Author's response to reviews

Title: Outcomes of polytrauma patients with diabetes mellitus

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Version: 3 Date: 2 June 2014

Author's response to reviews: see over
Dear Editor,

Manuscript Title: Outcomes of polytrauma patients with Diabetes Mellitus.

Authors: James Tebby, Fiona Lecky, Antoinette Edwards, Tom Jenks, Omar Bouamra, Rozalia Dimitriou, Peter V. Giannoudis.

Thank you for your letter regarding the above manuscript dated 20 May 2014. We have taken into consideration the points raised by the reviewers and have responded as follows:

Reviewer 3:

We thank the reviewer for his valuable comments. Language corrections have been made accordingly throughout the manuscript.

Point 1.
Please revise: “Group 1 were patients who were known to have Diabetes Mellitus (DM), these patients were in turn, where appropriate, separated into those with . . . “ Weak sentence structure, the manuscript needs further overall revision to improve quality of writing and communication.

Reply 1.
This was revised to: Group 1 was patients who were known to have Diabetes Mellitus (DM). Where appropriate this group was further separated into those with insulin dependent diabetes mellitus (IDDM) and non-insulin dependent diabetes mellitus (NIDDM).

Point 2:
In Table 5, a few of the frequency comparisons have very low N (e.g., Injury mechanism – penetrating trauma 2 vs. 0). For analyses such as this, where the expected count is approximately less than 5 per cell, p-values for chi-squared should not be reported. Simply a descriptive statement of “2 vs. 0” would probably be better. At minimum, authors should include a footnote telling that the p-value for such analyses should not be interpreted (or at minimum, “interpreted with caution”).

Reply 2
The following sentence was inserted in the table legend.
* = p-value for such analyses should not be interpreted due to the small number of patients.

Point 3:
To reduce clutter in the tables, authors might remove “%” all along the tables and simply include it as a header at the top of the given table.

Reply 3.
% was removed all along the tables as it was suggested.

Point 4.
p. 10, “The age adjusted prediction model however shows diabetes to be an independent predictor of increase mortality.”

Reply 4
However, the age adjusted prediction model shows diabetes to be an independent predictor of increased mortality.

Point 5.
p. 12, “… before they are identified as a multiply injured patient.”

Reply 5
It may only be after later assessment that these patients are identified to be suffering from polytrauma.

Point 6.
In reporting the skewness measures on p. 5, it would be helpful if they could qualify what is meant by “extensive” skew by dividing the skew estimate by the estimated standard error of skew. If it’s more than +/- 1.96, then an argument can be made for it being “extensive,” if it’s less than +/- 2, then “extensive” is probably too extreme of a word. Authors do not need to report standard errors of skew however in the manuscript.

Reply 6
For our analysis we compared the 3 groups’ medians because of skewness (Sk). These are the values of Sk for some of the variables: GCS: Sk=-1.575 (moderate); SBP: Sk=-0.165 (slight); ISS: Sk=0.372(slight); Pulse rate: Sk=0.042 (slight); LOS: Sk=1.091 (moderate); LOS ICU: Sk=1.436 (moderate); Time to Operation: Sk=3.158 (extensive); Time to death: Sk=1.019 (moderate). Due to the high number of variables with moderate to extensive skewness non-parametric techniques were used to test the null hypothesis that there is no difference on the distribution of each of the variables between the three groups.

**Point 7.**
Ethics - Experimental research that is reported in the manuscript must have been performed with the approval of an appropriate ethics committee.

**Reply 7**
TARN already has ethical approval (PIAG section 60) for research on the anonymised data that is stored securely on the University of Manchester server.

**Point 8**
Thank you for including an author contribution section and we have noted that author NK has been included in the author contribution but not on the author list. Please can you include this author on the list if this is the case and please can you ask all the co-authors to email me to verify this change in authors if needed.

**Reply 8**
Based on the degree of involvement/contribution made to the preparation of the manuscript, this change in authors is not needed.

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Kind Regards

Yours Sincerely,

Tebby J
Lecky F
Edwards A
Jenks T
Bouamra O
Dimitriou R
Giannoudis PV