with COVID-19 coughs or exhales. The most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhea. Some people become infected but don't develop any symptoms and don't feel unwell. Most people (about 80%) recover from the disease without needing special treatment. Around 1 out of every 6 people who gets COVID-19 becomes seriously ill and develops difficulty breathing. The people with medical problems like high blood pressure, heart problems or with diabetes are more likely to develop serious illness. People with fever, cough and difficulty breathing should seek medical attention.

## PRECAUTIONARY MEASURES OF COVID-19

Avoid large gatherings and unnecessary physical contact. Wash your hands frequently with soap and water / sanitizer. Thorough hand washing entails washing the back of the hands, between the fingers and under the nails. Clean surfaces and things which are frequently used like door knobs, lift buttons, stair banisters, table tops, gadgets etc. Cover your mouth while sneezing / coughing. Don't touch your face without thoroughly washing your hands with soap and water. Avoid spitting in public places. Dispose off used tissues immediately. Don't share food / utensils / towels. Masks are recommended for people with flu or those taking care of them to avoid infecting others. Dispose off masks after maximum of 8 hours. Contact a doctor in case of prolonged cough, fever and difficulty in breathing, especially if you have come in contact with someone who has recently travelled to abroad especially where Corona Virus cases are reported.

Proper hand washing or use of antiseptic after each examination of a patient is an important measure in infection control in the hospitals [4]. About 150 years ago, Dr. Semmelweis, demonstrated that hand washing prevents disease spread and reduces hospital acquired infections by 50% and can thus save precious resources [1, 2, 11]. According to a US study, viruses and bacteria spreading from hospitals infect about 2 million patients each year and kill about 90 000 patients (New hand washing hygiene rules for hospital, CDC, Division of Media Relations). One study showed that health care workers wash their hands for an average of only 8.5 to 9.5 seconds whereas; a minimum of 10 seconds is recommended [3]. In developed countries, health care associated infection is estimated in 10% of patients whereas; in developing countries it is estimated to occur in 25% of patients [2]. Improving hand hygiene practices and creating awareness along with change in attitude of health workers shall not only reduce hospital-acquired infections but also save resources [3].

Pakistan, due to limited financial resources, shortage of beds and doctors (1592 persons per bed and one doctor for 1183 persons), cannot afford to exhaust its limited resources on hospital-acquired infections [9]. In Pakistan, infection control practices are not followed at most public sector hospitals and there is a need to establish an infection control programme [2]. A previous study done in some major public sector hospitals of Karachi, in 2005-2006 showed that in most hospitals, basic facilities for hand washing were not available and therefore, doctors and paramedics were not washing hands after most of the examinations and they were reluctant to practice it due to many reasons [11]. The hospital management also has to take urgent steps in providing hand-washing facilities at most sites where patients are being examined.

### STATEMENT OF THE PROBLEM

Coronavirus has become life threatening disease that poses potential health risks. Developing countries, like Pakistan is already facing critical situation in health sector due to scarcity of resources. Frontline health professional is also confronting a challenging situation to desensitize the incidence of COVID-19. Due to lack of awareness, resources, health facilities and government support doctors, nurses and paramedical medical staff is unable to rescue the lives of the people. Precautionary measures are essential for the frontline worker in hospital to save their lives and to treat the patients. To disclose the assessment of knowledge, attitude, practice and satisfaction among frontline health professionals regarding precautionary measures and facilities given by the Ministry of Health is viewed with limited studies and literature. In this setting, the research gap is needed to investigate the practices of entire health who are involved intensively to face the patients of COVID-19. Therefore, it is imperative to know the knowledge, attitude, practice and satisfaction of health care professionals regarding precautionary measures.

### Objectives of the study

1. Knowledge of doctors, nurses, and paramedical staff regarding precautionary measures
2. Attitude regarding precautionary measures
3. Practices about precautionary measures of doctors, nurses and paramedical staff
4. Satisfaction with Hospital administration arrangement

### MATERIAL AND METHODS

A cross sectional study was completed at Nishter Hospital Multan, Pakistan. Sample was comprised on 119 frontline workers who were selected conveniently. Participants were categorized into three categories; doctors, nurses and paramedical staff. Data was collected on 5<sup>th</sup> April. A self-structured questionnaire was used for those health professionals who were present at the time of data collection. Research instruments was consisted on 32 items with four domains (Knowledge of doctors, nurses, and paramedical staff regarding precautionary measures, Attitude regarding precautionary measures, Practices about precautionary measures of doctors, nurses and paramedical staff, Satisfaction with Hospital administration arrangement). Reliability of the scale was measured by Cronback's Alpha (.863) that was significant for the research participants. Permission was granted from health care professional initially at the time of data collection. It was ensured to all of them who were the sample of study that their information will be kept confidential and it will be used only for the purpose of the study. After completing the process of data collection then, it was entered into SPSS for analysis.

