COVID-19 VACCINE HESITANCY IN INDIA

Evidence Review of Behavioural Barriers

Centre for Social and Behaviour Change

Authors

Diksha Radhakrishnan, Deputy Director, Behavioural Design and Impact Lab

Pooja Sikund, Senior Programme Manager. Behavioural Design and Impact Lab

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INTRODUCTION

The first necessary step to develop strategies to boost COVID-19 vaccination rates is to define and acknowledge the problem and its landscape. This step becomes especially tricky when the landscape is constantly evolving, there are restrictions in our ability to collect data, and we act with speed.

The Centre for Social and Behaviour Change thus conducted an evidence review exercise to bring together various data points across the country through synthesizing:

(i) available data collected between January to June 2021 on COVID-19 vaccine uptake in India

(ii) available literature on COVID-19 vaccine hesitancy across countries; including academic papers and analysis reports by various institutes

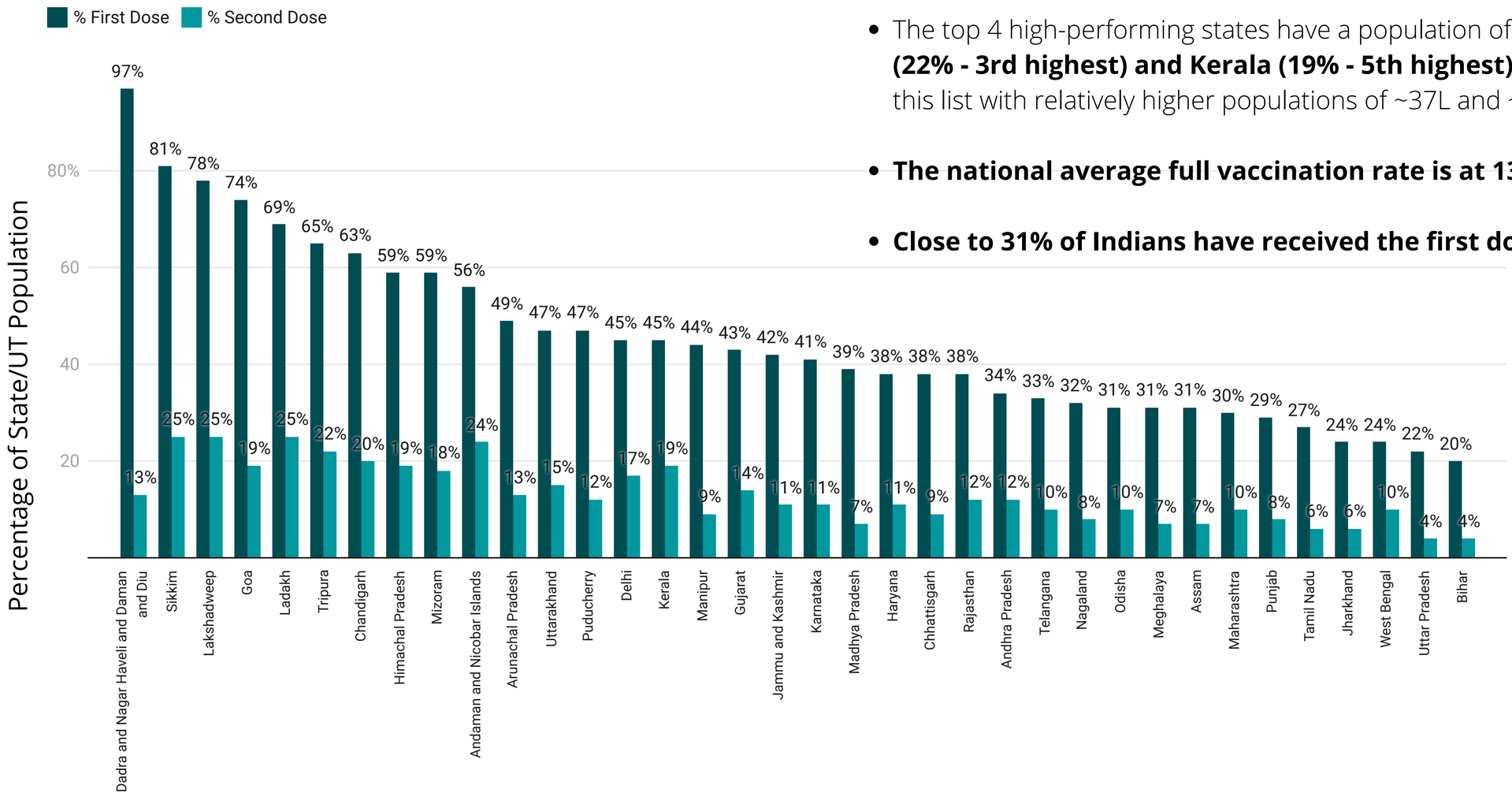
(iii) recent media articles reported between April and June ’21 to gather narrative evidence

