Author's response to reviews

Title: Translation and validation study of the Persian version of the Arthritis Impact Measurement Scales 2 (AIMS2) in patients with Osteoarthritis of the Knee

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Version: 5 Date: 26 July 2009

Author's response to reviews: see over
Dears in the HQLO Editorial Team,

Thank you very much for your e-mail. We also thank the reviewer for evaluating the paper for the second time. Please find the following point-by-point responses as requested:

**Reviewer's report:**
The authors paid attention to reviewer comments and the revised manuscript is significantly improved. Although the new approach to data analysis represents significant improvement, it is not clear why the authors used logistic regression analysis using dichotomized PCS and MCS as dependent variables. It needs to be explained what these new categorical variables (obtained by dividing the scores based on the mean scores of the sample) theoretically and clinically represent.

*This was clarified in the Methods:*
As a rough guide the mean score for any given population seems to be the best cut-off point to determine whether a group or individual scores above or below the average [23].

Dichotomizing continuous scores also seem to have reduced variance in the analyses. Use of multiple regression analysis using PCS and MCS scores as continuous variables (as per my original suggestion in the first round of comments) would perhaps produced more interpretable results. The reviewer asked for regression analysis as PCS and MCS as dependent variables and age, education, marital status, employment status, frequency of chemical exposures, time since last exposure, other injuries, and history of hospitalization etc. as independent variables. Thus we thought with so many categorical data as independent factors the best approach is performing logistic regression analysis. Also we performed linear regression analysis while creating dummy variables. Since the results, nevertheless were similar we thought to keep the current table (Table 3). Hope this could justify why we performed logistic regression analysis.

The association between education and MSC, rather than reflecting an artefact of the scale, might reflect an association between low education and poor mental health as well as low education and high risk for traumatization (see relevant findings in trauma literature). These issues could be explored in the relevant section in the discussion. Honestly although we do not have expertise on the topic, to comply with recommendation we have tried to explain the issues further:

The association between low education and poor mental health might be due to the fact that the SF-36 is highly dependent on education. In addition the association might be a reflection of association between low education and high risk for traumatization. For instance, it is argued that the risk for developing post-traumatic stress disorder (PSTD) depends on several factors including pre-military educational attainment [27]. However, the significant contribution of time since exposure indicates that as time passes the risk for poorer mental health related quality of life is increasing (OR = 1.58). This suggests that healthcare system should be more concerned about older victims and provide necessary supportive interventions for this group of
patients. It has been shown that age play important role in increased PSTD [28].

Please move description of survey data on general Iranian population from the section on ‘Statistical Analyses’ (page 7) to the section on ‘Design and Data collection’ (page 5) – place it as the second paragraph of the latter section.

Done

Hope you find the corrections satisfactory.
Kind regards
Ali Montazeri