https://doi.org/10.1590/1806-9282.20221196

Comment on "Comparison of severe acute respiratory syndrome coronavirus 2 (COVID-19) vaccine side effects by age groups"

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Dear Editor,

In the article entitled "Comparison of severe acute respiratory syndrome coronavirus 2 (COVID-19) vaccine side effects by age groups" by Tosun et al[1], the authors compared differences in side effects of severe acute respiratory syndrome coronavirus 2 (COVID-19) vaccine across age groups. The online questionnaire was received by 411 participants who received the 2019 inactivated coronavirus disease vaccine. All patients were categorized into four groups according to their age (20–35, 36–50, 51–65, and >65 years), and their results found that vaccine-related side effects are most common in patients aged 20–35 years (68.2%) and least in those aged over 60 (38.8%) years. In addition, they also found that female and young age were important factors in determining the development of vaccine-related side effects. This study provides an important basis for the detection and tracking of vaccine-related side effects in different age groups. However, we note some issues that require further clarification.

First, the brand of COVID-19 vaccine that the participants received was unclear. Currently, the widely used COVID-19 vaccines include JNJ-78436735 (Johnson & Johnson), BNT162b2 (Pfizer/BioNTech), and mRNA-1273 (Moderna). The results of a previous study[2] had shown that there are significant differences in adverse events caused by different brands of COVID-19 vaccines. mRNA-1273-related adverse events were the most (mRNA-1273 vs. BNT162b2; OR 2.00; 95%CI 1.86–2.15; p<0.001), while JNJ-78436735-related vaccine adverse events were the least (JNJ-78436735 vs. BNT162b2: OR 0.64; 95%CI 0.52–0.79; p<0.001). Therefore, it is necessary to clearly describe the vaccine brands received by the participants involved in the study by Tosun et al[1].

Second, the study did not clarify whether participants received the first or second dose of the COVID-19 vaccine. Vaccine-related side effects after the first and second doses were significantly different. Findings based on a large study showed that the allergic reaction or anaphylaxis after the first dose of the vaccine was higher than that of the second dose (0.3% vs. 0.2%)[2]. Similarly, another study indicated that no side effects were reported by 18% of participants after the first dose and 31% of participants after the second dose[3]. Based on the evidence mentioned above, the vaccine-related side effects of the first dose appear to be higher than those of the second dose. Therefore, it is essential to clearly describe whether the vaccine-related side effects appear after the first dose or the second dose.

AUTHORS' CONTRIBUTIONS

QW, YY: Conceptualization, writing – original draft, writing – review & editing.

REFERENCES

1. Tosun F, Bulbul M, Tosun I. Comparison of severe acute respiratory syndrome coronavirus 2 (COVID-19) vaccine side effects by age groups. Rev Assoc Med Bras (1992). 2022;68(4):476-81. https://doi.org/10.1590/1806-9282.20210829
2. Beatty AL, Peyser ND, Butcher XE, Cocohoba JM, Lin F, Olgin JE, et al. Analysis of COVID-19 Vaccine Type and Adverse Effects Following Vaccination. JAMA Netw Open. 2021;4(12):e2140364. https://doi.org/10.1001/jamanetworkopen.2021.40364
3. Abu-Hammad O, Alduraidi H, Abu-Hammad S, Alnazzawi A, Babkair H, Abu-Hammad A, et al. Side Effects Reported by Jordanian Healthcare Workers Who Received COVID-19 Vaccines. Vaccines (Basel). 2021;9(6):577. https://doi.org/10.3390/vaccines9060577

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Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.
Received on September 05, 2022. Accepted on September 05, 2022.