Author's response to reviews

Title: Attitudes Towards Fibromyalgia: A Survey of Canadian Chiropractic, Naturopathic, Physical Therapy and Occupational Therapy Students

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Author's response to reviews: see over
Dear Ms. Parkin:

We have received, and reviewed, the reviewers’ comments regarding our manuscript: *Attitudes Towards Fibromyalgia: A Survey of Canadian Complementary and Alternative Medicine Students*. The reviewers have raised a number of important points, which we have addressed in the order that they appear.

**Reviewer #1**

1. The background is very short, and the rationale of this study is actually unclear. The authors should motivate why it is important to perform this study, and this will need a more detailed background.

   **Reply**: We have added the following statement in our background to clarify the rationale for our study:

   “A number of factors may condition CAM providers’ and allied health professionals’ attitudes toward patients with fibromyalgia and their behaviour toward these patients. These include belief in a biological versus a psychological etiology of fibromyalgia, optimism versus pessimism about its management; and optimism versus pessimism regarding their role in its management. Therefore, understanding how CAM providers and allied health professionals view fibromyalgia may provide insight into the clinical experiences of these patients and inform areas for education."

2. The authors include four group of students; I actually thought that the groups of students of occupational therapy and physiotherapy were used as controls or comparable groups, but the authors do not mention anything about that. This must be clarified, both in Methods and Discussion.
Reply: In recognition that occupational therapists (OTs) and physical therapists (PTs) are not generally recognized as CAM providers, but as allied health professionals, we have now made this distinction clear. We have also clarified that the aim of our survey is to explore attitudes of both CAM providers (senior chiropractors and naturopathic students) and allied health care professions (represented by senior PT and OT students). In our introduction we clarify our rationale, in that all previous surveys that we are aware of have only explored such attitudes among allopathic physicians; however, a large percentage of patients with fibromyalgia attend PTs, OTs, chiropractors, and naturopathic doctors, and hence the attitudes of these providers are of interest.

3. Significant level is set at \( p<0.05 \), independent of analysis and number of comparisons. Some form of correction is needed, e.g. by setting the level at \( p<0.01 \), or preferably by Bonferroni correction.

Reply: We have re-calculated our threshold level of significance for our Pearson correlation models using the Bonferroni method:

\[
\text{Model 1 (3 comparisons)} = \frac{0.05}{3} = 0.02 \\
\text{Model 2 (5 comparisons)} = \frac{0.05}{5} = 0.01 \\
\text{Model 3 (6 comparisons)} = \frac{0.05}{6} = 0.008 \text{ (denoted as } p<0.01) 
\]

4. The tables are difficult to understand without explaining text. A reader should be able to understand the tables and the findings shown without looking in the text several times.

Reply: Due to space constraints faced by all journals we are hesitant to repeat the relevant text for each table as a legend, but will gladly adhere to recommendations by the editor in this regard. Further, we are hopeful that when the table titles are included with the tables in the final version that reader comprehension will be better facilitated.

5. In Table 6 it is not shown what the beta coefficients actually signify. Is the score between -1 and +1, or what? An explanation is needed for the interpretation of the results.

Reply: We have added the following statement to our Methods section:
“The regression coefficient \((b)\) represents the slope of the regression line - the amount of change in the y-axis due to a change of 1 unit on the x-axis. Each survey question is graded on a 5-point Likert scale and the value of \(‘b’\) represents the change in response score.”

Reviewer #2:

1. **PT/OT students are not CAM practitioners so it was unusual to see them characterized as such.**

*Reply:* We have amended our manuscript to denote PT/OT students as “allied health professionals”.

2. **The study unfortunatelly is limited to only two schools of CAM practice in Canada, one naturopathic and one chiropractic. It reveals in general poor training about fibromyalgia and subsequent incorrect knowledge, confidence in skills, and attitudes. I am not sure what this means other than these two schools could do a better job in training in this area.**

*Reply:* Chiropractic and naturopathic medicine represent 2 of the largest CAM provider groups in Canada, and the schools we surveyed are the only English-language, accredited, naturopathic and chiropractic colleges in Canada. However, in response to the reviewer’s concern we have modified our manuscript title to the following:

“Attitudes Towards Fibromyalgia: A Survey of Canadian Chiropractic, Naturopathic, Physical Therapy & Occupational Therapy Students”

Our study did not explore the adequacy of training regarding fibromyalgia among respondents. We did find that some students report views on fibromyalgia that are inconsistent with current evidence and that, in general, confidence in managing this disorder is relatively high. We agree with the reviewer in that our study does identify educational targets and have made this suggestion in our Conclusion.

3. **Statistical tables are far in excess of what is needed for a paper of this type. The conclusions and reflections on what this data means are both insufficient and rather superficial.**

*Reply:* Without more specific direction, these concerns are difficult to address. Our current manuscript contains 7 tables. The first 3 report our raw response data. Tables 4 & 5 explore models related to etiological belief, table 6 provides a regression model on factors associated with confidence in managing fibromyalgia, and table 7 summarizes themes of respondents’ written comments.
Our number of completed surveys (n=336) compares favorably to similar surveys of allopathic providers on this topic (n=280 in Hartz AJ et al., 2000; n=262 in Reid S et al., 2001), and our response rate was substantial (87%). Further, we were well powered to explore our regression analysis in that evidence based on validated models suggests fitted regression models are reliable when the limiting sample size is 10 to 20 for each predictor considered (ref 1). We therefore believe that the statistical strength of our findings is high. Our interpretations and conclusions follow logically from our data and are in keeping with the results of our analyses, and our raw data is provided for readers to draw their own conclusions as to the validity of our interpretations.

Attention by the reviewers has resulted in substantial improvements to our manuscript. We thank them for their efforts and remain hopeful that our manuscript will be suitable for publication in *BMC Complementary and Alternative Medicine*. All authors of the original manuscript have read and approved the revised version of the paper.

We thank you for your time and look forward to hearing from you.

Sincerely,

Jason W. Busse, Abhaya V. Kulkarni, Parminder Badwall and Gordon H. Guyatt