PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The effect of differentiating exercise guidance based on patient's
	level of low back pain in primary care - a mixed methods systematic
	review protocol
AUTHORS	Jorgensen, Jens; Afzali, Tamana; Riis, Allan

VERSION 1 – REVIEW

REVIEWER	Benjamin Smith
	Derby Teaching Hospitals NHS Foundation Trust; University of
	Nottingham, UK
REVIEW RETURNED	11-Oct-2017
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GENERAL COMMENTS	This systematic review protocol is methodology robust, and looks comprehensive.
	The review will address an important topic, but to my knowledge it is largely un-researched. I shall be very interested in the full review's findings.
	Would it be better to highlight the mixed methods approach in the title?
	I have a few minor points for clarification:
	1. I struggled to find you on the PROSPERO website. Please correct the PROSPERO ID from 42017074880 to CRD42017074880.
	2. Is the reference [6] on line 51, page 5 correct?
	3. "There is no evidence that one particular type of exercise therapy for LBP is clearly more effective than others", line 38, page 6. Does this need a reference?
	4. Perhaps some rationale on the clinically relevant scales used for the outcomes measures. Lines 13 – 19, page 9.
	5. The last few paragraphs in the discussion section, line 52 page 11 – line 32 page 12 would maybe be better suited in the methods section?

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REVIEWER	Ben Darlow
	University of Otago, New Zealand
REVIEW RETURNED	27-Oct-2017
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GENERAL COMMENTS	Thank you for asking me to review this protocol for a systematic review of exercise therapy based on the level of low back pain of patients in primary care. I am not aware of a systematic review exploring this question. The study review aims to the generate data related to the allowable level of pain during exercise and how specific levels of pain should be reflected in the stage and progression of exercises or activities. Such information would be useful for primary care clinicians.
	 Some aspects of the methodology could be addressed or justified. The primary outcomes for the review are pain (using the VAS or NPRS) and functional outcome (using RMDQ or ODI). It is not clear how qualitative research will contribute to these outcomes. The authors describe six outcomes that may be included; of these, satisfaction is the only outcome to which qualitative research appears able to contribute. The authors do state that they will not be limited by these outcomes, but all outcomes should be listed and defined with a rationale (PRISMA item 13). Pain self-efficacy may be useful to explore in addition to fear avoidance. The inclusion criteria are somewhat vague and could be reported more explicitly (PRISMA item 8). It is also unclear whether sciatica and/or radiculopathy are included or excluded. The authors state that nerve root LBP is included but not whether pain referred to the leg from the low back is included. Selection of studies for inclusion is proposed to be based on reviewing titles and abstracts. In my experience this approach is sufficient for screening purposes but full text is required to make a final decision about eligibility.
	 Further methodological information that should be reported includes: The date range for the database search (PRISMA item 9). This is included in the abstract but not the main text A complete search strategy for one electronic database that includes planned limits that can be repeated (PRISMA item 10). The search strategy described is very basic.
	In addition, I suggest that the aim of the study be clarified. Although identification of studies is part of the review process, the aim should describe the specific questions that the review will address (PRISMA item 7).
	I wish the authors well with their review.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1:

General comments: This systematic review protocol is methodology robust, and looks comprehensive. The review will address an important topic, but to my knowledge it is largely unresearched. I shall be very interested in the full review's findings. Would it be better to highlight the mixed methods approach in the title?

Response: "Mixed methods" has been included in the title.

Comment 1: I struggled to find you on the PROSPERO website. Please correct the PROSPERO ID from 42017074880 to CRD42017074880.

Response: Thanks for highlighting this. The PROSPERO ID has been changed in the abstract and on page 6.

Comment 2: Is the reference [6] on line 51, page 5 correct?

Response: Thank you for bringing this to our attention. The citation has been corrected to [13]. We have corrected as follows:

Comment 3: "There is no evidence that one particular type of exercise therapy for LBP is clearly more effective than others", line 38, page 6. Does this need a reference?

