Reviewer’s report

Title: Hand hygiene instruction decreases illness-related absenteeism in elementary schools: a prospective cohort study

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Reviewer: Nils-Olaf Hübner

Reviewer’s report:

Reviewers comments, revision 1
Hand hygiene instruction decreases illness-related absenteeism in elementary schools: a prospective cohort study

The authors have made extensive changes in the manuscript and have addressed most reviewer’s comments. Overall, the paper has gained from the revision.

Unfortunately, the changed manuscript shows all the limitations of the study. In fact, the longer one thinks about this study, the more complicated it gets:

1. The results presented come from a non-randomized, short-period intervention study. I am unsure whether significance testing makes any sense if groups are not randomized at the beginning. Does a sig. result show a pre-existing difference or an intervention effect? Or somewhat in-between?

2. I must raise the “September-issue” again. Was September excluded from the calculations or not? This is still not clear to me.

3. Most severely, authors report illness-related absenteeism rates (= the % of absences due to illnesses in comparison to all absences) only, instead of total absences. As the illness-related absenteeism rate does not only depend on the number of illness-related absences but on the number of non-illness-related absences, too, a change in the illness-related absenteeism rate could completely be caused by a change in the non-illness-related absences. Moreover, the authors did not collect data on non-infectious reasons for absenteeism (see authors reply).

The first and central sentence in the discussion, that HH can reduce the illness related absences, is therefore not backed by the (reported) results. This somewhat hidden but striking problem did only become clear to be as I thought about the effect of a non-randomized design and the authors reply again. Authors need to report total absences in control and intervention group as well as illness-related absences for both schools separately (tables 2a and b) to back their statement.

I am sorry, but I think we have to go another round.
Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
'I declare that I have no competing interests