Reviewer’s report

Title: Predictors of two forms of attrition in a longitudinal health study involving ageing participants: An analysis based on the Whitehall II study.

Version: 2 Date: 9 August 2012

Reviewer: Birgit Fullerton

Reviewer’s report:

The study investigates predictors of attrition in an ageing population (the Whitehall II cohort). Attrition can constitute a serious problem for the validity of longitudinal studies, so analyzing which characteristics of study participants are associated with attrition is of high importance for the planning of future studies. The authors separately look at two forms of attrition, non-response and active request to withdraw, which is an interesting issue that, I think, has not yet been addressed much in the literature. The main weakness of the work is in my opinion the description of the methods: the authors could improve the manuscript a lot by changing the structure of the article (especially by moving the methods section to before the results) and by providing the information necessary to understand why which methods were applied in more detail and a more coherent manner (also see more specific comments below).

• Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
  1. I believe it would be good style to also cite the original pieces of work the authors refer to when talking about their review on attrition (Introduction, paragraph 2)
  2. Figure 1 would better fit in the discussion section.

• Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
  1. Page 6, second paragraph, line 5: “We also found others studies” should be changed to “We also found other studies that”.
  2. Page 6, beginning of paragraph 3: the reader does not necessarily know what constitutes the first or second part of the authors’ research, so for me it would be enough, and maybe less confusing, to just be told that the work uses data collected by the Whitehall II study.
  3. I would recommend moving the methods section to follow the introduction. It would make reading the results section easier.
  4. Page 8, paragraph 2, line 2: “which has standard deviation” should be changed to “which has a standard deviation”
  5. Page 17, first sentence: is redundant, was already in the second sentence in section “Predictor variables”.


6. Methods section: a large part of the methods appear under the section “Ethical approval”, while only the first sentence refers to this headline. An additional headline should be added.

7. Conclusion/first sentence:
   - “becomes” should be “become”
   - “and the validity of the study affected” should be changed to “and affect the validity of the study”
   - “if those who drop out differ to” should be changed to “if those who drop out differ from”

• Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. Even though the research question is quite clear from the title alone, I think it should also be explicitly stated in the introduction.

2. Has anyone else ever addressed the difference between non-response and active withdrawal? If yes, they should be cited. If the authors could not find any work addressing this difference, this should also be stated.

3. Methods section, page 16 (top paragraph): The authors state that imputation of withdrawal dates would be inappropriate, but then report that they assumed them to lie around phase 4. What are the reasons for this assumption? Isn’t that kind of imputation for sure inappropriate?

4. Page 19/Statistical analysis: “The explanatory variables were added in the order given above”: Not sure what “above” does refer to - page 16? But there SF36 is not listed? The authors should state more clearly which explanatory variables were included in what way in which model (please aldo describe in more detail the levels of the multi-level model)

5. Page 20, last paragraph: the specification of the Cox model should be described in more detail: I assume the same covariates were included as in the other model? Please specify which of these covariates were time-varying and from which points in time data was included in the model for each covariate.

6. I would have appreciated more explanation for why these two different models were used to model non-response and active withdrawal.

7. What do the authors mean with completeness of data (beginning of paragraph 1 in results)? Complete case analysis apart from the minor imputation mentioned in the methods section? A flow diagram would help the reader understand better what data exactly made it into the analysis.

8. Results: It would be more informative if the results for the not significant predictors & interactions were also shown.

Level of interest: An article of importance in its field

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.