

Peer Review File

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Reviewer A

This is an interesting and important paper, and I enjoyed the opportunity to review it. Below are my suggestions:

1. Page 2, Line 38, “15 blood centers”—can you clarify if this means manufacturing sites as opposed to collection centers? Text has been modified. See line 49-54.

2. Page 3—It would be interesting to include data on donor deferral rates for failing the temperature screening and pandemic impact on staff callout rates, if data is available. Unfortunately, data is not available. Did any blood drives have to be cancelled due to insufficient staffing, or were shortages primarily driven by reduced donor turnout and cancelled drives due to closed workplaces/schools? Shortages were mainly due to the latter, not because of insufficient staffing. See line 140-142.

3. Page 4—this is a really interesting portion of this paper!

a. Since there have been no cases of transfusion transmission to date, are you considering reducing the 3 month deferral period? The part on COVID-19 related blood products was written with May 2021 as reference. The deferral period was reduced to 4 weeks in August. Comment has been added. See line 94,95.

b. In lines 82-83, what time periods were used to qualify confirmed COVID-19 cases before donation and after donation? Added to manuscript, see line 99,100.

c. Of the 37% of blood products already transfused (line 84 and 86-87), what percentage were red blood cells vs plasma or platelet products? Data has been added, see line 102,103.

d. Are any data available from the repository samples referred to KDCA for further investigation (line 81)? Results has been added, see line 100,101.

4. Page 6, line 139 through page 7, line 144—Can you elaborate on the methods the blood center used to communicate with hospitals regarding product shortages? Was communication targeted to hospitals in specific regions where cases were high, or was it communicated to all hospitals simultaneously? Did you have a process for communicating when inventory levels improved? Did you see a reduction in hospital demand associated with the communications? As you point out later in the paper, donors can suffer “alert fatigue” if faced with too many donor appeals, did hospitals suffer from this same fatigue as supply fluctuated with each wave of cases?

[Comments have been added. See line 164-172.](#)

5. Table 1—the spacing of the table is off a little bit in the version I am reviewing, so that individual words are broken down with some letters on different rows. Can the spacing be corrected? [Has been corrected.](#)

6. Figure 1—can you label the x-axis with the month/year that each bar represents? If possible, it would be interesting to show this in relation to the national number of cases each month to see how each “wave” impacted collections. [Has been corrected.](#)

Reviewer B

Authors describe impact of COVID-19 pandemic on blood donation in Korea and discourse about strategies adopted to ensure safety blood donations.

As major points, I recommend that, when data available, authors compare information during pandemic with pre-pandemic period. This will improve the manuscript and will contextualize to Korea reality. For example, authors compare impact of 3 infectious disease outbreaks, but state that blood inventory was already impaired since Korea present a very low birth rate. Whether impact of COVID-19 was more evident,

it should be discussed with information regarding historical time of blood supply during months immediately before pandemic (better if comparing with at least the past year). Recommendations are listed below:

1. On pages 3 and 4, I suggest a division of section “Precautionary safety measures to minimize human to human transmission and to ensure blood safety”. The first paragraph on page 4 brings such an interesting information that should comprise an exclusive section. [Section has been divided.](#)

2. Table 1 and description of table 1 on text should be revised. It is difficult to understand authors intentions with this format. [Description has been added. See line 112-117.](#)

3. There is no information on axis X on Figure 1. [Has been added.](#)

4. On page 6 (“Measures to manage blood demand and supply”) would be interesting to provide a time line with adopted measures and effect on blood supply. Scrutinizing this information would be helpful to understand consequences of actions performed to improve blood supply. [Figure 2 has been added.](#)

5. On beginning of page 7, it is stated that blood supply was 5.2% lower compared to previous year. How about transfusion? Since there was a close collaboration with hospitals, numbers about transfusion would materialize the consequence of these collaboration. [Elective surgeries were postponed or cancelled but specific data is not available. See line 171.](#)

6. Conclusion should be better explored. [changed](#)

7. Besides, some English review should be performed, as:

- Change prepositions IN along text to ON when referred to a month. Example: line 122, line 138... [Has been corrected. ON used for a specific date or day, IN used for a month](#)
- On lines 152/153, change text to: ...the MoHW to include on priority group for vaccination, the staff of the blood services, as essential health care workers... [has been changed. See line 179, 180](#)
- Please rephrase line 155. [Has been rephrased. See line 183.](#)
- Last phrase before Conclusion should be improved. I suggest: Furthermore, in light of demographic changes caused by the rapidly aging society in Korea, a new blood supply management would be required. [Has been changed. See line 195-197.](#)

Reviewer C

The manuscript provides an overview of the impact of the COVID-19 pandemic thus far on the blood supply in Korea. The manuscript is generally well written and provides a good insight into workings of the blood services in Korea since early 2020. The major issue that I ran into, was the fact that the manuscript does not follow the usual guidelines for an original or review article. This made it hard to evaluate the manuscript, as this reviewer is unaware of what the standards are for this type of article. Based on the story as is, I have added some suggestions/questions for the authors below:

1. The structure of the story makes sense, and I like that you talk about the four components (safety measures, impact, demand/supply measures, challenges). Perhaps it may aid the reader if these were shortly introduced in the introduction already? [Has been added. See line 58-61.](#)

2. The first subheading (p.3) is quite long. I think it would suffice if the heading was shortened to “Precautionary safety measures”. [Modified as suggested](#)

3. Perhaps a visual depiction of ‘milestones’ (and/or waves of patients) during the COVID epidemic in Korea would be insightful, combined with certain action undertaken? For examples, see Barjas-Castro et al. (2020); Dhiman et al. (2020); Pandey et al. (2020); Spekman et al., (2021). [Figure 2 has been added.](#)

4. I like the comparison of the impact of the COVID-19 pandemic to previous outbreaks in Table 1. However, I think the data could be presented more clearly. It now displays the total number of cancelled sessions and expected donors during those sessions, but the time units of the different outbreaks are not comparable and we do not know the total number of sessions/donors that was planned for during the time period. Is it somehow possible to show what percentage of sessions was cancelled? This would give a better idea of the impact of the pandemic on the blood collection. [Data on total sessions/donors planned has been added to the table.](#)

5. In relation to my major concern of not knowing the exact nature of the paper, the conclusion does not really logically follow from the information presented in the rest of the manuscript. [Has been changed](#)

6. Very little reference is made in the manuscript to the international context – many articles have appeared over the last year with similar stories. Is there anything really unique to the Korean situation? [This is an invited review aimed to provide information about the impact of the pandemic in Korea, therefore comparisons with other countries have not been made. With the progression of the pandemic and sharing of various policies at international level, it may be difficult to find uniqueness regarding COVID-19 countermeasures. Maybe the uniqueness for Korea is the management of COVID-19 related donations.](#)

References:

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Dhiman, Y., Patidar, G.K., & Arora, S. (2020). Covid-19 pandemic- response to challenges by blood transfusion services in India: a review report. ISBT Science Series, 15(4), 365-373. <https://doi.org/10.1111/voxs.12563>

Pandey, H.C., Coshic, P., Chippy C.S., Arcot, P.J., & Kumar, K. (2021). Blood supply management in times of SARS-CoV-2 pandemic – challenges, strategies adopted, and the lessons learned from the experience of a hospital-based blood centre. Vox Sanguinis, 116(5), 497-503. <https://doi.org/10.1111/vox.13019>

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