EPH109

Exploring the impact of socioeconomic factors on vaccine hesitancy in India: What can we learn from the COVID-19 pandemic?

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1 INTRODUCTION

- India experienced a low coronavirus-19 (COVID-19) vaccine uptake at the start of the vaccination drive despite the availability of vaccines[1].
- The low vaccine uptake was attributed to vaccine hesitancy or "the reluctance or refusal to vaccinate despite the availability of vaccines"[2,3].
- Socioeconomic factors have been identified as key determinants of vaccine hesitancy, but there is limited investigation of their impact in the context of COVID-19[4,5].

2 AIM

To better understand COVID-19 vaccine hesitancy in India; identify strategies to tackle vaccine hesitancy to improve uptake in future scenarios; and inform future research.

3 METHODS

Stage 1: Literature Search
Embase, Web of Science, GlobalHealth, Google Scholar

Stage 2: Study Selection
Inclusion and exclusion criteria

Stage 3: Study Extraction
Study characteristics and relevant key outcomes

Stage 4: Study Analysis
Outcome measures, relationship between socioeconomic factors and COVID-19 vaccine hesitancy, study characteristics

4 RESULTS

- COVID-19 vaccine hesitancy is measured via multiple approaches **(Figure 1)**, highlighting the lack of a standardised and homogenous measurement approach in published literature to date.
- Study design, geographical coverage and sampling method vary between studies, and validated measurement tools to conceptualise COVID-19 vaccine hesitancy are not widely employed **(Figure 2)**.
- Socioeconomic factors, such as low levels of education, low qualification jobs, low income, low socioeconomic status (SES), and rural residence have a significant impact on COVID-19 vaccine hesitancy, though evidence is conflicting **(Table 1)**.
- Various reasons associated with COVID-19 vaccine hesitancy are described, but there is limited literature investigating their association with socioeconomic factors.

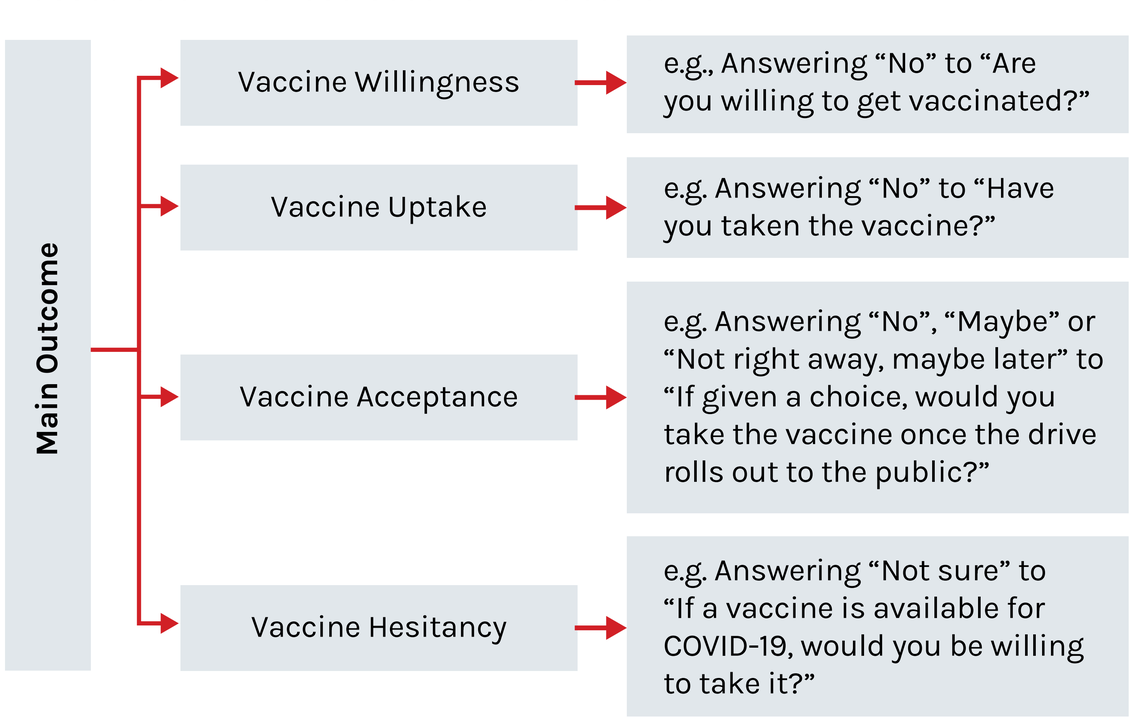

Figure 1: The main outcome measures of COVID-19 vaccine hesitancy in available literature.

