



Community voices around COVID-19 vaccine in Chennai, India: A qualitative exploration during early phase of vaccine rollout

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Background & objectives: Globally, vaccination is considered as an important public health strategy to mitigate the impact of the COVID-19 pandemic. The purpose of the current study was to conduct an in-depth inquiry to explore perceptions of community members around COVID-19 vaccines in the southern city of Chennai, Tamil Nadu. This was conducted during the early phase of the vaccine rollout programme in India.

Methods: A qualitative investigation was conducted between January-February 2021 through in-depth interviews. Healthcare workers, religious leaders, community influencers, local administrators and representatives of marginalized communities were included. The key informant interview guides and probes explored five domains; (i) vaccine availability, (ii) trust in COVID-19 vaccines, (iii) vaccine-related concerns, (iv) health/risk balance and (v) vaccine prioritization. Transcribed interviews were coded using a thematic approach and analyzed manually as well as with the help of ATLAS.ti 9 software.

Results: Eagerness to receive COVID-19 vaccines amongst some of the respondents was linked with freedom from fear, possible restoration of normalcy, protection of family and ability to travel and work abroad. Concerns around threat of emergence of new variants, damage caused by such viral mutants and trust in policymakers were other facilitatory influencers for vaccine uptake. On the other hand, doubts surrounding safety and fear of side effects of COVID-19 vaccine were the feeders to vaccine hesitancy. Lack of accurate information, sensational media reports and rumours exacerbated this fear and provoked anxiety among people. Apprehensions around COVID-19 vaccine in the wake of its rapid development and approval for use and reluctance to take it during the declining phase of the epidemic were identified as other inhibitory factors. Participants underlined the importance of having responsive communication strategies in place focussing on vaccine safety. Making vaccines available to people free of cost and ensuring wider access were other programmatic suggestions.

Interpretation & conclusions: In conclusion, our study findings suggest that it is essential to remain engaged with communities and execute evidence-based information dissemination strategy about the safety and

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efficacy of the vaccines. We identified that it is also imperative to sensitize and train media professionals on how to report side effects related to vaccines. Responsive communication strategies will thus have the potential to serve as a key public health approach pertaining to future pandemic preparedness as well as to manage the demands of clinical and public health issues in an ongoing pandemic situation.

Key words Community perception - COVID-19 vaccine - pandemic preparedness - uptake and hesitancy

Globally, vaccinating adults against COVID-19 was adopted as a key strategy to reduce severe disease, hospitalization and deaths. As the epidemic progressed, countries brought children under the ambit of vaccination programme as well. India started with COVID-19 vaccines for emergency use and launched the vaccination drive on January 16, 2021¹ and gradually expanded its coverage. A pragmatic vaccination strategy in the country prioritized healthcare and frontline workers, elderly and adults with comorbidities². Subsequently, all individuals aged 18 yr and above were considered eligible for vaccination in India with effect from May 2021³.

Although armed with the experience and infrastructure to vaccinate the world's largest birth cohort of 27 million children every year, India faced considerable challenge in vaccinating about 940 million adults⁴ in an ongoing pandemic situation. Organizing vaccination sessions and booths, informing individuals about their respective schedules through mobile messages, ensuring vaccine supply, addressing vaccine hesitancy and emergence of new SARS-CoV-2 variants with immune escape ability are a few of such challenges to name^{5,6}. Of these, while vaccination session planning and supply chain logistics constitute the systemic issues, vaccine hesitancy requires understanding the perceptions and attitudes of a community around the COVID-19 vaccines⁷.

A telephonic survey conducted during June 2020 to January 2021 recorded that about 80 per cent of the respondents expressed their willingness to take a COVID-19 vaccine⁸. This survey was conducted among 44,260 individuals from 10 low- and middle-income countries (LMICs), as well as the United States (US) and Russia. Surprisingly, the willingness to take the COVID-19 vaccine was higher in LMICs as compared to the US and Russia probably arising from eagerness to secure protection against infection. Concerns about side effects were identified as the most common contributor towards hesitancy in this investigation.

Similar studies were carried out in India to understand the perception of communities towards COVID-19 vaccines, as well as the willingness to accept these and to identify potential factors influencing hesitancy⁹⁻¹⁶. With intermittent State- and district-level restrictions to curb the spread of newly emerging variants of SARS-CoV-2, these studies adopted online methods to administer the questionnaire with inherent constraints associated with such methods¹¹.