(iv) insights from discussions with behavioural and policy experts.

Through this exercise, CSBC looks to expand the understanding around the challenge of vaccine-hesitancy and inform empirical and policy efforts to address COVID-19 vaccine-hesitancy.

To note - our findings and takeaways are from early 2020, pre the second wave and expansion of the COVID-19 vaccine policy.

STATE-WISE VACCINE COVERAGE (18+)



- **~ 9% of Indians have received both doses** with Sikkim (25%), Lakshadweep (25%), Ladakh (25%), Andaman (24%) being on top of the list and Bihar (4%) & Uttar Pradesh (4%) being at the bottom.
- The top 4 high-performing states have a population of less than 10 lakhs. **Tripura (22% - 3rd highest) and Kerala (19% - 5th highest) are interesting anomalies** in this list with relatively higher populations of ~37L and ~334L resp.
- **The national average full vaccination rate is at 13%.**
- **Close to 31% of Indians have received the first dose.**

First dose refers to individuals who have received 1 dose. Second dose refers to individuals who have received both doses and are fully vaccinated.

Source: Aggregated official data reported by COVID19INDIA* [Data as of 04th Aug 2021]; COVID19INDIA uses state bulletins and official handles to update their number. Population figures used here are from the 2011 Census. • Created with Datawrapper

Data as of 4th August 2021

KEY TAKEAWAYS FROM COVID-19 EMPIRICAL FINDINGS

Review of available data on COVID-19 vaccine hesitancy

Different studies have been conducted to collect primary data on COVID-19 vaccine hesitancy specific to India - the biggest one being the Facebook COVID-19 Symptom Survey study conducted in collaboration with the University of Maryland. Our review of these studies present the following takeaways on the empirical findings.

- **Takeaway #1.** There is **high variation in how hesitancy is measured** - depending on the type of question asked and which response groups are included, the numbers around hesitancy could look very different.

  NCAERs analysis of the Facebook COVID-19 Symptom Survey (CSS) data explores vaccine hesitancy as those who respond 'Yes, probably', 'No, probably not' and 'No, definitely not' when asked "If a vaccine to prevent COVID-19 were offered to you today, would you choose to get vaccinated?". According to this, across states, **38-66% of respondents express elements of hesitancy.** These respondents include FB users (a representative sample of whom are invited on a daily basis to answer questions around COVID-19).

  On the other hand, a Sewa Bharat study among its members (women employed in the informal economy) across urban and rural districts showed that about **83% of respondents express elements of hesitancy** (i.e. includes responses of 'might take the vaccine', 'not yet decided', 'will not take the vaccine' and 'did not respond' when asked about their willingness to take the vaccine').

  Moreover, as per the FB CSS study, Rajasthan appears to be the state with respondents expressing the highest intention to get vaccinated. However, as per the Sewa Bharat study, respondents in Rajasthan expressed one of the highest hesitancy rates.

- **Takeaway #2.** Stated response questions around vaccine hesitancy may have a limited ability to capture the full range of concerns surrounding the COVID-19 vaccine

  In NCAERs analysis of the stated reasons for hesitancy in the CSS study, the top reason for being hesitant appears to be the **concern of side-effects.** However, interestingly, other points that came up include the 'No, definitely not' group choosing the option of 'no specific reason'. This is potentially indicative of limited ability to self-express reasons for hesitancy, and the **need to expand beyond stated reason type survey questions.**

- **Takeaway #3.** Current **national-level data is more skewed towards urban areas** than rural samples / regions

  The only large-scale study across India appears to be the Facebook CSS study which is limited in its representation of rural and low-income populations.

- **Takeaway #4.** The effect of the second-wave of COVID-19 on vaccine hesitancy rates is not completely clear.

