Section: Community Medicine

Original Research Article

A STUDY TO COMPARE THE AWARENESS TOWARDS MPOX AMONG MEDICAL AND NON-MEDICAL STUDENTS

Anupama Singh[1], Abhishek[2], Syed Kamran Hussain[3], Priyanka Verma[4], Kalanidhi[5]

[1]*Associate Professor, Department of Community Medicine, K.D Medical College & Hospital, Mathura, Uttar Pradesh, India.*
[2]*Senior Resident, Department of Community Medicine, Patna Medical College & Hospital, Patna, Bihar, India.*
[3]*M.B.B.S Graduate, Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh, India.*
[4]*Senior Resident, Department of Community Medicine, Graphic Era Institute of Medical Sciences, Dehradun, Uttarakhand, India.*
[5]*Junior Resident-3rd year, Department of Community Medicine, Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh, India.*

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Corresponding Author:
Dr. Syed Kamran Hussain,
M.B.B.S Graduate, Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh, India.
Email: syedcameronhussain@gmail.com

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ABSTRACT

Background: Mpox, formerly known as monkeypox, has emerged as a public health concern globally. Early detection, awareness, and preventive behaviors are crucial, particularly among university students due to their high social mobility. **Objective:** This study aimed to compare the awareness, knowledge, and attitudes towards Mpox among medical and non-medical university students.

Materials and Methods: This cross-sectional comparative study was conducted at Patna University and PMCH Patna from February to June 2025. A total of 500 participants were enrolled, comprising 250 medical students from PMCH, Patna and 250 non-medical students from Patna University. Data were collected through a structured, self-administered questionnaire specifically developed for this research.

Results: The mean age of participants was 21.86 ± 2.33 years. Male respondents constituted 64.4% of the sample. Awareness that Mpox is a contagious viral disease was significantly higher among medical students (72%) compared to non-medical students (43.6%) ($p < 0.001$). Similarly, knowledge regarding transmission and prevention was notably better in medical students. Attitudes towards Mpox prevention were also more positive in the medical group, with 91.2% supporting vaccination compared to 68.8% among non-medical students ($p < 0.001$). Social media was identified as the primary source of information by 55% of respondents.

Conclusion: Medical students demonstrated significantly better knowledge and more proactive attitudes towards Mpox compared to non-medical students. The findings highlight a need for targeted health education initiatives focusing on non-medical student populations to ensure broader community protection against emerging infectious diseases like Mpox.

Keywords: Mpox, Student, Awareness, Contagious.

INTRODUCTION

Mpox, officially designated as Monkeypox until its renaming by the World Health Organization (WHO) in 2022, has transitioned from a historically endemic viral illness in Central and West Africa to a broader international public health issue.[1] The re-emergence of new zoonotic diseases Mpox, is associated with globalization, urbanization, and ecological changes. Mpox is caused by a virus from the Orthopoxvirus genus, with symptoms like smallpox, including fever, a rash, and swollen lymph node. While smallpox has been eradicated, Mpox is still a global concern due to its transmissibility between humans, even though not as efficiently as other known viruses (WHO,2023). The 2022-2023 global outbreak of Mpox highlighted the need for comprehensive awareness among young, active, socially engaged, and mobile populations like university students.[2] As such, knowledge about its close contact and direct interactions, droplets, and the

