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

Response to: Regarding the Article: Coronavirus Disease (COVID-19): Current Status and Prospects for Drug and Vaccine Development

Dear Editor,

Until SARS-CoV-2 is completely wiped-out, the global appeal for social distancing is unlikely to permit a return to socio-economic normalcy or end the COVID-19 pandemic (1). One approach aimed at eradicating this pandemic is the development of vaccines. Research laboratories are working on different vaccine candidates and one mRNA-based vaccine has received regulatory approvals in the United States of America and the United Kingdom (2,3). In a letter to the editor of this journal, several areas of interest and/or concerns were raised regarding Coronavirus disease 2019 (COVID-19) vaccines. The letter cited a recent publication (4). In the letter, concerns were raised over issues such as vaccine storage, needle stick injuries, duration of immune response, adverse events as well as vaccination for various categories of patients. COVID-19, which is caused by SARS-CoV-2, continues to constitute a tremendous challenge to health authorities globally. Several vaccines are in development and recently, the Food and Drug Administration of the United States of America granted an Emergency Use Authorization (EUA) for the Pfizer-BioNTech COVID-19 Vaccine (2). The storage of COVID-19 vaccines is important from the standpoint of preserving vaccine immunogenicity and efficacy as well as preparing healthcare workers who will be receiving and administering the vaccines (5). The complete, intact mRNA molecule is essential to its potency as a vaccine as a small degradation reaction, anywhere along a mRNA strand, can negatively impact the translation of that strand leading to incomplete expression of the target antigen (6). Following approval by regulatory authorities, mRNA vaccine doses will have to be manufactured, shipped across many cities as well as countries, stored at end-user sites, and subsequently utilized for large-scale vaccination (6). Pfizer's mRNA vaccine has to be stored in a −70°Celsius (−94 degrees F) ultra-cold freezer (5). The efficacy of the vaccine can decrease if it not stored at a precise temperature (7). Furthermore, lasting immunity potential and long-term side effects of the vaccine are not known (7). Time will tell if vaccine-elicited neutralization antibody levels are adequate for preventing or ameliorating COVID-19 disease progression (1). Lack of knowledge about lasting immunity may complicate the capacity of healthcare providers to plan vaccine timing, dosing, and budgeting (7). Furthermore, the World Trade Organization was asked to waive some provisions in the international agreements that control intellectual property rights with the aim of accelerating efforts to control the COVID-19 pandemic and ensure that developing countries are not left behind (8) due to financial limitations. Another ear of concern is the possibility of patients and healthcare workers suffering from needle stick injuries because of COVID-19 vaccination campaigns. Sharp injury can occur due to recapping, mishandling, passing of sharps or leaving the sharps on surfaces (9). Training can assist in alleviating these problems with the newly approved mRNA vaccine injections. A research group has also suggested the use of microneedles for one of the vaccine candidates in development (10). The use of microneedles can reduce some of the problems encountered with hypodermic needles (11).

Conflict of Interest

None.

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