



Knowledge, Attitude and Perception Towards Adult Vaccination Among Outpatient Department Attendees in a Tertiary Care Centre: A Cross-Sectional Study.

Dr. Nipun Sharma^{1*}, Dr. Virendra K Gupta², Dr. Shalini Garg³, Dr. Kanika Hissaria⁴, Dr. Mukesh K Jain⁵, Dr. Mehul Rajsinh Masani⁶, Dr. Kalpana Chandwani⁷, Dr. Yashowardhan Jain⁸, Dr. Menka Rajpurohit⁹.

¹Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

²Professor & HOD, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

³Assistant Professor, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁴Assistant Professor, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁵Professor, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁶Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁷Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁸Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

⁹Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.



Correspondence:

Dr. Nipun Sharma.

Junior Resident, Department of Family Medicine, Mahatma Gandhi Medical College & Hospital, Jaipur, Rajasthan, India.

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Abstract

Background: Vaccination in adults is critical in the prevention of vaccine-preventable diseases, but its uptake is low in India. To improve immunization rates, it is vital to understand the public's knowledge, attitudes, and perceptions. **Objective:** To assess the knowledge, attitude, and perception of adult vaccination among outpatients attending a tertiary care centre and to evaluate the impact of brief counselling. **Methods:** A cross-sectional study was conducted among 150 OPD attendees using a structured questionnaire. Sociodemographic characteristics, vaccination history, knowledge, perceptions and barriers were assessed. A brief educational counseling session was provided, followed by re-evaluation. Data were analyzed using descriptive statistics and Chi-square tests, with $p < 0.05$ considered to be significant. **Results:** The mean age of the participants was 40.1 years. While 80% reported receiving at least one adult vaccine, COVID-19 accounted for 90% of vaccine uptake. The most frequent barriers were a lack of awareness (60%), followed by mistrust (20.1%) and fear (19.9%). Post-counseling 85.4% improved understanding, 60% willingness to vaccinate, and 74.7% willing to recommend vaccines to others. **Conclusion:** There are important gaps in knowledge and perceptions of adult vaccination. Counseling is effective for increasing knowledge and acceptance. Integrating structured counseling in routine OPD practice could improve adult immunization coverage. We need broader public health efforts around access, misinformation and trust.

Keywords: Adult vaccination, Vaccine hesitancy, KAP study, Counseling, OPD-based education, India.



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INTRODUCTION

Vaccination is still one of the most effective public health interventions, preventing morbidity, disability and millions of deaths worldwide every year.^{1,2} Although childhood immunization programs in many countries including India have achieved tremendous coverage, adult vaccination still receives less attention.³ However, several vaccine-preventable diseases (VPDs) are still relevant among adults due to waning immunity, comorbidities, occupational exposure risks and increased life expectancy.⁴ Despite national and international recommendations, uptake of adult vaccines, including influenza, pneumococcal, hepatitis B, HPV, and tetanus boosters, remains low across low- and middle-income countries (LMICs).^{5,4}

Vaccine hesitancy has been identified by the World Health Organization (WHO) as one of the ten top threats to global health, driven by confidence deficits, complacency, and convenience-related barriers.⁶ Studies demonstrate that lack of awareness, misinformation spread via social media, cultural beliefs, and low risk perception are significant influences on adult vaccination behaviour.^{7,8} In India, the lack of national adult immunization policy leads to inconsistent practices, poor patient-provider communication, and a lack of clarity about health-seeking behaviour.⁹

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The outpatient departments (OPDs) of tertiary care hospitals are the ideal platforms for adult vaccine education. Patients and caregivers visiting OPDs often have chronic conditions or age-related vulnerabilities that increase their susceptibility to vaccine-preventable complications.¹⁰ However, evidence suggests that healthcare workers often fail to adequately counsel adults about immunizations due to time constraints, inadequate training, or the misconception that vaccines are for children only.¹¹ Counseling at the point of care can make a big difference for vaccine acceptance, and provider recommendations can have a powerful effect on adult immunization, as shown in studies from around the world.^{12,13}

Thus, understanding knowledge, attitude, and perceptions (KAP) of adults is important for designing effective interventions to improve vaccine uptake. The present study was conducted to assess the KAP of adult vaccination among OPD attendees in a tertiary care centre in India and to assess the impact of brief counselling on improving awareness and acceptance.

MATERIALS AND METHODS

This cross-sectional study was conducted in the Outpatient Department of Mahatma Gandhi Medical College and Hospital (MGMCH), Jaipur. A total of 150 adult participants were recruited through convenience sampling. The patients and caregivers who were 18 years or older and attended the OPD were invited to participate after obtaining informed consent. Sociodemographic data, vaccination history, knowledge, attitudes, perceptions and barriers to adult vaccination were collected using a structured pre-validated questionnaire. Approval of the Institutional Ethics Committee was obtained for the study.

The data collection was conducted in two stages. To begin, participants completed the pre-counseling questionnaire to gauge their knowledge and perceptions at baseline. Then, a short-structured counseling session was done on the importance of adult vaccination, recommended vaccines, safety and availability. Participants completed a post-counseling assessment immediately after counseling to assess change in awareness and willingness to vaccinate. The data were entered into Microsoft Excel and analyzed using SPSS version 23. Descriptive statistics (frequencies, percentages, means, standard deviations) were computed and associations were tested with the Chi-square test. Statistical significance was accepted at $p\text{-value} < 0.05$.

