



# Patients with type 2 diabetes mellitus and response to COVID-19 BNT162b2 mRNA vaccine: correspondence

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Dear Editor,

We would like to discuss the article “Patients with type 2 diabetes mellitus present similar immunological response to COVID-19 BNT162b2 mRNA vaccine to healthy subjects: a prospective cohort study” by Paschou et al. published in *Hormones* (2022 Oct 21, <https://doi.org/10.1007/s42000-022-00405-7>) [1].” Focusing their study on patients following their immunization with the BNT162b2 mRNA vaccine (Comirnaty, Pfizer/BioNTech), the kinetics of neutralizing antibodies (NAbs) against SARS-CoV-2 in patients with T2DM and healthy controls were examined and compared [1]. According to their report, patients with T2DM have an immune response to the COVID-19 BNT162b2 mRNA vaccination that is comparable to that of healthy participants [1].

The recommendation is that all persons (barring a few specific exceptions) should receive a COVID-19 vaccine for the purpose of remaining healthy, as well as to protect against becoming seriously ill, being hospitalized, and even dying. However, an effective interpretation of the results of the study on effectiveness of COVID-19 vaccine needs to take into account additional factors. An adverse reaction could have been one of a number of confounding factors that might have had an impact on the effectiveness of the initial dose. Examples include the COVID-19 strain, the delivery, a recipient’s comorbidity or comorbidities prior to vaccination, and the setting. Also to be considered is a possible link between absence of clinical symptoms and asymptomatic COVID-19 [2]. Moreover, it is necessary to rule out a previous

asymptomatic COVID-19 infection. Despite the fact that the efficacy, safety, and therapeutic effectiveness of the COVID-19 vaccine have been established in numerous clinical studies, there is at present extremely sparse information available on any relation between vaccination effectiveness and prevaccination health and the presence of an immunological condition.

The likelihood of cross-contamination with an unidentified SARS-CoV-2 infection can also not be completely excluded. Of note, the hypothesis that inherited genetic variability affects vaccination recipients’ immunological responsiveness was examined by Čiučiulkaitė et al. [3]. Future clinical research should consider the possibility of genetic polymorphism.

Finally, the advantages of the booster shot need to be discussed, since there is to date no conclusive statement on this. Recommendation for booster doses may vary depending on the specifics of the local outbreak and variations between immunization practices. If the original immunization is based on an effective vaccine and there is good disease control, the booster dose may not be technically necessary.

## Declarations

**Ethical approval** Not applicable.

**Consent to participate** Not applicable.

**Conflict of interest** The authors declare no competing interests.

## References

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