

SM for MSK foot problems: a scoping review protocol

Full title: Self-management approaches to reduce the ill-health burden associated with musculoskeletal foot and ankle problems: a scoping review protocol

Short title: SM for MSK foot problems: a scoping review protocol

Authors: Lindsey Cherry^{1,2}, Lucy Gates¹, Keith McCormick¹, David Culliford³, Mari Carmen Portillo³, Karen Walker-Bone⁴

Affiliations:

1. School of Health Sciences, University of Southampton
2. Solent NHS Trust
3. NIHR Applied Research Collaboration Wessex, School of Health Sciences, University of Southampton
4. Medical Research Council (MRC) Lifecourse Epidemiology University of Southampton

Corresponding author: L. Cherry; l.cherry@soton.ac.uk

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Abstract:

Introduction: The high ill-health burden associated with musculoskeletal (MSK) disease has been widely reported, and various treatment approaches proposed. Increasingly, treatments have sought to reflect personalised care and incorporate self-management (SM). However, the range of SM approaches proposed for foot and ankle MSK problems, and their relative clinical or cost-effectiveness, has not been reviewed. A scoping review is required to understand the need/appropriateness of a systematic review on this topic.

Methods and analysis: The scoping review will be conducted in line with the PRISMA-ScR framework. We will perform an initial search across two databases to confirm search syntax. We will then complete a full search across three databases (Embase (Ovid), CINAHL (EBSCO), Medline (EBSCO)) and grey literature (Cochrane Library, The British Library, The Canadian Agency for Drugs and Technologies in Health (CADTH), The health Foundation, The Kings Fund, MedNar). We will use a snowballing strategy to review the reference list of retrieved texts, as per inclusion criteria, to identify previously unretrieved texts of potential relevance. In an iterative process, the protocol outlined above will be refined and repeated as new key terms come to light.

Ethics and dissemination: The scoping review will synthesise what is known and not known about SM approaches for MSK foot and ankle problems. The review will form the first step in outlining future research recommendations and areas of potentially unmet clinical need. The findings will be submitted for publication and shared in written form with stakeholder groups involved in the design of future research.

Keywords: self-management, foot, ankle, burden, review, protocol

Background

The high ill-health burden associated with musculoskeletal (MSK) disease has been widely reported and a range of treatment approaches proposed (Blythe et al 2019; Vos et al 2016). However as highlighted by Blythe et al (2019), the aging and ailing population is likely to out-pace current mechanisms of healthcare resulting in a need to explore alternate ways of supporting those living with chronic disease. Increasingly, treatment approaches have sought to reflect personalised care (Coulter et al 2015; DoHSC 2014) and incorporate where possible support of self-management (SM; Boger et al 2015; Pinnock et al 2017). There is increasing public policy to support greater uptake of physical activity to mitigate the ill-health burden frequently associated with sedentary lifestyles (DoH 2019). SM may have pivotal role in achieving both the uptake of physical activity and the management of MSK conditions that may inhibit this ambition or arise in consequence (Gay et al 2016; Marley et al 2017). However there appears to be little evidence concerning the role that foot health may have in contributing to or impeding these societal goals, and in particular MSK foot and ankle problems. Further, it is unclear what evidence exists concerning SM approaches to support MSK foot and ankle problems, and their relative clinical or cost-effectiveness has not been reviewed.

Rationale for conducting a scoping review

There is a need to determine which SM approaches have been developed, if any, to reduce the ill-health burden associated with MSK foot and ankle problems. As identified by Pham et al (2016) scoping reviews are a relatively new approach to evidence collation and synthesis in previously unreviewed topics. A scoping review allows for “exploratory projects that systematically map the literature available on a topic, identifying key concepts, theories, sources of evidence and gaps in the research” and is thus a good mechanism to aid understanding of the need/appropriateness of a systematic review of the literature on this topic (Grimshaw, 2010). It is expected that this scoping review will enable synthesis of what is known and not known about SM approaches for MSK foot and ankle problems. Evidence-informed recommendations for future areas of enquiry will be made. Thus, in order to achieve this, an iterative process of stakeholder engagement was undertaken to refine the following review question ‘Amongst people with musculoskeletal foot and ankle problems, which self-management approaches have been reported?’ A subsequent question is also proposed should the collated evidence allow; ‘what is the evidence for the effectiveness and cost-effectiveness of SM interventions in the management of musculoskeletal foot and ankle problems compared with each other, placebo or treatment as usual? As recommended by Tricco et al (2016) as best practice, the review protocol is reported here a priori.