  A look at the trend of vaccine hesitancy based on the FB CSS data, shows that vaccine hesitancy declined as the second wave of COVID-19 progressed, indicating that perhaps with higher case load, there was a greater risk perception of COVID-19 and therefore a greater vaccine acceptance. However, based on the Sewa Bharat study which was conducted during the second wave and which showed an 83% vaccine hesitancy among respondents, it is **unclear whether the second wave had any effect on vaccine hesitancy.**

The available data on COVID-19 vaccine hesitancy in India indicates an urgent need to address this issue. While speed is crucial in being able to respond effectively, it is equally critical that these responses be grounded in evidence. Therefore, CSBC undertook a mixed-methods approach where we referred to available data (both empirical and anecdotal) on COVID-19 vaccine hesitancy, and grounded this data in larger insights from behavioural science to identify the various drivers of COVID-19 vaccine hesitancy These findings have been grouped into four key decision pathways that affect the final choice of taking the COVID-19 vaccine.

Understanding the Drivers of Vaccine Hesitancy

Is the vaccine needed?

Is the vaccine safe and effective? Is the vaccine safe for me?

Does the vaccine align with my other beliefs?

Is the vaccine easily "accessible" to me ?

- **Lack of trust in and around the COVID-19 vaccine**
- **Uncertainty around COVID-19 vaccine access**
- **Beliefs around COVID-19**
- **Other beliefs/past experiences**

IS THE VACCINE SAFE AND EFFECTIVE?

LACK OF TRUST IN AND AROUND THE COVID-19 VACCINE

Fear that the vaccine research process was rushed leads to a sense of uncertainty around the vaccine's safety and effectiveness

The perceived 'hurried' testing of the COVID-19 vaccine, prior to its launch, may result in concerns around the vaccine's safety and efficacy; especially when compared to the development process of other vaccines which have previously taken a few years.

This reflects a **'status quo bias'** (wherein the default practice is seen as the accepted norm and any deviation from it causes dissonance) which restricts the belief of the current testing processes being rigorous and safe.

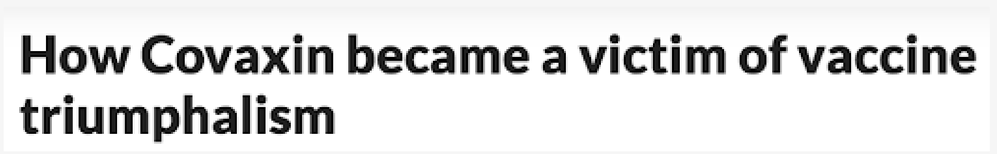
Anecdotal evidence from media reports suggests that changing guidelines on the gap between doses as well as varied testing between the two available vaccines also seem to feed into this concern around the vaccine's rushed research process.


Extending safety: On deferring second dose of COVID-19 vaccine

Source: Media headline from The Hindu [22nd May 2021]

Continued possibility of COVID-19 infection post-vaccine, raises concerns on the efficacy of the vaccine

Poor understanding of how the vaccines work and how they protect you (due to the technical nature of the topic) make it difficult to explain the efficacy of the vaccine. Especially when there is a continued possibility of infection post vaccine and the need to continue COVID appropriate behaviour (CAB) post-vaccination. Accounts of people getting infected post-vaccine further confirm scepticism and suspicion around the vaccine.


How Covaxin became a victim of vaccine triumphalism

Source: Media headline from The Mint [27th May 2021]

IS THE COVID-19 VACCINE SAFE FOR ME?

LACK OF TRUST IN AND AROUND THE COVID-19 VACCINE

Concern around how the vaccine might affect one's own health status

Accounts of adverse events post-vaccine may lead to people overestimating their own probability of experiencing a similar adverse outcome (reflecting 'availability bias'). This concern is not limited to only fear of short-term side-effects but also the fear of the vaccine's unknown future effects on health (such as the impact on fertility among women). Concerns of adverse health effects, also become a concern of livelihood for low-income populations, such as daily wage labourers etc. who cannot 'afford' sick days.

Additionally, lack of enough data on the appropriateness of the vaccine across various circumstances (pregnancy/lactation, health conditions etc.) lead to concerns of safety at an individual level.


