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Letter-to-Editor

Drive-through SARS-CoV-2 vaccination has disadvantages that should be considered before recommending it as a method of rapid mass vaccination

Sir,

We read with interest the article by Chandra *et al*[1]. It was published in the March-April 2024 issue of the Indian Journal of Medical Research. A cross-sectional study on the incidence and characteristics of immediate adverse events following immunisation (AEFI) during a drive-through vaccination campaign for COVID-19 in Yogyakarta using the Sinovac/CoronaVac vaccine[1]. Using secondary data from the local vaccine registry collected between July 27 and September 6, 2021, it was found that only 79 of 20817 vaccinated individuals had AEFI[1]. Systemic adverse events were found to be more common than local events, including dizziness, nausea, fatigue, injection pain, palpitations, abdominal pain, anxiety, shortness of breath, vomiting, injection site itching, and fainting being the most common[1]. The study is elegant, but some ambiguities should be clarified.

The first point is that only patients with diabetes, hypertension, cancer, or asthma were excluded according to the methods section[1]. However, it is known that adverse reactions to SARS-CoV-2 vaccination (SC2V) occur more frequently in multimorbid patients than in previously healthy subjects or patients with an unspectacular medical history[2]. Immunological diseases, in particular, are known to be associated with an increased risk of adverse reactions to SC2V[3].

The second point is that in a drive-through setting, the time for a detailed and thorough medical history is too short, which is why a number of important information about the vaccine's previous health status may have been overlooked. Since it was known from the beginning that the vaccines on the market were unsafe for certain patients[4], it is irresponsible to allow such a setting without having the possibility to exclude patients at risk of SC2V side effects.

The third point is that some vaccines can cause not only mild but also severe side effects[5]. Therefore, we should know how many of the vaccinated had to be hospitalised due to severe side effects of the vaccination. The reasons for hospitalisation were also not explicitly stated.

The fourth point is that only the short-term side effects were recorded, not the long-term effects. Since SC2V can affect the immune system for months or possibly even for life, it would have been imperative to also record how many of the included patients still had vaccine-related side effects after one or two years.

As a fifth point, we disagree with the view that vaccination coverage is safe because only a few side effects occurred immediately after vaccination[1]. Since several studies have shown that adverse reactions to vaccination can occur after a delay of days or weeks, which is due to delayed hypersensitivity reactions[6], the evaluation of the safety profile of SC2V requires long-term monitoring.

In summary, drive-through vaccination against SARS-CoV-2 has several disadvantages that should be considered before making a general recommendation.

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Authors' response

Sir,

We appreciate the insightful feedback from the author of this letter-to-Editor[1] regarding our article titled 'Immediate adverse events following immunization (AEFI) in drive-through COVID-19 vaccination campaign in Yogyakarta, Indonesia'[2], published in the March-April 2024 issue of IJMR. This response aims to address the key points raised, particularly concerning the Sinovac vaccine, the scope of our study, and the methodological considerations surrounding drive-through vaccination strategies.

The Sinovac vaccine, an inactivated virus vaccine, presents unique logistical challenges, particularly in non-traditional settings like drive-through clinics. Its storage and stability requirements necessitate careful handling to maintain efficacy[3]. The inactivated nature of the vaccine has been associated with a lower incidence of adverse reactions compared to mRNA vaccines, which is crucial for public confidence in vaccination campaigns[4]. Furthermore, understanding the specific attributes of the Sinovac vaccine allows for a more nuanced comparison with other vaccines utilised in similar settings, such as mRNA-based vaccines, which have different storage and handling requirements[5].

We acknowledge the limitations of focusing solely on immediate AEFI, which may not capture the full spectrum of vaccine safety. Longitudinal studies are essential to assess medium to long-term adverse events, as highlighted in various studies that emphasise the importance of comprehensive monitoring post-vaccination[6,7]. The National Commission for Adverse Events Following Immunization in Indonesia has confirmed that while some deaths were initially suspected to be related to the Sinovac vaccine, investigations revealed no causal link, underscoring the need for thorough safety evaluation[8].

The absence of a comparative analysis in our initial critique is a valid concern. Integrating findings from other studies on drive-through vaccination methods will enhance our understanding of whether the challenges faced in Yogyakarta are unique or part of a broader trend. For instance, a study has shown varying levels of acceptance and adverse event profiles between different vaccination strategies, which could inform best practices for drive-through setups[9]. Such comparative analyses are vital for evaluating the effectiveness and safety of drive-through vaccination as a public health strategy.

The selection criteria for participants in the original study warrant further scrutiny. Excluding individuals with comorbid conditions may lead to an incomplete understanding of the vaccine's safety profile across a diverse population. It is essential to ensure that findings are applicable to a broader audience, particularly as individuals with multiple health issues may respond differently to vaccination. The management of severe adverse effects in drive-through settings is a critical area that requires further exploration. Documenting the protocols in place to handle severe reactions is essential for ensuring patient safety during mass vaccination campaigns[10].

Overall, we are committed to enhancing our discussion to incorporate these insights, ultimately contributing to a more robust understanding of COVID-19 vaccination strategies in various contexts.

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