

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Effectiveness of behaviour change techniques in physiotherapy interventions to promote physical activity adherence in patients with hip and knee osteoarthritis: a systematic review protocol
AUTHORS	Willett, Matthew; Duda, Joan; Gautrey, Charlotte; Fenton, Sally; Greig, Carolyn; Rushton, Alison

VERSION 1 - REVIEW

REVIEWER	Deirdre Hurley University College Dublin, Ireland
REVIEW RETURNED	20-Jan-2017

GENERAL COMMENTS	<p>This is a timely paper that will contribute to the growing evidence base for the application of behaviour change techniques to clinical physiotherapy practice in supporting patient changes in physical activity behaviour. I have some comments to increase the clarity of the protocol.</p> <p>Introduction page 4, line 30 - suggest adding 'change and sustain this change in PA behaviour'</p> <p>page 5, line 23[change to 'Identifying effective BCTs within interventions..'</p> <p>A summary of the specific evidence for various types of physical activity and adherence measures in this population would also strengthen this section given its primary focus in the review and its first objective. Similarly, a review of the current evidence for specific BCTs in supporting physical activity behaviour change more widely and their relevance to physiotherapy is also warranted. A discussion of fidelity to BCTs and its measurement is also warranted, as while trial protocols may specify the BCTs included within the intervention failure to measure their subsequent delivery limits the conclusions that can be drawn about their effectiveness.</p> <p>Methods Trial paper types need to be specified more explicitly to include trial protocols, results and fidelity papers where available. This leads to consideration of how trial reports that fail to report fidelity will be interpreted in terms of BCT effectiveness.</p> <p>Outcomes - need to specify how PA adherence will be reported - what types of outcomes will be accepted?. How will data be interpreted if PA adherence is not measured? If trials fail to measure PA adherence it will not be possible to draw conclusions about the effectiveness of the intervention to increase or maintain PA</p>
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	<p>adherence outside the clinic [objective 1] - hence should such trials be excluded?</p> <p>Coding BCTs - how much detail will be required to code a BCT - what is the minimum that will be accepted against the Taxonomy definition? How will BCTs be coded? Are the authors confident that the online training alone is sufficient for this purpose? See Wood et al 2016 http://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0448-9</p> <p>How will the authors draw conclusions about the effectiveness of specific BCTs if multiple BCTs are used in one intervention?</p> <p>If other treatment providers are also delivering the intervention how will this be dealt with in terms of data extraction, analysis and interpretation?</p> <p>It would also be informative to record the training of physiotherapists in the delivery of BCTs if available and this would make a strong contribution to the literature.</p> <p>Limitations The authors need to consider that without evidence of the number and quality of BCTs being delivered during each trial intervention it will not be possible to draw firm conclusions about their effectiveness.</p>
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REVIEWER	Dr Emma Godfrey King's College London, UK
REVIEW RETURNED	15-Feb-2017

GENERAL COMMENTS	<p>This is a very comprehensive and well thought out protocol for a systematic review in the area of behaviour change techniques in physiotherapy interventions to promote physical activity adherence in patients with hip and knee osteoarthritis. I would definitely like to recommend publication, as this is an area that really requires further investigation. I have one minor query about why you have chosen as inclusion criteria: adult participants (≥ 16 years), when adults are normally ≥ 18 years? Please could you clarify the reasons for this and consider amending it to 18, as in most other research.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1	
Method	
page 4, line 30 - suggest adding 'change and sustain this change in PA behaviour'	Added as suggested on page 4. Please see in red type in article resubmission.
page 5, line 23[change to 'Identifying effective BCTs within interventions..'	Modified as suggested on page 6. Please see in red type in article resubmission.

