Author’s response to reviews

Title: Converting Habits of Antibiotic Use for Respiratory Tract Infections in German Primary Care - Study Protocol of the Cluster-randomized Controlled CHANGE-3 Trial

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Author’s response to reviews:

Dear Prof Hemming,

thank you for your valuable suggestions.

Based on your comments, we carefully revised the manuscript.
Additional or revised sections are highlighted in yellow.

Please find our point-by-point response below.

1. Clarifying the origin of the primary outcome data

We clarified the origin of the primary outcome data on page 8, lines 201-203. The data is provided by the German statutory health insurance provider AOK.

2. Information on the outcomes from the questionnaire and analyses

The questionnaires are measuring patients’ knowledge about antibiotics as well as expectations and experiences related to antibiotic prescribing.

We revised the second paragraph of the recruitment section by adding more information on the questionnaire (page 6, lines 146-152). Also, we added information on the outcomes and analyses of the questionnaire in “Outcome measures” (page 9, lines 207-214).

3. Information on baseline data and adjustments

Baseline data are from the fourth quarter of 2016. The data are retrieved retrospectively from the AOK after GPs gave their written informed consent. This is clarified on page 7, lines 175-179.

As to adjustments, cluster level means are difficult to specify since the set of patients at baseline may differ from the set of patients after intervention. To account for the clustered structure we include a random intercept in the logistic mixed effects model. Therefore, we will refrain from adjusting for the cluster level mean in the primary analysis. However, we amended our protocol and added a sensitivity analysis where the baseline prescription rate on cluster level is included as covariate in the logistic mixed effects model. The respective additions are made on page 12, lines 268-270.

4. Correction on minor typos

Three e-mail addresses of authors unfortunately had typos. We corrected the addresses on page 2, lines 30, 32 and 33.
After relocating of the Spirit-Figure the tables had unfortunately wrong numbers. Table numbers were corrected on page 8, line 203. The table number in the table heading on page 9 and 10 were corrected.

Please feel free to contact us if you have any further doubts.

Warm regards - on behalf of all authors -

Katharina Garbe