Reviewer’s report

Title: Measuring the ambiguity tolerance of medical students: a cross-sectional study from the first to the sixth academic year

Version: 2 Date: 30 August 2013

Reviewer: Gerry Gormley

Reviewer’s report:

Dear Editor,

Thank you for asking me to review this interesting paper. Overall I feel that this paper is worthy of publication in the BMC Family Practice. However a number of areas in this manuscript would need to be addressed

In general:

Importance of this paper to the BMC Family Practice readership: This paper is of relative importance to the journals readership. Recognising, and dealing with, ambiguity is an important attribute for many clinicians. Given the complexity and diversity of cases that present in general practice, this can be argued as a critical skill for family doctors. Though this study is restricted to one medical school, it contributes to the evidence base around this important topic.

Originality factor: The subject area of research is not new, however it is relatively unique in terms of it method (i.e. cross sectional sampling of different years groups of medical students).

Rigour of the study: Though I have some concerns about the methods used in this study - by and large I believe that findings of this study are valid. Issues regarding the methods in this study are outlined below.

Relevance (‘So what’) factor of this study: There is increasing interest in medical education research regarding ‘non-technical skill’ development of medical students and doctors. This study provides some insight to the tolerance of ambiguity among medical students. For me, I would have liked the authors to have been more explicit in how their findings could be used to help move forward our thinking about this important area, and postulate how this might change practice (for example: used as a selection tool for medical school? Identify those medical students that are less tolerant of ambiguity and develop this skill during their training? Can such a skill be taught? There was a tendency to be more reportage of their findings rather than providing potential implications for practice)

Other points of note:

1) In the introduction section “Thus, assessing and evaluating the tolerance of ambiguity among medical students is important and although many studies have compared students’ ambiguity level across several cohorts, none have compared
this trait across all academic years” needs to be referenced.

2) The authors need to provide a clearer research question / aim

3) Methods section: Readers would benefit by being provided with more information about the setting of the study (Graduate entry medical school? When was the study carried out? What type of curriculum does the school follow?)

4) The authors indicated that they approached 622 medical students – is this the total medical student population or a sub-set?

5) Readers should be provided with a justification (including a statistical basis) why 30 GPs were approached to take part in this study.

6) How where the GPs recruited for this study? Information should be provided on this – so that readers can decide if there was any potential recruitment bias.

7) The Inventory for measuring ambiguity tolerance (IMA) was used in this study. The authors mention that they ‘shortened’ this instrument. It would be important to know why the authors did this and also did this have any impact on the validity of the results?

8) I would like to read more information of how the medical students were recruited for the study? - especially in light of the exceptionally high response rate that was achieved in this study (i.e. 90.1%)

9) Results section: Ideally it would be of use to compare characteristics of respondents in this study to the total student population.

10) The authors should detail the response rate per year group.

11) The authors report a small percentage of female GPs respondents. How does this compare to the demographics of GPs in Germany?

12) The authors mention about gender differences in their responses to the IMA. The paper would benefit if the authors could try to explain why these findings may have occurred.

13) In the limitations section of the paper, the authors mention that this was not a ‘cross sectional’ study but ‘cross sectional’ is mentioned in the title of the study.

14) I was intrigued to read the authors reasoning regarding the difference of dealing with ambiguity over the decades. This provided, for me, an interesting insight to potential generational differences in tolerating ambiguity.

15) For me, one of the most important areas of change in this paper, is the need for the authors to provide a clearer reasoning why they think there was no difference between the levels of dealing with ambiguity between medical students and the GPs in this study.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

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