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What CBA-informed interventions currently exist to support prehabilitation? Scoping review protocol

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Introduction

Pre-operative rehabilitation or 'prehabilitation' is a strategy to optimise a patients' condition before surgery by enhancing general health and well-being in preparation for chemotherapy, radiotherapy and elective surgeries such as Total Knee Arthroplasty (TKA) (Molenaar et al. 2019). The value of prehabilitation is becoming increasingly recognised as studies reported faster recovery, reduced complication rates, shorter hospital stay, improved quality of life, and potentially, a reduction in health costs with prehabilitation. While it is recommended by national guidelines (NICE 2020), prehabilitation services are not widely available in the NHS. Where it is available, pre-operative services for TKA vary extensively in content and accessibility as there is currently no consensus on standard intervention or treatment for TKA prehabilitation (Moyer et al. 2017).

Interventions in prehabilitation often target modifiable risk factors with the intention to maximise their resilience to treatment and achieve longer-term health outcomes (Moyer et al. 2017). However, existing programmes have largely ignored the impact of psychological and behavioural factors (e.g. coping strategies, resilience factors, patient expectations), which play an important role in one's ability to cope with stressors and adjust to life following surgery (NICE 2020). The lack of attention given to these modifiable psychological and behavioural factors in TKA rehabilitation, relative to their importance in the literature, represents a research-to-practice gap.

A preliminary search of MEDLINE, the Cochrane Database of Systematic Reviews and JBI Evidence Synthesis was conducted identified no current or underway systematic reviews or scoping reviews on prehabilitation. Due to the lack of evidence-based interventions in prehabilitation, there is a need to conduct a scoping review to map the existing literature on psychological interventions used in prehabilitation. This review will summarise the current literature and provide an overview of the different types, components, and settings of psychologically-informed interventions currently utilised in prehabilitation. It will also identify gaps in the literature that can be addressed by future research.

Review question

1. How has psychological prehabilitation been defined, modelled, and operationalised within the literature?
 - a. What are the types of psychologically-informed pre-rehabilitative intervention currently utilised?
 - b. What is the content of psychologically-informed interventions?
 - c. What are the outcomes related to evaluating prehabilitation?
 - d. What theories are used to underpin models of change?
2. What conditions have used CBT informed interventions in prehabilitation?

Methods

The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews (Peters et al. 2020). This protocol has been registered in OSF.

Search strategy

The search strategy will aim to locate both published and unpublished studies. A three-step search strategy will be utilized in this review. First an initial limited search of MEDLINE (PubMed), AMED, and CINAHL (EBSCO) was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for report the name of the relevant databases/information sources (see Appendix i). The search strategy, including all identified keywords and index terms, will be adapted for each included database. The reference list of all included sources of evidence will be screened for additional studies. Studies published in any language will be included as much as possible. No date ranges or further limitations were used.

Initial keywords will include: prehabilitation, psychologically-informed intervention, cognitive behavioural intervention/therapy.

Inclusion criteria

Inclusion criteria for this review were classified using the “PCC” (Participants, Concept, Context) mnemonic.

Participants: Studies on adults 18 or older of any gender of any condition, severity or symptom duration will be eligible for inclusion.

Concept: Cognitive behaviourally informed prehabilitation or similar therapies will be included. This intervention could be the main intervention used in isolation or as an adjunct/in combination with other interventions such as exercise, advice, and other active treatment. Interventions can be delivered by any health professional (e.g. physiotherapist, occupational therapist, health psychologist) either in-person or online (remotely). Any outcomes used to evaluate these interventions will also be identified.

Context: Any setting including primary care, secondary care, community locations or people’s homes in any developed nation defined as the top 64 countries in the Human Development Index (HDI) will be included (2021/22 HDI report released 8 September 2022).

Inclusion	Exclusion
<ul style="list-style-type: none"> • Psychologically/behaviourally-informed intervention (e.g. CBT, CBA) • Prehabilitation • Any setting • Any condition • Adults (Age >18 years) 	<ul style="list-style-type: none"> • Age <18 years • Exercise prehabilitation only- no psychological intervention • Post-surgery (rehabilitation) • HDI countries <64 • Conference abstracts only

Table of inclusion and exclusion criteria

Types of sources

This scoping review will consider both experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, and before and after studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be considered for inclusion.

Qualitative studies will also be considered that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, and action research. In addition, systematic reviews that meet the inclusion criteria will also be considered, depending on the research question. However, opinion, narrative or other non-systematic reviews, and case studies will not be considered for inclusion in this scoping review. Protocols would be considered for the purpose of identifying current studies underway and details of intervention.

Information source

The databases to be searched include: MEDLINE, CINAHL, Embase, AMED, PsycINFO, Cochrane Library (controlled trials and systematic reviews), and trial registries.

The search for unpublished studies will include: Google Scholar, ETHOS, and CORE.

Study selection

Following the search, all identified citations will be collated in EndNote and uploaded into Covidence (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org.) and duplicates removed. Following a pilot test, titles and abstracts will then be screened by two or more independent reviewers for assessment against the inclusion criteria for the review. Potentially relevant sources will be retrieved in full and will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion, or with a third reviewer. The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram (ref PRISMA-ScR statement).

Data extraction

Data will be extracted from papers included in the scoping review by two or more independent reviewers using a modified data extraction tool in Covidence 2.0. The data extracted will include specific details about the participants, concept, context, study methods and key findings relevant to the review questions. The data extracted will include description of the intervention, delivery, setting, patient group, outcomes recorded guided by the TIDierR checklist (Hoffmann et al. 2014), and findings relevant to the components and underpinning theories of behavioural change and processes will be mapped.