handling of contaminated materials as the main routes for spread, outbreak management, clinical presentation, available treatments, and prevention methods becomes vital for containing the disease.[3] Medical students are expected, through their curriculum and clinical exposure, to have a higher degree of knowledge regarding infectious diseases, including Mpox.[4] But whether this expectation is valid for a lesser-known disease like Mpox is an issue worth exploring empirically. Students outside the health field primarily obtain information from the news, social media, and public health announcements.[5] While these tools are critical to health communication, they do not always convey accurate, complete information. Underreporting and misinformation contribute to an individual's harmful behaviour. This problem becomes worse with less public communication, as was the case with emerging diseases like Mpox, which is unlike the more consistent and robust communication during the COVID-19 pandemic.[6] The difference in awareness and knowledge between medical and non-medical students is not only a learning issue. It affects public health policy and epidemic preparedness.[7] University campuses are dense population areas where people frequently and personally interact, which makes these regions potential hotspots for viral transmission. A well-informed student population enhances the prospects for early detection, timely reporting, and the implementation of appropriate and effective preventive measures.[8] In contrast, a lack of understanding can lead to delayed recognition and response, social stigmas surrounding affected individuals, and less than optimal participation in public health programs. In the past, many studies have evaluated knowledge, attitude, and practices (KAP) relating to different infectious diseases and demonstrated a greater awareness of medical students compared to their non-medical counterparts.[9] As of now, few studies have focused on the consideration of Mpox awareness in the context of the post-2022 global outbreak.[10] This emphasizes the need for focused studies on how well students from different disciplines understand Mpox, especially when compared to highly publicized diseases like COVID-19 or dengue fever.[11]

Objective

This study aimed to compare the awareness, knowledge, and attitudes towards Mpox among medical and non-medical university students.

MATERIALS AND METHODS

This cross-sectional comparative study was conducted at- Patna University and PMCH Patna from February to June 2025 A total of 500 participants were enrolled, comprising 250 medical students and 250 non-medical students. The sample size was determined using a 95% confidence level, 5% margin of error, and assuming an anticipated awareness prevalence of 50% in the absence of prior local data. A non-probability convenient sampling technique was employed to recruit participants.

Inclusion Criteria

- Medical students currently enrolled in MBBS, BDS, or equivalent health-related programs.
- Non-medical students enrolled in programs such as business, engineering, arts, or social sciences.
- Students aged between 18 and 30 years.
- Voluntary consent to participate.

Exclusion Criteria

- Students from allied health sciences or paramedical programs, as they may possess intermediate medical knowledge.
- Students unwilling to complete the questionnaire.
- Participants who had already been formally educated about Mpox through workshops or special training.

Data Collection

Data were collected through a structured, self-administered questionnaire specifically developed for this research. The questionnaire was divided into four main sections: demographic details including age, gender, academic discipline, and year of study; knowledge regarding Mpox covering aspects such as causative agent, clinical symptoms, modes of transmission, preventive strategies, and treatment options; sources of information related to Mpox such as social media, university lectures, healthcare professionals, or television; and lastly, attitudes and practices related to Mpox prevention and response. The questionnaire was pre-tested on a group of 20 students, who were later excluded from the final analysis, to ensure clarity and reliability. Feedback from the pilot test was incorporated to improve the comprehensibility and relevance of the questions.

Data Analysis

The collected data were entered and analyzed using SPSS version 26 (IBM Corp., Armonk, NY, USA). Descriptive statistics such as frequencies, percentages, means, and standard deviations were calculated for all variables. A p-value of less than 0.05 was considered statistically significant.

RESULTS

The majority of participants (80%) were aged between 21–25 years, with a mean age of 21.86 ± 2.33 years, reflecting a predominantly young adult student population. Male respondents made up 64.4% while females accounted for 35.6%. Most participants were single (97.4%) and living with family (93%). Professional streams were evenly distributed between medical and non-medical students. Self-rated health status was largely positive, with 42.4% rating their health as good and only 10% as fair.

Table 1: Sociodemographic Characteristics of Participants (n = 500)

Variable	Category	Number of Participants	Percentage (%)
Age Group (Years)	17–20	100	20.0%
	21–25	400	80.0%
	Total	**500**	**100%**
	Mean Age	**21.86 ± 2.33 years**	—
Sex	Male	322	64.4%
	Female	178	35.6%
Marital Status	Single	487	97.4%
	Married	12	2.4%
	Divorced/Separated	1	0.2%
Professional Stream	Medical	250	50.0%
	Non-Medical	250	50.0%
Living Status	With Family	465	93.0%
	Alone	35	7.0%
Self-Rated Health Status	Excellent	95	19.0%
	Very Good	143	28.6%
	Good	212	42.4%
	Fair	50	10.0%

A significant proportion of participants (69%) reported having a history of viral illness. Awareness regarding Mpox being a contagious disease was moderate; 55.4% agreed it was contagious, but 30.6% disagreed. Exposure to Mpox information through electronic and social media was frequent for 43.6% of participants, while 24.4% had never encountered such information, highlighting varied engagement with public health messaging.

