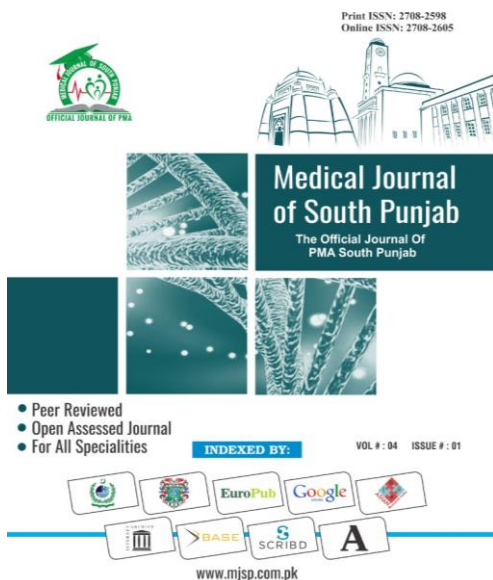


ISSN (E): 2708-2601

ISSN (P): 2708-2598

Medical Journal of South Punjab
Article DOI:10.61581/MJSP.VOL04/02/07
Volume 4, Issue 2, 2023



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Publication History

Received: Oct, 05 2023 Revised: Oct 05, 2023
Accepted: Nov 09, 2023 Published: Dec 30, 2023

Authors and Affiliation:

Irum Qureshi^{1*}, Victoria Samar², Shaneela Khowaja³, Sabiha Sarwar⁴, Hafsa Bibi⁵, Farzana Parveen⁶

¹CPEIC, Multan, Pakistan

^{2,3,5} Liaquat university of medical and health sciences Jamshoro, Pakistan

⁴polyclinic Islamabad, Pakistan

⁶Dow University Hospital Ojha, Karachi, Pakistan

*Corresponding Author Email:

irumqureshi21@gmail.com

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Conflict of Interest:

Author(s) declared no conflict of interest.

Acknowledgment:

No Funding received.

Citation: Qureshi I, Samar V, Khowaja S, Sarwar S, Bibi H, Parveen F. Monkey pox Knowledge Assessment among the Undergraduate Nursing Students of Hyderabad. Medical Journal of South Punjab. 2023 Dec 30; 4(2):39-45.

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An official publication of
Medteach Private Limited, Multan, Pakistan.
Email: farman@mjsp.com.pk, Website: <https://mjsp.com.pk/index.php/mjsp>



Monkey pox Knowledge Assessment among the Undergraduate Nursing Students of Hyderabad

Irum Qureshi^{1*}, Victoria Samar², Shaneela Khowaja³, Sabiha Sarwar⁴, Hafsa Bibi⁵, Farzana Parveen⁶

¹CPEIC, Multan, Pakistan

^{2,3,5} Liaquat university of medical and health sciences Jamshoro, Pakistan

⁴polyclinic Islamabad, Pakistan

⁶Dow University Hospital Ojha, Karachi, Pakistan

*Corresponding Author Email: irumqureshi21@gmail.com

ABSTRACT

Objective: *The study objectives were to measure baseline knowledge, assess familiarity with disease spread concepts, evaluate awareness about diagnosis and preventive measures, and explore attitudes among nursing students.*

Methods: *The study employed a descriptive cross-sectional approach, using a questionnaire comprising 19 binary-scale questions related to Monkeypox. This study conducted at People School of Nursing LUMHS, Jamshoro, aimed to assess the knowledge of 162 undergraduate nursing students in Hyderabad regarding Monkeypox and communicable diseases. Data collected during the period of May 15, 2023 to June 10, 2023. Convenience Sampling technique was used and participants filled an adopted questionnaire.*

Results: *Revealed that 54.3% of participants had prior knowledge of Monkeypox, yet only 13% demonstrated good knowledge. A significant 51.9% exhibited poor knowledge, and 35.2% had very poor knowledge about the disease.*

