KNOWLEDGE, ATTITUDE, AND PRACTICES AMONG STAFF NURSES IN A TERTIARY HEALTH CARE HOSPITAL TOWARDS COVID-19 IN KARACHI, PAKISTAN

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ABSTRACT

Background:

The COVID-19 pandemic has profoundly impacted healthcare systems worldwide, posing significant challenges to healthcare workers' ability to respond effectively (World Health Organization, 2020). Nurses, being frontline healthcare providers, play a crucial role in preventing, managing, and controlling the disease. Due to their direct contact with infected patients, their knowledge, attitudes, and practices (KAP) regarding COVID-19 are vital in reducing transmission and ensuring quality care delivery (Bhagavathula et al., 2020).

Globally, healthcare workers have faced numerous challenges, including shortages of personal protective equipment (PPE), mental health strain, and evolving guidelines for COVID-19 management (Haque et al., 2021). Studies have shown that higher knowledge levels among healthcare providers lead to better adherence to infection control measures (Zhong et al., 2020). However, misconceptions and inadequate standardized training hinder optimal infection prevention strategies (Saqlain et al., 2020). In Pakistan, the healthcare infrastructure has been severely strained by the rapid surge in COVID-19 cases, highlighting the urgent need for capacity-building initiatives among healthcare professionals (Noreen et al., 2020). Nurses in tertiary care hospitals are expected to have a strong understanding of COVID-19 prevention measures and a positive attitude toward implementing safety protocols. However, gaps in knowledge and practice remain a concern, necessitating further research into their preparedness and response to the pandemic (Khan et al., 2021).

This study investigates the knowledge, attitudes, and practices of staff nurses working in a tertiary care hospital in Karachi, Pakistan. By identifying potential gaps, the study aims to provide evidence-based recommendations to enhance training, improve adherence to infection control protocols, and support healthcare systems in managing

future outbreaks.

Aim

This study aims to assess the knowledge, attitude, and practices of staff nurses regarding COVID-19 in a tertiary healthcare hospital in Karachi, Pakistan. The findings will help identify existing gaps and provide recommendations for improving infection control strategies within the nursing community.

Objectives

To assess the knowledge, Attitude & Practices of staff nurses regarding COVID-19.

Methodology

In this cross-sectional study, 180 nurses with valid PNC cards at a tertiary care hospital in Karachi were selected through convenient sampling. Data was collected through questionnaires. The survey included queries related to demographic variables and knowledge, Attitude & Practices of staff nurses regarding COVID-19. The data was then analyzed, with results presented in terms of percentages, frequencies for qualitative variables, and mean values with standard deviations for quantitative variables. The Chi-square test was used to explore the relationship between demographic factors and nurses' attitudes towards Covid -19.

Results

Demographics: The majority of participants (42%) were aged 31-35 years, with a higher proportion of male nurses (58%). Most had over five years of experience (56%). 93% of staff nurses correctly identified clinical signs and symptoms of COVID-19.63.9% of nurses exhibited a positive attitude towards COVID-19 management, influenced by mass media exposure.84% of nurses adhered to safe practices such as hand hygiene and personal protective equipment (PPE) usage. The chi-square test showed a significant association (p<0.001) between higher knowledge levels and adherence to COVID-19 protocols. Regression analysis indicated that work experience (β = 0.43, p<0.05) and formal training (β = 0.37, p<0.05) were significant predictors of positive attitudes toward COVID-19.

Conclusion

This study found that staff nurses in Karachi have a high level of knowledge and adherence to safe practices regarding COVID-19. However, attitudes can be further improved through targeted training programs. The statistical analysis underscores the importance of work experience and training in shaping positive attitudes and adherence to infection control measures.