The present investigation was conducted during the early phase of COVID-19 vaccine rollout with the overall purpose to explore perceptions of the community members around this vaccine in the southern city of Chennai, India. Among other things, this exploration included 'concerns' as well as 'readiness', which could inform the country programme. The model developed by Peretti-Watel *et al*¹⁷ provided the theoretical framework for this inquiry. Noticeably, this model works on the premise of a vaccine being available to deal with a health situation.

Material & Methods

This study was conducted during January through February 2021 in Chennai, Tamil Nadu, India; a time when vaccination programme in India just started and was at its nascent stage. The study was carried out after procuring clearance from the Central Ethics Committee on Human Research, Indian Council of Medical Research (ICMR) and the Institutional Human Ethics Committee of the ICMR-National Institute of Epidemiology (NIE), Chennai.

Respondents: A purposive sampling strategy was used to identify participants from various socio-economic and occupational background through known social networks. Such an inclusive approach was followed to obtain insights from stakeholders belonging to varied sectors of the communities. In line with the observations of Green and Thorogood¹⁸, in-depth interviews (IDIs) were conducted in numbers sufficient to reach a saturation point. Healthcare workers, religious leaders,

community influencers, local administrators and representatives of marginalized communities were included in one-on-one IDIs. An inductive process of inquiry was followed.

Eighteen interviewees were invited for participation from a wide range of social background including president, secretary and treasurer of a resident welfare association, healthcare workers (nurse, senior and junior residents) each from a COVID and a non-COVID hospital, elected representatives such as one panchayat president from a village and a ward councillor from an urban area, religious leaders - one each from Hindu, Islamic and Christian faith, representatives of marginalized community groups, *viz.* leader of a lesbian, gay, bisexual, transgender, queer and intersex, asexual and allies (LGBTQIA+) community, supervisor of sanitary workers, manager of an old age home and a COVID-19 survivor.

Research team and tools: Four interviewers in the team were permanent staff from ICMR-NIE, of whom three were women; all had academic and experiential background of social work. Since the interviewers were from an ICMR institute, participants' responses were likely to be influenced towards vaccine acceptance due to social desirability bias. However, the participants were encouraged to respond freely and were told explicitly about the purpose of the study, which was to obtain independent reflections of people around COVID vaccine. Two teams, each consisting of two researchers (one interviewer and one note taker) under the guidance of the principal investigator, conducted key informant interviews (KIIs). The KII guide (Supplementary Table) was developed based on literature review as well as team consultation covering the following five domains; (i) vaccine availability, (ii) trust in COVID-19 vaccines, (iii) vaccine-related concerns, (iv) health/risk balance and (v) vaccine prioritization.

In-depth interview (IDI) process: IDIs were conducted in Tamil, the native language of the respondents. The study team, upon receiving willingness for participation, scheduled in-person interviews at a place and time convenient to the participants with ensured privacy and confidentiality. COVID-appropriate behaviour was followed during meetings and interactions; written informed consent was obtained from each participant before initiating the interviews and audio recording them.

Data archiving and analyses: Each audio-taped interview was computerized and saved in an external back-up hard disk to avoid data loss. Further, the audio files were transcribed in local language (Tamil) and then translated into English with encrypted personal identifiers. Documents of meetings, discussion points, research protocol, audio recordings, transcripts, translations, code book versions and analysis matrices were maintained as a part of confirmability trail¹⁹.

The translated interviews were coded using a thematic approach and analyzed using ATLAS.ti 9 (ATLAS.ti 9 Scientific Software Development GmbH, Berlin, Germany). Using the qualitative interview guide, which already had distinct domains requiring exploration as the foundation, the study team used an inductive approach to identify additional thematic layers. Relevant themes and sub-themes were identified using descriptive content analysis. Frequent parallel meetings amongst the team members and principal investigator were conducted to reconcile inconsistencies in the application of codes and to ensure that emergent codes were added to the coding scheme. All coding differences were reconciled by consensus. The data were analyzed and emergent themes were organized, and typical statements were marked and used for later citation as verbatim.

