Author’s response to reviews

Title: Trends and barriers of Emergency medical service use in Addis Ababa; Ethiopia.

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Author’s response to reviews:

Dear editor:

We thank you very much for considering our work to publish in BMC emergency medicine. All the comments raised were very important. We believe our work improved significantly due to your comments. We have done our revised manuscript according to the comments given. We have incorporated all the comments and suggestions given. The major changes in the manuscript are highlighted in red color.

Reviewer 1

Dear Alaa Oteir we are heartily great-full for reviewing our work. You have raised very important points which improved our work. We have accepted almost all your comments and incorporated in revised manuscript. Below are the comments you raised and our responses.

1. Abstract, Line 26: I believe there is a typo "sene" in the result/abstract

Answer: Accepted and Corrected throughout the paper.

2. I would suggest adding more keywords such as prehospital emergency…etc
Answer: We did not use the phrase prehospital emergency. We selected time sensitive emergencies. We have defined it in the method section.

3. Be consistent prehospital or pre-hospital throughout
Answer: Accepted and corrected to pre-hospital throughout the paper.

4. Methodology, Line 12: you may need to rephrase "Of them the study was conducted ….
Answer: Accepted and rephrased as this study was conducted in five purposively selected public hospitals.

5. Three is period after (…pain) in Line 35, a capital P in patient in line 35.
Answer: Thank you it is corrected

6. I would suggest to rephrase the exclusion and inclusion criteria to give more clarity
Answer: Accepted and corrected by rephrasing as...The inclusion criteria were those patients who sustained severe trauma (labeled red or orange by South Africa Triage scale) and illnesses with time sensitive conditions (acute respiratory distress, stroke, and chest pain). The exclusion criteria included Laboring mothers, critically ill patients with no reliable surrogate, and cases of inter-facility transfer from another health care facility.

7. Line 58 how many training sessions?
Answer: Accepted and corrected by rephrasing … Ten data collectors, two for each hospital were trained in data collection. The training was in two sessions, one day a week, for two weeks prior to the data collection time.

8. Need to fix the spaces in results in the methodology sections lines 7 - 20
Answer: Thank you it is fixed.
9. I would describe the EMS system and training in Addis Ababa

Answer: We have added statements in third paragraph of the introduction part which describe this....Addis Ababa Fire and Emergency Prevention and Control Authority (AAFEPCA) along with few privet companies provide the major pre-hospital emergency services care in the city. Under the authority, there is one central dispatch center for fire and pre-hospital services, 8ambulance stations, and about 32 ambulances.

10. I would shortly describe the population demographics of Addis Ababa

Answer: We have added the demography and language spoken in Addis Ababa in the setting session of the methodology.

…Addis Ababa is the capital of Ethiopia with more than 4.6 million populations. Nearly 70% of the population is younger than 30 years. The common languages spoken in the city include Amharic (71.0%), Oromiffa (10.7%), Gurage (8.37%), Tigrinya (3.60%). Oromiffa is the major language spoken in rural Addis Ababa and surrounding zones.

11. Need to spell out abbreviation when first used, also the abbreviations should be spelled out in the footnotes of tables

Answer: Thank you. We have spelled all abbreviations in first use and we have avoided abbreviations from all tables.

12. The emergency medci9cal service use section needs to be rephrased to give more clarity

Answer Thank you we have re-edited it to give more clari
ty including table

13. Table 3 seems incomplete, what were the reference groups when conducted the logistic regression, this should be clarified

Answer: Thank you we have edited the left hand column of the table to clarify the references.. in addition we have explained it in the last paragraph of the same suction.

14. Regarding logistic regression, how the variables were chosen to enter the model and how was the model evaluated?
Answer: Thank you for raising this issue. We have added the following statement in methodology section data analysis part to clarify this issue. … To explore the relationship between independent variables and the outcome variable, descriptive cross tabs with chi-square analysis were performed. Variables were selected according to previous literature and the expert opinion of the authors. Variables that were found to be significant in bivariate analysis at the 0.1 level were entered into a multivariate model…..

