Reviewer's report

Title: Cognitive impairment in patients with Fibromyalgia Syndrome as assessed by the Mini-Mental State Examination

Version: 2 Date: 24 June 2009

Reviewer: Anthony Rosner

Reviewer's report:

MAJOR COMPULSORY REVISIONS:

1. There is a major gender difference (42.9% vs 84.9% and 84.9%) in the proportion of women represented in the FMS group compared to the NeP and MP groups, respectively, as shown in TABLE 1. I cannot understand how the p value of 1.000 has been reached in this category. This disparity has been ignored by the authors and needs to be addressed.

2. The authors have ignored the indication in TABLE 2 that a substantially higher proportion (50%) of patients with mild pain is represented in the FMS group as compared to the NeP and MP cohorts, or compared within the FMS group with moderate or severe pain. It is understood that this is a miniscule sample (1/2); however, the apparent disparity should be addressed.

3. I was initially concerned as to what proportions in terms of length of time each of the 3 patient groups had been diagnosed. This has only been partially answered by the authors by their assertion that patients were "mostly...women who were less than two years after the diagnosis of their condition." Specific data which show the percentages of patients in each of the three groups who have been diagnosed with their respective conditions for 0-6 months, 6-12 months, 12-24 months, and >24 months should be presented for comparison.

4. There is missing data in FIGURE 1:
   a. NeP group for ages <45.
   b. MP group for ages 45-54.

5. The ostensibly higher rates of cognitive impairment in patients with at least moderate symptoms of anxiety or depression as shown in TABLE 2 have been deemed to be statistically insignificant by the authors. The fact remains that there is a huge confidence interval combined with the small sample size, such that the authors themselves appear to have admitted in their DISCUSSION that "despite our cross-sectional design, this finding strongly suggests that the cognitive impairment we observed in all these painful conditions may be associated with underlying psychological symptoms." Until a larger sample size is chosen, as the authors correctly state in their discussion of limitations, it seems premature to associate elevated cognitive impairments solely to FMS. This issue needs to be discussed more clearly.
**Level of interest:** An article whose findings are important to those with closely related research interests

**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.