The study credibility was established through prolonged engagement of the researchers with the participants, and comprehensive understanding was generated through data and investigator triangulation and member check, which included feeding back data, analysis and interpretations to the members of the team¹⁹. Context of each respondent was presented with the analyzed data. Principles of qualitative research were followed by avoiding quantification of codes (or themes) from our data. The study findings are reported as common themes (*i.e.* those that emerged most frequently) and salient themes (*i.e.* themes reported by a minority that are still important).

Results

Data analysis and construction of conceptually clustered matrix resulted in the identification of three thematic areas, namely issues related to (i) vaccine uptake, (ii) vaccine hesitancy and (iii) programme-specific issues and suggestions.

Vaccine uptake: Responses related to vaccine uptake were grouped under three categories; (i) hopes around

vaccine, (ii) fear of new variants and (iii) trust in government, health authorities and vaccine research. Each of these groups was constructed following coding and identifying links between codes and sub-codes.

The COVID-19 pandemic posed several hardships across different sectors of the population. These included departure from physical to online education facility for children and youngsters, risk of life and heavy workloads for healthcare workers, loss of economy, jobs and livelihood and even complete loss of social life for many. Moreover, the pandemic induced a sense of fear in the minds of people and consequent desperation for relief as captured below:

'This disease has been spreading throughout the world...it is a kind of a big disaster, and people suffered a lot because of this...people have not gone out for the past 10 months (referring to initiation of national lockdown in March 2020) and have not been able to meet each other, this kind of disease, no one has seen in the world'.

(Panchayat President, 48 yr, Male)

'Human beings (generally) do not have any fear related to anything, but.....human beings will always be afraid of death...how much rich a person may be...when earthquake comes, he will run out of the house...a person may be rich or poor, there will be fear of death...if around 6-10 people in a street die due to corona, people nearby would have the fear of death even if we give awareness'.

(Religious Leader, 83 yr, Male)

'Not just the world economic status but even India's economic status is gone...in that time...our community ... particularly trans-women ... you know well that they are living a day-to-day life... if, today, they go for sex work and they get money from that, they will live...many people do not have savings... they waited for 2-3 days... after the fourth day, they started facing difficulties'.

(LGBTQIA+ Leader, 40 yr, Transgender)

'Because the virus is not visible to human eye and we will not know if it is near you or it is near me....the situation was like "kanna katti Kaatula vitta mathiri" (being lost as if blind folded and left in a forest)... it was like if affected with corona means, death may happen and it was a chaotic situation'.

(Sanitary Inspector of Municipal Corporation, 45 yr, Male)

Hopes: Many of the respondents considered COVID vaccines as a source of hope for mitigation of the disease impact. Such hopes were linked with 'freedom from fear', 'possible restoration of normalcy', 'protection of family' and 'ability to travel to and work abroad'. The end of the year-long struggle of 2020 and the spirit of encouraging others to take vaccine were other additional nuances:

'Since the vaccine has come...we can take it and we do not have to fear virus anymore'.

(Nurse, non-COVID Hospital, 41 yr, Female)

'For me, if the vaccine is given, I will definitely accept without any fear...and I will also recommend it to my close ones...this is my mindset...I am 70 yr old, and my wife is 62-63 ...if I have to support my children and grandchildren for some more days, I have to be alive'.

(Ward Councillor, 69 yr, Male)

'If vaccine comes, it will be really helpful for us as I am running recruitment agency, which sends people abroad...since February (2020), my work has stopped because of corona... if the vaccines were there, this would have been easy...whoever wants to go for a job abroad, can take the vaccine and go'.

(Treasurer, Resident Welfare Association, 47 yr, Male)

Fear of new variants: The fear of emerging SARS-CoV-2 variants had influence on the opinion formed around 'why vaccine is necessary' among some participants. Worries were expressed also about the possibility of re-infection and lack of immunity in unvaccinated individuals.

'If we do not take the vaccine... the second wave, third wave and all are coming...right... if all that comes... will we be able to face it...we were scared of this'.

(LGBTQIA+ Leader, 40 yr, Transgender)

'...repeated strains will keep coming... again, the same persons can keep getting affected ... if an even stronger strain comes, the disease progression will become more... and in the long-run, lung fibrosis can come... so, the vaccine is must'.

