**Author’s response to reviews**

**Title:** Family involvement in managing medications of older patients across transitions of care: a systematic review

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Family involvement in managing medications of older patients across transitions of care: a systematic review

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BMC Geriatrics

Reviewer reports:

Ralph Möhler (Reviewer 1): Thank you very much for the opportunity to review the interesting and relevant manuscript. Following you find my comments, which might help improving the manuscript.

Major revision

In the method section, PRISMA is mentioned as a "guide to conduct the review"; however, PRISMA is a guide for reporting rather than for conducting systematic reviews. Please refer to an established method guide for conducting systematic reviews.
The reference to PRISMA has now been removed. We used a best practice guide for conducting systematic reviews to help us in the process. The text has therefore changed (p. 4, par. 1):

A systemic review was undertaken of research studies using a best practice guide for conducting systematic reviews [8].

Study selection: please add some information why all authors independently checked all references for inclusion rather than two authors.

The following information was added as to why all authors independently checked all references for inclusion rather than two authors (p. 5, par. 1):

The authors comprised individuals with different perspectives and discipline expertise. It was therefore perceived there was value in each author independently checking the literature to minimise selection bias, and to improve the rigor of the study selection process.

Data synthesis

Please move the paragraph describing the data extraction of the results in the 'data extraction' section. Were only information from the results section used for synthesis and no information from the discussion?

The following text was moved to the data extraction paragraph (p. 5, par. 2):

To prepare the data for synthesis, qualitative data located within the results section of papers were extracted and incorporated into a spreadsheet.

The following text was included in the data synthesis section (p. 7, par. 1):

...
Only information from the results section of included studies was used for synthesis and no information was used from the discussion section.

Please describe in more detail the integration of the quantitative results in your themes and add an example.

The following information was added to provide more detail about the integration of quantitative results in the themes. An example was also given from a quantitative study (p. 6, par. 1 – p. 7, par. 1):

All quantitative data that were transferred to a spreadsheet were subsequently re-written and transformed into narrative forms to describe and explain the results. These rewritten narrative forms were read several times and examined to determine how they could be identified as categories. These categories were compared and contrasted with other categories to determine how they could be grouped into already developed themes and subthemes, or whether they could be grouped into new themes and subthemes. All authors scrutinised the content and structure of themes and subthemes, and the ways in which studies of different research designs were represented and mapped within these themes and subthemes.

By means of an example, the quantitative results of the Towle et al. paper [12] were integrated into themes in the following way. The results were rewritten in a descriptive way to explain the impact of an evidence-based quality improvement initiative to enhance patient and family preparedness in care transition. The following details were documented. After implementation of the quality improvement initiative, health professionals interacted with patients and families in goal-directed ways to convey information. Subsequently, family members’ understanding had improved of the patients’ medical condition, medications prescribed, treatment plan and follow up care. These results mapped onto the theme: Giving information and receiving feedback, and the subtheme: health professionals informing families. The results also mapped onto the theme: managing medication complexity across transitions of care and the subtheme: supporting family participation in interventions.

Results

The results section is interesting but partly it is not fully clear, which perspective was described. Please distinguish more clearly the perspective of the families, and the health care professionals,
i.e. what was the families' perspective on their role and the role of the health care professionals, and what was the health care professionals' perspective of their role, the role of other health care professionals and the role of the families. The different perspectives should be contrasted more clearly, including information about varying views of different health care professionals.

All data results from the included studies were carefully re-examined to determine: what was the families' perspective on their role and the role of the health professionals, what was the health professionals' perspective of their role, the role of other health professionals and the role of the families; and the contrasts of the different perspectives of health professionals, including information about varying views of different health professionals.

This information has now been clarified and highlighted using yellow highlighter for all four themes of the systematic results section (p. 8, par. 1 – p. 16, par. 2). In some cases, it was not possible to be more specific than what was designated in the results, because at times, the included studies did not provide the required level of precision about the various roles and views held by families and health professionals.

Minor revision

Eligibility criteria (gage 4, line 14): please add some more detail about studies investigating other topics but were included because medication management was part of the findings. How did the authors distinguish between publications eligible or not eligible for inclusion.

The following text has been added to clarify how we distinguished between papers eligible or not eligible for inclusion in relation to those investigating other topics (p. 5, par. 1):

There were a number of studies identified at the initial search that investigated family involvement at transitions of care. At the full text level, unless there was some mention in the results of families’ contribution in older patients’ medications, a particular study was excluded.

Please add a reference to the supplementary material, e.g. the search strategy for medline.
A reference has been added to the supplementary material for the search strategy relating to Medline.