4 RESULTS

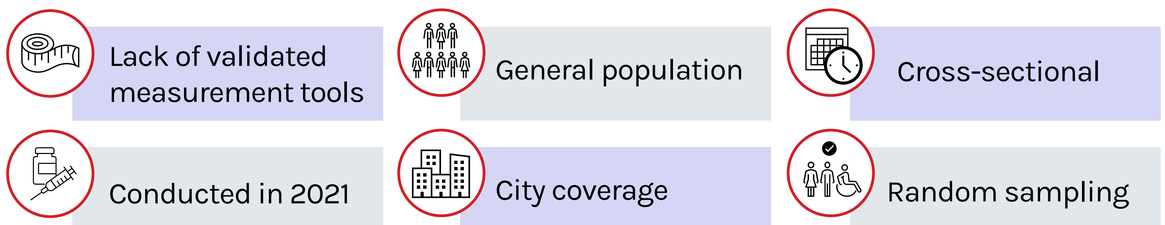

Figure 2: Most common key characteristics of the studies.

Table 1: Factors associated with COVID-19 vaccine hesitancy among different socioeconomic groups.[6-11]

Factor	Subcategory	Associated Concerns
Education	High	Lack of vaccine effectiveness
	Low	Mistrust in government and healthcare services
Occupation	High-qualification	Safety concerns; Preference for local herbs
	Low-qualification	Preference for local herbs; Believing COVID-19 does not exist; Too many doses
Residence	Rural	Vaccine mistrust; Family restrictions; Rapid vaccine development
	Urban	Lack of information; Belief vaccine is for commercial gains; Belief COVID-19 pandemic is over
Other	Low SES	Safety concerns; Non-availability of preferred vaccine; Fear of losing daily income
	Low income	Mistrust in healthcare services; Lack of vaccine effectiveness

5 CONCLUSION

- Vaccine hesitancy continues to be a significant public health concern, particularly in light of the COVID-19 pandemic.
- The ongoing challenge of vaccine hesitancy requires a multi-faceted approach, with a focus on understanding the dynamics of public perceptions and attitudes.
- The difference in outcome measures reported in this study likely reflects the difficulties in operationalising the complexity of COVID-19 vaccine hesitancy,[12] and highlights the need for validated measurement tools.
- By conducting longitudinal studies, improving sampling methods, and exploring the experiences of underrepresented populations, future research can provide valuable insights into how to reduce vaccine hesitancy.
- For pharmaceutical companies, these findings emphasise the importance of trust-building, targeted interventions, and equity-focused strategies to improve vaccine acceptance and increase public health outcomes.

6 REFERENCES

1. Agarwal SK, Gupta N, Sharma A, et al. *Vaccines (Basel).* 2023;11(5):948.; **2.** Kumar G, Mehta P, Rathi S, et al. *Vaccines (Basel).* 2023;11(5):964.; **3.** World Health Organization. Ten threats to global health in 2019. WHO; 2019.; **4.** Pouliasi II, Antoniadou E, Voulgaris D, et al. *Vaccines (Basel).* 2023;11(8):1301.; **5.** WHO SAGE. Summary of conclusions on vaccine hesitancy. WHO; 2015.; **6.** Kumari A, Mahey R, Kachhawa G, et al. *Diabetes Metab Syndr.* 2022;16(3):102449.; **7.** Basu M, Mishra A, Mukherjee M, et al. CABI Digital Library; 2023.; **8.** Danabal KGM, Magesh SS, Saravanan S, et al. *BMC Health Serv Res.* 2021;21:994.; **9.** Kumari A, Ranjan P, Chopra S, et al. *Diabetes Metab Syndr.* 2021;15(3):987–92.; **10.** Kumar N, Agarwal A, Kumar N, et al. Int *J Acad Med Pharm.* 2022.; **11.** Tamysetty S, Babu GR, Sahu B, et al. *Vaccines (Basel).* 2021;10(1):60.; **12.** Bussink-Voorend D, Hautvast JLA, Vandeberg L, et al. *Nat Hum Behav.* 2022;6(12):1634–58.

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