Author's response to reviews

Title: Factor analysis of self-treatment in diabetes mellitus: a cross sectional study

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Author's response to reviews: see over
Dear Mr Silvestre

Thank you for your messages and recommendations. The following changes were made to the article “MS: 5869416548149202 - Factor analysis of self-treatment in diabetes mellitus: a cross sectional study”

1- The questionnaire has been validated in a pilot study before the main study. The reliability and the feasibility of the questionnaire were studied in the pilot study. Due to limited sample size in the pilot study, the researchers were not able to perform a factor analysis and to categorize the questionnaire, so in the main study the factor analysis performed. Some detail about pilot study was added in the method section.

2- Following the recommendations of the reviewers, the author goes back to the data and analyzed it once more. The reviewer was quite right when mentioned that:

**Information provided on the use of parametric tests to compare scores among different groups.** The score is a result of the sum of each question based on an ordinal scale (from 1 to 4 points) across the survey. The mean self-treatment score of the participants was reported as 45.8 ± 8.8, but no information is provided regarding distribution of scores or theoretical different categories of self-treatment behavior based on the scores. The reported associations between self-treatment behavior and education or the presence of hypertension or hyperlipidemia are based on a difference of 2.5 points. Readers should be aware of the scoring system and what magnitude of a difference is considered clinically relevant (and why), not just statistically significant. I was unable to find an explanation about the meaning of score differences.

The data showed that the distribution of the self-treatment score was not normal, so the parametric tests were not appropriate and could raise the questions. Once more, the data was analyzed by non-parametric tests. The difference between mean ranks can explain why the education and hyperlipidemia have been related to self-treatment. The new tests were added in the method section, and the table-1 was revised according to the analysis.

3- The limitations of the study, including the convenience sampling, have been quoted in the discussion. The random sampling of the diabetic patients in the community in Kashan city is not technically possible.

4- The article edited professionally.

5- The changes have been underlined.

6- The phrase "Among the total of 420 patients, the 398 subjects accepted to take part in the study" was included in results.

Sincerely Yours
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