Keywords: COVID-19, Knowledge, Attitude, Practice

INTRODUCTION

Background:

The COVID-19 pandemic has profoundly impacted healthcare systems worldwide, challenging healthcare workers' capacity to respond effectively (World Health Organization, 2020). Nurses, as frontline healthcare providers, play a pivotal role in preventing, managing, and controlling the disease. Given their direct contact with

infected patients, they are at increased risk of exposure, making their knowledge, attitudes, and practices (KAP) toward COVID-19 critical in mitigating transmission and ensuring quality care delivery (Bhagavathula et al., 2020). Globally, healthcare workers have encountered challenges related to insufficient personal protective equipment (PPE), mental health strain, and evolving guidelines regarding COVID- 19 management (Haque et al., 2021). Studies have demonstrated that higher knowledge levels among healthcare providers are associated with better adherence to infection control measures (Zhong et al., 2020). However, misconceptions and a lack of standardized training continue to hinder optimal infection prevention strategies (Saqlain et al., 2020).

In Pakistan, the healthcare infrastructure has been significantly strained due to the rapid surge in COVID-19 cases, highlighting the urgent need for capacity-building initiatives among healthcare professionals (Noreen et al., 2020). Nurses in tertiary care hospitals are expected to have a strong understanding of COVID-19 prevention measures and a positive attitude toward implementing safety protocols. However, gaps in knowledge and practice remain a concern, necessitating further research into their preparedness and response to the pandemic (Khan et al., 2021).

This study explores the knowledge, attitudes, and practices of staff nurses working in a tertiary care hospital in Karachi, Pakistan. By identifying potential gaps, the study aims to provide evidence-based recommendations to enhance training, improve adherence to infection control protocols, and support healthcare systems in managing future outbreaks.

Rationale of the Study:

This study aims to provide empirical evidence on the knowledge, attitudes, and practices (KAP) of nurses in tertiary care hospitals in Karachi, Pakistan, to inform targeted interventions and improve their response to COVID-19 and future pandemics, addressing gaps in education, training, and workplace policies (World Health Organization, 2020; Bhagavathula et al., 2020; Haque et al., 2021).

Objectives of the Study:

1) To assess the knowledge of staff nurses regarding COVID-19.
2) To evaluate the attitudes of Nurses toward the disease.
3) To analyze their adherence to preventive practices.

Operational Definitions:

Covid 19: Coronavirus disease (Covid-19) is an infectious disease caused by the SARS-CoV- 2 virus. (WHO)

 Standard Precautions: Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care

is delivered (CDC & P).

Safe Practices: Medical practices that are designed to avert and avoid disease.

A technique that prevents or reduces the spread of microorganisms from one site to another (CDC & P).

METHODOLOGY

Descriptive Cross sectional study which was conducted at DR. Ruth KM. Pfau Civil hospital Karachi. Staff nurses working in DR. Ruth KM. Pfau civil hospital having valid PNC   card were included. Nurses who were not willing to participate in the study on voluntary basis were excluded from the study. Convenient sampling method was used to access the participants. Duration of the study was three months from august 2021- to October 21.

180 participants from DR. Ruth KM. Pfau civil hospital. Data were collected by distributing questionnaire to nurses after explaining questions to them. Adopted structured questionnaire was used to collect data consisting of demographic variables, and Knowledge, Attitude & Practices. Questionnaire has around 25 questions that consist on only short sentences**.** The collected data was entered in SPSS version 22.0.

Ethical Consideration:

Ethical approval was taken from the Ethical Review Committee of the Advanced Health Sciences Institute of Nursing. Informed consent was taken from all nurses before data collection and their confidentiality was maintained. Additionally, there was no intervention that could harm the study participants.

RESULTS

Demographic characteristics of study participant

This cross-sectional study involved a participant distribution of The majority of participants (42%) were aged 31-35 years, with a higher proportion of male nurses (58%). Most had over five years of experience (56%).

Knowledge: 93% of staff nurses correctly identified clinical signs and symptoms of COVID-19. **Attitude:** 63.9% of nurses exhibited a positive attitude towards COVID-19 management, influenced by mass media exposure. **Practice:** 84% of nurses adhered to safe practices such as hand hygiene and personal protective equipment (PPE) usage. The chi-square test showed a significant association ($p<0.001$) between higher knowledge levels and adherence to COVID-19 protocols. Regression analysis indicated that work experience ($\beta = 0.43$, $p<0.05$) and formal training ($\beta = 0.37$, $p<0.05$) were significant predictors of positive attitudes toward COVID-19.

