Author's response to reviews

Title: Factors associated with recognition and prioritization for falling, and the effect on fall incidence in community dwelling older adults

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Author's response to reviews:

Dear Dr. Akai,

Many thanks for considering our paper for publication, and allowing us to submit a revised version of the manuscript. Below, we have addressed the reviewer's comments in a rebuttal. Attached find the revised manuscript as well.

Kind regards,

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Reviewer 1

Dear reviewer,

Many thanks for your kind comments and suggestions for revisions. Below, we have addressed your suggestions, indicating the changes that were made in the manuscript.

On behalf of all authors,

Sofie Jansen, MD
PhD candidate
This is a well written paper reporting on a component of a large randomised trial. The aim of the study is clear and is “to examine what proportion of older adults their falls risk and prioritize for fall-preventive care, and which factors are associated with this prioritization.” The analyses are appropriate and the conclusions are reasonable.

Major compulsory revisions

The authors should comment on additional interpretations of their results.

Firstly, older people who would be expected to be at higher risk of future falls (with a history of multiple falls, severe fear of falling, use of walking aid) tend to recognise this and prioritize fall prevention care. This is helpful information for priority setting with older people. However, only 10% of older people likely to be at increased risk of falls, prioritize this. This suggests, as in other issues related to older people (for example hip protectors), that most older people at risk of increased falls and falls related injuries do not recognise this and are therefore unlikely to readily participate in falls prevention programs. They are also unlikely to have optimal adherence to the program that is offered. The authors are correct that attention to adherence is a key factor in establishing effectiveness of falls prevention programs at a population level.

We agree with these interpretations, as is highlighted in paragraph 1 of the discussion (page 10) and further elaborated on in para 2 page 11 and the final paragraph, page 12. Furthermore, to emphasize the difference between recognition and prioritization, we have added the proportion of participants that recognized their fall risk to the results section (page 8, para 1).

Secondly, a potential further explanation of lack of difference in prioritization and falls risk in the second six months of the study is that some falls risk factors are likely to be of limited duration (for example reduced mobility after illness) and therefore may not be predictive in the longer term.

We agree with these suggestions, and have added these additional interpretations to our results (discussion, page 11, para 1).

Reviewer 2

Thank you for offering me the chance to review this paper. The authors have good intention to fill up the knowledge gap of “adherence to treatment” (which is the actual action) and “prioritization or recognition” (which is a kind of psychological intention or cognitive understanding. This is an important area in
Dear reviewer,

Many thanks for your kind comments and suggestions for revisions. Below, we have addressed your suggestions, indicating the changes that were made in the manuscript.

Major Compulsory Revisions

1. Definition of prioritization or recognition. Who makes the final decision in prioritization or recognition? In the Discussion section, it seemed to indicate that this is decision made by patients, but in the Method section, it referred to the joint decision made by general practitioners, nurses, and patients. Since this variable is the dependent variable in this study, its definition is crucial in interpreting the findings.

After the CGA, participants were asked whether they recognized the identified geriatric condition(s). Subsequently, they were asked whether they wanted any help with or treatment for them, and in case of multiple issues, with which set of problems they would prefer to start. This was categorized as recognition and prioritization. We have emphasize this in the methods on page 5, lines 101-104.

2. Did you measure adherence? The paper intends to argue patients’ adherence to treatment may make a difference in the outcome (prevent falls). But prioritization does not lead to adherence.

See answer to question nr. 3

3. Prioritization does not necessarily refer to high motivation. There are many factors affecting individuals' motivation to undergo a fall prevention intervention. The three constructs ‘prioritization’, ‘adherence’, and ‘motivation to intervention’ should not be mixed.

We did not measure adherence to the intervention. We agree that we should be careful in extrapolating prioritization to adherence, and we have altered several sections of the paper to clarify the differences between adherence and prioritization. Introduction, page 3, para 2,

4. Page 4 population: The inclusion criteria are a bit confusing. The lines “For inclusion in the present study, participants were eligible if they were at risk of functional decline and thus underwent comprehensive geriatric assessment (CGA), if falling was defined as a medical problem and/or if they had received an intervention aimed at falls-prevention” are unclear. Please further explain. Who define “falling as a medical problem”? Doctors? I am concerned that if the patients were told by doctors that they had fall problem, the patients were more likely to prioritize falling as the problem that should be treated or prevented. This led to sampling bias.
Falling was identified as a problem in the CGA if the participant had fallen one or more times in the past twelve months and/or if they expressed fear-of-falling. We have adjusted the order of sections in the methods to clarify this (page 5, lines 112-117).

5. Another concern was about the experience that the patients had in falls preventive intervention. If the patients had already received a preventive intervention for falling, would these patients be included in this study? How to define “had received”? For how long?

In the design of the trial, patients were not excluded if they had already undergone a preventive intervention for falls. However, at the time of the start of the study, preventive interventions were very rare in Dutch GP practices, rendering it unlikely that a substantial amount of patients had already undergone a preventive intervention for falls already. Also, GP practices that already employed nurses for care coordination for community-dwelling older persons were excluded from participation.

6. Page 4. CGA and Falling: the use of postponed informed consent procedure seems to be odd. All study subjects should sign written consent before the start of the study. Authors may need to clarify which part of the consent was postponed to let the subjects know. Was this strategy agreed by the ethical review board?