Covid worries India's pregnant and unprotected mothers-to-be

Source: Media headline from BBC [2nd June 2021]

Cumulative mistrust across different government units extends to mistrust in the vaccine as well

Individual experiences of unfavourable past interactions with government units might be transmitted to mistrust in the vaccine. This could be in the form of minority communities fearing the vaccine as a way to target them, or individual experience of poor health services during the second wave result in questioning the safety of the vaccine or even where the geographical variation in the types of vaccines available might create a sense of unfairness and skepticism towards government units and consequently the vaccine.


A workers battle tribals' suspicion for Covid vaccine in

ges of Udainagar and Punjapura in MP's Bagli district, several tribals have resolved to not get vaccinated. They
: infection and 'possible death'.

Source: Media headline from The Print [26th April 2021]

IS THE VACCINE EASILY "ACCESSIBLE" TO ME?

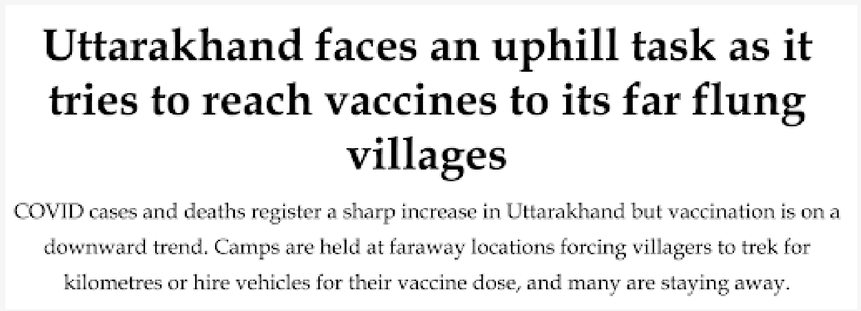
UNCERTAINTY AROUND COVID-19 VACCINE ACCESS

Inconvenience around registration and access to vaccination centres, result in delaying the vaccine

When the costs of getting the vaccine (such as registration, travelling to vaccine centre, wait time at vaccine centre) seem higher than the reward (especially with concern on vaccine efficacy), there is a greater likelihood of procrastinating the vaccine. Additionally, the fear of poor CAB practices at the vaccine centre and increased fear of infection spread also could delay the vaccine (to 'wait' for a time when the centres are safer).

Choice anxiety, stemming from an increased number of the different vaccines available, could also be leading to delays in getting the vaccine

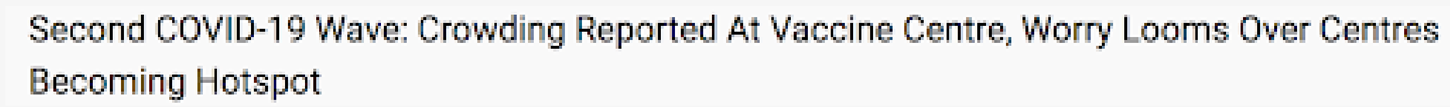
Availability of multiple COVID-19 vaccines (Covishield, Covaxin, Sputnik), could lead to a fear of making the 'wrong choice' of vaccine (especially with new emerging evidence of relative efficacy of the different vaccine). This could result in delaying the vaccine, till the preferred choice of vaccine is available or till more information is presented on the vaccines.



Uttarakhand faces an uphill task as it tries to reach vaccines to its far flung villages

COVID cases and deaths register a sharp increase in Uttarakhand but vaccination is on a downward trend. Camps are held at faraway locations forcing villagers to trek for kilometres or hire vehicles for their vaccine dose, and many are staying away.

Source: Media headline from The Gaon Connection [9th June 2021]



Second COVID-19 Wave: Crowding Reported At Vaccine Centre, Worry Looms Over Centres Becoming Hotspot

Source: Media headline from India Today [29th April 2021]

IS THE VACCINE NEEDED?

BELIEFS AROUND COVID-19

Belief in theories such as COVID-19 not being real or not being as life-threatening

Such beliefs fuelled either by fake information circulated through WhatsApp, social media and/or by the poor reporting of COVID-19 deaths, lead to wrongful perceptions of the risks associated with COVID-19 and hence the need of the vaccine.

Low-risk perception of the disease also leads to a low perceived need for the vaccine

A growing sense of **invincibility against COVID-19 by certain groups like** (i) younger people, (ii) those who might have been asymptomatic when infected and (iii) those who escaped without getting infected so far, may lead them to believe that the vaccine is not required for them.

