Author's response to reviews

Title: Research priorities for non-pharmacological therapies for common musculoskeletal problems: nationally and internationally agreed recommendations

Authors:

Nadine E Foster (n.foster@keele.ac.uk)
Krysia S Dziedzic (k.s.dziedzic@cphc.keele.ac.uk)
Danielle AWN van der Windt (dawm.vanderwindt@vumc.nl)
Julie M Fritz (julie.fritz@hsc.utah.edu)
Elaine M Hay (e.m.hay@cphc.keele.ac.uk)

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Author's response to reviews:

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Re: Foster et al. Research priorities for non-pharmacological therapies for common musculoskeletal problems: nationally and internationally agreed recommendations

Dear Editor,

Thank-you for considering the enclosed amended manuscript for publication in BMC Musculoskeletal Disorders.

We have addressed each of the reviewers comments in our revised manuscript, and provide a point-by-point response for each of their concerns.

We look forward to hearing from you in due course

Yours sincerely,

Dr Nadine Foster

Response to Reviewer 1 (CA)

This reviewer suggested no major or minor compulsory revisions but had several discretionary revisions, as follows:

1. The think-tank participants included lay representatives and a wide range of disciplines of professionals (researchers, clinicians and methodologists). Some of the individual participants were both researchers and clinicians, and we have
amended the manuscript on page 6 and in the acknowledgements section on page 16 to make this clearer. Several participants were indeed primary care clinicians, albeit with dual roles in research / clinical trials.

2. We had representation in the think-tank of individuals who also lead or contribute to the funding decisions of some of the largest UK research funding agencies (the Health Technology Assessment (HTA), the National Institute of Health Research (NIHR) and the Arthritis Research Campaign (ARC) whose medical director was part of the think-tank. Not pointing this out was our omission and we have amended the manuscript again in the methods and acknowledgements sections so this is clear.

3. The process of ranking and the level of consensus set are described in the methods section of the manuscript (median ranking of 4 or more out of 5 on the Likert scale and for which more than 75% of participants agreed or strongly agreed). 12 of the 22 initial recommendations met these criteria, within the UK Thinktank and were taken to the international symposium for further ranking, from which 7 were prioritised. The following table compares the rankings at Stage 1 and Stage 2 for these 7 recommendations and shows some differences in order of overall ranking. We feel the differences reflect the UK Thinktank’s participants with more methodologists in this group. We do not, however, feel this information adds to the main paper and we prefer to provide the level of agreement for the larger international symposium only in Table 1 of the paper.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Stage 1 ranking</th>
<th>Stage 2 ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Focus on implementation</td>
<td>88%</td>
<td>90.1%</td>
</tr>
<tr>
<td>2 Develop national musculoskeletal research networks</td>
<td>81%</td>
<td>87.9%</td>
</tr>
<tr>
<td>3 Develop more innovative trial designs</td>
<td>92%</td>
<td>83.2%</td>
</tr>
<tr>
<td>4 Include more patient-individualised outcomes</td>
<td>77%</td>
<td>83.9%</td>
</tr>
<tr>
<td>5 Develop core sets of outcomes</td>
<td>81%</td>
<td>81.2%</td>
</tr>
<tr>
<td>6 Include cost-effectiveness analysis</td>
<td>92%</td>
<td>77.3%</td>
</tr>
<tr>
<td>7 Focus on studies that advance clinical trials methodology</td>
<td>92%</td>
<td>77.1%</td>
</tr>
</tbody>
</table>

4) Although we cannot be sure how the research recommendations would have been prioritised by participants from various clinical disciplines, we feel that the similarities in the ranking from a mixed group of clinicians and methodologists (in the UK Think-tank) and the physiotherapists in the International Symposium (shown in the above table) suggests that the differences may not be very great. However, we have acknowledged that we cannot know this for use, on page 15 of the manuscript, where we state ‘as with all efforts to generate consensus, different participants may have provided different recommendations or prioritised the recommendations differently...and..further consensus-based initiatives in other countries AND WITH OTHER CLINICAL DISCIPLINES would be useful’.