15. There is a type "list" in different places should be "least"

Accepted and corrected

16. are the waiting time data equally distributed? Can you clarify why mean and median were stated in the discussion section lines 40-50

Answer: Thank you for raising this issue. We accepted our mistake and corrected it by calculating median rather than mean.

17. Regarding the interview, should explicitly list the numbers of the interviewees and the different proportions when you refer to the "majority", "most" …etc

Answer: The number of interviewee was 30, 6 for each hospital, we have indicated this and also we have added the proportion when referring most and majority

Thank you and we are happy to accept any further comments as we believe you did invaluable job to improve our work.

Reviewer 2.

Dear Jeremy Abetz, BMedSc(Hons) thank you very much for reviewing our work. All your comments were valid and we are happy to get these comments. You raised thoroughly very important points to improve our work. We have accepted all your comments and incorporated in the revised manuscript. Below are comments raised and our response. Thank you.

1. Overall this manuscript still needs English language editing, with multiple spelling and grammatical errors repeated throughout.
2. Methodology - Please make reference to the rates of languages spoken in Addis Ababa in the "setting" section so that the reader can compare the actual rates of EMS use to the underlying rates in the community.

Answer: Accepted. we added the statement ...The common languages spoken in Addis Ababa include Amharic (71.0%), Oromiffa (10.7%), Gurage (8.37%), Tigrinya (3.60%). in addition Oromiffa is the major language spoken in rural Addis Ababa and surrounding zones.. In a setting section.

2. Please give more details of the descriptive statistics performed (i.e. when a mean vs. median was used, which statistical tests were used for comparison of variables).

Thank you for raising this point. The data was skewed to use mean hence we preferred to use the median as a measure of central tendency.

3. It is usual for all data to be kept in a secure file for 7 years after the conclusion of the study. Elaboration as to why this was not done for the qualitative data is merited.

Answer: Thee data deletion was done from audio data collecting material. The coded data is stored. We have indicated this in last sentence of the ethical consideration section.

5 Results - The methods mentioned a process for minors to be collected, however; Table 1 indicates no participants < 18 years old. They are then mentioned later in table 2. Please clarify this discrepancy.

Answer. Thank you for noticing. The age for the first table is the interviewees. The age for the second table was the actual age of the patients. Although the participants were more than 18 years, we consider those patients with less than 18 years as a minor and took patients consent from guardians.

6. Why were the cut-offs for monthly income used? Do these represent income quartiles?

Answer: The cut off for the monthly income were quartiles obtained from a consultation of Mr. kibret, an economist and pre-hospital expert in Ethiopia. But to avoid confusion and due to lack of strong reference we preferred to remove the income part of the demographic data.
7. In stating that a lower proportion of medical illness arrived by ambulance compared to trauma, some form of statistical test and p-value would be appropriate.

Answer: Thank you for raising this issue.

We have done statistical test for type of emergency to use ambulance but though the proportion has deference it was not statistically significant. It was not selected for the multivariate analysis also. We have removed the statement stating the difference.

8. More details are needed regarding the logistic regression analysis. Was it a univariate analysis, or a multivariate analysis?

Answer: We have done detailed description both in methodology and result section.

9. Discussion: Line 40 if the majority waited longer than the mean time for ambulance arrival, it is likely that these data are skewed and therefore a median (IQR) may be more appropriate.

Answer: Thank you it is well accepted and we used median and edited accordingly.

10. Sites were specifically selected based on having high car accident rates. The present study may therefore have over-represented the burden of motor vehicle accidents/trauma.

Participants presented to hospital in the present study. It may be worth surveying the community at large to identify those who do not attend the hospital at all.

Answer: Thank you we have added it in limitation part. The phrases “urban trauma centers and … did not show community level utilization.

Thank you and we are happy to accept any further comments as we believe you did invaluable job to improve our work.