

PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Neonatal mortality and child health in a remote rural area in Nepal: A mixed methods study
AUTHORS	Karki, Bindu; Kittel, Guenter

VERSION 1 – REVIEW

REVIEWER	<p>Reviewer name: Trevor Duke Institution and Country: Centre for International Child Health, University of Melbourne, Australia Competing interests: I must honestly declare a potential conflict of interest, as I know the authors well, and have helped them in a small way with the analysis and revising the write-up of the study and the paper. I was also one of the supervisor of one of the authors Master's thesis.</p>
REVIEW RETURNED	30-Jun-2019

GENERAL COMMENTS	<p>Thank you for the opportunity to review this paper. I think it has strong merit for the following reasons (1) this is an under-studied geographical area and child and newborn mortality and morbidity is high, and the population are under-served, (2) the qualitative aspect is important and the researchers have gained some very useful cultural perceptions from villagers in these remote areas, (3) the researchers conducted this small study on limited means, and proves that this type of research can still be done and produce valuable information.</p> <p>The limitations of the study are the sample size, which limits the precision of quantitative estimates, especially the morbidity estimates ("Type of sickness" Table 1), and the recall nature of the mortality estimates that are depicted on Table 2.</p> <p>The text could use a little further editing to correct some aspects of grammar; a few sentences are not clear. For example in the abstract: "...were investigated for the presence of a disease respective questioned..."</p> <p>Avoid double emphasis: "Nepal only to a very limited..."</p> <p>"Perceptions" should be pleural (not "perception") when referring to the study population, unless discussing one person's perception.</p> <p>Otherwise the paper is written fairly well, and the authors are to be commended on the study.</p> <p>I must honestly declare a conflict of interest, as I know the authors well, and have helped them in a small way with the analysis and revising the write-up of the study and the paper. I was also one of the supervisor of one of the authors Master's thesis.</p>
-------------------------	---

REVIEWER	Reviewer name: Peter Rohloff Institution and Country: Maya Health Alliance, Guatemala Competing interests: None
REVIEW RETURNED	17-Jul-2019

GENERAL COMMENTS	<p>This is an important topic, and I appreciated the opportunity to read the manuscript</p> <p>I do think the manuscripts needs a lot of work, however, in order to be publishable. From a stylistic aspect, it would benefit from a close edit from a senior colleague to help with flow and the overall organization of the argument and data.</p> <p>In the introduction and conclusion, furthermore, I think that more engagement with the literature on maternal-child health determinants and neonatal mortality is needed. Although I'm not an expert on Nepal, while reviewing the article I read several other interesting and important mixed methods and qualitative studies about perceptions of neonatal mortality, child illness, and decisions to seek care, some from the same province that this study is conducted in. I think engaging with these other researchers in this article will help to better position this article. On a similar line, recent citations on relevant health data (e.g. the DHS survey from 2011, Mugu district mortality in 2001) are out of date; more recent numbers are available from several sources (e.g. DHS 2016).</p> <p>In terms of the research methodology and data, I have strong doubts about the value of the mortality data and the child health recall data. This is because standard methods to assess neonatal mortality and child acute illness (individual interviews with representatively sampled households/women using structured verbal autopsy forms) exist and in fact have recently been done for the province including where this study was conducted (DHS 2016). I do not think that second-hand reports to health authorities or elders add much value, since there is likely substantial underreporting to them as well and, so, I imagine that the mortality rates collected in this way are even less reliable than the recent DHS estimates.</p> <p>On the other hand, the qualitative work here around perceptions of health care quality, and neonatal illness and child health are very interested. 20 recorded interviews is a wealth of data and this could be significantly expanded and fleshed out. For a qualitative study, however, many of the essential elements of reporting on study design and conduct are missing, and I would recommend a significant rewrite along these lines of authors agree. This would include use of the COREQ checklist for reporting of qualitative work, as well as reporting on the coding and structured analysis used to review the interview data so that readers have a sense of all major and minor themes as well as the representativeness of the quotations.</p>
-------------------------	--

REVIEWER	Reviewer name: Manu Raj Institution and Country: Amrita Institute of Medical Sciences and Research Centre, Kochi, Kerala, India. Competing interests: None
REVIEW RETURNED	22-Jul-2019

GENERAL COMMENTS	The paper needs a thorough restructuring paying attention to several methodological issues and interpretation of data.
-------------------------	--

	<p>The writing style needs to be improved as well.</p> <p>Title</p> <p>1. The title seems to be disconnected with the objectives and conclusion of the abstract. If estimation of neonatal and under 5 mortality are listed as objectives in the abstract, one of them must be the primary objective and should be the focus of the title.</p> <p>Abstract</p> <p>2. Abstract- the objective statement in abstract is different from the aim mentioned in the end of introduction. Please specify clearly the objectives and be consistent in both places.</p> <p>3. The results section of the abstract mentions neonatal and under 5 mortality rates. Please add the corresponding confidence intervals there.</p> <p>4. In the conclusion, please relate to findings presented in the results section. The current conclusion is vague and not substantiated by the findings presented in the results section of the abstract.</p> <p>Introduction</p> <p>5. Introduction needs to be modified/shortened for better readability.</p> <p>6. The aim stated is very vague and quite confusing. It is also different from that mentioned in the abstract. Please state your primary and secondary objectives clearly at the end of introduction.</p> <p>7. The rationale of the current study is not stated clearly. Please add the same in the introduction.</p> <p>8. There is no mention of the probable clinical relevance or public health utility of the possible findings from this study. Such statements will inform the reader about the relevance of the current study findings. Please add them.</p> <p>Methodology</p> <p>9. There is no logical order in the methodology section. Ideally, you present the selection and description of participants, followed by technical information related to measurements and finally statistical analysis plan. Please refer to the ICMJE recommendations to restructure this section logically.</p> <p>10. The inclusion and exclusion criteria need to be stated as part of subject selection.</p> <p>11. The subject selection is mentioned as simple stage random sampling. Please provide details of the process.</p> <p>12. Page 6 Line 19. There is a heading patient and public involvement. The major portion of the technical information is given under this heading. Ideally it is a small paragraph at the end of methodology. It seems a lot of information should be moved to the sub heading – technical information/data collection process.</p> <p>13. Page 7 L5. There is mention of sample size calculation but the same is very vague. What is the disease the authors are mentioning? Is there some data related to the prevalence of the disease in Nepal from a previous publication?</p>
--	--

