Reviewer's report

**Title:** Spine Day 2012: Spinal pain in Swiss school children- epidemiology and risk factors

**Version:** 1  **Date:** 13 June 2013

**Reviewer:** Marcel Betsch

**Reviewer's report:**

This is an interesting study that uses a questionnaire and physical examination to determine the prevalence rate and risk factors for back pain in adolescents. The data was acquired during a national spine day, where chiropractors invited children and their parents to a free back exam and screening. The authors confirmed findings in the current literature that gender and age do have an influence on the prevalence rate of back pain in adolescents. In addition smoking of a parent and trunk asymmetry were identified as risk factors for back pain in this study.

1. The aims of this study are clearly stated as well as answered and discussed by the results of this study.

2. Some of the methods here used should be explained in more detail, which could help the reader to better understand the findings of this study.

**Major Compulsory Revisions:**

a) Please explain in more detail how the chiropractors gave an overall rating of the children's spinal health. Did they use a scoring system?

How were the described physical examinations summarized to the spinal health?

b) What is the origin of the questionnaire used in this study? Is this a commonly used questionnaire in Switzerland? Has this questionnaire been used before? Was this questionnaire validated before use? Why did you not use an already validated and published questionnaire?

c) Please state the exclusion criteria in the method section of your manuscript.

3. The data here presented appears to be sound.

**Major Compulsory Revisions:**

a) The anthropometric data of each of the three age groups (including height and weight) as well of the total population should be included and analyzed.

b) The findings of the VAS score of each of the three age groups seem to be fairly high (up to 4.5), especially since this data was not correlated with the consequences of back pain. This should be further discussed and compared to the literature in the manuscript.
c) Since one of the main findings of this study is that passive smoking seems to
have an effect on back pain in adolescents a more thorough discussion of the
findings and comparison to the literature should be carried out.

4. The manuscript does adhere to relevant standards for reporting and data
deposition.

5. The discussion and conclusions are well balanced and adequately supported
by the data.

6. Major Compulsory Revisions:
a) A major limitation of this study that needs to be addressed and discussed is
that a selection bias cannot be excluded. In my understanding the data of this
study was acquired during a national Spine Day where parents had to present
their children at a chiropractors office for a free back exam and screening.
Therefore, it cannot be excluded that adolescents with already preexisting spinal
problems such as back pain where more likely to be represented in this
population since they are more likely to participate in an exam. Because of that
the study cannot determine an overall prevalence rate of back pain in the general
population since a selection bias cannot be excluded. This could also be an
explanation for the high VAS scores and the high prevalence rates. We consider
this a limitation that should at least be acknowledged and discussed in the
manuscript.

7. The authors do clearly acknowledge any work, which was built in this
manuscript.

8. The abstract and title do convey what has been found.

9. The overall writing of the manuscript is acceptable.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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.