The Medical Ethics Committee of the Academic Medical Center, University of Amsterdam, approved the study with the strategy for giving informed consent. All participants provided signed informed consent prior to taking part in the study, but to prevent selection bias, a postponed informed consent procedure was used to blind all participants in both study arms. In the intervention condition, eligible participants were further informed about the procedure of the intervention, but they were not otherwise informed that this was the intervention under study. As explained in the study information, participants in both study groups received written information on the complete study objectives and outcomes after termination of the study. We have changed the text to further explain this (page 4).

7. Page 4. Analysis: In the lines “All covariates that were univariately associated with recognition and prioritization with a p-value of <0.25 were tested for an association after adjustment for potential confounders” and Table 1, p-value <0.25 was used as the criteria for identifying the factors associated with recognition and prioritization. Please justify the rationale for this p-value.

We agree that a p-value of <0.025 is rather large significance level. None of the covariates that were associated with the dependent variable with a p value larger than 0.100 were associated multivariably. We have therefore changed the significance level for factors associated with the dependent variable to <0.100. (table 1 and 2, methods page 7)
8. Page 5. Determination of intervention: It seems that the determination of intervention was made by three parties: GP’s decision, community nurse’s recommendation, and patient’s prioritization. Which party exercise dominant role in such decision making? This is a point of readers’ interest.

During the follow-up home visit in which the treatment plan was discussed with the participant and their caregivers, any potential discrepancies between the priorities of the patients, RNs and GPs was addressed to find a final consensus. As this consensus was reached during the home visit by the RN, we can conclude from that that the final decision was a joint decision, in which the participant had the major vote. We have changed the methods and discussion to clarify this topic on page 5 line 111-112.

9. Page 5. Paragraph 2 of Intervention: how many visits were made? Eight? Seven?

A maximum of eight visits was made; the error has been corrected (page 5, para 2).


We have changed this term to ‘variables that were associated with recognition and prioritization of fall risk’ to avoid confusion (page 6).

11. Page 6. Statistical analysis: We usually use p<0.05 or at most p<0.1 to identify the factors significantly associated with dependent variable (recognition and prioritization) in bivariate analysis. Justify if you use p-value <0.25.

We agree that there are different choices for selecting the threshold for the p-value. The most popular ones are 0.05, 0.1, and 0.2 [1]. The 0.25 threshold was recommended by [2] because the more strict traditional levels (such as 0.05) can fail in identifying variables known to be important. Incidentally, none of the covariates that were associated with prioritization with a p value larger than 0.1 were associated with the outcome in the multivariable analysis, hence our choice was after all not critical. In any case we now justify, according to your recommendation, our choice for the 0.25 threshold by incorporating the Bursac Z et al citation.


12. Page 8. Results: If p<0.05 is used, some factors like “less educated, more
often divorced and reported better quality of life through EQ5D, stroke/TIA, use of a walking aid" should not be considered as the factors significantly different in the two groups.

We agree with this and have removed this sentence (page 8)

13. Page 8. Result: It is unclear which variables were considered as potential confounders. In the multivariate regression analysis (Table 2), different variables were adjusted (for example, anxiety or panic was adjusted in the regression when use of walking stick was identified). Anxiety was not significantly different in Table 1. The strategy of adjusting an insignificant variable (like anxiety) needs further explanation. Same to the strategy of adjusting EQ5D: needs explanation and rationale.

We aimed to examine which variables were associated with the dependent variable while adjusting for potential confounders. As potential confounders can be different for different exposures, it is necessary to determine which covariates act as confounders per exposure. We performed this by following the methods described in the manuscript, where covariates are considered confounders when they change the odds ratio by at least ten per cent or more. We have clarified this strategy in the methods section, page 7.

14. Page 11. Discussion. The argument about connecting visiting the ED with priority of falling does not sound. Priority of falling is a cognitive decision while visiting the ED is an actual action which may or may not be related to prioritization.

We agree that this comparison is not right, and have therefore removed this sentence from the manuscript.

15. Page 11. Discussion. The sample size of the two groups (Table 3 and 4) was so small that it could hardly draw any meaningful conclusion. The speculation of the prioritized group which are more adherent to the intervention and result in better effect of the intervention on fall incidence in second half year is not substantiated.

We agree with this, and we have altered this section in the discussion section to reduce this speculation. Page 11, para 2.

16. This study could hardly draw any conclusion on patients’ adherence to treatment and its possible effect on fall prevention due to the small sample size and its study design (which has not included ‘adherence’ as one of the measures). Consider to avoid the term ‘adherence’, use ‘prioritization’ instead
We did not measure adherence to the intervention. We agree that we should be careful in extrapolating prioritization to adherence, and we have altered several sections of the paper to clarify the differences between adherence and prioritization. Including the introduction, page 3, para 2,

Additional editorial comments

"This is a well written paper with appropriate analyses. As the number of participants is limited, however, it is hard to draw any conclusion on patients’ adherence to treatment and its possible effect on fall prevention due to the small sample size and its study design (which has not included ‘adherence’ as one of the measures).

Consider to avoid the term ‘adherence’, use ‘prioritization?’ instead."

Indeed, we did not measure adherence to the intervention. We agree that we should be careful in extrapolating prioritization to adherence, and we have altered several sections of the paper to clarify the differences between adherence and prioritization, including the introduction, page 3, para 2,