(Junior Resident, COVID Hospital, 26 yr, Male)

Trust: Eagerness of some of the respondents to take the vaccine largely originated from the trust laid on the vaccine development process. Confidence on the scientists, policymakers and government

officials, not only due to resource allocated but also for their ability to see larger public health causes, contributed to reliance on the government-initiated process.

'They have brought it immediately without any delay...they are correct in their work...some anti-social activists are spreading rumours...let's see...Government works hard...we have to respect them because they are above us...we see a few people, but they have to see the whole of India...so, they will know how important life is...we have to respect it...'

(Religious Leader, 45 yr, Male)

Vaccine hesitancy: The codes and sub-codes, clustered conceptually, enabled identifying issues related to vaccine hesitancy. Further analysis and grouping of these issues identified the following three categories, (i) apprehensions, (ii) reluctance and (iii) safety concerns.

Apprehensions: Scepticism expressed about COVID-19 vaccines mostly arose from the rapidity with which the vaccines were developed. Other concerns were around the regulatory approval process. The common perception among the respondents based on their existing knowledge was that the vaccine development would take several years, and therefore, questions were raised on 'whether the vaccine research was robust', 'how long would the immunity last' and 'would it prevent COVID-19 infection'. A few of the participants raised concerns about regulatory approval of vaccine under clinical trial mode in the country.

Some of the respondents indicated that clear and adequate information about vaccines had not been communicated to people. Lack of accurate information regarding vaccines reportedly was one of the feeders to confusion and apprehension. Further, participants felt that misinformation in media amplified such reactions. Statements by company representatives on TV channels or misconception spread during discussion, such as 'this vaccine is just water' and 'vaccination causes COVID infection', largely influenced peoples' and even healthcare workers' opinion about the COVID-19 vaccines. Many respondents pointed out that sensational media reports on the side effects and deaths after vaccination created panic and anxiety in the society.

'Like that if we see, to find a vaccine in such a short period, people are scared whether it will be safe or not'

(Secretary, Resident Welfare Association, 46 yr, Male)

'But, the information has not reached people much'

(Religious Leader, 35 yr, Male)

'I myself do not know how much important the vaccine is'

(Junior Resident, non-COVID Hospital, 30 yr, Female)

'Out of 100, only 30 per cent will take the vaccine... the vaccine has been found, but no clear information has been given'

(Panchayat President, 48 yr, Male)

'Yesterday also, in news, I saw that there was a controversy ...saying that ...other vaccines are just water... so, we do not get correct information on this, and we do not know if it is right or wrong'

(Treasurer, Resident Welfare Association, 47 yr, Male)

'Also, there are beliefs that some are becoming positive or some are having fever after vaccination; all these people have in their minds'

(Senior Resident, non-COVID Hospital, 29 yr, Male)

'There are so many people who think that they have been used for vaccine trial'

(Staff Nurse, COVID hospital, 28 yr, Male)

Reluctance: A sense of reluctance and procrastination was noted (post-first wave peak in September 2020) amongst some who considered vaccination as not urgent, mostly due to decline in the number of new cases. The fear of COVID amongst people during the initial phase of the pandemic had gradually reduced over time, as described by many respondents. This was particularly highlighted by the healthcare workers witnessing improved recovery rate of COVID patients.

'It is not urgent... may be... in June (2020) when I was affected by COVID... at that time, if the vaccine had come, definitely I would have got scared and taken it...but now...I do not have the thought of definitely taking the vaccine'

(Senior Resident, COVID Hospital, 30 yr, Male)

'My third daughter is BA...Anganwadi teacher... her husband is running a school where around 4000 kids are studying... but she said "appa (father), I do not want to take"...I asked why...she is like...'

let some days pass by...like this, some people are there’.

(Ward Councillor, 69 yr, Male)

‘You could have vaccinated all if this vaccine was brought during the corona time (peak time)...but now fear (of COVID) has gone...now even if you go and pressurize them, they will say we will see’.

(Religious Leader, 35 yr, Male)

Safety concerns: The core concern under this category was around safety of the vaccines administered. Most of the respondents expressed concern over lack of information on the safety profile of the vaccines. It was suggested to share the safety information widely in general public before scaling up the vaccination drive. Almost all the participants were afraid and worried about potential side effects of the vaccine. It was emphasized that the vaccine must be given to the public only after ensuring complete safety. One of the participants pointed out that even healthcare professionals were reluctant to get vaccinated due to perceived side effects.

