

Quantification of COVID-19 Vaccine Coercion in India: A Survey Study

Bhaskaran Raman¹, Amitav Banerjee², Sai Mahesh Vajjala²

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1. Department of Computer Science and Engineering, Indian Institute of Technology Bombay, Mumbai, IND 2. Department of Community Medicine, Dr. DY Patil Medical College, Hospital and Research Centre, Dr. DY Patil Vidyapeeth, Pune, IND

Corresponding author: Sai Mahesh Vajjala, vmahesh98@gmail.com

Abstract

Introduction: Informed consent is the cornerstone of medical ethics, enshrined in the constitution of most countries, as well as in international documents. However, mandates for coronavirus disease 2019 (COVID-19) vaccination as well as coercion were prevalent in many places in the world, including in India. Against this background, we did a cross-sectional study to assess and quantify the extent of COVID-19 vaccine coercion in India.

Methods: A cross-sectional study was conducted after obtaining ethical clearance from the Indian Institute of Technology Bombay (IITB). This survey was conducted using a pretested questionnaire anonymously amongst college students and adults in Mumbai from October 2022 to December 2022. The questionnaire contained details of why the vaccine was taken, and if the participant was a student. Descriptive analysis was conducted and frequencies, percentages along with 95% confidence intervals were used to summarize the findings.

Results: A total of 483 participants responded, which included both students and non-students, of which 470 participants reported having taken the vaccine. A total of 106 (21.95%, 95% CI 18.48%-25.85%) reported to have been pressured into taking the vaccine. The level of coercion was similar among college students (78, 21.61%, 95% CI 17.67%-26.14%) and non-student adults (28, 22.95%, 95% CI 15.82%-31.43%).

Conclusion: A significant proportion was coerced into taking the vaccines, violating the requirement for informed consent. These results are of paramount importance for future policies as well as for posterity.

Categories: Public Health, Epidemiology/Public Health, Health Policy

Keywords: covid-19 vaccine, medical ethics and pandemic, public health policy, ethics, informed consent

Introduction

Informed consent is of paramount importance in medical ethics. The right to one's health and bodily autonomy is guaranteed in Article 21 of the Indian constitution. Informed consent is also given unequivocal importance in the international UNESCO declaration of bioethics in Article 6 [1]. However, policies related to coronavirus disease 2019 (COVID-19) vaccine administration have been coercive in nature around the world, including in India. COVID-19 vaccine mandates for various aspects of day-to-day life were common in 2021 and early 2022. A few such examples in India are as follows: i) at workplace in Tamil Nadu state [2-4], ii) for accessing public transportation in Maharashtra state [5-7], iii) for accessing government services in Gujarat state [8-10] - even the high court had upheld the decision of COVID-19 vaccine mandate by the Ahmedabad Municipal Commissioner in this case, iv) for entry into malls in Maharashtra state [6,7], v) for obtaining the ration from Public Distribution System in the Madhya Pradesh state [11,12], vi) to enter educational institutions like colleges in Karnataka state [13,14] and vii) schools in the Chandigarh Union Territory [15].

On 02 May 2022, the Indian Supreme Court in the judgement of the case, "Jacob Puliyl vs Union of India" in paragraph 3 of the conclusion, ruled that such coercion is disproportionate and violative of the Indian constitution, especially Article 21 [16,17]. Further they opined that bodily integrity is protected under Article 21 of the Constitution and no individual can be forced to be vaccinated [16,17]. While the Hon'ble Supreme Court ruled on the unconstitutional nature of the mandates, various forms of mandates and coercion continued for some time.

As there is a dearth of research on estimating the amount of coercion, we did a cross-sectional study to ascertain the extent of this coercion. This study will be an important input in future policies, and also for the historical record.