Conclusion: *The findings underscored a substantial lack of knowledge among the participants, highlighting the urgency to enhance educational awareness on communicable diseases, their epidemiology, prevention, and treatment. Empowering medical and nursing students with this knowledge is crucial, enabling them to actively contribute to community efforts in controlling communicable diseases. Strengthening the knowledge base of healthcare professionals, including nursing students, is vital in the collective global effort to prevent and manage emerging infectious diseases like Monkeypox.*

Keywords: Knowledge, Monkeypox, Mpox, Pandemic, Pakistan

1. INTRODUCTION

Monkey pox, a communicable disease with zoonotic origins, initially identified in monkeys in 1958, has recently become a significant global concern^{1,2}. Belonging to the Orthopoxvirus genus, it spreads through respiratory secretions, skin lesions, or contaminated objects, sharing clinical similarities with smallpox³. Despite historically being limited to central and west Africa, alarming outbreaks surfaced in non-endemic countries^{3,4}, leading the World Health Organization (WHO) to declare it a Public Health Emergency in 2022. By June 2023, the WHO reported nearly 88,000 confirmed cases and 146 deaths^{5,6}. Approximately 6% of cases require hospitalization, and the observed fatality rate is below 0.1%. This emergence prompted urgent action, forcing countries like Pakistan, despite no reported cases initially, to initiate stringent preventive measures, creating a pressing need for guidelines and protocols for healthcare professionals and the general public. Monkey pox poses a potential future global public health threat⁷.

Amidst this alarming scenario, the global healthcare community faced an unprecedented challenge. Prior to the outbreak, the lack of resources hindered screening efforts, leading the WHO to recommend RT-PCR for diagnosis⁸. Notably, countries in non-endemic regions, including Europe and North America, witnessed cases in individuals with travel histories from these areas. Health authorities and institutions grappled with the urgent need to protect healthcare

workers, medical students, and nursing students, emphasizing the importance of infection control measures, proper diagnosis, isolation, and the use of personal protective equipment⁹. Additionally, the smallpox vaccine emerged as a pivotal prevention tool, demonstrating an 85% effectiveness rate, underscoring the critical need for dissemination of accurate information about its use^{10,11}.

In response to this crisis, the specific objective of this study was to comprehensively address the pressing need for guidelines and protocols to safeguard healthcare professionals, including medical and nursing students, and the public against the Monkey pox virus. Educating medical and nursing students about emerging infectious diseases is paramount to reducing the global burden of such illnesses. By enhancing their knowledge, future healthcare professionals can play a vital role in early detection, effective management, and prevention efforts. Equipped with comprehensive understanding, they become advocates for community health, implementing proactive measures, and dispelling misinformation. Empowering these students not only ensures proficient patient care but also fosters a resilient healthcare system, contributing significantly to promoting health and minimizing disease impact at the community level.

2. METHODOLOGY

A Descriptive Cross-sectional study was conducted at People School of Nursing LUMHS, Jamshoro during the period of

May 15,2023 to June 10,2023. A Convenient random sampling technique used to collect data from participants. The Nursing School, which has 277 students enrolled in its undergraduate BSN program, employed the RAOSOFT sample size calculator to establish the sample size for a study. As a result of this calculation, a sample consisting of 162 individuals was selected. The sampling process was executed with a 95% confidence level and a 5% margin of error. The study comprised solely of undergraduate (BSN) nursing students who chose to participate willingly and were available during the data collection period. The study excluded any undergraduate (BSN) nursing students who did not volunteer to participate and werenot present during the data collection period.

An Adopted Questionnaire was used; having 19 questions related to monkey pox disease with Binary Scale. - **Section- I** Demographic Information of participants-**Section-II** Questions related to monkey pox knowledge. Written formal consent was obtained from the participants. Confidentiality was ensured to every participant. The data was analyzed by using SPSS version 22.0.