Objectives

The objectives of this scoping review are to use a systematic and iterative process to identify, collate and evaluate what is known about SM approaches for MSK foot and ankle problems currently. Specifically, we will 1. identify any reported SM approaches for MSK foot and ankle problems, 2. compare the effectiveness and cost-effectiveness of any reported SM approaches for MSK foot and ankle problems, and 3. develop guidance or where possible a conceptual framework to contextualise current evidence, based upon information synthesis, to inform future scientific inquiry, student or staff education, or quality improvement across health and care settings, that is contextually specific to SM and foot health.

Methodology

The scoping review will be conducted in line with the PRISMA-ScR (Tricco et al 2018) review framework and draws upon the methodology proposed by Arksey and O'Malley (2005) and expanded upon by Levac et al (2010) and Daudt et al (2013).

Condition or domains being studied

'Musculoskeletal foot and ankle condition' refers to any disease or injury affecting the skeletal or related soft tissues of the body contained within the foot or ankle region.

'Self-management' (SM) is a concept that, for the purposes of this review, will be 'any act that is primarily identified or carried out by the person with the condition to be treated' (Boger et al 2015). There is increasing evidence that SM is an important component of care which health and care professionals need to encourage and support, particularly for those people who may have long-term or comorbid disease (Elbers et al 2018; Gay et al 2016; Marley et al 2017). Written text that outlines/describes or evaluates any procedure or practice that constitutes SM will be included. SM will be considered the intervention domain. A reasonable comparator domain might be medical or expert led healthcare or intervention. However, for the purposes of this review, data regarding comparative approaches will not be explicitly sought as this is likely to yield extensive and heterogeneous data that will not contribute to the main research questions.

The concept of burden, for the purposes of this review, will be considered as 'a negative personal, societal or healthcare impact that arises as a direct consequence of ill health' (Murray et al 2013; Murray et al 2015). The concept of burden is thus wide-ranging. There is increasing evidence to highlight the multi-faceted impact that both acute and chronic episodes of ill health may cause and thus there will be no such delineation in the proposed search.

There is potential for the burden of ill health to be reduced through increased or improved SM. Indeed, there is a rapidly growing evidence base across a range of diseases. However, to our knowledge, there is an evidence gap in knowing how we should use SM approaches to reduce the burden associated with poor foot health.

The research settings within which evidence has been published are likely to be limited to community or hospital-based healthcare environments. However, as SM can extend outside of this environment, no health setting boundaries will be applied. A review approach may help elucidate underlying mechanisms within SM approaches that are contextually specific and therefore highlight potential facilitators or barriers to its effectiveness.

Main outcome

The main outcome will be generation of a comprehensive and systematically derived analytical summary of what is known, what current recommendations for practice can be made, what remains unknown and provide an indication as to the level of certainty/uncertainty around the review findings. Recommendations for future research will be made.

Types of study to be included

There will be no restrictions to the types of study designs or data sources eligible for inclusion. The key consideration for inclusion will be contribution to the research questions. Those texts not available in English language at the final stage of sifting and published prior to 1990 will be excluded.

Participants/population

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Inclusion: People with a musculoskeletal foot and/or ankle health condition; may be expanded to people with any foot and/or ankle health condition.

Exclusion: Children ≤ 17 years of age.

Limits: Final inclusion will be limited to those sources available as full text that are published in the English language.

