Reviewer’s report

Title: Withdrawal of antihypertensive therapy in people with dementia: feasibility study

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Reviewer: Jean Craig

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The topic of this research - a feasibility study to inform the design of a future RCT - nicely fits the scope of the Pilot and Feasibility Studies Journal. The research question is an important one. There is an increasing interest in the de-prescribing of medicines that may no longer be warranted, and this is particularly true of medicines used in older populations where adverse events attributed to medicine use can have substantial long term effects on patients, their carers' and NHS resources. The methodology for investigating the de-prescribing of medicines is thus also topical. A study that demonstrates that a future RCT to investigate antihypertensive drug withdrawal, if conducted in a specific way, will not be feasible, is likely to be of interest to investigators who are planning research in a similar population, setting or for a similar intervention.

Suggestions / recommendations are as follows:

1. The flow of participants through the study is a bit confusing and under-specified, and this confusion is exacerbated by the cohort study being described in various sections of the manuscript as comprising three different studies and a sub-study. Perhaps it would help to avoid labelling the HBPM and the interviews as separate studies and instead to refer to these data as being collected in sub-groups, and to reorganise the manuscript accordingly. The flowchart is a little unclear, for example I interpret the 3 boxes at the end of the flowchart to show that none of the patients in the interview study were included in the home blood pressure monitoring (HBPM) study or the withdrawal sub-study, and yet page 9 lines 216-218 imply otherwise.

2. Withdrawal sub-study - I think that it would be helpful to provide a brief summary of what drug withdrawal might entail so that the reader can assess for themselves how onerous this would be for the patients/ carers, and whether the processes are likely to have affected willingness to be recruited (does it just mean stop the drug?). Also, for the same reason, more detail is needed on the weekly follow-ups. Where were these undertaken? Did patients have to travel to the GP practices? Was duration of follow up also 6 months, as for the wider cohort group? What were patients told at time of recruitment about whether drugs would be restarted if problems identified.
3. Given the conclusion that 'low recruitment rates found in this feasibility imply that a large RCT using a similar method in the UK would not be feasible' (line 441), I think that further reflection is warranted on the study specific processes used to engage GP practices, so that the reader can better judge whether these processes may have contributed to the lack of recruitment, or whether the postulated reasons presented in the discussion are indeed likely to be key. More importantly, I was expecting to see some discussion about the possible impact of patients' clinical condition of dementia on recruitment (and whether any study limitations were identified by the team in relation to this), expressed within the context of relevant research literature.

4. Abstract - It is unclear why any follow up of the full cohort of n=30 was needed, given most of the participants were not eligible for the withdrawal programme. Further explanation is needed.

5. Line 72, objective 3 - acceptability of trial objectives. Suggest be more specific as to which trial procedures were under investigation.

6. Line 73, objective 4 - suitability of measures. The word 'suitable' seems rather vague. Suggest be more specific.

7. Line 76, objective 6 - economic grounds. This objective seems to be rather general / under specified.

8. Line 100 - it may help to spell out here which feasibility aspects were evaluated in the overall cohort. I felt that I needed such signposting to help me better understand the methods, given the different 'studies'.

9. Line 131 - assessment as to whether patients were under-treated for hypertension (assessed by the research nurse at baseline). Does this mean that the research nurse verified, from past records, that the patient was not undertreated? I think this is a little unclear.

10. Line 156 - assessment scales. It's unclear to people who are not in the clinical field why these assessment measures have been selected.

11. Line 165 refers to outcome assessment, but this falls under the heading baseline assessment. Linked to the above, while the abstract states that the cohort participants were followed up for 6 months, this information is not provided in the methods section. It is unclear which follow-up outcome measures were used in the cohort group and at what time points.

12. Line 178 - very minor point - states that the research nurse applied the eligibility criteria to determine whether the medication withdrawal procedure was suitable, but line 180 states that the senior geriatrician made the decision. Suggest slightly reword line 178.
13. Line 198 - HBPM. What was the rationale for asking patients in the in the HBPM group to undertake BP measurements twice per day on every day of the week, when the patients undergoing antihypertensive withdrawal only required BP measurements once a week at one time point?

14. Lines 221-230 economic modelling. 'Existing data including QoL (which measure / what time points?) and costs…'

15. Line 365 - table 2 baseline data, it's not apparent why these data are reported - needs better linking in.

16. Line 426 - suggest add a reference for the guidelines in question.

17. Line 439 states that an alternative approach to investigating the benefits and harms of antihypertensive drugs in people with dementia might be to examine large primary care datasets. Suggest add the objective for such a study '…to ascertain whether there is a relationship between ….'

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