Author's response to reviews

Title: A Frailty Instrument for primary care: findings from the Survey of Health, Ageing and Retirement in Europe (SHARE)

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Version: 2 Date: 27 July 2010

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A Frailty Instrument for primary care: findings from the Survey of Health, Ageing and Retirement in Europe (SHARE)

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Date: 27/07/2010

Responses to reviewer: Stephane Rochat

B) Minor Essential Revisions

B.1) Abstract, Results, Females, second sentence: « All indicators discriminated well ». I presume that these indicators are the «biopsychosocial range of Wave1 variables » that are mentioned in the Abstract’s Methods. This could be made clearer.

Reply: thank you for pointing this out. In fact, the ‘indicators’ refer to the five SHARE variables approximating Fried’s frailty definition (i.e. first five result rows in Table 1). We now clarify this by saying ‘all five frailty indicators discriminated well’. This has also been clarified in the sentence referring to males. The results section has also been modified accordingly.

B.2) Abstract, Conclusions: The authors could improve the conclusion by clearly indicating what the SHARE Frailty Instrument has « sufficient validity » for. It is also unclear what the authors mean by « high accessibility » ?
Reply: the abstract conclusion now states that ‘the SHARE Frailty Instrument has sufficient construct and predictive validity’. The construct validity arises from the demonstration of the DFactor underlying the five frailty variables, and the predictive validity arises from the longitudinal mortality prediction. The ‘high accessibility’ statement was intended to reflect that the web calculator provided will make it very easy for anyone to obtain the frailty class for a given individual, and also that it will be freely available. We have changed ‘high accessibility’ to ‘is readily and freely accessible via web calculator’.

B.3) Background, second paragraph: The beginning of the first sentence is a little bit too affirmative, in my opinion. From a clinical point of view, frailty is not always « a distinct entity easily recognized by clinicians… », particularly if we include pre-frail states. The authors should consider suppressing this part of the sentence or precise it.

Reply: clinically, we agree with the reviewer. In fact, this sentence was taken (and referenced as [7]) from the abstract of the study by Lang PO, Michel JP, and Zekry D: Frailty Syndrome: A Transitional State in a Dynamic Process, Gerontology 2009. We have removed the words ‘distinct’ and ‘easily’, and we still keep the reference.

B.4) Background, third paragraph, second sentence: The authors should decide how to cite the authors of previous studies, either with the family name only or with both first and family names. This should be consistent in all the manuscript (see in particular Background, paragraph 8, first sentence; Discussion, first paragraph, third sentence).

Reply: we have adopted a ‘family name-only’ approach and made changes accordingly.
B.5) Methods, Subjects, first paragraph: The authors should give more details on the inclusion process, in particular the overall response rate and the inclusion criteria. Information about criteria for age would be important, as the participants in this cohort seem younger than in most studies about frailty (in particular Fried’s study, which included participants 65 years and older).

Reply: we have added a new paragraph with the information requested, which is available from the SHARE methodology book (http://www.share-project.org/t3/share/fileadmin/pdf_documentation/Methodology/Methodology_2005.pdf), and the SHARE website (http://www.share-project.org/t3/share/index.php?id=97). The appropriate references have been added so that the reader can have access to the full methodological information on SHARE.

B.6) Methods, Subjects, second paragraph: Could the authors comment on the representativity of the subsample used for prospective mortality data (>25% of baseline participants without data on mortality)? Are there any differences in frailty or other covariates in this subsample?

Reply: indeed, only 66% of baseline participants had data on mortality. Since SHARE could not ascertain the causes of non-response for all respondents, technically, the representativity of the subsample used for prospective mortality data cannot be assumed. We therefore followed the suggestion to compare the two subsamples (mortality-available vs. mortality unavailable) for each gender, and created two new tables (Tables 2 and 3). In addition, we conducted a sensitivity analysis with imputed missing mortality information, which suggested
that our initial age-adjusted mortality odds ratios were possibly underestimated. We have updated all relevant sections, including the discussion. We believe that this new addition will provide substantial reassurance to readers, although we encourage further prospective validation of SHARE-FI in the discussion.

B.7) Methods, Measures for cross-sectional correlations, Number of chronic diseases: It would be interesting to have a list of the comorbidities included and to have some details on the way they were evaluated (self reported diseases diagnosed by a doctor?).

Reply: indeed, they were evaluated by self-report of medically diagnosed conditions. We have added the list as requested.

B.8) Discussion, first paragraph, second sentence: The authors write that a “biopsychosocial approach to frailty was adopted”. Could the authors clarify what they mean by this sentence?
In my understanding, they have evaluated the association of frailty with psychosocial variables, but they have not added a psychosocial dimension in their definition of frailty. See also the Background, second paragraph, third sentence, where they state that a “good definition should not only capture the biological, but also the psychosocial correlates of frailty”.

Reply: we agree with the interpretation of the reviewer. The definition of frailty used (i.e. adaptation of Fried’s criteria) does not include a new psychosocial dimension. We have rephrased to: “a gendered approach to frailty was adopted and psychosocial correlates of frailty were explored”. We did not come up with a new frailty definition.
B.9) Discussion: A discussion about the difference of age in this cohort and in previous studies, such as Fried’s study, would be interesting, in particular to evaluate when it would be appropriate to use the frailty calculators (> 50 years, > 65 years?). Comments about this could be included in the 4th paragraph of the discussion, which appropriately address some limitations of the study.

Reply: we have added a new paragraph, as suggested, where we argue that SHARE-FI should be used from the age of 50 onwards, in line with the population SHARE represents. We emphasize that the validity of SHARE-FI was retained after age-adjustment (Table 1).

C) Discretionary Revisions

C.1) Abstract, Methods, Measures: The reference (Santos-Eggimann) is not needed in the abstract.

Reply: the bracket has been removed.

C.2) Background, first sentence: Adding some references showing the associations of frailty with falls, disability etc… would be useful for the reader.

Reply: four relevant references have been added.

C.3) Methods, Frailty definition and Measures for cross-sectional correlations and Mortality measures: Is it really useful to give the SHARE questions and variables codes in the main
text? It is a little bit distracting and annoying for the reader. If the authors want to keep them, it would be better to have them all in an appendix.

Reply: we are of the opinion that the questions are useful in the main text. However, we agree that the variable codes may be distracting. Since the SHARE methodology book contains an appendix with all the questions and their codes, we have opted for referring to the book at the beginning of the measures section and removing all the variable codes from the main text.

C.4) Methods, Psychological and cognitive domains, EURO-D depression scale:
A reference for this scale would be useful.

Reply: It has been provided.

C.5) At the beginning of a sentence, it would be better to write numbers in letters (see Methods, Subjects, first sentence; Methods, Prospective validation of the DFactor, 5th sentence; Results, Estimation of the DFactor model, female, second sentence, same for the male results below).

Reply: this suggestion has been adopted in all instances with the exception of the 17,304 number at the beginning of the Methods section; we feel it would be distracting for the reader to change it to letters.