

LETTER TO EDITOR

Mass vaccination against COVID-19: challenges for the best infection prevention practices

Vacinação em massa contra COVID-19: desafios para as melhores práticas de prevenção de infecções

Vacunación masiva contra COVID-19: desafíos para las mejores prácticas de prevención de infecciones

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Recebido em: 04/02/2021

Aceito em: 05/02/2021

Disponível online: 09/02/2021

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Keywords: Mass Vaccination; Coronavirus Infections; Infection Control.

Palavras-chave: Vacinação em Massa; Infecções por Coronavírus; Controle de Infecções.

Palabras clave: Vacunación Masiva; Infecciones por Coronavírus; Prevención des infections.

From mid-December 2020, several countries have begun mass vaccination against COVID-19, completing the tripod to defeat the pandemic along with social distancing and hygiene practices.¹ In Brazil, the COVID-19 vaccination campaign began on January 18th, 2021.

The seriousness of the pandemic has led to such visibility in the worldwide media as never seen before for any vaccination campaign, spreading out several images of people receiving the injections. Despite the currently established guidance for vaccination from highly recognized organizations,²⁻⁴ we have watched astonished a huge gap in the standardization of the administration of the vaccines. The inconsistency in the use of personal protective equipment (PPE) such as gloves, gowns,

and face protection, and in skin disinfection, among other technical issues, were seen in many media images. Of note, it is very disappointing that the hand hygiene practices have not been seen very frequently in these images on mass vaccination.

The lack of standardization of the vaccination procedures generates both the absence of PPE where they are necessary and the unnecessary use where they are not, causing a waste of this precious resource for the infection prevention. This is highly concerning in times when the shortage of PPE is still a worldwide concern. Surely, this also compromises patients' safety.

Three points deserve more attention regarding the standardization of the process. The first is about the gloves usage in the situation of intramuscular injection (IM). According to several national and international guidelines,³⁻⁷ gloves are not indicated in the vaccination routine, including vaccination against COVID-19. Their use is indicated only in specific cases, such as vaccinators with skin lesions on the hands or in situations involving contact with the patient's body fluids. In any case, if used, they should be changed for each patient and the professional should perform hand hygiene before putting on and after the gloves removal.⁷ However, up to our knowledge, there is

no worldwide data on needlestick-related injury rates during the vaccination process comparing the use or no-use of gloves.

The second point is about skin disinfection. According to the World Health Organization,² some studies suggested that there is no increased risk of infection when administering IM without prior skin disinfection. However, this recommendation still generates controversy. Few studies supporting this recommendation do not address vaccination, and there are not many details about patients' follow up. A randomized clinical trial in children comparing skin preparation with isopropyl alcohol with the absence of preparation before vaccination demonstrated that there was no difference between the groups regarding infections and local reactions.⁸ A literature review study failed to find sufficient evidence to conclude whether alcohol smear, before vaccination, reduces infection rates compared to no smear.⁹ The Australian Immunization Guideline⁵ does not recommend skin disinfection before IM vaccination. One argument in favor of skin disinfection is that it is a simple intervention to prevent, not a prevalent, but a significant event.¹⁰ The Canadian Immunization Guidelines also recommend the skin disinfection before IM vaccination.⁶

In Brazil, for at least two decades, the National Program of Immunization (NPI) does not indicate the skin preparation with alcohol for vaccine administration, except if there is visible dirt, in which case the cleaning with water and soap is recommended.⁴ Notwithstanding, no data are available to know the level of countrywide adherence to this recommendation. Therefore, a few reports on local adverse reactions since the adoption of this recommendation, such as abscesses and cellulites, cannot be exclusively attributable to the skin preparation or not. The scarcity of robust studies on the role of skin disinfection in the vaccines adverse events demonstrates the need of clear scientific evidence on this matter.

Finally, we observed in the media images the lack of standard in the appropriate disposal of sharp waste and in the use of safety devices for syringes, practices that are highly recommended since a long time.⁷ This situation points out the long way we still have for the full implementation of standard precautions in every and all healthcare procedures.

This commentary aims to raise attention to the lack of standardization in infection prevention procedures related to parenteral vaccination. This may be explained by the lack of robust studies to support evidence-based practices as well as due to the barriers to access proper health technologies in low resource settings. The reasons why the vaccination guidelines are so difficult to be implemented worldwide can be even more complex, and this herein comment is a call to advocate for the use of implementation science to face the problem.

The COVID-19 has brought the opportunity to review and rethink our practices. This is not different for vaccination

- we need to do better. Vaccination is a life-saving resource, we need all the infection prevention evidences on that, but beyond evidences we need a strong implementation process of good practices to ensure zero risk of infection vaccine-related.

ACKNOWLEDGMENTS

“This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001”.

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