Reviewer's report

Title: Interchangeability of pain assessment using a visual analogue scale and a verbal rating scale - influence of pain etiology: a cross sectional study

Version: 1 Date: 11 July 2005

Reviewer: Craig Hartrick

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The authors have examined the interchangeability of the VAS and VRS in the presence of pain from several different pain etiologies. The data includes quite a mixture of etiologies and durations. The categorization used for example combines nociceptive cases of less than 3 months duration with those of greater than 12 months duration. While they do attempt to define the nociceptive, chronic and neuropathic categories, these same labels are commonly used in a broader sense and may lead to confusion. For example, if all of the neuropathic cases were non-musculoskeletal (not spasticity related) pain states in individuals with spinal cord injury, then perhaps a more specific label would be appropriate. Similarly the term chronic has other common meanings. The definitions provided are further complicated by the authors opening sentence of the second paragraph in the Methods where the musculoskeletal system is seemingly invoked as some commonality amongst the three groups. Redefining the groups as specifically as possible without using labels that already have accepted meanings would be helpful.

In stating Interchangeability of recorded pain intensity captured in the two scales has been discussed earlier, but not in conjunction with taking the influence of pain etiology into consideration the authors have overlooked at least one reference of interest (1). This study compared scales in the acute pain setting in orthopedic pain, thoracoabdominal wounds and during labor (visceral pain). Some similarities were found that support the present study. While non-linear properties are exhibited, describing the continuous VAS as a categorical scale is not precise. Lacking ratio properties, or having ordinal characteristics, is not equivalent to establishing categories. The persistent inclusion of categorical for scales that have no labeled categories leads to confusion. The point can be made without this term.

In the Background section, the intended meaning in the sentence beginning with The pain experience is not clear. Consider rewording this sentence. In the Discussion section the sentences beginning with Another factor contributing to and with In assessing subjective should also be reworded.

Methods: The testing was done in random order to minimize the effects of testing on subsequent tests. However, the impact of this procedure on sample size (3 groups, random order of testing, multiple tests) needs to be discussed. In fact there does not appear to be any discussion of sample
size calculation or power. The only mention of sample size is a brief note in the closing section of the discussion. This is a critical omission since the statement The observed inconsistency between scales implies lack of interchangeability could also be interpreted as a lack of power.

Not all patients were subjected to a loading stimulus. The procedure was employed when necessary. The effect on subsequent testing of treating patients differently in this way, the method for deciding who gets loaded and how, and the consequences with respect to analysis of the data need to be discussed. Further, the loading stimulus was not precisely defined, nor was the intensity. This is also a critical omission since there may be near complete agreement in scales at one extreme (severe pain), but little consistent agreement at the other end (mild pain).

In the statistical methods, paragraph 3, results are presented in the Methods section. If the scatterplots were used to develop subsequent procedures, this should be stated as such and the results presented in the Results section sequentially. In this manner the readers can decide if the overlap was obvious. The used statistical method should be more specifically defined, as the readers should not be obliged to refer to the appropriate references in order to understand the essence of the statistical treatment employed.

Figure 2. Since linear relationships between VRS and VAS cannot be expected, perhaps scatterplots of the 3 groups at given VRS levels would be more informative. This is especially important as the title of the paper implies an examination into the influence of pain etiology.


Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions
Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No
Declaration of competing interests:
I declare that I have no competing interests.