A summary of the specific evidence for various types of physical activity and adherence measures in this population would also strengthen this section given its primary focus in the review and its first objective.	This detail has been added to page 4. Please see in red type in article resubmission.
Similarly, a review of the current evidence for specific BCTs in supporting physical activity behaviour change more widely and their relevance to physiotherapy is also warranted.	This detail has been added to page 6. Please see in red type in article resubmission.
A discussion of fidelity to BCTs and its measurement is also warranted, as while trial protocols may specify the BCTs included within the intervention failure to measure their subsequent delivery limits the conclusions that can be drawn about their effectiveness.	A discussion of the concept of fidelity and the consideration of fidelity in physiotherapy interventions has been incorporated into pages 5-6. It's measurement and decision regarding use in this review has been included in the 'data collection process and items' section on pages 11-12.
Results	
<p>Trial paper types need to be specified more explicitly to include trial protocols, results and fidelity papers where available.</p> <p>This leads to consideration of how trial reports that fail to report fidelity will be interpreted in terms of BCT effectiveness.</p>	<ol style="list-style-type: none"> 1) This has been amended on page 7 2) This has been outlined on pages 11-12 and 13-14.
<p>Outcomes – need to specify how PA adherence will be reported - what types of outcomes will be accepted? How will data be interpreted if PA adherence is not measured? If trials fail to measure PA adherence it will not be possible to draw conclusions about the effectiveness of the intervention to increase or maintain PA adherence outside the clinic [objective 1] - hence should such trials be excluded?</p>	This has been changed on pages 8-9. Please see in red type in article resubmission.
<p>Coding BCTs - how much detail will be required to code a BCT - what is the minimum that will be accepted against the Taxonomy definition? How will BCTs be coded? Are the authors confident that the online training alone is sufficient for this purpose?</p>	<ul style="list-style-type: none"> • This has been added to pages 12-13. • The authors acknowledge the limitations of online training. However, recent systematic reviews using the online taxonomy training revealed a Kappa statistic of 0.79 (Cradock et al., 2017) suggesting 'substantial' inter-rater reliability. To maintain clarity with taxonomy interpretation, coding will be piloted a priori, interrater agreement will be calculated, and the independent coders will meet regularly during the review. Additionally, one independent coder has a PhD in behaviour change, and the moderator is a Professor in Psychology, having published extensively

	in the field of behaviour change. The authors feel that this is sufficient to optimise reliability in taxonomy coding.
How will the authors draw conclusions about the effectiveness of specific BCTs if multiple BCTs are used in one intervention?	This detail has been added to page 15
If other treatment providers are also delivering the intervention how will this be dealt with in terms of data extraction, analysis and interpretation?	This will be captured in the data extraction (page 11), 'characteristics of included studies table' (page 14) and incorporated as part of the narrative synthesis (page 15) 'Exploring Relationships within and Between Trials' section and incorporated within the discussion if deemed important to the findings
It would also be informative to record the training of physiotherapists in the delivery of BCTs if available and this would make a strong contribution to the literature.	This will be captured in the data extraction (page 11), 'characteristics of included studies table' (page 14) and incorporated as part of the narrative synthesis (page 15) 'Exploring Relationships within and Between Trials' section and incorporated within the discussion if deemed important to the findings
Limitations	
The authors need to consider that without evidence of the number and quality of BCTs being delivered during each trial intervention it will not be possible to draw firm conclusions about their effectiveness.	This detail has been added to 'limitations' on page 17.
Reviewer 2	
This is a very comprehensive and well thought out protocol for a systematic review in the area of behaviour change techniques in physiotherapy interventions to promote physical activity adherence in patients with hip and knee osteoarthritis. I would definitely like to recommend publication, as this is an area that really requires further investigation. I have one minor query about why you have chosen as inclusion criteria: adult participants (≥ 16 years), when adults are normally ≥ 18 years? Please could you clarify the reasons for this and consider amending it to 18, as in most other research.	This has been amended to ≥ 18 years on page 7

VERSION 2 – REVIEW

REVIEWER	Deirdre Hurley University College Dublin, Ireland
REVIEW RETURNED	24-Apr-2017

GENERAL COMMENTS	The authors have fully addressed my comments and i am happy to recommend publication.
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