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Materials And Methods

Survey methodology

The survey sought to quantify the extent of COVID-19 vaccine coercion among students as well as non-student adults. Since the survey involved personal health information, it was designed to be anonymous: name or other identifying information was not collected or even asked during the survey. In the student category, only college students were considered, not school students. College students and adults who were willing to participate in the study were chosen as study participants. In order to obtain this sensitive information and to maintain confidentiality, the data was collected anonymously. After obtaining approval number IITB-IEC/2022/026 from the Institute Ethics Committee (IEC) of the Indian Institute of Technology Bombay (IITB), data collection was started.

Fifteen sessions were conducted on different dates between 26 October 2022 and 19 December 2022 at two prominent sets of locations: within college campuses and outside. While the former primarily targeted the student category, the latter primarily targeted the non-student category. Within college campuses, various venues such as food courts, hostels, and classrooms were considered. Outside of college campuses, various locations like bus stops, markets, and local train stations were considered. All survey locations were in the city of Mumbai, Maharashtra, India.

The following statement of informed consent was shown to a potential survey participant.

"Purpose of study: Informed consent is of paramount importance. Several COVID-19 vaccine policies have been coercive, and there is even a Supreme Court ruling (02 May 2022) that such coercion is disproportionate and violative of the Indian constitution. This study sought to measure the effect of the coercive policies, as it will be an important input in future policies, and also for historical record.

In this survey, you are asked 2 questions.

No personal information is collected or stored. The survey results will be summarised for students and non-students separately. It may be published, to improve understanding of past policies. Please provide your answer to the above question after reading and understanding this consent and question form."

The informed consent statement was shown in English as well as in Hindi and explained briefly to a potential participant. The response was collected from those who agreed to participate in the survey. The two questions were asked. For simplicity, there was exactly one question of content asked in the survey: Q1 What is the PRIMARY reason you took the COVID-19 vaccine? The participant had to choose from among six choices: A) Willingly, for own health; B) Willingly, for others' health; C) Pressured to take, for travel; D) Pressured to take, for education or work; E) Pressured, for some other reason; F) Not taken the vaccine. The first two responses would be considered as willingly vaccinated while the next three would be considered as vaccine coerced for analysis.

Since we wanted to separate the survey results by students versus non-students, an additional logistical question asked was: Q2 "Are you a college student? Yes or no as answer."

Sample Size Estimation

To estimate an assumed proportion of 20% vaccine coercion among college students and adults, at an acceptable error of 4% with alpha error at 5% and 80% power the minimum sample size required would be 385. The software used was WinPepi v11.65. However, we collected a higher number of responses: 483 responses, of which 470 participants reported having taken the vaccine.

Data Analysis

Data collected using both techniques were entered into an Excel sheet (Microsoft, Redmond, WA, USA) and analysed using Epi Info software developed by the Centers for Disease Control and Prevention (CDC). Descriptive statistics were applied. Frequency, percentages and 95% confidence intervals were used to summarize the collected data.

Results

A total of 483 valid responses could be recorded. This consisted of 361 students and 122 non-student adults, among which 13 participants did not take the vaccine. Further analysis showed that, for non-student adults, 28 (22.95%, 95% CI 15.82%-31.43%) (Table 1) reported that the reason for taking the vaccine was pressure due to travel, education or others which was similar in college students as well where 78 (21.61%, 95% CI 17.67%-26.14%) (Table 2) reported the same.

Survey response	Frequency	Percentage	95% confidence interval
Pressured into taking	28	22.95%	15.82% - 31.43%
Willingly taken	89	72.95%	64.16% - 80.59%
Not taken	5	4.10%	1.34% - 9.31%
Total	122	100%	

TABLE 1: Responses from non-student adults

Survey response	Frequency	Percentage	95% confidence interval
Pressured into taking	78	21.61%	17.67% - 26.14%
Willingly taken	275	76.18%	71.52% - 80.28%
Not taken	8	2.22%	1.13% - 4.31%
Total	361	100%	

TABLE 2: Responses from college students

Overall, 106 (21.95%, 95% CI 18.48%-25.85%) (Table 3) reported that pressure as a reason for taking the vaccine, while a majority (364, 75.36%) mentioned that they had taken the vaccine willingly.

