Reply to commentary on “Pulse oximetry screening for critical congenital heart defects”

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Letter

Re: Commentary on "Pulse Oximetry Screening for Critical Congenital Heart Defects"

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Short Title: to be used as running head

Re: Commentary on "Pulse Oximetry Screening for Critical Congenital Heart Defects"

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Dear Editor,

We read with interest, the commentary on our Cochrane systematic review on the test accuracy of pulse oximetry screening (POS) for critical congenital heart defects in newborn infants[1] by Oddie and McGuire.[2] We are grateful to the authors for appraising our work and welcome the wider dissemination of Cochrane reviews into the test accuracy of diagnostic tests. As the authors report, our data do support consensus recommendations for implementation of routine POS however we would like to make two comments in order to clarify the interpretation of our data. i) a minor but important point is that a high specificity indicates a low false positive rate rather than a low false negative rate as stated in the commentary; false negatives will influence the sensitivity not the specificity. ii) Of greater concern, we feel that the statement '…analysis showed that screening before 24 h after birth is less accurate than after 24 h' is erroneous and somewhat misleading. This interpretation may lead to misguided decision-making in terms of the screening algorithm adopted. It is true that the false positive rate for POS is higher is screening takes place in the first 24 hours after birth however this is only half of the story. The sensitivity of POS (i.e. the ability to identify the target condition) was not significantly different between the 2 time periods – although sensitivity in the first 24 hours was 79.5% compared with 73.6% after 24 hours. More importantly and as we reported, most studies do not take into account the fact that many babies with a CCHD may present with symptoms within the first 24 hours before screening takes place[1] and therefore do not become part of the screened cohort. As previous studies[3,4] have reported, up to 50% of babies with CCHD may present prior to screening and up to 20% of these present with acute cardiovascular collapse - the consequence that screening is trying to prevent. This scenario does not occur in studies in which babies are screened earlier.[5] In addition, babies with non-cardiac conditions such as respiratory and infective problems that are also detected by POS tend to present in the first 24 hours and although these are technically false positives, the clinical benefit of early detection of babies with these illnesses is clear.

Disclosure statement

The authors have no conflict of interest to declare

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Author contributions

AKE wrote the first draft. ST, MP and JZ edited and approved the final version

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