

EDITORIAL

Challenges in Vaccine Acceptance– A Framework & Toolkit for the COVID -19 BattleThanjavur S. Ravikumar¹, Rakesh Kakkar², Vinoth Kumar Kalidoss³

¹President, All India Institute of Medical Sciences, Mangalagiri, Andhra Pradesh, Member WHO interprofessional patient safety curriculum working group; ²Professor & Head, Community and Family Medicine department; Medical Superintendent, All India Institute of Medical Sciences, Mangalagiri, Andhra Pradesh; ³Medical officer, Community and Family Medicine, All India Institute of Medical Sciences, Mangalagiri, Andhra Pradesh

Corresponding Author

Dr Thanjavur S. Ravikumar, President All India Institute of Medical Sciences, Mangalagiri, Andhra Pradesh - 522503
E Mail ID: tsravi2008@gmail.com

**Citation**

Ravikumar TS, Kakkar R, Kalidoss VK. Challenges in Vaccine Acceptance– A Framework & Toolkit for the COVID -19 Battle. Indian J Comm Health. 2021;33(2):239-241. <https://doi.org/10.47203/IJCH.2021.v33i02.002>

Source of Funding: Nil Conflict of Interest: None declared

Article Cycle

Received: 22/05/2021; Revision: 05/06/2021; Accepted: 15/06/2021; Published: 30/06/2021

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

From Needle-fear & Fear-mongering to Fearless vaccination

During the first wave of this COVID-19 pandemic, India's performance was relatively superior among the countries that had their first cases in January 2020. We grouped these countries as 'January Cohort' and analysed their relative performance (IJCH, April 2020), supporting India's management. Fast forward to the present, India's performance is woefully lacking, accounting for 30% of daily cases and 31% daily deaths with 18% of the world population [Worldometer Coronavirus database, June1,2021]. On this same day, 50% of the countries worldwide (110 of 222) reported no deaths and 25% (57) without any daily new cases. Thus, we have faltered with a series of public health missteps despite a good start.

The latest and the most remarkable failure of India is the vaccination, despite being the world's foremost producer. Many of the poor performers initially in the January Cohort, such as UK and USA, focused on 'vaccinating their way out of the pandemic' since the roll out of vaccines in December2020. The results are in display starting February 2021- to date, with cases/ deaths on decline in these countries, while India is in a reverse direction. On June 1st, UK reported no COVID-19 deaths and USA had about 31% decline of 14-day moving average.

While by total numbers, India is performing reasonably, this is far from the needed target of over 70% to be vaccinated for herd immunity. With present available evidence, vaccination & other public health measures are the only effective tools to control covid 19 in any country. China has set ambitious vaccination coverage target of 40% by the end of June and 70% of the population by the

end of this year. India also needs strategy for vaccinating with defined time targets to save its population.

The scientific breakthroughs in multipronged developmental efforts have been simultaneously associated with (largely overblown) vaccine nihilism in India due to scepticism of death and complications from vaccines. This, coupled with vaccine shortage and logistic issues have caused difficulties in seamless vaccine administration. The foreseeable situation, hence, is that of a population not achieving the desired herd immunity threshold of 70-85%. Disease-control strategies, while drawing upon proven practices from other parts of the world, need to be tailored to the local situation.

To address vaccine shortage, research on the possibility of intradermal route of covid vaccine is required as it can reduce the vaccine requirement for each dose to one fifth, as was seen in rabies intradermal vaccination.

Vaccine hesitancy (VH) in this context is the delayed acceptance or absolute refusal to get vaccinated despite the vaccines being available and services being extended. The reasons for VH are: complacency, civil liberty concepts, cultural issues, inconvenience and varying levels of trust or confidence fuelled by conspiracy theories and misinformation. The 'anti-vaxxers' are the extremely resistant pitted side-by-side those who are not entirely against vaccination or even critical of the ongoing strategies. The reticence is driven by safety concerns arising out of heuristics, omissions and disinformation. The VH groups include those who are sceptical of some vaccines and not others; and the 'free riders' who expect to be protected by the vaccinated majority. Delayed vaccination leads to emergence of new variants, lack of

efficacy in preventing transmission and staggered roll-out of newer vaccines against the backdrop of changing population behaviour.

Recent poll of global epidemiologists showed that the rising VH (38%) coupled with emergence of new variants (24%) in an increasingly politically polarized world (22%) will lead to COVID persisting akin to influenza instead of it getting eliminated. The germane issues in this context are: low vaccine acceptance owing to system failures, mismatch of supply and demand, reality gap between promised and realized efforts, stock-outs or service collapses, disinformation overload and Individual liberty concepts.

A FRAMEWORK & TOOLKIT FOR EFFECTIVE VACCINE COMMUNICATION

WHO Euro Vaccine Working Group in 2011 had proposed the '3Cs' model as negative factors influencing vaccination acceptance: Confidence, Complacency & Convenience. Another model of 3Es was proposed to overcome VH: Engage, Empower and Enable. We represent the 3 Cs as overlapping bubbles (Figure 1) and the 3Es as wedges of improvement in a single Venn Diagram as a working model. The sweet-spot in the middle represents the effect of the mitigating actions tailor-made to the deterring factors.

