

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Cohort profile: A longitudinal regional cohort study to assess COVID-19 seroprevalence in blood donors – baseline characteristics of the SeMaCo study participants
<b>AUTHORS</b>	Pohl, Robert; Stallmann, Christoph; Marquardt, Pauline; Kaasch, Achim; Heuft, Hans-Gert; Apfelbacher, Christian

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Luiz Mattos Faculdade de Medicina de São José do Rio Preto, Molecular Biology Department
<b>REVIEW RETURNED</b>	05-Nov-2022

<b>GENERAL COMMENTS</b>	The reviewer completed the checklist but made no further comments.
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<b>REVIEWER</b>	Matteo Bolcato University of Padua Via Falloppio
<b>REVIEW RETURNED</b>	07-Nov-2022

<b>GENERAL COMMENTS</b>	I think the article is well written, the topic is innovative and current. It deserves publication. Allow me to give some small suggestions: - the limitations of the study could be better explained; - the bibliography can be extended, two useful examples: doi: 10.3390/vaccines9050500. and doi: 10.3390/vaccines9060538.
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<b>REVIEWER</b>	Linda Barnes University of Illinois at Chicago
<b>REVIEW RETURNED</b>	08-Nov-2022

<b>GENERAL COMMENTS</b>	bmjopen-2022-068472  Cohort profile: A longitudinal regional cohort study to assess COVID-19 seroprevalence in blood donors – baseline characteristics of the SeMaCo study participants  General remarks: The authors describe an ambitious prospective, longitudinal cohort study (SeMaCo) within blood donors in Germany that ascertains seroepidemiological data into the prevalence and long-term kinetics of SARS-COV-2 antibodies in blood donors. Additionally, the study also gathered self-reported sociodemographic characteristics, infection, and vaccination data from the participating blood donors to enrich the laboratory findings. The prospective design and structured questionnaires are strengths of the study.
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	<p>Specific remarks:</p> <p>Fewer study participants completed the questionnaires than those who were tested. This reviewer was interested in how the 57 missing contact and 113 missing vaccination questionnaires and should be interpreted. Is there a difference in the seroprevalence within those missing questionnaires? Some explanation for how the incomplete data was handled may be useful. Is this a limitation? The authors acknowledge the selective sampling plan within blood donors and caution generalizability of the findings. It may be useful to provide some discussion about the ways that SeMaCo blood donors differ from the general population not limited to other COVID-19 studies. Education levels are highlighted yet other parameters, such as age curves and employment, may be useful reference points for the discussion.</p> <p>This reviewer was interested in whether vaccination availability may have influenced the attitudes towards vaccination (Table 7). While this is well-addressed in the discussion and part of future study, it may be helpful to introduce the date of vaccination initiation within the introduction.</p>
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<b>REVIEWER</b>	Harald Schennach Tirol Kliniken GmbH, Central Institute for Blood Transfusions and Immunology
<b>REVIEW RETURNED</b>	30-Dec-2022

<b>GENERAL COMMENTS</b>	<p>General remarks: The paper provides baseline data from the first phase of a 4 phases (21 months) containing study. The data of this first phase come from the beginning of 2021. One major weakness of this paper might be that almost 2 years have now passed by since the gathering of these data. Esp. the data of the antibody-prevalence and the vaccination rate are now rather old and similar results were published in many other studies. I can imagine that during these past 2 years at least 3 phases of the whole study were completed. The authors declare that a longitudinal data set will be provided after completion of the planned 4 phases. So from my point of view these longitudinal results over a time frame of 21 months would be very interesting and would be of added value. Data are very much focused on the German conditions. Only two studies from other regions have been discussed, one from Jordan, which might not reflect European conditions. There have been many well published donor studies from European and even German speaking neighbour states, too. The results of these studies should be compared and discussed with own data.</p> <p>The major value of the study is the extensive information on sociodemographic characteristics of the blood donor cohort included.</p> <p>Summarizing, I would recommend publication after finishing the whole study (all 4 phases). The baseline data could then be included in the cohort description. Testing results should be described and discussed in a longitudinal way, compared with international findings.</p> <p>Minor findings:          Introduction: Page 3 line 28, sentence must be rephrased          Line 60, the main objective ...rephrase          Cohort description: Page 4 line 4: please describe the test (manufacturer, target, sensitivity, specificity)          Fig. 3 , does not provide necessary information , can be removed</p>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Prof. Luiz de Mattos, Faculdade de Medicina de São José do Rio Preto

Comments to the Author:

No comments.

Response Reviewer 1:

Thank you for taking the time to read our manuscript and for agreeing with it.

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Reviewer: 2

Dr. Matteo Bolcato, University of Padua Via Falloppio

Comments to the Author:

I think the article is well written, the topic is innovative and current. It deserves publication.