Table 2: Mpox Awareness and Related Information Exposure Among Participants (n = 500)

Variable	Category	Number of Participants	Percentage (%)
History of Viral Illness	Yes	345	69.0%
	No	155	31.0%
Awareness About Mpox as Contagious	Strongly Agree	12	2.4%
	Agree	277	55.4%
	Neutral	24	4.8%
	Disagree	153	30.6%
	Strongly Disagree	34	6.8%
Exposure to Mpox Information	Always	218	43.6%
(via electronic and social media)	Often	40	8.0%
	Sometimes	58	11.6%
	Occasionally	62	12.4%
	Never	122	24.4%

The dominant source of Mpox-related information was social media, cited by 55% of participants. Television or radio accounted for 22%, followed by academic lectures at 14%. Friends and peers, as well as healthcare professionals, were less commonly reported sources, representing 6% and 3% respectively, suggesting reliance on informal and easily accessible platforms over formal educational channels.

Table 3: Sources of Information About Mpox Among Participants (n = 500)

Source of Information	Number of Participants	Percentage (%)
Social media (Facebook, Twitter, Instagram)	275	55.0%
Television/Radio News	110	22.0%
Academic Lectures/Seminars	70	14.0%
Friends/Peers	30	6.0%
Healthcare Professionals	15	3.0%

Medical students demonstrated significantly better knowledge across all measured variables. 82% of medical students had heard of Mpox, compared to 58.8% of non-medical students. Knowledge regarding contagion, transmission, and prevention was also substantially higher among medical students, with p-values all below 0.001. Academic lectures were a key source of knowledge for medical students (38%) but rarely for non-medical students (4.8%).

Table 4: Knowledge about Mpox among Medical and Non-Medical Students (n = 500)

Knowledge Variables	Medical Students (n = 250)	Non-Medical Students (n = 250)	p-value
Heard of Mpox as a Viral Disease	205 (82.0%)	147 (58.8%)	<0.001
Correctly Identify Mpox as Contagious	180 (72.0%)	109 (43.6%)	<0.001
Know Transmission Modes	175 (70.0%)	98 (39.2%)	<0.001
Know Prevention Methods	167 (66.8%)	90 (36.0%)	<0.001
Source: Academic Lectures	95 (38.0%)	12 (4.8%)	<0.001

Table 5: Attitudes Towards Mpox Among Medical and Non-Medical Students (n = 500)

Attitude Variables	Medical Students (n = 250)	Non-Medical Students (n = 250)	p-value
Consider Mpox a Serious Health Issue	212 (84.8%)	157 (62.8%)	<0.001
Believe Media Coverage Is Adequate	105 (42.0%)	92 (36.8%)	0.230
Willing to Report Symptoms	190 (76.0%)	120 (48.0%)	<0.001
Support Vaccination Against Mpox	228 (91.2%)	172 (68.8%)	<0.001

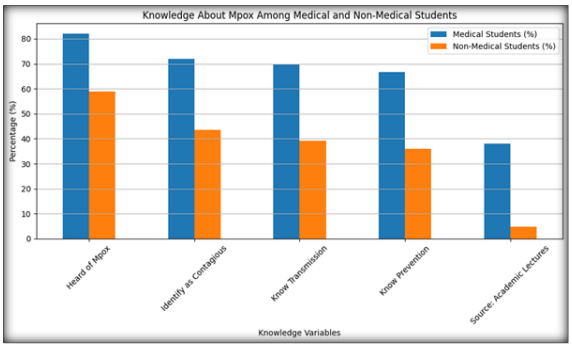

Figure 1

Medical students showed a more proactive attitude towards Mpox. A higher proportion considered Mpox a serious health issue (84.8% vs. 62.8%) and were willing to report symptoms (76% vs. 48%). Support for vaccination was notably higher among medical students at 91.2% compared to 68.8% in the non-medical group. Perceptions regarding media coverage adequacy showed no significant difference between both groups (p = 0.230).