### RESULTS

**Table1: Distribution of Respondents According to Their Socio-Demographic Characteristics  
N=119**

Variables	Frequency	%
<b>Sex</b>		
Male	59	49.6
Female	60	50.4
Total	119	100
<b>Position</b>		
Doctor	65	54.6 27.7
Nurse	33	17.6
Paramedical	21	100
Total	119	

**Table 2: Distribution of Responses on Knowledge of Doctors, Nurses, And Paramedical Staff  
Regarding Precautionary Measures N= 119**

Variables Knowledge Assessment	Secondary Care Hospital Nishter Multan N= 119	Frequency	%
Do you know about personal protection equipment	Yes	108	90.8
	No	9	7.6
	Not sure	2	1.7
	Total	119	100
Do you know about case definition of COVID 19?	Yes	102	85.7
	No	13	10.9

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	Not sure Total	4 119	3.4 100
Do you know about main vehicle of spread of infection?	Yes No Not sure Droplet infection Direct contact Total	83 1 7 19 9 119	69.7 .8 5.9 16.0 7.6 100
Do you know, infection can transmit by touching eye, nose and mouth?	Yes No Cannot comment Total	108 6 5 119	90.8 5.0 4.2 100
Knowledge about the infectious of hospital waste.	Yes No Total	85 34 119	71.4 28.6 100
Know the color coding of infectious hospital waste of corona positive cases	Yes No Total	78 41 119	65.5 34.5 100
Do you know about hand washing for 20 seconds?	Yes No Cannot comment Total	97 14 8 119	81.5 11.8 6.7 100
Do you know protocols to handle positive result patients?	Yes No Cannot comment Total	23 94 2 119	19.3 79.0 1.7 100

**Table 3: Distribution of Responses on Practice About Precautionary Measures of Doctors, Nurses and Paramedical Staff N=119**

Variables Practice About Precautionary Measures	Secondary Care Hospital Nishter Multan N= 119	Frequency	%
Do you follow personal protection equipment utilization?	Yes No Total	96 23 100	80.7 19.3 100
Documents with confidential patient information is properly kept.	True False Do not know Total	93 15 11 119	78.2 12.6 9.2 100
Are PPEs properly disposed off after use	Yes No Total	86 33 100	72.3 27.7 100
Practices of use of standard surgical mask	Yes No Total	81 38 119	68.1 31.9 100
Practices of use of gloves	Yes No Total	76 43 119	63.9 36.1 100
Practices of use of goggles	Yes No Total	26 93 119	21.8 78.2 100
Practices of use of surgical caps	Yes No Total	69 50 119	58.0 42.0 100
Practices of use of gown	Yes No Total	35 84 119	29.4 70.6 100
Are you using N95 mask?	Yes No Total	90 29 119	75.6 24.4 100

Table 4: Distribution of Responses on Attitude Regarding Precautionary Measures N=119

Variables Attitude regarding precautionary measures	Secondary Care Hospital Nishter Multan N= 119	Frequency	%
Are you in favor of repeated hand washing?	Yes	90	75.6
	No	29	24.4
	Total	119	100
Are you in favor of hug?	Yes	30	25.2
	No	89	74.8
	Total	100	100
Attitude of health staff about social distance	Positive	93	78.2
	Negative	26	21.8
	Total	119	100
Attitude of patients about social distance	Positive	53	44.5
	Negative	66	55.5
	Total	119	100

Table 5: Distribution of Responses on Satisfaction with Hospital Administration Arrangement N=119

