Reviewer’s report

Title: In vitro evaluation of methicillin-resistant and methicillin-sensitive Staphylococcus aureus susceptibility to Saudi honeys

Version: 0 Date: 16 Apr 2019

Reviewer: Kate Hammer

Reviewer's report:

Abstract: The results section should contain both zone of inhibition and MIC data. It is currently heavily weighted towards the zone of inhibition data, which is arguably not the best way to measure activity. MIC testing is a more reliable way to test for activity.

Line 71: Rather than state that prevalence is "quite high", please state actual prevalence values, and compare to other countries.

Line 78: Similarly, a number of clinical trials have shown that honey was worse than standard treatment. This topic must be discussed fairly, showing all sides of the story.

Line 85: What is meant by certified? Are these honeys registered with therapeutic goods authorities?

Line 101: Please explain "sterility was checked on blood agar medium". How much honey was tested? Were honeys completely sterile? Most honeys will contain at least a few bacterial endospores and will therefore not be sterile.

Line 123: Which strains were used? Was it all strains?

Line 137: Does this mean that the experiment was performed three times on different days (ie independent biological repeats), or were three identical wells used on the same day.

Line 143: Please clarify what the final concentrations of honey were in the tray. Also how were honey solutions prepared? It is very difficult to pipette honey so was it weighted out instead?

Line 151: As above, clarify what is meant by triplicate.

Line 183: Always state the method by which the results were generated. For example, "exhibited higher antibacterial activity by agar diffusion…"

Line 187: It is not clear why these honeys would have high peroxide activity from the results described in lines 183-185. These results do not describe catalase so no conclusions can be drawn about peroxide activity.
Line 236: Although the difference in MICs (12% compared to 14%) was statistically significant, the biological or clinical significance should also be mentioned. Do the authors think that such a small difference in MIC would translate into a significant difference in a clinical study?

General comment: Include comments on the species of floral sources for the honeys in the discussion. Also are these honeys from Apis mellifera bees or another species.

Also, some comment could be made on the colours of the honeys - were they all uniformly dark or were some light?

Table 2 and 3: Change zone sizes to one decimal place only

Table 4: Express all numbers with 1 decimal place for all values

Table 4: Italicise E. coli and correct ATCC number to 25922

Figures 1, 2 and 3 are not required as the data is shown in Tables.

Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

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

No

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.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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