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Letter to the Editor

Response to: "Letter to the Editor entitled: Unjustified extrapolation" [by authors: Supp G., Rosedale R., Werneke M.]

We would like to thank our colleagues Supp, Rosedale and Werneke for their letter, and the opportunity to respond to the issues they raise.

1. 'Data driven' repeated movement testing?

The aim of our paper was **not** a critique or review of movement based classification systems, as it appears to have been perceived by Supp et al. Rather, the rationale for undertaking this study was based upon the fact that all contemporary movement based classification systems for low back pain (as described by O'Sullivan, Sahrmann, McKenzie, etc.) involve a degree of clinical judgement, i.e. they involve and/or were developed based upon clinical opinion or theoretical models. We would like to re-iterate that data-driven (i.e. non-judgemental) subgrouping involves statistical subgroup derivation, without any reliance upon clinical opinion or underlying theoretical models. The data is allowed to "speak for itself" [1]. As we were not aware of any purely data driven movement based classification systems for people with low back pain, we wanted to examine this possibility. Hence, participants were instructed what specific task to perform, but not given specific instructions on how to perform the movements and they were asked to rate their pain using a numeric pain rating scale.

2. Methodology of repeated movement testing

We fully acknowledged that the differences observed in pain responses to movement in our study may differ from those of previous studies (i.e. utilising a Mechanical Diagnosis approach) due to differences in our testing procedures and methodology and the two-point cut-off score for pain used for deriving subgroups.

3. Previous data – acute versus chronic?

We wish to highlight that the statement by Supp et al. that we had written, "...prior studies on repeated movements had dealt mainly with non-chronic or exclusively acute patient population[s]," is incorrect. Our specific wording was, "To date, the majority of studies examining pain responses to repeated movements have ***also involved samples including***, or exclusively made up of, people with acute LBP +/− leg pain." This specific wording serves to highlight that the samples referred to have not been composed entirely of people with chronic axial low back pain, as was the sample in this study.

4. Extrapolation of results from a cursory repeated movement examination to a comprehensive biopsychosocial system of diagnosis and management

When considering this comment in the discussion section we specifically worded it to include all movement-based low back pain classification systems as described in point 1.

Our data highlights that pain responses to movement are in part influenced by factors such as psychological distress and pain sensitivity. We are in agreement with Supp et al. that our research protocol is not comparable to the complex interactions involved in any movement-based physical assessment, and do not advocate that it be considered as such. We are also in agreement with Supp et al. that movement-based therapies which include a strong therapeutic alliance, patient education, empowerment, reassurance etc. will likely lead to concurrent improvements in these factors. However, our data suggest that interventions should **specifically target** multiple dimensions of a person's clinical presentation, as a potential means of further improving treatment efficacy, rather than focussing on one particular dimension with changes in other dimensions being potential byproducts.

Ethical issues

This research was approved by the Human Research Ethics Committees of Curtin University, Royal Perth Hospital, and Sir Charles Gairdner Hospital, Western Australia. All participants gave written, informed consent.

Reference

[1] Kent P, Keating J, Leboeuf-Yde C. Research methods for subgrouping low back pain. BMC Med Res Methodol 2010;10:62.

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