Alternatively, the severe impact of COVID-19 could lead to the vaccine being seen as a futile effort

Rather than just a high risk-perception of the disease, the severity of COVID-19 (especially after the experience of the second wave), could have brought with it a sense of futility of any intervention attempting to combat it - including the vaccine.)

To these Indians Covid-19 is not a pandemic, but a scam

These groups use conspiracy theories ranging from Bill Gates to Chinese military in order to prove Covid-19 is not a pandemic, but a scam

Source: Media headline from The Times of India [23rd May 2021]

DOES THE VACCINE ALIGN WITH MY OTHER BELIEFS?

OTHER BELIEFS/PAST EXPERIENCES

Low acceptance and practice of preventive health behaviours extend to the vaccine

For populations that are unfamiliar with preventive health practices, the vaccine might seem unnecessary. Additionally, the practice of preventive adult vaccination might seem alien to groups which tend to only link vaccination to infant immunization.

The preference for traditional home remedies for healthcare could make the vaccine seem unnecessary

For populations that prefer traditional methods of healing, and are opposed to allopathic healthcare, the vaccine might seem as an unnecessary intrusion. Such beliefs make it difficult to advocate for the vaccine as a necessary choice for personal health.

Other religious and cultural beliefs like Fatalism can be directly opposed to vaccine adoption

While relatively unexplored, fatalism could be a potential reason for the belief that the vaccine is not required. Reports of people stating religious beliefs as a reason for not getting the vaccine, also showcase perceived incompatibility in beliefs that need to be reconciled.

Key Takeaways

- **COVID-19 vaccine hesitancy is complex and contextual - it varies across regions and with the circumstances.**
  - The COVID-19 circumstance is constantly evolving affecting the beliefs, attitudes and practices around COVID-19 This indicates the need to **look at the barriers not as static in nature, but as a dynamic list** - with different barriers playing up at different times and further barriers being added/removed from the list as the circumstances evolve.
  - There are **high dependencies and overlaps between the different barriers of COVID-19 hesitancy.** Therefore, the **barriers should not be viewed as mutually exclusive** to each other - but as factors that are associated with each other and have a cumulative effect.

- **Further evidence needs to be built on specific vaccine hesitancy drivers, that are yet not fully understood / explored.**
  - Most of the existing evidence has focused on the more traditional reasons of hesitancy (such as concern of side-effects) - there is a **need to build evidence exploring other "non-traditional" reasons** like fatalism, invincibility, optimism bias, status quo bias etc.
  - **Need for exploring supply-side barriers further and understanding how supply-side interventions** can address hesitancy
  - **Need to explore the dynamics of vaccine hesitancy when it comes to "going back for the second dose".**

MOVING FORWARD EMPIRICAL WORK ON COVID-19 VACCINE HESITANCY SHOULD:

- Be innovative in measurement techniques (especially for targeting rural centric populations)
- Include mixed methods / approaches in empirical work
- Aim to bring standardization across different empirical work (in tools, outcome measures etc.)
- Take a pragmatic approach (balancing speed with rigour) - to help inform policy decisions quickly
- Explore 'non-traditional' areas of hesitancy

WE CAN START ADDRESSING HESITANCY BASED ON WHAT WE KNOW SO FAR FROM EVIDENCE:

"Facts (around vaccines) are not rejected because they are seen as being wrong, but because they are seen as being irrelevant."

- Australian epidemiologist Stephen Leeder

LEARN & DEFINE

Use learnings from experiences of different vaccine programmes to innovate, refine and update efforts for current times.

INVOLVE ALL LAST-MILE ACTORS

Local populations rely on multiple actors for health advice (rural medical practitioners, religious leaders, community influencers) - and involving them in vaccine efforts could lead to a more consolidated effort.

LOCALISE EFFORTS

Vaccine hesitancy is not uniform and a blanket approach might yield low efforts; therefore:
(i) using local social networks to actively listen and catch rumours and misconceptions and
(ii) messaging through local community influencers could be effective strategies.

USE OF NARRATIVES

People resonate with and internalise stories, less so with data

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Centre for Social and Behaviour Change

@CSBC_AshokaUniv

@Centre for Social and Behaviour Change

csbc@ashoka.edu.in

www.csbc.org.in