Reviewer’s report

Title: Scoliosis: Density-equalizing Mapping and Scientometric Analysis

Version: 1 Date: 8 June 2009

Reviewer: Ron El-Hawary

Reviewer’s report:

The authors’ main question, “to evaluate the distribution of publication numbers in a specific period of time, in a country specific manner, in terms of international cooperation, citation rates, publishing journals, authors, subject areas and institutions”, is new, well defined and important.

The methods are appropriate and well defined. Minor discrepancies may be observed by the casual reader of a scientometric analysis study (Web of Science Database results vs. PubMed). The data appears sound, but further explanation of the above may be helpful. This will help ensure that the manuscript adheres to the standards for reporting and data deposition.

The discussion and conclusions are well balanced and are supported by the data that is presented. The title and abstract do accurately convey what has been found.

Overall the writing is adequate, but there are several grammar and spelling errors that should be addressed.

A) Major Compulsory Revisions - The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

A1 - Results, p8 (Fig 8a, Fig 8b) – There is excellent information in this section and in the figures; however, the interpretation of the most productive institutions is misleading. Because some institutions are universities and some are hospitals there may be some overlap. For instance, Ste. Justine Hospital is affiliated with University of Montreal and has some overlap with researchers at Ecole Polytechnique; Texas Scottish Rite Hospital is affiliated with University of Texas (SouthWestern). One more source of potential error is the multiple outputs for the hospitals in the Shriners system (“Shriners Hosp Children” and “Shriners Hosp Crippled Children”). As well, please be more specific with “Children’s Hosp” as the reader will want to know which children’s hospital this refers to.

A2 - Figure Legends, p14 - The Figure Legends for Figure 7 and Figure 8 appear to be reversed.

A3 - Figure 6b, p21 – Interesting results. Doing a PubMed queary of the first author listed in the figure “Lenke LG” with the term “scoliosis” and the limit end date of Dec 31, 2007 yields 140 results. Why is this different than what’s reported
in the Web of Science Data Base (<60 items)?

B) Minor Essential Revisions - The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

B1 - Abstract - Suggest changing text to: “Publications related to scoliosis have increased enormously. A differentiation between major and minor publications has become, even for experts, difficult”

B2 - Background, p3, line 3 – Suggest “…risen exorbitantly, especially since 1990.”

B3 - Background, p3, line 8 – sp “available”

B4 - Background, p3, line 8 – Suggest “The aims of this study are:”

B5 - Background, p3 – “These factors and publication numbers are often used as criteria to appraise a journals-, authors- or institutions rank, although they do not exclude distortion factors like self citation and co-authorship” should not be listed under the “aims”, but explained in the background prior to the “aims”/”purpose”.

B6 - Methods, p4 – Clarify if these are just English language articles.

B7 - Methods, p4 – Suggest giving an example of an H-Index calculation.

B8 - Methods, p5, line 6 – Sp “Excel”

B9 - Results, p7, last line – Suggest deleting “Despite its larger number of published items”

B10 - Discussion, p9 – Suggest deleting “of” from the sentence “…some of “less developed” countries had detectable results, e.g. Turkey and South Korea.”

B11 - Discussion, p10 – “In terms of the average citations of items in each country, it has to be admitted that the average citation rate of countries with a relatively small number of items appears disproportionately high.” Please provide an example in the text.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.