Reviewer's report

Title: Impact of training and structured medication review on medication appropriateness and patient-related outcomes in nursing homes: results from the interventional study InTherAKT

Version: 0 Date: 02 Nov 2018

Reviewer: Carmel Hughes

Reviewer's report:

Thank-you for the opportunity to review this paper. I have a number of comments, which largely relate to the methodology. This reads more like a proof of principle paper. Do the authors consider this as a pilot? They are explicit that it is not a randomised study (single arm intervention), and therefore, the conclusions that can be drawn from this are somewhat limited. There is a another study which was conducted in the USA which focused on interprofessional communication between prescribers and pharmacists-see LAPANE KL, HUGHES CM, CHRISTIAN JB, DAIELLO LA, CAMERON KA, FEINBERG J. Evaluation of the Fleetwood model of long-term care pharmacy. Journal of the American Medical Directors Association 2011; 12: 255-363 and LAPANE KL, HUGHES CM, DAIELLO LA, CAMERON KA, FEINBERG J. Impact of information technology in the medication monitoring phase to prevent adverse drug events in nursing homes. Journal of the American Geriatrics Society 2011; 59: 1238-1245

I was not sure what was meant by isolation in respect of exclusion criteria for residents.

The estimated sample size of 300, but this was not achieved and was not commented on in the Discussion. And I think this also affects the data which are shown in Figure 4.

How did the authors decide on the content of intervention?

A diagram showing the different stages of the therapy check process would be very useful as I could not quite follow the various steps. It would also be helpful to know where pharmacists and GPs work in relation to nursing homes in Germany. Are they based in nursing homes or are they in clinics/offices/community pharmacies? I was also very unclear why study assistants would enter data as part of the therapy check process. How did the GP communicate with residents (see line 163)?

I could not really follow the description of the results section which described the intervention. I think this is why a diagram in the Method might help to explain how the system should have worked, and then perhaps another diagram showing what happened.
I found the Discussion was quite fragmented and did not flow very well. It would be helpful to have a native English speaker comment on this paper. As stated previously, there is nothing about under-recruitment. Do the authors plan to undertake a randomised study?

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

No

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

No

**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 recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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