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OPEN PEER REVIEW

The Relation Between Oxygen Saturation Measured by Pulse Oximetry vs Near-Infrared Spectroscopy Following Surfactant Therapy in Very Low-birth-weight Neonates

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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Contents

1 **Original submission** Associate Editor 2
2 **Revision 1** Referee 1, Associate Editor 3
Authors' reply to reviewers 4
Reviewer and editor comments 7

1 Original submission

1 comment · 31 Aug 2023

Associate Editor

MAJOR REVISION 31 Aug 2023

Dear Author
In the abstract, you wrote Ga in years.
Is the sedation protocol uniform for all cases? Please mention this.
In the material section, you mentioned that your inclusion criterion is weight. What about Ga?
How did you measure the blood pressure?
In the discussion, you have to first summarize your own data and then compare them with those of other studies.
I think the statistical test you used for spo2 should be a repeated-measures test. Please check again.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

03/11/2023

Revision of manuscript entitled: **The relation between oxygen saturation measured by pulse oximetry versus near-infrared spectroscopy (NIRS) following surfactant therapy in very low birth weight neonates**

Dear Editor-in-Chief

Thank you for the opportunity to revise our manuscript. We appreciate the careful review and constructive suggestions. It is our belief that the manuscript is substantially improved after making the suggested edits.

Following this letter is the reviewer comments with our responses in yellow high-lighted; including how and where the text was modified. Changes made in the manuscript are marked.

The revision has been developed in consultation with all coauthors, and each author has given .approval to the final form of this revision

Best regards

Corresponding Author

Prof. Dr. L. Kh., Health Management Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran

:Reviewers' Comments

:Reviewer 1

The manuscript is well-designed and executed. The References should be updated and the English language needs to be reviewed to correct some errors. Response: The references were .revised and updated. The paper was also revised regarding English editing

.Here are some key points that should be considered in the new version of your paper

The sample population and inclusion/exclusion criteria are adequately described. However, -

.the small sample size of 20 preterm infants is a limitation and results may not be generalizable

More details could have been provided on blinding of assessments and procedures to reduce -1

bias. Response: We had only one group implementing 2 different monitoring methods (PO and .NIRS). So there was no need *blinding*

The sequence of presenting the results is difficult to follow in some areas. For example, the -

correlation data between NIRS-rScO2 and MABP is presented before the data comparing PO and NIRS oxygen saturation. Response: *The results related to comparison of PO and NIRS .oxygen saturation are presented before the correlation data between NIRS-rScO2 and MABP*

No effect sizes, p-values, or confidence intervals are reported for the data analyses, -3

interpretations are made solely based on statistical significance. This makes gauging the meaningfulness of differences difficult. Response: We had only one group implementing 2 different monitoring methods (PO and NIRS). So we could not assess effect sizes or confidence .intervals for variables

Dropouts or missing data are not mentioned. Were there any exclusions after enrollment? -4

How was missing data handled in analysis? Response: Missing data are stated in the results .section

- There is limited quantification of the results in the text, heavy reliance on stating "significant difference" without supporting data values. Response: This section was revised.

6- The figures are not very clear and lack adequate legends to interpret independently.
Response: More informative data are added.

- Expand on the clinical significance and practical implications of the findings. For example, how could the non-invasive NIRS replace pulse oximetry for monitoring oxygen saturation?

Response: As there was no significant difference between measured variables (oxygen saturation in blood and tissue) we concluded there is no need for replacing PO by NIRS.

- Discuss more potential limitations beyond just the small sample size - e.g. lack of blinding, limited generalizability, the possibility of confounding factors. Response: Limitation was revised.

- Avoid overstating the conclusions - note that this is a pilot study with a small sample size. Response: It was revised.

In abstract you wrote Ga in years. Response:*The "years" is substituted by "weeks"*

Is the sedation protocol uniform for all cases please mention. Response: *No cases was sedated*. *In material you mentioned your inclusion criteria is weight what about Ga?* Response: Only weight was considered as inclusion criteria.

*How you measured the blood pressure.*Response: The blood pressure was measured by oscillator and it was shown on monitor.

in discussion you have to first summarize your own data and the compare to other studies. Response: It was revised.

The statistics you you used for spo2 i think should be repeated measured test please check again. Response: The Repeated Measures ANOVA test was used to show the alterations of variables recorded by PO or NIRS at each evaluation times.

2 Revision 1

2 comments · 8 Nov 2023 – 8 Nov 2023

Referee 1 Reviewer

MINOR REVISION 8 Nov 2023

You can measure rScO2 by NIRS, not PO.
It would help if you wrote out each term in full before using its abbreviation for the first time.
The parentheses are used in inappropriate places and should be corrected.
In the methods section: How were the means of arterial blood pressure values recorded?
Reference 9 is unrelated.
Replace pediatric ICUs with NICU.
I didn't understand the purpose of the study very well. If your goal is to replace pulse oximetry with DERS because of problems with expensive probes, please explain it in the discussion part.

Associate Editor

ACCEPT 8 Nov 2023

Dear author, this study is interesting.