

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	SARS-CoV-2 seroprevalence in healthcare workers of a teaching hospital in a highly endemic region in the Netherlands after the first wave: a cross-sectional study
<b>AUTHORS</b>	Bouwman, Maud; van Osch, Frits; Crijns, Francy; Trienekens, Thera; Mehagnoul, Jannet; van den Bergh, Joop; de Vries, Janneke

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Byambasuren, Oyungerel Bond University, Institute for Evidence-Based Healthcare
<b>REVIEW RETURNED</b>	21-Jun-2021

<b>GENERAL COMMENTS</b>	<p>It was a very well written paper: the authors addressed every nuance, there is nothing that needed further clarifications. I have only two small comments:</p> <ol style="list-style-type: none"><li>1. If there are any data on the seroprevalence in the community, that should be mentioned here in contrast to the seroprevalence in HCWs.</li><li>2. Was there any eye protection/face shield use mandated for the HCWs during the first wave?</li></ol> <p>Also, a typo on page 10, line 60: daarinfections</p>
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<b>REVIEWER</b>	Wu, Chao Nanjing University
<b>REVIEW RETURNED</b>	01-Jul-2021

<b>GENERAL COMMENTS</b>	<p>Maud M.A. Bouwman et al use a cross-sectional study to find the SARS-CoV-2 infection rate amongst hospital healthcare workers after the first wave of the COVID-19 pandemic, Healthcare workers caring for hospitalised COVID-19 patients were not at an increased risk of infection, most likely as a result of taking standard infection control measures into consideration. These data show that compliance with infection control measures is essential to control secondary transmission and constrain the spread of the virus and provide more knowledge in the understanding of the relationship between infection, symptomatology and source of infection. It is a timely study and has good design;</p> <p>however, A few minor questions need to be addressed:</p> <ol style="list-style-type: none"><li>1. Do any of the infected healthcare workers have severe cases, in addition to the typical symptoms? Were there any hospitalizations?</li><li>2. Are all the infected medical staff participating in daily work normally? Personnel with or without treatment?</li><li>3. If it is infected staff participates in the daily work in the hospital, how to judge the possibility of transmission among the staff?</li></ol>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer 1 comment: If there are any data on the seroprevalence in the community, that should be mentioned here in contrast to the seroprevalence in HCWs.

Author response: Initially, we had decided to not include the overall prevalence of SARS-CoV-2 antibodies of the Dutch community since the cohorts are difficult to compare. Dutch nationwide seroprevalence studies are scarce, and only the Dutch blood bank, Sanquin, has conducted such studies, only on healthy blood plasma donors, and only in the beginning of the pandemic. In April, one month into the pandemic in the Netherlands, significantly fewer inhabitants will have already been exposed to the virus, let alone have produced antibodies. At the time of our study, June/July, right after the first wave, the prevalence would be expected to be much higher. Since no nationwide study had been conducted around this time in the Netherlands, comparing data from April to June/July could be unrealistic. The same risk is taken when regional differences are not taken into consideration. The South of the Netherlands, the region where our study is conducted, has been the initial start of the viral spread and therefore most likely to have higher seroprevalence among its inhabitants compared to the national prevalence.

However, in order to provide a total overview of the Dutch pandemic/viral spread, we have recognized this information is essential. Therefore we included this information, and this can be found on page 8 and 9 (text marked red).

Reviewer 1 comment: Was there any eye protection/face shield use mandated for the HCWs during the first wave?

Author response: Thank you for addressing the missing information on the PPE. Eye protection was indeed used during the first wave, and is still used, in addition to disposable apron, FFP2 masks (initially, later on surgical mouth-nose masks) and good hand hygiene. We included this in the main document, page 10 (text marked red).

Reviewer 1 comment: Also, a typo on page 10, line 60: daarinfections

Author response: The typo on page 10 has been corrected.

Reviewer 2 comment: Do any of the infected healthcare workers have severe cases, in addition to the typical symptoms? Were there any hospitalizations?

Author response: The survey covered the severity of the typical symptoms, there was no possibility to report other symptoms. We did ask for any hospitalization, but we accidentally forgot to include this information in our study. Thank you for pointing this out. We have included hospitalization on top of page 7 (text marked red).

Reviewer 2 comment: Are all the infected medical staff participating in daily work normally? Personnel with or without treatment?

Author response: If we interpret your question correctly, you wondered whether infected personnel continued their work? Personnel with COVID-like symptoms had to stay home (due to test scarcity, testing for COVID-19 was not possible). This policy would only change in case of urgent personnel shortage. Fortunately, this has not been necessary. However, HCW could have infected colleagues when pre-symptomatic or asymptomatic. Due to test scarcity, and no increase in absenteeism among HCW, we believe many infections have remained unknown and might have caused HCW to infect

their colleagues (when PPE were not complied). We have explained this in the second paragraph of the discussion, page 8.

Reviewer 2 comment: If it is infected staff participates in the daily work in the hospital, how to judge the possibility of transmission among the staff?

Author response: Judgement on the possibility of transmission among the staff is a follow-up upon above answer. It was possible that infected personnel has been working, not knowing they had COVID-19, and therefore possibly infected colleagues. To study the risk, the survey covered the contact HCW had with a colleague that was confirmed COVID-19 positive, or (highly) suspected (considering the test scarcity). Unfortunately, it was impossible to isolate this contact from COVID-19 positive patient or household contact (sample size too small). Therefore multivariate analysis is performed to correct for these other contacts, in order to study the risk of HCW-HCW infections. The results can be found in Figure 3A, and is further explained in paragraph "Covariates" of the methods section, and in the second paragraph of the discussion, page 8.