Explaining the (Figure 1) further, the first C (confidence) comprises trust in (i) Effectiveness (ii) System and competence, and (iii) Motivation of policy makers. The second C (complacency) is indicative of (i) Perceived risk of disease low and vaccine not deemed critical (ii) Life responsibilities supersede at point in time, and (iii) Self-efficacy, whereas the third C (convenience) encompasses (i) Geographic access (ii) Affordability/ service access (iii) Cultural/ language appeal services, and (iv) Quality service/cultural context. The '3Es', on the other hand, are enablers of the delivery of administration of vaccines, targeted needs of the specific audience which we want to engage, and the empowerment which prevents hesitancy and vulnerability to factors which make hesitancy to grow. We know that the populations where the immunization rates are low are the vulnerable groups which include poor people living in crowded housing with limited access to travel. This group also surprisingly includes those in the front line of essential workers who have several structural and functional barriers which block their access to places of vaccination in spite of working outside the confines of their homes.

Tailored Messaging

Beyond mitigating vaccine fear, the messaging we share with every citizen shall be based on 12 simple facts. A short-list of 3-4 messages from this list are to be prioritized and woven to make the sweet-spot convergence of 3Es/3Cs very relevant to each community. 1) Vaccines have been extensively tested on men and

women and even younger individuals including those with other medical conditions. 2) The vaccines are devoid of viral particles and the vaccine cannot induce disease by itself. 3) The much hyped 'clotting' incidents are very few and occur in about a case per million vaccinated people. 4) The vaccine is essentially painless as we use single-use needles. 5) The reactions following vaccines are self-limiting and last only a couple of days 6) The safety of vaccines among lactating women has been established. 7) If one waits too long for the vaccine it might prove to be a missed chance ("don't miss the bus"). 8) Those infected earlier also can be vaccinated without any adverse events 9) The reason for vaccination is FIRST and FOREMOST to protect oneself. 10) Vaccination is how we eliminate fearful diseases from our midst. 11) Novel vaccines are the result of years of research which made it possible for us to produce multiple vaccines against COVID-19 in such a short span of time. 12) A bundle of sticks resist being broken because of the strength of unity, in other words, herd immunity.

Public needs to get the message that vaccines primarily aim to protect individuals from getting infected, and secondarily to create a sustained 'herd immunity', also termed 'population immunity. The messaging should also focus that vaccination has been a huge success with about 3 million averted deaths per year with an additional 1.5 million deaths avertable if we were to use all the recommended vaccines. These successes have been largely because of eradication of smallpox, elimination of polio myelitis, meningitis and so on. Vaccines save 5 lives every minute and the societal benefit/cost ratio is an estimated 16.5!

In order to portray the above working model, two distinct scenarios are reviewed here as examples.

a) A poor rural region rife with VH from disinformation on death of an entertainment idol due to vaccination: ASHA & movie idol getting shots in the arm publicly (confidence, engagement); provide transport to vaccine site, champions from village/ school (complacency, empowerment); time vaccines so as not to hinder daily labour hours, provide meals (convenience, enablement). Prioritize items 3,4,10,12 from the dozen facts in messaging.

b) An urban industrial area lagging in vaccine acceptance: demo of local industry leaders/ doctors getting vaccine (confidence, empowerment); vaccinate in work area with NGO (eg. Rotary) facilitating (complacency, engagement); allow paid time during efficient vaccination, (convenience, enabling). Prioritize items 1,5,7,11 in messaging.

The disinformation from social media needs to be fought vigorously. "More, better information" is not going to deter the weavers of conspiracy theorists. [NEJM] They build on ideas such as oppression of freedom and principles of right to choose etc. The pro-vaccine groups are heavily focused on proving the science behind the vaccines through which we fall victim to the catch-22 trap

laid by the anti-vaxxers. The monothematic approach of the proponents of vaccines will be fought by the poly-thematic approach of the antagonists. They focus on the isolated safety issues, power of harmless alternatives, mass conspiracy plots etc. As shown by Prof. Larsen, it may be time for the scientists to understand the public rather than the public understand science.

Behaviour Change: How best to get the dialogue going?

There needs to be an empathetic approach to effecting the above change without authoritarian style in conveying truth. We need to withhold judging the hesitants. Establishing rapport is very important so that we can provide the autonomy required for them to make a decision based on proper guidance. We can work with them towards facts in a journey of joint discovery. Socratically, we can instill respect and control in them to make the right move. We would give them the liberty to make informed decisions and we must open ourselves to dialogues whenever they need.

Selma Sgaier (NYTimes, May 18,2021) outlined the kinds of VH in the community. The advocates of VH according to her are: 1) Sceptics which make up 14% of the population who carry the belief that the government is out to get them. They need to be cured with compassionate listening so that they get their choices. 2) The cost-anxious comprise of 9% who in spite of free vaccines will need the

support of provision of vaccines nearest their workplaces at their off-hours. 3) The system distrusters are a minority (4%) who will need to be tracked and guided with the help of their leaders. 4) The last group form the watchful (8%) who might be persuaded with examples and also with norms. Altruism works with this group especially given time for them to make decisions.

It is for the COVID warriors not to lose hope and continue endorsing the vaccination drives. Positive projection model by effective communication strategies to show the benefits of vaccination through national & community leaders, film personalities, eminent doctors to develop faith and remove myths at community level is required. It is important to develop faith among its citizen by providing authentic information sources, keeping morale high for nation and controlling media for not spreading misinformation. Many countries like New Zealand & Bhutan have controlled case burden by adopting rigorous public health measures with swells of civic compassion from every level of society.

The needle fear is a needless fear that need to be dispelled in both adults and children. The countless arms that have received the vaccine already need to be strengthened in order to reach the last-mile and cross the bridge over the troubled waters of hesitancy.

Figures

FIGURE 1 VENN DIAGRAM FOR EFFECTIVE VACCINATION:3CS & 3ES WITH SWEETSPOT