A draft extraction form is provided (see Appendix ii). The draft data extraction tool will be piloted and modified as necessary during the process of extracting data from each included evidence source. Modifications will be detailed in the completed scoping review. Any disagreements that arise between the reviewers will be resolved through discussion, or with an additional reviewer(s).

In keeping with scoping review methodology (Peters et al. 2020), no critical appraisal of included studies will be conducted.

Data analysis and presentation

The results will be presented in tabular form. This will be accompanied by a narrative summary. A separate table of included studies will include details of the author, date of publication, country of origin, types of studies, and sample size. As with the data extraction tool, draft table of included studies will be piloted and may be subject to amendment during the review process.

Funding

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References

Molenaar, CJL, Papen-Botterhus NE, Herrle F, et al., Prehabilitation, making patients fit for surgery – a new frontier in perioperative care. *Innovative Surgical Sciences*. 2019. 4(4): p.132-138.

National Institute for Health and Care Excellence. Joint replacement (primary): hip, knee and shoulder (NICE guideline [NG157]). 2020.

Moyer R, Ikert K, Long K, et al. The Value of Preoperative Exercise and Education for Patients Undergoing Total Hip and Knee Arthroplasty: A Systematic Review and Meta-Analysis. *JBS Rev*. 2017. 5(12):e2–e2.

Peters M, Godfrey C, McInerney P, et al. Chapter 11: Scoping Reviews. Joanna Briggs Institute Reviewer's Manual, JBI. 2020.<https://reviewersmanual.joannabriggs.org/>

Hoffmann T C, Glasziou P P, Boutron I, et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *BMJ*. 2014. 348: g1687 doi:10.1136/bmj.g1687

Appendices

Appendix I: Search strategy

SEARCH STRATEGIES dated 15/09/22:

Published literature databases			Expanders/Limiters
1	EMBASE (OVID)	<p>("Preoperative Rehabilitation" OR "Pre-operative Rehabilitation" OR <u>Prehabilitation</u> OR Prehab OR "Peri-operative Rehabilitation" OR "<u>Pre-habilitation</u>" OR "<u>Pre-rehabilitation</u>").<u>tw.</u> OR exp <u>Prehabilitation</u>/AND</p> <p>("Psychological Therapy" OR "<u>Behavio*</u> Therapy" OR "Cognitive Therapy" OR "<u>Behavio*</u> Intervention" OR "<u>Behavio*</u> Change" OR "Cognitive <u>Behavio*</u> Therapy" OR "Cognitive <u>Behavio*</u> Therapy" OR "CBT-Informed" OR "Psychologically-Informed" OR "Psychosocial Therapy" OR "Cognitive <u>Behavioral</u> Therapy" OR "Behavioural Therapy" OR "<u>Behavior</u> Therapy" OR "Schema Therapy" OR "Acceptance and Commitment Therapy" OR "Person-<u>Centered</u> Psychotherapy" OR "Psychotherapy, Brief").<u>tw.</u></p>	
2	CINAHL COMPLETE (EBSCO-host)	<p>TX ("<u>Preoperative Rehabilitation</u>" OR "Pre-Operative Rehabilitation" OR <u>Prehabilitation</u> OR Prehab OR "Peri-operative Rehabilitation" OR "<u>Pre-habilitation</u>" OR "<u>Pre-rehabilitation</u>") OR (MH "<u>Prehabilitation</u>")</p> <p>AND</p> <p>(MM "Cognitive Therapy+/UT/ST/MT/ED") OR (MH "Acceptance and Commitment Therapy") OR (MH "Cognitive Restructuring") OR (MH "Mindfulness") OR (MH "Schema Therapy") OR "<u>cognitive behavio*</u> therapy" OR (MH "Rehabilitation, Psychosocial") OR "Psychological Therapy" OR (MH "<u>Behavior</u> Therapy+") OR (MH "Cognitive Therapy+") OR (MH "Rehabilitation, Cognitive") OR (MH "Cognitive Flexibility") OR (MH "Cognitive Dissonance") OR "<u>Behavio*</u> Intervention" OR "<u>Behavio*</u> Change" OR "Cognitive <u>Behavio*</u> Therapy" OR "Cognitive <u>Behavio*</u> Therapy" OR "CBT-Informed" OR "Psychologically-Informed" OR "Psychosocial Therapy")</p>	Apply related words; Apply equivalent subjects

Appendix II: Data extraction instrument

General information:			
Covidence ID			
Reviewer			
Study title			
Study information:			
Study participants (population/condition)			
Setting (location and social context)			
Study aim			
Country			
Study year			
Study design			
Other interventions received			
1. CBA intervention:			
1. Description of intervention (include sufficient detail for replication e.g. content)			
1. Intervention type (CBT, 3rd wave, ACT)			
1. Components of intervention (what was delivered?)			
1. Target audience (who the intervention targeted?)			
1. HCP providers (who delivered the intervention?)			
1. Format of intervention			
1. Setting of intervention			
1. Intensity of intervention (dose)			
1. Duration of treatment			
1. Theories of behavioural change techniques (models)			
1. Intended usage (e.g. condition)			
1. Strategies to ensure adherence or enhance engagement (positive effect)			
1. Outcome:			
1. Outcome domain (OMERACT)			
1. Measurement tool			