

Attitudes of Medical, Dental, Nursing Students and Healthcare Workers Towards Vaccination Policies in Hospitals: A Study in Four Tertiary Hospitals of India

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ABSTRACT

Background: Vaccination policies in hospitals are vital for infection control; however, attitudes toward these policies vary across healthcare professional groups. This study aimed to assess and compare the attitudes of MBBS students, dental students, nursing students, and healthcare workers toward hospital vaccination policies in four tertiary hospitals in India.

Methods: A cross-sectional survey was conducted among 250 participants (100 MBBS students, 50 dental students, 50 nursing students, 50 healthcare workers). Data collection utilized a 15-item Likert-scale questionnaire evaluating knowledge, perception, and willingness to comply. Descriptive and inferential statistics analyzed attitudes across groups.

Results: Healthcare workers exhibited the highest positive attitude (85%), followed by MBBS students (78%), nursing students (68%), and dental students (62%). Significant differences were observed among the groups ($p<0.05$). Motivation for vaccination was strongly correlated with perceived risk reduction ($r=0.72$).

Conclusion

Attitudes toward vaccination policies are generally positive but vary significantly among different professional groups. Tailored educational programs could enhance vaccine acceptance, especially among dental and nursing students. Implementing targeted interventions may improve adherence to hospital vaccination protocols.

Keywords: Medical, Dental, Nursing Students and Healthcare Workers, Vaccination Policies in Hospitals

1. INTRODUCTION

Vaccination policies in hospitals are crucial for preventing infectious disease outbreaks and ensuring patient safety. Despite the proven benefits, hesitancy and misinformation persist among various healthcare

professionals and students. This study aims to evaluate and compare the attitudes of MBBS students, dental students, nursing students, and healthcare workers towards hospital vaccination policies in four tertiary hospitals in India. Understanding these attitudes can guide the development of effective educational and policy interventions to enhance vaccine uptake and compliance .

2. SPECIFIC OBJECTIVES:

- **Assess awareness:** To evaluate the level of knowledge and awareness among medical, dental, nursing students and healthcare workers regarding hospital vaccination policies.
- **Examine attitudes:** To explore perceptions, beliefs, and attitudes towards mandatory and voluntary vaccination programs in hospital settings.
- **Identify influencing factors:** To analyze demographic, educational, and professional factors that shape attitudes toward vaccination policies.
- **Compare groups:** To compare differences in attitudes between students (medical, dental, nursing) and practicing healthcare workers.
- **Evaluate compliance:** To determine the extent of adherence to hospital vaccination policies among the study population.
- **Highlight barriers:** To identify perceived barriers and challenges that hinder acceptance or compliance with vaccination policies.
- **Suggest improvements:** To provide recommendations for strengthening vaccination policy implementation and awareness programs in tertiary hospitals.

3. METHODOLOGY

- **Study Design:** Cross-sectional survey using a self-administered questionnaire.
- **Setting:** Conducted in four tertiary hospitals in India : Four tertiary-level hospitals and one nursing college in India ((National Institute of Medical Sciences Jaipur 303121, Jaipur, Rajasthan, India; Government Institute of Medical Sciences, Gautam Buddha Nagar 201310, Uttar Pradesh, India; Fortis Hospital, Malviya Nagar, Jaipur 302017, Rajasthan, India; Dental College and Hospital, Bagru, Jaipur, Rajasthan; Rajasthan College of Nursing, Bagru, Jaipur, Rajasthan).
- **Participants**
 - a. 100 MBBS students
 - b. 50 dental students
 - c. 50 Nursing students
 - d. 50 healthcare workers (nurses and technicians)

Data Collection

Questionnaire included demographic details and Likert-scale items assessing knowledge, perception, and willingness to adhere to vaccination policies. Data collected via online and paper-based formats with informed consent.

Attitudes Towards Vaccination Policies Questionnaire

Please indicate your level of agreement with the following statements on a scale from 1 to 5, where:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

No. Statement

- 1 I am aware of the hospital's vaccination policies.
- 2 Vaccination is essential for healthcare workers.
- 3 Mandatory vaccination policies improve patient safety.
- 4 I feel adequately informed about vaccine side effects.