Response to Reviewer 2 (CA)

This reviewer suggested several major revisions, as follows:
1) In response to the concerns raised, we have made the professional background of the UK Think-tank participants clearer in the methods section (page 6) and in the acknowledgements (page 16). Participants were invited if they were experienced clinical trialists in the area of non-pharmacological interventions for musculoskeletal pain, rather than on disciplinary background, or if they were lay representatives. This led to a mixed group of participants from a wide range of backgrounds including medical doctors (general practitioners, public health and rheumatology) and one chiropractor. However, there were fewer representatives from these disciplines as there are fewer individuals, within the UK, from these disciplines who are also experienced clinical trialists in the field of non-pharmacological management of musculoskeletal problems. Some people were invited but could not make the two day event on the specific dates, and included within that group were other physical therapists, medical doctors and osteopaths. In addition, on page 15 of the manuscript, we state ‘as with all efforts to generate consensus, different participants may have provided different recommendations or prioritised the recommendations differently...and...further consensus-based initiatives in other countries AND WITH OTHER CLINICAL DISCIPLINES would be useful’.

As regards the issue of authorship, only those individuals who developed the idea of the consensus think-tank meetings, who led or co-ordinated one or both meetings and who contributed to the development of the paper are co-authors. Everyone else who contributed to the meetings, through participation and ranking, has been listed in the acknowledgements. This is in line with most authorship arrangements for peer-reviewed journals.

2) Reviewer 1 and reviewer 2 themselves feel differently about whether clinicians should be involved in helping to set recommendations for clinical trial research. We feel the inclusion of not only those whose principal role is in clinical trial design and management but also the clinicians whose treatment approaches and clinical-decision-making processes are being investigated in such trials, in addition to patient representatives, are all appropriate groups to feed into consensus processes about future clinical trials. We feel that it is a strength of the consensus process we conducted, to first generate ideas and initial ranking of importance with a group experienced in clinical trials in the field and then to further refine the priorities with a mixed group including those in clinical practice for common musculoskeletal conditions. However, given this reviewer’s concerns on this issue, we looked at the dataset to compare the two groups in the International symposium (those mostly engaged in research versus those mostly engaged in clinical practice) to see if they prioritised different recommendations. The top recommendation overall was implementation of research and the percentage of researchers agreeing or strongly agreeing was 86% versus 96% of those mostly from a clinical practice perspective. These figures were 86.1% of researchers and 89.9% of clinicians for the second recommendation (develop national musculoskeletal research networks) and 87.2% of researchers versus 86.2% of clinicians for the third priority (develop more innovative trial designs). We looked at the rankings of researchers and clinicians for the top 7 recommendations, and although the order of the 7 was slightly different for each
of these two groups, the same 7 recommendations were ranked as the top 7 of all 12 recommendations for each of these two groups. Hence, the clinicians in the consensus process prioritised the same 7 recommendations as those who described themselves as researchers. We have amended the manuscript on page 10 to explain this.

3) The reviewer feels that some issues are missing from the list of recommendations, for example, research which addresses underlying mechanisms of action of treatment or research that focuses on understanding the underlying etiologies of these conditions. We agree that these are both important avenues for future research but our focus in the consensus exercises and in this manuscript (as described in our aim on page 5) was to ‘develop agreed recommendations for future studies testing the effectiveness of non-pharmacological interventions for common musculoskeletal pain’. We have added to some sentences in the abstract (pages 2 and 3), methods (page 6) and discussion (page 11) to try to make this clearer. We have also added the following sentence to the limitations section on page 15 ‘IN ADDITION, OUR FOCUS WAS ON RECOMMENDATIONS FOR FUTURE STUDIES TESTING THE EFFECTIVENESS OF NON-PHARMACOLOGICAL INTERVENTIONS FOR COMMON MUSCULOSKELETAL PAIN. CLEARLY, OTHER TYPES OF RESEARCH ARE ALSO NEEDED, SUCH AS RESEARCH THAT PROVIDES BETTER UNDERSTANDING OF AETIOLOGICAL FACTORS AND MECHANISMS OF ACTION OF INTERVENTIONS’.