Prevalence of Anaemia in Children Diagnosed with Pneumonia in a Tertiary Hospital in Quito, Ecuador: Correspondence

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Dear editor,

We read with interest the article "Prevalence of Anaemia in Children Diagnosed with Pneumonia in a Tertiary Hospital in Quito, Ecuador" in the recent issue of your esteemed journal and found it very useful and informative.[1] This article presents the prevalence of anaemia in children with pneumonia. However, there are certain points we would like to comment and highlight which might bring more clarity to this issue and will be useful to the readers of JNPS.

1. In the abstract (conclusion section), the authors have mentioned that "anaemia or nutritional deficiencies could be a risk factor for respiratory diseases". The authors seem to draw a conclusion on "nutritional deficiencies" as a risk factor for respiratory disease without any evidence or data provided in the results. We feel that it should better be omitted from the conclusion.

2. The authors have mentioned that they used physical findings such as: fever, tachypnea, breathing difficulties, rhonchi, crackles, and wheezing to diagnose pneumonia and again they have mentioned using WHO tachypnea threshold to diagnose pneumonia. It is very unlikely for all the 80 cases to have all the above listed physical findings. Diagnosis of pneumonia in children remains an important yet difficult clinical problem. WHO criteria which uses the presence of cough, fast breathing and chest indrawing to diagnose pneumonia may over-estimate the diagnosis of actual pneumonia.[2] Chest radiograph remains a diagnostic test of choice in hospitals.[3] The readers would be keen to know which diagnostic criteria the authors had used to diagnose pneumonia (either clinical or radiological?). If they had used the clinical criteria, what were the exact parameters used to diagnose pneumonia needs further clarification. The authors also need to reply the reason of not including cough and retractions in the inclusion criteria to diagnose pneumonia. The readers would also be keen to know that if any attempt was made to exclude pneumonia like illnesses e.g., bronchiolitis, asthma or cardiac diseases which can mimic pneumonia.

3. The authors have mentioned that diagnosis of concomitant conditions that could affect anthropometric or haemoglobin parameters, or that could predispose to pneumonia were excluded. The readers would be interested to know (a) what anthropometric parameters or haemoglobin

parameters were excluded and (b) what factors predisposing to pneumonia were excluded which is missing in the material and methods.

4. The authors have concluded that anaemia is a frequent condition in paediatric pneumonia and could be a risk factor for respiratory diseases. The study done by the authors was a cross-sectional study which has always a chance of selection bias.[4] The increased prevalence of anaemia in pneumonia patients could have been due to chance, we do not know. Therefore, it is very difficult to answer (in a cross-sectional study) either anaemia is prevalent in children with pneumonia or not unless we have some cohort studies on the same. This should have been mentioned as one of the limitations of the study.

5. The readers would be interested to know regarding any iron supplements in children aged more than three years which might be the cause of decrease prevalence of anaemia in this age group.

6. In the discussion section, the authors have tried to convince that anaemia in the study groups was most likely due to iron deficiency. They have used haemoglobin, MCV and RDW to support the diagnosis of iron deficiency anaemia. The sensitivity and specificity of MCV to diagnose IDA is 61.7% and 59.1% respectively with a positive predictive value of 70%[5] whereas using RDW as a criteria to diagnose IDA has a sensitivity of 81% and specificity of 53.4%.[6]

In the discussion, the authors have emphasised iron deficiency as the cause of anaemia in the cases. The authors need to explain that how can they be sure that all the cases of anaemia in their study was due to iron deficiency without undergoing iron profile (serum ferritin, % saturation, TIBC).

7. It is well known that with subclinical infection, serum iron concentrations are reduced, altering the synthesis of haemoglobin, the main indicator of anaemia.[7] The readers would be interested to know if any attempts were made to exclude those subclinical infections from the enrolled cases with pneumonia.

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