Table 1

Sociodemographic characteristics of the study participants (n=180)

CHARACTERISTICS	FREQUENCY	PERCENT

	(N)	%
GENDER		
Male	104	57.8
Female	76	42.2
AGE GROUP		
25-30	55	30.6
31-35	81	45.0
36-40	44	24.4
DESIGNATION		
Nurse	150	83.3
Head Nurse	29	16.1
Others	1	0.6
MARITAL STATUS		
Single	73	40.6
Married	104	57.8
Widow	3	1.6
EDUCATION		
Diploma	70	38.9
BSN	105	58.3
MSN	5	2.8
DUTY SHIFT		
Morning	58	32.2
Evening	75	41.6

Night	47	26.1
WORKING AREA		
Critical	116	64.4
Non-critical	64	35.0

Table 2

DISTRIBUTION OF KNOWLEDGE TOWARDS COVID-19.

S.NO	STATEMENTS	CORRECT	INCORRECT
1	The main clinical symptoms of COVID-19 are fever, fatigue, dry cough, and myalgia.	94%	6 %
2	Unlike the common cold, stuffy nose, runny nose, and sneezing are less common in persons infected with the COVID-19virus.	76.0 %	24 %
3	There currently is no effective cure for COVID-2019, but early symptomatic and supportive treatment can help most patients recover from the infection	78%	22%
4	Not all persons with COVID-2019 will develop to severe cases. Only those who are elderly, have chronic illnesses, and areobese are more likely to be severe cases.	72%	28%
5	Eating or contacting wild animals would result in the infection by the COVID-19 virus.	51%	49%
6	Persons with COVID-2019 cannot infect the virus to others when a fever is not present.	52%	48%
7	The COVID-19 virus spreads via respiratory droplets of infected individuals	81.0%	19.0%
8	Ordinary residents can wear general medical masks to prevent the infection by the COVID-19 virus.	71.0%	29.0%
9	It is not necessary for children and young adults to take measures to prevent the infection by the COVID-19 virus	61.0%	39.0%

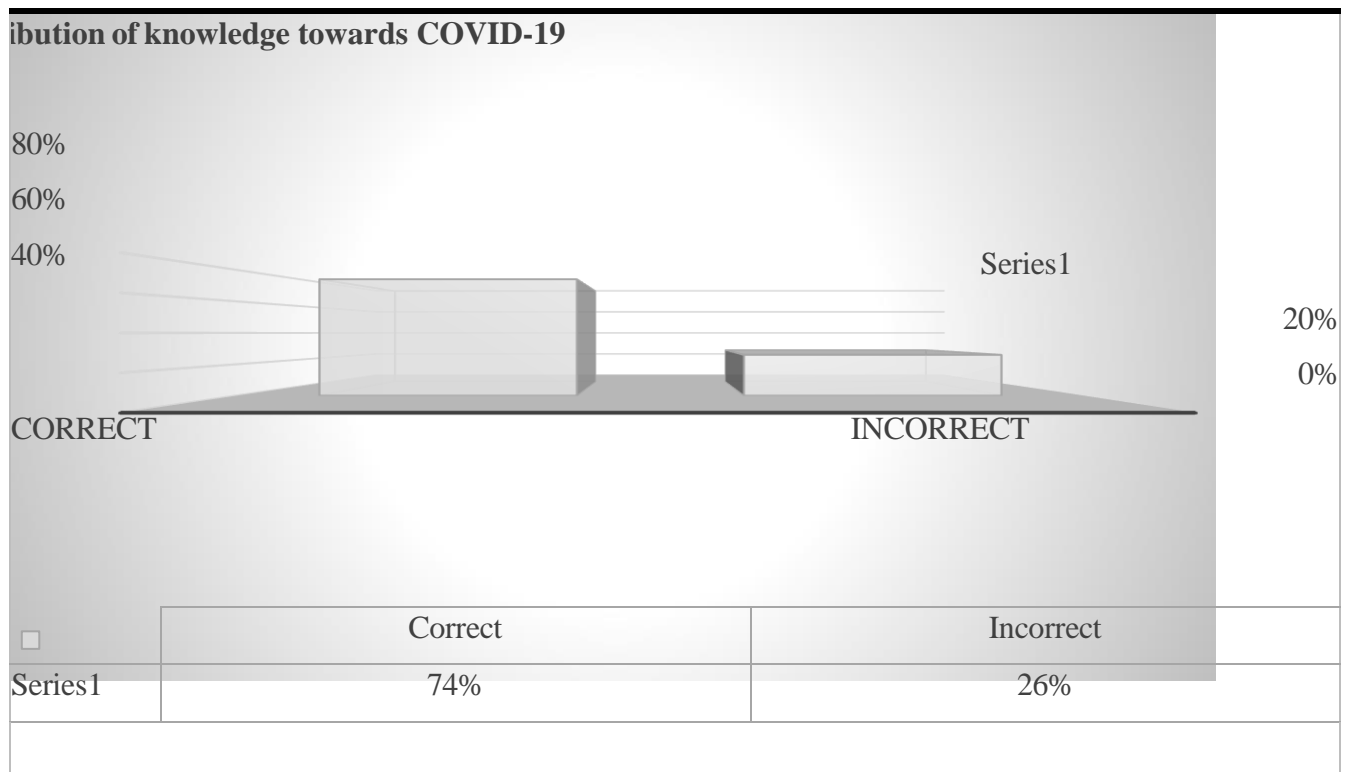| 10	To prevent the infection by COVID-19, individuals should avoid going to crowded places such as train stations andavoid taking public transportations.	84.0%	16.0%
11	Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus.	79.0%	21.0%
12	People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place. In general, the observation period is 14 days	88.0%	12.0%
	MEAN	74%	26.0%