Search protocol

The following search protocol will be undertaken to identify relevant material:

1. Generation of primary search concepts according to PICO search strategy
2. Generation of key terms and Boolean phrasing for each concept
3. Identification of MeSH search terms for each concept
4. Compilation of search syntax (with variation according to required convention for each database)
5. Definition of limits and inclusion/exclusion criteria
6. Electronic search across 2 databases; CINAHL (EBSCO) and Medline (EBSCO)
7. Screening of the returned searches for items meeting the inclusion/exclusion criteria
8. Review and compilation of MESH or key terms within the retrieved text and update/refine the search strategy created at step 4.
9. Electronic search across databases: 1. Embase (Ovid), 2. CINAHL (EBSCO), 3. Medline (EBSCO)
10. Grey literature search; to be completed using 1. Cochrane Library, 2. The British Library, 3. The Canadian Agency for Drugs and Technologies in Health (CADTH), 4. The health Foundation, 5. The Kings Fund, 6. MedNar
11. Snowballing strategy: review of reference lists of those texts included for full text review having completed steps 1-9 above to identify any potentially previously unidentified texts.
12. Steps 7-10 may be iteratively repeated as new search terms or literature emerge.

No hand searching will be conducted. The example of the likely initial search strategy to be undertaken in step six is shown in table one.

Data extraction (charting and coding)

The following data extraction process will be undertaken and recorded using bibliographic software:

1. Duplicate sifting
2. Title sifting (repeated by two researchers and then combined with duplicate removal)
3. Abstract sifting (repeated by two researchers and then combined with duplicate removal)
4. Full text availability sifting
5. Full text sifting

Full text sifting will be based upon a) inclusion/exclusion eligibility, b) concordance with the RAMESES approach (Realist And Meta-narrative Evidence Synthesis: Evolving Standards; Greenhalgh et al 2011), to realist critical appraisal; this method is selected to facilitate exploration of potential contextual sensitivity or complexity that may be associated with the topic of inquiry.

Included texts will be collated into a single database, which will be used to chart text identifiers (primary author name, year of publication). The research team will develop the data collection instrument to reflect the key content of the retrieved texts, however, this is likely to include, in addition to the indicators outlined above: publication type, study design and methods, patient

population characteristics, healthcare setting and country, self-management or burden definitions, and any reported outcomes or indicators of efficacy. Data will be collated into a single file for further review and annotation according to the quality or thematic content of each item. Data charting will be completed in duplicate.

Risk of bias (quality) assessment

Texts will be analysed following a process determined a priori and as set out above. Where appropriate texts will be critically appraised using structured frameworks relevant to their published style wherever possible (e.g. CASP tools or using the RAMESES approach for works of realistic evaluation). However, appraisal of methodological quality will not form the focus of the scoping review rather, as recommended by Tricco et al (2018), we will seek to identify and collate existing evidence on the topic in the first instance, prioritising the relevance of the evidence.

Where appraisal is feasible data from final full text sources will be critically appraised and excerpts of text identified, highlighted and coded to reflect themes. Each new data will likely be used to critically examine themes related to either the context, barriers or facilitators, or success (or failure) of SM to reduce the burden associated with poor foot health.

A descriptive summary of all included texts and their primary characteristics (e.g. type of text) will be provided. Preliminary scoping has identified that there is likely to be limited and heterogeneous literature in this area; as such the research team will discuss and agree the most appropriate methods of result presentation based upon the findings of the review once collated.

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Tables:

Search	Syntax	Domain
S1	<u>Foot</u> OR <u>ankle</u> OR ankle* OR foot* OR feet OR *foot OR *feet OR "lower limb*" OR "foot disease*" OR metatarsalgia	Population concept 1
S2	" <u>Musculoskeletal system</u> " OR "musculoskeletal pain" OR "musculoskeletal abnorm*" OR "musculoskeletal dis*" OR Musculoskel* OR Rheum* OR Tendon* OR Muscle* OR Ligament* OR Fascia* OR Cartilag* OR Bone	Population concept 2
S3	S1 AND S2	Population concept
S4	" <u>self manage*</u> " OR "self care" OR "self monit\$*" OR "chronic disease manag*"	Intervention concept
S5	" <u>global burden of disease</u> " OR " <u>Cost of illness</u> " OR burden* OR *burden OR "finan* burden" OR finan* OR "sickness impact profile" OR impact* OR *impact OR work* OR *work OR mobili* OR self-efficacy OR "quality of life*"	Outcome concept
S6	S3 AND S4 AND S5	-

Table 1. Scoping review primary search strategy.

*=any following text allowable; \$=allowable spelling variant; Underline=Medical Subject Heading (MeSH) term to be exploded. Of note, no comparator concept is included in this scoping review strategy.