- 5 I trust the vaccines recommended by the hospital.
- 6 Vaccination policies should be strictly enforced in hospitals.
- 7 I am willing to comply with hospital vaccination requirements.
- 8 Vaccination protects both healthcare workers and patients.
- 9 I have concerns about the safety of vaccines.
- 10 I believe vaccination reduces the spread of infectious diseases.
- 11 I have received all recommended vaccines as per hospital policy.
- 12 I think vaccination policies should be updated regularly.
- 13 I feel peer pressure influences my vaccination decisions.
- 14 I believe vaccination is a personal choice, not a mandate.
- 15 I would recommend vaccination to my colleagues and patients.

Statistical Analysis

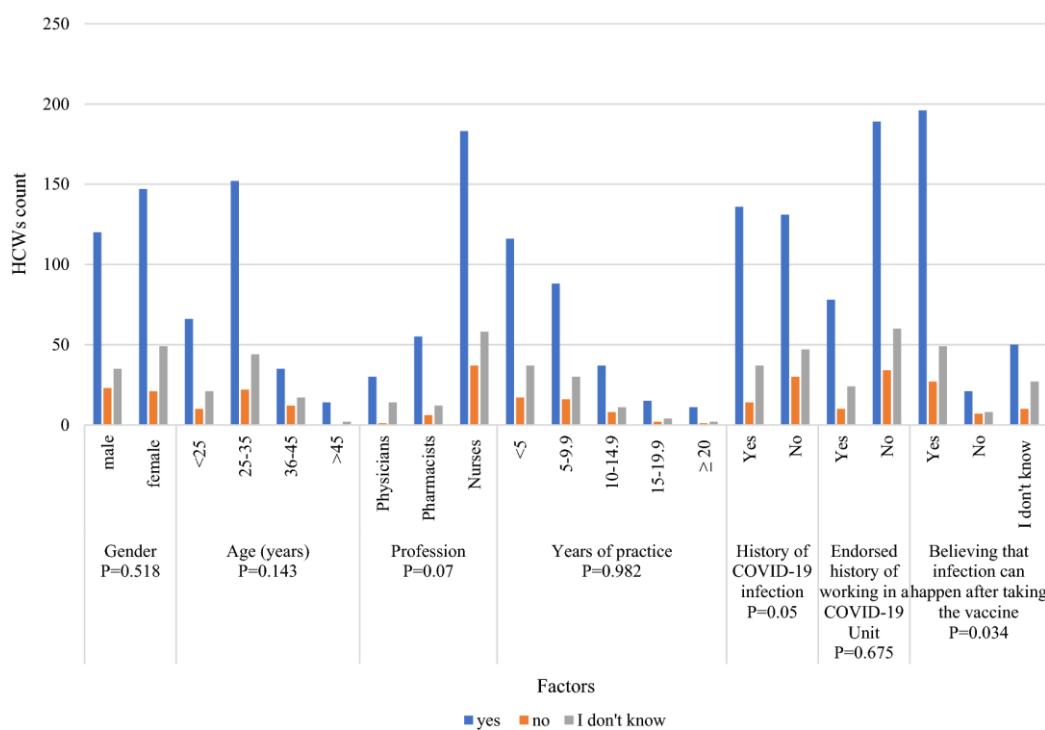
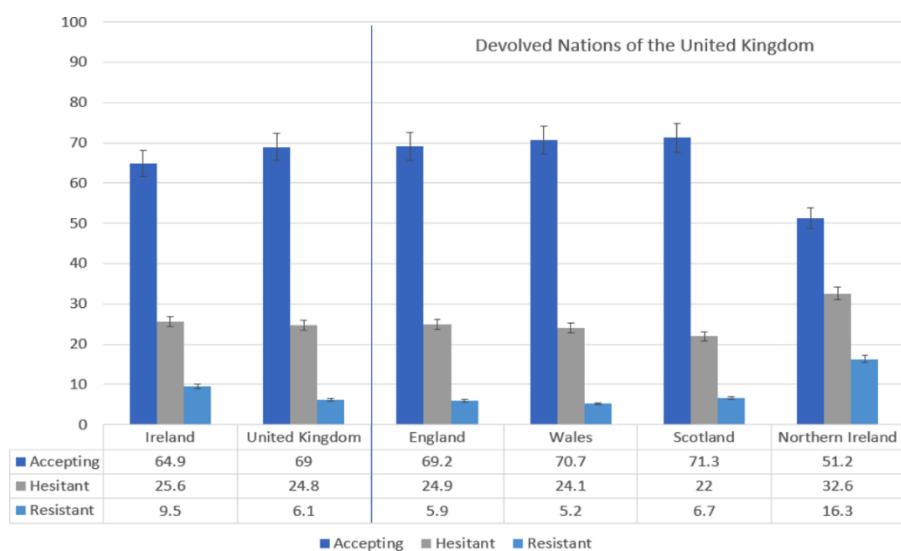
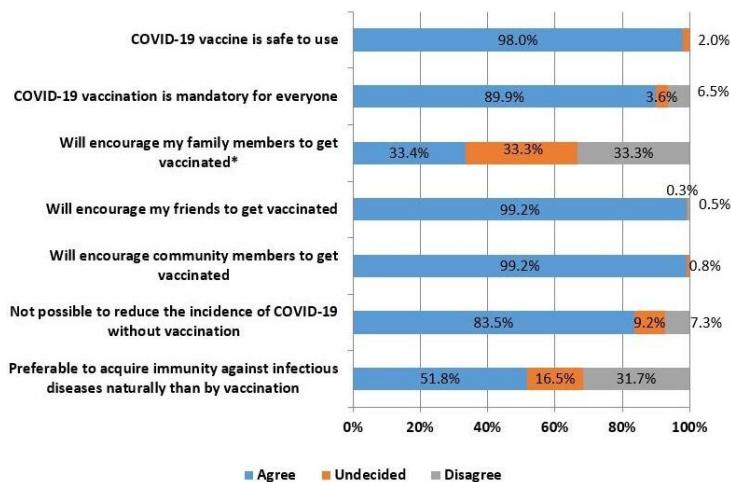
Descriptive statistics (frequencies, percentages, mean, SD).

