Short Communication

Ensuring fair allocation of coronavirus disease 2019 vaccines: recommended strategies and justification

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ABSTRACT

The coronavirus disease 2019 (COVID-19) pandemic continues to claim lives of the infected people and disrupt the routine functioning of all domains of lives. The development of a vaccine seems the only major tool which can prevent the occurrence of cases and bring an end to the pandemic. As on November 11, 2021, eight different vaccine manufacturers have been given permission to launch their vaccines in different nations, with the first priority given to people belonging to vulnerable population groups. Considering the fact that the number of available vaccines will be less in initial stage, it is essential to give priority to some specific groups and then gradually expand the scope of vaccines to everyone, once the supply increases. In conclusion, the ultimate aim of policy makers should be to ensure that COVID-19 vaccines are available and accessible to all those who could be benefited by the vaccines. However, it is a challenging task and a lot of planning and preparations are required in each nation to ensure the safety of people.

Key words: coronavirus disease 2019; vaccine; World Health Organization

INTRODUCTION

The coronavirus coronavirus disease 2019 (COVID-19) pandemic continues to claim lives of the infected people and disrupt the routine functioning of all domains of lives. According to global estimates, as on December 12, 2021, the disease has accounted for more than 269 million confirmed cases and over 5.3 million deaths.[1] The development of a vaccine seems the only major tool which can prevent the occurrence of cases and bring an end to the pandemic. In fact, the considerable investment and collaborative efforts have been made to develop an effective vaccine and there are multiple candidate vaccines in different phases of clinical trials.[2]

Strains of COVID-19 virus

As observed with many other viral infections, the SARS-CoV-2 virus has shown changes in its structure and genetic mutations.[3,4] Till date, the World Health Organization has identified variants

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of concerns (viz. Alpha, Beta, Gamma, Delta, and Omicron) and variants of interests (such as Lambda and Mu).[5] The recent most variants of concerns have been Omicron, which has been found to have the genetic structure with an important role in the extent of transmission of the infection (including community transmission), the seriousness of the infection with potential complications, inability of the existing laboratory tests to detect the infection with Omicron strain, and finally reduction in the potency of the existing medications to treat the COVID-19 infection resulting because of the Omicron strain.[5,6]

Recent developments

As on November 11, 2021, eight different vaccine manufacturers have been given permission to launch their vaccines in different nations, with the first priority given to people belonging to vulnerable population groups.[7] In addition, many additional candidate vaccines are also in the different stages of development.[7] There has been so much demands for these vaccines over the world because of the fact that all the approved vaccines have demonstrated effectiveness in terms of reducing the incidence of infection among the immunized people, and decreasing the seriousness probability of infections (the chance to develop complications — reduction in hospitalization and disease attributed deaths).[8,9] In fact, the scientific evidence has also indicated that the administration of vaccine has resulted in the interruption of the transmission chain, which may lead to the large outbreaks of the disease.[8,9] It is quite obvious that the issues of increased manufacturing and unprecedented demand will significantly pose an immense challenge to the policy makers and public health authorities to improve the accessibility of the vaccines for those who are in need of them. Anticipating the concern, the international welfare agencies have joined their hands and formulated the COVAX (which includes Coalition for Epidemic Preparedness Innovations), Global Alliance for Vaccines and Immunization and World Health Organization) facility, which will supervise the distribution of the vaccines to all the nations irrespective of their income level.[2,10]

Potential recommendations

It has been proposed that the goal of safeguarding individuals by reducing mortality and strengthening the health systems should be the ultimate goal which should be kept in mind while deciding on the vaccines allocation, as it will reduce the impact of infection on the community and the economy of the nation.[2,7,10,11] At the national level for making any recommendations, the policy makers should give due consideration towards the epidemiology of the disease, clinical profile of the infected people, the pros & cons of vaccines, equity, feasibility, logistics, financial consequences, acceptability among masses, and social values of the people.[10,11]

Considering the fact that the number of available vaccines will be less in initial stage, it is essential to give priority to some specific groups and then gradually expand the scope of vaccines to everyone, once the supply increases.[10] Priority should be given to specific population groups in a transparent manner and with an intention to enhance the impact of the vaccines within the limited stocks of available vaccines. Based on the available estimates of the disease till date, the initial priority should be given to healthcare professionals, other frontline workers in social environment, elderly over the age of 65 and people who are less than 65 years old, but suffering from co-existing morbidities. These people could be given more priority as they are more susceptible to infection and disease-related complications.[10,11]

It has been estimated that we have to cover 20% of the population in each nation to immunize the people who should be given topmost priority.[2] Acknowledging this estimate, the international welfare agencies have decided that once the vaccine becomes available, it will be released in 2 phases. In the first phase, vaccine doses will be allocated proportionally to all the nations to immunize high-risk groups of people. In the second phase, the vaccines will be released based on the number of cases and the estimated risk in each nation.[2,10] In addition, it has been proposed to keep some vaccine stocks for managing humanitarian emergencies and responding to a sudden major outbreak of infection in any part of the world.[10,11]

Ensuring fair distribution of vaccines

In general, the global acceptance of the available vaccines has been higher in people from high socioeconomic class than in the poor, predominantly in the initial stage of the introduction of vaccines. This requires better management by the national program managers and international welfare agencies to ensure optimal monitoring and remedial measures to so that vaccines can be fairly distributed to people from low socioeconomic class.[12] Similarly, the COVID-19 infection has predominantly affected some population groups (such as people with coexisting illnesses or elderly people). Although vaccination should focus on these high-risk groups, the governments should adopt evidence-based strategies to cover other sections of the community as well, mainly because everyone is vulnerable to infection.[12,13]

Further, the vaccine manufacturing companies should also ensure fair allocation of the vaccines to different nations based on the susceptible population in each nation, and not allow excessive storage of vaccines in one place, while other needy people continue to bear the brunt of infection.[12-14] We must realize that the COVID-19 infection apart from causing morbidity and mortality deprived people of their lives and job opportunities. In other words, the infection had a direct impact on their income, and the same thing should not be repeated with the COVID-19 vaccines (means the vaccine should not be so expensive because people from low socioeconomic class can't afford the vaccine and thus decide not to take it).[12,14] Additionally, the fair distribution of vaccines will also depend immensely on the quality of data available about the cases from different parts of a nation, and thus we have to strengthen the overall surveillance mechanism to get the real-time information about the number of cases.[12]

All the above recommendations have been given based on the

current epidemiology of the disease and they can be modified according to the availability of more evidence.[2] At the global level, the international agencies will supervise the allocation of vaccines to different nations. It is the responsibility of an individual nation to ensure that the process of vaccine distribution within the nation is carried out in a seamless manner. This could be achieved by identifying a group of people, who constitutes the team at different levels to monitor the overall process. What's more, each nation has to plan about the specific national requirements, required capacities and implementation of the vaccine campaigns.[2,7,10,11]

CONCLUSION

In conclusion, the ultimate aim of policy makers should be to ensure that COVID-19 vaccines are available and accessible to all those who could be benefited by the vaccines. However, it is a challenging task and a lot of planning and preparations are required in each nation to ensure the safety of people.

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Conflicts of interest

Prateek Saurabh Shrivastava is an Editorial Board Member of the journal. The article was subject to the journal's standard procedures, with peer review handled independently of this editor and his research groups.

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