Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

Will COVID-19 vaccine equity be possible in India?

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Dear Editor,

COVID-19 second wave is surging in India at the time of writing this letter. The paucity of hospital beds, oxygen supplies and vaccines has made India devastating. Health and Vaccine equity is a basic human right. Vaccine inequality may prolong the pandemic [1]. Quarter of the world population will get vaccinated by 2022 and low-income countries by 2024. Challenges for vaccine equity such as vaccine shortage and wastage, grants for research, vaccine hesitancy, vaccine efficacy, lack of storage facilities for imported vaccines, soaring vaccine price in private hospitals.

India distributing two approved cost-effective vaccines COVISHIELD and COVAXIN. Without a vaccine passport (digital documentation for vaccinated against COVID-19) leads to discrimination from the global community, limited employment opportunities, restriction to gyms, restaurants and exacerbates pre-existing discrimination [2]. By May 2021, India vaccinated with one dose was only 12% of the population comparatively 58% in the UK, 50% in the USA. Additionally, the population vaccinated twice in India was only 3% as compared to 37% in the UK and 40% in the USA [3]. On accounting vaccine shortage and wastage, India can vaccinate the whole of the population by 2025 or 2026 [3].

Vaccine wastage can happen during transportation, storage or contamination after opening the vial. Kerala, Goa, West Bengal reported "Zero vaccine wastage" by planning strategically, while as of 25th May 2021 states such as Jharkhand (37.3%), Chhattisgarh (30.2%), Tamilnadu (15.5%) observed the highest vaccine wastage despite the central government urges to keep vaccine wastage under 1% [4]. Interestingly, Kerala being front liners used also a wastage factor in the vial to vaccinate people. Thus, "Zero vaccine wastage" is an achievable realistic goal towards vaccine equity [5].

A systematic review by Robinson E et al (2021) reported significant relation between vaccine hesitancy (people refused to take vaccine even when available) and socioeconomic variations. Being female, low income, education, ethnic minority, misinformation, distrust and concerns about the efficacy of vaccines reduce the likelihood of getting vaccinated [6].

Vaccine accessibility is another challenge in rural areas and with political, cultural conflicts. Yet, "The Janefal model", serving as an example for the highest vaccination coverage amid vaccine hesitancy. Janefal, a village near Maharashtra, India with a population of 525 of which 95 belong to above 45 years. The villagers were overcasted by misconceptions and fear about the vaccine. Sustained efforts by vaccine advocacies against misinformation, eliminated fear, gained trust and eventually achieved 100% vaccination coverage [7].

A text analytics study in India reveals that the majority of the people are skeptical about the vaccine trials, nationality of the vaccine, fear of death and adverse effects, choosing the safest vaccine, trust in government and pharma industries [8]. A cross-sectional study by Tyagi K. et al (2021) reported COVID-19 infections in healthcare workers after COVID-19 vaccination [9]. Yet, the study needs to be replicated on the larger population.

Prioritizing strategic vaccination drive, transparency and robust data like the UK help to achieve vaccine equity in India. Building

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trust among the local communities by creating awareness via radio talk, social media can be able to overcome insecurities/ fear about the vaccine efficacy. In addition, long-term follow-up/ post-marketing surveillance will be promising to understand the effectiveness of the vaccine. Strict laws and penalties should be enforced against spreading misinformation. COVID-19 Suraksha mission was launched to accelerate vaccine development and to provide affordable, effective indigenous vaccines by end-2021.

It is evident that full vaccination coverage and zero vaccine wastage is not an insurmountable goal. Surplus vaccine production by fund allocation and robust implementation strategy accelerates the vaccine equity.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] Right to equitable access to COVID-19 vaccination—if not now, then when?. Orfonline.org. 2021. Available from: https://www.orfonline.org/expert-speak/right-equitable-access-covid19-vaccination-if-not-now-then-when/?amp [accessed 4 Jun 2021].

[2] Baylis F, Kofler N. Vaccination certificates could entrench inequality. Nature 2021 Mar;591(7851):529. https://doi.org/10.1038/d41586-021-00757-x.

[3] Ramakumar R. Misleading hyperbole: How India's June vaccine plans are totally unrealistic - the wire science. Thewire.in.; 2021 Available from: https://science.thewire.in/health/misleading-hyperbole-how-indias-june-vaccine-plans-are-totally-unrealistic [accessed 05 Jun 2021].

[4] Centre Reviews Progress of Vaccination with States/UTs and stresses need to accelerate its pace. Gov.in.; 2021. Available from: https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1721704 [accessed 16 Jul 2021].

[5] COVID-19: How vaccine wastage happens, how to reduce it. Business Today; 2021. Available from: https://www.businesstoday.in/current/economy-politics/covid-19-how-vaccine-wastage-happens-how-to-reduce-it/story/438906.html [accessed 07 Jun 2021].

[6] Robinson E, Jones A, Daly M. International estimates of intended uptake and refusal of COVID-19 vaccines: A rapid systematic review and meta-analysis of large nationally representative samples. medRxiv; 2020 Jan 1. doi: 10.1016/j.vaccine.2021.02.005.

[7] Changoiwala P. How a village in India reached 100% vaccination in the face of misinformation and hesitancy. National Geographic; 2021 May 21 Available from: https://www.nationalgeographic.com/science/article/how-a-village-in-india-reached-100-vaccination-in-the-face-of-misinformation-and-hesitancy [accessed 05 Jun 2021].

[8] Praveen SV, Ittamalla R, Deepak G. Analyzing the attitude of Indian citizens towards COVID-19 vaccine – a text analytics study. Diabetes Metabolic Syndrome: Clin Res Rev 2021 Mar 1;15(2):595–9. https://doi.org/10.1016/j.dsx.2021.02.031.

[9] Tyagi K, Ghosh A, Dipti NA, Dutta K, Bhandari PS, Ansari IA, et al. Breakthrough COVID19 infections after vaccinations in healthcare and other workers in a chronic care medical facility in New Delhi, India. Diabetes Metabolic Syndrome: Clin Res Rev 2021 May 3. https://doi.org/10.1016/j.dsx.2021.05.001.