Reviewer’s report

Title: Pattern of Respiratory Diseases in Children Presenting to the Pediatric Emergency Unit of the University of Nigeria Teaching Hospital, Enugu: A Case Series Report

Version: 3 Date: 28 January 2014

Reviewer: Magdalena Muc

Reviewer’s report:

Authors of the submitted paper address important issue of the hospitalization rates due to the respiratory conditions, importantly, showing the proportions of these diseases and the age relevance. The sample is big and allows a reliable statistics and stratifications of the sample. It is important that the results describe a situation in the developing country. It is strength that there has been done a comparison of the communicable and non-communicable diseases, as well as its dependence on the season and socioeconomic status. I just wished to see some results on the effect of socioeconomic status not only in hospitalization time, but in the general prevalence of diseases and the information on the distribution of the SES among the hospitalized children studied. Stratification per age groups is a bonus, as not only there is a much skewed age distribution but also there is a difference in pattern of respiratory conditions dependent on age. It is a benefit that the frequencies of hospitalizations were presented per year, it is a pity there is no discussion over these tendencies.

There are, however some inconsistencies that should be concentrated on. Most importantly, there are some ambiguities in the methodology sections. To start with, there is no information on how was the socioeconomic status defined. We can read somewhere in the text that it might have to do with income, yet, it should be clearly stated in this section. In the same section there is some unclear situation with the statistical methods. It is stated that there was use of ANOVA and Spearman and Pearson, however, I do not understand which of the variables were treated as continues, as all seem to be categorical or categorized. Also, I don’t understand why the use of spearman and Pearson, if it is the same test for different kind of data distribution. Moreover, I cannot find in the results any rho values, and instead I could see odds ratios and B standardized coefficient, which is also a result of regression (and no regression mentioned). ANOVA is also used to compare means of continuous, normally distributed variables. In this article I could think of very few continuous factors. There is age, which is not normally distributed, days of hospitalization which due to variation between 1 and 8 I would also be reluctant to treat as continuous and less even as normally distributed. This is also why we can see median instead of mean in the results. Again, no results presented seem to be the results of ANOVA.

Further in the section of results. It is not very common to use p<0.03. It is better to use the common 0.05, 0.01 or 0.01 cut off points or to put an actual value. The frequency of admissions per month in the results seems not to be coherent with
the graph. We can read that in July there were 247 admissions (11.2%) and on
the graph, where the y axis the graph informs we see number of admissions and
the scale is from 0-120 with July being around 110 (?). It would be good also to
add the p values to the results where there are differences in cases of particular
diseases per season. There are some typing errors such as in line 6 of page
7, where we have brackets closed with Chi² results and not opened, as well as
the p=<0.001).

There is an interesting result showing that there is the lowest frequency of
children staying over 4 days for middle income (SES I assume), why would that
be the case? Maybe there could be added some discussion on that. In the part of
results with repeated admissions, it states that younger than 5 years old children
the re-admission was 32.2%; 98/304, while we can see in the table that the
number of children under 5 is 1665 and 304 is the number of 5-10 year olds.

Discussion is well made, although some more references are required e.g. in line
9 pg 8, where talking about general burden of pneumonia in developing world.
Similarly, on page 10, line 18 where there is a discussion on the higher asthma
admissions in northern hemisphere in cold seasons. Some more issues worth
discussed are addressed above.

Tables and graphs. The graph, as mentioned, seems to have scale problem.
Graphically, it would be better to choose the name of the month rather than
number, and definitely not the two on the same axis and names of the months
should not be on the line, crossing them.

Table 1. It would be nice to have some more discussion on the yearly patterns,
perhaps.

Table 3. It would be better to add percentages of each disease representation, as
crude numbers are less intuitive and harder to interpret. For children over 10, I
have calculated 171 individuals rather than 218, as stated as total for the age.

Table 5. The rates in % should be next to the n values, rather than after the total
column. It is a very interesting test, however, although it contributes to the
deaths, I would not ass epistaxis in the analyses, as there were only 2 cases in
total (1 child equals 50%). This is probably why the result is significant, as the
other diseases seem to have the same rates of deaths. I would say with the
fortunate number of only 11 deaths, descriptive statistics would be enough, no
quantitative analyses.

Other small lapses. In the abstract we can see mean of the duration of
hospitalization with SD, which in txt, more correctly perhaps, it is a median. In
methods, page 5 line 6 there is a different citation form of upper number rather
than square brackets. Line 13 on page 10, repeated word “resulting”.

Style of the references should be uniform and with the same formatting each
position.

Overall, the article should be publishes after the corrections being applied.

**Level of interest:** An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
No competing interest exist.