Survey response	Frequency	Percentage	95% confidence interval
Pressured into taking	106	21.95%	18.48% - 25.85%
Willingly taken	364	75.36%	71.33% - 79%
Not taken	13	2.69%	1.58% - 4.55%
Total	483	100%	

TABLE 3: Responses from total participants

Figure 1 and Figure 2 summarizes graphically the survey results for non-students and students respectively. This clearly shows that a significant proportion of participants reported pressure as a reason for taking the vaccine. A small proportion of non-college adults did not take the vaccine (five, 4.1%) which was lower than that among college students (eight, 2.2%).

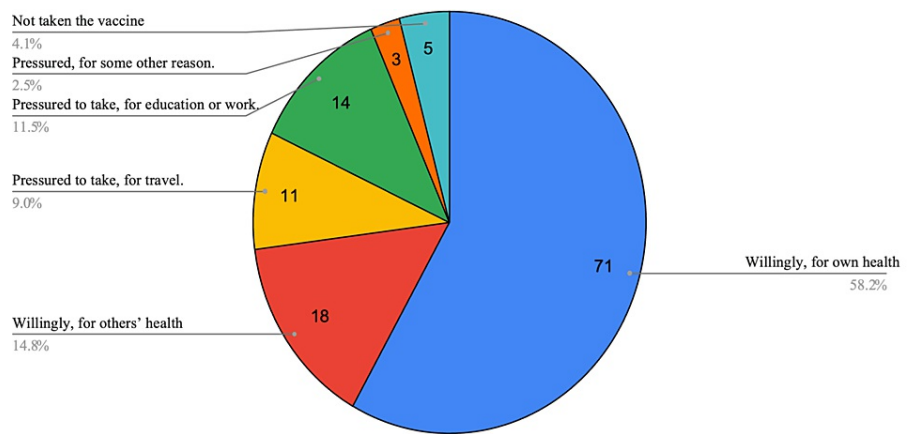


FIGURE 1: Pie chart of responses from non-students (total: 122)

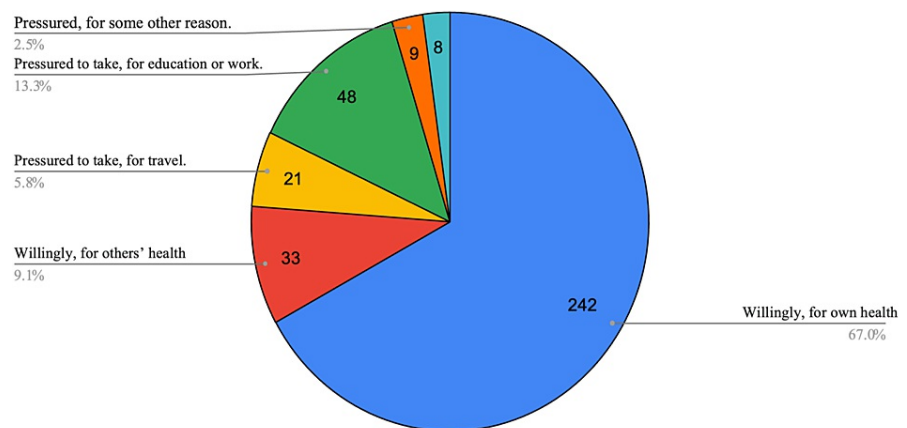


FIGURE 2: Pie chart of responses from students (total: 361)

Discussion

A significant percentage of students as well as non-students, about one in five, reported that they have been coerced into taking the COVID-19 vaccine. This is significant, especially given the Supreme Court ruling of the unconstitutionality of the vaccine mandates. The Government of India has claimed in its affidavit in another Supreme Court case that COVID-19 vaccination is voluntary [19]. Although the vaccination was voluntary as per the union government, our survey finds that due to various coercive policies on the ground, a large section of the population was pressured into taking the COVID-19 vaccines. This has important implications for future policies, as it concerns the issue of trust in public health.

