Reviewer's report

Title: Determination of decimal reduction time (D value) of sanitary agents in hospital usage.

Authors:

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Reviewer: Waldemar Gottardi

Level of interest: not specified

Advice on publication: Other (see below)

Second review:

General: The authors have improved the description of the methods and corrected the mistakes therein. What remains to be done is to avoid a high number of repetitions and redundancies in the manuscript, and to improve the discussion as previously suggested, which has been done only in traces by the authors.

Presently, it is extremely difficult to find out any conclusions which can be drawn from the results of the authors. It is strongly recommended to improve the manuscript (suggestions see below) to make it readable for people interested in disinfectants!

There is still a high number of typing errors and of cumbersome formulations. Therefore, the final version of the manuscript should be proofread by a native English speaker.

Detailed suggestions:

1. Abstract:
There is still no reasonable conclusion of the paper as suggested in the first review, [e.g. "our results demonstrate that the tested agents can be recommended for surface disinfection as stated in present guidelines"].
Please correct the numbering of the substances in the results section of the abstract (lines 20-24).

2. Method:
Both the description of the D-value and the definition of biological indicator are splitted in different sections of the paper (background, method, results). Please describe these topics concisely in the methods section and avoid repetitions and superfluous tedious descriptions (e.g. page 8, lines 7-22) to improve readability and to shorten the manuscript.
Page 8, line 28: D* = D-value.... (?)

3. Results and discussion:
Despite some minor improvements, this section is still very difficult to read. It is still largely impossible to find out which conclusions the authors draw from their own results.
I strongly recommend to perform the following changes:

3.1. Omit the high number of redundancies in the text: The results are already presented in table 1
and figure 1. Do not repeat all D-values for all strains in the text. One or two sentences would be sufficient for each disinfectant (E.g. B. stearothermophilus and ... showed the highest resistance, while ..... were more susceptible ... (table 1)).

3.2. Consider to present the topics of discussion in a special order and keep this order for each disinfectant you describe.
E.g.: Start with a short description of the result (see 3.1.), followed by a short description of the characteristics of action and toxicity, followed by the present applications and guidelines, followed by your comments and intentions for future studies derived from your results.

3.3. Conclusion:
Avoid unnecessary statements (page 15, lines 7-11) and non-professional expressions (page 15, line 12, "inhibit a 90% bioburden").
For the reader it would be interesting to find out the following (should be written concisely !): Are there any new recommendations derived from the results of this study or not ?
Which agent should be used for which application ? (in a short and clear form !)

e.g. For hand disinfection chlorhexidine can be used, however, due to the low D-value, high concentrations should be tested....
For instrument disinfection we recommend ..... which is in accordance to present guidelines; for critical items, the stabilized Minncare mixture should be applied etc.

4. Table 1:
The presentation of the disinfectant concentration both as percentage and mg/L is not necessary. One of these rows can be omitted.

5. Figure 1.1. and 1.2.:
Omit lines 2-6. D-values are already presented in table 1 !

6. English:
Proofreading by a native speaker would be very helpful.
Examples for typing errors:
Page 3, line 15; page 5, line 30 (4 times...); page 7, line 6 (an inactivating); page 12, line 22 (recent); ....
Examples for grammar and style problems:
Page 3, line 35 (is instead of are); page 7, line 1 (was instead of is); page 8, lines 23-35; page 13, lines 11-14; page 14, lines 28-33;.....

Competing interests:
None declared.