‘Government has not given proper information to the people whether the vaccine has been properly researched and is safe to use...if we are sure that there are no side effects and if we are given a certificate, there will be no side effects...we will take it’.

(Panchayat President, 48 yr, Male)

‘When vaccine came, there was so much fear and dilemma related to it...even medical professionals, doctors themselves were afraid...and so many doctors did not take the vaccine’.

(Staff Nurse, COVID Hospital, 28 yr, Male)

‘I do not know to what extent it will agree to our body... because we do not know what chemicals have been added to it...for some people, there is a chance that it will do good and give them strength, but for some people, there is a chance that it might even be their end...so... I do not know how to tell...to what extent it will give side effects’.

(Manager, Old Age Home, 41 yr, Male)

‘I think only for old age (side effects)...because they will have some comorbidities, it is better to consult the doctor before taking the vaccine’.

(Nurse, non-COVID Hospital, 41 yr, Female)

A rare point of view focussed on people with unnoticed or neglected comorbidities emerged and

indicated that the complications could have been developed by chance, which might not necessarily be related to the vaccine itself. Some participants mentioned that unless causality was established, the adverse effects or deaths reported in some vaccinated people should not be associated with the vaccines administered.

‘The side effects which came for the people who had corona vaccination could have been because of the comorbidities that they had earlier. There is a saying like “Kaakkai ukaara panam pazham vilunda kadai” (When a crow sits on a palm tree branch, and instantly, a ripened palm fruit drops by chance. Although the event occurred by chance, the crow is blamed for the fruit falling)...likewise we say... “corona vaccine was given to them and they had side effects”,...but they might have had other comorbidities...because of this, even some of the frontline workers are afraid to take the vaccine’.

(Ward Councillor, 69 yr, Male)

Rumours related to adverse effects due to the vaccination were contributors to vaccine hesitancy. Some suggested modifying the recorded caller message on mobile phones to spread awareness about vaccines and to inform public about side effects and vaccine-related deaths. Although post-vaccination, the immediate side effects experienced by some of the participants were mild, a few had concerns about the long-term effects.

‘Fear is there, as in newspaper, there is news that in certain places such as in UP, around 29 people had to be suddenly admitted in hospital due to the vaccine... they were all over and above 80 years of age...since it comes in newspaper...as we read obviously, people will get frightened...we should convince people that this is not happening in Tamil Nadu’.

(Sanitary Inspector of Municipal Corporation, 45 yr, Male)

‘But, in media, if it had been shared like out of 1000 people vaccinated, only 4 people had symptoms and that too by evening they were fine....if such complete news was shared...people would have not been afraid...the media is just sharing the news of 4 people having symptoms...because of this people are getting frightened,...so, its impact is there’.

(Senior Resident, non-COVID Hospital, 29 yr, Male)

Table. Recommendations for vaccination programme

Category	Recommendations
Safety	Clear information about safety profile Assurance about safety (certification, <i>etc.</i>) Health check-up before vaccination Regular monitoring
Awareness	Dissemination of accurate information Regular health education Awareness campaigns
Misinformation	Restricting spread of wrong information Training of media professionals and strategies for responsible reporting
Motivation	Motivation by healthcare workers Motivation by celebrities
Vaccine distribution	Government system Primary healthcare system Door-to-door vaccination drive and avoiding overcrowding Unique identification card based
Vaccine cost	Free of cost

'First, I read like in the UK...mutant stains had come...after that, another day...one week after, it was said like fertility would reduce (laughs)...if the vaccine was taken, fertility would reduce...so I did not take the vaccine'.

(Junior Resident, non-COVID Hospital,
30 yr, Female)

Programme-specific issues and suggestions: Suggestions prevailed (Table) that vaccination programme should be implemented through public health facilities similar to polio vaccination for enhanced accessibility and to curb misuse and unethical practices by private sectors. Participants expressed their difficulties in travelling to tertiary care facilities for vaccination. Some respondents suggested using voters' list or Aadhaar ID (Unique Identification Number) or door-to-door vaccination for efficient administration, coverage and to avoid overcrowding.