The coercive policies for the college student population are especially significant, as data from the United States as well as Europe shows that this age group had no excess deaths in 2020 or 2021 due to COVID-19, a mortality rate of 0.03 per 100,000 in age group 0-19 years [20]. Even during the peak of August 2021 to September 2022, a study from the United States revealed that COVID-19 mortality was 0.6 per 100,000 for those aged one to four years, 0.4 per 100,000 for those aged five to nine years, 0.5 per 100,000 for those aged 10 to 14 years, and 1.8 per 100,000 for those aged 15 to 19 years [21].

In mid-2021, it was argued by the director of the American Civil Liberties Union (ACLU) that COVID-19 vaccine mandates could pave the way for freedom [22]. However, this argument hinged on the assumption that vaccination prevented infection, an assumption which turned out to be false. In fact in some data, the vaccine efficacy against infection has even shown up as negative [23-25]. The judgement in the case of Jacobson vs Massachusetts upheld vaccine mandates and was a reference for vaccine mandates for COVID-19 as well in the United States.

Lazarus et al. reported that self-reported vaccine hesitancy rates in Canada, Italy and Germany were around 30% and in France it was 41% [26]. Following vaccine mandates, Karaivanov et al. reported an increase in vaccine uptake by 8% in France, 12% in Italy and 5% in Germany, following the mandates in 2021 [27].

Similarly, Oliu-Barton et al. based on their model attributed COVID-19 vaccine certificate requirements to amount to an increase of 13%, 6.2% and 9.7% vaccine uptake in France, Germany and Italy respectively [28].

Prior studies of COVID-19 vaccination mandates in Canada, France, Italy, and Germany have shown about 5-15% increase in uptake following government announcements of vaccination requirements for purposes like access to public venues [27]. Although they may increase uptake, it has been argued that such COVID-19 vaccine mandates may cause more harm than good as it promotes social polarisation, adversely affecting health and well-being, and hence, strategies based on trust are to be preferred [29]. Countries with vaccine hesitancy prior like Japan had higher vaccine coverage even without vaccine mandates [30].

Limitations

This was the first study to our notice that estimated vaccine coercion, thus exact comparisons were not possible in the discussion. The study was conducted in an urban metropolitan setting, hence extrapolating the results to the rural regions is limited. This survey study has been limited in scope, and it is difficult to extrapolate the results to other places such as rural regions. In other places, the level of coercion could have been lower or higher. Only two questions were asked to the participants and the background details were not taken which would provide more accuracy in the estimation.

Conclusions

The survey study has been limited in scope, and it is difficult to extrapolate the results to other places such as rural regions. In other places, the level of coercion could have been lower or higher. The background details of the study participants were not taken which would provide more accuracy in the estimation. Qualitative studies on coercion can elaborate the understanding on vaccine coercion and would generate insights into the policymakers as well as healthcare givers. This observational descriptive study provides an insight into vaccine coercion and brings this into light which requires further studies to fill the lacunae and establish stronger evidence.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Sai Mahesh Vajjala, Amitav Banerjee, Bhaskaran Raman

Acquisition, analysis, or interpretation of data: Sai Mahesh Vajjala, Amitav Banerjee, Bhaskaran Raman

Drafting of the manuscript: Sai Mahesh Vajjala, Amitav Banerjee, Bhaskaran Raman

Critical review of the manuscript for important intellectual content: Sai Mahesh Vajjala, Amitav Banerjee, Bhaskaran Raman

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. Institute Ethics Committee (IEC) of the Indian Institute of Technology Bombay (IITB) issued approval IITB-IEC/2022/026.

Animal subjects: All authors have confirmed that this study did not involve animal subjects or tissue.

Conflicts of interest: In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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