Figure 1.

FIGURE 05: DISTRIBUTION OF KNOWLEDGE TOWARDS Covid-19

ibution of knowledge towards COVID-19

	Correct	Incorrect
Series1	74%	26%

Table 3.

DISTRIBUTION OF ATTITUDE TOWARDS COVID-19

S.NO	STATMENT	POSITIVE	NEGATIVE	NEUTRAL
1.	Do you think COVID-19 is not a serious disease?	58.3%	40%	1.7%
2	Do you worry about contracting COVID-19 patients?	67.4%	26.9%	5.1%
3	Has your daily life been disturbed by COVID-19?	78.9%	16%	5.1%
4	Can it be treated at home without staying in touch with a doctor?	56.6%	40%	3%
5	If a corona vaccine is available, would you have it?	78.9%	20.0%	1.1%
6	Is it important to use a face mask as a prevention strategy?	81.7%	15.4%	2.9%
7	Do you think health education has nothing to do with disease prevention?	44.6%	49.7%	5.7
8	Handling a COVID-19 patient does not put you at risk of the infection?	45.1%	45.1%	1.7%
	Mean (%)	64%	32%	3%

FIGURE 02:

DISTRIBUTION OF ATTITUDE TOWARDS COVID-19

Showing Distribution of Attitude towards COVID-19 among Staff Nurses Tertiary Care Hospital
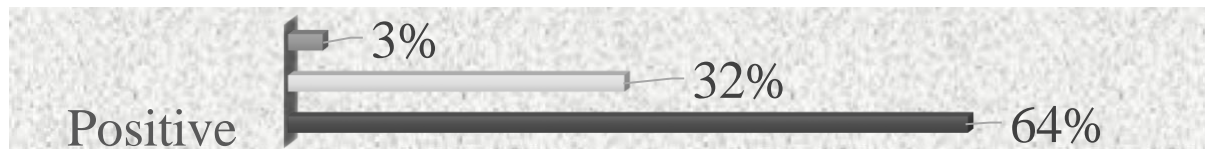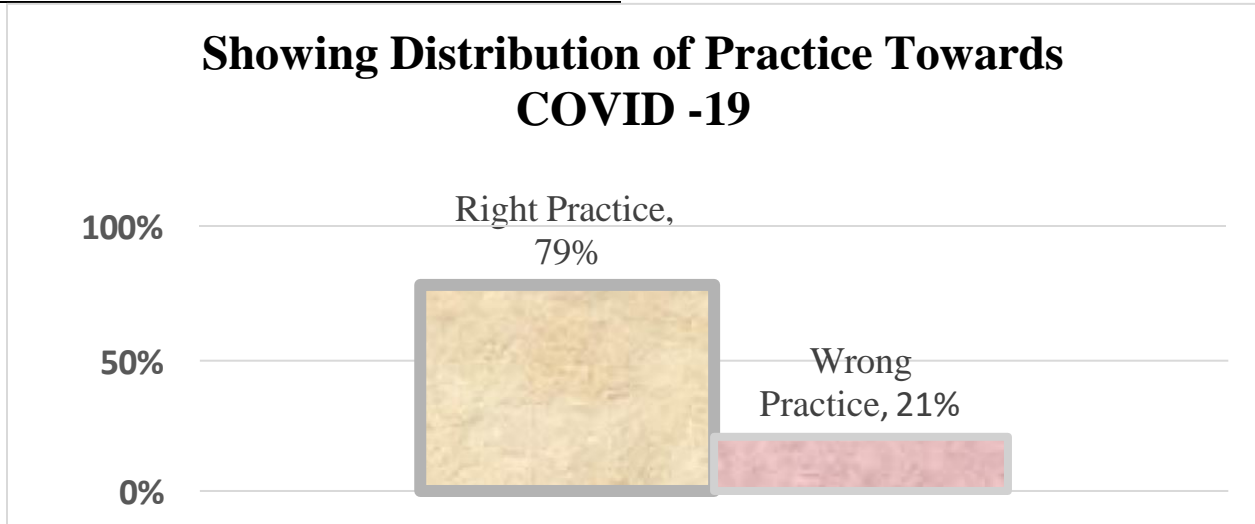
■ Positive   ▢ Negative   ▢ Neutral

3%

32%

Positive   64%

Table 4.

DISTRIBUTION OF PRACTICE TOWARDS COVID-19

S.NO	STATEMENT	RIGHT	WRONG
1	Do you wash your hands more frequently?	84%	16%
2	Do you wash your hands for at least 20 seconds while hand washing?	84.6%	15.4%
3.	Do you keep a distance from people with influenza-like symptoms (flu/colds)?	79.4%	20.6%
3 .	In recent days, have you gone to any crowded place?	60.6%	39.4%
4.	In recent days, have you worn a mask when leaving home?	86.9%	12.6%

MEAN		79.1%	20.8%

FIGURE 03:

DISTRIBUTION OF PRACTICE TOWARDS COVID-19

Showing Distribution of Practice Towards COVID -19

DISCUSSION

