Reviewer's report

Title: Association between quality of care and empathy and burnout in primary care

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Reviewer: Atsushi Asai

Reviewer's report:

Comments to the Author

The paper touches on an important and interesting theme concerning association between quality of care and empathy and burnout in primary care. The question posed by the authors is new and well defined. The methods are appropriate and well described. The title and abstract accurately convey what has been found. However, I have some major concerns that can and should be addressed prior to publication.

First of all, although I am not an expert of statistics, I am afraid that multiple logistic regression analysis is necessary to draw any conclusions or suggestions from this survey. I am also not sure if it is appropriate to classify scores into three categories. It is also the case for multiple use of Chi-square. In addition, it is uncertain whether or not selected independent variables (age, sex, profession, and place of work) are adequate for statistical analysis.

Second, the research design used was a cross-sectional survey and I wonder if it is possible to discuss specific cause-effect relationship among 3 factors. More and different interpretations might be possible regarding the association in question.

Third, empathy is one of very important topics in both medical ethics and medical education. I think that the authors should extensively discuss 1) intrinsic value of empathy from the ethical point of view regardless of association with QSI or burnout, 2) its instrumental value, and 3) real possibility to make people more empathic through education. Although JSPE has been suggested to be used as a common tool to evaluate individual empathy level, more detailed description about the measure should be added so that the audience who have no knowledge about the scale can understand the significance of this research more deeply.

Fourth, the authors wrote, "Practitioners with low empathy had higher QSI scores than those with high empathy (672.8 vs. 654.4) while those with high burnout had lower scores than those
with low burnout (702 vs. 671)”. This means that practitioners with high burnout had lower QSI scores than those with low burnout and I am not sure how to interpret this result because the main result suggested that higher QSI scores tended to be observed for practitioners with high burnout.

In text 27-34, the authors tried to interpret the association between level of activity and empathy and mentioned that more empathic practitioners spend more time talking to their patients than entering information and codes into the system. I am not sure if the authors really draw this conclusion from their results.

Finally, it would be desirable for the authors to describe characteristics of patient-health care worker relationship in Spain from medical ethics standpoints. Different cultures could have different relationship among stakeholders in the clinical setting and practitioner's empathy could influence their relationship in different ways.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Unable to assess

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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