RESULTS

Sociodemographic Characteristics

The study included a total of 150 participants. The mean age was 40.1 years; 95 (63.3%) females and 55 (36.7%) males. Fifty percent ($n = 75$) of the respondents were from urban areas and the remaining 50% ($n = 75$) were from rural areas. The educational status was mixed with 30 (20%) had primary education, 54 (36%) having secondary education and 66 (44%) being graduates and above.

Table 1. Sociodemographic characteristics of participants (n = 150)

Variable	Category	n (%)
Age (years)	Mean $\pm$ SD	40.1
Gender	Male	55 (36.7)
	Female	95 (63.3)
Residence	Urban	75 (50.0)
	Rural	75 (50.0)
Education	Primary	30 (20.0)
	Secondary	54 (36.0)
	Graduate & above	66 (44.0)

A total of 120 participants (80%) reported that they had received at least one adult vaccine. The most common vaccination was COVID-19 (108, 90%), with tetanus (30, 25%) and HPV (22, 18.3%) the second and third most common. However, only 40% knew where adult vaccines are available, showing a major gap in vaccine-related awareness. 104 (69.3%) believed that vaccination strengthens immunity, 30 (20%) responded “don’t know,” and 16 (10.7%) held incorrect beliefs that vaccines weaken the body’s natural immunity.

Table 2: Vaccination status, knowledge, perceptions, and barriers (n = 150)

Parameter	Category	n (%)
Ever received adult vaccine	Yes	120 (80.0)
	No	30 (20.0)
Type of vaccine received (among vaccinated)	COVID-19	108 (90.0)
	Tetanus	30 (25.0)
	HPV	22 (18.3)
Knowledge: Vaccines increase immunity	Correct	104 (69.3)
	Incorrect/don't know	46 (30.7)
Perceptions	Vaccines unnecessary	90 (60.0)
	Mistrust in vaccines	30 (20.1)
	Fear of injection	30 (19.9)
Barriers to vaccination	Lack of awareness	90 (60.0)
	No clear reason	23 (15.3)
	Lack of guidelines	18 (12.0)

Effect of Counseling

Post the structured counseling session, there was a drastic improvement in the understanding of adult vaccination, with 128 (85.4%) reporting better awareness. Furthermore, 90 (60%) reported that they were now willing to get vaccinated, and 112 (74.7%) were willing to recommend adult vaccination to others. The counseling intervention resulted in a dramatic shift in attitudes, particularly in those previously unaware or reluctant.

Table 3: Impact of counseling on attitudes and willingness (n = 150)

Parameter Post-Counseling	n (%)
Improved understanding	128 (85.4)
Willing to vaccinate	90 (60.0)
Willing to recommend vaccination	112 (74.7)

DISCUSSION

This study assessed knowledge, attitude and perception towards adult vaccination among OPD attendees and showed the significant impact of structured counseling in increasing the awareness and acceptance. There are still gaps in the public understanding as only 69.3% of the participants thought that vaccines improve immunity and 60% thought that vaccines for adults are unnecessary. Larson et al.¹⁴ have also described such deficits and found misconceptions and misinformation as major global drivers of hesitancy. The main barrier to adult immunization was found to be lack of awareness by 60% of the respondents in our study. This is in agreement with the findings of Verma et al. and Ozisik et. al. who found that lack of knowledge is the most common barrier to adult immunization in low- and middle-income countries.^{15,16}

While 80% of respondents had received at least one adult vaccine, the overwhelming focus of this uptake on COVID-19 immunization (90%) underlines the positive impact of nationwide mass campaigns but also points to low uptake of routine adult vaccines. Sridhar et al. also note that although large-scale vaccination drives enhance coverage for certain diseases, they do little to enhance awareness of the overall adult immunization schedule. The lower uptake of tetanus (25%) or HPV (18.3%) vaccines in the present study is in line with previous studies suggesting that non-mandated adult vaccines are often under-prioritized.¹⁷

Mistrust (20.1%) and fear of injection (19.9%) also contributed to hesitancy in this study. Dube et al. and Schmid et al. reported similar findings, emphasizing the significance of psychological and emotional factors, alongside knowledge gaps, in adult vaccine decision-making.^{18,19} Importantly, the large improvement in understanding after counseling (85.4%) and increased willingness to vaccinate (60%) are consistent with evidence from Brewer NT et al. who demonstrated that patient-centered vaccine communication significantly improves acceptance.²⁰ The increase in participants who were willing to recommend vaccination to others (74.7%) further underscores the effectiveness of targeted educational interventions at the point of care.

Overall, the study supports that OPD-based counseling is a high-impact, low-cost approach to enhance adult vaccination efforts. Our findings are aligned with national and international evidence highlighting that improving awareness, reducing fears and improving communication by healthcare providers are important factors in improving vaccine uptake in adult populations.

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CONCLUSION

Despite this, awareness and uptake of adult vaccination remain sub-optimal, with substantial misconceptions and information deficits driving hesitancy. The findings of this study suggest that structured counselling can significantly improve knowledge, attitudes, and willingness to vaccinate. Routine vaccine counseling embedded in OPD workflows could be a valuable approach to improving adult immunization coverage. Public health systems should focus on more extensive awareness campaigns and better patient-provider communication.

Limitations:

This study was conducted in a single tertiary care OPD, and convenience sampling was used, which may limit generalizability. Responses to post-counseling were recorded immediately, so we could not assess long-term retention of awareness or actual vaccination behavior. Further studies should be multicentric and longitudinal.

Recommendation:

Routine training in adult vaccine counseling should be provided to healthcare providers. Community-level awareness campaigns are needed to correct the prevalent misconceptions. Policy level efforts should focus on developing a national adult immunization guideline and improving the availability of recommended adult vaccines.

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