Reviewer's report

Title: Computationally approximated solution for the equation for Henssge's time of death estimation

Version: 0 Date: 05 Feb 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Not sure - key details are missing from the manuscript

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

N/A - no experiments or analyses

Statistics - Is the use of statistics in the manuscript appropriate?

N/A - there are no statistics in this study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Probably - with minor revisions
GENERAL COMMENTS: This is a short note on the computational methodology used in a web-based time of death calculator. As such it is clear and concise, and it addresses the key issue of the accuracy of the time of death estimation. However, the manuscript lacks details on estimation of the uncertainties linked to the time of death.

REQUESTED REVISIONS:

In this short note, the authors detail a numerical method to approximate the solution of the Henssge equation for time of death estimation based on body temperature.

The numerical method is implemented in a convenient web-calculator.

The method is based on a discretisation of the time interval 0 to 3 days, with 6 min steps, which is well within the 95% confidence interval of the Henssge equation. Forensic applications require much less precision, and in practice the error is negligible.

However, no details about the estimation of the 95% confidence interval itself is presented. These details may have been reported elsewhere, but with regards to the accuracy of the time of death estimates, the computation of the confidence interval is crucial.

Note: This reviewer report can be downloaded - see attached pdf file.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
Not relevant to this manuscript
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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