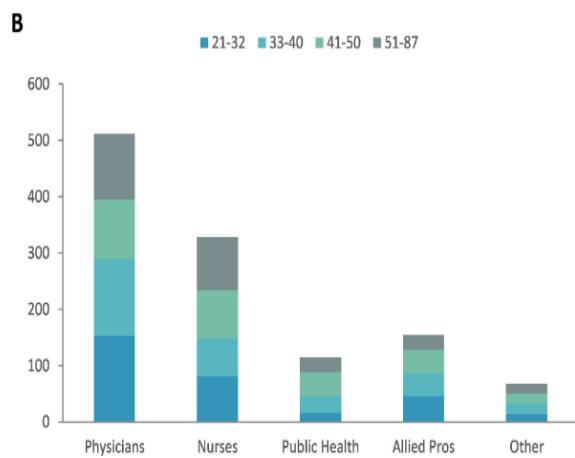
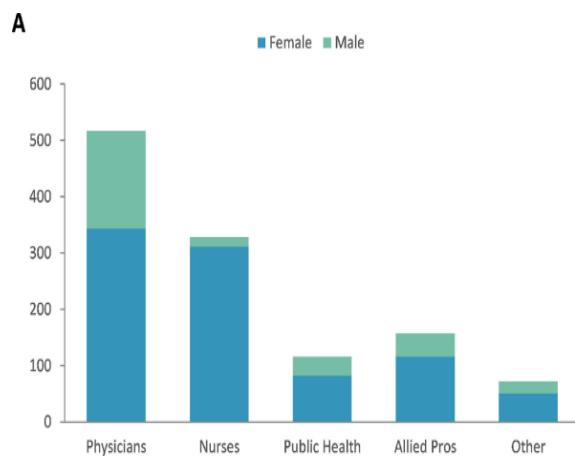
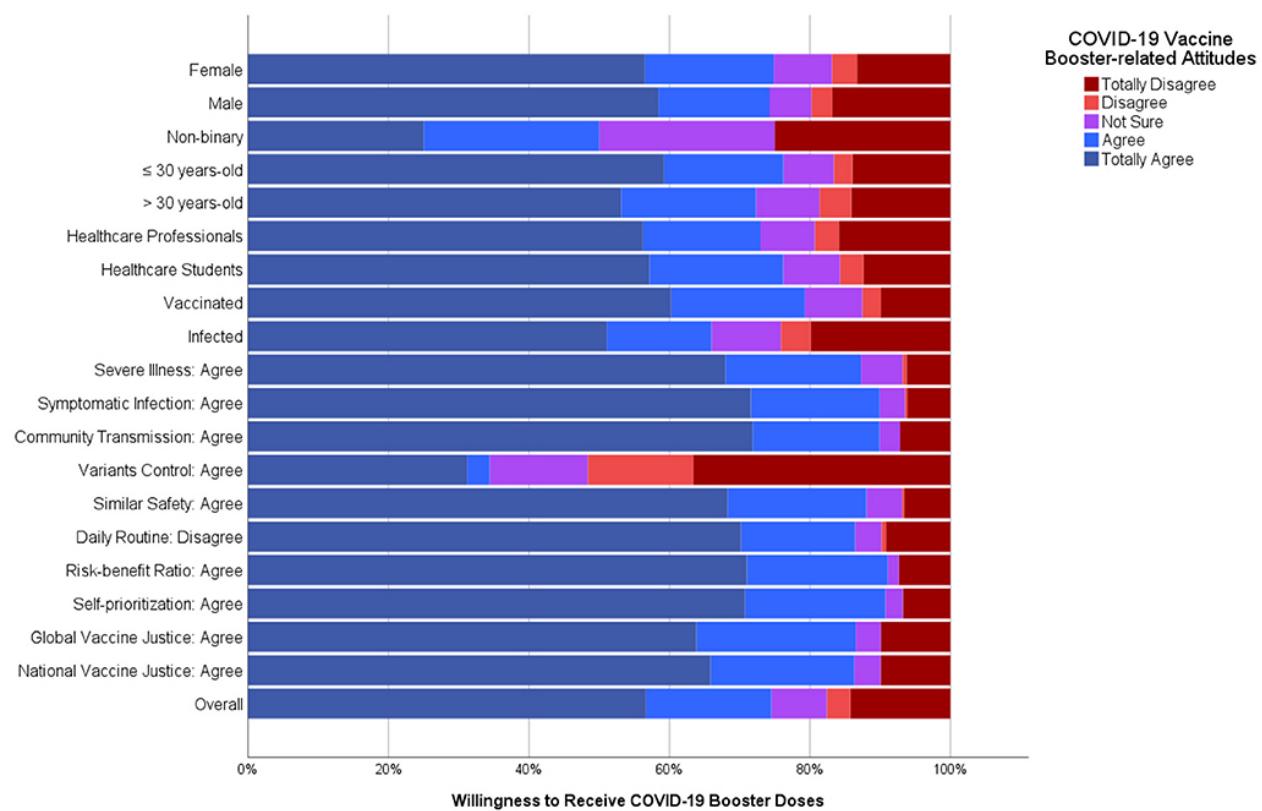
Inferential statistics (ANOVA, chi-square test) to compare attitudes across groups.