3. RESULTS

In this 50 (30.9%) participants were male and 112 (69.1%) were female The majority of the questionnaire were commenced by eligible participants and thus included in the analysis. Majority of the participants were female with 69.1% representation while 30.9% data was presented by Male participants. The Mean

age of the participants was 21.8 years. 13% participants possessed good knowledge, while 51.9% poor knowledge and 35.2% with very poor knowledge about Monkey pox. Frequencies of other variables are shown in (table-2).

Graph-1: Knowledge of participant about Monkey pox

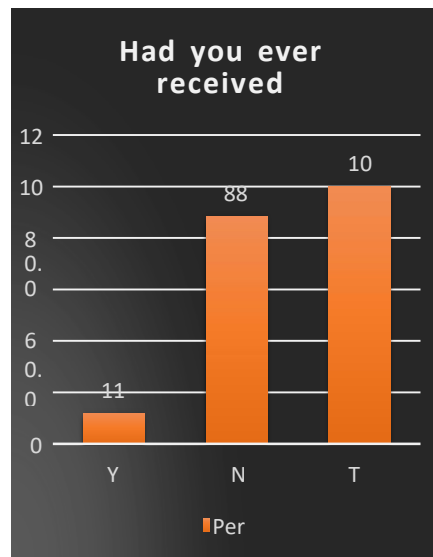


Table-1: Frequency and percentages of all the variables of questionnaire:

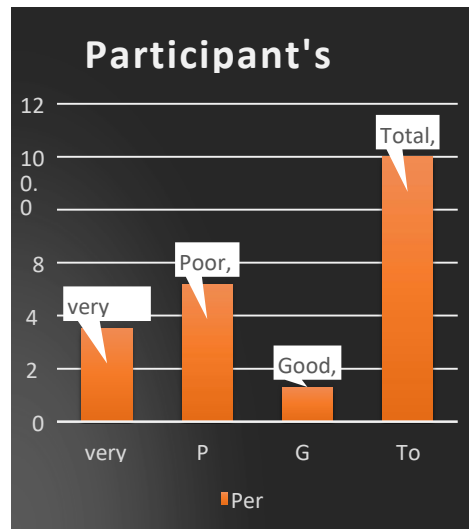
	Question	Yes	No	Total
1	Had you ever heard about human monkey pox before	n= 88 54.3 %	n=74 45.7%	N=162 100%
2	Had you ever received information of human monkey pox during medical education ?	n=19 11.7 %	n=143 88.3%	N= 162 100%
3	Is Monkey pox a	n=66	n= 96	N= 162

Monkey pox Knowledge Assessment

	Viral infection?	40.7 %	59.3%	100%
4	Is monkey pox a Bacterial infection?	n=81 50%	n=81 50%	N= 162 100%
5	Monkey pox transmitted through direct skin to skin contact?	n= 67 41.4 %	n= 95 58.6%	N= 162 100%
6	Monkey pox is easily transmitted human to human ?	n=117 72.2 %	n=45 27.8%	N= 162 100%
7	Monkey pox could be transmitted through a bite of an infected monkey?	n=62 38.3 %	n=100 61.7%	N= 162 100%
8	Travelers from America and Europe are the main source of imported cases of monkey pox ?	n=73 45.1 %	n=89 54.9%	N= 162 100%
9	Monkey pox and small pox have similar sign and symptoms?	n= 51 31.5 %	n= 111 68.5%	N= 162 100%
10	Monkey pox and chicken pox have similar sign and symptoms?	n= 89 54.9 %	n=73 45.1%	N= 162 100%
11	Rashes on the skin are one of the signs or symptoms of human monkey pox?	n=71 43.8 %	n=91 56.2%	N= 162 100%
12	Papules on the skin are one of the signs or symptoms of human monkey pox?	n= 52 32.1 %	n=110 67.9%	N= 162 100%
13	Vesicles on the skin are one of the signs or symptoms of human monkey pox?	n=45 27.8 %	n=117 72.2%	N= 162 100%
14	Pustules on the skin are one of the signs or symptoms of human monkey pox?	n=40 24.7 %	n= 122 75.3%	N= 162 100%
15	One of the management option for monkey pox patients who are symptomatic is to	n=89 54.9 %	n=73 45.1%	N= 162 100%