	<p>If you are presenting estimation of neonatal mortality as your primary objective, then it needs to be used for sample size calculation. There is also no mention of a minimum sample size calculated in the manuscript.</p> <p>Only with a proper sample size can we make appropriate estimations/ comparisons and comment on them. Their study power seems to be low for the objectives listed. It is not clear whether the authors calculated a sample size for estimating neonatal mortality rate or the common illnesses investigated. Please clarify.</p> <p>14. The sample structure for 100 children investigated for various illnesses suggests that this could be a cluster sampling process (10x10). Please provide details of this process including how the authors arrived at the size of 100 and how 10 children were selected from each village.</p> <p>15. Page 7 L18. There needs to be more information regarding the qualitative part of the study (study design details, data collection process, analysis and interpretation). The current method section related to qualitative part is too short.</p> <p>16. The statistical analysis section is not serving its purpose. Please specify the major tests used for important comparisons.</p> <p>Results</p> <p>17. Results start with the estimations directly. Please present some information about the study sample before moving to individual estimations. Ideally, there should be a table 1 that presents basic information about the study sample.</p> <p>18. The results section uses 95% CI, but the sample size estimation mentions 90% CI. Why this disparity?</p> <p>19. In page 8 L57, the authors are mentioning under 5 mortality rate. Please add the corresponding confidence interval.</p> <p>Discussion</p> <p>20. The discussion section needs to be modified for both structure and content. The introductory para of a discussion section is to summarize the salient points from results related to primary and secondary objective. The intermediary para are for discussing your main findings one by one relating them to other studies, mentioning the similarities and differences and providing appropriate justifications. The last para is for concluding your discussion. Please end each intermediate discussion para with a statement summarizing the para. The current discussion section strays from an expected writing format.</p> <p>21. Page 12 L8. The authors mention that the child mortality in Dolpa is relatively low compared to Nepal average. Was the study powered to make such a comparison?</p> <p>22. Page 12L10. The authors compare infections across various areas in the study sample. Was this sub group comparison done in a statistical way? If so, present the details and preferably in a table format.</p> <p>Conclusion</p>
--	---

	<p>23. The current conclusion section is very long and needs to be shortened. The section talks less about findings from the study and more about non-specific suggestions that are not related to the study findings. Please stick to main findings of the current study and make suggestions that are extrapolated from the study findings only.</p> <p>Other Comments</p> <p>24. Please pay attention to the language structure. Several sentences are structured in such a way that the clarity is missing. Simple sentences that are direct and specific will enhance the readability of the manuscript</p>
--	--

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

Thank you for the suggestions! We are aware of the relatively small sample size, still as advantage we can claim that we have collected the numbers directly from the affected population as most of the written records appeared to be highly insufficient. We have also tried to correct the grammatical mistakes accordingly.

Reviewer 2

Thank you for the suggestions! We looked through the DHS of 2016, which definitely is containing very useful information. But intentionally we wanted to collect data from a remote part of the province with difficult access. In the area of research we found most records in the health- posts insufficient or non-existent. Therefore we tried to get first hand information directly from the people of concern as much as possible with our limited means.

We are especially grateful for the COREQ guidelines and we have tried to make use of them and include them as much as possible within the limitation of words. We have also tried to improve our writing style accordingly and we have requested Prof. Duke for support.

Reviewer 3

Thank you for the suggestions!

1. We have changed the title accordingly.
- 2.-4. We also changed the abstract according to your suggestions.
- 5.-8. The same is valid for the introduction and we added the rationale and the aim of study.
- 9.-16. We have tried to rewrite the methodology section and to clarify the issues. We have also changed the order of the paragraphs accordingly. We also explained the sample size.
- 17.-19. We have used a 90% confidence level for the morbidity and a 95% confidence level for data on mortality.
- 20.-23. We modified structure and content and have shortened the conclusion.

Correction: neonatal mortality and child health in a remote rural area in Nepal: a mixed methods study

Karki BK, Kittel G. Neonatal mortality and child health in a remote rural area in Nepal: a mixed methods study. *BMJ Paediatrics Open* 2019;3:e000519. doi: 10.1136/bmjpo-2019-000519

This article was previously published with an error.

Correct Contributors statement is:

Contributors: GK collected the data and has done the interviews, BK and GK did the study design, GK has developed the section on methodology, BK and GK did the analysis of the data and the interpretation of the data, BK and GK developed together the discussion as well as the summary and conclusion. Professor Trevor Duke (TD) served as senior academic adviser.

Correct affiliation for Bindu Kumari Karki is:

Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Institute of Tropical Medicine and International Health

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

© Author(s) (or their employer(s)) 2019. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

BMJ Paediatrics Open 2019;3:e000519corr1. doi:10.1136/bmjpo-2019-000519corr1