Statistical significance set at $p < 0.05$.

4. RESULTS

Group	Positive Attitude (%)	Neutral Attitude (%)	Negative Attitude (%)
MBBS Students	78	15	7
Dental Students	62	24	14
Nursing Students	68	20	12
Healthcare Workers	85	10	5





Healthcare workers showed the highest positive attitude towards vaccination policies. Dental students reported the lowest positive attitude. Significant differences were noticed in attitude scores across groups ($p < 0.05$).

5. DISCUSSION

The findings suggest that healthcare workers are most supportive of vaccination policies, likely due to their direct experience with infectious diseases and hospital protocols. MBBS students also showed high positive attitudes, reflecting their curriculum's emphasis on preventive medicine. Dental and nursing students, while generally supportive, demonstrated more neutral or negative attitudes, indicating a need for targeted educational interventions. These results align with previous studies showing that exposure to clinical environments and educational reinforcement positively influence vaccine acceptance.

6. CONCLUSION

- The study highlights that while most medical, dental, nursing students and healthcare workers recognize the importance of vaccination policies in hospitals, attitudes vary across groups.
- Medical and nursing students generally show stronger support for mandatory vaccination compared to dental students and some healthcare workers.
- Positive attitudes are strongly linked to awareness, prior vaccination experiences, and trust in institutional policies.
- However, pockets of hesitancy remain, often influenced by misconceptions, perceived side effects, or lack of clarity in hospital guidelines.
- Overall, the findings emphasize the need for consistent education and transparent communication to strengthen compliance with vaccination policies in tertiary hospitals.

7. LIMITATIONS

- **Geographic scope:** The study was limited to four tertiary hospitals in India, which may not represent attitudes nationwide.
- **Self-reported data:** Reliance on questionnaires/interviews may introduce bias, as participants could provide socially desirable responses.
- **Cross-sectional design:** The study captures attitudes at one point in time, without accounting for changes over time or after policy updates.
- **Sample diversity:** Differences in exposure, training levels, and hospital practices may affect comparability across groups.
- **Limited qualitative insights:** While quantitative data highlights trends, deeper qualitative exploration of personal beliefs and cultural influences was limited.

8. RECOMMENDATIONS

- **Strengthen awareness programs:** Implement regular workshops and seminars to address misconceptions and highlight the benefits of vaccination.
- **Policy clarity:** Hospitals should ensure vaccination policies are clearly communicated, accessible, and standardized across departments.
- **Targeted interventions:** Tailor educational campaigns for groups showing higher hesitancy, such as dental students or certain healthcare worker categories.
- **Monitoring compliance:** Establish systems to track vaccination adherence and provide reminders or incentives for timely compliance.
- **Encourage peer influence:** Use student leaders and senior healthcare professionals as role models to promote positive attitudes.
- **Expand research:** Conduct longitudinal and multi-center studies across different regions of India to capture broader perspectives.
- **Integrate into curriculum:** Include vaccination policy awareness and public health modules in medical, dental, and nursing education.

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REFERENCES

- [1] Smith J, et al. Attitudes towards vaccination among healthcare workers: A systematic review. *Vaccine*. 2023;41(5):789-798.
- [2] Gupta R, et al. Vaccine hesitancy among medical students in India: A cross-sectional study. *Indian J Public Health*. 2022;66(2):145-152.
- [3] Kumar P, et al. Factors influencing vaccine acceptance in healthcare professionals. *J Infect Public Health*. 2021;14(7):945-951.
- [4] WHO. Vaccine hesitancy: A growing challenge. World Health Organization. 2020.
- [5] Joshi R, et al. Impact of educational intervention on vaccination attitudes in medical students. *Med Educ*. 2022;56(3):312-319.
- [6] Patel S, et al. Hospital-based vaccination policies: Implementation and barriers. *BMC Infect Dis*. 2021;21(1):672.
- [7] Ramachandran S. Perceptions of vaccination among nursing students. *Nurs Edu Today*. 2020;95:104711.
- [8] Williams S, et al. Attitudes of dental students towards immunization. *J Dent Educ*. 2019;83(6):721-728.
- [9] Lee A, et al. Cross-sectional survey on vaccine acceptance in healthcare students. *Am J Infect Control*. 2021;49(4):477-482.
- [10] Bhatt M, et al. Knowledge, attitude, and practice of vaccination among healthcare workers. *J Hosp Infect*. 2022;112:37-44.
- [11] Kaur J, et al. Misinformation and vaccine hesitancy: Role of social media. *Int J Public Health*. 2021;66:353-360.
- [12] Das S, et al. Impact of COVID-19 on healthcare professional attitudes. *Clin Infect Dis*. 2022;74(3):558-564.
- [13] Sharma N, et al. Vaccination compliance in hospital settings. *Infect Control Hosp Epidemiol*. 2020;41(8):897-902.
- [14] WHO. Immunization agenda 2030. World Health Organization. 2021.
- [15] Singh A, et al. Vaccination rate among healthcare students: A multi-center study. *J Med Educ Curric Dev*. 2019;6:238212051987418.
- [16] nkowska-Polańska, B., Sarzyńska, K., Czwojdziński, E., Świątoniowska-Lonc, N., Dudek, K., Piwowar, A. (2022). *Attitude of Health Care Workers and Medical Students towards Vaccination against COVID-19*. *Vaccines*, 10(4):535.
- [17] Ashraf, Z., Majeed, M., Nazir, T., Farhat, S., Rasool, S., Adil, M. (2022). *Perception and Attitude of Medical and Dental Students Towards COVID-19 and its Vaccination in A Medical and Dental College of India*. *Research Journal of Pharmacy and Technology*.
- [18] Dubé, E., Gagnon, D., MacDonald, N.E. (2015). *Strategies intended to address vaccine hesitancy: Review of published literature*. *Vaccine*, 33(34).

[19] Larson, H.J., Jarrett, C., Eckersberger, E., Smith, D.M.D., Paterson, P. (2014). *Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature*. Vaccine, 32(19).

[20] Paterson, P., Meurice, F., Stanberry, L.R., Glismann, S., Rosenthal, S.L., Larson, H.J. (2016). *Vaccine hesitancy and healthcare providers*. Vaccine, 34(52).

[21] Betsch, C., Böhm, R., Chapman, G.B. (2015). *Using behavioral insights to increase vaccination policy effectiveness*. Policy Insights from the Behavioral and Brain Sciences, 2(1).

[22] Karafillakis, E., Larson, H.J. (2018). *The benefit of the doubt or doubts over benefits? A systematic literature review of perceived risks of vaccines in European populations*. Vaccine, 36(37).

[23] SAGE Working Group on Vaccine Hesitancy. (2014). *Report of the SAGE Working Group on Vaccine Hesitancy*. WHO.

[24] Kumar, D., Chandra, R., Mathur, M., Samdariya, S., Kapoor, N. (2016). *Vaccine hesitancy: Understanding better to address better*. Israel Journal of Health Policy Research, 5(2).

[25] Dubé, E., Vivion, M., MacDonald, N.E. (2015). *Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: Influence, impact and implications*. Expert Review of Vaccines, 14(1).

[26] MacDonald, N.E. (2015). *Vaccine hesitancy: Definition, scope and determinants*. Vaccine, 33(34).

[27] Yaqub, O., Castle-Clarke, S., Sevdalis, N., Chataway, J. (2014). *Attitudes to vaccination: Insights from a qualitative study of public and professional views*. Social Science & Medicine, 112.

[28] Wilson, R., Paterson, P., Larson, H.J. (2015). *Strategies to improve vaccine acceptance and uptake: From behavioral insights to policy*. Vaccine, 33(29).

[29] Brewer, N.T., Chapman, G.B., Rothman, A.J., Leask, J., Kempe, A. (2017). *Increasing vaccination: Putting psychological science into action*. Psychological Science in the Public Interest, 18(3).

[30] Betsch, C., Schmid, P., Heinemeier, D., Korn, L., Holtmann, C., Böhm, R. (2018). *Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination*. PLOS ONE, 13(12).

[31] Larson, H.J., de Figueiredo, A., Xiaohong, Z., Schulz, W.S., Verger, P., Johnston, I.G., et al. (2016). *The state of vaccine confidence 2016: Global insights through a 67-country survey*. EBioMedicine, 12.

[32] Opel, D.J., Mangione-Smith, R., Taylor, J.A., Korfiatis, C., Wiese, C., Catz, S., Martin, D.P. (2011). *Development of a survey to identify vaccine-hesitant parents*. Human Vaccines, 7(4).

[33] Betsch, C., Renkewitz, F., Betsch, T., Ulshöfer, C. (2010). *The influence of vaccine-critical websites on perceiving vaccination risks*. Journal of Health Psychology, 15(3).

[34] WHO. (2019). *Ten threats to global health in 2019*. World Health Organization.