Allow me to give some small suggestions:

- the limitations of the study could be better explained;
- the bibliography can be extended, two useful examples: doi: 10.3390/vaccines9050500 . and doi: 10.3390/vaccines9060538 .

Response to Reviewer 2:

Thank you for your comments and improvement suggestion. We have further elaborated on the limitations of the study (page 17, lines 13-21). We have also been able to improve the section on vaccination attitude in the discussion with the help of your two literature suggestions (page 15, line 15-19, line 27-33).

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Reviewer: 3

Dr. Linda Barnes, University of Illinois at Chicago, American Association of Blood Banks

Comments to the Author:

The authors describe an ambitious prospective, longitudinal cohort study (SeMaCo) within blood donors in Germany that ascertains seroepidemiological data into the prevalence and long-term kinetics of SARS-COV-2 antibodies in blood donors. Additionally, the study also gathered self-reported sociodemographic characteristics, infection, and vaccination data from the participating blood donors to enrich the laboratory findings. The prospective design and structured questionnaires are strengths of the study.

Response to Reviewer 3:

Thank you for your time and feedback on our study and the manuscript. We are pleased that you pointed out the strengths of the study.

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Reviewer: 4

Dr. Harald Schennach, Tirol Kliniken GmbH

Comments to the Author:

General remarks: The paper provides baseline data from the first phase of a 4 phases (21 months) containing study. The data of this first phase come from the beginning of 2021. One major weakness of this paper might be that almost 2 years have now passed by since the gathering of these data. Esp. the data of the antibody-prevalence and the vaccination rate are now rather old and similar results were published in many other studies. I can imagine that during these past 2 years at least 3 phases of the whole study were completed. The authors declare that a longitudinal data set will be provided after completion of the planned 4 phases. So from my point of view these longitudinal results over a time frame of 21 months would be very interesting and would be of added value. Data are very much focused on the German conditions. Only two studies from other regions have been discussed, one from Jordan, which might not reflect European conditions. There have been many well published donor studies from European and even German speaking neighbour states, too. The results of these studies should be compared and discussed with own data.

The major value of the study is the extensive information on sociodemographic characteristics of the blood donor cohort included.

Summarizing, I would recommend publication after finishing the whole study (all 4 phases). The baseline data could then be included in the cohort description. Testing results should be described and discussed in a longitudinal way, compared with international findings.

Response to Reviewer 4:

Thank you very much for your very helpful advice.

We agree with you that the mention of the study from North Jordan by Elnasser et al. should not be mentioned in the context of our cohort profile. We have therefore deleted the passage (page 15, lines 48-55).

Furthermore, we have extended our discussion by including other blood donation studies from German neighbour states (page 16, lines 19-32).

We have discussed your request for longitudinal analyses extensively within our team. Our aim with this paper was to give anyone interested access to design and recruitment of the cohort. Thus, our focus was on the description and the characterisation of a blood donation cohort rather than on a detailed reporting of the serological test results. This is in line with BMJ open's requirements for the contents of cohort profiles: <https://blogs.bmj.com/bmjopen/2014/08/22/bmj-open-now-publishes-cohort-profiles/>

For this reason, we have decided against longitudinal analyses of IgG<sup>+</sup> antibodies and other variables in this paper, because this goes beyond a description of the cohort. However, we consider your approach to be very valuable. Therefore, we will focus more on longitudinal test results in future publications.

Minor findings:

Introduction: Page 4 line 28, sentence must be rephrased

Line 60, the main objective ...rephrase

Cohort description: Page 5 line 4: please describe the test (manufacturer, target, sensitivity, specificity)

Fig. 3 , does not provide necessary information , can be removed

Thank you very much! We have changed (or deleted) the minor findings at the appropriate places in the manuscript.

### VERSION 2 – REVIEW

<b>REVIEWER</b>	Linda Barnes University of Illinois at Chicago
<b>REVIEW RETURNED</b>	12-Mar-2023

<b>GENERAL COMMENTS</b>	Excellent work to prospectively examine regional blood donor SARS-COV-2 prevalence data and other infection characteristics in the face of an emerging infectious disease.
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<b>REVIEWER</b>	Harald Schennach Tirol Kliniken GmbH, Central Institute for Blood Transfusions and Immunology
<b>REVIEW RETURNED</b>	24-Feb-2023

<b>GENERAL COMMENTS</b>	The paper provides baseline data from the first phase of a 4 phases (22 months) containing study. The major value of the study is the extensive information on sociodemographic characteristics of the blood donor cohort included. This may also help other researchers working in this field to design their study cohorts. Results are comparable with other studies from neighbouring countries. When all 4 phases of the study are completed, a major point of interest could be the longitudinal evaluation of all data.
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