Achim Mortsiefer (Reviewer 2): This is a review of literature on family involvement in medication management of geriatric patients across transitions of care which is a highly relevant issue in daily medical care. The topic, methods and results of the review are well described. However there are some limitations:

1. From my point of view this paper is rather a literature review or scoping review than a systematic review. A systematic review is an overview of research answering a focused clinical question. In this paper such a focused question as a starting point for the literature search was not provided. A literature review or scoping review provide a summary or overview on a topic. This paper collect different clinical aspects from methodologically different studies on the topic of family involvement in medication management. However, the applied methods in this paper are reasonable for a literature review or scoping review.

We disagree that this piece of work is a literature review or a scoping review, rather than a systematic review. Our systematic review has a clear focused question, which has been developed by using a specific mnemonic for qualitative systematic reviews (PICo). The research question that guided the systematic review is: how are families involved in managing older patients’ medications across transitions of care? The components according to PICo are population (families), phenomenon of interest (managing older patients’ medications) and context (transitions of care). The research question has now been included in the text (p. 3, par. 2) (ref: The Joanna Briggs Institute, 2014. Joanna Briggs Institute Reviewers’ Manual: 2014 edition, The Joanna Briggs Institute, Adelaide):

A specific mnemonic for systematic reviews, PICo, was used to develop the research question. The components for the research question according to PICo are population (families), phenomenon of interest (managing older patients’ medications) and context (transitions of care) [7]. The research question that guided the systematic review is: how are families involved in managing older patients’ medications across transitions of care?
We conscientiously followed the steps required for producing a systematic review (see Siddaway, A. P., Wood, A. M., Hedges, L. V., 2019. How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. Annual Review of Psychology 70, 747-770). In following these steps, our systematic review is methodical, comprehensive, transparent, and replicable. We used specific and rigorous methods to identify, select, and critically appraise relevant studies, and to collect and analyse data from studies that were included in the review. Inclusion and exclusion criteria are explicitly stated, therefore enabling unambiguous decisions to be made about whether a study should be included or not. The processes we used to synthesise the data are also comprehensive and clear. It is therefore very likely that other researchers using the same criteria will make the same judgements. Our systematic review also makes clear recommendations for policy, practice and future research.

The following text has been included to identify the guidelines we employed in developing our systematic review (p. 4, par. 1):

A systemic review was undertaken of research studies using a best practice guide for conducting systematic reviews [8].

We also wish to reiterate that it is appropriate for a systematic review to include methodologically different studies, and there are many examples in the literature of such systematic reviews. In addition, it is not essential for systematic reviews to have a meta-analysis. Current guidelines for conducting systematic reviews also refer to the inclusion of studies of diverse methodological approaches (refs: The Joanna Briggs Institute, 2014. Joanna Briggs Institute Reviewers’ Manual: 2014 edition, The Joanna Briggs Institute, Adelaide; Siddaway, A. P., Wood, A. M., Hedges, L. V., 2019. How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. Annual Review of Psychology 70, 747-770). The Joanna Briggs Reviewers’ Manual (2014) for conducting systematic reviews states: “Textual Narrative Synthesis is useful in drawing together different types of research evidence (e.g. qualitative, quantitative, economic)” (p. 20).

2. In the Discussion alternately some further results, conclusions of the included studies, and methodological aspects of the studies were referred. I would recommend to structure the discussion into three parts (1) Summary and synthesis of major conclusions of the included studies on the involvement of families in medication management. (2) Methodological comments
on the quality (strengths und limitations) of the included studies. (3) Need for further research on this topic.

The Discussion has now been arranged according to these major areas (p. 17, par. 3, - p. 21, par. 1): (1) Summary and synthesis of major conclusions of the included studies on the involvement of families in medication management. (2) Methodological comments on the quality (strengths und limitations) of the included studies. (3) Need for further research on this topic. We have not included subheadings of these major areas in the Discussion as the use of subheadings in the Discussion does not appear to be the required format of the journal.

3. Figure 1: Box „studies included in quantitative synthesis (meta analysis)" should be deleted, because no focused clinical question were formulated which would be required to perform a meta-analysis (see also my comment No.1 above)

In Figure 1, the box relating to quantitative synthesis (meta-analysis) has been removed. We wish to reiterate that just because a meta-analysis has not been performed, it does not necessarily follow that a focused clinical question has not been formulated. Our systematic review has a clinical formulated question that follows the PICo format. As already mentioned, there are many examples of systematic reviews in the literature that do not contain a meta-analysis. There are several reasons why a meta-analysis may not be conducted within the context of a systematic review. The ability to conduct a meta-analysis or not is not a defining criterion for a systematic review (Siddaway et al. 2019).