Most of the participants strongly supported prioritization policy for healthcare workers and elderly and advocated distribution of COVID-19 vaccines free of cost since much of the population belonged to the lower-middle class or below poverty line, and many of them had lost their jobs during the pandemic.

Participants felt that it was the responsibility of the government to ensure access to life-saving medications to all citizens and should allocate funds for vaccination programmes.

Discussion

Vaccine hesitancy is a complex phenomenon interlaced within the sociocultural context of a region in any country. The model developed by Peretti-Watel *et al*¹⁷, which served as a starting point for our investigation, considers vaccine hesitancy arising through a decision-making process that depends on people's level of commitment to health-ism/risk-taking and also on their level of confidence towards health authorities and mainstream medicine. Although the proponents of this framework abandon anti- and pro-vaccination continuum, they do not claim that the vaccine-hesitant does not have opinions about vaccination in general. Addressing community-specific needs by engaging trusted local and community voices have therefore been considered as an effective approach towards tackling hesitancy and building public trust²⁰.

The research findings presented here were generated through in-depth community consultation, in the southern State of Tamil Nadu, India, at the time of COVID-19, while vaccine rollout had not gained momentum in the country. Some of the research team members, actively involved in pandemic management in India, were able to draw upon the emerging findings from this qualitative investigation to inform strategic planning in real time. The five domains identified through our investigation covered the '3Cs' model of the Strategic Advisory Group of Experts on Immunization of the World Health Organization²¹; Confidence (trust in vaccines), Complacency (vaccine concerns and health-risk balance) and Convenience (vaccine availability and prioritization).

Noticeably, a mixed-method study conducted amongst households across India before the launch of the vaccination drive (December 21, 2020 to January 9, 2021) revealed that 50 per cent of the population expressed willingness to take vaccine, while 46 per cent were ambivalent²². Furthermore, while the right understanding about the role of vaccine was found to be associated with vaccine acceptance, safety concerns and lack of information was linked with reluctance to accept it.

The findings of the current qualitative study indicated that hope and vaccine acceptance at the

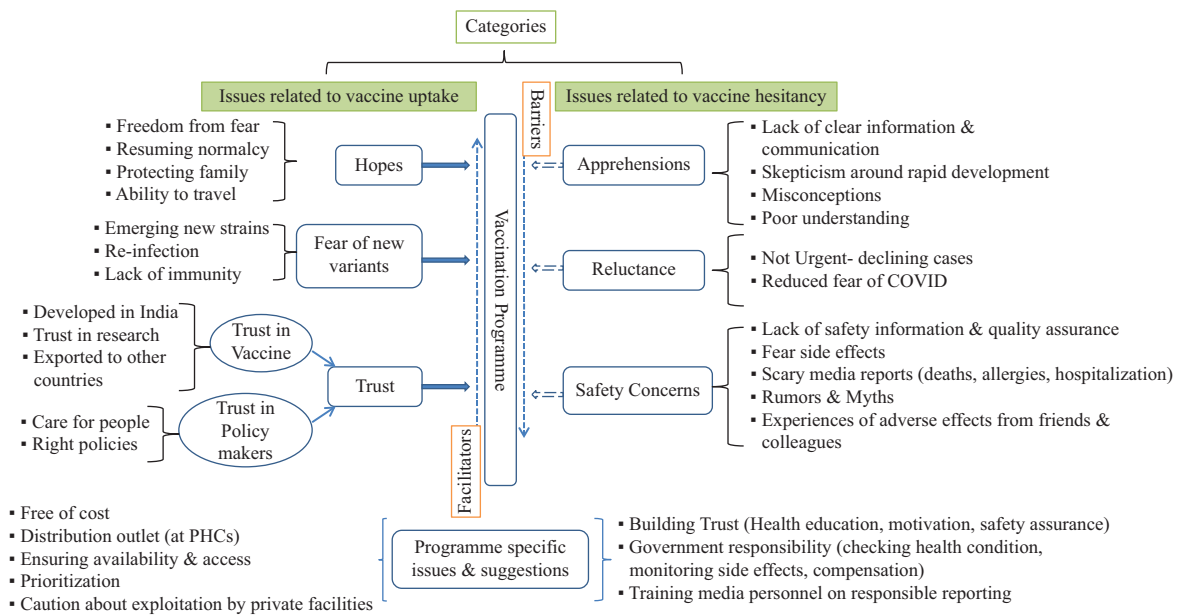


Figure. Illustration of thematic areas for the vaccination programme in the country: (i) issues related to vaccine uptake, (ii) issues related to vaccine hesitancy, and (iii) programme-specific issues and suggestions.