The findings of this study about correct knowledge of Covid-19 among nurses were 73.9%, 63% positive attitude and 79% of standard practice. Similar study was conducted by **Ferdous et al. (2020)** that was based on health care practitioners (nurses and doctors) that had good knowledge about 48.3% and good attitude about 62.2%. In other study nurses were 65.3% % and 9.3% of nurses had some anxiety & depression (**Xin et al. 2021).** In contrast current study findings were include 63.93% nurses were showed positive attitude toward Covid-19, due to mass media role.

Conclusion

In current study the most participants were found male and BSN. Result were showed that 93% of staff nurses had sufficient knowledge regarding main clinical signs & symptoms of Covid-19. In this study 84% of participants were found safe practice about Covid-19. Almost half of the participants (53.9%) agreed that confirmed the positive attitude of nurses regarding Covid- 19.

Strength

The study's strengths include being conducted in a tertiary care hospital, data collection in a clinical setting, and a substantial sample size, enhancing the reliability of the findings.

Study Limitation

The study has certain limitations, including its single-centred nature, which restricts the generalizability of the

results, and the recruitment of only tertiary care hospital staff.

Additionally, the snapshot nature of the study where data is collected at a single point in time, makes it impossible to determine track changes over time.

Recommendation

The study will be conducted with large sample size to get better outcome. Associated factors will be identified by analytical study Similar study will need to be done on others health care workers including doctors and paramedics in territory care hospital.

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