Reviewer’s report

Title: Internal Health Locus of Control in users of Complementary and Alternative Medicine: a cross-sectional survey

Version: 1 Date: 27 May 2014

Reviewer: Masa Sasagawa

Reviewer’s report:

- Major Compulsory Revisions

1. The abstract is the most read part of an article. This abstract requires major revisions for three improvements: a) the authors are confused about analyses between cross-sectional and causative; therefore the conclusion, “It remains unclear whether differences in IHLOC are reason for or consequence of CAM use” is senseless from the title of a cross sectional survey, b) the lack of acknowledgement of the geopolitical climate of CAM use in Germany relative to other countries with cultural or complex multi-payer healthcare systems, and c) the statistical analysis was to compare means, which is neither correlational analysis nor analysis of association. In the background section (from the abstract), “We evaluated such associations using different indicators for CAM use” is incorrect. The correct description of the analysis is to test a hypothesis which distinguishes the three patterns of CAM use by the level of IHIOC. Statistical associations have to be analyzed by chi-square or correlation. By comparing the means, the authors made the assumption that populations of a different appraisal level of CAM and CAM use were distinguishable by IHIOC as the normally distributed indicator. In the result section (from the abstract), “1054 undergraduate students” hardly represents a general population sample. This information is repeated in the body of the text, Results section paragraph 1. The mean age 32.74 ± 9.32 seems older for the undergraduate sample of typical universities. The reviewer wonders if there are further explanations necessary because the undergraduate samples are usually between 18 – 30 years old. In the conclusion (of the abstract), the two sentences are not appropriate and should be moved to the discussion section. Authors should state the statistical numbers in the result section, and state the interpretation of the statistical results in the conclusion section. The discussion topics will be given secondary importance in the abstract. However, the limitations of a study (geopolitical CAM acceptance and “undergraduate sample”) will be an important disclaimer in the abstract.

2. Statistical analysis is a weakness of this article. Table 1 (cross tab table) should match rows and columns. If data are missing, an additional column should be used so the rows will add up correctly as a cross tabulation table. Chronic condition (357) plus no chronic condition (651) equals 1008, not 1020. The same problem is found in the Table 3; the rows do not add up correctly. In Figure 1, no legend is found about the difference between “Others 1”, “Other 2”, and “Others 3”. Can all “others” be converged into one? The ANOVA does not indicate what
post-hoc analysis was used to determine the statistical significance. Authors did not indicate whether or not the assumption of the normal distribution was met in the second paragraph of Results. In the first sentence of the discussion section, “We aimed to evaluate association of IHLOC and CAM…” is incorrect. The aim was to test a hypothesis to distinguish two or more populations from the mean scores of IHLOC.

- Minor Essential Revisions

1. As stated in the major revision requirement, although the sample size was large, it was a homogeneous undergraduate sample, which weakened the generalizability. This limitation needs to be expressed in the discussion section.
2. The mean age of the sample needs to be explained. If necessary, an additional demographic table is recommended to indicate age, school grade, gender, employment status, insurance statutes, income level, etc.

- Discretionary Revisions

1. CAM-use measurement is not only the methodological issue but also due to geopolitical climate around CAM within conventional medicine. It is helpful for readers in the other countries to understand the article which describes the result of CAM use in Germany.
2. The Cohen’s effect size discussion in the second paragraph of the Results requires satisfying the assumption of normal distributions and post-hoc power analyses. The results of these analyses were not discussed.

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing or conflict of interest to this article or authors.