individual level were largely driven by fear of death and eagerness to regain normalcy (Figure). Trust in the policymakers and concerns about emergence of new virulent variants were found to be other important factors contributing to vaccine acceptance. Interestingly, a large mapping study of global vaccine confidence conducted across 149 countries during pre-COVID period between 2015 and 2019 showed that the confidence on policymakers and understanding of the importance of vaccines had the strongest association with vaccine uptake²³.

In the current investigation, we identified that apprehensions around accelerated vaccine development process, reluctance to take vaccine during declining phase of an epidemic and safety concerns, were noteworthy contributors to vaccine hesitancy. Scepticism around the vaccine development process and fear of side effects were also documented by other researchers interacting with key stakeholders^{12,24}. Considered together, such findings might explain the lukewarm response to vaccination in India during the initial phase of vaccine rollout²⁵. A media report on vaccination coverage in Tamil Nadu almost a year after vaccine rollout indicated that the two-dose coverage was 64 per cent amongst healthcare staff and 45 per cent among frontline workers as of January 28, 2022²⁶. About 12 million elderly (nearly 10%) were yet to receive their first dose as on 14th February 2022²⁷. Noticeably, safety

concerns frequently ranked high amongst the reasons, leading to vaccine hesitancy²⁸.

The present study further highlighted the confusions and misconceptions among people owing to the lack of accurate information and rumours. Sensational media reports on adverse effects post-vaccination created panic and negatively impacted upon the vaccination programme. Almost all the respondents emphasized that news spread through various platforms such as television and social media had a powerful impact on people. This calls for future strategies towards responsible media reporting. Although vaccination drives in the past had faced similar hurdles due to misinformation and rumours²⁹, the panic of the devastating pandemic coupled with infodemic³⁰ at the time of the current worldwide outbreak intensified these challenges.

Since much of the population in India belongs to lower-middle or middle socio-economic class and the socio-economic impact of COVID-19 in general was devastating, all the participants in the current study strongly opined in favour of providing vaccines free of cost. This is expected, especially during a time when a pandemic, negatively impacts the economy of a country, leading to rise in unemployment and loss of livelihoods³¹.

Our study had a few limitations. First, most of the participants were males living in a metropolitan

city. The perceptions of greater number of women participants and community members from rural areas could have provided wider viewpoints about the COVID-19 vaccine and vaccine hesitancy. Second, the study was conducted in January and February 2021, before India witnessed the second wave of COVID-19. Hence, the perception and risk–benefit assessment by the people around COVID-vaccine was drawn upon slow and steady rise of SARS-CoV-2 infection that was witnessed, experience of the peak attained in September 2020 and the subsequent decline. The onslaught of the second wave associated with severe diseases, hospitalization and death could have tinted them differently.

In conclusion, our study findings suggest that it is essential to continuously engage with the community and execute evidence-based information dissemination strategy about the safety and efficacy of the vaccines. Noticeably, transparent communication and scientific information on vaccine efficacy played an important role in winning the confidence of the community in the past²⁰. We identify that it is also imperative to sensitize and train media professionals on how to report side effects related to vaccines. Responsive communication strategies will thus have the potential to serve as a key public health approach pertaining to future preparedness as well as to manage the demands of clinical and public health issues in an ongoing pandemic situation.

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Supplementary Table. Domains explored and in-depth interview guide

I. Vaccine availability

COVID-19 vaccine: Is it going to be real? Your views, what do your friends say?

Is government serious?

II. Trust

COVID-19 vaccine is a new vaccine. Do you think it will work?

Will you take it? Will you give it to your family members?

Any hesitation?

III. Concerns

How safe this vaccine would be? Your views

If it comes, should it be free?

Will you buy it if not given free?

IV. Health/risk balance

What if the vaccine is not taken?

What if something happens due to vaccine? Your views

Please tell us a little more about it?

V. Prioritization

Who should get COVID vaccine first?

Probes: Why? Please tell us more?