Reviewer’s report

Title: Personality and time delay to treatment of acute myocardial infarction.

Version: 2 Date: 22 December 2010

Reviewer: Kim Smolderen

Reviewer’s report:

The authors have submitted a revision regarding their work entitled “Personality and time delay to treatment of acute myocardial infarction”. In their revised work, they added a couple of clarifications and updated literature, but the nature of the study has not changed. The major concerns that I raised in my previous review of the paper, still weigh in a lot for me:

1. Including the 2 complete separate foci of the study so that you end up with a more scattered approach and it is really hard to convey a true clinically relevant message in your study.

2. Although some of the authors’ statistical work was clarified, I still find it hard to understand what the authors actually did. It almost looks like they took each dichotomous psychosocial variable as dependent variable in separate logistic regression models and entered quartiles of delay times as well as age and sex as independent variables. Additionally, they used a similar approach for the psychosocial continuous variables using GLM. This is really not the way the data should be analyzed. First, of all, creating multiple models like that (i.e. multiple comparisons), increases risk of Type I error, and that is why we avoid this approach of multiple comparisons in statistics all together. Delay time studies typically apply advanced modeling to their data, in order to allow for an adequate interpretation where delay times are always the dependent variable and psychosocial or other patient factors the independent variables and these are entered all at once in the model. What prior studies did was either dichotomizing their delay times (e.g. >6 hours vs. < 6 hours) and do logistic regression modeling or use advanced models such as cumulative logit modeling.

3. Again, using the quartiles of delay times is problematic and clinically interpretable intervals should be used to analyze the data. The categories =<2 hours, between 2-6 hours, >6 hours are generally adopted in this tradition of research, in current guidelines, in perfusion studies, ....and in that way, findings can be directly translated to each other and can be compared.

4. Still, exclusion of those aged 71 years or older is problematic. The argument that was used by the authors that their cohort would be a more ‘pure’ group and that older patients have more comorbidities and silent infarcts anyways, is not valid. In your research, you want to approach reality as much as you can in order to be able to generalize your findings. People that are 71 years or older also experience MI’s and are an important part of that disease population. Also, it is known that older age is associated with an increased risk of delaying their response to go to the hospital for an acute MI. You can imagine that differences
in presentation, symptoms and psychosocial factors may explain part of this association with delay. I would strongly suggest addressing this in your discussion/limitations.

5. The Stroop test does not seemed to be used in the delay work. Yet, its use it is brought as one of the selling points of this study?

6. It is confusing to have different numbers of sample sizes throughout your study, depending on the assessment that was being done. Try to come up with one sample size, including patients that had data on all variables of interest.

7. There are a lot of typos in the revision: e.g., alder, tex, god, strop, references, bee…

8. Given the multiple concerns I have, I would suggest the authors to re-think the focus of the paper, as well as their analytic work. I think the paper could really benefit from that. I hope my comments may be helpful to the authors.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.