	use paracetamol?			
16	Is there any specific treatment exist for monkey pox?	n= 107 66%	n= 55 34%	N= 162 100%
17	People who got chicken pox vaccine are immunized against monkey pox?	n=116 71.6 %	n=46 28.8%	N= 162 100%
18	Monkey pox is preventable disease?	n= 87 53.7 %	n=75 46.3%	N= 162 100%
19	Sharing bedding or towels can transmit monkey pox virus?	n=56 34.6 %	n= 106 65.4%	N= 162 100%

Table-2: Level of education



4. DISCUSSION

The monkey pox outbreak burden has been reportedly high in Europe, the UK, North America, and Australia. However, with the evidence that the frequency and severity of such outbreaks has

dramatically increased, all countries must be prepared to respond to any future occurrences effectively and adequately¹². The WHO has subsequently guided preparedness, readiness, and response in this regard through five cores of emergency coordination, collaborative surveillance, community protection, safe and scalable care, and countermeasure and research. At the center of these five core components is the health workers' knowledge of monkeypox and their attitude toward the disease and its related response measures. Sirwan et al. assert that all health employees should be educated on monkeypox, increasing their knowledge and attitude toward monkeypox outbreak response, prevention, and readiness¹².

My study shows that most participants knew monkeypox as a viral disease, but could not succinctly articulate all its transmission modes, signs and symptoms, treatment, and vaccination appropriateness, while most of the participants were considering monkeypox as a bacterial disease; or a droplet precaution disease. So, there is a need to adequately support Medical Students, Nursing Students and health workers should be knowledgeable regarding monkeypox transmission and prevention. My findings agreed with other studies from Saudi Arabia and Bangladesh among medical doctors^{13,14}. In Saudi Arabia as per Alshahrani NZ et al. physicians had low knowledge of the prevalence of monkey pox, its transmission, and clinical differences with other similar diseases, such as smallpox, chickenpox, and

influenza¹⁴. My study concentrated on nursing students' understanding of Mpox, while Di Gennaro et al and Sallam M et al focused on health professionals but results were almost similar representation^{15,16}. I highlighted the significance of educating medical students, as their comprehensive knowledge of emerging infectious diseases will greatly enhance patient care when they transition into the healthcare field in the future. As per Hasan M et al. in Bangladesh, only 31% of the medical doctors correctly answered at least 70% of the questions¹⁷. The observation of poor monkeypox knowledge among health workers might suggest that local health officials in Pakistan have done less to equip health workers with appropriate formal information related to monkeypox¹⁸. As per Aydin G et al Research indicates that widespread internet accessibility has increased the general public's access to health information, although this easy accessibility can sometimes lead to misinformation; My study is reinforced by these results, indicating that the internet acts as a swift channel for distributing information about monkeypox¹⁹. Another study conducted in India, led by Sharma et al, provided additional support for these findings by confirming that the internet served as the primary source for disseminating information about monkeypox²⁰.

Limitations: Sample was taken only from the People School of Nursing at LUMHS, the findings may not be applicable to nursing students in other institutions or regions. The knowledge levels of students

in this particular nursing school might not represent the broader population of nursing students. Research employs a cross-sectional design, providing a snapshot of knowledge at a single point in time. This design does not capture changes or trends in knowledge over time.

5. CONCLUSION

Monkey pox diseases and such kind of viral and communicable diseases putting a great burden on economic of the country and increasing life safety risks. We recommend awareness sessions for Health professionals including Medical & Nursing students and for public regarding preventable disease like monkey pox on national level.

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