

# Correspondence: Incidence and Risk Factors for Prolonged Stay in Children Hospitalised with Pneumonia

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Dear Editor,

We read with great interest the article titled "Incidence and Risk Factors for Prolonged Stay in Children Hospitalised with Pneumonia" by Mohakud NK et al., which has been published in your esteemed journal in August 2018 [1]. We want to share a few of our thought regarding this article. The authors had touched very demanding information about pneumonia in children in this article.

Incidence and risk factors assessment should be best done by cohort and case-control study. The multivariate analysis is usually required to take care of confounders, which is lacking in this study. Authors have not mentioned the operational case definition of Lower Respiratory Tract Infection (LRTI) which should include bronchitis, bronchiolitis, and pneumonia or a combination of them. In addition, there was no mention about the indication for hospitalisation viz., observation, antibiotic therapy, respiratory support (oxygen supplementation, ventilation requirement), and management of complication or parental anxiety, that would have been added to provide a better understanding of prolonged hospitalisation.

As per World Health Organisation (WHO), tachypnea is the most sensitive sign for pneumonia and the respiratory rate is age specific, so it would be better if the author had provided age-specific respiratory rate [2]. The author had mentioned radiological finding in inclusion criteria although radiological evidence is neither needed nor helpful in the diagnosis of LRTI [3]. Moreover, the authors had failed to provide information regarding radiological findings in their results. It may be good if authors had given some data about the severity of the disease which would have given a clear picture of prolonged hospitalisation. Other very well-known risk factors for LRTI viz., malnutrition, lack of breastfeeding, exposure to smoke, immunisation status, previous hospitalisation, comorbidities like congenital heart disease would have been considered to give a true insight into the duration of hospital stay [4].

The result had shown that hospital stay was significantly longer in male than female ( $p < 0.02$ ) but in this study there was statistically significant unequal distribution of gender (male=173 vs female=72,  $p=0.02$ ), which may have given a false impression of prolonged hospital stay in the male. Furthermore, knowing aetiology of LRTI might be helpful to understand factors responsible for prolonging hospital stay. Worldwide, viral infections are the commonest cause of LRTI in children <5 years of age which require only supportive therapy and they usually improve faster than bacterial infection [5]. In this study more than half of children (<5-years of age) seemed to have the viral infections (bronchiolitis, WALRI and some subset of LRTI) who might have improved faster than older children. Hence, making a conclusion that hospital stay was prolonged in 11-14 years of age group could be misleading.

As per standard ethics in research the term subject is now no longer used for study patients in research rather we prefer to use participant.

## REFERENCES

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## AUTHORS' REPLY

We thank the author of the Letter to Editor for the in-depth study of the article. The present authors respect the concerns and queries raised by the author. We have gone through all the queries. Here are the response to the same.

1. Our study was a hospital-based study, cohort for which can be the total number of patient admitted to the paediatric department during the study period to find the incidence. Instead, we tabulated the data to find sex, age and disease wise distribution to see any possible association for such distribution.
2. The present authors did not intend to establish any definite causal relationship, so authors did not perform multivariate analysis to remove confounding factors.
3. Authors agree that the deciding factors for hospitalisation as mentioned in the letter would have thrown light into the reason behind prolonged stay but it was not feasible as it was a retrospective study. Known risk factors and co-morbid conditions were well taken care of by the exclusion criteria as mentioned in the present study and children with risk factors and co-morbid conditions were excluded from the present study.
4. In the inclusion criteria, authors have included radiological confirmation. Although it is not required for diagnosis of LRTI, since it is one of the criteria, the study population can be

regarded as radiologically confirmed pneumonia.

5. Although unequal gender distribution of disease found in our study and different possible aetiologies at different age may give a false impression on hospital stay, the study data give a true reflection of the scenario during the study period.

While describing age wise distribution we have taken all types of LRTIs together, not separately. As we know, viral LRTI is more common in children <5 years and hence may require a shorter stay and on the other hand bacterial LRTI like pneumonia is more common in elder children and require active

management with a longer stay. The present study finding is also in coherence with such statement and not misleading.

6. We have the highest regard for human values and used the term "patient" throughout the article. We thank you to bring the word "subject" to our notice and it may kindly be regarded as a human error and we urge the readers to read the same as "patient" instead. We feel, "child/children" would have been a better term. Hope, we have addressed the issues raised in the letter adequately.

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