Response: We agree a reference is included for the statement.

Comment 4: Perhaps some rationale on the clinically relevant scales used for the outcomes measures. Lines 13 – 19, page 9.

Response: The scales applied in this review will be the commonly applied outcome measures for LBP in the literature. The description of the primary outcome has been modified in the "Outcome(s)" section and two references have been provided.

Comment 5: The last few paragraphs in the discussion section, line 52 page 11 – line 32 page 12 would maybe be better suited in the methods section?

Response: Thank for pointing this out.

The paragraphs "CASP provides a checklist of questions for assessing the clarity and appropriateness of the research question; the description and appropriateness of sampling, data collection, and data analysis; levels of support and evidence for claims; coherence between data, interpretation, and conclusions; and, finally, level of contribution of the paper have been moved to the "appraisal of the qualitative studies" section.

The discussion section has, therefore, been changed accordingly to: "One of these tools is the CASP, consisting of 10 questions of the CASP checklist for qualitative studies"

Reviewer: 2

Comment 1: The primary outcomes for the review are pain (using the VAS or NPRS) and functional outcome (using RMDQ or ODI). It is not clear how qualitative research will contribute to these outcomes. The authors describe six outcomes that may be included; of these, satisfaction is the only outcome to which qualitative research appears able to contribute. The authors do state that they will not be limited by these outcomes, but all outcomes should be listed and defined with a rationale (PRISMA item 13). Pain self-efficacy may be useful to explore in addition to fear avoidance.

Response 1: Thank you for pointing to this issue. We agree that outcomes more applicable for qualitative studies are needed. Consequently, we have included outcomes for satisfaction with treatment received, fear avoidance due to LBP, pain self-efficacy, self-esteem because of LBP, and self-management of LBP in the "Outcome(s)" section.

Comment 2: The inclusion criteria are somewhat vague and could be reported more explicitly (PRISMA item 8). It is also unclear whether sciatica and/or radiculopathy are included or excluded. The authors state that nerve root LBP is included but not whether pain referred to the leg from the low back is included.

Response: We have rewritten the inclusion criteria, which now read: "We will include all published peer-reviewed human investigations, including both quantitative and qualitative studies, related to differential guidance on choice of exercise, based on the level of pain. We will consider both experimental and observational quantitative study designs, including randomised controlled trials (RCTs), non-RCTs, quasi-experimental, before and after studies, and prospective and retrospective cohort studies, and economic evaluations. We will include qualitative studies based on interviews and/or workshops. Studies of adults (≥ 18 years) treated in primary healthcare settings with non-specific LBP or nerve root LBP (including sciatica and/or radiculopathy) for any duration will be included."

Comment 3: Selection of studies for inclusion is proposed to be based on reviewing titles and abstracts. In my experience this approach is sufficient for screening purposes but full text is required to make a final decision about eligibility.

Response: We agree. The "Selection of studies" section has been modified to clarify the appraisal of eligibility.

Comment 4: Further methodological information that should be reported includes: The date range for the database search (PRISMA item 9). This is included in the abstract but not the main text

Response: Thank you for pointing to this mistake. We have included the date range in the "Data sources" section.

Comment 5: A complete search strategy for one electronic database that includes planned limits that can be repeated (PRISMA item 10). The search strategy described is very basic.

Response: We have included our search strategy for PubMed in Supplementary file 1.

Comment 6: In addition, I suggest that the aim of the study be clarified. Although identification of studies is part of the review process, the aim should describe the specific questions that the review will address (PRISMA item 7).

Response: Thank you for making this important point. The aim has been modified to "What is the effect and potential cost-effectiveness of exercises for patients with LBP based on their specific levels of pain, in primary care.

VERSION 2 – REVIEW

REVIEWER	Benjamin Smith Derby Teaching Hospitals NHS Foundation Trust; University of Nottingham
REVIEW RETURNED	13-Nov-2017
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GENERAL COMMENTS	I'm happy with the revisions made.