Reviewer's report

Title: Corrective open heart surgery during infancy has better outcome and resource utilization than pre-school patients.

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Reviewer: Liaquat Ali Ali Khowaja

Reviewer's report:

Major Compulsory Revision

The present study entitled “Corrective open heart surgery during infancy has better outcome and resource utilization than pre-school patients” is trying to demonstrate that corrective surgery during infancy has better outcome than pre-school patients. I am not clear, why the authors have used a term pre-school patients for children 1-5 years, as in the urban setting Montessori starts from 2 years and 4 months. Moreover, the term “pre-school patients” has not been used anywhere in the text. This needs to be clarified.

Introduction:
- Introduction does not include information on the data on CHD. Only one reference on the rate of death at less than two years of age is mentioned and that is also more than 4 decades old reference.
- Give some more references along with reference # 5. As mentioned, what are few other studies suggest?
- Introduction needs harmonization of text. Objective of the study may also be mentioned at the end of the introduction part along with rationale.

Methods:
- Assumption of capturing all socio-economic groups may not be valid as only one tertiary care hospital was in the sample which is running in private sector and is assumed as one of the expensive hospitals in Pakistan.
- What are the reasons for selecting <1 year as group 1 and remaining as group 2? Pre-school term may not be valid here.
- Mention that verbal informed consent was taken as the interview was conducted over telephone
- Many sentences can be deleted e.g. (a) “Where consent was not taken, patients were excluded from the study”. No one regretted so any need to mention this? (b) Patients “who were greater than 5 years old were excluded”. That’s not the exclusion criteria because the sample does not include that population.
- Resource utilization: Why Hospital Bed Charges have not been included in the cost calculation? That is most common and one of the important cost components. Some patients may stay longer than expected because of the complexity of congenital heart disease.
- It has been mentioned in the statistical analysis section that Mann Whitney U test has been performed to find out difference but there is no information about the distribution of variables. For non-parametric tests, median along with inter-quartile range may be reported here.

- Moreover, p-value of <0.05 has been taken significant. However, it is not clear whether, a two way or one way p values has been used. Based on the title statement, one way p-value should be assessed for significance.

Results:
- Tables are not explained appropriately. Please highlight and discuss few further results.
- Some unnecessary information is also presented in the tables. E.g. Why the cost of hospital admission for other diseases has been presented? However no comparisons or descriptions on the cost of other hospital admissions have been included in the paper.
- Table 2: This table shows that the proportion of complications is more in group 1 compared to group 2 but the cost data (table 4) suggests that the cost incurred was greater in group 2 compared to group 1. This is confusing and seems to be controversial.

Discussion
- This part is poorly written and needs extensive revision. Few references which are mentioned in this part can be good source for introduction part. Refer here different studies which have or not some relevant results according to your results

References
- The literature search for this manuscript is not sufficient enough to compare these results with existing data.
- Some of the references are quite old (reference numbers 3, 4, 7). More references on recent data need to be added.

Minor Essential Revisions
- Language revisions need to be done.
- Use either Coronary Heart Disease or Coronary Cardiac Disease for consistency.
- “translated in Urdu language” may be corrected as “translated into local language”
- Boys and girls is more appropriate term than male and female
- Mention mean±sd in the tables
- Mention USD conversion rate
Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests