**Additional file 2: Deviations from the review protocol**

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| **Method as described in protocol** | **Deviation from protocol, with justification** | **Type of deviation** |
| We planned to stratify reporting of results and meta-analysis by gender and baseline cognitive function of participants, i.e. cognitively unimpaired, subjective cognitive decline, mild cognitive impairment at baseline | We identified no trials assessing subjective cognitive decline at baseline. Therefore, we included only trials with either cognitively unimpaired or mildly cognitively impaired samples. Due to small numbers of identified trials investigating subjects with MCI, especially with male samples, we did not conduct stratified meta-analyses for cognitively healthy and MCI-samples. Instead, we considered baseline cognitive function as a potential effect modifier in meta-regression analyses. | omission |
| The number of potential outcomes assessing cognitive function was not specified further in the review protocol. | To increase comparability of findings of identified trials and to facilitate interpretation of results, we assessed selected cognitive outcomes in the meta-analysis, i.e. global cognitive function, memory, executive function and verbal fluency. | clarification |
| We planned to use the Reviewer Manager Software (RevMan) for data management in our review. | As Microsoft Excel and Stata 16 were highly familiar to all reviewers entrusted with data management, we decided to use Excel and Stata for all tasks including data management. | modification |
| The protocol did not specify rules for dealing with multiple tests assessing the same cognitive domain in included trials for the meta-analysis. | If included trials assessed the same cognitive domain using multiple tests, we included pre- and post-intervention values of the test with higher sensitivity or lower risk for ceiling- or floor-effects. For example, trials assessing global cognitive function with both the MoCA and the MMSE contributed only values of the MoCA to the meta-analyses, due to known ceiling effects of the MMSE in cognitively healthy populations. | clarification |
| The review protocol and PROSPERO-entry listed several data point which were initially planned to be extracted from included studies, i.e. information on drop-out, handling of missing data, imputation techniques applied, risk of bias and study limitations. | Information on handling of missing data and imputation techniques was only provided in a minority of studies. As questions regarding risk of bias, drop-out rates and study limitations were already described in the quality assessment of included studies, using the SIGN-checklist, a further description of this information was deemed not necessary. The data extraction form was modified accordingly after piloting. | omission |