Variables Satisfaction with hospital administration	Secondary Care Hospital Nishter Multan N= 119	Frequency	%
Are the personal protections practices correct in your hospital?	Yes	60	50.4
	No	34	28.6
	Cannot comment	25	21.0
	Total	119	100
Are you satisfied about availability of PPE?	Yes	59	49.6
	No	60	50.4
	Total	119	100
Are you satisfied about quality of PPE?	Yes	67	56.3
	No	52	43.7
	Total	119	100s
Are PPEs properly disposed off after use	Yes	86	72.3
	No	33	27.7
	Total	119	100
Are you in favor of repeated hand washing?	Yes	90	75.6
	No	29	24.4
	Total	119	100
Hand washing material is available sufficiently	Yes	90	75.6
	No	29	24.4
	Total	119	100
Are you satisfied with patients attending room ventilation	Yes	72	60.5
Are you satisfied with disinfection of patients attending room equipment's?	No	47	39.5
	Total	119	100
Are you satisfied with disinfection of sitting room?	Yes	66	55.5
	No	53	44.5
	Total	119	100
Are you satisfied with working hours in current situation?	Yes	61	51.3
	No	58	48.7
	Total	119	100
Are you satisfied with disinfection of sitting room?	Yes	56	47.1
	No	63	42.9
	Total	119	100

Have you got any training about protection against COVID 19?	Yes always	64	53.8
	Sometimes	31	26.1
	Rarely	4	3.4
	No	8	6.7
	Don't know	12	10.1
	Total	119	100
Have you screened for COVID19?	Yes	23	19.3
	No	96	80.7
	Total	119	100
Are you feeling insecure regarding to have infection?	Yes	95	79.8
	No	18	15.1
	Cannot comment	6	5.0
	Total	119	100

## DISCUSSION

Nishter Hospital Multan is a tertiary care teaching institution. It is 1800 bedded Hospital. It was established 1953. It has all major specialties; 31 wards and 24 departments It cater health services to South Punjab and other Provinces inhabitants. 65 doctors, 33 nurses and 21 paramedical staff participated in survey. The knowledge about hospital waste management and color coding is 71% and 65% respectively which show poor waste management of COVID 19 cases. The knowledge about protocol to handle positive COVID 19 patients is 19% which reveals that health care provider's orientation is very poor, they can easily receive infection. Donning and doffing of PPE is an important component of precautionary measures. 72% PPEs is properly disposed of. When data was taken, at that time, practices to use surgical was 68%, practices to use of gloves 63%, practices to use goggles 22% and practices to use surgical caps 58%, 25% survey participants were in favor of hug. 44% patients were following social distancing in hospital which will increase chances to transmit infection from one person to another person 50% health staffs were satisfied with hospital precautionary measures. About 50% health staffs were pleased with the provision and quality of PPEs. 60% health staffs were satisfied with room ventilation, 55% health staffs were satisfied with disinfection measures in patients rooms and waiting rooms. 47% health staffs were satisfied with working hours, they have to work more than 8 hours a day, so fatigue phenomenon was increased which can lose their concentrations and working potential during working hours. 19% health staffs were screened for COVID 19 till 5<sup>th</sup> April. 53% health staffs had taken trainings for COVID19. To cut long story short, Nishter Hospital Multan health staff is at threat for transmission of COVID 19 infection

## CONCLUSION

Coronavirus as it is considered a life-threatening disease all over the world. Those who are working as a frontline against COVID-19 need precautionary measures. This study disclosed the four major aspects of the doctors, nurses and paramedical staff in hospital; their level of knowledge about outbreak, attitude and practice toward precautionary measures and satisfaction with administration of the hospital. It is resulted that knowledge of health professional about COVID -19 was inefficient; attitude toward this alarming situation was negative. Most of them were investigated with poor social distancing, no avoidance to hug, ignoring the hand washing precautionary measures. Overall, attitude regarding precautionary measures is observed as disappointed. Practice among them about precautionary measures of COVID-19 such as use of surgical mask, use of gloves, dispose of PPEs, use of N95 mask and use of gown was reported as poor. Precautionary measures and their practice are not remarkable. Furthermore, it was reported that the facilities given by the government and administration of the hospital are inefficient such as the low quality of PPEs, lack of training, absence of screening, insecurity of infection and dissatisfaction of working hours due to over time. Findings of the enlighten the deficiency of PPE and their quality, inefficiency of Ministry of Health to control this pandemic, lack of training, and poor management by the government in Pakistan. Ministry of Health should be active against COVID-19 through effective decisions to overcome this outbreak and must pay attention to manage this rapidly spreading disease. Moreover, it is essential to provide effective and standard level of Personal Protective Equipment (PPE) and training to health professionals against COVID-19.

## RECOMMENDATIONS

1. SOPs regarding precautionary measures should be strictly implemented by hospital health authorities.
2. SOPs regarding disinfection of environment and materials must be followed.

3. Refresher trainings should be arranged for the staff periodically.
4. Quality protective equipment may be ensured by hospital health authority and supply should not be uninterrupted.
5. Patients should be forced to keep social distance and wear mask in hospital.

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