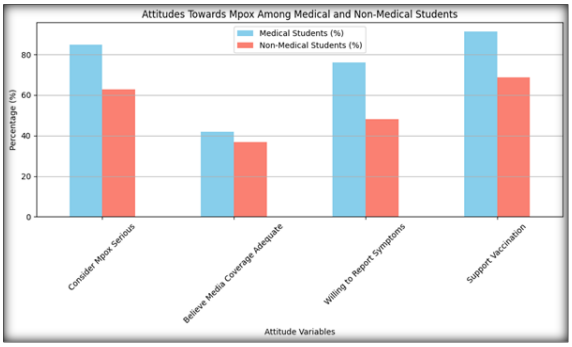

Figure 2

DISCUSSION

This study aimed to compare awareness, knowledge, and attitudes regarding Mpox among medical and non-medical university students. The findings demonstrate a clear disparity between the two groups, with medical students consistently showing higher levels of awareness and more proactive attitudes towards Mpox prevention and control. The majority of medical students (82%) had heard of Mpox as a viral disease, compared to only 58.8% of non-medical students. Similarly, 72% of medical students correctly identified Mpox as a contagious disease, significantly higher than the 43.6% recorded among non-medical students. This pattern held across all assessed knowledge variables, including understanding of transmission modes and preventive methods, as well as citing academic lectures as a source of information.[12] These findings align with previous research, which observed that students enrolled in health sciences programs generally possess more accurate knowledge regarding emerging infectious diseases due to their formal curriculum and exposure to clinical environments.[13] Differences in attitudes were also significant. For example, 84.8% of medical students viewed MPX as a serious health issue compared to 62.8% of non-medical students. Similarly, medical students reported greater willingness to support vaccination and to report symptoms of Mpox. These outcomes indicate a deficiency not only in knowledge among non-medical students but also a mismatch between their perceived risk and pre-emptive involvement in relevant behavioural action. Strikingly, social media emerged as the primary information source for both groups, accounting for 55% of total information exposure. Such low rates of information dissemination through formal academic channels among non-medical students indicate a significant lack of public health communication aimed at the student body.[14] This emphasizes the importance of devising health awareness programs not limited to medical students. The findings are significant for public health. University campuses are densely populated and socially active, making the rapid transmission of infectious diseases likely in the absence of awareness and preventive action.[15,16] The knowledge and attitude gaps concerning non-medical students could undermine public health strategies during critical times, particularly during outbreak situations, as observed with the recent global proliferation of Mpox.[17] In line with previous research on COVID-19, hepatitis, and tuberculosis, this study confirms that medical students demonstrate optimal knowledge, attitudes, and practices concerning infectious diseases because of their education.[18-21] This study also adds to the literature regarding the non-medical population's lack of understanding concerning emerging zoonotic diseases such as Mpox and the danger of indifference in these non-medical groups. This study was limited by its cross-sectional design, which does not allow for causality inference. The sample was drawn from a single university setting using a non-probability convenience sampling technique, which may limit the generalizability of the findings. Self-reported data may also be subject to bias, including social desirability bias. Furthermore, no qualitative data were collected to explore reasons behind certain attitudes or misconceptions in depth.

CONCLUSION

It is concluded that while medical students demonstrated slightly better knowledge regarding Mpox as a contagious viral disease compared to non-medical students, there was no significant difference observed in attitude and preventive practices between the two groups. Both medical and non-medical participants showed similar behaviors in terms of precautionary measures, media exposure, and self-reported health practices, indicating that knowledge does not necessarily translate into distinct differences in health-related actions.

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